NOVEMBER 2016

UCSF RESEARCH BUILDING AND CITY PARKING GARAGE EXPANSION AT THE PRISCILLA CHAN AND MARK ZUCKERBERG SAN FRANCISCO GENERAL HOSPITAL AND TRAUMA CENTER CAMPUS

Environmental Impact Report

State Clearinghouse Number 2015102010

FINAL

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Prepared for
University of California San Francisco

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Changes from the Draft EIR text are indicated by a dot (●)
in the left margin.

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CHAPTER 1
Introduction

1.1 Purpose of this Document

This Environmental Impact Report (EIR) had been prepared in accordance with the California Environmental Quality Act, Public Resources Code Sections 21000, et seq. ("CEQA") to assess the potentially significant environmental effects of the proposed University of California, San Francisco (UCSF) Research Building and City Parking Garage Expansion at the Priscilla Chan and Mark Zuckerberg San Francisco General Hospital and Trauma Center Campus project (hereinafter the "proposed project").

As required by the California Environmental Quality Act (CEQA), this EIR: (1) assesses the potentially significant environmental effects that could result from implementation of the proposed project as well as the potentially significant cumulative impacts; (2) identifies feasible means of avoiding or substantially lessening significant adverse impacts; and (3) evaluates a range of reasonable alternatives to the proposed project, including the required No Project Alternative.

The University of California (University or UC) is the "lead agency" for the project evaluated in this EIR. The Board of Regents of the University of California ("the Regents") has the responsibility for approving and implementing the research building component of the project and for approving the long-term ground lease interest in the lot (Lot B/C) on which the building will be constructed and operated. The Parking Authority of the City and County of San Francisco ("Parking Authority") and the City each would act as a responsible agency under CEQA and, collectively, have the responsibility of approving and implementing the actions, including the long-term ground lease, related to the parking garage expansion included in the project.

UCSF has prepared this EIR on the proposed project for the following purposes:

- To inform the general public, the local community, and public agencies of the nature of the proposed project, its potentially significant environmental effects, feasible measures to mitigate those effects, as well as reasonable and feasible alternatives;
- To enable the University to consider the environmental consequences of approving the proposed project;
- To enable responsible agencies to consider the environmental consequences of the proposed project for which they have a role in approving or issuing permits; and
- To satisfy CEQA requirements.

As described in CEQA and the CEQA Guidelines, public agencies cannot approve projects that may cause a significant environmental impact without adopting mitigation measures or alternatives to avoid or substantially lessen those significant environmental effects, where feasible. In discharging this duty, a public agency has an obligation to balance the project's significant effects on the environment with its benefits, including economic, social, technological, legal and other benefits. This EIR is an informational document, the purpose of which is to identify the potentially significant environmental effects of implementing the proposed project, and to indicate the manner in which those significant effects can be avoided or significantly lessened. The EIR also identifies any significant and unavoidable adverse impacts that cannot be mitigated to a less-than-significant level and reasonable and feasible alternatives that would eliminate any significant adverse environmental effects or reduce the impacts to a less-than-significant level.

The University (or the Regents or its designee) is required to consider the information in the EIR, along with any other relevant information, in making its decision on those elements of the proposed project within the Regents' jurisdiction. Although the EIR does not determine the ultimate decision that will be made regarding implementing the proposed project, CEQA requires the Regents or its designee to consider the information in the EIR and make findings regarding each significant effect identified in the EIR. If determined to comply with CEQA, the Regents will certify the Final EIR prior to taking any action approving the proposed project.

1.2 Summary of the Proposed Project

UCSF is proposing to develop a research building at the Priscilla Chan and Mark Zuckerberg San Francisco General Hospital and Trauma Center Campus (ZSFG) on Twenty-Third Street between Vermont and Utah streets. Additionally, the Parking Authority of the City and County of San Francisco is considering expanding the existing ZSFG public parking structure at 2500 Twenty-Fourth Street.

UCSF has a major presence at ZSFG, an acute-care medical center owned and operated by the City and County of San Francisco (City). Through its affiliation agreement with the City, UCSF physicians and other health care professionals provide a large majority of medical services and care at ZSFG in City-owned buildings. UCSF does not own facilities at ZSFG, but leases space or otherwise occupies space in exchange for services.

The proposed UCSF research building would be located on the site of the B/C Lot, a surface parking lot on the ZSFG campus along the north side of Twenty-Third Street between Vermont and Utah streets. The University would enter into a long-term ground lease with the City and County of San Francisco for the B/C Lot. The proposed research building would be 5 stories (80 feet in height, plus 12 feet to accommodate rooftop mechanical equipment), approximately 175,000 gross square feet (gsf), and would meet UC seismic safety requirements.

Because the proposed research building would displace existing surface parking on the B/C Lot, and because the San Francisco Department of Public Health has determined that additional spaces are needed in the parking garage to meet demand generated by the occupants of existing City-owned buildings at ZSFG, the proposed project also includes the expansion of the ZSFG

parking garage, owned and operated by the Parking Authority, located a block to the south at 2500 Twenty-Fourth Street. The proposal includes a horizontal extension of the garage to the south to Twenty-Fourth Street (an addition of 307 parking spaces). Under the proposed project, UCSF would develop the research building on the B/C Lot site, and the Parking Authority would develop the ZSFG parking garage expansion.

1.3 Environmental Review Process

UCSF has filed a Notice of Completion (NOC) with the Governor's Office of Planning and Research, State Clearinghouse indicating that this EIR has been completed and is available for review and comment by agencies and the public.

The Draft EIR has been made available for review by agencies, organizations, the public and interested parties for a review period of 45 days, as mandated by California law, from March 23, 2016 through May 9, 2016. In addition, a public hearing will be held on April 21. In reviewing the Draft EIR, reviewers should focus on the document's adequacy in identifying and analyzing significant effects on the environment and ways in which the significant effects of the project might be avoided or mitigated. To ensure inclusion in the Final EIR and full consideration by the lead agency, comments on the Draft EIR must be received during the public review period at the following address:

> UCSF Campus Planning
> 654 Minnesota Street
> San Francisco, California 94143-0286
> Contact: Diane Wong, Environmental Coordinator
> EIR@planning.ucsf.edu

UCSF will accept e-mail comments in lieu of traditional mailed comments; nevertheless, reviewers are encouraged to follow up on any e-mail comments with letters. Following the close of the review period, responses to comments on the Draft EIR will be prepared and published as a separate document. The Draft EIR text and appendices, together with responses to comments and any text changes made to the Draft EIR will constitute the Final EIR.

The Regents, the decision-making body for the University, or its delegated committee or administrative official will review the UCSF Research Building and City Parking Garage Expansion at the Priscilla Chan and Mark Zuckerberg San Francisco General Hospital and Trauma Center Campus Final EIR for adequacy and consider it for certification pursuant to the requirements of Section 15090 of the CEQA Guidelines. If the Regents certify the Final EIR, then the Regents will consider the ground lease and research building for approval or denial. If the Regents choose to approve the ground lease and research building, findings on the feasibility of reducing or avoiding significant environmental effects will be made and, if necessary, a Statement of Overriding Considerations will be prepared. If the Regents approve the ground lease and research building, a Notice of Determination (NOD) will be prepared and will be filed with the State Clearinghouse. The NOD will include a description of the project, the date of approval, an indication of whether the Findings were prepared and a Statement of Overriding Considerations was adopted, and the address where the Final EIR and record of project approval are available for review.

1.3.1 Type of EIR

This is a project EIR prepared pursuant to Section 15161 of the CEQA Guidelines to evaluate the impacts associated with the proposed project. Each campus of the University of California is required to prepare a Long Range Development Plan (LRDP) that sets forth concepts, principles, and plans to guide the future growth of the campus. On November 20, 2014, the Regents adopted UCSF's 2014 LRDP, which outlines development proposals for UCSF through 2035, following certification of the Final EIR on the 2014 LRDP. The 2014 LRDP EIR did not include the proposed project in its analyses, because the proposed project was not fully defined at the time the 2014 LRDP EIR was being prepared. Furthermore, as there are no programmatic interdependencies between the proposed project and the 2014 LRDP and its development proposals, the proposed project has independent utility. The 2014 LRDP EIR was completed with the understanding that the proposed project would undergo a separate environmental review, which is the subject of this document.

1.3.2 Public and Agency Review

On October 6, 2015, a Notice of Preparation (NOP), including an Initial Study, was published for the UCSF Research Building and City Parking Garage Expansion EIR. The 30-day public comment period ended on November 5, 2015. A copy of the NOP/Initial Study is included in Appendix A. A scoping meeting was held on October 21, 2015, in the Cafeteria on the ZSFG campus, to accept public input on environmental topics to be analyzed in the EIR and approaches to the impact analyses. Written and oral comments received on the NOP are included in Appendix B.

Pursuant to Section 15063 of the CEQA Guidelines, an Initial Study is a preliminary environmental analysis that may be used by the lead agency to focus an EIR on the environmental effects resulting from a proposed project that may be significant. The Initial Study prepared for the proposed project identified effects that would clearly result in no impact or result in a less-than-significant impact under the CEQA significance criteria. No further analysis beyond that provided in the Initial Study is necessary for those effects. The Initial Study also identified potential environmental effects that require detailed study in the EIR.

Copies of the Draft EIR are available online for public review at http://campusplanning.ucsf.edu/. Paper copies of these documents are available for viewing at the following libraries:

UCSF Libraries:

- UCSF Mission Bay Library, 1675 Owens Street

San Francisco Public Library:

- San Francisco Main Branch, 100 Larkin Street
- Mission Branch, 300 Bartlett Street
- Mission Bay Branch, 960 4th Street
- Bernal Heights Branch, 500 Cortland Avenue
- Potrero Hill Branch, 1616 20th Street

1.3.3 Intended Uses of this EIR

Following the close of the public and agency comment period on this Draft EIR (May 9, 2016), the University will prepare responses to all written comments and to oral comments received at the public hearing that raise CEQA-related environmental issues regarding the proposed project and the analysis in this EIR. The responses will be published in the Final EIR. The Final EIR will be considered by the Regents in a public meeting and certified if it is determined to be in compliance with CEQA. Upon certification of the EIR, the Regents or its designee will consider whether to approve the proposed ground lease and research building. This EIR will also be used by responsible agencies with approval authority over aspects of the project, including the Parking Authority and the City and County of San Francisco.

1.4 Scope of This EIR

UCSF completed a preliminary review of the Project, as described in Section 15060 of the CEQA Guidelines, and determined that environmental review was required. UCSF prepared an Initial Study in October 2015 and determined that an EIR would be prepared. Based on the Initial Study and the comments received at the scoping meeting and in response to the NOP, it was determined that the EIR would evaluate the following environmental topics in further detail:

- Aesthetics
- Air Quality
- Cultural Resources
- Greenhouse Gas Emissions
- Land Use and Planning
- Noise
- Transportation and Traffic

1.5 Report Organization

Chapter 1, ***Introduction***, provides an introduction and overview of the proposed project and EIR, as well as the intended use of the EIR, including the review and certification process.

Chapter 2, ***Summary***, summarizes the environmental impacts that would result from implementation of the proposed project, lists proposed mitigation measures, and indicates the level of significance of impacts after mitigation.

Chapter 3, ***Project Description***, provides a detailed description of the proposed project, including project objectives and discretionary approvals.

Chapter 4, ***Environmental Setting, Impacts, and Mitigation Measures***, describes the environmental setting, including applicable plans and policies; provides an analysis of the potential environmental impacts of the proposed project; and identifies mitigation measures to avoid or reduce significant impacts. It also includes evaluation of the project's cumulative impacts.

Chapter 5, ***CEQA Statutory Sections***, provides a discussion of the project's significant and unavoidable impacts, significant irreversible changes which would be caused if the project were to be implemented, and the potential for growth inducement from the project.

Chapter 6, ***Alternatives***, summarizes alternatives to the project and the comparative environmental consequences of each alternative in relation to the project. This section includes an analysis of the No Project Alternative, as required by CEQA.

Chapter 7, ***Report Preparation***, provides a list of the individuals involved in the preparation of the EIR.

- **Chapter 8**, ***Comments and Responses***
- **Chapter 9**, ***Mitigation Monitoring and Reporting Program***

CHAPTER 2
Summary

2.1 Purpose

This EIR evaluates the potential for environmental impacts from the implementation of the UCSF Research Building and City Parking Garage Expansion at the Priscilla Chan and Mark Zuckerberg San Francisco General Hospital (ZSFG) and Trauma Center Campus project (the project). It is the intent of this Summary to provide the decision makers and the public with a clear, simple, and concise description of the proposed project and its potential environmental impacts. Section 15132 of the CEQA Guidelines requires that the summary identify each significant effect, recommended mitigation measure(s), and alternatives that would minimize or avoid potential significant impacts. The summary is also required to identify areas of controversy known to the lead agency, including issues raised by agencies and the public and issues to be resolved. These issues include the choice among alternatives and whether or how to mitigate significant effects. This section focuses on the major areas of importance in the environmental analysis for the proposed project.

2.2 Project Description

UCSF is proposing to develop a research building at the Priscilla Chan and Mark Zuckerberg San Francisco General Hospital (ZSFG) and Trauma Center Campus on Twenty-Third Street between Vermont and Utah streets. Additionally, the Parking Authority of the City and County of San Francisco is considering expanding the existing ZSFG public parking structure at 2500 Twenty-Fourth Street.

UCSF has a major presence at ZSFG, an acute-care medical center owned and operated by the City and County of San Francisco (City). Through its affiliation agreement with the City, UCSF physicians and other health care professionals provide a large majority of medical services and care at ZSFG in City-owned buildings. UCSF does not own facilities at ZSFG, but leases space or otherwise occupies space in exchange for services.

The proposed UCSF research building would be located on the site of the B/C Lot, a surface parking lot on the ZSFG campus along the north side of Twenty-Third Street between Vermont and Utah streets. The University would enter into a long-term ground lease with the City and County of San Francisco for the B/C Lot. The proposed research building would be 5 stories (80 feet in height, plus 12 feet to accommodate rooftop mechanical equipment), approximately 175,000 gross square feet (gsf), and would meet UC seismic safety requirements.

Because the proposed research building would displace existing surface parking on the B/C Lot, and because the San Francisco Department of Public Health has determined that additional spaces are needed in the parking garage to meet demand generated by the occupants of the existing City-owned buildings at ZSFG, the proposed project also includes the expansion of the ZSFG parking garage, owned and operated by the Parking Authority, located a block to the south at 2500 Twenty-Fourth Street. The proposal includes extending the garage to the south to Twenty-Fourth Street (an addition of 307 parking spaces). Under the project, UCSF would develop the research building on the B/C site, and the Parking Authority would develop the ZSFG parking garage expansion. The proposed project also includes implementation of one traffic improvement measure (IM-TR-1) that would require preparation and implementation of a traffic control plan during project construction as well as notification on a regular basis to nearby residences, institutions, and businesses of construction activities. The improvement measure is provided under Impact TRAF-1 on page 4.7-21.

2.3 Project Objectives

The project objectives for the research building and parking garage expansion are listed below:

Research Building Objectives

- To develop a new research facility of at approximately 175,000 gross square feet in order to accommodate UCSF research programs and employees that must vacate seismically compromised buildings elsewhere on the ZSFG campus.
- To comply with UC's *Seismic Safety Policy*, to ensure a seismically safe environment for UCSF employees, patients and visitors.
- To ensure existing UCSF research activities remain on the ZSFG campus in close proximity to the communities being served, and in close proximity to the ZSFG Level 1 Trauma Center, enabling physicians to provide a rapid response to trauma and urgent clinical needs of patients.
- To ensure existing research activities remain on the ZSFG campus, which is a requirement for the ZSFG Trauma Center to retain its designation as a Level 1.
- To foster collaboration, accommodate interdependent programs, and reinforce academic, research and clinical relationships at ZSFG.
- To develop a new research building that is compatible with the overall landscape of the ZSFG campus as well as the surrounding neighborhood.
- To develop a new research building that, to the extent feasible, complies with the San Francisco Planning Code.
- To develop a new research building that is cost-effective in terms of design, construction cost, operational costs, and maintenance.

Parking Garage Expansion Objectives

- To provide sufficient parking to accommodate any increases in population on the ZSFG campus and loss of existing parking supply resulting from (1) the proposed research building, (2) recently completed projects such as the new hospital, (3) potential future projects such as new clinics and backfill of vacated space; and (4) implementation of nearby streetscape projects by the San Francisco Municipal Transportation Agency.

- To enhance the existing Transportation Demand Management (TDM) program by developing new and/or enhanced TDM measures to emphasize transportation alternatives that will lessen auto traffic in and around the campus, consistent with the City's *Transit First* policy.

2.4 Impact Summary

Table 2-1 provides a complete list of impacts, mitigation measures, and improvement measures identified in the EIR. Each impact lists applicable mitigation measures and the level of significance of the impact before and after the implementation of the mitigation measure(s). Impacts and mitigation measures identified in the Initial Study (Appendix A) are provided in **Table 2-2**.

2.5 Alternatives to the Proposed Project

The following alternatives were analyzed in detail in the EIR and compared to the proposed project. The objective of the alternatives analysis is to determine whether an alternative would feasibly attain some or most of the project objectives, while avoiding or substantially lessening some of the significant effects of the proposed project.

Alternative 1: No Project Alternative. Under the No Project Alternative the proposed research building would not be constructed and no expansion of the existing parking garage would occur. The proposed research building site would remain as a surface parking lot (B/C Lot). UCSF would continue to occupy space on the ZSFG campus in existing buildings. Additional UCSF employees in off-campus leased space would not relocate to the ZSFG campus under the No Project Alternative.

Alternative 2: On-Site/Underground Parking Alternative. The On-Site/Underground Parking Alternative would consist of the research building as proposed by the project with the addition of an underground parking structure constructed below the building. The underground garage would likely consist of two-levels that would contain 202 parking spaces, which would represent a net gain of 37 spaces in comparison to the 130 existing spaces on the B/C Lot and adjacent 35 spaces for handicapped users, service vehicles, and ZSFG staff that would be displaced by construction of the research building. The expansion of the existing parking garage would not occur.

Alternative 3 (Project Variant 4): No Garage Expansion. Under this variant only the proposed research building would be constructed. The City parking structure would not be expanded under this variant. Detailed descriptions and an analysis of potential impacts of each alternative are presented in Chapter 6, *Alternatives*, of this EIR.

2.6 Known Areas of Controversy

This EIR addresses issues associated with the proposed project that are known to UCSF or the City or were raised by agencies or interested parties during the Notice of Preparation public and agency review period. These issues include:

- Traffic, parking, noise, and construction effects

TABLE 2-1
SUMMARY OF IMPACTS, MITIGATION MEASURES, AND IMPROVEMENT MEASURES

Environmental Impact	Level of Significance Before Mitigation	Mitigation/Improvement Measures	Level of Significance After Mitigation
Aesthetics			
AES-1: The proposed project would not substantially damage scenic resources or other features that contribute to a scenic public setting or substantially degrade the existing visual character or quality of the site and its surroundings.	Less than Significant	None required	Less than Significant
Air Quality			
AQ-1: The proposed project and its variants would result in increased emissions of dust and criteria air pollutants during demolition and construction activities.	Potentially Significant	**AQ-1: Best Management Practices for Controlling Particulate Emissions during Construction of Research Building.** The following BAAQMD Best Management Practices for particulate control will be required for all construction activities related to the research building (BAAQMD, 2012). These measures will reduce particulate emissions primarily during soil movement, grading and demolition activities but also during vehicle and equipment movement on unpaved project sites 1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day. 2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered. 3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited. 4. All vehicle speeds on unpaved roads shall be limited to 15 mph. 5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used. 6. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, § 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points. 7. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation. 8. Post a publically visible sign with the telephone number and person to contact at UCSF regarding dust complaints. This person shall respond and take corrective action within 48 hours. BAAQMD's telephone number shall also be visible to ensure compliance with applicable regulations.	Less than Significant

TABLE 2-1 (Continued)
SUMMARY OF IMPACTS, MITIGATION MEASURES, AND IMPROVEMENT MEASURES

Environmental Impact	Level of Significance Before Mitigation	Mitigation/Improvement Measures	Level of Significance After Mitigation
Air Quality (cont.)			
AQ-2: The proposed project and its variants would result in increased emissions of criteria air pollutants during operation.	Less than Significant	None required	Less than Significant
AQ-3: Construction and operation of the proposed project would generate toxic air contaminants, including diesel particulate matter, and could expose sensitive receptors to substantial air pollutant concentrations.	Potentially Significant	**Mitigation Measure AQ-3: Construction Exhaust Emissions Reduction Measures during Construction of Research Building.** The construction contractor shall implement the following measures during construction of the research building to further reduce construction-related exhaust emissions: All off-road equipment greater than 25 horsepower (hp) and operating for more than 20 total hours over the entire duration of construction activities shall meet the following requirements: 1. Where access to alternative sources of power are available, portable diesel engines shall be prohibited; and 2. All off-road equipment shall have: a. Engines that meet or exceed either USEPA or CARB Tier 2 off-road emission standards, and b. Engines that are retrofitted with a CARB Level 3 Verified Diesel Emissions Control Strategy. Acceptable options for reducing emissions include the use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, add-on devices such as particulate filters, and/or other options as such are available.	Less than Significant
AQ-4: The proposed project and its variants would not create objectionable odors that would affect a substantial number of people.	Less than Significant	None required	Less than Significant
AQ-5: The proposed project could conflict with, or obstruct implementation of, the *2010 Clean Air Plan*.	Potentially Significant	Implement Mitigation Measure AQ-1and AQ-3.	Less than Significant
Cultural Resources			
CP-1: Construction of the proposed project could cause a substantial adverse change in the significance of the SFGH Historic District, a historical resource as defined in Section 15064.5, including those resources listed in Article 10 or Article 11 of the San Francisco Planning Code.	Potentially Significant	**CP-1: Design Guidelines for the Research Building.** The design of the proposed research building shall adhere to the following design guidelines. ***Siting*** 1. The west elevation of the building should be generally parallel to the north-south entry road that bisects the campus. At the ground level, the setback of the building from this north-south road should be similar in extent to the setbacks from this road exhibited by Building 1/1A/1B/1C, Building 9, Building 10/20, and Building 30/40.	Less than Significant

TABLE 2-1 (Continued)
SUMMARY OF IMPACTS, MITIGATION MEASURES, AND IMPROVEMENT MEASURES

Environmental Impact	Level of Significance Before Mitigation	Mitigation/Improvement Measures	Level of Significance After Mitigation
Cultural Resources (cont.)			
CP-1 (cont.)		2. In keeping with the site's urban setting, the south elevation of the building should be generally rectilinear and parallel to Twenty-Third Street. ***Height, Scale and Massing*** 1. The height of the building should be kept at or below the 85-foot-height of Buildings 10/20 and 30/40. This height is exclusive of rooftop mechanical equipment, assuming such equipment is sufficiently setback and differentiated in material that is does not "read" as a vertical extension of the façade. 2. The façades of the new building should have a vertical orientation that is underscored by bays at the building corners that project relative to the central portions of the façades. 3. Blank, mirrored, or opaque facades should be avoided. 4. On the south and west façades, architectural elements should be used to divide the façades into intervals similar to those found elsewhere in the District, including Building 9 and the Building 30/40 "finger wards." This could be accomplished through a variety of means, including the use of bays, setbacks, horizontal belt courses, and/or changes in material or ornamentation. ***Materials and Cladding*** 1. Given the prevalence of brick within the SFGH Historic District, the use of masonry (including brick and terra cotta) exclusively or in combination with other compatible exterior cladding materials is encouraged. Masonry should be a prominent material if used in combination with other materials. 2. New construction should use materials in a manner that creates details and textures that draw from the District and that give the building a three-dimensional character. Monolithic wall treatments should be avoided. ***Windows*** 1. Fenestration patterns and proportions, as well as the percent of the façade devoted to fenestration, should be consistent with the District, especially adjacent contributory buildings (Buildings 9 and 30/40). Building 9 features recessed, double-hung, wood sash windows of either round arched or rectangular shape that are arranged singly and in pairs. Building 30/40 exhibits a variety of window types. Most of the building's windows are recessed, double-hung, wood sash windows of round arched or rectangular shape that are arranged either singly or in groups of three. The fifth floor (added in 1931) features wood sash, paired casement windows surmounted by arched transom and separated by terra cotta colennettes. The chamfered, east-facing bays of the building feature rectangular, wood sash, paired casement windows surmounted by rectangular transoms. These windows are arranged singly, in pairs and in groups of four. Accordingly,	

TABLE 2-1 (Continued)
SUMMARY OF IMPACTS, MITIGATION MEASURES, AND IMPROVEMENT MEASURES

Environmental Impact	Level of Significance Before Mitigation	Mitigation/Improvement Measures	Level of Significance After Mitigation
Cultural Resources (cont.)			
CP-1 (cont.)		use of recessed, punched windows on at least substantial portions of the building exterior is encouraged. Uninterrupted expanses of full-height glazing should be avoided. Arranging windows into bands of two, three or more is encouraged. 2. In keeping with the District contributors, windows should have a vertical orientation. Use of rectangular windows and/or round arched windows is encouraged. ***Street Frontage*** 1. The south façade of the building should incorporate at least one prominent pedestrian entry. ***Site Features*** 1. The brick Guardhouse and Gate Pillar should be retained in their current location. If temporary relocation is necessary to accommodate construction, a Historic Architect satisfying the Secretary of the Interior's Professional Qualifications Standards should be engaged to oversee the temporary relocation and reinstallation of these historic resources. 2. The brick and metal fence along the southern edge of the site should be retained in its current location. If temporary relocation of any portion of the fence is necessary to accommodate construction, a Historic Architect satisfying the Secretary of the Interior's Professional Qualifications Standards should be engaged to oversee the temporary relocation and reinstallation of this historic resource. 3. A conservator well-versed in the assessment of historic fountains and related statuary should be engaged to evaluate the feasibility of relocating the fountain, which exhibits noticeable wear and may be constructed of fairly porous cement. 4. If deemed feasible, the fountain should be moved to a location elsewhere within the SFGH Historic District that reflects the character and prominence of its original location within the grass lawn courtyard of the Tubercular Ward (the fountain should not be located between parking spots). Accordingly, the fountain should be relocated to an area south or west of the proposed building, where it can continue its current use as a planter.	
CP-2: Construction of the proposed project could cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5.	Potentially Significant	**CP-2: Archeological Research Design, Testing and Evaluation Plan, Archeological Monitoring Program and/or Archeological Data Recovery Program** ***Archeological Research Design, Testing, and Evaluation Plan.*** Because archeological resources may be present within the C-APE for both the B/C Lot and the parking garage expansion site, the following measures shall be undertaken to avoid any potentially significant adverse effect from the proposed project on archeological resources.	Less than Significant

TABLE 2-1 (Continued)
SUMMARY OF IMPACTS, MITIGATION MEASURES, AND IMPROVEMENT MEASURES

Environmental Impact	Level of Significance Before Mitigation	Mitigation/Improvement Measures	Level of Significance After Mitigation
Cultural Resources (cont.)			
CP-2 (cont.)		UCSF shall retain the services of an archeological consultant to prepare and implement an Archeological Research Design, Testing, and Evaluation Plan (ARDTEP) prior to project construction of the research building. The City shall similarly retain the services of an archeological consultant to prepare and implement a separate ARDTEP prior to construction of the parking garage expansion. Each ARDTEP will guide fieldwork and help to determine if identified archeological remains qualify as significant. Each ARDTEP shall be prepared by professionals who meet the Secretary of the Interior's Professional Qualifications Standards in historical archeology, prehistoric archeology, and history (36 CFR Part 61)[1], and shall be reviewed and approved by UCSF for the research building site and the City's Environmental Review Officer (ERO) for the garage expansion site. Each ARDTEP shall address and ensure the following: (1) a geoarcheological landscape approach to identify potential presence of paleosols that may have provided living surfaces for prehistoric populations; (2) the appropriateness of specific protocols for the identification and evaluation of paleosol deposits; (3) the full exposure, documentation, and recordation of the former residences, businesses, and hospital related outbuildings; and (4) appropriate field investigation strategies for the identification and evaluation of other types of historical archeological deposits and/or features (e.g., burned structural/building contents debris, artifact filled privies, etc.). At a minimum, the *research design* component of each ARDTEP shall contain the following sections: • Introduction and Purpose • Project Location and Description • Regulatory Context • Methods and Sources • Holocene Landscape Evolution • Prehistory and Ethnography • History • Previous Archeological Research – Prehistoric Archeology – Historical Archeology • Archeological Research Design • Geoarcheology • Archival and Oral History Research – Block Histories by Address • Research Context: Prehistoric Archeology	

[1] Secretary of the Interior. Standards and Guidelines for Archeology and Historic Preservation, Professional Qualifications Standards.

TABLE 2-1 (Continued)
SUMMARY OF IMPACTS, MITIGATION MEASURES, AND IMPROVEMENT MEASURES

Environmental Impact	Level of Significance Before Mitigation	Mitigation/Improvement Measures	Level of Significance After Mitigation
Cultural Resources (cont.)			
CP-2 (cont.)		– Research Themes and Issues – Data Requirements – Property Types: Prehistoric Archeology – Archeological Sensitivity: Prehistoric • Research Context: Historical Archeology – Research Themes and Issues – Data Requirements – Property Types: Historical Archeology – Archeological Sensitivity: Historical Archeology At a minimum, the *testing component* of each ARDTEP will contain the following sections: • Introduction and Purpose • Test Areas and their Potential Significance Fieldwork Methods • Hazardous Materials, Health, and Safety • Treatment of Human Remains and Burial Goods Public Involvement • Laboratory Work – Laboratory Methods • Archeological Evaluation Plan: Evaluation Procedures and Criteria Integrity • Infield Evaluation Post-field Evaluation • Reporting and Dissemination of Results – Public Outreach • Curation Each ARDTEP will be used to inform decisions regarding project design, and will be carried out prior to project construction. At the completion of the archeological testing program, the archeological consultant shall submit a written report of the findings to UCSF for the research building site and the City or its designated representative for the garage expansion site. If based on the archeological testing program the archeological consultant finds that significant archeological resources may be present, UCSF and the City or its designated representative in consultation with the archeological consultant shall determine if additional measures are warranted for each respective site. Additional measures that may be undertaken include additional archeological testing, archeological monitoring, and/or an archeological data recovery program. No archeological data recovery shall be undertaken without the prior approval of UCSF for the research building site and the City or its designated representative for the garage expansion site. If UCSF determines that a significant archeological resource is present on the research building site, or the City or its designated representative determines that a significant archeological resource is present on the garage expansion site, and that the resource could be adversely affected by the proposed project, at the discretion of UCSF or the City either:	

TABLE 2-1 (Continued)
SUMMARY OF IMPACTS, MITIGATION MEASURES, AND IMPROVEMENT MEASURES

Environmental Impact	Level of Significance Before Mitigation	Mitigation/Improvement Measures	Level of Significance After Mitigation
Cultural Resources (cont.)			
CP-2 (cont.)		A. The proposed research building or garage expansion shall be re-designed so as to avoid any adverse effect on the significant archeological resource; or B. A data recovery program shall be implemented, unless UCSF (for the research building site) or the City or its designated representative (for the garage expansion site) determines that the archeological resource is of greater interpretive than research significance and that interpretive use of the resource is feasible. ***Consultation with Descendant Communities*.** On discovery of an archeological site[2] associated with descendant Native Americans, the Overseas Chinese, or other descendant group on the research building site or garage expansion site, an appropriate representative[3] of the descendant group and UCSF (for the research building site) and the City or its designated representative (for the garage expansion site) shall be contacted. The representative of the descendant group shall be given the opportunity to monitor archeological field investigations of the sites and to consult with UCSF regarding the research building site, and the City or its designated representative for the garage expansion site, regarding appropriate archeological treatment of the site, of recovered data from the site, and, if applicable, any interpretative treatment of the associated archeological site. A copy of the Final Archeological Resources Report shall be provided to the representative of the descendant group. ***Archeological Monitoring Program*.** If UCSF (for the research building site) or the City or its designated representative (for the garage expansion site) in consultation with the archeological consultant determines that an archeological monitoring program shall be implemented, the archeological monitoring program for each respective site shall minimally include the following provisions: • The archeological consultant and UCSF (for the research building site) or the City or its designated representative (for the garage expansion site) shall meet and consult on the scope of the archeological monitoring program (AMP) reasonably prior to any project-related soils disturbing activities commencing. UCSF (for the research building site) or the City or its designated representative (for the garage expansion site) in consultation with the archeological consultant shall determine what project activities shall be archeologically monitored. In most cases, any soils-disturbing activities, such as demolition, foundation removal, excavation, grading, utilities installation, foundation work, driving of piles (foundation, shoring, etc.), site remediation, etc., shall require archeological monitoring because of the risk these activities pose to potential archeological resources and to their depositional context;	

[2] By the term "archeological site" is intended here to minimally include any archeological deposit, feature, burial, or evidence of burial.
[3] An "appropriate representative" of the descendant group is here defined to mean, in the case of Native Americans, any individual listed in the current Native American Contact List for the City and County of San Francisco maintained by the California Native American Heritage Commission and in the case of the Overseas Chinese, the Chinese Historical Society of America. An appropriate representative of other descendant groups should be determined in consultation with the Department archeologist.

TABLE 2-1 (Continued)
SUMMARY OF IMPACTS, MITIGATION MEASURES, AND IMPROVEMENT MEASURES

Environmental Impact	Level of Significance Before Mitigation	Mitigation/Improvement Measures	Level of Significance After Mitigation
Cultural Resources (cont.)			
CP-2 (cont.)		• The archeological consultant shall advise all project contractors to be on the alert for evidence of the presence of the expected resource(s), of how to identify the evidence of the expected resource(s), and of the appropriate protocol in the event of apparent discovery of an archeological resource; • The archeological monitor(s) shall be present on each respective project site according to a schedule agreed upon by the archeological consultant and UCSF (for the research building site) or the City or its designated representative (for the garage expansion site) until UCSF or the City or its designated representative has, in consultation with project archeological consultant, determined that project construction activities could have no effects on significant archeological deposits; • The archeological monitor shall record and be authorized to collect soil samples and artifactual/ecofactual material as warranted for analysis; • If an intact archeological deposit is encountered, all soils-disturbing activities in the vicinity of the deposit shall cease. The archeological monitor shall be empowered to temporarily redirect demolition/excavation/pile driving/ construction activities and equipment until the deposit is evaluated. If in the case of pile driving activity (foundation, shoring, etc.), the archeological monitor has cause to believe that the pile driving activity may affect an archeological resource, the pile driving activity shall be terminated until an appropriate evaluation of the resource has been made in consultation with UCSF (for the research building site) or the City or its designated representative (for the garage expansion site). The archeological consultant shall immediately notify UCSF (for the research building site) or the City or its designated representative (for the garage expansion site) of the encountered archeological deposit. The archeological consultant shall make a reasonable effort to assess the identity, integrity, and significance of the encountered archeological deposit, and present the findings of this assessment to UCSF or the City or its designated representative, respectively. Whether or not significant archeological resources are encountered, the archeological consultant shall submit a written report of the findings of the monitoring program to UCSF (for the research building site) or the City or its designated representative (for the garage expansion site). ***Archeological Data Recovery Program*.** If UCSF (for the research building site) or the City or its designated representative (for the garage expansion site) in consultation with the archeological consultant determines that an archeological data recovery program shall be implemented, the archeological data recovery program shall be conducted in accord with an archeological data recovery plan (ADRP). The archeological consultant and UCSF (for the research building site) or the City or its designated representative (for the garage expansion site) shall meet and consult on the scope of the ADRP prior to preparation of a draft ADRP. The archeological	

TABLE 2-1 (Continued)
SUMMARY OF IMPACTS, MITIGATION MEASURES, AND IMPROVEMENT MEASURES

Environmental Impact	Level of Significance Before Mitigation	Mitigation/Improvement Measures	Level of Significance After Mitigation
Cultural Resources (cont.)			
CP-2 (cont.)		consultant shall submit a draft ADRP to UCSF (for the research building site) or the City or its designated representative (for the garage expansion site). The ADRP shall identify how the proposed data recovery program will preserve the significant information the archeological resource is expected to contain. That is, the ADRP will identify what scientific/historical research questions are applicable to the expected resource, what data classes the resource is expected to possess, and how the expected data classes would address the applicable research questions. Data recovery, in general, should be limited to the portions of the historical property that could be adversely affected by the proposed project. Destructive data recovery methods shall not be applied to portions of the archeological resources if nondestructive methods are practical. The scope of the ADRP shall include the following elements: • *Field Methods and Procedures*. Descriptions of proposed field strategies, procedures, and operations. • *Cataloguing and Laboratory Analysis*. Description of selected cataloguing system and artifact analysis procedures. • *Discard and Deaccession Policy*. Description of and rationale for field and post-field discard and deaccession policies. • *Interpretive Program*. Consideration of an on-site/off-site public interpretive program during the course of the archeological data recovery program. • *Security Measures*. Recommended security measures to protect the archeological resource from vandalism, looting, and non-intentionally damaging activities. • *Final Report*. Description of proposed report format and distribution of results. • *Curation*. Description of the procedures and recommendations for the curation of any recovered data having potential research value, identification of appropriate curation facilities, and a summary of the accession policies of the curation facilities. ***Human Remains and Associated or Unassociated Funerary Objects*.** The treatment of human remains and of associated or unassociated funerary objects discovered during any soils disturbing activity shall comply with applicable State and Federal laws. This shall include immediate notification of the Coroner of the City and County of San Francisco and in the event of the Coroner's determination that the human remains are Native American remains, notification of the California State Native American Heritage Commission (NAHC) who shall appoint a Most Likely Descendant (MLD) (PRC Section 5097.98). The archeological consultant and UCSF (for the research building site) or the City or its designated representative (for the	

TABLE 2-1 (Continued)
SUMMARY OF IMPACTS, MITIGATION MEASURES, AND IMPROVEMENT MEASURES

Environmental Impact	Level of Significance Before Mitigation	Mitigation/Improvement Measures	Level of Significance After Mitigation
Cultural Resources (cont.)			
CP-2 (cont.)		garage expansion site), and MLD shall make all reasonable efforts to develop an agreement for the treatment of, with appropriate dignity, human remains and associated or unassociated funerary objects (CEQA Guidelines Section 15064.5[d]). The agreement should take into consideration the appropriate excavation, removal, recordation, analysis, custodianship, curation, and final disposition of the human remains and associated or unassociated funerary objects. ***Final Archeological Resources Report.*** The archeological consultant shall submit a Draft Final Archeological Resources Report (FARR) to UCSF (for the research building site) or the City or its designated representative (for the garage expansion site) that evaluates the historical significance of any discovered archeological resource and describes the archeological and historical research methods employed in the archeological testing/monitoring/data recovery program(s) undertaken. Information that may put at risk any archeological resource shall be provided in a separate removable insert within the final report. Once approved by UCSF (for the research building site) or the City or its designated representative (for the garage expansion site), copies of the FARR shall be distributed as follows: California Archeological Site Survey Northwest Information Center (NWIC) shall receive one (1) copy and UCSF (for the research building site) or the City or its designated representative (for the garage expansion site) shall receive a copy of the transmittal of the FARR to the NWIC. The Environmental Planning division of the Planning Department shall receive one bound, one unbound and one unlocked, searchable PDF copy on CD of the FARR (for the garage expansion site) along with copies of any formal site recordation forms (CA DPR 523 series) and/or documentation for nomination to the National Register of Historic Places/California Register of Historical Resources. In instances of high public interest in or the high interpretive value of the resource, the City or its designated representative may require a different final report content, format, and distribution than that presented above for the garage expansion site.	
CP-3: Construction of the proposed project could disturb any human remains, including those interred outside of formal cemeteries.	Potentially Significant	Implement Mitigation Measure CP-2.	Less than Significant
CP-4: Construction of the proposed project could cause a substantial adverse change in the significance of a tribal cultural resource as defined in PRC Section 21074.	Potentially Significant	Implement Mitigation Measure CP-2.	Less than Significant

TABLE 2-1 (Continued)
SUMMARY OF IMPACTS, MITIGATION MEASURES, AND IMPROVEMENT MEASURES

Environmental Impact	Level of Significance Before Mitigation	Mitigation/Improvement Measures	Level of Significance After Mitigation
Cultural Resources (cont.)			
CP-5: Construction of the proposed project could directly or indirectly destroy a unique paleontological resource or site, or a unique geologic feature.	Potentially Significant	**CP-5: Inadvertent Discovery of Paleontological Resources.** The following measures shall be implemented should construction result in the accidental discovery of paleontological resources: To reduce the potential for the proposed project to result in a significant impact on paleontological resources, UCSF (for the research building site) or and the Planning Department (for the garage expansion site) shall arrange for a paleontological training by a qualified paleontologist regarding the potential for such resources to exist in the project site and how to identify such resources. The training could consist of a recorded presentation of the initial training that could be reused for new personnel. The training shall also include a review of penalties for looting and disturbance of these resources. An alert sheet shall be prepared by the qualified paleontologist and shall include the following: 1. A discussion of the potential to encounter paleontological resources. 2. Instructions for reporting observed looting of a paleontological resource; and instructions that if a paleontological deposit is encountered within a project area, all soil disturbing activities in the vicinity of the deposit shall cease and UCSF (for the research building site) or the Planning Department (for the garage expansion site) shall be notified immediately. 3. Who to contact in the event of an unanticipated discovery. If potential fossils are discovered by construction crews, all earthwork or other types of ground disturbance within 50 feet of the find shall stop immediately until the qualified professional paleontologist can assess the nature and importance of the find. Based on the scientific value or uniqueness of the find, the paleontologist may record the find and allow work to continue, or recommend salvage and recovery of the fossil. The paleontologist may also propose modifications to the stop-work radius based on the nature of the find, site geology, and the activities occurring on the site. If treatment and salvage is required, recommendations shall be consistent with the Society of Vertebrate Paleontology 2010 guidelines and currently accepted scientific practice, and shall be subject to review and approval by UCSF (for the research building site) or the City or designee (for the garage expansion site). If required, treatment for fossil remains may include preparation and recovery of fossil materials so that they can be housed in an appropriate museum or university collection, and may also include preparation of a report for publication describing the finds. UCSF (for the research building site) or the City (for the garage expansion site) shall be responsible for ensuring that treatment is implemented and reported. If no report is required, UCSF or the City shall nonetheless ensure that information on the nature, location, and depth of all finds is readily available to the scientific community through university curation or other appropriate means.	Less than Significant

TABLE 2-1 (Continued)
SUMMARY OF IMPACTS, MITIGATION MEASURES, AND IMPROVEMENT MEASURES

Environmental Impact	Level of Significance Before Mitigation	Mitigation/Improvement Measures	Level of Significance After Mitigation
Greenhouse Gas Emissions			
GHG-1: The proposed project and its variants would result in an increase in greenhouse gas emissions.	Potentially Significant	**GHG-1: Construction-Related GHG Reduction Measures during Construction of Research Building.** The following BAAQMD-suggested measures shall be implemented during demolition and construction activities related to the research building: • Use alternative fueled (e.g., biodiesel, electric) construction vehicles/equipment where feasible; • Use locally sourced building materials for at least 10% of overall materials brought to site; and • Recycle or reuse at least 50% of construction waste or demolition materials.	Less than Significant
GHG-2: The proposed project and its variants would not conflict with the AB32 Scoping Plan, the UCSF Climate Action Plan, the UCSF GHG Reduction Strategy, or the City of San Francisco's GHG Reduction Strategy.	Less than Significant	None required	Less than Significant
Land Use and Planning			
LU-1: The proposed project would be consistent with the applicable land use plans, policies, and regulations adopted for the purpose of avoiding or mitigating an environmental effect, and would not conflict with local land use regulations such that a significant incompatibility is created with adjacent land uses.	Less than Significant	None required	Less than Significant
LU-2: The proposed project would not have a substantial impact upon the existing character of the vicinity.	Less than Significant	None required	Less than Significant
Noise			
NO-1: Construction of the proposed project could cause a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project**.**	Potentially Significant	**NO-1: Construction Noise Control Measures.** Contractors shall employ site-specific noise attenuation measures during construction to reduce the generation of construction noise to less than 10 dBA over existing noise levels. These measures shall be included in a Noise Control Plan that shall be submitted for review and approval by UCSF for construction of the research building and the City or its designated representative for the garage expansion to ensure that construction noise is reduced to the degree feasible. Measures specified in the Noise Control Plans and implemented during project construction shall include, at a minimum, the following noise control strategies: • Equipment and trucks used for construction shall use the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures, and acoustically attenuating shields or shrouds).	Less than Significant

TABLE 2-1 (Continued)
SUMMARY OF IMPACTS, MITIGATION MEASURES, AND IMPROVEMENT MEASURES

Environmental Impact	Level of Significance Before Mitigation	Mitigation/Improvement Measures	Level of Significance After Mitigation
Noise (cont.)			
NO-1 (cont.)		• Construction equipment with lower noise emission ratings shall be used whenever possible, particularly for air compressors. • Sound-control devices no less effective than those provided by the manufacturer shall be provided on all construction equipment. • Impact tools (e.g., jack hammers, pavement breakers, and rock drills) used for construction shall be hydraulically or electrically powered wherever possible to avoid noise associated with compressed air exhaust from pneumatically powered tools. Where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used; this muffler can lower noise levels from the exhaust by up to about 10 dBA. External jackets on the tools themselves shall be used where feasible; this could achieve a reduction of 5 dBA. Quieter procedures, such as use of drills rather than impact tools, shall be used where feasible. • Stationary noise sources such as material stockpiles and vehicle staging areas shall be located as far from adjacent receptors as possible. • Enclosures and mufflers for stationary equipment shall be provided, impact tools shall be shrouded or shielded, and barriers shall be installed around particularly noisy activities at the construction sites so that the line of sight between the construction activities and nearby sensitive receptor locations is blocked to the extent feasible. • Unnecessary idling of internal combustion engines shall be prohibited. • Construction-related vehicles and equipment shall be required to use designated truck routes to travel to and from the project sites as determined with consultation with the SFMTA as part of the permit process prior to construction. • The project sponsor shall designate a point of contact to respond to noise complaints. The point of contact must have the authority to modify construction noise-generating activities to ensure compliance with the measures above and with the San Francisco Noise Ordinance.	
NO-2: Construction of the proposed project would not expose people to or generate noise levels in excess of standards established in the local general plan, noise ordinance, or applicable standards of other agencies.	Less than Significant	None required	Less than Significant
NO-3: Construction of the proposed project would not expose people and structures to or generate excessive groundborne vibration levels	Less than Significant	None required	Less than Significant

TABLE 2-1 (Continued)
SUMMARY OF IMPACTS, MITIGATION MEASURES, AND IMPROVEMENT MEASURES

Environmental Impact	Level of Significance Before Mitigation	Mitigation/Improvement Measures	Level of Significance After Mitigation
NO-4: Operation of the proposed project would cause a substantial permanent increase in ambient noise levels in the project vicinity.	Less than Significant	None required	Less than Significant
C-NO-1: Operation of the proposed project when considered with other cumulative development would cause a substantial permanent increase in ambient noise levels in the project vicinity.	Less than Significant	None required	Less than Significant

TABLE 2-1 (Continued)
SUMMARY OF IMPACTS, MITIGATION MEASURES, AND IMPROVEMENT MEASURES

Environmental Impact	Level of Significance Before Mitigation	Mitigation/Improvement Measures	Level of Significance After Mitigation
Transportation and Traffic			
TRAF-1: Construction of the proposed project could cause substantial adverse impacts to traffic flow, circulation and access as well as to transit, pedestrian, and parking conditions during demolition and construction activities.	Less than Significant	**IM-TR-1: Construction Coordination and Monitoring Measures.** ***Traffic Control Plan for Construction*.** In order to reduce potential conflicts between construction activities and pedestrians, transit and autos during construction activities at ZSFG, UCSF shall require construction contractor(s) for the proposed Research Building to prepare a traffic control plan for major phases of project construction (e.g. demolition, construction, or renovation of individual buildings). UCSF and their construction contractor(s) will meet with DPH and relevant City agencies to coordinate feasible measures to reduce traffic congestion, including temporary transit stop relocations, and other measures to reduce potential traffic and transit disruption and pedestrian circulation effects during major phases of construction of the proposed Research Building. For any work within the public right-of-way, the contractor would be required to comply with the City of San Francisco's Regulations for Working in San Francisco Streets, which establish rules and permit requirements so that construction activities can be done safely and with the least possible interference with pedestrians, bicyclists, transit, and vehicular traffic. The Parking Authority would be responsible for approving and implementing the expanded 23rd Street Garage, and therefore would be responsible for coordinating with UCSF, DPH, and other City agencies before and during its construction. In the event that the construction timeframes of the major phases and other development projects adjacent to the ZSFG campus site overlap, including the 23rd Street garage expansion, UCSF and the City should coordinate with City Agencies through the Transportation Advisory Staff Committee (TASC) to minimize the severity of any disruption to adjacent land uses and transportation facilities from overlapping construction transportation impacts. UCSF and the City shall propose a construction traffic control plan that includes measures to reduce potential construction traffic conflicts, such as staggering start and end times, coordinated material drop offs, collective worker parking and transit to job site and other measures. ***Reduce SOV Mode Share for Construction Workers.*** In order to minimize parking demand and vehicle trips associated with construction workers for the proposed research building, UCSF and the City shall require the construction contractors to include in the Traffic Control Plan for Construction methods to encourage walking, bicycling, carpooling, and transit access to the campus sites by construction workers in the coordinated plan. The SFMTA would be responsible for the development of this measure before and during the construction of the 23rd Street garage. ***Project Construction Updates for Adjacent Residents and Businesses.*** In order to minimize construction impacts on access for nearby residences, institutions, and businesses, UCSF and the City shall provide nearby residences and adjacent businesses with regularly-updated information regarding project construction, including construction activities, peak construction vehicle activities (e.g., concrete pours), travel lane closures, and lane closures via a newsletter and/or website.	Less than Significant

TABLE 2-1 (Continued)
SUMMARY OF IMPACTS, MITIGATION MEASURES, AND IMPROVEMENT MEASURES

Environmental Impact	Level of Significance Before Mitigation	Mitigation/Improvement Measures	Level of Significance After Mitigation
Transportation and Traffic (cont.)			
TRAF-2: Development of the proposed project would increase traffic at intersections on the adjacent roadway network.	Potentially Significant	**TR-1: Restripe 24th Street at Potrero Avenue to Provide a Westbound Left-Turn Pocket.** Restripe the westbound approach on 24th Street at Potrero Avenue as two lanes: a 10-foot-wide left-turn pocket approximately 50 feet in length and a 10-foot-wide shared through/right-turn lane. This would require the removal of three or four parking spaces on the southern side of 24th Street at the intersection of Potrero Avenue and the restriping of the eastbound lane adjacent to the removed parking spaces to be 12 feet wide. This mitigation measure would not include the addition of new signal phases or other alterations due to the existing timing plan, although the SFMTA may choose to do so as part of the mitigation measure. This mitigation measure would require that large trucks or buses making the northbound right-turn movement would sweep into the westbound left-turn lane. As such, the final design of this intersection should include placement of the stop bar on the westbound turn lane approximately one car length back from the current intersection to accommodate larger turning vehicles. UCSF and the City and County of San Francisco would contribute a proportional share to the costs of implementation of this mitigation measure. **TR-2: Open 23rd Street exit of 23rd Street Garage during the PM Peak Period.** Open the 23rd Street exit to the 23rd Street Garage to traffic at 3:00 PM instead of 6:00 PM. Currently, both the entrance and exit at 23rd Street are closed to vehicles from 6:00 AM to 6:00 PM. Opening the exit at 3:00 PM to coincide with a major hospital employee shift change would allow some vehicles to shift away from the 24th Street exit and thus improve the operating condition of the intersection of Potrero Avenue / 24th Street. It is not known how many people would use this exit if given the option; although there is only one exit lane, which would naturally limit the number of vehicles that can exit during this period. This analysis assumes that not enough vehicles would use this alternative exit to reduce the intersection impact to a less than significant level. In conjunction with the earlier opening of the 23rd Street exit, which would increase the amount of traffic on 23rd Street, the pedestrian crossing that connects the 23rd Street Garage to the east side of the West ZSFG Driveway should be improved. Although SFMTA staff would need to concur on a final design, this should include evaluation of signal phasing prior to implementation, and it could include shifting the eastern edge of the crosswalk to the east by ten feet in order to double the width of the crosswalk to 20 feet, repainting the crosswalk in the continental style to be more visible, and shifting the westbound 48 Quintara/24th Street in the same location 20 feet to the east to increase the visibility of pedestrians. Other potential measures to increase pedestrian visibility and reduce vehicle-pedestrian collision risks include the following measures as noted below: • Consider converting intersection of Utah Street and 23rd Street to all-way stop controlled, • Signalize the ZSFG driveway and associated pedestrian crossing,	Significant and Unavoidable Mitigation Measure TR-1 would reduce the impact to less than significant, but UCSF and DPH do not have the authority to implement it without SFMTA's approval and assistance, which is unknown at this time. The effectiveness of Mitigation Measure TR-2 to reduce the impact to less than significant is not known given the uncertainty over the volume of vehicles choosing to exit the northern egress, and UCSF does not have the authority to implement it without SFMTA's approval and assistance, which is unknown at this time. While Mitigation Measure TR-3 can reduce traffic impacts, even full implementation of TR-3 with identified feasible elements would not fully eliminate the significant impact at this intersection for the project or Variants 1 to 3. Implementation of the full suite of TDM strategies identified in TR-3 would reduce the impact at Potrero Avenue / 24th Street to less-than-significant under Variant 4.

TABLE 2-1 (Continued)
SUMMARY OF IMPACTS, MITIGATION MEASURES, AND IMPROVEMENT MEASURES

Environmental Impact	Level of Significance Before Mitigation	Mitigation/Improvement Measures	Level of Significance After Mitigation
Transportation and Traffic (cont.)			
TRAF-2 (cont.)		• Add signage on Potrero Avenue directing vehicles to use 24th Street to reduce circling for visitors, • Increase employee education regarding appropriate pick-up and drop-off locations to minimize any additional double-parking at the corner of 23rd Street / San Bruno Avenue, which can obscure visibility of pedestrians, and • Coordinate with the appropriate enforcement agencies (SFMTA, SFPD) to increase pedestrian safety as well as reduce instances of double-parking. UCSF and the City and County of San Francisco would contribute a proportional share to the costs of implementation of this mitigation measure. **TR-3: Implement Additional TDM Strategies to Reduce Single Occupancy Vehicle Trips.** UCSF and DPH shall each pursue potential TDM measures that they can feasibly implement targeted at reducing SOV trips to and from ZSFG. UCSF and DPH staff have worked collaboratively with transportation consultants, the SFMTA, and other City departments to identify a list of potential TDM strategies in addition to those already in place. The implementation of this mitigation measure could improve traffic operations in the immediate vicinity of ZSFG, including at Potrero Avenue / 24th Street by reducing SOV trips to and from ZSFG. Additionally, implementation of other TDM strategies not included in this list would have a similar effect of reducing SOV trips to and from ZSFG. As outlined in Section 2.2 (of the TIS), UCSF and DPH each already have TDM plans in place and an internal planning process with UCSF, DPH, the SFMTA, and transportation consultants will yield a list of potential TDM strategies that UCSF and DPH could pursue in addition to those already in place. A combination of these measures could potentially reduce single-occupant vehicle (SOV) trips for UCSF and DPH employees. To accomplish this goal, UCSF and DPH shall coordinate and each implement the following policies to the extent feasible: • Parking Policy/Pricing – Adjust hourly parking rate structure to discourage all-day parking and provide spaces for patients/visitors (Parking Authority) – In order to discourage driving, increase hourly and monthly parking rates to be more in line with prevailing San Francisco market rates (Parking Authority) • Transit and Shuttle Systems – Expand UCSF and DPH Shuttle Service to Caltrain, Transbay Transit Terminal (applies to UCSF and DPH; would require coordination with SFMTA)	

TABLE 2-1 (Continued)
SUMMARY OF IMPACTS, MITIGATION MEASURES, AND IMPROVEMENT MEASURES

Environmental Impact	Level of Significance Before Mitigation	Mitigation/Improvement Measures	Level of Significance After Mitigation
		– Maintain a dialogue with SFMTA regarding ZSFG's strong desire to see that the transit connection between the Mission District and the ZSFG campus remains (applies to UCSF and DPH; would require coordination with SFMTA) – Allow patients/visitors to ride DPH Shuttle and advertise the shuttle as a last-mile option (applies to DPH) – Expand additional last-mile service by alternate means, including reimbursing employees for taxi use or ride hail companies as a bridge from transit stations (applies to DPH) – Add Bike racks on DPH shuttles (applies to DPH)	

TABLE 2-1 (Continued)
SUMMARY OF IMPACTS, MITIGATION MEASURES, AND IMPROVEMENT MEASURES

Environmental Impact	Level of Significance Before Mitigation	Mitigation/Improvement Measures	Level of Significance After Mitigation
Transportation and Traffic (cont.)			
TRAF-2 (cont.)		• Commute Vehicle Trip Reduction – Hire a TDM Program Manager for ZSFG to meet modal goals (applies to DPH) – Expand number of car share vehicles on-site (applies to DPH) – Create more robust carpool matching program (applies to UCSF and DPH) – Create vanpool service or coordinate with existing UCSF vanpool (applies to DPH) – Provide showers and locker facilities on campus and in the new UCSF Research Building (applies to UCSF and DPH) – Install Bay Area Bike Share Station on campus – Install transportation kiosk(s) overseen by the new TDM Program Manager (applies to DPH) – Advertise existing pre-tax commuter accounts (applies to UCSF and DPH) – Promote bicycle safety along 23rd Street and Potrero Avenue to prevent conflicts with vehicles (applies to DPH) – Provide signage indicating the location of bicycle parking at points of access (applies to DPH) – Facilitate access to carshare spaces through on-site garage (applies to DPH)	
TRAF-3: Development of the proposed project would increase transit ridership demand.	Less than Significant	None required	Less than Significant
TRAF-4: Development of the proposed project would not cause a substantial conflict with pedestrian facilities, or otherwise decrease the performance or safety of such facilities.	Less than Significant	None required	Less than Significant
TRAF-5: Development of the proposed project would not cause a substantial conflict with bicycle facilities, or otherwise decrease the performance or safety of such facilities.	Less than Significant	None required	Less than Significant
TRAF-6: Development of the proposed project would increase loading demand.	Less than Significant	None required	Less than Significant
TRAF-7: Development of the proposed project would not result in inadequate emergency access.	Less than Significant	None required	Less than Significant

TABLE 2-1 (Continued)
SUMMARY OF IMPACTS, MITIGATION MEASURES, AND IMPROVEMENT MEASURES

Environmental Impact	Level of Significance Before Mitigation	Mitigation/Improvement Measures	Level of Significance After Mitigation
TRAF-8: Development of the proposed project would increase parking demand.	Less than Significant	None required	Less than Significant
TRAF-9: Development of the proposed project, in combination with reasonably foreseeable future developments, would increase traffic at intersections on the adjacent roadway network.	Potentially Significant	Implement Mitigation Measures TR-1, TR-2, and TR-3.	Significant and Unavoidable

TABLE 2-1 (Continued)
SUMMARY OF IMPACTS, MITIGATION MEASURES, AND IMPROVEMENT MEASURES

Environmental Impact	Level of Significance Before Mitigation	Mitigation/Improvement Measures	Level of Significance After Mitigation
Transportation and Traffic (cont.)			
TRAF-10: Development of the proposed project, in combination with reasonably foreseeable future developments, would increase transit ridership demand.	Less than Significant	None required	Less than Significant
TRAF-11: Development of the proposed project, in combination with reasonably foreseeable future developments, would not cause a substantial conflict with pedestrian facilities, or otherwise decrease the performance or safety of such facilities.	Less than Significant	None required	Less than Significant
TRAF-12: Development of the proposed project, in combination with reasonably foreseeable future developments, would not cause a substantial conflict with bicycle facilities, or otherwise decrease the performance or safety of such facilities.	Less than Significant	None required	Less than Significant
TRAF-13: Development of the proposed project, in combination with reasonably foreseeable future developments, would increase loading demand.	Less than Significant	None required	Less than Significant
TRAF-14: Development of the proposed project, in combination with reasonably foreseeable future developments, would increase parking demand.	Less than Significant	None required	Less than Significant
TRAF-15: Construction of the proposed project, in combination with reasonably foreseeable future developments, could cause substantial adverse impacts to traffic flow, circulation and access as well as to transit, pedestrian, and parking conditions during demolition and construction activities.	Less than Significant	None required	Less than Significant

TABLE 2-2
SUMMARY OF IMPACTS AND MITIGATION MEASURES IDENTIFIED IN THE INITIAL STUDY

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Aesthetics			
Would the project create a new source of substantial light or glare which would adversely affect daytime or nighttime views in the area?	Potentially Significant	**AES-1:** UCSF shall require a condition in construction contracts that flood or area lighting for construction activities be placed and directed so as to avoid potential disturbances to adjacent residences, Building 5 nighttime uses, or other uses. **AES-2:** Minimize light and glare resulting from the new research building and garage expansion through the orientation of the building, use of landscaping materials, and choice of primary façade materials. Design standards and guidelines to minimize light and glare shall include: • Reflective metal walls and mirrored glass walls shall not be used as primary building materials for façades. • Illuminated building signage shall be consistent with the more stringent of City Planning Code sign standards for illumination and/or UCSF design guidelines. • Exterior light fixtures shall be configured to emphasize close spacing and lower intensity light. Light fixtures shall use luminaries that do not direct the cone of light towards nearby campus structures and off-campus structures. • Design parking structure lighting to minimize off-site glare, consistent with the existing parking structure.	Less than Significant
Biological Resources			
Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	Potentially Significant	**BIO-1: Nesting Bird Protection Measures.** Should construction activities commence during the bird nesting season (February 15 through August 15), UCSF shall retain a qualified biologist to conduct preconstruction nesting bird surveys in surrounding habitat for nesting birds. UCSF shall implement specific measures to avoid and minimize impacts on nesting birds including, but not limited to, those described below: • To avoid and minimize potential impacts on nesting raptors and other birds, preconstruction surveys shall be performed not more than two weeks prior to initiating vegetation removal and/or construction and demolition activities during the breeding season (i.e., February 15 through August 15). • To avoid and minimize potential impacts on nesting raptors and other birds, a no-disturbance buffer zone shall be established around active nests during the breeding season until the young have fledged and are self-sufficient, when no further mitigation would be required. Typically, the size of individual buffers ranges from a minimum of 250 feet for raptors to a minimum of 50 feet for other birds but can be adjusted based on an evaluation of the site by a qualified biologist in cooperation with the USFWS and/or CDFW. • Birds that establish nests after construction starts are assumed to be habituated to and tolerant of the indirect adverse impacts resulting from construction noise	Less than Significant

TABLE 2-2 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES IDENTIFIED IN THE INITIAL STUDY

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Biological Resources (cont.)			
		and human activity. However, direct take of nests, eggs, and nestlings is still prohibited and an appropriate buffer shall be established around the nest according to species and proximity to project activities in order to avoid nest abandonment or destruction, as determined by a qualified biologist. • If construction or demolition activities ceases for a period of more than two weeks, or vegetation removal is required after a period of more than two weeks has elapsed from the preconstruction surveys, then new nesting bird surveys shall be conducted. **BIO-2: Bird-Safe Building Treatments.** • Employ glazing options such as use of fritted glass, Dichroic glass, etched glass, translucent glass, or glass that reflects ultraviolet light in appropriate portions of the building façade. Any feature-related hazards, such as freestanding glass walls, glass wind barriers, or transparent building corners, must have 100% of the glass on the feature-related hazards treated with these glazing options. • Minimize light and glare through the orientation of the building, use of landscaping materials, shielded lighting, and choice of primary façade materials. The building design shall prohibit use of reflective metal walls and mirrored glass walls as primary building materials for façades.	
Hazards and Hazardous Materials			
Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	Potentially Significant	**HAZ-1a:** A Subsurface Investigation (SI) Work Plan shall be prepared and implemented in accordance with San Francisco Health Code Article 22A and Building Code Section 106A.3.2.4. The Plan shall be prepared by a qualified consultant to characterize subsurface soils and groundwater, if applicable, that would be disturbed by construction activities. The plan shall detail the soil sampling and analysis efforts to adequately profile the site soils. Compliance with this plan shall be a condition of the construction contract for the project. **HAZ- 1b:** An Excavation Management Plan shall be prepared by a qualified consultant to guide all earthwork activities in the characterization of all soils that are targeted for offsite disposal. Compliance with this plan shall be a condition of the construction contract for the project. Based on the findings of the January 14, 2015 Iris Environmental In-Situ profiling and any subsequent findings on the garage site, excavated soils shall be isolated, protected from potential runoff, and sampled in accordance with the requirements of the receiving disposal facilities requirements.	Less than Significant
Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	Potentially Significant	Implement HAZ-1a and -1b.	Less than Significant

CHAPTER 3
Project Description

3.1 Introduction

The University of California, San Francisco (UC San Francisco or UCSF) is one of ten campuses in the University of California (UC) system, and is the only UC campus devoted solely to the health sciences. UCSF's mission is to advance health worldwide through innovative health sciences education, research and patient care.

UCSF is a multi-site campus with locations throughout the City of San Francisco. Its major academic and clinical sites are at Parnassus Heights, Mission Bay, and Mount Zion. UCSF also has a major presence at the Priscilla Chan and Mark Zuckerberg San Francisco General Hospital and Trauma Center (ZSFG), an acute-care medical center owned and operated by the City and County of San Francisco (City). Through its affiliation agreement with the City, UCSF physicians and other health care professionals provide a large majority of medical services and care at ZSFG in City-owned buildings. UCSF does not own facilities at ZSFG, but leases space or otherwise occupies space in exchange for services. It is one of two major hospital affiliations that UCSF maintains, the other being the San Francisco Veterans Affairs Medical Center operated by the U.S. Department of Veterans Affairs.

In support of its programs at the ZSFG campus, and to meet UC seismic safety requirements[1], UCSF proposes to develop a research building on the site of the B/C Lot, a surface parking lot on the ZSFG campus along Twenty-Third Street. The University would enter into a long-term ground lease with the City and County of San Francisco for the B/C Lot.

Because the proposed research building would displace existing surface parking on the B/C Lot, and because the San Francisco Department of Public Health has determined that additional spaces are needed in the parking garage to meet demand generated by the occupants of existing City-owned buildings at ZSFG, the proposed project also includes the expansion of the ZSFG parking garage, owned and operated by the Parking Authority of the City and County of San Francisco ("Parking Authority"), located a block to the south at 2500 Twenty-Fourth Street.[2] Under the project, UCSF would develop the research building on the B/C site, and the Parking Authority would develop the ZSFG parking garage expansion.

1 The current version of the UC *Seismic Safety Policy* is available at http://ucop.edu/real-estate-services/resources/seismic-safety-policy/index.html.

2 Under San Francisco Charter Section 8A.112, all powers and duties of the Parking Authority, a legal entity created in accordance with Cal. Sts & Hwy Code Sections 32501 and 32650-32655, are exercised by the San Francisco Municipal Transportation Agency.

For purposes of the California Environmental Quality Act (CEQA), the University of California is lead agency. The Parking Authority and the City would act as responsible agencies under CEQA for approval actions within their respective jurisdictions.

3.1.1 UCSF Long Range Development Plan

Each campus of the University of California is required to prepare a Long Range Development Plan (LRDP) that sets forth concepts, principles, and plans to guide the future growth of the campus. On November 20, 2014, the Regents of the University of California adopted UCSF's 2014 LRDP, which outlines development proposals for UCSF through 2035, following certification of the Final Environmental Impact Report (EIR) on the 2014 LRDP.

The 2014 LRDP EIR sets standards of significance for environmental impacts and evaluates whether construction and operational activities of UCSF under the 2014 LRDP through 2035 would exceed these standards of significance. The 2014 LRDP EIR did not include the proposed project in its analyses, because the proposed project was not fully defined at the time the 2014 LRDP was being prepared. Furthermore, as there are no programmatic interdependencies between the proposed project and the 2014 LRDP and its development proposals, the proposed project has independent utility. The 2014 LRDP EIR was completed with the understanding that the proposed project would undergo a separate environmental review, which is the subject of this document.

3.2 ZSFG Background

As a County hospital, ZSFG's mission is to provide quality health care and trauma services with compassion and respect. Its stated vision is to advance community wellness by aligning care, discovery and education. ZSFG is an essential provider for people throughout the City who would otherwise be without access to health care because of economic and social issues.

Since its establishment in 1854, ZSFG has evolved into a major academic tertiary care medical center. It is the only hospital in the City and in northern San Mateo County to operate a Trauma Center (Level I) for 1.5 million residents of the area. In addition, ZSFG provides the community with a complete range of emergency, inpatient, primary care, specialized medical and surgical services, and diagnostic and rehabilitation services. ZSFG also has a full complement of mental health care services from psychiatric emergency services to in-patient psychiatric care and rehabilitation and post-hospitalization care.

A comprehensive medical center, ZSFG is the acute care facility for the San Francisco Department of Public Health. It is licensed for 547 inpatient beds and provides 20 percent of the City's inpatient care. As the City's sole Level 1 trauma center, it receives 29 percent of the City's 911 ambulance calls, records 70,000 emergency department visits per year, and initiates approximately 3,900 trauma activations. In addition, over 58,000 ambulatory care visits occur at ZSFG every year. ZSFG provided $154 million dollars in charity care in fiscal year 2012, which represents 84 percent of San Francisco inpatient and outpatient charity care; 79 percent of all charity care patients in San Francisco were seen at ZSFG.

ZSFG has a long history and strong commitment to healthcare education; physician, nurse and health worker training; and medical research. It takes pride in its longtime affiliation, since 1884, with UCSF, serving as a major teaching hospital and home to a number of prominent research centers and institutes. Approximately 1,900 UCSF physicians, specialty nurses, health care professionals and other professionals work side-by-side with 4,300 City employees at ZSFG.[3] Each year, over 350 third- or fourth-year medical students, 900 residents, and 60 clinical fellows are trained at ZSFG.

In addition, UCSF faculty conduct critical research at ZSFG that is essential to the University's mission there and which is integral to patient treatment and care on the campus. ZSFG is home to more than 20 research centers and major laboratories. About 200 UCSF principal investigators direct important research through programs based at the ZSFG campus.

In 1996, California Senate Bill 1953 (SB 1953) was passed as an amendment to and in furtherance of the Alfred E. Alquist Hospital Seismic Safety Act (Alquist Act) enacted in 1973. The intent of the original act was to ensure that acute care hospitals remain functional after a major earthquake. The Alquist Act requires all general acute care hospital buildings to meet explicit seismic safety standards by either retrofitting existing buildings or electing the option to rebuild a new hospital building. In 2000, the San Francisco Department of Public Health commissioned a seismic evaluation study, which concluded that if the existing Main Hospital building were to be seismically retrofitted to SB 1953 standards, the cost would be prohibitive when factoring in the need to relocate patients. The following year the San Francisco Health Commission adopted a resolution supporting the construction of a new acute care hospital. The new acute care and trauma center had a ribbon cutting in November 2015 with patient move-in planned for spring 2016.

All medical and post-secondary educational institutions in San Francisco must file an Institutional Master Plan (IMP) with the San Francisco Planning Department per Section 304.5 of the Planning Code.[4] IMPs provide notice and information to the Planning Commission, other government agencies, and the public regarding future development plans; enable the institution to make modifications in response to comments prior to advanced planning decisions; and provide public agencies and the public with information that may help guide land use decisions. Following the Planning Commission's acceptance of an IMP, an institution must submit updates to the Zoning Administrator every two years. The Department of Public Health submitted the latest ZSFG IMP revision to the Planning Department in June 2015.

3 *San Francisco General Hospital and Trauma Center, Annual Report, Fiscal Year 2012-2013,* p. 13.
4 Property owned by UCSF is exempt from this requirement.

3.3 Project Background and Overview

UCSF occupies approximately 297,000 gross square feet (gsf) of research labs, office, and clinic space on the ZSFG campus in ten buildings (Buildings 1, 3, 5, 9, 10, 20, 30, 40, 80/90, and 100). The UC *Seismic Safety Policy* applies to any location that houses UC employees; therefore, the policy requires that UCSF occupants be located in seismically safe buildings. Except for Building 3, the Community Health Network building located at 2789 Twenty-Fifth Street, and Building 25, the New Acute Care Hospital, all other ZSFG buildings occupied by UCSF employees are seismically compromised and require extensive upgrades or must be vacated.

To comply with the UC *Seismic Safety Policy*, UCSF proposes to acquire a long-term interest, through a ground lease with the City, for the B/C surface parking lot (B/C Lot) along Twenty-Third Street. UCSF would construct a new, seismically robust research building on the site for its employees who are in seismically compromised space on the ZSFG campus. The new building may also accommodate UCSF employees who are currently located off the ZSFG campus in leased space, working in programs that would benefit by relocating to the ZSFG campus. UCSF intends to continue to occupy Building 3, which is seismically safe. UCSF employees also may remain in Building 5 (the existing hospital) if it were to be seismically retrofitted in the future.

The surface parking on the B/C Lot would be displaced by the proposed research building, and the supply of parking on the ZSFG campus and in the vicinity is already insufficient to satisfy the demand for parking. If UCSF employees located off-site are relocated to the new research building, demand for parking will increase. Furthermore, demand will increase substantially in the near future with the completion of the new hospital and the backfilling of vacated space in the existing hospital building. As a result, the proposed project also includes the expansion of the existing ZSFG parking garage owned and operated by the Parking Authority a block south at 2500 Twenty-Fourth Street. The expansion of the ZSFG parking garage would be undertaken by the Parking Authority.

3.4 Project Location and Existing Site Characteristics

3.4.1 ZSFG Campus

ZSFG is located in the Mission district, bordering the western portion of the Potrero Hill neighborhood (see **Figure 3-1**, Project Site). The site is bounded by U.S. Highway 101 (U.S. 101) to the north and east, Twenty-Third Street to the south and Potrero Avenue to the west. The area immediately surrounding ZSFG is primarily residential with some neighborhood-serving commercial activity on the ground floor, especially along Twenty-Fourth Street.

ZSFG is currently undergoing renovation/expansion. A new acute care hospital will replace existing inpatient facilities in the Main Hospital building (Building 5). The new hospital (Building 25), completed in 2015 with patient move-in planned for spring 2016, is nine stories tall, including seven stories above grade and two basement levels. The new hospital connects to the existing Main Hospital building at the ground level and at the second floor. Approximately 179,000 square feet of acute care services currently located in the existing Main Hospital will be relocated to the new

SOURCE: UCSF

UCSF Research Building and City Parking Garage Expansion at ZSFG

Figure 3-1
Project Site

hospital. Approximately 356,970 square feet of uses that are not subject to the SB 1953 requirements would remain in the existing Main Hospital, including Outpatient Services, the majority of Support Services, Acute Inpatient Psychiatry Services, and Psychiatric Emergency Services.

In addition, a proposed General Obligation Bond Measure scheduled for June 2016, would fund the expansion of existing uses and backfill of uses into vacated areas in the existing Main Hospital as well as the phasing out of certain uses on the ZSFG campus site, which would be complete by approximately 2019. The San Francisco Department of Public Health also would be relocating certain functions from off-campus sites into the existing Main Hospital, such as the Department's Public Health Lab currently located at 101 Grove Street and the City's STD Clinic.

3.4.2 B/C Lot

The existing B/C Lot contains approximately 130 surface parking spaces and approximately 35 adjacent parking spaces for handicapped users, service vehicles, and ZSFG staff. The B/C Lot is bordered by Vermont Street to the east, West Drive to the west, Twenty-Third Street to the south, and the Main Hospital to the north. Buildings 9, 30, 40 are located across West Drive.

The current ZSFG emergency room and ambulance bay in the Main Hospital is accessed through the B/C Lot via a driveway off Twenty-Third Street near its intersection with Vermont Street. Due to construction of the new hospital building, West Drive no longer extends across the ZSFG campus from Twenty-Third Street to Twenty-Second Street. Instead, a circular turnaround/drop-off area has been installed where West Drive approaches the southwestern corner of the Main Building. The ZSFG Hearty Café stand-alone trailer is located near this drop-off area.

A gatehouse is located at the southwest corner of the B/C Lot at the intersection of West Drive and Twenty-Third Street, and a fountain is located near the center of the parking lot. The gatehouse, fountain, and an existing fence along Twenty-Third Street are considered contributory landscape features of the ZSFG Historic District.[5,6] Other existing features on this lot include a switchgear facility protected by a concrete wall, located at the intersection of the emergency room access driveway and Twenty-Third Street, and a large sculpture entitled *Stiff Loops* that sits just north of the switchgear structure.[7]

The ZSFG parking garage is located across Twenty-Third Street, between Utah Street and San Bruno Avenue. Residential and retail properties up to two stories tall front Twenty-Third Street between San Bruno Avenue and Vermont Street.

5 *San Francisco General Hospital Seismic Compliance Hospital Replacement Program, Draft Environmental Impact Report*, March 8, 2008.

6 The San Francisco General Hospital Historic District is identified and documented in the *Historical Resources Evaluation Report for the San Francisco General Hospital Seismic Compliance Hospital Replacement Program, City and County of San Francisco, California*, March 7, 2008.

7 Art and Architecture-San Francisco, www.artandarchitecture-sf.com/tag/gerald-walburg, accessed March 2, 2015.

3.4.3 Existing Parking Garage

The six-story parking garage (five stories with a basement level) across Twenty-Third Street from the B/C Lot, between Utah Street and San Bruno Avenue, is owned by the Parking Authority and privately managed by LAZ Parking. Garage parking is designated for visitors, patients and employees, as well as other members of the public needing a place to park in the neighborhood. The garage occupies the northern two-thirds of the lot with surface parking on the remaining one-third.

The parking structure has five floors plus a roof deck with a total parking capacity of 824 spaces, including 17 handicapped accessible spaces. Attendant parking is offered from 8:30 a.m. to 6:00 p.m. on weekdays; vehicles are double-parked on the roof and on the first floor increasing the total parking capacity by approximately 25 vehicles. One entry, one exit and two reversible (entry-exit) lanes are provided on the main access at Twenty-Fourth Street; an additional entry plus one exit lane are provided on Twenty-Third Street after 6:00 p.m. on weekdays and all day on weekends.

- Properties adjacent to the parking garage on San Bruno Avenue, Utah, and Twenty-Fourth streets are predominantly one- and two-story, single- and multi-family residential, with some ground level retail on Twenty-Fourth Street.

3.5 Project Objectives

The project objectives for the research building and parking garage expansion are listed below:

Research Building Objectives

- To develop a new research facility of approximately 175,000 gross square feet in order to accommodate UCSF research programs and employees that must vacate seismically compromised buildings elsewhere on the ZSFG campus.
- To comply with UC's *Seismic Safety Policy*, to ensure a seismically safe environment for UCSF employees, patients and visitors.
- To ensure existing UCSF research activities remain on the ZSFG campus in close proximity to the communities being served, and in close proximity to the ZSFG Level 1 Trauma Center, enabling physicians to provide a rapid response to trauma and urgent clinical needs of patients.
- To ensure existing research activities remain on the ZSFG campus, which is a requirement for the ZSFG Trauma Center to retain its designation as a Level 1.
- To foster collaboration, accommodate interdependent programs, and reinforce academic, research and clinical relationships at ZSFG.
- To develop a new research building that is compatible with the overall landscape of the ZSFG campus as well as the surrounding neighborhood.
- To develop a new research building that, to the extent feasible, complies with the San Francisco Planning Code.
- To develop a new research building that is cost-effective in terms of design, construction cost, operational costs, and maintenance.

Parking Garage Expansion Objectives

- To provide sufficient parking to accommodate any increases in population on the ZSFG campus and loss of existing parking supply resulting from (1) the proposed research building, (2) recently completed projects such as the new hospital,

(3) potential future projects such as new clinics and backfill of vacated space; and (4) implementation of nearby streetscape projects by the San Francisco Municipal Transportation Agency.

- To enhance the existing Transportation Demand Management (TDM) program by developing new and/or enhanced TDM measures to emphasize transportation alternatives that will lessen auto traffic in and around the campus, consistent with the City's *Transit First* policy.

3.6 Project Characteristics

3.6.1 UCSF Research Building

The proposed research building would contain wet and dry labs and office space to be relocated from current locations on the ZSFG campus. In addition, the proposed building may accommodate UCSF departments currently in off-site leases that could relocate to the ZSFG campus.

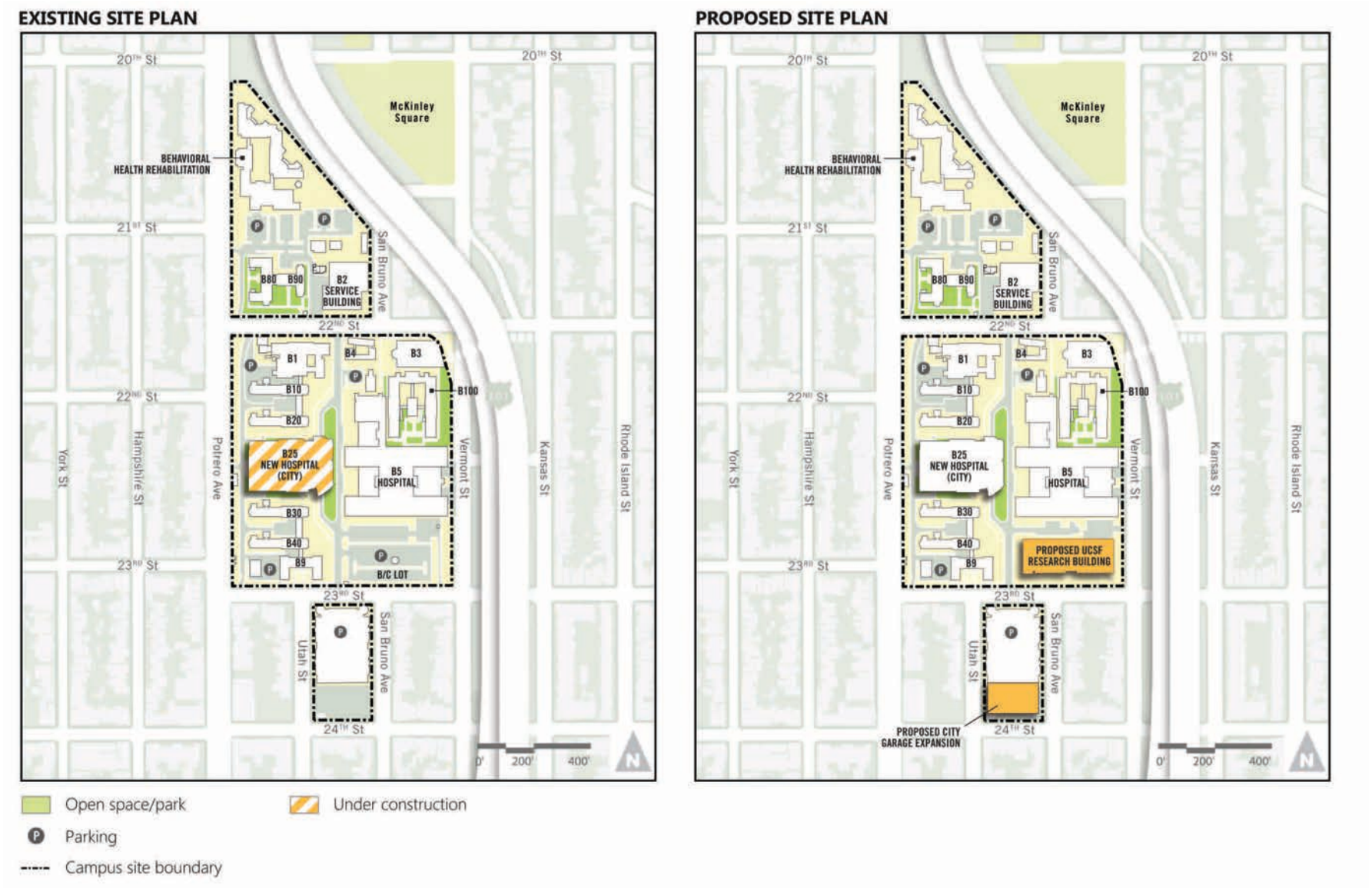
The proposed research building would be about 175,000 gsf, and five-stories in height, plus a mechanical penthouse. The building height would be about 80 feet to the top of the fifth story, plus an additional 12 feet to accommodate rooftop mechanical equipment. The building would be set back from adjacent streets and surrounded by landscaping. The building footprint would allow for the creation of a new one-way eastbound urban driveway between the new building and Building 5. This redesigned area would include the drop off area for Urgent Care services that will be relocated to Building 5 as part of the new hospital project and new landscaping and pedestrian circulation features. The new site layout also would reconfigure the adjacent approximately 35 parking spaces for handicapped users, service vehicles, and ZSFG staff, with no expected reduction in parking supply. In addition, the Hearty Café trailer and fountain would be relocated to the north side of this new street. The existing driveway that provides access to the

- ZSFG emergency room would be eliminated. The existing gatehouse, switchgear facility, and fence along Twenty-Third Street would be retained in their current locations. The *Stiff Loops* sculpture would be relocated to another place on the ZSFG campus in order to avoid any potential construction conflicts between the sculpture and the proposed loading zone and driveway on the east side of the proposed research building. Relocation would occur in coordination with ZSFG and the San Francisco Arts Commission. See **Figure 3-2**, ZSFG Existing and Proposed Site Plan, for the location of the proposed project on the ZSFG campus. **Figure 3-3** presents the proposed research building site plan and **Figure 3-4** depicts the conceptual bulk and height of the new building.

Upon completion of the proposed building, approximately 680 UCSF employees would be relocated from existing facilities on the ZSFG campus to the new research building. In addition, about 120 employees could relocate from off-campus leased space to the new facility.

If approved, construction of the proposed research building is estimated to occur sometime between late 2016 and 2019.

- A trailer for workers would be temporarily located on-site during construction and another construction trailer would be located on the Mission Bay campus site.

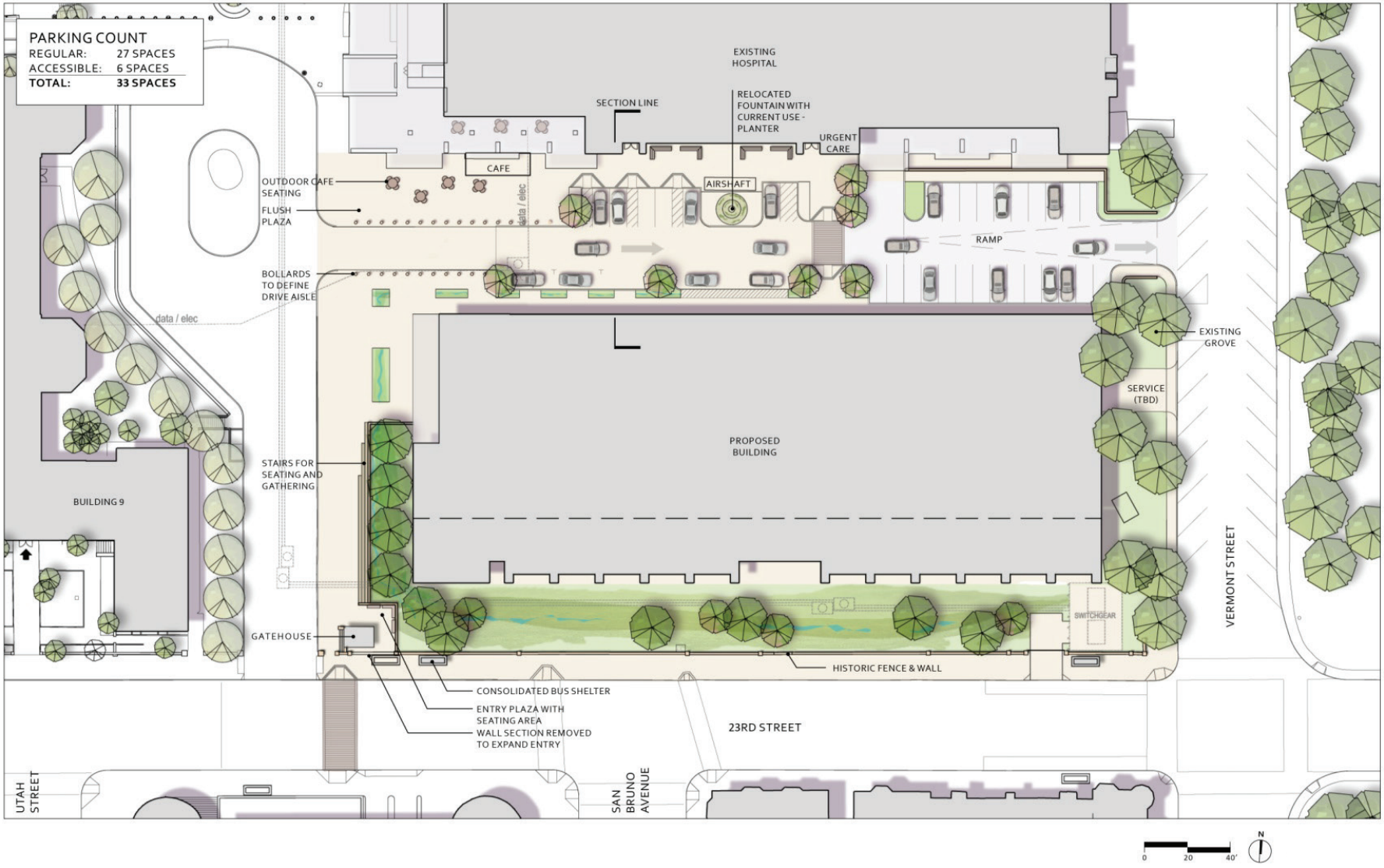


SOURCE: UCSF / Fehr & Peers

UCSF Research Building and City Parking Garage Expansion at ZSFG

Figure 3-2

Zuckerberg San Francisco General
Existing and Proposed Site Plan

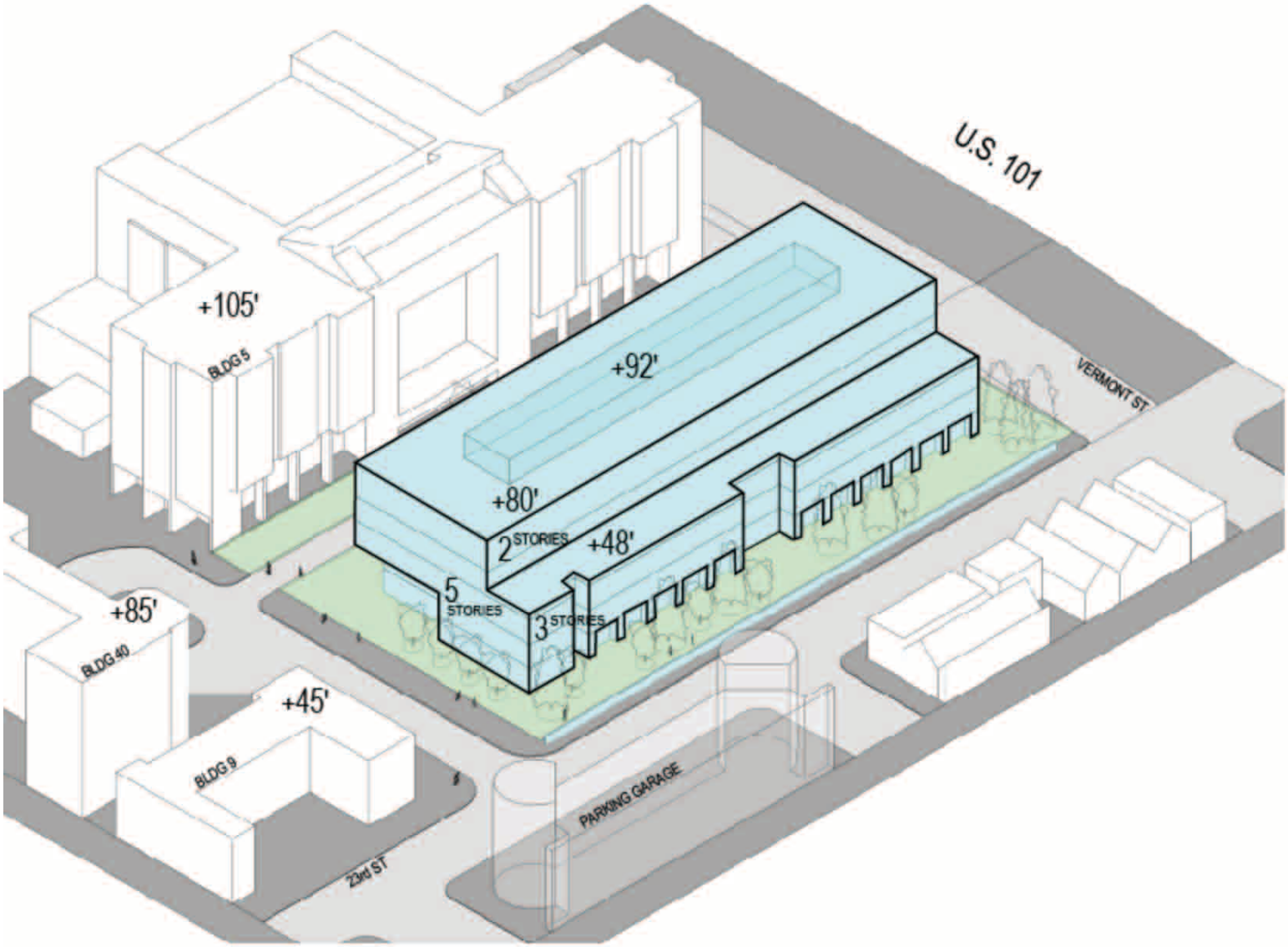


SOURCE: UCSF / Fehr & Peers

UCSF Research Building and City Parking Garage Expansion at ZSFG

Figure 3-3

Proposed UCSF Research Building



SOURCE: UCSF

UCSF Research Building and City Parking Garage Expansion at ZSFG

Figure 3-4

Conceptual Bulk and Height

3.6.2 City Parking Garage Expansion

- The project could include an expansion of the existing ZSFG parking garage, of approximately 307 parking spaces. The proposed parking structure expansion would be developed by the Parking Authority, which owns the site and the parking structure. The proposed expansion of the City parking structure would extend the garage south toward Twenty-Fourth Street on the surface parking lot portion of the garage site. The 307-space expansion would be up to five stories above grade (same as the existing garage). The existing ingress/egress points to the garage would remain – the main access would continue to be on Twenty-Fourth Street, and the secondary access would continue to be on Twenty-Third Street. Please refer to **Figure 3-5** for a schematic drawing of the first floor of the expanded garage.

  As discussed above under Project Background and Overview, development of the proposed UCSF building on the B/C Lot would remove approximately 130 parking spaces. The new site layout also would reconfigure the adjacent approximately 35 parking spaces for handicapped users, service vehicles, and ZSFG staff, with no expected reduction in parking supply. Therefore, construction of the proposed research building would result in a net reduction of about 130 parking spaces on the B/C Lot, which would be replaced in the proposed City parking garage expansion. In addition, it is expected that demand for parking will increase in the future. The UCSF research building is expected to increase employee and visitor parking demand by 66 - 72 spaces, if off-site uses in leased space are relocated to the new research building.[8] Further, the San Francisco Department of Public Health (DPH) has calculated that with the completion of the new hospital, the loss of some parking on Twenty-Second Street, the closure of the temporary off-site parking lot at 2000 Marin Street in January 2016, and the backfilling of vacated space in the existing hospital building, demand for parking on the part of patients, visitors, and employees will increase by approximately an additional 480 – 490 spaces, creating a combined parking demand of 546 – 562 spaces by Year 2020. Should the City or a City tenant backfill vacated space in other buildings on the ZSFG campus, including space vacated by UCSF, after Year 2020, the result will be a combined parking demand of 916 – 973 spaces.

  If approved by the City and the Parking Authority, construction of the proposed garage expansion by the Parking Authority is estimated to occur over a 14-month period sometime between 2018 through 2020.

- TDM planning coordination among UCSF, DPH, and SFMTA staff and transportation consultants yielded a list of potential TDM strategies that could be pursued in addition to those already in place to reduce single-occupant vehicle trips for UCSF and DPH employees. As part of the proposed project, these enhanced TDM measures, described in Mitigation Measure TR-3 (Draft EIR page 4.7-26 to 4.7-27), and in more detail in the Transportation Impact Study Appendix B: ZSFG TDM Plan Memorandum, will be implemented to the extent feasible. These enhanced TDM measures include:

[8] Where a range of parking demand is stated, the lower range assumes successful implementation of an expanded transportation demand management ("TDM") strategy to reduce employee auto trips by 10%.

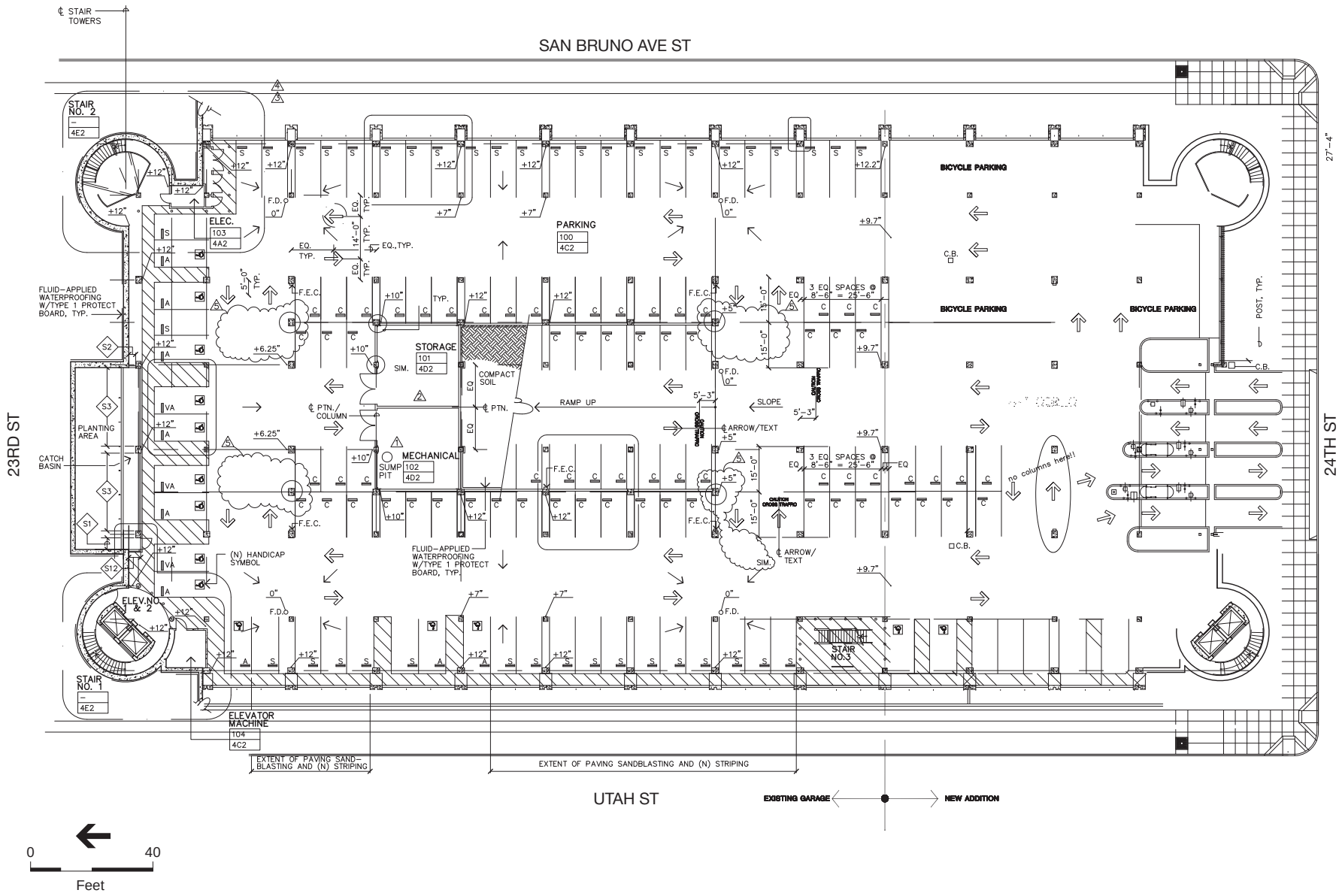
- **Parking Policy/Pricing**
  - Adjust hourly parking rate structure to discourage all-day parking and provide spaces for patients/visitors (Parking Authority)
  - In order to discourage driving, increase hourly and monthly parking rates to be more in line with prevailing San Francisco market rates (Parking Authority)

- **Transit and Shuttle Systems**
  - Expand UCSF and DPH Shuttle Service to Caltrain, Transbay Transit Terminal (applies to UCSF and DPH; would require coordination with SFMTA)
  - Maintain a dialogue with SFMTA regarding ZSFG's strong desire to see that the transit connection between the Mission District and the ZSFG campus remains (applies to UCSF and DPH; would require coordination with SFMTA)
  - Allow patients/visitors to ride DPH Shuttle and advertise the shuttle as a last-mile option (applies to DPH)
  - Expand additional last-mile service by alternate means, including reimbursing employees for and taxi use or ride hail companies as a bridge from transit stations (applies to DPH).
  - Add Bike racks on DPH shuttles (applies to DPH)

- **Commute Vehicle Trip Reduction**
  - Hire a TDM Program Manager for ZSFG to meet modal goals (applies to DPH)
  - Expand number of car share vehicles on-site (applies to DPH)
  - Create more robust carpool matching program (applies to UCSF and DPH)
  - Create a vanpool service or coordinate with the existing UCSF vanpool (applies to DPH)
  - Provide showers and locker facilities on campus and in the new UCSF Research Building (applies to UCSF and DPH)
  - Install Bay Area Bike Share Station on campus (applies to DPH)
  - Install transportation kiosk(s) overseen by the new TDM Program Manager (applies to DPH)
  - Advertise existing pre-tax commuter accounts (applies to UCSF and DPH)
  - Promote bicycle safety along 23rd Street and Potrero Avenue to prevent conflicts with vehicles (applies to DPH)
  - Provide signage indicating the location of bicycle parking at points of access (applies to DPH)
  - Facilitate access to carshare spaces through on-site garage (applies to DPH)

3.6.3 Project Variants

Several variants to the project are analyzed in the EIR. Under all of the variants, the proposed research building would remain as described under the project, see Section 3.6.1. **Table 3-1** presents a summary of the project and the four variants.



SOURCE: Fong & Chan Architects

UCSF Research Building and City Parking Garage Expansion at ZSFG

Figure 3-5

ZSFG Parking Garage Expansion - First Floor

TABLE 3-1
COMPARISON OF PROJECT AND VARIANTS

Project and Variants	Research Building	Parking Garage Expansion	Parking Garage Expansion Location	Parking Garage Access	Parking Garage Height	Ground Floor Retail in Garage	Parking Spaces Net Change[a]
Project	175,000 gsf	307 spaces	Extension of footprint to 24th St	24th St.	5 stories above grade (same as existing)	None	+177
Variant 1	175,000 gsf	292 spaces	Extension of footprint to 24th St	Utah St.	5 stories above grade (same as existing)	5,000 sf	+162
Variant 2	175,000 gsf	527 spaces	Extension of footprint to 24th St plus additional story	24th St.	6 stories above grade (one higher than existing)	None	+397
Variant 3	175,000 gsf	512 spaces	Extension of footprint to 24th St plus additional story	Utah St.	6 stories above grade (one higher than existing)	5,000 sf	+382
Variant 4 (No Garage Expansion)	175,000 gsf	0 spaces	N/A	24th St.	No change	None	-130

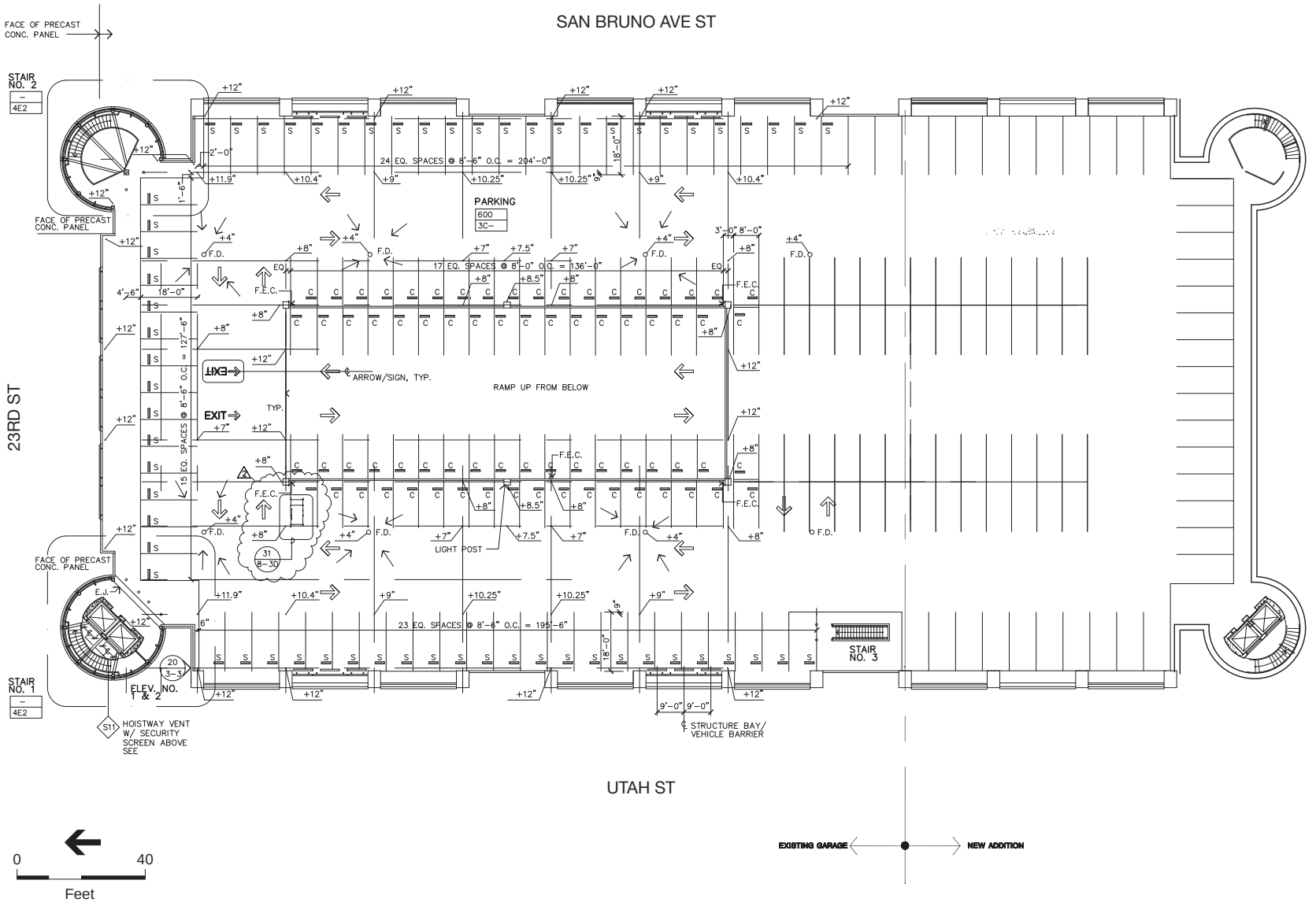
[a] The net change is the number of parking spaces proposed for the garage expansion minus the parking spaces removed by development of the research building on the B/C Lot.

3.6.3.1 Variant 1 (292-space Garage Expansion with Retail)

Up to 5,000 square feet of ground floor retail space could be substituted for up to 15 of the proposed 307 new parking spaces within the garage expansion to provide active uses along the Twenty-Fourth Street frontage that are compatible with the surrounding neighborhood commercial streets. Access to the garage under this variant would occur at a new entrance on Utah Street, so that the proposed Twenty-Fourth Street frontage could contain retail storefronts. The proposed retail use could provide employment for approximately 15 new employees.

3.6.3.2 Variant 2 (527-space Garage Expansion)

This variant would include a larger expansion of the parking structure. Variant 2 would add one additional floor to the existing garage, in addition to the horizontal garage expansion proposed as part of the project, for a newly expanded garage with a total of up to 527 additional spaces. This variant intends to address both the increased parking shortfall that would result from construction of the research building and much of the existing and anticipated shortfall that would occur with the completion of the new hospital, loss of parking spaces associated with the completion of the new hospital, and backfilling of vacated space in the existing hospital building. See **Figure 3-6** for a schematic drawing of the top floor of the garage under this variant.



SOURCE: Fong & Chan Architects

UCSF Research Building and City Parking Garage Expansion at ZSFG

Figure 3-6

Parking Garage Expansion, Variants 2 & 3

3.6.3.3 Variant 3 (512-space Garage Expansion with Retail)

Similar to Variant 2, this variant would add one additional floor to the existing garage, in addition to the horizontal garage expansion proposed as part of the project (see Figure 3-6). However, under Variant 3, up to 5,000 square feet of ground floor retail space could be substituted for up to 15 of the 527 new parking spaces proposed under Variant 2. As proposed under Variant 1, retail would be located along the Twenty-Fourth Street frontage and would be compatible with the surrounding neighborhood commercial streets. Access to the garage would occur at a new entrance on Utah Street.

3.6.3.4 Variant 4 (No Garage Expansion)

Under this variant only the proposed research building would be constructed. The City parking structure would not be expanded under this variant.

3.7 Discretionary Approvals

Action by the Regents of the University of California (the Regents), including any Regents delegated-committee or official:

Upon certification of the EIR, the Regents or its designee will consider whether to approve the following:

- acquisition of long-term interest in the B/C Lot, such as a long-term Ground Lease or other transactional structure
- approval of design, construction, and financing of the UCSF research building

Action by the Parking Authority of the City and County of San Francisco:

- approval of design, construction, and financing of the ZSFG parking garage expansion

Actions by the City and County of San Francisco:

The City and County of San Francisco, Board of Supervisors, Planning Commission and its agencies or designees will consider whether to approve the following:

- approval of a long-term Ground Lease granting an interest in the B/C Lot to the Regents and possible approval of financing for the ZSFG parking garage expansion
- approval of a height change at the parking garage site, if necessary.

CHAPTER 4

Environmental Setting, Impacts, and Mitigation Measures

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4.1 Aesthetics

4.1.1 Introduction

This section assesses the effects of development of the proposed project on scenic resources, including features of the built or natural environment that contribute to a scenic public setting, such as the ZSFG campus. The effects on the existing visual character or quality of the ZSFG campus and the surrounding neighborhood are also evaluated.

4.1.2 Environmental Setting

4.1.2.1 ZSFG Campus and Project Site

The visual character of the ZSFG campus, including that of the project site, is distinct from the character of the surrounding area. Key elements of the campus' distinct character include the unique topography of the campus, and the architectural design and layout of buildings on the campus.

The campus comprises 1.5 city blocks, and is oriented along a north-south axis. The topography generally slopes downward from east to west, with the highest elevation near the corner of Twenty-Second and Vermont streets and relatively level grade along Twenty-Third Street. The downward slope of the campus towards Potrero Avenue generally enhances the visibility of campus buildings and increases the perceived height of buildings as seen from Potrero Avenue from the west side, compared to views of campus from Vermont Street and Highway 101 from the east side.

As viewed from Potrero Avenue, the campus buildings contribute to the unique character of the campus, which has a history of providing medical services on the site since at least 1872. Nine existing brick buildings remain from the period between 1915 and 1938, including the four brick buildings or "finger wards" (Buildings 10/20 and 30/40) constructed in 1915 along Potrero Avenue in the center of the campus. These five-story buildings form the primary visual impression of the campus along Potrero Avenue. Other buildings that also contribute to the character of the campus as viewed from Potrero Avenue include Buildings 1 and 80/90, north of Buildings 10/20, and Building 9, south of Buildings30/40. Buildings 80/90 are five- and seven-story brick buildings with terra cotta detailing (1938). Building 1 and Building 9 are five- and three-story buildings also constructed in 1915. The remaining building from the 1915 to 1938 era, Building 100, is a three-story brick building, located along Vermont Street. The former Main Hospital building (Building 5) also contributes to the visual character of the campus. The seven-story poured-in-place concrete building was constructed in 1976. The style, building materials, design, and façade color of the modern concrete building is distinct from the older red brick buildings on the ZSFG campus.

The new acute care hospital (Building 25) is located northwest of the proposed research building site. It is nine stories tall (seven above grade) and has a height of approximately 124 feet (not

including the 16-foot-tall mechanical penthouse). Its façade includes primarily brick and glass elements, similar to the adjacent brick masonry buildings. The podium and the rectangular vertical tower are primarily brick while the circular tower element is primarily a glass curtain wall with vertical brick columnar elements connected by horizontal sunshades at each floor. The new hospital connects to the former Main Hospital building at the ground level and at the second floor.

The ZSFG campus comprises a historic district, referred to as the ZSFG Historic District, because of its association with the development of San Francisco's public health system, as well as for its contributions to national public health trends, medical research, and education in the 20th century. The district is also known for its distinctively planned architectural complex and being the work of a master architect. Six of the 14 buildings on the campus appear to be eligible for listing in the National Register and California Register. Additional contributing historical features to the district include the perimeter fencing, bus shelter, gatehouses, period light standards, and formal pedestrian entry. See Section 4.3, *Cultural Resources*, for further description of the ZSFG Historic District.

While buildings predominantly characterize the campus, landscaped open space areas also contribute to the visual character of the campus because they provide visual separation between buildings. Other open spaces on the campus are provided adjacent to or between buildings, as well as in interior courtyards of buildings, and include exterior gardens or landscaped grassy areas located, along the internal north-south roadway, in the interior of campus, and along Vermont Street. In addition, interior courtyards are located in Building 100 and the Behavioral Health Center.

B/C Lot

The proposed research building site is a surface parking lot (B/C Lot) containing 130 parking spaces and approximately 35 adjacent parking spaces for handicapped users, service vehicles, and ZSFG staff. The B/C Lot is bordered by Vermont Street to the east, West Drive to the west, Twenty-Third Street to the south, and the former Main Hospital to the north. Buildings 9, 30, 40 are located across West Drive. The current ZSFG emergency room and ambulance bay in the Building 5 is accessed through the B/C Lot via a driveway off Twenty-Third Street near its intersection with Vermont Street. Due to construction of the new hospital building, West Drive no longer extends across the ZSFG campus from Twenty-Third Street to Twenty-Second Street. Instead, a circular turnaround/drop-off area has been installed where West Drive approaches the southwestern corner of the Main Building. The ZSFG Hearty Café stand-alone trailer is located near this drop-off area.

A gatehouse is located at the southwest corner of the B/C Lot at the intersection of West Drive and Twenty-Third Street, and a fountain is located near the center of the parking lot. The gatehouse, fountain, and an existing fence along Twenty-Third Street are considered contributory landscape features of the ZSFG Historic District. Other existing features on this lot include a switchgear facility protected by a concrete wall, located at the intersection of the emergency room access driveway and Twenty-Third Street, and a large sculpture entitled *Stiff Loops* that sits just north of the switchgear structure. Landscaping consists of a few trees located in the interior of the parking lot as well as on the perimeter of the lot.

Existing Parking Garage

The six-story parking garage (including one basement level) is located across Twenty-Third Street from the B/C Lot, between Utah Street and San Bruno Avenue. The 824-parking space garage occupies the northern two-thirds of the lot with surface parking on the remaining one-third.

The garage is concrete and open on all sides to provide natural ventilation. At the two northern corners of the garage there are metal-fabricated, circular, open-air towers, with one enclosing two elevators and stairways in both. Additional pedestrian access is available via the surface lot on the southern end of the site. The exterior is divided into 28-foot structural bay sections designed to relate to the width of the residences in the neighborhood. The north façade has a canopy design that relates to the larger scale of the buildings on the ZSFG campus across Twenty-Third Street.

One entry, one exit and two reversible (entry-exit) lanes are provided on the main access at Twenty-Fourth Street; an additional entry plus one exit lane are provided on Twenty-Third Street during evenings and weekends. Because the site slopes downhill from northeast to the southwest, the Twenty-Fourth Street entrance is at grade while the Twenty-Third Street access is at the third level of the structure.

At the south end of the site in the corners of the surface lot are two circular concrete structures about 15 feet tall. The one at the southwest corner near Twenty-Fourth and Utah Streets has windows and includes a small room that was intended as an information kiosk, but does not appear to be used for that purpose; the other structure is partially underground with no windows and is used for storage of mechanical and maintenance equipment.

The entire garage site is enclosed by a fence. Along the Utah Street and San Bruno Avenue frontages, there is a retaining wall extending about 1.5 feet above the sidewalk with a seven-foot iron fence mounted on top. This iron fence extends around the Twenty-Fourth Street frontage, excluding the access gateway. Along the Twenty-Third Street frontage there is a 42-inch guard rail at street level. Landscaping consists of trees planted along the surrounding sidewalk approximately every 25 feet, except in driveway areas.

4.1.2.2 Surrounding Neighborhood

The areas adjacent to the ZSFG campus are comprised of a mixture of styles and uses, with residential units predominating, including single family, flats, and apartment units. Other buildings include mixed-use commercial and residential, with stores and restaurants on the first floors, and residential units above. Most are multi-story, consisting of two- and three-story buildings, and many have garages. Several buildings have been significantly altered, with the addition of modern façades, fenestration, stucco wall cladding, and other adaptations. Although the majority of the buildings surrounding the ZSFG campus date to the first quarter of the 20th Century, many were also built within the last 50 years, reflecting a variety of building styles and periods found in many parts of San Francisco. Highway 101 and adjacent landscaping form a visual barrier between the campus and the Potrero Hill neighborhood east of the campus.

4.1.3 Regulatory Considerations

4.1.3.1 UCSF Facilities Design Guidelines

New development at UCSF is guided by the *Facilities Design Guidelines*. The guidelines set forth design objectives and special considerations for UCSF projects, with an emphasis on a project's functional requirements, overall economy and technical guidelines.

The *Facilities Design Guidelines* also contain specific policies related to landscaping at UCSF campus sites. These policies include designing landscapes at entrances and exits to UCSF facilities (e.g., roadways, parking lots and pedestrian areas) to maximize visibility and allow adequate lighting. Vegetation should be compatible with the natural limitations presented by the Bay Area's climate and soil conditions, and also be appropriate for man-made environments (e.g., adequate for use as street trees). Additional policies related to landscaping include incorporating water and energy conservation features and utilizing low-maintenance materials.

4.1.3.2 UCSF Physical Design Framework

Development at UCSF is also guided by the *Physical Design Framework*, which sets forth a vision for the physical development of all UCSF campus sites. It serves as the foundation for UCSF to plan and design future projects according to a clear and consistent set of planning and design principles, guidelines and strategies. The *Physical Design Framework* contains six planning principles that are universally applicable to UCSF campus sites. They express key thematic concepts of Context, Connectivity, Cohesiveness, Collegiality, Community and Conservation.

Each of the above principles contains related specific guidelines, such as designing buildings to fit within their urban context, considering massing, style, pattern and color of buildings in the vicinity; relating buildings to pedestrians and scale to human activity and visual interest; providing a positive campus interface at campus edges; providing comfortable, activated campus open spaces; and incorporating sustainability features in buildings.

4.1.3.3 UCSF Community Planning Principles

UCSF has partnered with its neighbors to prepare *Community Planning Principles*. These Principles formalize UCSF's commitment to communicate with neighbors regarding its space needs and potential future development, in order to identify potential community concerns that may arise from UCSF's physical development prior to the time that individual projects are brought forward for approval. The *Community Planning Principles* are intended to aid UCSF in both complementing and advancing the planning priorities of the City and of its campus neighbors. The Principles apply to UCSF's development throughout San Francisco.

4.1.3.4 San Francisco General Plan

The City's General Plan includes policies that pertain to views and visual quality. The policies most relevant to aesthetics are contained in the Urban Design Element of the General Plan.

Policies 1.1 through 1.5 of the City Pattern section of the Urban Design Element relate to the appearance of buildings and landscaping, and their total effect that characterizes the various city districts. These policies also recognize and protect major public views in the city, with particular attention to views of open space. Policies 2.4 through 2.6 of the Conservation section of the Urban Design Element address notable landmarks of aesthetic or other importance, as well as convey a need to respect the character of nearby older development in the design of new buildings. The Major New Development section of the Urban Design Element, Policies 3.1 through 3.7, relate to building design and the visual relationship between new and established development, with an emphasis on promoting a harmonious relationship between existing and new buildings, relating building heights to important attributes of the city pattern and to heights of existing buildings, and recognizing the special urban design problems posed in development of large properties. Policy 4.15 of the Neighborhood Environment section of the Urban Design Element includes requirements for protecting the livability and character of neighborhoods from intrusion of incompatible new development.

Although the University is not subject to local planning policies whenever using land under its control in furtherance of its educational mission, the University strives to be consistent with local policies where feasible. The parking garage expansion would be subject to General Plan policies and regulations as a City-owned site and structure.

4.1.3.5 San Francisco Planning Code

The San Francisco Planning Code regulates development in the City by prescribing the permitted uses and development standards consistent with the land use designations and policies in the *San Francisco General Plan*. The San Francisco Zoning Map defines the locations and boundaries of zoning use, building height and bulk limit districts. Zoning in San Francisco generally consists of multiple layers of districts. Use Districts are the base zoning districts that prescribe permitted land uses and most development standards (except height and bulk). Height and Bulk Districts are mapped separately from Use Districts and prescribe the permitted height and bulk of buildings.

The B/C Lot is located within the 105-E Height and Bulk District while the parking garage is in the 40-X district. The “E” designation limits floor plans above 65 feet to a maximum plan length of 110 feet and a maximum diagonal plan dimension of 140 feet. The “X” designation permits all floors of structures to cover the entire building footprint.

4.1.4 Significance Standards

Would the project

a) Have a substantial adverse effect on a scenic vista?

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway or other features of the built or natural environment which contribute to a scenic public setting?

c) Substantially degrade the existing visual character or quality of the site and its surroundings?

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

e) Exceed the LRDP EIR significance standard by substantially reducing sunlight or significantly increasing shadows in public open space areas, or by increasing pedestrian-level wind speeds above the hazard level set forth in the San Francisco Planning Code?

4.1.5 Analysis Methodology

For purposes of this EIR, the visual impact assessment provides a description of the physical setting surrounding the project site and ZSFG campus to illustrate the backdrop against which impacts of the proposed project are evaluated. The scale, massing, bulk and form of the proposed project is evaluated in the context of surrounding development, including the ZSFG campus and surrounding neighborhood. The existing physical characteristics include short-range and long-range views; the type, height and scale of existing development on or near the campus; man-made landmarks such as major highways or skyline views; and natural landmarks such as hillsides. Basic assumptions are discussed regarding the physical appearance of the proposed research building and parking garage expansion.

4.1.6 Issues Adequately Addressed in the Initial Study

After evaluation of the proposed project, the Initial Study concluded that neither the proposed project nor variants would have a substantial adverse effect on a scenic vista, substantially reduce sunlight or significantly increase shadows in public open space areas, or increase pedestrian-level wind speeds above the hazard level set forth in the San Francisco Planning Code. Therefore, no additional analysis of these issues is required. In addition, implementation of Mitigation Measures AES-1 and AES-2 would reduce effects related to light or glare to less than significant levels. No additional discussion of this issue is contained herein.

4.1.7 Impacts and Mitigation Measures

Impact AES-1: The proposed project would not substantially damage scenic resources or other features that contribute to a scenic public setting or substantially degrade the existing visual character or quality of the site and its surroundings. (Less than Significant)

The Initial Study noted that, although there are no state-designated scenic highways in the vicinity of the project site (Caltrans, 2015),the project could potentially have an impact on the scenic public setting of the ZSFG campus. As discussed below, neither the project nor any of the variants will have a potentially significant impact on the scenic attributes of ZSFG.

Impacts of the Research Building

The research building would be visible from Highway 101, which is not a state-designated scenic highway. Expansion of the parking garage under the project or Variants 1-3 would largely be obstructed by existing vegetation and intervening buildings; new portions of the garage may be glimpsed by motorists. Variants 2 and 3 would add another story to the garage, which would make the garage more visible to motorists on Highway 101.

The unique design and character of the ZSFG campus buildings contribute to the scenic qualities of the campus. As seen from the predominant view of the campus from Potrero Avenue, and also from more long-range vantage points, such as Bernal Heights, the rhythm and design of the existing brick finger wards creates a memorable scenic impression and contributes to the scenic public setting of the campus. The juxtaposition of old and new architecture on campus, the distinct perimeter fencing, and the trees and other landscaping, all contribute to the scenic public setting of the campus. Neither the current use of the proposed research building site as a surface parking lot nor the existing parking garage would be considered contributory elements to the scenic public setting of the campus.

The ZSFG campus character primarily results from the architectural style, design, and façade materials of the 14 existing buildings on campus constructed prior to the new hospital building (Building 25), which was completed in 2015. The 14 campus buildings were constructed between 1915 and 2004 and thus represent a range of architectural styles. However, a primary architectural theme on campus is the early 20th century Second Renaissance Revival architectural style represented by Buildings 1, 9, 10/20, 30/40, and 100. These steel frame, unreinforced brick masonry buildings, along with the brick Art Deco-style Buildings 80/90, were constructed between 1915 and 1938 and contribute substantially to the visual character and scenic public setting of the campus. The location of these buildings on campus, interspersed with internal open spaces and roadways, also contribute to the visual character of the campus.

The new Building 25 is located northwest of the proposed research building site. It is nine stories tall (seven above grade) and has a height of approximately 124 feet (not including the 16-foot-tall mechanical penthouse). Its façade includes primarily brick and glass elements, similar to the adjacent brick masonry buildings. The podium and the rectangular vertical tower are primarily brick while the circular tower element is primarily a glass curtain wall with vertical brick columnar elements connected by horizontal sunshades at each floor. While the building alters the existing rhythm of buildings and open spaces, the design incorporates façade materials, such as brick, that are compatible with and are intended to help integrate the new building with the adjacent unreinforced brick masonry buildings along Potrero Avenue.

The architectural design of the proposed research building has not been developed, and anticipated characteristics of the building are limited to height, massing, and footprint. Specific architectural features and building materials have yet to be determined. See Figures 3 and 4 in the *Project Description* for the proposed site plan and conceptual bulk and height. The research building would be about 175,000 gsf, and five-stories in height, plus a mechanical penthouse. The building height would be about 80 feet to the top of the fifth story, plus an additional 12 feet to accommodate rooftop mechanical equipment. The building would be set back from adjacent streets and surrounded by landscaping. The building footprint would allow for the creation of a new one-way eastbound urban driveway between the new building and Building 5. This redesigned area would include the drop off area for Urgent Care services that will be relocated to Building 5 as part of the new hospital project and new landscaping and pedestrian circulation features. The new site layout also would reconfigure the adjacent existing 35 parking spaces for handicapped users, service vehicles, and ZSFG staff, with no expected reduction in parking supply.

In addition, the Hearty Café trailer and fountain would be relocated. The existing driveway that provides access to the ZSFG emergency room would be eliminated. The existing gatehouse, fence along Twenty-Third Street, and *Stiff Loops* sculpture would be retained in their current locations.

As noted above, although specific design features of the research building have not yet been determined, Mitigation Measure AES-2 from the Initial Study would minimize the quantity of reflective material used on the exterior façade. Any illuminated building signage would be consistent with the more stringent of City Planning Code standards and/or UCSF design guidelines. Exterior light fixtures would emphasize close spacing and lower intensity light and not direct light to other campus structures or off-campus buildings. Implementation of Mitigation Measure BIO-2, also from the Initial Study, requires use of glazing options such as fritted glass, Dichroic glass, etched glass, translucent glass, or glass that reflects ultraviolet light in appropriate portions of the building façade.

Based on preliminary design information, the research building would likely exceed the City's bulk limitations of the 105-E district, although it would be lower than the 105-foot height limit. Therefore, to the extent feasible, UCSF would design the research building to avoid or minimize the effects of this conflict with the City's Planning Code, but it would not be possible to move UCSF employees into a seismically safe building that complies with the City's 105-E Height and Bulk District Regulations due to the amount of space needed to accommodate UCSF research programs and employees currently located in seismically compromised buildings. See Section 4.5, *Land Use and Planning*.

As discussed in depth in Section 4.3, *Cultural Resources*, given the absence of specific design plans, the research building could be architecturally incompatible with the nearby contributors to the ZSFG Historic District. Construction of a new building within the district that is incompatible with adjacent contributors could result in a substantial alteration to the historic setting of the district, which would be considered a significant, indirect impact to historical resources under CEQA. However, implementation of Mitigation Measure CP-1, Design Guidelines for New Construction, would ensure that the proposed building would be compatible with the ZSFG Historic District and would maintain the district's character and integrity.

The research building would be built in accordance with UCSF's *Physical Design Framework* and *Facilities Design Guidelines*. UCSF design guidelines would ensure that the final design of the building responds to the form of adjacent buildings (e.g., in terms of massing and height) and the overall context of the ZSFG campus and surrounding neighborhood. Although changes in appearance at the ZSFG campus would be noticeable, particularly along Twenty-Third Street, the existing visual quality and character resulting from the mix of old and new architectural styles on the campus would be maintained. The architectural style of the proposed building would not replicate the Renaissance Revival style or that of Building 5 directly adjacent, but would be intended to provide a modern design that is intended to respect the existing visual character. This design approach is consistent with existing architectural styles on campus in that each building contributes to the campus fabric with an architectural style characteristic of the period of its construction, e.g., the new hospital building. Because of this planned architectural consistency,

the new research building would not substantially degrade the scenic public setting of the ZSFG campus or the visual character or quality of the site and its surroundings and no mitigation is required.

Mitigation: None required.

Impacts of the Expanded Parking Garage

The parking garage component of the project and Variant 1would expand the existing ZSFG parking garage footprint south toward Twenty-Fourth Street on the surface parking lot portion of the garage site. The expansion would be up to five stories above grade, which would match the height of the existing garage. Variant 1 would replace up to 50 of the proposed 307 new parking spaces proposed under the project with up to 20,000 square feet of ground floor retail space, which would be located along the Twenty-Fourth Street frontage. The existing ingress/egress points to the garage would remain under the project – the main access would continue to be on Twenty-Fourth Street, and the secondary access would continue to be on Twenty-Third Street. Access to the garage under Variant 1 would occur at a new entrance on Utah Street.

Variants 2 and 3 would add one additional floor to the existing garage, in addition to the horizontal garage expansion proposed as part of the project and Variant 1. However, under Variant 3, up to 20,000 square feet of ground floor retail space could be substituted for up to 50 of the 527 new parking spaces proposed under Variant 2. Similar to Variant 1, retail proposed under Variant 3 would be located along the Twenty-Fourth Street frontage. The existing ingress/egress points to the garage would remain under Variant 2; access to the garage under Variant 3 would occur at a new entrance on Utah Street. No expansion of the garage would occur under Variant 4.

The garage is an allowable use in the City's P (Public) Zoning District; therefore, the expansion proposed under the project and Variants 1-3 would be a continuation of this allowable use. Reclassification of the site's 40-X height restriction to conform with the City Planning Code would be required under Variants 2 and 3 (see Section 4.5, *Land Use and Planning*).

The parking garage extension proposed under the project and Variants 1-3 would match the design of the existing garage, with an additional story added under Variants 2 and 3. The existing garage is set back about 11 to 13 feet from the adjacent streets, which provides space for landscaping and also space for shadows cast by the garage to fall closer into the site. Landscaping softens the edges of the structure and provides a more interesting and protected pedestrian environment. It also helps to reduce glare from vehicle headlights and nighttime lighting of the garage. Although some existing street trees may be removed during construction of the garage expansion, their removal would be subject to requirements of the City's Public Works Code, which includes planting of appropriate replacement trees. As noted in criterion g) of Section 5.4, *Biological Resources*, of the Initial Study (included as Appendix A in this EIR), the garage would be required to comply with Planning Code Section 138.1 regarding submittal of a streetscape plan that is in accordance with the City's Better Streets Plan. As under existing conditions, new or replacement street trees planted along the perimeter of the garage expansion would help shield

residences from motor vehicle headlights originating from inside the garage. The design of the expansion would continue the style of the existing garage, including exterior walls that would minimize light from vehicles extending directly into nearby residences. The most prominent architectural features of the existing garage are the towers located at the northeast and northwest corners. The cylindrical towers, about 32 feet in diameter, are sheathed in a curved metal framework. The towers rise about 45 feet above street level.[1] New towers would be added to the garage under the project and Variants 1-3 at the southeast and southwest corners of the garage. These towers would rise about 60 feet above street level under the project and Variant 1 due to the sloping topography. The addition of another story to the garage under Variants 2 and 3 would result in a corresponding height increase of the existing towers along Twenty-Third Street as well as taller towers along Twenty-Fourth Street (in comparison to the project and Variant 1).

As noted in the environmental analysis prepared for the existing garage, the architectural treatment of the structure's façade helps moderate its size (CCSF, 1993). The exterior detailing provides a textured and articulated surface to help reduce the garage's mass. The façade of cast concrete, parapet walls, guard rails, and window-like structures, combined with the pattern of light concrete and dark shadows from the interior of the open garage, provides articulation of the building's exterior surfaces and helps to reduce its apparent mass along Utah Street and San Bruno Avenue. In addition, the 28-foot modular sections on the exterior reflect the 25-foot residential lot-width of the surrounding neighborhood. These variations in the façade treatment help to reduce the horizontal proportions of the structure. The two additional towers that would be added to the garage along Twenty-Fourth Street also would help create a more symmetrical, balanced structure in comparison to the existing garage. Although the additional floor proposed under Variants 2 and 3 would increase the mass of the structure, the continuation of the existing design features in the proposed garage expansion would help to reduce the perceived scale and mass of the structure under the project and variants. Finally, the proposed research building, which would be constructed on a surface parking lot across the street from the garage, would fill-in this formerly vacant area of the ZSFG campus and thereby help to integrate the garage with the existing ZSFG buildings. Retail uses proposed under Variants 1 and 3 along Twenty-Fourth Street would be allowed as an accessory nonpublic use (see Section 4.5, *Land Use and Planning*). Provision of ground floor retail uses along Twenty-Fourth Street would be compatible with the adjacent neighborhood commercial uses along Twenty-Fourth Street between San Bruno Avenue and Potrero Avenue. The scale of the garage expansion on the existing neighborhood businesses across Twenty-Fourth Street, and especially considering the additional story proposed under Variant 3, could be reduced if the upper floors of the garage are setback from the street frontage so that the building height is consistent with adjacent buildings.

The garage is located in a neighborhood with compromised architectural integrity. As noted in Section 4.3, *Cultural and Paleontological Resources*, many of the surrounding buildings have been significantly altered, with the addition of modern façades, fenestration, stucco wall cladding, and other adaptations. The expansion of the parking structure under the project or Variants 1-3 would not substantially degrade the visual integrity of the neighborhood. It would be an extension

[1] Even though the towers are over 40 feet in height, the structure is in compliance with the 40-foot height limitation as measured under the City Planning Code, since there are exceptions to the height limit for stair towers.

of the modern, institutional architecture that characterizes the eastern edge of the ZSFG campus. The expansion of the garage under the project or Variants 1-3 would have no significant effect on the scenic public setting of the ZSFG campus or substantially degrade the visual character or quality of the site and its surroundings.

Mitigation: None required.

4.1.7.1 Cumulative Impacts

Cumulative aesthetic impacts are evaluated in the context of existing and reasonably foreseeable future development in the project vicinity. The cumulative analysis is geographically based on projects in the vicinity that would affect the overall visual character and scenic public setting of the ZSFG campus and surrounding neighborhood, within a few blocks in each direction of the project site.

The cumulative analysis includes potentially reasonably foreseeable development on the ZSFG campus. A proposed General Obligation Bond Measure scheduled for June 2016 would fund the expansion of existing uses and backfill of uses into vacated areas in the former Main Hospital (Building 5) as well as the phasing out of certain uses on the ZSFG campus, which would be completed by approximately 2020. Improvements to Building 5 include interior renovations, upgrade of obsolete building systems, and minor voluntary seismic improvements to accommodate UCSF's policy to maintain occupancy in the building. Buildings 80 and 90 would be seismically upgraded and building systems would be modernized. (DPH, 2015) The San Francisco Department of Public Health (SFDPH) would be relocating certain functions from off-campus sites into the Building 5, such as the Department's Public Health Lab currently located at 101 Grove Street. Year 2040 conditions also assume the space vacated by UCSF at ZSFG will be backfilled with new SFDPH staff.

Development of cumulative projects on the ZSFG campus, in combination with the proposed project, would likely result in some intensification of uses and potential shifts in land uses on the campus, but would not result in increased building heights or other exterior changes to on-campus buildings that would affect the scenic public setting or visual character of the campus. The existing campus character primarily results from the architectural style, design, and materials of the 14 buildings on campus. The elements that contribute to the scenic setting of the campus, such as the rhythm of buildings and open space, the juxtaposition of old and new architecture, and historic period campus features, would not be expected to be significantly impacted by cumulative projects on campus.

Reasonably foreseeable projects in the vicinity of the ZSFG campus include relatively minor alterations primarily to smaller scale residential buildings, such as vertical and horizontal additions to single-family homes, which would not be expected to have significant adverse aesthetic impacts, including any which could combine with the impacts of the proposed project to form a significant aesthetic cumulative impact.

Overall, implementation of the proposed project in combination with other cumulative projects both on the ZSFG campus and in the surrounding neighborhood would not result in cumulatively considerable impacts related to the scenic public setting of the ZSFG campus or the visual character or quality of the site and its surroundings.

4.1.8 References

California Department of Transportation (Caltrans), California Scenic Highway Mapping System, www.dot.ca.gov/hq/LandArch/scenic_highways/index.htm.

City and County of San Francisco, Department of Public Health, *San Francisco General Hospital and Trauma Center Institutional Master Plan Update*, revision submitted June 2015.

City and County of San Francisco, *San Francisco General Hospital Parking Garage Draft Environmental Impact Report*, January 15, 1993.

City and County of San Francisco, *San Francisco General Hospital Seismic Compliance Hospital Replacement Program Environmental Impact Report*, certified June 19, 2008.

City and County of San Francisco, *San Francisco General Plan*, Urban Design Element, available at www.sf-planning.org/ftp/general_plan/I5_Urban_Design.htm.

University of California, San Francisco, *2014 Long Range Development Plan*, adopted November 2014.

University of California, San Francisco, *Facilities Design Guidelines*, revised November 4, 2003.

University of California, San Francisco, *Physical Design Framework*, September 2010.

4.2 Air Quality

4.2.1 Introduction

This section discusses the existing air quality conditions in the project area, presents the regulatory framework for air quality management, and analyzes the potential for the proposed project to affect existing air quality conditions, both regionally and locally, due to activities that emit criteria and non-criteria air pollutants. It also analyzes the types and quantities of emissions that would be generated on a temporary basis due to proposed construction activities as well as those generated over the long term due to proposed operation of project elements. The analysis determines whether those emissions are significant in relation to applicable air quality standards and identifies feasible mitigation measures for significant adverse impacts. The section also includes an analysis of cumulative air quality impacts. The potential for odor impacts is also addressed to determine if the project would result in new significant impacts or substantially increase the severity of impacts on air quality with respect to odors. Emissions of greenhouse gases resulting from the proposed project's potential impacts on climate change and the state's goals for greenhouse gas emissions pursuant to Assembly Bill 32 are presented and discussed in Section 4.4, *Greenhouse Gas Emissions*.

The analysis in this section is based on a review of existing air quality conditions in the region and air quality regulations administered by the United States Environmental Protection Agency (USEPA), the California Air Resources Board (CARB), and the Bay Area Air Quality Management District (BAAQMD). This analysis includes methodologies identified in the updated BAAQMD *CEQA Air Quality Guidelines* (May 2012).

4.2.2 Environmental Setting

4.2.2.1 Climate and Meteorology

The project area is located within the San Francisco Bay Area Air Basin (SFBAAB). The air basin's moderate climate steers storm tracks away from the region for much of the year, although storms generally affect the region from November through April. San Francisco's proximity to the onshore breezes stimulated by the Pacific Ocean provide for generally very good air quality in the project area.

Temperatures in the project area average in the mid-50s annually, generally ranging from the low 40s on winter mornings to mid-70s during summer afternoons. Daily and seasonal oscillations of temperature are small because of the moderating effects of the nearby San Francisco Bay. In contrast to the steady temperature regime, rainfall is highly variable and confined almost exclusively to the "rainy" period from November through April. Precipitation may vary widely from year to year as a shift in the annual storm track of a few hundred miles can mean the difference between a very wet year and drought conditions, as has been exhibited by recent drought conditions and occasional El Nino episodes.

Atmospheric conditions such as wind speed, wind direction, and air temperature gradients interact with the physical features of the landscape to determine the movement and dispersal of air pollutants regionally. The project area lies within the Peninsula climatological subregion. Marine air traveling through the Golden Gate is a dominant weather factor affecting dispersal of air pollutants within the region. Wind measurements collected on the San Francisco mainland indicate a prevailing wind direction from the west and an average annual wind speed of 10.3 miles per hour (WRCC, 2015). Increased temperatures create the conditions in which ozone formation can increase.

4.2.2.2 Ambient Air Quality – Criteria Air Pollutants

As required by the 1970 federal Clean Air Act, the USEPA initially identified six criteria air pollutants that are pervasive in urban environments and for which state and federal health-based ambient air quality standards have been established. USEPA calls these pollutants "criteria air pollutants" because the agency has regulated them by developing specific public-health-based and welfare-based criteria as the basis for setting permissible levels. Ozone, carbon monoxide (CO), particulate matter (PM), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and lead are the six criteria air pollutants originally identified by USEPA. Since that time, subsets of particulate matter have been identified for which permissible levels have been established. These include particulate matter of 10 microns in diameter or less (PM_{10}) and particulate matter of 2.5 microns in diameter or less ($PM_{2.5}$).

The BAAQMD is the regional agency with jurisdiction for regulating air quality within the nine county SFBAAB. The region's air quality monitoring network provides information on ambient concentrations of criteria air pollutants at various locations in the San Francisco Bay Area. **Table 4.2-1** presents a five-year summary for the period 2010 to 2014 of the highest annual criteria air pollutant concentrations, collected at the air quality monitoring station operated and maintained by the BAAQMD at 16th and Arkansas Streets (Potrero Hill), approximately one mile northeast of the project site. Table 4.2-1 also compares measured pollutant concentrations with the most stringent applicable ambient air quality standards (state or federal). Concentrations shown in bold indicate an exceedance of the standard.

Ozone

Ozone is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving reactive organic gases (ROG, also sometimes referred to as volatile organic compounds or VOC by some regulating agencies) and nitrogen oxides (NO_X). The main sources of ROG and NO_X, often referred to as ozone precursors, are combustion processes (including motor vehicle engines) and the evaporation of solvents, paints, and fuels. In the Bay Area, automobiles are the single largest source of ozone precursors. Ozone is referred to as a regional air pollutant because its precursors are transported and diffused by wind concurrently with ozone production through the photochemical reaction process. Ozone causes eye irritation, airway constriction, and shortness of breath and can aggravate existing respiratory diseases, such as asthma, bronchitis, and emphysema.

TABLE 4.2-1
SUMMARY OF SAN FRANCISCO AIR QUALITY MONITORING DATA (2010–2014)

Pollutant	Most Stringent Applicable Standard	Number of Days Standards Were Exceeded and Maximum Concentrations Measured[a]				
		2010	2011	2012	2013	2014
Ozone						
- Days 1-Hour Standard Exceeded		0	0	0	0	0
- Maximum 1-Hour Concentration (pphm)	>9 pphm[b]	8	7	7	7	8
- Days 8-Hour Standard Exceeded		0	0	0	0	0
- Maximum 8-Hour Concentration (pphm)	>7 pphm[c]	5	5	5	6	7
Carbon Monoxide (CO)						
- Days 1-Hour Standard Exceeded		0	0	0	0	0
- Maximum 1-Hour Concentration (ppm)	>20 ppm[b]	1.8	1.8	2.0	1.8	1.6
- Days 8-Hour Standard Exceeded		0	0	0	0	0
- Maximum 8-Hour Concentration (ppm)	>9 ppm[b]	1.4	1.2	1.2	1.4	1.2
Suspended Particulates (PM_{10})						
- Days 24-Hour Standard Exceeded[d]		0	0	1	0	0
- Maximum 24-Hour Concentration (µg/m^3)	>50 µg/m^3 [b]	40	46	**51**	44	36
Suspended Particulates ($PM_{2.5}$)						
- Days 24-Hour Standard Exceeded[d]		3	2	1	2	0
- Maximum 24-Hour Concentration (µg/m^3)	>35 µg/m^3	**45**	**47**	**36**	**49**	**33**
- Annual Average (µg/m^3)	>12 µg/m^3 [b, c]	10.5	9.5	8.2	10.1	7.7
Nitrogen Dioxide (NO_2)						
- Days 1-Hour Standard Exceeded		0	0	1	0	0
- Maximum 1-Hour Concentration (pphm)	>10 pphm[c]	9	9	**12**	7	8

NOTES:

Bold values are in excess of applicable standard.
ppm = parts per million; pphm = parts per hundred million
µg/m^3 = micrograms per cubic meter
ND = No data or insufficient data.

[a] Number of days exceeded is for all days in a given year, except for particulate matter. PM10 and PM2.5 are monitored every six days and therefore the number of days exceeded is out of approximately 60 annual samples.
[b] State standard, not to be exceeded.
[c] Federal standard, not to be exceeded.
[d] Particulate matter is based on a sampling schedule of one out of every six days, for a total of approximately 60 samples per year.

SOURCE: BAAQMD, Bay Area Air Pollution Summary, 2010 – 2014. Available online at: http://www.baaqmd.gov/Divisions/Communications-and-Outreach/Air-Quality-in-the-Bay-Area/Air-Quality-Summaries.aspx. Accessed December 17, 2015.

Table 4.2-1 shows that, according to published data, the most stringent applicable standards for ozone (state 1-hour standard of 9 parts per hundred million [pphm] and the federal 8-hour standard of 8 pphm) were not exceeded in San Francisco between 2010 and 2014.

Carbon Monoxide (CO)

CO is an odorless, colorless gas usually formed as the result of the incomplete combustion of fuels. The single largest source of CO is motor vehicles; the highest emissions occur during low travel speeds, stop-and-go driving, cold starts, and hard acceleration. Exposure to high concentrations of CO reduces the oxygen-carrying capacity of the blood and can cause headaches, nausea, dizziness,

and fatigue; impair central nervous system function; and induce angina (chest pain) in persons with serious heart disease. Very high levels of CO can be fatal. As shown in Table 4.2-1, the more stringent state CO standards were not exceeded between 2010 and 2014. Measurements of CO indicate hourly maximums ranging between 9% to 10% of the more stringent state standard, and maximum 8-hour CO levels that are approximately 11% to 16% of the allowable 8-hour standard.

Particulate Matter (PM_{10} and $PM_{2.5}$)

Particulate matter is a class of air pollutants that consists of heterogeneous solid and liquid airborne particles from man-made and natural sources. Particulate matter is measured in two size ranges: PM_{10} for particles less than 10 microns in diameter, and $PM_{2.5}$ for particles less than 2.5 microns in diameter. In the Bay Area, motor vehicles generate about one-half of the air basin's particulates, through tailpipe emissions as well as brake pad and tire wear. Wood burning in fireplaces and stoves, industrial facilities, and ground-disturbing activities such as construction are other sources of such fine particulates. These fine particulates are small enough to be inhaled into the deepest parts of the human lung and can cause adverse health effects. According to the CARB, studies in the United States and elsewhere "have demonstrated a strong link between elevated particulate levels and premature deaths, hospital admissions, emergency room visits, and asthma attacks," and studies of children's health in California have demonstrated that particle pollution "may significantly reduce lung function growth in children." The CARB also reports that statewide attainment of particulate matter standards could prevent thousands of premature deaths, lower hospital admissions for cardiovascular and respiratory disease and asthma-related emergency room visits, and avoid hundreds of thousands of episodes of respiratory illness in California (CARB, 2007). Among the criteria pollutants that are regulated, particulates appear to represent a serious ongoing health hazard. As long ago as 1999, the BAAQMD was reporting, in its *CEQA Air Quality Guidelines*, that studies had shown that elevated particulate levels contribute to the death of approximately 200 to 500 people per year in the Bay Area. High levels of particulate matter can exacerbate chronic respiratory ailments, such as bronchitis and asthma, and have been associated with increased emergency room visits and hospital admissions.

Table 4.2-1 shows that an exceedance of the state PM_{10} standard occurred on one monitored occasion between 2010 and 2014 in San Francisco. It is estimated that the state 24-hour PM_{10} standard of 50 micrograms per cubic meter ($\mu g/m^3$) was exceeded on up to 6 days per year between 2010 and 2014.[1] It is estimated that the state 24-hour $PM_{2.5}$ standard was exceeded on up to 48 days per year between 2010 and 2014. The federal state annual average standard was not exceeded between 2010 and 2014.

$PM_{2.5}$ is of particular concern because epidemiologic studies have demonstrated that people who live near freeways and high-traffic roadways have poorer health outcomes, including increased asthma symptoms and respiratory infections and decreased pulmonary function and lung development in children (SFDPH, 2008).

[1] PM_{10} and $PM_{2.5}$ are sampled every sixth day; therefore, actual days over the standard can be estimated to be six times the numbers listed in the table.

Nitrogen Dioxide (NO_2)

NO_2 is a reddish brown gas that is a byproduct of combustion processes. Automobiles and industrial operations are the main sources of NO_2. Aside from its contribution to ozone formation, NO_2 can increase the risk of acute and chronic respiratory disease and reduce visibility. NO_2 may be visible as a coloring component on high pollution days, especially in conjunction with high ozone levels. Table 4.2-1 shows that the current state standard for NO_2 is being met in San Francisco. In 2010, the USEPA implemented a new 1-hour NO_2 standard presented in **Table 4.2-2**. Currently, the CARB is recommending that the Bay Area air basin be designated as an attainment area for the new standard (CARB, 2011). This new federal standard was exceeded on one day at the San Francisco station between 2010 and 2014.

The USEPA has also established requirements for a new monitoring network to measure NO_2 concentrations near major roadways in urban areas with a population of 500,000 or more. Sixteen new near-roadway monitoring sites are required in California, three of which will be in the Bay Area. These monitors are planned for Berkeley, Oakland, and San Jose. The Oakland station commenced operation in February 2014 and the San Jose station commenced in March of 2015 while the Berkeley station is expected to be operational in summer 2016. The new monitoring data may result in a need to change area designations in the future. The CARB will revise the area designation recommendations, as appropriate, once the new monitoring data become available.

Sulfur Dioxide (SO_2)

SO_2 is a colorless acidic gas with a strong odor. It is produced by the combustion of sulfur-containing fuels such as oil, coal, and diesel. SO_2 has the potential to damage materials and can cause health effects at high concentrations. It can irritate lung tissue and increase the risk of acute and chronic respiratory disease (BAAQMD, 2011). Pollutant trends suggest that the air basin currently meets and will continue to meet the state standard for SO_2 for the foreseeable future.

In 2010, the USEPA implemented a new 1-hour SO_2 standard presented in Table 4.2-2. The USEPA has initially designated the SFBAAB as an attainment area for SO_2. Similar to the new federal standard for NO_2, the USEPA has established requirements for a new monitoring network to measure SO_2 concentrations beginning in January 2013 (US EPA 2010a). No additional SO_2 monitors are required for the Bay Area because the BAAQMD jurisdiction has never been designated as non-attainment for SO_2 and no State Implementation Plans or maintenance plans have been prepared for SO_2 (BAAQMD, 2012).

Lead

Leaded gasoline (phased out in the United States beginning in 1973), paint (on older houses, cars), smelters (metal refineries), and manufacture of lead storage batteries have been the primary sources of lead released into the atmosphere. Lead has a range of adverse neurotoxic health effects, which put children at special risk. Some lead-containing chemicals cause cancer in animals. Lead levels in the air have decreased substantially since leaded gasoline was eliminated. Ambient lead concentrations are only monitored on an as-warranted, site-specific basis in

TABLE 4.2-2
STATE AND FEDERAL AMBIENT AIR QUALITY STANDARDS AND ATTAINMENT STATUS

Pollutant	Averaging Time	State (SAAQs[a])		Federal (NAAQS[b])	
		Standard	Attainment Status	Standard	Attainment Status
Ozone	1 hour	0.09 ppm	**N**	NA	See Note c
	8 hour[d]	0.07 ppm	**N**	0.075 ppm	**N**/Marginal
Carbon Monoxide (CO)	1 hour	20 ppm	A	35 ppm	A
	8 hour	9 ppm	A	9 ppm	A
Nitrogen Dioxide (NO_2)	1 hour	0.18 ppm	A	0.100 ppm	U
	Annual	0.030 ppm	NA	0.053 ppm	A
Sulfur Dioxide (SO_2)	1 hour	0.25 ppm	A	0.075	A
	24 hour	0.04 ppm	A	0.14	A
	Annual	NA	NA	0.03 ppm	A
Particulate Matter (PM_{10})	24 hour	50 µg/m^3	**N**	150 µg/m^3	U
	Annual[e]	20 µg/m^3 [f]	**N**	NA	NA
Fine Particulate Matter ($PM_{2.5}$)	24 hour	NA	NA	35 µg/m^3	**N**
	Annual	12 µg/m^3	**N**	12 µg/m^3	U/A
Sulfates	24 hour	25 µg/m^3	A	NA	NA
Lead	30 day	1.5 µg/m^3	A	NA	NA
	Cal. Quarter	NA	NA	1.5 µg/m^3	A
Hydrogen Sulfide	1 hour	0.03 ppm	U	NA	NA
Visibility-Reducing Particles	8 hour	See Note g	U	NA	NA

NOTES:

A = Attainment; **N** = Nonattainment; U = Unclassified; NA = Not Applicable, no applicable standard; ppm = parts per million; µg/m^3 = micrograms per cubic meter.

[a] SAAQS = state ambient air quality standards (California). SAAQS for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1-hour and 24-hour), nitrogen dioxide, particulate matter, and visibility-reducing particles are values that are not to be exceeded. All other state standards shown are values not to be equaled or exceeded.

[b] NAAQS = national ambient air quality standards. NAAQS, other than ozone and particulates, and those based on annual averages or annual arithmetic means, are not to be exceeded more than once a year. The 8-hour ozone standard is attained when the three-year average of the fourth highest daily concentration is 0.08 ppm or less. The 24-hour PM_{10} standard is attained when the three-year average of the 99th percentile of monitored concentrations is less than the standard. The 24-hour $PM_{2.5}$ standard is attained when the three-year average of the 98th percentile is less than the standard.

[c] The United States Environmental Protection Agency (USEPA) revoked the national 1-hour ozone standard on June 15, 2005.

[d] This state 8-hour ozone standard was approved in April 2005 and became effective in May 2006.

[e] State standard = annual geometric mean; national standard = annual arithmetic mean.

[f] In June 2002, the California Air Resources Board (CARB) established new annual standards for $PM_{2.5}$ and PM_{10}.

[g] Statewide visibility-reducing particle standard (except Lake Tahoe Air Basin): Particles in sufficient amount to produce an extinction coefficient of 0.23 per kilometer when the relative humidity is less than 70%. This standard is intended to limit the frequency and severity of visibility impairment due to regional haze and is equivalent to a 10-mile nominal visual range.

SOURCE: Bay Area Air Quality Management District (BAAQMD), Standards and Attainment Status, 2015, http://hank.baaqmd.gov/pln/air_quality/ambient_air_quality.htm, accessed December 17 2015; and U.S. EPA National Ambient Air Quality Standards, 2015, http://www.epa.gov/air/criteria.html, accessed December 13, 2015.

California. On October 15, 2008, the USEPA strengthened the national ambient air quality standard for lead by lowering it from 1.5 µg/m^3 to 0.15 µg/m^3. The USEPA revised the monitoring requirements for lead in December 2010 (US EPA, 2010b). These requirements focus on airports and large urban areas resulting in an increase in 76 monitors nationally Lead monitoring stations in the Bay Area are located at Palo Alto Airport, Reid-Hillview Airport (San Jose), and San Carlos Airport. Non-airport locations for lead monitoring are Redwood City and San Jose.

4.2.2.3 Toxic Air Contaminants and Local Health Risks and Hazards

In addition to criteria air pollutants, individual projects may emit toxic air contaminants (TACs). TACs collectively refer to a diverse group of air pollutants that are capable of causing chronic (i.e., of long duration) and acute (i.e., severe but short term) adverse effects to human health, including carcinogenic effects. Human health effects of TACs include birth defects, neurological damage, cancer, and death. There are hundreds of different types of TACs with varying degrees of toxicity. Individual TACs vary greatly in the health risk they present; at a given level of exposure, one TAC may pose a hazard that is many times greater than another.

Unlike criteria air pollutants, TACs do not have ambient air quality standards but are regulated by the BAAQMD using a risk-based approach to determine which sources and pollutants to control as well as the degree of control. A health risk assessment (HRA) is an analysis which estimates human health exposure to toxic substances, and when considered together with information regarding the toxic potency of the substances, provides quantitative estimates of health risks.[2]

Air pollution does not affect every individual in the population in the same way, and some groups are more sensitive to adverse health effects than others. Land uses such as residences, schools, children's day care centers, hospitals, and nursing and convalescent homes are considered to be the most sensitive to poor air quality because the population groups associated with these uses have increased susceptibility to respiratory distress or, as in the case of residential receptors, their exposure time is greater than for other land uses. Therefore, these groups are referred to as sensitive receptors. Exposure assessment guidance typically assumes that people in residences would be exposed to air pollution 24 hours per day, 350 days per year, for 70 years. Therefore, assessments of air pollutant exposure to residents typically result in the greatest adverse health outcomes of all population groups.

Exposures to fine particulate matter ($PM_{2.5}$) are strongly associated with mortality, respiratory diseases, and lung development in children, and other endpoints such as hospitalization for cardiopulmonary disease (SFDPH, 2008). In addition to $PM_{2.5}$, diesel particulate matter (DPM) is also of concern. The California Air Resources Board (CARB) identified DPM as a TAC in 1998, primarily based on evidence demonstrating cancer effects in humans (CARB, 1998). The estimated cancer risk from exposure to diesel exhaust is much higher than the risk associated with any other TAC routinely measured in the region.

San Francisco Modeling of Air Pollutant Exposure Zones

In an effort to identify areas of San Francisco most adversely affected by sources of TACs, San Francisco partnered with the BAAQMD to inventory and assess air pollution and exposures from vehicles, stationary, and area sources within San Francisco. Citywide dispersion modeling was conducted using AERMOD[3] to assess the emissions from the following primary sources:

[2] In general, a health risk assessment is required if the BAAQMD concludes that projected emissions of a specific air toxic compound from a proposed new or modified source suggest a potential public health risk. The applicant is then subject to a health risk assessment for the source in question. Such an assessment generally evaluates chronic, long-term effects, estimating the increased risk of cancer as a result of exposure to one or more TACs.

[3] AERMOD is the USEPA's preferred/recommended steady state air dispersion plume model. For more information on AERMOD and to download the AERMOD Implementation Guide see www.epa.gov/ttn/scram/dispersion_prefrec.htm#aermod (accessed January 16, 2016).

roadways, permitted stationary sources, port and maritime sources, and Caltrain. Emissions of PM_{10} (DPM is assumed equivalent to PM_{10}), $PM_{2.5}$, and total organic gases (TOG) were modeled on a 20 meter by 20 meter receptor grid covering the entire City. The results represent a comprehensive assessment of existing cumulative exposures to air pollution throughout the City. The methodology and technical documentation for modeling citywide air pollution is available in the document entitled, *The San Francisco Community Risk Reduction Plan: Technical Support Documentation* (BAAQMD, 2012).

Model results identified areas in the City with poor air quality, termed "Air Pollutant Exposure Zones", based on the following health-protective criteria: (1) cumulative $PM_{2.5}$ concentrations greater than 10 $\mu g/m^3$, and/or (2) excess cancer risk from the contribution of emissions from all modeled sources greater than 100 per one million population. An additional health vulnerability layer was incorporated in the Air Pollutant Exposure Zone (APEZ) [4] for those San Francisco ZIP codes in the worst quintile of Bay Area Health Vulnerability scores (ZIP Codes 94102, 94103, 94105, 94124, and 94130). In these areas, the standard for identifying areas as being within the zone were lowered to: (1) excess cancer risk from the contribution of emissions from all modeled sources greater than 90 per one million population, and/or (2) cumulative $PM_{2.5}$ concentrations greater than 9 $\mu g/m^3$. Lastly, all parcels within 500 feet of a major freeway were also included in the APEZ, consistent with findings in CARB's *Air Quality and Land Use Handbook: A Community Health Perspective*, which suggests air pollutant levels decrease substantially at about 500 feet from a freeway (CARB, 2005).

Both the B/C Lot and the parking garage as well as existing residences east of San Bruno Avenue are located within an APEZ as determined by the San Francisco Department of Public Health (DPH) and Planning. This designation reflects the fact that existing increased cancer risk in the area already exceeds 100 in one million, the City's cumulative threshold for TAC exposure. This risk level is largely influenced by the presence of vehicle traffic on the adjacent U.S. Highway 101 and, to a much lesser extent, existing backup generators at ZSFG. The project site and environs are not within a Health Vulnerability zip code.

Fine Particulate Matter

In April 2011, the USEPA published *Policy Assessment for the Particulate Matter Review of the National Ambient Air Quality Standards*. In this document, USEPA staff concludes that the then-current federal annual $PM_{2.5}$ standard of 15 $\mu g/m^3$ should be revised to a level within the range of 13 to 11 $\mu g/m^3$, with evidence strongly supporting a standard within the range of 12 to 11 $\mu g/m^3$. APEZs for San Francisco are based on the health protective $PM_{2.5}$ standard of 11 $\mu g/m^3$, as supported by the USEPA's Particulate Matter Policy Assessment, although lowered to 10 $\mu g/m^3$ to account for uncertainty in accurately predicting air pollutant concentrations using emissions modeling programs.

[4] San Francisco, in partnership with BAAQMD, has modeled and assessed air pollutant impacts from mobile, stationary, and area sources within the City. This assessment identified areas with poor air quality under existing conditions—Air Pollutant Exposure Zones—which are based on health protective criteria $PM_{2.5}$ and excess cancer risk. These areas warrant special attention when siting land uses that either emit toxic air contaminants (TACs) or uses that are considered sensitive to air pollution.

Excess Cancer Risk

The 100 per one million persons (100 excess cancer risk) criterion discussed above is based on USEPA guidance for conducting air toxic analyses and making risk management decisions at the facility and community-scale level (BAAQMD, 2009). As described by the BAAQMD, the USEPA considers a cancer risk of 100 per million to be within the "acceptable" range of cancer risk. Furthermore, in the 1989 preamble to the benzene National Emissions Standards for Hazardous Air Pollutants (NESHAP) rulemaking (CFR, 1989), the USEPA states that it "…strives to provide maximum feasible protection against risks to health from hazardous air pollutants by (1) protecting the greatest number of persons possible to an individual lifetime risk level no higher than approximately one in one million and (2) limiting to no higher than approximately one in ten thousand [100 in one million] the estimated risk that a person living near a plant would have if he or she were exposed to the maximum pollutant concentrations for 70 years." The 100 per one million excess cancer cases is also consistent with the ambient cancer risk in the most pristine portions of the Bay Area based on BAAQMD regional modeling (BAAQMD, 2009).

In addition to monitoring criteria pollutants, both the BAAQMD and CARB operate TAC monitoring networks in the SFBAAB. These stations measure 10 to 15 TACs, depending on the specific station. The TACs selected for monitoring are those that have traditionally been found in the highest concentrations in ambient air and therefore tend to produce the most significant risk. The nearest BAAQMD ambient TAC monitoring station to the project area is the station at Sixteenth and Arkansas streets in San Francisco. **Table 4.2-3** shows ambient concentrations of carcinogenic TACs measured at the Arkansas Street station, approximately one mile northeast of the project site. The estimated cancer risk from a lifetime exposure (70 years) to these substances is also reported in the table. When TAC measurements at this station are compared to ambient concentrations of various TACs for the Bay Area as a whole, the cancer risks associated with mean TAC concentrations in San Francisco are similar to those for the Bay Area as a whole. Therefore, the estimated average lifetime cancer risk resulting from exposure to TAC concentrations monitored at the San Francisco station do not appear to be any greater than for the Bay Area as a region.

Roadway-Related Pollutants

Motor vehicles are responsible for a large share of air pollution, especially in California. Vehicle tailpipe emissions contain diverse forms of particles and gases, and vehicles also contribute to particulates by generating road dust through tire wear. Epidemiologic studies have demonstrated that people living in proximity to freeways or busy roadways have poorer health outcomes, including increased asthma symptoms and respiratory infections and decreased pulmonary function and lung development in children. Air pollution monitoring conducted in conjunction with epidemiologic studies has confirmed that roadway-related health effects vary with modeled exposure to particulate matter and nitrogen dioxide. In traffic-related studies, the additional non-cancer health risk attributable to roadway proximity was seen within 1,000 feet of the roadway and was strongest within 300 feet (CARB, 2005). As a result, the CARB recommends that new sensitive land uses not be located within 500 feet of a freeway or urban roads carrying 100,000 vehicles per day. In 2008, the City and County of San Francisco (CCSF) adopted

TABLE 4.2-3
2013 ANNUAL AVERAGE AMBIENT CONCENTRATIONS OF CARCINOGENIC TOXIC AIR CONTAMINANTS MEASURED AT BAAQMD MONITORING STATION, 10 ARKANSAS STREET, SAN FRANCISCO

Substance	Concentration	Cancer Risk per Million[a]
Gaseous TACs	**(ppb)**	
Acetaldehyde	0.56	3
Benzene	0.20	19
1,3-Butadiene	0.036	13
Carbon Tetrachloride	0.085	23
Formaldehyde	1.37	10
Perchloroethylene	0.012	0.5
Methylene Chloride	0.124	0.4
Chloroform	0.023	0.6
Trichloroethylene	0.01	0.1
Particulate TACs	**(ng/m^3)**	
Chromium (Hexavalent)	0.053	8
Total Risk for All TACs		**77.6**

NOTES:

TACs = toxic air contaminants; BAAQMD = Bay Area Air Quality Management District; ppb = part per billion; ng/m^3 = nanograms per cubic meter.

[a] Cancer risks were estimated by applying published unit risk values to the measured concentrations.

SOURCE: California Air Resources Board, *Ambient Air Toxics Summary-2013*, available online at: http://www.arb.ca.gov/adam/toxics/sitesubstance.htmlAccesssed December 17, 2015.

amendments to the Health Code (discussed below under "Regulatory Framework"), by adding Article 38 (amended in 2014) requiring urban infill sensitive use projects within an APEZ to address air pollution hazards through design and ventilation requirements.

Diesel Particulate Matter (DPM)

The CARB identified diesel particulate matter (DPM) as a toxic air contaminant in 1998, primarily based on evidence demonstrating cancer effects in humans. The exhaust from diesel engines includes hundreds of different gaseous and particulate components, many of which are toxic. Mobile sources such as trucks and buses are among the primary sources of diesel emissions, and concentrations of DPM are higher near heavily traveled highways. The CARB estimated average Bay Area cancer risk from exposure to diesel particulate, based on a population-weighted average ambient diesel particulate concentration, is about 480 in one million, as of 2000, which is much higher than the risk associated with any other toxic air pollutant routinely measured in the region. The statewide risk from DPM as determined by the CARB declined from 750 in one million in 1990 to 570 in one million in 1995; by 2000, CARB estimated the average statewide cancer risk from DPM at 540 in one million.[5]

[5] This calculated cancer risk value from ambient air exposure in the Bay Area can be compared against the lifetime probability of being diagnosed with cancer in the United States, from all causes, which for men is more than 40% (based on a sampling of 17 regions nationwide), or greater than 400,000 in one million (American Cancer Society, 2014).

In 2000, the CARB approved a comprehensive Diesel Risk Reduction Plan to reduce diesel emissions from both new and existing diesel-fueled vehicles and engines. Subsequent CARB regulations apply to new trucks and diesel fuel. With new controls and fuel requirements, 60 trucks built in 2007 would have the same particulate exhaust emissions as one truck built in 1988 (Pollution Engineering, 2006). The regulation is anticipated to result in an 80% decrease in statewide diesel health risk in 2020 as compared with the diesel risk in 2000. Despite notable emission reductions, the CARB recommends that proximity to sources of DPM emissions be considered in the siting of new sensitive land uses. The CARB notes that these recommendations are advisory and should not be interpreted as defined "buffer zones," and that local agencies must balance other considerations, including transportation needs, the benefits of urban infill, community economic development priorities, and other quality of life issues. With careful evaluation of exposure, health risks, and affirmative steps to reduce risk where necessary, the CARB's position is that infill development, mixed use, higher density, transit-oriented development, and other concepts that benefit regional air quality can be compatible with protecting the health of individuals at the neighborhood level (CARB, 2005).

Soil Contamination and Naturally Occurring Asbestos

The potential for exposure impacts from naturally occurring asbestos was addressed in the Initial Study (Appendix A), which determined that the presence of naturally occurring asbestos does not pose a risk based on on-site sampling of soil. However, sampling of soils did reveal that chromium and lead levels were present in levels such that they would be classified as a hazardous waste and require disposal at a Class I facility. Consequently, this impact was identified in the Initial Study as being potentially significant. This impact would be reduced to a less-than-significant level with implementation of Mitigation Measure HAZ-1b, identified in the Initial Study, requiring the project sponsor to implement a geologic investigation to assess the naturally occurring asbestos content of the fill materials. This mitigation also requires the project sponsor to prepare and implement an Excavation Management Plan, including implementation of a Dust Mitigation Plan. Implementation of this measure would ensure that if contaminated soil is excavated, no visible dust crosses the project boundaries, and the measure could also require air monitoring to demonstrate compliance with this criterion if deemed necessary by the BAAQMD. Excavated contaminated soils meeting classification levels for hazardous waste would be disposed of off-site in a Class I facility.

4.2.2.4 Sensitive Receptors

Air quality does not affect every individual in the population in the same way, and some groups are more sensitive to adverse health effects than others. Population subgroups sensitive to the health effects of air pollutants include: the elderly and the young; population subgroups with higher rates of respiratory disease, such as asthma and chronic obstructive pulmonary disease; and populations with other environmental or occupational health exposures (e.g., indoor air quality) that affect cardiovascular or respiratory diseases. The BAAQMD defines sensitive receptors as children, adults, and seniors occupying or residing in residential dwellings, schools, day care centers, hospitals, and senior-care facilities. Workers are not considered sensitive receptors because all employers must follow regulations set forth by the Occupation Safety and Health Administration (OSHA) to ensure the health and well-being of their employees (BAAQMD, 2011b).

The proximity of sensitive receptors to motor vehicles is an air pollution concern, especially in San Francisco where building setbacks are limited and roadway volumes are higher than most other parts of the Bay Area. Vehicles also contribute to particulates by generating road dust and through tire wear.

The new research building would accommodate UCSF research employees, but not patients, and therefore would not constitute a sensitive receptor with respect to cancer risk and hazard exposure assessment. Single-family and multi-family residences exist across Twenty-Third Street from the proposed building location and surround the block where the parking garage expansion is proposed. The proposed research building location is also approximately 80 feet from the existing hospital to the north, which would also be considered a sensitive receptor with respect to air quality. Both the hospital and the residential area between Vermont and Utah streets are located within an APEZ. The project site and environs are not within a Health Vulnerable zip code.

4.2.2.5 Existing Stationary Sources of Air Pollution

The BAAQMD's inventory of permitted facilities show two permitted facilities with one or more stationary sources within a 1,000-foot zone of influence of the project site. These facilities are associated with ZSFG operations. The sources emitting air pollutants at this facility are boilers that provide steam and space heat to the facility, and diesel-fueled engines that power emergency standby generators, which provide back-up power to the facility in the case of power failure to the hospital. The maximum increased cancer risk from operation of the boilers and maintenance operations of the emergency standby generators is 2.34 in one million at the nearest residential receptor (BAAQMD, 2014).

4.2.2.6 Major Roadways Contributing to Air Pollution

U.S. Highway 101 is the major source of air pollution in the project area and the primary contributor to the fact that portions of the project site and environs are located within a designated APEZ. Traffic on Potrero Avenue which carries at least 10,000 vehicles in annual average daily traffic based on the City's SF CHAMP roadway model also marginally contributes to existing air quality at the project site. Both Interstate 280 and the Caltrain rail line are located over 1,000 feet from the project site. Aside from the surrounding major roadways, no other areas of mobile-source activity or otherwise "non-permitted" sources (e.g., railyards, trucking distribution facilities, and high-volume fueling stations) are located within 1,000 feet of the project site.

4.2.3 Regulatory Considerations

4.2.3.1 Federal Regulations

The 1970 Clean Air Act (last amended in 1990) requires that regional planning and air pollution control agencies prepare a regional air quality plan to outline the measures by which both stationary and mobile sources of pollutants will be controlled in order to achieve all standards by the deadlines specified in the act. These ambient air quality standards are intended to protect the public health and welfare, and they specify the concentration of pollutants (with an adequate margin of safety) to

which the public can be exposed without adverse health effects. They are designed to protect those segments of the public most susceptible to respiratory distress, including asthmatics, the very young, the elderly, people weak from other illness or disease, or persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollution levels that are somewhat above ambient air quality standards before adverse health effects are observed.

The current attainment status for the San Francisco Bay Area Air Basin, with respect to federal standards, is summarized above in Table 4.2-2. In general, the Bay Area Air Basin experiences low concentrations of most pollutants when compared to federal standards, except for ozone and particulate matter (PM_{10} and $PM_{2.5}$), for which standards are exceeded periodically (see Table 4.2-1).

In June 2004, the Bay Area was designated as a marginal nonattainment area of the national 8-hour ozone standard.[6] The U.S. EPA lowered the national 8-hour ozone standard from 0.80 to 0.75 parts per million (ppm) effective May 27, 2008. In April 2012, the U.S. EPA designated the Bay Area as a marginal nonattainment region for the 0.75 ppm ozone standard established in 2008. The SFBAAB is in attainment for other criteria pollutants, with the exception of the 24-hour standards for PM_{10} and $PM_{2.5}$, for which the Bay Area is designated as "Unclassified." "Unclassified" is defined by the Clean Air Act as any area that cannot be classified, on the basis of available information, as meeting or not meeting the national primary or secondary ambient air quality standard for the pollutant.

On January 9, 2013, EPA issued a final rule to determine that the Bay Area attains the 24-hour $PM_{2.5}$ national standard. This EPA rule suspends key State Implementation Plan (discussed below) requirements as long as monitoring data continues to show that the Bay Area attains the standard. Despite this EPA action, the Bay Area will continue to be designated as "non-attainment" for the national 24-hour $PM_{2.5}$ standard until such time as the Air District submits a "re-designation request" and a "maintenance plan" to EPA, and EPA approves the proposed re-designation.

4.2.3.2 State Regulations

Although the federal Clean Air Act established national ambient air quality standards, individual states retained the option to adopt more stringent standards and to include other pollution sources. California had already established its own air quality standards when federal standards were established, and because of the unique meteorological problems in California, there is considerable diversity between the state and national ambient air quality standards, as shown in Table 4.2-2. California ambient standards tend to be at least as protective as national ambient standards and are often more stringent.

In 1988, California passed the California Clean Air Act (California Health and Safety Code Sections 39600 et seq.), which, like its federal counterpart, called for the designation of areas as attainment or nonattainment, but based on state ambient air quality standards rather than the federal standards. As indicated in Table 4.2-2, the SFBAAB is designated as "nonattainment" for state ozone, PM_{10}, and $PM_{2.5}$ standards. The SFBAAB is designated as "attainment" for other pollutants.

6 "Marginal nonattainment area" means an area designated marginal nonattainment for the 1-hour national ambient air quality standard for ozone.

4.2.3.3 Regional and Local Regulations

Bay Area Air Quality Management District

The BAAQMD is the regional agency with jurisdiction over the nine-county region located in the SFBAAB. The Association of Bay Area Governments (ABAG), Metropolitan Transportation Commission (MTC), county transportation agencies, cities and counties, and various non-governmental organizations also participate in the efforts to improve air quality through a variety of programs. These programs include the adoption of regulations and policies, as well as implementation of extensive education and public outreach programs. BAAQMD is responsible for attaining and/or maintaining air quality in the region within federal and state air quality standards. Specifically, BAAQMD has the responsibility to monitor ambient air pollutant levels throughout the region and to develop and implement strategies to attain the applicable federal and state standards.

BAAQMD does not have authority to regulate emissions from motor vehicles. Specific rules and regulations adopted by the BAAQMD limit the emissions that can be generated by various stationary sources, and identify specific pollution reduction measures that must be implemented in association with various activities. These rules regulate not only emissions of the six criteria air pollutants, but also TAC emissions sources are subject to these rules and are regulated through the BAAQMD's permitting process and standards of operation. Through this permitting process, including an annual permit review, the BAAQMD monitors the generation of stationary emissions and uses this information in developing its air quality plans. Any sources of stationary emissions constructed as part of the project would be subject to the BAAQMD Rules and Regulations. Both federal and State ozone plans rely heavily upon stationary source control measures set forth in BAAQMD's Rules and Regulations.

Per its Policy and Procedure Manual, the BAAQMD requires implementation of Best Available Control Technology for Toxics and would deny an *Authority to Construct* or a *Permit to Operate* for any new or modified source of TACs that exceeds a cancer risk of 10 in one million or a chronic or acute hazard index of 1.0. The permitting process under BAAQMD Regulation 2 Rule 5 requires a Health Risk Screening Analysis, the results of which are posted on the District's website. These permitting requirements would ensure that the health risks of the project on the environment would be less than significant.

BAAQMD has also identified a series of Best Management Practices for the control of fugitive dust generated during construction activities. These measures, which focus on reducing dust generated by excavation, material movement and movement of off-road equipment on unpaved surfaces are considered sufficient reduce dust-related impacts to a less than significant level (BAAQMD, 2011).

Bay Area Air Quality Planning Relative to State and Federal Standards

Air quality plans developed to meet federal requirements are referred to as State Implementation Plans. The federal and state Clean Air Acts require plans to be developed for areas designated as nonattainment (with the exception of areas designated as nonattainment for the state PM_{10} standard).

The most recent Bay Area ozone plan prepared in response to federal air quality planning requirements is the 2001 Ozone Attainment Plan. The State ozone plan has been updated multiple times.

The *2010 Bay Area Clean Air Plan* was adopted on September 15, 2010, by the BAAQMD, in cooperation with the Bay Area MTC, the Bay Conservation and Development Commission (BCDC), and ABAG. The primary objectives of the plan are to improve local and regional air quality, protect public health, and minimize climate change impacts. The *2010 Clean Air Plan* updates and replaces the *2005 Ozone Strategy* in accordance with the requirements of the California Clean Air Act to implement "all feasible measures" to reduce ozone; provide a control strategy to reduce ozone, particulate matter, toxic air contaminants, and greenhouse gases in a single, integrated plan; review progress in improving air quality in recent years; and establish emission control measures to be adopted or implemented in the 2010–2012 time frame. The control strategy includes stationary-source control measures to be implemented through BAAQMD regulations; mobile-source control measures to be implemented through incentive programs and other activities; and transportation control measures to be implemented through transportation programs in cooperation with the MTC, local governments, transit agencies, and others. The *2010 Clean Air Plan* also represents the Bay Area's most recent triennial assessment of the region's strategy to attain the state one-hour ozone standard (BAAQMD, 2010).

San Francisco General Plan Air Quality Element

The *San Francisco General Plan* (General Plan) includes the 1997 Air Quality Element. The objectives specified by the City include the following:

> ***Objective 1*:** Adhere to state and federal air quality standards and regional programs.
>
> ***Objective 2*:** Reduce mobile sources of air pollution through implementation of the Transportation Element of the General Plan.
>
> ***Objective 3*:** Decrease the air quality impacts of development by coordination of land use and transportation decisions.
>
> ***Objective 4*:** Minimize particulate matter emissions from road and construction sites.
>
> ***Objective 5*:** Link the positive effects of energy conservation and waste management to emission reductions.

San Francisco Construction Dust Control Ordinance

The City has adopted San Francisco Health Code Article 22B and San Francisco Building Code Section 106.A.3.2.6, which collectively constitute the Construction Dust Control Ordinance (adopted in July 2008). The ordinance requires that all site preparation work, demolition, or other construction activities within San Francisco that have the potential to create dust or to expose or disturb more than 10 cubic yards or 500 square feet of soil comply with specified dust control measures whether or not the activity requires a permit from the Department of Building Inspection (DBI). For projects over one-half acre, the Dust Control Ordinance requires that the project sponsor submit a Dust Control Plan for approval by DPH prior to issuance of a building permit by the DBI.

Building permits will not be issued without written notification from the Director of Public Health that the applicant has a site-specific Dust Control Plan, unless the Director waives the requirement. The Construction Dust Control Ordinance requires project sponsors and contractors responsible for construction activities to control construction dust on the site or implement other practices that result in equivalent dust control that are acceptable to the Director of Public Health.

Dust suppression activities may include watering of all active construction areas sufficiently to prevent dust from becoming airborne; increased watering frequency may be necessary whenever wind speeds exceed 15 miles per hour. Reclaimed water must be used if required by Article 21, Section 1100 et seq. of the San Francisco Public Works Code.

The project site is approximately 1.9 acres in size. The construction of the parking garage would require preparation of a Dust Control Plan. The construction of the research building would comply with the BAAQMD Best Management Practices for Particulate Control.

San Francisco Clean Construction Ordinance

Section 6.25 of Chapter 6 of the San Francisco Administrative Code (Clean Construction Ordinance) requires clean construction practices for all publicly-funded projects that consist of 20 or more cumulative days of construction. The ordinance requires that off-road equipment and off-road engines with 25 horsepower or greater be fueled by biodiesel fuel grade B20 or higher; if they are used more than 20 hours, they must either meet or exceed Tier 2 emissions standards for off-road engines or operate with the most effective verified diesel emission control technology. Projects located within an APEZ also must prepare a construction emissions minimization plan. The requirement does not apply to portable or stationary generator engines. This ordinance would apply to construction of the parking garage.

San Francisco Health Code Provisions for Urban Infill Development (Article 38)

San Francisco adopted Article 38 of the San Francisco Health Code in 2008, with revisions taking effect in December 2014. The revised code requires that sensitive land use developments within any APEZ incorporate installation of Minimum Efficiency Reporting Value (MERV) 13 equivalent ventilation systems to remove particulates from outdoor air. This regulation also applies to conversion of uses to a sensitive use (e.g., residential, senior care-facilities, day care centers, etc.). Article 38 would not be applicable to the proposed project because it does not include any sensitive uses.

4.2.4 Significance Standards

Would the project:

a) Conflict with or obstruct implementation of the applicable air quality plan?

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation (e.g., induce mobile source carbon monoxide (CO) emissions that would cause a violation of the CO ambient air quality standard)?

c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

d) Expose sensitive receptors to substantial pollutant concentrations?

e) Create objectionable odors affecting a substantial number of people?

4.2.5 Analysis Methodology

Air quality analysis conducted for this impact assessment employs the emission factors, models and tools distributed by a variety of agencies including CARB, the California Air Pollution Officers Association (CAPCOA), the California Office of Environmental Health Hazard Assessment (OEHHA) and USEPA. Additionally, the analysis includes methodologies identified in the BAAQMD *CEQA Air Quality Guidelines* (May 2012).

4.2.5.1 Methodology for Analysis of Impacts

In general, the proposed project would result in two types of air quality impacts. First, the project would result in air pollution through construction activity. Second, the project would generate air pollutants during project operations, due to increased vehicle travel and new stationary sources (laboratory fume hoods, boilers, and emergency generators). This section describes the methodology used to evaluate project impacts related to consistency with the Clean Air Plan, emissions of criteria pollutants, and local health risks and hazards.

Each of these types of direct impacts are in turn separated into impacts from criteria air pollutant emissions, which are generally regional in nature, and impacts associated with exposure to toxic air contaminants (TACs) and $PM_{2.5}$, which is a localized health risk. The assessment of criteria air pollutant impacts addresses the second and third bulleted significance thresholds identified above. The assessment of localized health risk and exposure impacts addresses the fourth bulleted significance thresholds identified above.

Air Quality Plan

The applicable air quality plan is the BAAQMD's 2010 Clean Air Plan, which identifies measures to reduce emissions and ambient concentrations of air pollutants; safeguard public health by reducing exposure to air pollutants that pose the greatest health risk, with an emphasis on protecting the communities most heavily affected by air pollution; and reduce greenhouse gas emissions. Consistency with the Clean Air Plan can be determined if the project supports the goals of the Clean Air Plan, includes applicable control measures from the Clean Air Plan, and if the project would not disrupt or hinder implementation of any control measures from the Clean Air Plan. Consistency with this plan is the basis for determining whether the proposed project would conflict with or obstruct implementation of an applicable air quality plan, the first bulleted significance criterion identified above.

Criteria Air Pollutants

As described above under Regulatory Framework, the SFBAAB experiences low concentrations of most pollutants when compared to federal or State standards and is designated as either in attainment or unclassified for most criteria pollutants, with the exception of ozone, $PM_{2.5}$, and PM_{10}, for which these pollutants are designated as non-attainment for either the State or federal standards.

By definition, regional air pollution is largely a cumulative impact in that no single project is sufficient in size to, by itself, result in non-attainment of air quality standards. Instead, a project's individual emissions are considered to contribute to the existing, cumulative air quality conditions. If a project's contribution to cumulative air quality conditions is considerable, then the project's impact on air quality would be considered significant (BAAQMD, 2012).

Table 4.2-4 identifies criteria air pollutant significance thresholds followed by a discussion of each threshold. Projects that would result in criteria pollutant emissions below these significance thresholds would not violate an air quality standard, contribute substantially to an air quality violation, or result in a cumulatively considerable net increase in criteria air pollutants within the SFBAAB.

TABLE 4.2-4
CRITERIA AIR POLLUTANT THRESHOLDS

Pollutant	Construction Thresholds Average Daily Emissions (pounds per day)	Operational Thresholds	
		Average Daily Emissions (pounds per day)	Maximum Annual Emissions (tons per year)
ROG	54	54	10
NOx	54	54	10
PM_{10}	82 (exhaust)	82	15
$PM_{2.5}$	54 (exhaust)	54	10
Fugitive Dust	Construction Dust Ordinance or other Best Management Practices	Not applicable	

SOURCE: BAAQMD, CEQA Air Quality Guidelines. June 2011. Available at www.baaqmd.gov

The potential for a project to result in a cumulatively considerable net increase in criteria air pollutants that may contribute to an existing or projected air quality violation is based on the State and federal Clean Air Acts emissions limits for stationary sources. To ensure that new stationary sources do not cause or contribute to a violation of an air quality standard, BAAQMD Regulation 2, Rule 2 requires that any new source that emits criteria air pollutants above a specified emissions limit must offset those emissions. For ozone precursors ROG and NO_X, the offset emissions level is an annual average of 10 tons per year (or 54 pounds (lbs.) per day) (BAAQMD, 2009). These levels represent emissions below which new sources are not anticipated to contribute to an air

quality violation or result in a considerable net increase in criteria air pollutants that could result in increased health effects.

The federal New Source Review (NSR) program was created under the federal Clean Air Act to ensure that stationary sources of air pollution are constructed in a manner that is consistent with attainment of federal health-based ambient air quality standards. For PM_{10} and $PM_{2.5}$, the emissions limit under NSR is 15 tons per year (82 lbs. per day) and 10 tons per year (54 lbs. per day), respectively. These emissions limits represent levels at which a source is not expected to have a significant impact on air quality (BAAQMD, 2009).

Although the regulations specified above apply to new or modified stationary sources, land use development projects generate ROG, NO_X, PM_{10}, and $PM_{2.5}$ emissions as a result of increases in vehicle trips, energy use, architectural coating, and construction activities. Therefore, the identified thresholds can be applied to the construction and operational phases of land use projects. Those projects that would result in emissions below these thresholds would not be considered to contribute to an existing or projected air quality violation or result in a considerable net increase in ozone precursors or particulate matter. Due to the temporary nature of construction activities, only the average daily thresholds are applicable to construction phase emissions.

Fugitive dust emissions are typically generated during construction phases. Studies have shown that the application of best management practices (BMPs) at construction sites significantly control fugitive dust (WRAP, 2006) and individual measures have been shown to reduce fugitive dust by anywhere from 30% to 90% (BAAQMD, 2009). The BAAQMD has identified a number of BMPs to control fugitive dust emissions from construction activities (BAAQMD, 2011). San Francisco's Construction Dust Control Ordinance requires a number of fugitive dust control measures to ensure that construction projects do not result in visible dust. This analysis assumes that UCSF would implement all BAAQMD BMPs for the research building component of the proposed project and the City would implement the requirements of the Construction Dust Control Ordinance for the parking garage expansion, which is the basis for determining the significance of air quality impacts due to fugitive dust emissions.

Other Criteria Pollutants

Regional concentrations of CO in the Bay Area have not exceeded the state standards in the past 11 years and SO_2 concentrations have never exceeded the standards. The primary source of CO emissions from development projects is vehicle traffic. Construction-related SO_2 emissions represent a negligible portion of the total basin-wide emissions and construction-related CO emissions represent less than 5% of the Bay Area total basin-wide CO emissions. As discussed previously, the Bay Area is in attainment for both CO and SO_2. Furthermore, the BAAQMD has demonstrated, based on modeling, that in order to exceed the California ambient air quality standard of 9.0 ppm (8-hour average) or 20.0 ppm (1-hour average) for CO, project traffic in addition to existing traffic would need to exceed 44,000 vehicles per hour at affected intersections (or 24,000 vehicles per hour where vertical and/or horizontal mixing is limited). The transportation analysis indicates that the intersection in the project area with the greatest volumes would be Potrero Avenue and Twenty-Fourth Street with hourly volumes of 3,719 in year 2040 with the

project, which is less than 24,000. Therefore, given the Bay Area's attainment status and the limited CO and SO_2 emissions that could result from the project, the project would not result in a cumulatively considerable net increase in CO or SO_2, and quantitative analysis is not required.

Local Health Risks and Hazards

In addition to criteria air pollutants, individual projects may emit TACs. As part of this project, RCH Group conducted a health risk assessment (HRA) for the proposed project to provide quantitative estimates of health risks from exposures to TACs.

CEQA provides the lead agency with discretion in selecting significance thresholds for the purposes of assessing impacts. For the analysis of health risk and localized impacts, UCSF uses quantitative significance thresholds adopted by BAAQMD. These thresholds are based on substantial evidence identified in Appendix D of the 2011 BAAQMD CEQA Guidelines and its 2009 Justification Report. These thresholds were applied for the analysis of health risk and localized impacts in the EIR for the *2014 UCSF Long Range Development Plan* and are also applied in this document. Specifically, if a proposed project would result in increased cancer risks exceeding 10 in one million or, a hazard index exceeding 1.0 or a localized $PM_{2.5}$ concentration exceeding 0.3 $\mu g/m^3$ then it would be considered to result in a significant impact with regard to exposure of sensitive receptors to substantial pollutant concentrations. The 0.3 $\mu g/m^3$ $PM_{2.5}$ concentration and the excess cancer risk of 10.0 per million persons exposed are the levels below which the BAAQMD considers new sources not to make a considerable contribution to cumulative health risks (BAAQMD, 2010b).

The City of San Francisco has recently developed an alternative threshold of significance used to evaluate health risks from new sources of TACs associated with a project. This threshold is based on the potential for the proposed project to substantially affect the extent and severity of the APEZ at sensitive receptor locations. These thresholds are not used here. The health protective standards used for determining the APEZ and evidence supporting these standards are discussed in the Setting section above and were developed in consultation with BAAQMD staff as part of the preparation of a Community Risk Reduction Plan[7] which has not yet been adopted. The project site and environs are not within an identified health vulnerable zip code but the B/C Lot and the parking garage, along with nearby residences east of San Bruno Avenue are within an APEZ. The criteria for locations not within the APEZ are based on whether the project would contribute a $PM_{2.5}$ concentration above 0.3 $\mu g/m^3$ or result in an excess cancer risk greater than 10.0 per million. For those locations already meeting the APEZ criteria, a lower significance standard is applied. The criteria within an APEZ for projects in which the City of San Francisco is the lead agency are 0.2 $\mu g/m^3$ $PM_{2.5}$ concentration and an excess cancer risk of 7.0 per million persons exposed.

[7] San Francisco is currently in the process of preparing a Community Risk Reduction Plan. Extensive modeling has been conducted and is documented in *The San Francisco Community Risk Reduction Plan: Technical Support Documentation.* This modeling provides the technical basis for development of the Community Risk Reduction Plan.

4.2.5.2 Methodology for Analysis of Cumulative Impacts

The contribution of a project's individual air emissions to regional air quality impacts is by its nature, a cumulative effect. Emissions from past, present and future projects in the vicinity also have or will contribute to adverse regional air quality impacts on a cumulative basis. No single project by itself would be sufficient in size to result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulative air quality conditions (BAAQMD, 2009). As described above, the project-level thresholds for criteria air pollutants are based on levels by which new sources are not anticipated to contribute to an air quality violation or result in a considerable net increase in criteria air pollutants. Therefore, if a project's emissions are below the project-level thresholds, the project would not be considered to result in a considerable contribution to cumulative regional air quality impacts.

4.2.6 Impacts and Mitigation Measures

Impact AQ-1: The proposed project and its variants would result in increased emissions of dust and criteria air pollutants during demolition and construction activities. (Potentially Significant)

Construction activities would result in emissions of criteria pollutants from the use of heavy-duty construction equipment, haul truck trips and vehicle trips generated from construction workers traveling to and from the demolition and construction sites. In addition, fugitive dust or PM_{10} emissions would result from demolition, excavation, trenching and other construction activities.

Construction emissions were calculated using the California Emissions Estimator Model (CalEEMod) for the proposed project and each of the four project variants. Modeling assumed construction phasing lengths based on CalEEMod default estimates, which are based on square footage for research buildings. Because specific details of construction are not known, CalEEMod default estimates were also assumed for vendor trips, construction worker trips, and off-road equipment use. All model inputs and outputs are in Appendix D. **Table 4.2-5** presents the average annual daily construction emissions generated by the proposed project and the project variants. Average daily emissions are averaged over all the construction days.

BAAQMD's approach to analysis of construction-related particulate impacts (other than exhaust PM) is to emphasize implementation of effective and comprehensive dust control measures rather than detailed quantification of emissions. BAAQMD considers construction-related fugitive dust impacts of projects to be less than significant if a suite of recommended dust-control measures are implemented. Therefore, implementation of BAAQMD-identified BMPs for control of fugitive dust, listed below as Mitigation Measure AQ-1, would reduce impacts to less than significant levels during construction of the research building.

For the parking garage component of the proposed project, construction activities would be subject to the requirements of the City of San Francisco's Construction Dust Control Ordinance, which would be consistent with the measures in Mitigation Measure AQ-1. Therefore, impacts related to fugitive dust during expansion of the parking garage also would be less than significant.

TABLE 4.2-5
ESTIMATED DAILY CONSTRUCTION EMISSIONS
WITHOUT MITIGATION FOR THE PROJECT AND VARIANTS

Condition	ROG	NO_X	PM_{10}	$PM_{2.5}$	CO
	Project				
Construction Year 1	11.2	26.0	1.45	1.39	24.7
Construction Year 2	12.8	12.2	0.70	0.64	12.2
Significance Threshold	54	54	82	54	---
Significant (Yes or No)?	No	No	No	No	No
	Variant 1				
Construction Year 1	11.2	26.0	1.45	1.39	24.7
Construction Year 2	12.8	12.1	0.70	0.64	12.1
Significance Threshold	54	54	82	54	---
Significant (Yes or No)?	No	No	No	No	No
	Variant 2				
Construction Year 1	11.2	26.0	1.45	1.39	24.7
Construction Year 2	21.2	13.4	0.72	0.66	15.6
Significance Threshold	54	54	82	54	---
Significant (Yes or No)?	No	No	No	No	No
	Variant 3				
Construction Year 1	11.2	26.0	1.45	1.39	24.7
Construction Year 2	21.2	13.4	0.72	0.66	15.5
Significance Threshold	54	54	82	54	---
Significant (Yes or No)?	No	No	No	No	No
	Variant 4				
Construction Year 1	11.2	26.0	1.45	1.39	24.7
Significance Threshold	54	54	82	54	---
Significant (Yes or No)?	No	No	No	No	No

SOURCE: RCH (Appendix D)

Mitigation Measure AQ-1: Best Management Practices for Controlling Particulate Emissions during Construction of Research Building.

The following BAAQMD Best Management Practices for particulate control will be required for all construction activities related to the research building (BAAQMD, 2012). These measures will reduce particulate emissions primarily during soil movement, grading and demolition activities but also during vehicle and equipment movement on unpaved project sites

1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.

2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered.

3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.

4. All vehicle speeds on unpaved roads shall be limited to 15 mph.

5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.

6. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, § 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.

7. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.

8. Post a publically visible sign with the telephone number and person to contact at UCSF regarding dust complaints. This person shall respond and take corrective action within 48 hours. BAAQMD's telephone number shall also be visible to ensure compliance with applicable regulations.

Significance after Mitigation: Less than Significant. As can be seen in Table 4.2-5, estimated average daily construction-related exhaust emissions would not exceed the thresholds for NO_X and ROG or particulate matter and the impact of construction-related criteria pollutant emissions would be *less than significant* for the research building. Implementation of Mitigation Measure AQ-1 would ensure that dust control measures would be implemented during construction of the research building consistent with the guidance of the BAAQMD to reduce dust-related impacts to a level that would be *less than significant*.

Impact AQ-2: The proposed project and its variants would result in increased emissions of criteria air pollutants during operation. (Less than Significant)

Operation of the proposed project or its variants would result in an increase in criteria air pollutant and precursor emissions, including ROG, NO_X, PM_{10} and $PM_{2.5}$ from a variety of emissions sources, including onsite area sources (e.g., natural gas combustion for space and water heating, landscape maintenance, use of consumer products such as cleaning products, etc.) and mobile on-road sources. However, as discussed below, these increases are less than significant for purposes of CEQA, as they fall below acceptable threshold levels. Operational emissions of criteria pollutants for the project and variants, for purposes of this analysis, were estimated using the CalEEMod version 2013.2.2 emissions inventory model.

One of the sources of operational emissions would be increased vehicle emissions from additional staff and visitors. Traffic volumes used to estimate vehicle-related emissions were derived from the transportation study prepared for the project (Fehr & Peers, 2015). The proposed project would

generate an estimated 196 additional daily vehicle trips while variants that include a retail component would contribute an additional 98 daily vehicle trips. In addition to exhaust emissions, vehicles would also generate PM_{10} and $PM_{2.5}$ from entrained road dust and tire and brake wear.

Emissions would also be generated by natural gas combustion, maintenance operation of backup generators, operation of landscape maintenance equipment, and maintenance application of paint and other architectural coatings.

Table 4.2-6 presents estimated operational emissions. As Table 4.2-6 shows operational emissions of NO_X, ROG, PM_{10} and $PM_{2.5}$ would not exceed threshold levels, resulting in a less than significant impact for the proposed project and the four variants.

Impact AQ-3: Construction and operation of the proposed project would generate toxic air contaminants, including diesel particulate matter, and could expose sensitive receptors to substantial air pollutant concentrations. (Potentially Significant)

As discussed above, UCSF utilizes the health risk exposure thresholds developed by the BAAQMD in its Justification Report (BAAQMD, 2009). UCSF has applied these same thresholds in its recent EIR for its 2014 LRDP. Specifically, if a proposed project would result in increased cancer risks exceeding 10 in one million or, a hazard index exceeding 1.0 or a localized $PM_{2.5}$ concentration exceeding 0.3 $\mu g/m^3$ then it would be considered to result in a significant impact with regard to exposure of sensitive receptors to substantial pollutant concentrations. The 0.3 $\mu g/m^3$ $PM_{2.5}$ concentration and the excess cancer risk of 10.0 per million persons exposed are the levels below which the BAAQMD considers new sources not to make a considerable contribution to cumulative health risks (BAAQMD, 2010b).

Both components of the project would contribute new emissions of DPM and $PM_{2.5}$ due to construction activities. However, the research building also would include an operational TAC and $PM_{2.5}$ source, the proposed emergency generator, and various air toxics associated with the fume hoods. On the other hand, the parking garage expansion would only contribute TAC and emissions during construction.

Studies have demonstrated that DPM from diesel-fueled engines is a human carcinogen and that chronic (long-term) inhalation exposure to DPM poses a chronic health risk. Health effects from carcinogenic air toxics are usually described in terms of individual cancer risk. Individual cancer risk is the likelihood that a person exposed to air toxic concentrations over a 30-year period will contract cancer, based on the use of standard risk-assessment methodology. The maximally exposed individual (MEI) represents the worst–case risk estimate, based on a theoretical person continuously exposed for a lifetime at the point of highest compound concentration in the air. This is a highly conservative assumption, since most people do not remain at home all day and on average residents change residences every 11 to 12 years. In addition, this assumption assumes that residents are experiencing outdoor concentrations for the entire exposure period.

TABLE 4-2-6
ESTIMATED OPERATIONAL CRITERIA POLLUTANT EMISSION INCREASES
FOR PROJECT AND VARIANTS

Source	ROG	NO_X	PM_{10}	$PM_{2.5}$	CO
	Project				
Area, Energy, Mobile	8.18	2.19	1.16	0.38	6.2
Generator	2.25	5.91	0.35	0.35	30.7
Fume Hoods	25.6	---	---	---	---
Total	**36.1**	**8.11**	**1.51**	**0.74**	**36.9**
Significance Threshold	54	54	82	54	---
Significant Impact?	No	No	No	No	No
	Variant 1				
Area, Energy, Mobile	8.40	2.59	1.49	0.48	8.14
Generator	2.25	5.91	0.35	0.35	30.7
Fume Hoods	25.6	---	---	---	---
Total	**36.3**	**8.50**	**1.84**	**0.83**	**38.9**
Significance Threshold	54	54	82	54	---
Significant Impact?	No	No	No	No	No
	Variant 2				
Area, Energy, Mobile	10.3	2.19	1.16	0.38	6.2
Generator	2.25	5.91	0.35	0.35	30.7
Fume Hoods	25.6	---	---	---	---
Total	**38.2**	**8.11**	**1.51**	**0.74**	**37.0**
Significance Threshold	54	54	82	54	---
Significant Impact?	No	No	No	No	No
	Variant 3				
Area, Energy, Mobile	10.5	2.59	1.49	0.48	8.16
Generator	2.25	5.91	0.35	0.35	30.7
Fume Hoods	25.6	---	---	---	---
Total	**38.4**	**8.50**	**1.84**	**0.83**	**38.9**
Significance Threshold	54	54	82	54	---
Significant Impact?	No	No	No	No	No
	Variant 4				
Area, Energy, Mobile	5.19	2.19	1.16	0.38	6.17
Generator	2.25	5.91	0.35	0.35	30.7
Fume Hoods	33.1	---	---	---	---
Total	**8.26**	**8.11**	**1.51**	**0.74**	**36.9**
Significance Threshold	54	54	82	54	---
Significant Impact?	No	No	No	No	No

SOURCE: RCH, 2016 (see Appendix D).

A Health Risk Assessment (HRA) was prepared to analyze the incremental cancer risks to sensitive receptors in the vicinity of the project, using emission rates (in pounds per hour) from CARB's CalEEMod emission model. DPM (as reported as exhaust of $PM_{2.5}$) emission rates were input into the USEPA's AERMOD atmospheric dispersion model to calculate ambient air concentrations at receptors in the project vicinity (RCH, 2016). The HRA is intended to provide a worst–case estimate of the increased exposure by employing a standard emission estimation program, an accepted pollutant dispersion model, approved toxicity factors, and conservative exposure parameters.

In accordance with OEHHA *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments* the HRA was accomplished by applying the highest estimated concentrations of TAC at the receptors analyzed to the established cancer potency factors and acceptable reference concentrations for non-cancer health effects. For the project and variant conditions, the maximum DPM concentrations occurred at a residential receptor (also known as the MEI) along Twenty-Third Street to the south and east of the project site. Increased cancer risks were calculated using the modeled DPM concentrations and OEHHA-recommended methodologies for both a child exposure (3rd trimester through 2 years of age) and adult exposure. The cancer risk calculations were based on applying the OEHHA-recommended age sensitivity factors and breathing rates, as well as fraction of time at home and an exposure duration of 30 years, to the DPM concentration exposures. Age-sensitivity factors reflect the greater sensitivity of infants and small children to cancer causing air pollutants. The full HRA is in Appendix D.

These conservative methodologies overestimate both non-carcinogenic and carcinogenic health risk, possibly by an order of magnitude or more. Therefore, for carcinogenic risks, the actual probabilities of cancer formation in the populations of concern due to exposure to carcinogenic pollutants are likely to be lower than the risks derived using the HRA methodology. The extrapolation of toxicity data in animals to humans, the estimation of concentration prediction methods within dispersion models; and the variability in lifestyles, fitness and other confounding factors of the human population also contribute to the overestimation of health impacts. Therefore, the results of the HRA are highly overstated.

Incremental Cancer Risk from Construction

Table 4.2-7 presents the HRA results associated with existing receptors due to construction activities and operational emissions. As shown in Table 4.2-7, the maximum cancer risk from construction emissions for a residential-adult receptor would be 2.3 per million and for a residential-child receptor would be 54.9 per million. The maximum unmitigated cancer risk from construction emissions for a school child would be 3.9 per million. The estimated cancer risk for a 30-year lifetime exposure would be 55.0 per million. Thus, the cancer risk due to construction activities and operational emissions would be potentially above the BAAQMD threshold of 10 per million as well as the City of San Francisco APEZ threshold of 7 per million and would be potentially significant.

TABLE 4.2-7
UNMITIGATED HEALTH IMPACTS ESTIMATED FOR THE PROJECT AND VARIANTS

Condition	Cancer Risk (child / adult)	Hazard Impact (acute / chronic)	$PM_{2.5}$ Concentration (µg/m3)
Project	54.9 / 2.32	0.19 / 0.09	0.37
Variant 1	54.9 / 2.32	0.19 / 0.09	0.37
Variant 2	55.0 / 2.32	0.19 / 0.09	0.37
Variant 3	55.0 / 2.32	0.19 / 0.09	0.37
Variant 4	52.6 / 2.32	0.19 / 0.08	0.37
Significance Threshold	10	1.0	0.3
Significant (Yes or No)?	**Yes**	No	**Yes**

Variant 4 represents the risks associated solely with the construction of the proposed research building as the parking garage would not be expanded under this variant. The maximum cancer risk from unmitigated construction emissions associated solely with the parking garage expansion for a residential-adult receptor would be 1.4 per million and for a residential-child receptor would be 32.1 per million, which are a subset of the risks presented in Table 4.2-7 for the proposed project. For the expanded parking garage, the maximum DPM concentrations occurred at a residential receptor (MEI) along Twenty-Third Street to the east of the project site.

Implementation of Mitigation Measure AQ-3 would be required to reduce construction emissions during construction of the research building. Because the parking garage component of the proposed project would be funded by the City, construction activities would be subject to the requirements of the City's Clean Construction Ordinance, which would be consistent with the measures in Mitigation Measure AQ-3.

Mitigation Measure AQ-3: Construction Exhaust Emissions Reduction Measures during Construction of Research Building.

The construction contractor shall implement the following measures during construction of the research building to further reduce construction-related exhaust emissions:

All off-road equipment greater than 25 horsepower (hp) and operating for more than 20 total hours over the entire duration of construction activities shall meet the following requirements:

1. Where access to alternative sources of power are available, portable diesel engines shall be prohibited; and
2. All off-road equipment shall have:
    a. Engines that meet or exceed either USEPA or CARB Tier 2 off-road emission standards, and
    b. Engines that are retrofitted with a CARB Level 3 Verified Diesel Emissions Control Strategy. Acceptable options for reducing emissions include the use of late model engines, low-emission diesel products, alternative fuels, engine

retrofit technology, after-treatment products, add-on devices such as particulate filters, and/or other options as such are available.

Significance after Mitigation: Less than Significant. Implementation of Mitigation Measure AQ-3 and the requirements of the Clean Construction Ordinance for the parking garage expansion, would result in reduced cancer risk such that maximum cancer risk from construction emissions for a residential-adult receptor would be 0.3 per million and for a residential-child receptor would be 7.1 per million (see **Table 4.2-8**). The maximum unmitigated cancer risk from construction emissions for a school child would be 0.5 per million. The estimated cancer risk for a 30-year lifetime exposure would be 7.2 per million. Thus, the cancer risk due to construction activities would be below the BAAQMD threshold of 10 per million and would be *less than significant*

TABLE 4.2-8
MITIGATED HEALTH IMPACTS ESTIMATED FOR THE PROJECT AND VARIANTS

Condition	Cancer Risk (child/adult)	Hazard Impact (acute/chronic)	$PM_{2.5}$ Concentration (µg/m3)
Project	7.10 / 0.27	0.04 / 0.01	0.04
Variant 1	7.10 / 0.27	0.04 / 0.01	0.04
Variant 2	7.16 / 0.27	0.04 / 0.01	0.04
Variant 3	7.16 / 0.27	0.04 / 0.01	0.04
Variant 4	6.65 / 0.27	0.04 / 0.01	0.04
Significance Threshold	10	1.0	0.3
Significant (Yes or No)?	No	No	No

Variant 4 represents the risks associated solely with the construction of the proposed research building as the parking garage would not be expanded under this variant. The maximum cancer risk from mitigated construction emissions associated solely with the parking garage expansion for a residential-adult receptor would be 0.2 per million and for a residential-child receptor would be 5.1 per million, which are a subset of the risks presented in Table 4.2-8 for the proposed project.

Incremental Cancer Risk from Operations

A screening analysis was conducted on the full chemical inventory to be used in the proposed research building accounting for the amount of the chemical and its toxicity. The screening analysis found that the primary focus of the cancer risk is due to carbon tetrachloride, chloroform, formaldehyde, hydrazine, and urethane. The estimated cancer risk for a 30-year lifetime exposure to the generator and fume hood operations would be 0.6 and 0.3 per million, respectively. This increased cancer risk from operations of the research building would be *less than significant.*

Non-Cancer Health Hazard Exposure at Existing Receptors

Both acute (short-term) and chronic (long-term) adverse health impacts unrelated to cancer are measured against a hazard index (HI), which is defined as the ratio of the predicted incremental DPM exposure concentration from the ZSFG project to a published reference exposure level (REL) that could cause adverse health effects. The REL are published by OEHHA based on

epidemiological research. The ratio (referred to as the Hazard Quotient [HQ]) of each non-carcinogenic substance that affects a certain organ system is added to produce an overall HI for that organ system. The overall HI is calculated for each organ system. The impact is considered to be significant if the overall HI for the highest-impacted organ system is greater than 1.0.

The chronic reference exposure level for DPM was established by the California OEHHA[8] as 5 $\mu g/m^3$. Thus, the project-related annual concentration of DPM cannot exceed 5.0 $\mu g/m^3$; resulting in a chronic acute HI of greater than 1.0 (i.e., DPM annual concentration/5.0 $\mu g/m^3$). There is no acute REL for DPM. However, diesel exhaust does contain acrolein, formaldehyde and other compounds, which do have an acute REL. Based on DPM speciation data, acrolein emissions are approximately 1.3% of the total DPM emissions.[9] The acute REL for acrolein was established by the California OEHHA[10] as 2.5 $\mu g/m^3$. In total, acrolein represents over 90% of the acute health impacts from diesel engines. Thus, the project-related 1-hour concentration of acrolein cannot exceed 2.5 $\mu g/m^3$, which would result in an acute HI of greater than 1.0.

The screening analysis was also conducted on the full chemical inventory to be used in the proposed research building fume hoods accounting for the amount of the chemical and its toxicity. The screening analysis found that the primary focus of acute health impacts is due to chloroform and sodium hydroxide. The screening analysis found that the primary focus of chronic health impacts is due to formalin, chloroform, formaldehyde, glutaraldehyde, hydrochloric acid, and phosphoric acid.

The unmitigated chronic HI from both construction and operations would be 0.09, while the chronic HI would be 0.01 with implementation of Mitigation Measure AQ-3, both of which would be below the project-level threshold of 1 and the impact would therefore be less than significant.

Because the acute (short-term) HI impact would occur separately for construction and operations, they are assessed separately. The unmitigated acute HI from construction would be 0.16. The mitigated acute HI would be 0.02. The acute HI from construction would be below the project-level threshold of 1 and the impact would therefore be *less than significant*.

The unmitigated acute HI from operation would be 0.03. The acute operational HI would be below the project-level threshold of 1 and the impact would therefore be *less than significant*.

$PM_{2.5}$ Concentration

Dispersion modeling also estimated the exposure of sensitive receptors to project-related concentrations of $PM_{2.5}$. The BAAQMD Air Quality Guidelines requires inclusion only of $PM_{2.5}$ exhaust emissions in this analysis (i.e., fugitive dust emissions are addressed under BAAQMD dust control measures which are required by law to be implemented during project construction). The unmitigated annual $PM_{2.5}$ concentration from construction activities would be 0.37 $\mu g/m^3$. With

8 California Office of Environmental Health Hazards Assessment - Acute, 8-hour, and Chronic Reference Exposure Levels, June 2014, http://www.oehha.ca.gov/air/allrels.html
9 TOG Speciation Profile for Off-Road Diesel Emissions CARB Speciation Profile 818 (Building Construction - Diesel)
10 California Office of Environmental Health Hazards Assessment - Acute, 8-hour, and Chronic Reference Exposure Levels, June 2014, http://www.oehha.ca.gov/air/allrels.html

implementation of Mitigation Measures AQ-3, the annual $PM_{2.5}$ concentration would be reduced to 0.04 µg/m^3. Thus, the annual $PM_{2.5}$ concentration due to project construction would be below the BAAQMD threshold of 0.3 µg/m^3 as well as the City of San Francisco's APEZ threshold of 0.2 µg/m^3 and would be *less than significant with mitigation* (see Tables 4.2-7 and 4.2-8).

Impact AQ-4: The proposed project and its variants would not create objectionable odors that would affect a substantial number of people (Less than Significant)

During construction, the various diesel-powered vehicles and equipment in use on-site would create localized odors. These odors would be temporary and are not likely to be noticeable for extended periods of time beyond the project site. The potential for diesel odor impacts is therefore considered less than significant. Odors from existing uses are not generally noticeable beyond the site boundary. The proposed research building would contain wet and dry labs and office space relocated from other locations on the ZSFG campus. Potential land uses associated with the proposed project and variants, including retail, are not expected to produce new offensive odors that would result in frequent odor complaints. Therefore, odor impacts would be *less than significant*.

Consistency with Clean Air Plan

Impact AQ-5: The proposed project could conflict with, or obstruct implementation of, the *2010 Clean Air Plan*. (Potentially Significant)

The most recently adopted air quality plan in the San Francisco Bay Area Air Basin is the BAAQMD's *2010 Clean Air Plan* (2010 CAP) (BAAQMD, 2010). The 2010 CAP is a roadmap showing how the San Francisco Bay Area will achieve compliance with the State one-hour ozone standard as expeditiously as practicable, and how the region will reduce transport of ozone and ozone precursors to neighboring air basins. The control strategy includes stationary source control measures to be implemented through BAAQMD regulations; mobile source control measures to be implemented through incentive programs and other activities; and transportation control measures to be implemented through transportation programs in cooperation with the Metropolitan Transportation Commission (MTC), local governments, transit agencies, and others. The 2010 CAP also represents the Bay Area's most recent triennial assessment of the region's strategy to attain the State one-hour ozone standard.

BAAQMD guidance states that lead agencies should consider three questions in assessing consistency with the 2010 CAP: (1) Would the project support the primary goals of the Clean Air Plan? (2) Does the project include applicable control measures from the Clean Air Plan? and (3) Does the project disrupt or hinder implementation of control measures identified in the Clean Air Plan?

Support the Primary Goals of the CAP

The first of these questions is whether a project would support the primary goals of the 2010 CAP, which include:

- Attainment of air quality standards;
- Reducing population exposure and protecting public health in the Bay Area; and
- Reducing greenhouse gases and protecting the climate.

With respect to supporting the goals of the CAP, BAAQMD Guidance states that if approval of a project would not result in significant and unavoidable air quality impacts, after the application of all feasible mitigation, the project may be considered consistent with the 2010 CAP. As discussed in Impacts AQ-1, AQ-2, AQ-3 and AQ-4, the project and its variants would not result in significant and unavoidable air quality impacts with mitigation. Mitigation Measure AQ-3 is identified to reduce DPM and $PM_{2.5}$ from construction such that these risks would be below significance thresholds, thereby reducing population exposure and protecting public health in the Bay Area.

The proposed project's impact with respect to GHGs is discussed in Section 4.4, *Greenhouse Gas Emissions*. As stated in that discussion, the proposed project would be compliant with the City's Greenhouse Gas Reduction Strategy. Thus, the project would not result in any significant impacts associated with an increase in GHGs or conflict with measures adopted for the purpose of reducing such emissions.

The other two questions to be considered are:

- Does the project include applicable control measures from the air quality plan?
- Does the project disrupt or hinder implementation of any air quality plan control measures?

Applicable Control Measures from the CAP

To meet the primary goals, the Clean Air Plan recommends specific control measures and actions. These control measures are grouped into various categories and include stationary- and area-source measures, mobile-source measures, transportation control measures, land use measures, and energy and climate measures. The Clean Air Plan recognizes that, to a great extent, community design dictates individual travel mode and that a key long-term control strategy to reduce emissions of criteria pollutants, air toxics, and greenhouse gases from motor vehicles is to channel future Bay Area growth into communities where goods and services are located nearby and people have a range of viable transportation options. To this end, the Clean Air Plan includes 55 control measures aimed at reducing air pollutants in the SFBAAB.

The measures most applicable to the proposed project are transportation control measures and energy and climate control measures.

The high availability of viable transportation options would ensure that employees and visitors could bicycle, walk, and ride transit to and from the project site instead of taking trips via private automobile. These features ensure that the project would avoid substantial growth in automobile

trips and vehicle miles traveled. The proposed project would generate an estimated 196 additional daily vehicle trips while variants that include a retail component would contribute an additional 98 daily vehicle trips during the operational phase which would result in an increase in air pollutant emissions.

Transportation control measures that are identified in the Clean Air Plan are implemented by the *San Francisco General Plan* and the Planning Code, for example, through the City's Transit First Policy, the bicycle parking requirements, and transit impact development fees.

As discussed in Section 4.7, *Transportation and Traffic*, UCSF and DPH already implement separate TDM programs. The additional TDM strategies included in Mitigation Measure TR-3 would apply to UCSF and DPH employees and ZSFG patients/visitors. These measures include expansion of the UCSF and DPH Shuttle Services, allowing patients/visitors to ride the DPH Shuttle and advertising the shuttle option, as well as a host of other measures related to organizing carpooling and encouraging cycling. Therefore, the proposed project would include applicable control measures identified in the Clean Air Plan and supports the Clean Air Plan's primary goals.

The proposed project includes sustainability measures that would serve to implement control measures of the 2010 CAP, including the land use/local impact measures and energy/climate measures of the 2010 CAP. The proposed development would be subject to a number of sustainability requirements, including the California CalGreen Code. The proposed research building would also comply with the UC *Policy on Sustainable Practices*, which requires new construction meet a minimum standard of LEED-NC Silver and strive for LEED-NC Gold when possible, requires 20% better energy performance than Title 24 (and strives to achieve 30%), and requires new laboratory buildings meet Labs21 Environmental Performance Criteria.[11] This would be achieved through incorporation of a variety of design features and implementation of practices during construction and operation to provide energy and water conservation and efficiency, encourage alternative transportation, promote a healthy indoor environment, minimize waste, and maximize recycling opportunities.

Disruption or Hindrance of CAP Control Measures

Examples of a project that could cause the disruption or delay of Clean Air Plan control measures are projects that would preclude the extension of a transit line or bike path or projects that propose excessive parking beyond City parking requirements. DPH has determined that additional parking spaces are needed in the parking garage to meet demand generated by the occupants of existing City-owned buildings at ZSFG. The proposed project would maintain the existing character of the project site, which is a dense, walkable urban area near a concentration of local transit service. It would not preclude the extension of a transit line or a bike path or any other transit improvement. Thus, the project would not disrupt or hinder implementation of control measures identified in the Clean Air Plan.

[11] Labs21 Environmental Performance Criteria is a rating system specifically designed for laboratory facilities that is based on the LEED Green Building Rating System.

Therefore, the proposed project would not conflict with, or obstruct implementation of the *2010 Clean Air Plan*, and this impact would be *less than significant with mitigation.*

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4.3 Cultural and Paleontological Resources

4.3.1 Introduction

Cultural resources include architectural resources, prehistoric and historical archeological resources, tribal cultural resources, and human remains. Paleontological resources are also evaluated in this section. The environmental setting describes the existing resources in the project vicinity and the potential for cultural and paleontological resources to be within the project area. The impact discussion reviews the criteria for significant impacts on cultural and paleontological resources and identifies mitigation measures that would reduce impacts to a less-than-significant level, as appropriate.

4.3.1.1 CEQA Area of Potential Effect

Federal regulations require the identification of historic properties within the "area of potential effects" (APE) of a project, defined as the geographic area within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties (36 CFR 800.16[d]). For compliance with CEQA, the San Francisco Planning Department uses the term CEQA-APE (C-APE); thus, this analysis uses the term C-APE as synonymous with APE for this project.

The direct C-APE comprises all areas of ground disturbing activity including staging, work, and access areas. The maximum horizontal area of disturbance would be approximately 79,000 square feet (1.8 acres) for the proposed UCSF research building and approximately 20,000 square feet (0.46 acres) for the expansion of the existing ZSFG parking garage. The maximum depth of excavation for new construction would be approximately 6 feet below the existing surface. No excavation or grading will occur in the staging areas; therefore the staging area C-APE will include the horizontal extent and a minimal depth (less than 6 inches) from potential disturbance relating to the placement and movement of personnel, materials (including gravel, as needed), and heavy equipment.

The indirect C-APE includes adjacent historic properties that could experience impacts associated with the project, if any such properties exist. Other considerations include construction-related vibration—such as that generated by jackhammers, drill rigs, and vibratory rollers—which can cause structural damage to historic buildings and structures (Wilson, Ihrig & Associates, 2009: 40). The construction equipment that would have the greatest peak particle velocity (PPV) is a vibratory roller, which has a typical PPV of 0.210 in/sec at 25 feet. The Federal Transit Administration (FTA) provides an equation for estimating vibration at different distances based on a reference PPV at a distance of 25 feet for various types of construction equipment (**Table 4.3-1**). Thus, the horizontal extent of the C-APE includes the potential for significant vibration due to construction equipment or methods.

TABLE 4.3-1
VIBRATION DAMAGE THRESHOLD TO HISTORIC BUILDINGS FROM CONSTRUCTION EQUIPMENT

Equipment Type	Typical Peak Particle Velocity (PPV) at 25 feet	Approx. Distance of Damage Threshold (0.12 PPV in/sec)
Vibratory roller	0.210 in/sec	25 feet
Drill rig	0.12 in/sec	25 feet
Bulldozer	0.089 in/sec	20 feet
Jackhammer	0.035 in/sec	15 feet

SOURCE: Wilson, Ihrig & Associates et al., 2012

4.3.2 Environmental Setting

4.3.2.1 Environmental Setting

The proposed project is in the Bay Area–Delta Bioregion. This bioregion consists of a variety of natural communities that range from the open waters of San Francisco Bay and the Sacramento–San Joaquin River Delta to salt and brackish marshes to chaparral and oak woodlands. The temperate climate is Mediterranean in nature, with relatively mild, wet winters and warm, dry summers. At one time, the vicinity was a sand dune environment, but today very little native vegetation remains. The San Francisco Bay Area and the surrounding region historically contained an abundance of natural resources, which would have been taken advantage of by early Native and non-Native populations. The region hosts a wide variety of natural communities, including salt marsh, scrub brush, grassland, and foothill woodlands. Deer, elk, and waterfowl were plentiful, as were marine and bay resources such as seals, otters, abalone, mussels, oysters, clams and numerous fish species. Franciscan chert was an easily obtainable local raw material for stone tools. Obsidian could be obtained from the Anadel and Napa Glass Mountain quarries to the north (Moratto, 1984).

The region has undergone dramatic landscape changes since humans began to inhabit the region more than 10,000 years ago. Rising sea levels and increased sedimentation into streams and rivers are among some of the changes (Helley et al., 1979). In many places, the interface between older land surfaces and alluvial fans are marked by a well-developed buried soil profile, or a paleosol. Paleosols preserve the composition and character of the earth's surface prior to subsequent sediment deposition; thus, paleosols have the potential to preserve archeological resources if the area was occupied or settled by humans (Meyer and Rosenthal, 2007). Because human populations have grown since the arrival of the area's first inhabitants, younger paleosols (late Holocene) are more likely to yield archeological resources than older paleosols (early Holocene or Pleistocene).

Geologic maps and the project preliminary geotechnical report indicate that the research building C-APE is underlain by relatively shallow fill over medium to dense dune sand (Kleinfelder, 2014). The geoarcheological study of the block just to the south (Parsons, 1995), which used field sampling and an analysis of landscape formation, concluded that the "dune sand" deposits

thought to underlie the shallow fill within the research building C-APE represent an intact Colma Formation surface sensitive for prehistoric deposits. This potential is enhanced by the identification of an ancient stream channel perhaps in the eastern portion of the C-APE.

4.3.2.2 Cultural Setting

Prehistoric and ethnohistoric contexts are presented below. Archeological resources include both prehistoric and historical archeological resources. This discussion of prehistoric archeology addresses cultural patterns in the project vicinity through the time of European contact. Historical archeological resources, starting with the Mission period, are discussed below under the heading Historical Context.

Prehistoric Context

Categorizing the prehistoric period into cultural stages allows researchers to describe a broad range of archeological resources with similar cultural patterns and components during a given timeframe, thereby creating a regional chronology. Milliken et al. (2007) provide a framework for the interpretation of the San Francisco Bay Area and have divided human history in the San Francisco Bay Area into four periods: the *Paleoindian Period* (11,500 to 8000 B.C.), the *Early Period* (8000 to 500 B.C.), the *Middle Period* (500 B.C. to A.D. 1050), and the *Late Period* (A.D. 1050 to 1550). Economic patterns, stylistic aspects, and regional phases further subdivide cultural patterns into shorter phases. This scheme uses economic and technological types, socio-politics, trade networks, population density, and variations of artifact types to differentiate between cultural periods.

The *Paleoindian Period* (11,500 to 8000 B.C.) was characterized by big-game hunters occupying broad geographic areas. Evidence of human habitation during *Paleoindian Period* has not yet been discovered in the San Francisco Bay Area. During the *Early Period* (*Lower Archaic*; 8000 to 3500 B.C.), geographic mobility continued from the *Paleoindian Period* and is characterized by the millingslab and handstone as well as large wide-stemmed and leaf-shaped projectile points. The first cut shell beads and the mortar and pestle are documented in burials during the *Early Period* (*Middle Archaic*; 3500 to 500 B.C.), indicating the beginning of a shift to sedentism. During the *Middle Period*, which includes the *Lower Middle Period* (*Initial Upper Archaic*; 500 B.C. to A.D. 430), and *Upper Middle Period* (*Late Upper Archaic*; A.D. 430 to 1050), geographic mobility may have continued, although groups began to establish longer-term base camps in localities from which a more diverse range of resources could be exploited. The first rich black middens are recorded from this period. The addition of milling tools, obsidian and chert concave-base projectile points, and the occurrence of sites in a wider range of environments suggest that the economic base was more diverse. By the *Upper Middle Period*, mobility was being replaced by the development of numerous small villages. Around A.D. 430 a "dramatic cultural disruption" occurred evidenced by the sudden collapse of the *Olivella* saucer bead trade network. During the *Initial Late Period* (*Lower Emergent*; A.D. 1050 to 1550), social complexity developed toward lifeways of large, central villages with resident political leaders and specialized activity sites. Artifacts associated with the period include the bow and arrow, small corner-notched projectile points, and a diversity of beads and ornaments.

Prehistoric Archeological Investigations in San Francisco

Systematic investigation of prehistoric sites on the northern San Francisco peninsula began with Nelson's shellmound survey conducted between 1906 and 1909 (Nelson, 1909). Nelson pursued his interest in San Francisco prehistory with excavations at CA-SFR-7 (the Crocker Mound) on the Bay's southeastern shoreline approximately almost 4 miles south of the C-APE, among other investigations (Moratto, 1984:233). Nelson found that CA-SFR-7 contained a variety of flaked stone, worked bone, faunal remains, and 23 human burials. The constituents of this mound indicated long-term residential occupation. Two years later, L. L. Loud excavated another shellmound (CA-SFR-6), approximately 3 feet (1 meter) thick, near the Palace of Fine Arts (Stewart and Praetzellis, 2003). While interest in the prehistory of the northern San Francisco peninsula began in the early 1900s, the area generally received little attention until more recent times. This was partially a result of the destruction and/or burial of sites due to historic settlement and development.

Within the past 30 years, the body of work focusing on the prehistoric archeology of the northern San Francisco peninsula has expanded, as archeological sites have been uncovered during construction or development activities within the city. Approximately 50 prehistoric archeological sites have been documented within the northern San Francisco peninsula and Yerba Buena Island; the majority of these were within one-half mile or less from the historic margins of the San Francisco Bay. Most of the prehistoric sites are shell midden sites, which have their greatest concentrations in the South of Market neighborhood (north of the C-APE) and the Hunters Point-Bayview-Candlestick Point-Visitacion Valley area (south of the C-APE). Although midden sites in the latter area have been known since the 1870s and include some of the largest shellmound sites in San Francisco, they have not been thoroughly investigated and their dating is not well understood. The South of Market sites have, on the other hand, largely only come to light since the 1980s and have been subject to various analytical and absolute dating techniques. These shell midden sites are also remarkable within Bay Area shellmound studies because many of them possess good physical integrity as a result of having been buried beneath natural sand dune deposits for hundreds of years following their abandonment.

The Anthropological Studies Center (ASC) at Sonoma State University defined a National Register-eligible district that incorporates several prehistoric sites within sand dunes formed along the north side of Mission Bay, within the South of Market neighborhood (ASC, 2010). These sites are considered to represent elements of a large multi-village community. The California State Historic Preservation Officer has recently determined that at least seven previously recorded prehistoric habitation sites are part of this district. The district is recommended as eligible under National Register Criterion A and California Register Criterion 1, association with events that made a significant contribution to the broad patterns of our history, as well as Criteria D/4, for its ability to yield important new insights into regional prehistory in the vicinity of Mission Bay.

Ethnohistoric Context

Based on a compilation of ethnographic, historic, and archeological data, Milliken (1995) describes a group known as the Ohlone, who once occupied the general vicinity of the proposed projects. While traditional anthropological literature portrayed the Ohlone peoples as having a static culture, today it is better understood that many variations of culture and ideology existed

within and between villages. While these "static" descriptions of separations between native cultures of California make it an easier task for ethnographers to describe past behaviors, this masks Native American adaptability and self-identity. California's Native Americans never saw themselves as members of larger "cultural groups," as described by anthropologists. Instead, they saw themselves as members of specific villages, perhaps related to others by marriage or kinship ties, but viewing the village as the primary identifier of their origins.

Levy (1978) describes the language group spoken by the Ohlone, known as "Costanoan." This term is originally derived from a Spanish word designating the coastal peoples of Central California. Today Costanoan is used as a linguistic term that references to a larger language family spoken by distinct sociopolitical groups that spoke at least eight languages (as different as Spanish is from French) of the same Penutian language group. The Ohlone once occupied a large territory from San Francisco Bay in the north to the Big Sur and Salinas Rivers in the south. The San Francisco peninsula is located within former *Ramaytush* territory, where little ethnographic data have been collected due to severe population reductions during the historic period (Levy, 1978).

Economically, Ohlone engaged in hunting and gathering. Their territory encompassed both coastal and open valley environments that contained a wide variety of resources, including grass seeds, acorns, bulbs and tubers, bear, deer, elk, antelope, a variety of bird species, and rabbit and other small mammals. The Ohlone acknowledged private ownership of goods and songs, and village ownership of rights to land and/or natural resources; they appear to have aggressively protected their village territories, requiring monetary payment for access rights in the form of clamshell beads, and even shooting trespassers if caught. After European contact, Ohlone society was severely disrupted by missionization, disease, and displacement. Today, the Ohlone still have a strong presence in the San Francisco Bay Area, and are highly interested in their historic and prehistoric past.

Historical Context

Spanish, Mexican, and Early American Periods

Initial European exploration of the San Francisco peninsula began in 1769 and lasted until 1810. During this period, a number of Spanish expeditions penetrated the territory occupied by the Ohlone peoples. Between 1769 and 1776, forays led by Portola, Ortega, Fages, Fages and Crespi, Anza (two expeditions), Rivera, and Moraga were carried out. Favorable reports led to the founding of seven missions in the region between 1770 and 1797.

In the spring of 1776, the site of San Francisco was chosen by Juan Batista Anza for the establishment of a mission and military post. Later that same year, the Mission San Francisco de Asís (also known as Mission Dolores) and Presidio de San Francisco were officially dedicated and Jose Joaquin Moraga (Anza's lieutenant) took formal possession in the name of King Carlos III.

The Spanish annexation and colonization of Alta California, as manifested in the religious-military mission system, produced profound changes in the cultures of the indigenous population. The missions resettled and concentrated the aboriginal hunter-gatherer population into

agricultural communities. The concentration of population, coupled with the indigenous people's lack of immunity to European diseases, caused the tribes to be decimated by common diseases which were generally not fatal to Europeans. It has been estimated that the Ohlone population declined from 10,000 or more in 1770 to less than 2,000 in 1832.

Mexico established jurisdiction over Alta California in April of 1822. During the Mexican Period (1822–1848), control over this remote area by the central and local Mexican authorities was never strong. California became part of the United States as a consequence of the U.S. victory over Mexico in the Mexican War. The territory was formally ceded in the treaty of Guadalupe Hidalgo in 1848, and was admitted as a state in 1850.

Prior to the discovery of gold at Sutter's Mill on January 24, 1848, development in San Francisco consisted of the Spanish/Mexican facilities (i.e., the Presidio and Mission) and a small settlement known as Yerba Buena situated on the shores of the cove by the same name. The inhabitants of Yerba Buena were predominantly non-Spanish, English-speaking immigrants (e.g., U.S. or British citizens). Sometime before the Gold Rush, the inhabitants of Yerba Buena officially changed the name of their settlement to San Francisco. Following the discovery of gold, San Francisco transformed quickly from an isolated hamlet into a bustling center of commerce. After the discovery of gold, the population of San Francisco grew from 375 people in 1847 to 2,000 by February 1849, and by the end of 1849, there may have been as many as 20,000 people living in the City (CCSF, 2011).

San Francisco City and County Hospital

The following sections outlining the history of the San Francisco General Hospital (ZSFG) and the Neighborhood Context are adapted from Page & Turnbull (2003).

In the initial five years of the Gold Rush in San Francisco, no institutional medical care was available. This was the case even given the high rates of diarrhea, dysentery, scurvy, typhus, and occasional outbreaks of cholera among a crowded, poorly-sheltered population often arriving from oppressive mining stints, long sea voyages, or isthmus crossings. Medical care was restricted to short-term physician treatments. In 1853, the federal government opened the U.S. Marine Hospital (1853–1868) on Rincon Point. The 500-patient capacity, four-story, masonry building was a prominent visual landmark for many years. The mission of the Marine Hospital was restricted to the care of merchant marines who suffered primarily from venereal, parasitic, kidney and skin diseases, as well as scurvy, and gunshot wounds. The State Marine Hospital opened in 1853-1854 to care for the general indigent or seriously ill population in a masonry building on Stockton Street between Pacific Street and Broadway, but was closed in 1855. In 1855, the San Francisco was stricken by an Asiatic cholera epidemic, and responded by purchasing the State Marine Hospital and contracting a religious order, the Sisters of Mercy, to manage the hospital as a City and County hospital. After the City failed to reimburse the order, the Sisters of Mercy purchased the building in 1857 and re-opened it as the first Roman Catholic hospital (St. Mary's Hospital) in the city.

The City constructed a new, three-story, masonry, 150-bed City and County Hospital in 1857 overlooking the North Beach shoreline on Francisco Street between Powell and Stockton streets. Dr. Hugh Toland, the head surgeon of the City and County Hospital, established a medical school, the Toland Medical College, on an adjoining site in 1864, which in 1873 became of the Medical Department of the University of California. By 1867, the capacity of the Francisco Street hospital chronically exceeded the medical care demand, and certain patients were transferred to the newly constructed County Almshouse at Laguna Honda. The following year, a 24-bed smallpox isolation hospital was constructed on the Almshouse campus. In 1867, the State Surgeon General, Dr. Beverly Cole, persuaded the local health board to close the County Hospital and condemn the building as deleterious to the health and recovery of hospital patients.

In 1872, a new hospital complex was opened in an isolated location next to the Magdalene Asylum, now occupied by ZSFG. The new hospital was a two-story, wood- frame complex of semi-free-standing ward buildings linked by a common corridor to a centrally placed administration building conforming to what was known as the "pavilion" plan. The pavilion plan hospital originated in France and was widespread throughout Europe. More recently, the pavilion plan had been passionately advocated by many in the American medical establishment and had been officially adopted by the U.S. Marine Hospital Service. The U.S. Marine Hospital constructed in the San Francisco Presidio in 1874–1876 was considered a model. The pavilion hospital plan was a product of the "miasmic" theory of infection that postulated that diseases were transmitted by polluted air, or, more specifically, by "gases and minute solid particles" emitted by the bodies of sick and wounded patients. It was radically argued by some that the prime necessity for effective medical treatment was the availability of "pure air," to which even "diet, beds, and even shelter and repose" were of secondary importance.

Originally considered charity institutions for the indigent, hospitals had long been based on a congregate ward model which, according to the miasmic theory of disease, meant that hospitalization itself could pose a serious health risk. The San Francisco County Hospital of 1872-1907 was constructed in a sparsely developed area, upland from the flat valley later known as the Mission District on the west slope of Potrero Hill. In plan, the hospital complex was arranged along a wide, central two-story corridor with six "finger" ward buildings projecting to either side. Centrally placed was an administration building and kitchen-dining facility. The administration building was the main point of entry to the hospital, and consisted of administrative offices, the apothecary, and storerooms for pharmacological supplies. On the east side of the central corridor, opposite the administrative wing, was a two-story building containing the patients and nurses dining-rooms.

The wood-frame San Francisco City and County Hospital survived the 1906 Earthquake and Fire, but an outbreak of pneumonic plague the following year resulted in its closure and condemnation. In 1907, the County Hospital was demolished and the debris burned.

Between 1909–1915, a new County Hospital was constructed within approximately the same site as the 1872 hospital. The new hospital, placing greater importance on fire risk management, was of steel frame and masonry construction, suggesting that hospital planner did not place as much

of an emphasis on the miasmic problem. The new hospital still adhered to the pavilion plan; in fact it was similar in layout to the 1872–1907 hospital. The new hospital had a long central corridor following, as before, a north-south axis with four and five-story finger ward buildings projecting from the corridor westward. The three-story central building opposite the corridor to the east was a large three-story with basement building in "U"-plan, identified simply as "Service" Building on the 1913–1915 Sanborn Map. This building probably contained the hospital kitchen, kitchen storage rooms, and perhaps hospital patient and staff dining rooms. New features in the 1915 hospital include a large Power House plant on the former laundry site, a new expanded laundry plant, a three-story "Nurse's Home," where previously had been a hospital chapel, and a new "Receiving Building," which actually consisted of several interlinked two-story buildings fronting 22nd Street.

All of the building components of the 1909 hospital were separated by large open areas. The hospital campus also was enlarged to include a block upslope between Vermont and San Bruno streets, where a new City and County Tuberculosis Hospital was constructed in a modified-pavilion plan. This modified plan consisted of a one-story corridor connecting four one-story and one two-story parallel men's ward buildings to a two-story dining-room, kitchen, and reading room facility and, at the extreme northern end, a two-story women's ward building.

The ZSFG campus expanded and modernized throughout the 20th century. In 1931, the City purchased the former Magdalene Asylum block, which had become St. Catherine's Training School for Girls, for the construction of a new cancer institute and psychiatry hospital. During the late 1960s and early-to-mid 1970s, the 1909–1915 administration building and kitchen/dining room facility, power house, and laundry were demolished and a new main hospital building was completed in 1976. The advent of federal Medicare/Medicaid programs eventually enabled the hospital to expand outpatient services, develop important specialties, and to acquire new laboratories and diagnostic procedures. These advances further established the national stature of the hospital while continuing to evolve the campus and facilities throughout the 1970s and 1980s. In 1991, a behavioral health rehabilitation facility was constructed on land north of Building 90, and in 2004 an ambulatory care building (Building 4) was built east of Building 1. The parking garage and adjacent surface parking lot fronting 23rd Street, between San Bruno Avenue and Vermont Street, was completed in 1996. As part of the SFGH Rebuild Program, construction began in 2009 on a new 9-story acute care facility fronting on Potrero Avenue on the former west lawn between Buildings 10/20 and 20/30. The new acute care facility, which was renamed the Priscilla Chan and Mark Zuckerberg San Francisco General Hospital and Trauma Center, was completed in November 2015 with patient move-in planned for spring 2016.

- **Public Art**

- Intended to coincide with the opening of the Main Hospital Building in the mid-1970s, a large, steel sculpture designed by San Francisco artist Gerald Walburg entitled *Stiff Loops* was installed on the hospital campus. Completed in 1974, *Stiff Loops* is approximately 30 feet long, 8 feet high, and constructed of Corten steel on a concrete base. In 2009, *Stiff Loops* was moved to the southeast corner of the ZSFG campus to make way for the construction of the new acute care facility.[1]

- [1] Art and Architecture-San Francisco, www.artandarchitecture-sf.com/tag/gerald-walburg, accessed March 2, 2015.

Neighborhood Context

By 1913, area surrounding the ZSFG campus had been built out predominantly with multi- family residential units. The areas adjacent to the ZSFG campus today are comprised of a mixture of styles and uses, with residential units predominating, including single family, flats, and apartment units. Other buildings include mixed-use commercial and residential, with stores and restaurants on the first floors, and residential units above. Most are multi-story, consisting of two- and three-story buildings, and many have garages. Several buildings have been significantly altered, with

the addition of modern façades, fenestration, stucco wall cladding, and other adaptations. Although the majority of the buildings surrounding the ZSFG campus date to the first quarter of the 20th Century, many were also built within the last 50 years, reflecting a variety of building styles and periods found in many parts of San Francisco.

Research Methods and Results

This current analysis relies on three previous cultural resources studies as well as additional site specific data compiled by ESA. LSA Associates (2008) completed a baseline study for architectural resources at ZSFG. The study consisted of background research, including an archival records search and literature review, contacts with potentially interested parties, historical archival research, internet research, and field reviews. San Francisco Planning Department, EP archeologists prepared a preliminary archeological review (PAR) for the SFGH Replacement Project that included a review of archeological literature and databases as well as an analysis of archeological site sensitivity. Additionally, for the adjacent SFGH Replacement Project, URS (2009) completed additional archeological research including geoarcheological coring and analysis and an extended subsurface survey and analysis. Finally, Architectural Resources Group (ARG) completed a historical background and design criteria report in 2016 for the proposed research building. The report was informed by input received by the San Francisco Planning Department and the Architectural Review Committee of the San Francisco Historic Preservation Commission.

Architectural Resources

The ZSFG campus comprises a historic district, referred to as the SFGH Historic District (SFGH District). In 2008, LSA Associates evaluated the SFGH District's eligibility for listing in the National Register and the California Register, assessed the potential for project related impacts to the SFGH District under CEQA, and identified mitigation measures that would reduce the severity of potential impacts to the SFGH District. The following information about the SFGH District is adapted from the 2008 LSA historic resources evaluation report.

The original ZSFG campus, completed in 1915, was designed by Newton J. Tharp, City Architect of San Francisco. The four extant original Second Renaissance Revival brick buildings within the facility include the "finger wards" (Buildings 10/20 and 30/40), the receiving building (Building 1), and the Nurse's Home (Building 9). A communicable disease hospital (Building 100) was later designed in the same Second Renaissance Revival style by Fred K. Meyer and John Reid Jr., Associates, and was completed in 1917. Building 80/90, a maternity and psychiatric hospital designed in the Art Deco style in 1938 by Martin J. Rist, was also constructed of brick with terra cotta detailing. The Main Hospital (completed in 1976), parking lots, temporary structures, and landscaping are located in areas formerly occupied by buildings dating from 1915-1917. Six of the 14 buildings on the ZSFG campus appear to be eligible for listing in the National Register and California Register as a district (see discussion of District contributors, below). The District's period of significance extends from 1915 to 1938.

The SFGH District is recommended eligible under Criterion A/1 for its association with the development of San Francisco's public health system, as well as for its contributions to national public health trends, medical research, and education in the 20th century. The SFGH District is also

recommended eligible under Criterion C/3 as a distinctively planned architectural complex dedicated to the administration and delivery of health care in the early 20th century, and as the work of a master architect. Because the SFGH District is recommended eligible for listing in the National Register, it is also automatically eligible for listing in the California Register. A Preservation Technical Specialist with the San Francisco Planning Department reviewed and concurred with this eligibility conclusion. Therefore, the SFGH District qualifies under Category A.2 of San Francisco Planning Department Preservation Bulletin No. 16 (. . . properties that have been determined to appear or may become eligible, for the California Register), and is considered a historical resource for the purposes of CEQA.

District Contributors

- Building 1/1A/1B/1C – Receiving Building (1915)
- Building 9 – Nurse's Home (1915)
- Building 10/20 – Hospital Wards (1915)
- Building 30/40 – Hospital Wards (1915)
- Building 80/90 – Ambulatory Care (1938)
- Building 100 – Isolation Hospital (1917)
- Brick and steel perimeter fencing
- Brick gatehouses on Potrero Avenue and 23rd Street
- Gate pillars on 23rd Street [the west pillar is no longer present]
- Brick bus shelter along Potrero Avenue
- Three-tiered fountain in Lot B/C [relocated from the demolished Tubercular Ward]
- Formal pedestrian entry at Potrero Avenue with staircase, period light standards and flagpole [demolished to accommodate acute care hospital]

Character-Defining Features, SFGH Historic District

The SFGH Historic District includes the following character-defining features:

- **Overall Form and Continuity.** Building heights on the original campus were up to five stories, with the fifth stories of the finger wards (Buildings 10/20 and 30/40) added in 1931. Other original buildings are two-to-three stories in height (Buildings 1, 9, and 100), while the 1930s Building 80/90 is seven stories high.

- **Age.** All five of the extant Second Renaissance Revival buildings on the original core campus were constructed in 1915-1917, while the Art Deco Building 80/90 was completed in 1938.

- **Scale and Proportion.** The contributing buildings of the SFGH District have different masses and shapes, varying from long narrow finger wards, to blocks with wings, to U-shaped and multi-winged U-shaped. All of the original buildings reflect elements of Second Renaissance Revival style architecture in arches, horizontal configurations, scale, mass, proportion, and flat or gabled rooflines. The Art Deco Building 80/90 is much higher and more massive, and reflects the scale and vertical banding and rhythm of its period. None of the contributing buildings have the mass of the Main Hospital.

- **Fenestration.** Windows in Buildings 1, 9, and 100 are recessed. Some of the windows are rectangular, one-over-one light, double hung, frame sash. Other windows are paired or grouped and arched with terra cotta emblems, and some have single rectangular openings embellished with brick corbelling and terra cotta spandrels. Fenestration on the finger wards consists of horizontal bands of flat-arched, one-over-one light, double hung, wood frame windows, with groups of triple-arched and flat-arched windows on the sanitary towers. The façades emphasize a horizontal configuration defined by fenestration, and relate to each other in shape and proportion. Building 80/90 has slightly recessed vertical window openings, as well as bay windows distinguished by copper cladding forming window mullions and spandrels with pre-cast upper window hoods. Original windows include eight-light, casement sash units topped with paired, four-light transom units. Some windows on the contributing buildings have been replaced, covered with glass or clay bricks or otherwise modified, but most are original.

- ***Materials.*** All the 1915-1938 buildings are constructed of reinforced concrete, faced with polychrome Flemish bond brick, featuring decorative brick and terra cotta detailing and arched or rectangular window openings. Gable and shed roofs are covered with clay Mission tiles, while flat roofs are coated with tar and gravel. Window frames are wood. Building 80/90 has pre-cast stone sills, stone hoods, water tables, coping stones, and copper spandrels and mullions; the primary entry features double bronze doors.

- **Color.** Red and "clinker" brick colors predominate, with terra cotta emblems, cornices, columns, colonnettes, corbels, spandrels, stringcourses, and water tables. Clay roof tiles are red or green, and copper cladding is green.

- **Texture.** Overall texture of the contributing buildings in the SFGH District is rough brick accented with smooth terra cotta.

- **Detail.** The original mid-1910s Second Renaissance Revival style campus contains extensive period architectural detail. Generally, the façades emphasize a horizontal configuration defined by the fenestration, a coping band or water table at the foundation, a stringcourse band, and the cornice. Brick detailing includes corbelled cornices, arched window openings, decorative friezes, tympanums, parapets, decorative bonds, and diamond shaped and other patterning. Terra cotta details include coping, spandrels, cornices, emblems, insets, colonnettes, panels, medallions, and other features. Art Deco features on Building 80/90 include pre-cast stone coping, window heads, entries, hoods, sills, stringcourses, and water tables, as well as copper clad bay windows and bronze doors.

- **Landscape Features.** The SFGH District is bounded by brick and steel perimeter fencing, constructed of brick posts with terra cotta capitals and medallions, interspersed with vertical metal railings. The primary entries are characterized by double-arched decorative metal gates. Brick gatehouses, located at each primary entry to the south campus (one each on Potrero Avenue and 23rd Street, as well as one at the entry to the north campus on 22nd Street), feature gable and parapet Mission tile roofs, Craftsman brackets, doors, and windows with metal grilles. The brick bus shelter, with Mission tile gable roof, arched bays, and Palladian windows, is also an important feature. The wide concrete stairway from Potrero Avenue, flanked by brick windowpane casings with terra cotta details and formal gardens, is an important element of the 1915 design and appears to retain its integrity of design. Lighted by period metal electroliers, the stairway and gardens provide a human scale entry and a sense of arrival. Although not all dating to the 1915 period, concrete pathways, lawns, and ornamental plantings provide open spaces and contrasting greenery in the midst of the red and terra cotta colors.

Contributing District Features Within or Near the B/C Lot

The proposed site for the UCSF research building is the B/C Lot, the surface parking lot separated from Building 9 (Nurse's Home) to the east by the secondary entrance drive, which extends north from 23rd Street. The B/C Lot is immediately south of the former Main Hospital in the southeastern corner of the SFGH Historic District.

Prior to construction of the Main Hospital, this location was occupied by Building 50/70 (the Tubercular Ward), which exhibited a finger ward design similar to Buildings 10/20 and 30/40. Although the B/C Lot itself is a non-contributor to the District, contributing features that are within or immediately adjacent to the B/C Lot include the following:

- **Fountain.** The three-tiered water fountain within the B/C Lot that has been converted to use as a planter was formerly located in the center of the Building 50/70 courtyard. The fountain was temporarily relocated during demolition of Building 50/70 and was reinstalled atop a new base in its original location following construction of the present parking lot.
- **Guardhouse.** A brick guardhouse sits at the southwest corner of the B/C Lot. This building features a clay tile-clad gable roof with paired craftsman brackets and exposed rafter tails. The entrance features a bracketed hood clad in clay tiles, and a paneled door flanked by sidelights.
- **Gate Pillar.** Adjacent to the Guardhouse stands a square brick pillar with concrete base and terra cotta capitol, surmounted by a metal carriage light. This is the east pillar of the two gate pillars that formerly bracketed the south entrance to the campus, which is adjacent to the B/C Lot's southwestern corner. The west pillar is no longer extant.
- **Fence.** A portion of the brick and steel perimeter fence that surrounds much of the SFGH Historic District extends along the southern edge of the B/C Lot. This fence consists of a low brick wall surmounted by a metal rail set between square brick posts with terra cotta capitals and medallions.

Non-Contributing District Features Within or Near the B/C Lot

In addition to the B/C Lot itself, the former Main Hospital, completed in 1976 in a modern Brutalist architectural style, is a non-contributor to the SFGH District. The steel sculpture, *Stiff Loops*, has not been identified as a contributing feature of the District, but is nonetheless an important piece of public art. This sculpture was relocated to its current position at the southeastern corner of the campus in 2009.

The ZSFG parking garage and adjacent surface parking lot fronting Twenty-Third Street between San Bruno Avenue and Utah Street was completed in 1996. These structures are to the south of, and outside, the SFGH Historic District, separated by the width of Twenty-Third Street. Given the relatively recent date of construction of these structures, they would not meet the minimum age threshold (45 years) for consideration for listing in the California Register of Historical Resources, and are not considered historical resources as defined by CEQA.

Buildings fronting the existing parking garage and surface lot, located on San Bruno Avenue, Utah, and Twenty-Fourth streets, are predominantly single- and multi-family residential buildings, some with ground floor commercial uses. Although the majority of the buildings

surrounding the ZSFG campus date to the first quarter of the 20th century, many have been constructed more recently, reflecting a variety of building styles and periods found in many parts of San Francisco. A review of the Office of Historic Preservation's (OHP's) Historic Property Directory for San Francisco, as well

as the preservation section of the San Francisco Property Information Map, identifies no recorded architectural resources on the streets fronting the ZSFG parking garage. These areas have not been the subject of a neighborhood survey or evaluation, however, and many of these buildings are more than 45 years old. As many of the buildings surrounding the ZSFG parking structure would meet the minimum age threshold, they could be eligible for listing in the CRHR upon future review and if other evaluation criteria applied, such as associations with important historical events, important persons, or represent the embodiment of a particular architectural style.

Historical Archeological Resources

There is no evidence that any buildings, structures, or development related to the Spanish and Mexican periods existed within the C-APE, although several early ranching buildings and structures may have within several blocks of the C-APE (Dean 2008:2-3). Based on the land use history outlined below the types of historical archeological resources that could be encountered relate primarily to the original hospital, late 19th and early 20th century residences, and 20th century railcar related buildings and maintenance yards. Archeological resources could include features such as the remains of stone, concrete, or adobe footings and walls; artifact filled wells or privies; and deposits of metal, glass, and/or ceramic refuse.

B/C Lot / Proposed UCSF Research Building

The first development in the research building C-APE includes outbuildings associated with the original 1872 hospital as well as several residential buildings. The 1889 Sanborn maps show outbuildings at the corner of Nevada (Twenty-Third Street) and Nebraska (no longer extant) labeled “hose cart shed” and “yard.” These structures may have been related to the vegetable garden and other quasi-agricultural activities that the hospital maintained and depended on. The hospital promoted and required the strong participation of patients in these activities and related ones such as landscape maintenance and horticulture as part of a patient’s “recovery” program (Dean, 2016).

In 1886 the block bounded by Nevada (Twenty-Third Street), Nebraska, Vermont, and Humboldt was divided into several lots; six lots had small residences. Residences at 1118, 1120, and 1122 Vermont Street were one-story; two had rear outbuildings. Three additional residences are shown at 1113, 1115, 1123 Nebraska Street. Two buildings were one-story with basements and attached outbuildings. One building is labeled “Vacant Launderette.”

By 1899 Nevada Street had been renamed San Bruno Avenue. The 1899 Sanborn map shows more residences constructed on the block at 1137-39, 1141-43, and 1147 San Bruno. The same small one-story outbuildings associated with the hospital are shown at the corner of Vermont and Twenty-Third Street.

The 1913 Sanborn map shows the C-APE as vacant; the residences and hospital had been demolished. The 1872 hospital was burned down in 1908 following years of public critique as to its adequacy and an outbreak of pneumonic plague in the hospital in 1907. As a plague eradication measure, the hospital site was heavily excavated to remove structural and infrastructural remains. Records indicate that major ground disturbance occurred and that

demolition of the hospital was very thorough, with all fixtures and furnishings removed, the buildings torn down and burned, and any remaining pipes and salvageable materials sold to scrappers (JRP, 2009).

Between 1909 and 1915 a new solid masonry (brick over concrete foundation) pavilion-plan hospital facility was constructed largely within the footprint of the prior hospital. The new hospital structure did not extend into the research building C-APE but, as with the 1872 hospital, it is possible that accessory structures, also perhaps agriculturally-related, may have extended into the C-APE. At some point in the first-half of the 20th century, the South East Wing was constructed, portions of which extended within the proposed research building C-APE. The residential buildings on the eastern half of the research building C-APE in the later 19th century had all been demolished by 1915. In the 1970s, substantial portions of the 1915 hospital were demolished to allow construction of the Main Hospital Building (Building 5), which also required extension of the hospital site east to Vermont Street.

Existing Parking Garage / Garage Expansion

The first development of the southern half of the block bounded by Twenty-Third Street (former Nevada), San Bruno (former Nebraska), Twenty-Fourth Street (former Sonoma), and Utah Street is shown on the 1899 Sanborn map. The block is labeled "Market St R.R. Co's. Old Car Barns. Used for storage of old cars." A small rectangular two-story building labeled as a dwelling is attached.

The 1913 and 1950 Sanborn maps show the United Railyards of San Francisco Car Barn and Repair Shop. Several small rooms include an "Office," a "Club Rooms" (with a basement), a "W.C.," and a room labeled "Oils." The one- and two-story building was an un-reinforced brick-walled construction with a wooden truss roof including several wire glass skylights. Most recently used as the headquarters for the San Francisco Municipal Railway (MUNI) Ways and Structures Division, the car barn was demolished in 1995 to construct the existing parking garage.

The archeological monitoring program conducted for the existing parking garage (Parsons, 1995), discovered several historical archeological features, including a well and trash pit possibly associated with a 19th century domestic use of the site and several features (three types of rail lines, 13 streetcar tracks, a series of concrete chambered mechanics' work trenches associated with a Market Street Railway railyard and maintenance facility (1900 – 1940). None of the historical archeological features were determined to be legally significant (Dean, 2016).

Historic-period materials, if identified, might include stone, concrete, or adobe footings and walls, as well as artifact-filled wells or privies; and deposits of metal, glass, and/or ceramic refuse.

Prehistoric Archeological Resources

In 2009, archeologists from URS completed a geoarcheological sensitivity analysis and site investigation for the SFGH Rebuild Project. Five soil boring were completed in the vicinity of the Rebuild Project (just northwest of the proposed UCSF research building C-APE and approximately 700 feet north of the C-APE for the expansion of the existing ZSFG parking garage). Core samples

were extracted in 4-foot segments in 2-inch-diameter clear tubes in order to assess the nature and extent of subsurface sediments, and to capture evidence of any substantial archeological deposits. Stratigraphic soil units were identified based on physical characteristics such as composition, color, superposition, textural transitions, and pedogenic properties (i.e., relative soil development).

In summary, no prehistoric archeological materials were identified as a result of the geoarcheological investigation in 2009. One buried surface was identified within consolidated and heavily oxidized dune deposits and dated to approximately 22,000 years before present (B.P.), indicating that it was buried long before human occupation of the Americas. This surface is covered with at least 12 feet (3.5 meters) of additional Pleistocene sand deposits, the upper horizons of which were dated to approximately 8,200 years B.P. This upper dune surface represents the upper contact with the historic ground surface, and appears to have been heavily disturbed or completely removed throughout much of the SFGH Rebuild Project area, due to historical and modern development. Any prehistoric archeological materials that might have originally been associated with this surface would likely have been heavily disturbed or completely removed (URS, 2009).

As described in the Environmental Setting section above, the project preliminary geotechnical report concludes that the research building C-APE is underlain by relatively shallow fill over medium to dense dune sand (Kleinfelder, 2014). The geoarcheological study of the block just to the south (Parsons, 1995) concluded that the "dune sand" represents an intact Colma Formation surface sensitive for prehistoric deposits. This potential is enhanced by the identification of an ancient stream channel perhaps in the eastern portion of the site.

Previous geoarcheological analysis for the existing parking garage (Parsons, 1995) found that the stable Pleistocene land form between the San Miguel Hills and Potrero Hill did not experience the erosional effects from sea level rise or of becoming deeply buried by long periods of sand re-deposition from the west that have been the case in other parts of San Francisco. This ancient stable landform (the Colma Formation) would have been available for prehistoric occupation at least during the Holocene epoch. The geoarcheological study prepared for the parking garage project identified a buried paleosol (the Colma Formation) dating within the Late Holocene (4,000 years B.P. to the present) adjoining an ancient stream channel within the eastern portion of the project site along San Bruno Street. This stable land surface, which is sensitive for prehistoric deposits, was relatively shallow but extended to depths approximately 2 meters below ground surface.

Prehistoric archeological materials, if identified, might include obsidian and chert flaked-stone tools (e.g., Projectile points, knives, scrapers) or toolmaking debris; culturally darkened soil ("midden") containing heat-affected rocks, baked clay fragments, or faunal food remains (bone and shell); stone milling equipment (e.g., mortars, pestles, handstones, or milling slabs); and battered stone tools, such as hammerstones and pitted stones.

4.3.2.3 Paleontological Setting

Paleontological resources are the fossilized remains of plants and animals, including vertebrates (animals with backbones), invertebrates (e.g., starfish, clams, ammonites, and marine coral), and fossils of microscopic plants and animals (microfossils). The age and abundance of fossils depend

on the location, topographic setting, and particular geologic formation in which they are found. Fossil discoveries not only provide a historical record of past plant and animal life but can assist geologists in dating rock formations. Fossil discoveries can expand our understanding of the time periods and the geographic range of existing and extinct flora and fauna.

Geological Context

The C-APE is underlain by Quaternary-age (Pleistocene) alluvium. These are predominantly flat-lying unconsolidated to moderately consolidated deposits of sand, silt, gravel and cobbles that have been carried by creeks from the hills to the east. Typically, these deposits are coarse-grained close to the base of mountains and near the head of alluvial fans (i.e., they contain more gravel and sand), whereas Quaternary-age alluvium closer to the bay margins tend to contain more silt and mud.

Paleontological Assessment Guidelines

The Society of Vertebrate Paleontology (SVP) established guidelines for the identification, assessment, and mitigation of adverse impacts on nonrenewable paleontological resources (SVP, 2010). Most practicing paleontologists in the United States adhere closely to the SVP's assessment, mitigation, and monitoring requirements as outlined in these guidelines, which were approved through a consensus of professional paleontologists. Many federal, state, county, and city agencies have either formally or informally adopted the SVP's standard guidelines for the mitigation of adverse construction-related impacts on paleontological resources. The SVP has helped define the value of paleontological resources and, in particular, indicates that geologic units of *high* paleontological potential are those from which vertebrate or significant invertebrate or plant fossils have been recovered in the past (i.e., are represented in institutional collections). Only invertebrate fossils that provide new information on existing flora or fauna or on the age of a rock unit would be considered significant. Geologic units of *low* paleontological potential are those that are not known to have produced a substantial body of significant paleontological material. As such, the sensitivity of an area with respect to paleontological resources hinges on its geologic setting and whether significant fossils have been discovered in the area or in similar geologic units.

The SVP further states the following:

- Vertebrate fossils and fossiliferous deposits are considered significant nonrenewable paleontological resources, and are afforded protection by federal, state, and local environmental laws and guidelines.
- A paleontological resource is considered to be older than recorded history or 5,000 years before present and should not be confused with archeological resource sites.
- Invertebrate fossils are not significant paleontological resources, unless they are present with an assemblage of vertebrate fossils or they provide undiscovered information on the origin and character of the plant species, past climatic conditions or the age of the rock unit itself.
- Certain plant or invertebrate fossils may be designated as significant by a project paleontologist, special interest group, lead agency or local government.

With these principles, the SVP has outlined criteria for screening the paleontological potential of rock units and established assessment and mitigation procedures tailored to such potential (SVP, 1996; SVP, 2010). **Table 4.3-2** lists the criteria for high-potential, undetermined, and low-potential rock units.

TABLE 4.3-2
PALEONTOLOGICAL POTENTIAL CRITERIA

Paleontological Potential	Description
High	Geologic units from which vertebrate or significant invertebrate or plant fossils have been recovered in the past, or rock formations that would be lithologically and temporally suitable for the preservation of fossils. Only invertebrate fossils that provide new information on existing flora or fauna or on the age of a rock unit would be considered significant.
Undetermined	Geologic units for which little to no information is available.
Low	Geologic units that are not known to have produced a substantial body of significant paleontological material, as demonstrated by paleontological literature and prior field surveys, and which are poorly represented in institutional collections.

SOURCE: SVP, 2010

Paleontological Resources Potential

ESA conducted a search of the paleontological locality database of the University of California Museum of Paleontology (UCMP) to identify vertebrate fossil localities within San Francisco County (UCMP, 2015). Several vertebrate fossil discoveries in a Pleistocene-age geologic context are listed in the UCMP database for the San Francisco area. For the *San Francisco General Hospital Seismic Compliance Hospital Replacement Program EIR,* UCMP staff conducted a fossil locality search. That search identified two Pleistocene fossil localities in the immediate vicinity of the C-APE: a whale vertebra near the First and Mission Street intersection, and the humerus of a giant ground sloth near Laguna Honda Hospital, east of the Sunset District. Other discoveries include mammoth and equine fossils near the Bay Bridge footings, and a mammoth tooth 110 feet below the existing ground surface during excavation for the Transbay Transit Center at First and Mission streets. No fossils have been previously identified in or adjacent to the C-APE.

In accordance with SVP criteria for assigning paleontological potential ratings the C-APE would have a high paleontological potential because vertebrate fossils have been recovered from similar geologic units in the past.

4.3.3 Regulatory Considerations

4.3.3.1 Federal Regulations

Project compliance with the National Historic Preservation Act (NHPA) may be used as part of a project's compliance with the National Environmental Policy Act (NEPA) if federal permits or funding for a project is required. To establish the significance of a property, the National Register

of Historic Places (National Register) criteria for evaluation set forth in 36 CFR Part 60.4 must be applied. The following criteria are designed to guide the states, federal agencies, and the Secretary of the Interior in evaluating potential entries for the National Register. The quality of significance in American history, architecture, archeology, and culture is present in districts, sites, buildings, structures, and objects that:

A) Are associated with events that have made significant contribution to the broad patterns of our history; or

B) Are associated with the lives of persons significant in our past; or

C) Embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master or that possess high artistic values or that represent a significant and distinguishable entity whose components may lack individual distinction; or

D) Have yielded, or may be likely to yield, information important in prehistory or history.

The question of integrity is another factor that must be addressed when determining the eligibility of a resource for listing in the National Register. The Secretary of the Interior describes integrity as "the ability of a property to convey its significance." A property must retain certain intact physical features in order to convey its significance under one or more of the National Register criteria. Integrity is judged on seven aspects; location, design, setting, workmanship, materials, feeling, and association.

If a particular resource meets one of these criteria and retains sufficient integrity to convey its historical significance, it is considered as an eligible "historic property" for listing in the National Register. In addition, unless exceptionally significant, a property must be at least 50 years old to be eligible for listing.

Section 106

Section 106 of the NHPA of 1966 requires that a federal agency with direct or indirect jurisdiction over a proposed federal or federally assisted undertaking, or issuing licenses or permits, must consider the effect of the proposed undertaking on historic properties. An historic site or property may include a prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in the National Register maintained by the U.S. Secretary of the Interior. Federal agencies must also allow the Advisory Council on Historic Preservation (ACHP) to comment on the proposed undertaking and its potential effects on historic properties.

The implementing regulations for Section 106 of the NHPA (36 CFR 800) require consultation with the State Historic Preservation Officer (SHPO), the ACHP, federally recognized Indian tribes and other Native Americans, and interested members of the public throughout the compliance process. The four principal steps are:

- Initiate the Section 106 process (36 CFR 800.3);
- Identify historic properties, resources eligible for inclusion in the National Register (36 CFR 800.4);

- Assess the effects of the undertaking on historic properties within the area of potential effect (36 CFR 800.5); and
- Resolve adverse effects (36 CFR 800.6).

Adverse effects on historic properties are often resolved through preparation of a memorandum of agreement or programmatic agreement developed in consultation between the federal agency, the SHPO, Indian tribes, and interested members of the public. The ACHP is also invited to participate. The agreement describes stipulations to mitigate adverse effects on historic properties or listing in the National Register (36 CFR 60).

4.3.3.2 State Regulations

The State of California implements the NHPA of 1966, as amended, through its statewide comprehensive cultural resource surveys and preservation programs. The California Office of Historic Preservation (OHP), as an office of the California Department of Parks and Recreation (DPR), implements the policies of the NHPA on a statewide level. The OHP also maintains the California Historical Resources Inventory. The SHPO is an appointed official who implements historic preservation programs within the state's jurisdictions.

California Register of Historical Resources

The California Register of Historical Resources (California Register) is "an authoritative listing and guide to be used by state and local agencies, private groups, and citizens in identifying the existing historical resources of the state and to indicate which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change" (Public Resources Code [PRC] Section 5024.1[a]). The criteria for eligibility to the California Register are based on National Register criteria (PRC Section 5024.1[b]). Certain resources are determined by the statute to be automatically included in the California Register, including those formally determined eligible for or listed in the National Register.

To be eligible for the California Register a historical resource must be significant at the local, state, and/or federal level under one or more of the following criteria:

1) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

2) Is associated with the lives of persons important in our past;

3) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or,

4) Has yielded, or may be likely to yield, information important in prehistory or history (PRC Section 5024.1[c]).

For a resource to be eligible for the California Register, it must also retain enough integrity to be recognizable as a historical resource and to convey its significance. A resource that does not

retain sufficient integrity to meet the National Register criteria may still be eligible for listing in the California Register.

California Environmental Quality Act

CEQA considers archeological resources as an intrinsic part of the physical environment and, thus, requires for any project that the potential of the project to adversely affect archeological resources be analyzed (CEQA Section 21083.2). For a project that may have an adverse effect on a significant archeological resource, CEQA requires preparation of an environmental impact report (CEQA and Guidelines Section 21083.2, Section 15065). CEQA recognizes two different categories of significant archeological resources: "unique" archeological resource (CEQA Section 21083.2) and an archeological resource that qualifies as a "historical resource" under CEQA (CEQA and Guidelines 21084.1, 15064.5).

Significance of archeological resources

An archeological resource can be significant as both or either a "unique" archeological resource and as an "historical resource" but the process by which the resource is identified, under CEQA, as either one or the other is distinct (CEQA and Guidelines 21083.2[g] and 15064.5[a][2]).

An archeological resource is an "historical resource" under CEQA if the resource is:

- listed on or determined eligible for listing on the California Register (CEQA Guidelines Section 15064.5). This includes National Register-listed or -eligible archeological properties.
- listed in a "local register of historical resources"[2]
- listed in a "historical resource survey" (CEQA Guidelines Section 15064.5[a][2]).

Generally, an archeological resource is determined to be an "historical resource" due to its eligibility for listing to the California Register / National Register because of the potential scientific value of the resource, that is, "has yielded, or may be likely to yield, information important in prehistory or history" (CEQA Guidelines Section 15064.5 [a][3]). An archeological resource may be California Register-eligible under other Evaluation Criteria, such as Criterion 1, association with events that have made a significant contribution to the broad patterns of history; Criterion 2, association with the lives of historically important persons; or Criterion 3, association with the distinctive characteristics of a type, period, region, or method of construction. Appropriate treatment for archeological properties that are California Register-eligible under Criteria other than Criterion 4 may be different than that for a resource that is significant exclusively for its scientific value.

Failure of an archeological resource to be listed in any of these historical inventories, is not sufficient to conclude that the archeological resource is not an "historical resource". When the lead agency believes there may be grounds for a determination that an archeological resource is a

[2] A "local register of historical resources" is a list of historical or archeological properties officially adopted by ordinance or resolution by a local government. (Public Resources Code 5020.1 [k]).

"historical resource", then the lead agency should evaluate the resource for eligibility for listing to the California Register (CEQA Guidelines Section 15064.5[a][4]).

A "unique archeological resource" is a category of archeological resources created by the CEQA statutes (CEQA Guidelines Section 21083.2[g]). An archeological resource is a unique archeological resource if it meets any of one of three criteria:

1) Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information;

2) Has a special and particular quality such as being the oldest of its type or the best available example of its type;

3) Is directly associated with a scientifically recognized important prehistoric or historic event or person.

Under CEQA, evaluation of an archeological resource as an "historical resource" is privileged over the evaluation of the resource as a "unique archeological resource", in that, CEQA requires that "when a project will impact an archeological site, a lead agency shall first determine whether the site is an historical resource" (CEQA Section 15064.5 [c][1]).

Evaluation of an archeological resource as scientifically significant

In requiring that a potentially affected archeological resource be evaluated as an historical resource, that is as an archeological site of sufficient scientific value to be California Register-eligible, CEQA presupposes that the published guidance of the OHP for CEQA providers is to serve as the methodological standard by which the scientific, and thus, the California Register-eligibility, of an archeological resource is to be evaluated. As guidance for the evaluation of the scientific value of an archeological resource, the OHP has issued two guidelines: *Archeological Resource Management Reports* (1989) and the *Guidelines for Archeological Research Designs* (1991).

Integrity of archeological resource

Integrity is an essential criterion in determining if a potential resource, including an archeological resource, is an historical resource. In terms of CEQA "integrity" can, in part, be expressed in the requirement that an historical resource must retain "the physical characteristics that convey its historical significance" (CEQA Section 15064.5 [b]).

For an archeological resource that is evaluated for California Register-eligibility under Criterion 4: "has yielded or may be likely to yield information important to prehistory or history," integrity is conceptually different than how it is usually applied to the built environment. For an historic building, possessing integrity means that the building retains the defining characteristics from the period of significance of the building. In archeology, an archeological deposit or feature may have undergone substantial physical change from the time of its deposition but it may yet have sufficient integrity to qualify as a historical resource. The integrity test for an archeological resource is whether the resource can yield sufficient data (in type, quantity, quality, diagnosticity) to address significant research questions. Thus, in archeology "integrity" is often closely associated with the development of a research design that identifies the types of physical

characteristics ("data needs") that must be present in the archeological resource and its physical context to adequately address research questions appropriate to the archeological resource.

Assembly Bill 52

In September of 2014, the California Legislature passed Assembly Bill (AB) 52, which added provisions to the PRC regarding the evaluation of impacts on tribal cultural resources under CEQA, and consultation requirements with California Native American tribes. In particular, AB 52 now requires lead agencies to analyze project impacts on "tribal cultural resources" separately from archeological resources (PRC Section 21074; 21083.09). The Bill defines "tribal cultural resources" in a new section of the PRC Section 21074. AB 52 also requires lead agencies to engage in additional consultation procedures with respect to California Native American tribes (PRC Section 21080.3.1, 21080.3.2, 21082.3). Finally, AB 52 requires the Office of Planning and Research to update Appendix G of the CEQA Guidelines by July 1, 2016 to provide sample questions regarding impacts to tribal cultural resources (PRC Section 21083.09).

Other Provisions of California Public Resources Code

Several sections of the PRC protect paleontological resources. PRC Section 5097.5 prohibits "knowing and willful" excavation, removal, destruction, injury, and defacement of any paleontological feature on public lands (lands under state, county, city, district, or public authority jurisdiction, or the jurisdiction of a public corporation), except where the agency with jurisdiction has granted permission.

Section 7050.5 of the Health and Safety Code protects human remains by prohibiting the disinterring, disturbing, or removing of human remains from any location other than a dedicated cemetery. Section 5097.98 of the PRC (and reiterated in CEQA Section 15064.59 [e]) also states that in the event of the accidental discovery or recognition of any human remains in any location other than a dedicated cemetery, the following steps shall be taken:

1) There shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until:

    A) The coroner of the county in which the remains are discovered must be contacted to determine that no investigation of the cause of death is required, and

    B) If the coroner determines the remains to be Native American:

        1. The coroner shall contact the Native American Heritage Commission within 24 hours.

        2. The Native American Heritage Commission shall identify the person or persons it believes to be the most likely descended from the deceased Native American.

        3. The most likely descendent may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in PRC Section 5097.98, or

2) Where the following conditions occur, the landowner or his authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further subsurface disturbance.

   A) The Native American Heritage Commission is unable to identify a most likely descendent or the most likely descendent failed to make a recommendation within 48 hours after being notified by the commission.

   B) The descendant identified fails to make a recommendation; or, the landowner or his authorized representative rejects the recommendation of the descendant, and the mediation by the Native American Heritage Commission fails to provide measures acceptable to the landowner.

4.3.3.3 Local

San Francisco Planning Department Preservation Bulletin 16

The San Francisco Planning Department has issued a Preservation Bulletin (No. 16) entitled *San Francisco Planning Department CEQA Review Procedures for Historic Resources*, which integrates the CEQA Guidelines into the City's existing regulatory framework. As a certified local government and CEQA lead agency for the City and County of San Francisco, the San Francisco Planning Department has instituted guidelines and a system for CEQA review of historic resources. The following categories have been established for use in determining the significance of historic resources, based upon their evaluation and inclusion in specific registers or surveys:

- **Category A: Historic resources (divided into two sub-categories)**

  Category A.1: Resources listed on or formally determined to be eligible for the California Register. These properties will be evaluated as historic resources for the purposes of CEQA. Only a change in the property's status as listed in or determined to be eligible for listing in the California Register of Historical Resources by the California Historic Resources Commission will preclude evaluation of the property as a historical resource under CEQA.

  Category A.2: Adopted local registers, and properties that have been determined to appear or may become eligible, for the California Register. These properties will be evaluated as historic resources for purposes of CEQA. Only a preponderance of the evidence demonstrating that the resource is not historically or culturally significant will preclude evaluation of the property as an historic resource. In the case of Category A.2, resources included in an adopted survey or local register, generally the "preponderance of the evidence" must consist of evidence that the appropriate decision-maker has determined that the resource should no longer be included in the adopted survey or register. Where there is substantiated and uncontroverted evidence of an error in professional judgment, of a clear mistake, or that the property has been destroyed, this may also be considered a "preponderance of the evidence that the property is not an historic resource."

- **Category B:** ***Properties requiring further consultation and review.*** Properties that do not meet the criteria for listing in Categories A.1 or A.2, but for which the City has information indicating that further consultation and review will be required to evaluate whether a property is an historic resource for the purposes of CEQA.

- **Category C:** ***Properties determined not to be historic resources, or properties for which the City has no information indicating that the property is an historic resource.*** Properties that have been affirmatively determined not be historic resources, properties less than 50 years of age, and properties for which the City has no information.

San Francisco City Landmarks

San Francisco City Landmarks are buildings, properties, structures, sites, districts, and objects that possess special character or special historical, architectural or aesthetic interest or value and that are an important part of the City's historical and architectural heritage. City Landmarks are important to San Francisco's history and are significant and unique examples of the past. Adopted in 1967 as Article 10 of the City Planning Code, City Landmarks are protected from inappropriate alterations and demolitions, with all significant alterations reviewed by the San Francisco Historic Preservation Commission. There are currently 266 landmark sites and eleven historic districts in San Francisco subject to Article 10. Article 11 of the City Planning Code (*Preservation of Buildings and Districts of Architectural, Historical, and Aesthetic Importance in the C-3 Districts*) contains procedures for the designation of important buildings and districts, as well as for the review of changes to, or removal of, such properties. However, Article 11 applies to downtown San Francisco rather than the Project area.

4.3.4 Significance Standards

Implementation of the project would have a significant effect on cultural or paleontological resources if it were to:

- Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5, including those resources listed in Article 10 or Article 11 of the San Francisco Planning Code;
- Cause a substantial adverse change in the significance of an archeological resource pursuant to Section 15064.5;
- Disturb any human remains, including those interred outside of formal cemeteries;
- Cause a substantial adverse change in the significance of a tribal cultural resource as defined in PRC Section 21074; or
- Directly or indirectly destroy a unique paleontological resource or site, or a unique geologic feature.

4.3.5 Analysis Methodology

4.3.5.1 Architectural/Structural Resources

CEQA Guidelines Section 15064.5 requires the lead agency to consider the effects of a project on historical resources. A historical resource is defined as a building, structure, site, object, or district (including landscapes) listed in or determined to be eligible for listing in the California Register, or determined by a lead agency to be significant in the architectural, engineering,

scientific, economic, agricultural, educational, social, political, or cultural annals of California. The following discussion will focus on architectural and structural resources.

Potential impacts on architectural resources are assessed by identifying any activities that could affect resources that have been identified as historical resources for the purposes of CEQA. Resources identified as historical resources under CEQA include those that are significant because of their association with important events, people, or architectural styles or master architects, or for their informational value (National Register and California Register Criteria A/1, B/2, C/3, and D/4) and that retain sufficient historical integrity to convey their significance. Criterion D/4, however, is typically applied to the evaluation of historical archeological resources and not to architectural resources, as described below.

Once a resource has been identified as a CEQA historical resource, it then must be determined whether the impacts of the project would "cause a substantial adverse change in the significance" of the resource (CEQA Guidelines Section 15064.5[b]). A substantial adverse change in the significance of a historical resource means "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of the historic resource would be materially impaired" (CEQA Guidelines Section 15064[b][1]). A historical resource is materially impaired through the demolition or alteration of the resource's physical characteristics that convey its historical significance and that justify its inclusion in the California Register (CEQA Guidelines Section 15064.5[b][2][A]).

Archeological Resources

Archeological resources are considered both as historical resources according to Section 15064.5 as well as unique archeological resources as defined in Section 21083.2(g). The significance of most prehistoric and historical archeological sites is usually assessed under National Register and California Register Criterion D/4. This criterion stresses the importance of the information potential contained within the site, rather than its significance as a surviving example of a type or its association with an important person or event. Archeological resources may also be assessed under CEQA as unique archeological resources, defined as archeological artifacts, objects, or sites that contain information needed to answer important scientific research questions.

Human Remains

Human remains, including those buried outside of formal cemeteries, are protected under several state laws, including PRC Section 5097.98 and Health and Safety Code Section 7050.5. These laws are identified above in Section 5.5.2.2, State Regulations and Legal Compliance. This analysis considers impacts including intentional disturbance, mutilation, or removal of interred human remains.

Tribal Cultural Resources

CEQA Section 21074.2 requires the lead agency to consider the effects of a project on tribal cultural resources. As defined in Section 21074, tribal cultural resources are sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native

American tribe that are listed, or determined to be eligible for listing, on the national, state, or local register of historical resources. Both archeological resources and human remains can be considered tribal cultural resources.

Once a resource has been identified as a tribal cultural resource, public agencies shall, when feasible, avoid damaging effects and consider measures to mitigate that impact (PRC Section 21084.3). A lead agency could minimize significant adverse impacts by avoiding the resource, treating the resource with culturally appropriate dignity, which includes protecting the cultural character and integrity of the resource, protecting the traditional use of the resource, and protecting the confidentiality of the resource.

Paleontological Resources

The paleontological analysis identifies the potential to encounter paleontological resources (i.e., plant, animal or invertebrate fossils or microfossils) during excavations associated with the Program. The paleontological potential of the units to be disturbed was determined, and the potential to encounter paleontological resources at each site was evaluated. A potentially significant impact on paleontological resources would occur if: (1) construction of the program component were to move or excavate previously undisturbed geologic bedrock (native rock); and (2) the bedrock were to be disturbed has a high paleontological potential.

4.3.6 Impacts and Mitigation Measures

Impact CP-1: Construction of the proposed project could cause a substantial adverse change in the significance of the SFGH Historic District, a historical resource as defined in Section 15064.5, including those resources listed in Article 10 or Article 11 of the San Francisco Planning Code. (Potentially Significant)

CEQA Guidelines Section 15064.5 requires the lead agency to consider the effects of a project on historical resources. A historical resource is defined as a building, structure, site, object, or district (including landscapes) listed in or determined to be eligible for listing in the California Register, or determined by a lead agency to be significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, or cultural annals of California. The following discussion will focus on architectural and structural resources. Archeological resources, including archeological resources that are potentially historical resources according to Section 15064.5, are addressed below.

Impacts of the Research Building

The proposed research building would result in no direct impacts to the SFGH Historic District, such as demolition or substantial alteration of any of its contributory features. It would be constructed on the B/C Lot, which is non-contributory to the SFGH Historic District. However, the proposed project could have an indirect impact to the setting of the SFGH District because it would be within the rear viewsheds of Building 30/40 and the adjacent Building 9, the Nurse's Home, which are contributory features of the District. This impact would be reduced because the proposed research building would be located immediately south of, and adjacent to, the former

Main Hospital, a modern building that is not a contributor to the SFGH District. In addition, the rear viewsheds of Building 30/40 and 9 have been compromised by the construction of the former Main Hospital and the adjacent parking lot. Contributory District features located near the project site, including a fence, a guardhouse and two gate pillars, would be retained in place, while a water fountain located in the B/C Lot would be relocated to a new site on the ZSFG campus.

The architectural design of the building has not been developed, and anticipated characteristics of the building are limited to height, massing, and footprint. Given the absence of specific design plans, the proposed research building could be architecturally incompatible with the nearby contributors to the SFGH Historic District. Construction of a new building within the District that is incompatible with adjacent contributors could result in a substantial alteration to the historic setting of the District, which would be considered a significant, indirect impact to historical resources under CEQA. Implementation of Mitigation Measure CP-1, Design Guidelines for New Construction, would ensure that the proposed project would be compatible with the SFGH Historic District, would maintain the District's character and integrity, and would be in substantial conformance with the *Secretary of the Interior's Standards for Rehabilitation.* These guidelines were developed by the architecture firm Architectural Resources Group (ARG) in 2016 specifically for use in this EIR (ARG, 2016).

As shown in Table 4.3.1, historic resources located more than 25 feet away from the source of the construction-related vibration would generally fall below the standard damage threshold caused by various types of construction equipment. Construction of the proposed research building would generate construction-related vibration, however, the source of this vibration would be over 60 feet away from the closest historic building in the SFGH District, Building 9, and would be over 25 feet away from the historic brick guardhouse, gate pillar, and brick and metal fence on Twenty-Third Street. As such, no indirect impacts to historic architectural resources are anticipated from construction-related vibration.

Mitigation Measure CP-1: Design Guidelines for the Research Building.

The design of the proposed research building shall adhere to the following design guidelines.

Siting

1. The west elevation of the building should be generally parallel to the north-south entry road that bisects the campus. At the ground level, the setback of the building from this north-south road should be similar in extent to the setbacks from this road exhibited by Building 1/1A/1B/1C, Building 9, Building 10/20, and Building 30/40.

2. In keeping with the site's urban setting, the south elevation of the building should be generally rectilinear and parallel to Twenty-Third Street.

Height, Scale and Massing

1. The height of the building should be kept at or below the 85-foot-height of Buildings 10/20 and 30/40. This height is exclusive of rooftop mechanical equipment, assuming such equipment is sufficiently setback and differentiated in material that is does not "read" as a vertical extension of the façade.

2. The façades of the new building should have a vertical orientation that is underscored by bays at the building corners that project relative to the central portions of the façades.

3. Blank, mirrored, or opaque facades should be avoided.

4. On the south and west façades, architectural elements should be used to divide the façades into intervals similar to those found elsewhere in the District, including Building 9 and the Building 30/40 "finger wards." This could be accomplished through a variety of means, including the use of bays, setbacks, horizontal belt courses, and/or changes in material or ornamentation.

Materials and Cladding

1. Given the prevalence of brick within the SFGH Historic District, the use of masonry (including brick and terra cotta) exclusively or in combination with other compatible exterior cladding materials is encouraged. Masonry should be a prominent material if used in combination with other materials.

2. New construction should use materials in a manner that creates details and textures that draw from the District and that give the building a three-dimensional character. Monolithic wall treatments should be avoided.

Windows

1. Fenestration patterns and proportions, as well as the percent of the façade devoted to fenestration, should be consistent with the District, especially adjacent contributory buildings (Buildings 9 and 30/40). Building 9 features recessed, double-hung, wood sash windows of either round arched or rectangular shape that are arranged singly and in pairs. Building 30/40 exhibits a variety of window types. Most of the building's windows are recessed, double-hung, wood sash windows of round arched or rectangular shape that are arranged either singly or in groups of three. The fifth floor (added in 1931) features wood sash, paired casement windows surmounted by arched transom and separated by terra cotta colennettes. The chamfered, east-facing bays of the building feature rectangular, wood sash, paired casement windows surmounted by rectangular transoms. These windows are arranged singly, in pairs and in groups of four. Accordingly, use of recessed, punched windows on at least substantial portions of the building exterior is encouraged. Uninterrupted expanses of full-height glazing should be avoided. Arranging windows into bands of two, three or more is encouraged.

2. In keeping with the District contributors, windows should have a vertical orientation. Use of rectangular windows and/or round arched windows is encouraged.

Street Frontage

1. The south façade of the building should incorporate at least one prominent pedestrian entry.

Site Features

1. The brick Guardhouse and Gate Pillar should be retained in their current location. If temporary relocation is necessary to accommodate construction, a Historic Architect satisfying the Secretary of the Interior's Professional Qualifications Standards should be engaged to oversee the temporary relocation and reinstallation of these historic resources.

2. The brick and metal fence along the southern edge of the site should be retained in its current location. If temporary relocation of any portion of the fence is necessary to accommodate construction, a Historic Architect satisfying the Secretary of the Interior's Professional Qualifications Standards should be engaged to oversee the temporary relocation and reinstallation of this historic resource.

3. A conservator well-versed in the assessment of historic fountains and related statuary should be engaged to evaluate the feasibility of relocating the fountain, which exhibits noticeable wear and may be constructed of fairly porous cement.

4. If deemed feasible, the fountain should be moved to a location elsewhere within the SFGH Historic District that reflects the character and prominence of its original location within the grass lawn courtyard of the Tubercular Ward (the fountain should not be located between parking spots). Accordingly, the fountain should be relocated to an area south or west of the proposed building, where it can continue its current use as a planter.

Significance after Mitigation: Less than Significant.

- ***Impacts to Public Art***

- As described in Chapter 3, *Project Description*, the large, steel sculpture entitled *Stiff Loops* would be relocated from its current location in the southeast corner of the campus to another place on the ZSFG campus in order to avoid any potential construction conflicts between this sculpture and the proposed loading zone and driveway on the east side of the proposed research building. Relocation would occur in coordination with ZSFG and the San Francisco Arts Commission. Although *Stiff Loops* has not been identified as a contributor to the SFGH Historic District, it is nonetheless being treated as an important work of public art that would be relocated to avoid construction conflicts and retained on the ZSFG campus. For these reasons, the proposed project would have no impact on public art.

- **Mitigation:** None required.

Impacts of the Expanded Parking Garage

The proposed expansion of the ZSFG parking garage would have no significant direct or indirect impacts on the SFGH Historic District, as this project area is located to the south and outside of the District, separated by the width of Twenty-Third Street, which would provide a sufficient visual and physical buffer between these two areas. The garage itself is not considered a historical resource, and alterations to this structure would have no impact on historic resources.

Buildings fronting the existing parking garage located on San Bruno Avenue, Utah and Twenty-Fourth streets, are predominantly single- and multi-family residential, and exhibit a mixture of architectural styles and periods of construction which generally date to the first quarter of the 20th Century. Although no recorded historic resources are located on the streets fronting the ZSFG parking garage, most are more than 45 years old, and would meet the minimum age threshold for listing in the California Register of Historical Resources. If historic architectural resources were recorded in the vicinity of the parking garage as a result of future architectural

survey and evaluation efforts, these potential resources would be separated from the expanded parking garage by the width of the surrounding streets, which would also provide a sufficient visual and physical buffer between these two areas.

As described above, historic resources located more than 25 feet away from the source of the construction-related vibration would generally fall below the standard damage threshold caused by various types of construction equipment. The expanded parking garage area would be over 60 feet away from the nearest contributors to the SFHG District (guardhouse and gate), and over 60 feet away from any potential historical resources along San Bruno Avenue, Utah and Twenty-Fourth streets. As such, no indirect impacts to historic resources resulting from construction-related vibration from this portion of the project are anticipated. As such, no significant direct or indirect impacts on historic resources resulting from the proposed garage expansion project are anticipated.

Mitigation: None required.

Impact CP-2: Construction of the proposed project could cause a substantial adverse change in the significance of an archeological resource pursuant to Section 15064.5. (Potentially Significant)

This section discusses archeological resources, both as historical resources according to Section 15064.5 as well as unique archeological resources as defined in Section 21083.2(g).

Given the historic and prehistoric proximity of an extensive marsh to the northwest at the intersection of Potrero Avenue and Twenty-Second Street; two 19th century prehistoric shellmound sites north of the Precita Creek marshlands; and the geoarcheologically identified paleosol (Colma Formation) land surface that extends throughout at least portions of both the garage expansion and research building C-APE, there is a reasonable likelihood that Holocene period prehistoric deposits may be present within the C-APE. There is also moderate likelihood that historical archeological features may be present within the garage expansion C-APE associated with the railway and maintenance yard whose legal significance (National Register/California Register-eligibility) cannot be determined in the absence of preparation of a research design. Domestic archeological deposits may also be within the C-APE of the eastern half of the research building associated with 19th century households occupying the dwellings/flats along former San Bruno Avenue and Vermont Street.

Excavation, grading, and the movement of heavy construction vehicles and equipment could expose and cause impacts to prehistoric and historical archeological resources, which would be a significant impact. Regarding the scientific values as archeological resources, implementation of Mitigation Measure CP-2 (Archeological Research Design, Testing and Evaluation Plan, Archeological Monitoring Program and/or Archeological Data Recovery Program) would reduce this impact to less than significant. Mitigation Measure CP-2 would formalize UCSF and the City's commitment to conduct archeological testing and monitoring (as well as data recovery, if warranted), and would require that archeological testing and monitoring program be consistent with the City's standard protocols.

> **Mitigation Measure CP-2: Archeological Research Design, Testing and Evaluation Plan, Archeological Monitoring Program and/or Archeological Data Recovery Program.**
>
> ***Archeological Research Design, Testing, and Evaluation Plan.*** Because archeological resources may be present within the C-APE for both the B/C Lot and the parking garage expansion site, the following measures shall be undertaken to avoid any potentially significant adverse effect from the proposed project on archeological resources.
>
> UCSF shall retain the services of an archeological consultant to prepare and implement an Archeological Research Design, Testing, and Evaluation Plan (ARDTEP) prior to project construction of the research building. The City shall similarly retain the services of an

archeological consultant to prepare and implement a separate ARDTEP prior to construction of the parking garage expansion.

Each ARDTEP will guide fieldwork and help to determine if identified archeological remains qualify as significant. Each ARDTEP shall be prepared by professionals who meet the Secretary of the Interior's Professional Qualifications Standards in historical archeology, prehistoric archeology, and history (36 CFR Part 61)[3], and shall be reviewed and approved by UCSF for the research building site and the City's Environmental Review Officer (ERO) for the garage expansion site.

Each ARDTEP shall address and ensure the following: (1) a geoarcheological landscape approach to identify potential presence of paleosols that may have provided living surfaces for prehistoric populations; (2) the appropriateness of specific protocols for the identification and evaluation of paleosol deposits; (3) the full exposure, documentation, and recordation of the former residences, businesses, and hospital related outbuildings; and (4) appropriate field investigation strategies for the identification and evaluation of other types of historical archeological deposits and/or features (e.g., burned structural/building contents debris, artifact filled privies, etc.).

At a minimum, the *research design* component of each ARDTEP shall contain the following sections:

- Introduction and Purpose
- Project Location and Description
- Regulatory Context
- Methods and Sources
- Holocene Landscape Evolution
- Prehistory and Ethnography
- History
- Previous Archeological Research
  - Prehistoric Archeology
  - Historical Archeology
- Archeological Research Design
- Geoarcheology
- Archival and Oral History Research
  - Block Histories by Address
- Research Context: Prehistoric Archeology
  - Research Themes and Issues
  - Data Requirements
  - Property Types: Prehistoric Archeology
  - Archeological Sensitivity: Prehistoric
- Research Context: Historical Archeology
  - Research Themes and Issues
  - Data Requirements

[3] Secretary of the Interior. Standards and Guidelines for Archeology and Historic Preservation, Professional Qualifications Standards.

  - Property Types: Historical Archeology
  - Archeological Sensitivity: Historical Archeology

At a minimum, the *testing component* of each ARDTEP will contain the following sections:

- Introduction and Purpose
- Test Areas and their Potential Significance Fieldwork Methods
- Hazardous Materials, Health, and Safety
- Treatment of Human Remains and Burial Goods Public Involvement
- Laboratory Work
  - Laboratory Methods
- Archeological Evaluation Plan: Evaluation Procedures and Criteria Integrity
- Infield Evaluation Post-field Evaluation
- Reporting and Dissemination of Results
  - Public Outreach
- Curation

Each ARDTEP will be used to inform decisions regarding project design, and will be carried out prior to project construction.

At the completion of the archeological testing program, the archeological consultant shall submit a written report of the findings to UCSF for the research building site and the City or its designated representative for the garage expansion site. If based on the archeological testing program the archeological consultant finds that significant archeological resources may be present, UCSF and the City or its designated representative in consultation with the archeological consultant shall determine if additional measures are warranted for each respective site. Additional measures that may be undertaken include additional archeological testing, archeological monitoring, and/or an archeological data recovery program. No archeological data recovery shall be undertaken without the prior approval of UCSF for the research building site and the City or its designated representative for the garage expansion site. If UCSF determines that a significant archeological resource is present on the research building site, or the City or its designated representative determines that a significant archeological resource is present on the garage expansion site, and that the resource could be adversely affected by the proposed project, at the discretion of UCSF or the City either:

A. The proposed research building or garage expansion shall be re-designed so as to avoid any adverse effect on the significant archeological resource; or

B. A data recovery program shall be implemented, unless UCSF (for the research building site) or the City or its designated representative (for the garage expansion site) determines that the archeological resource is of greater interpretive than research significance and that interpretive use of the resource is feasible.

Consultation with Descendant Communities. On discovery of an archeological site[4] associated with descendant Native Americans, the Overseas Chinese, or other descendant

[4] By the term "archeological site" is intended here to minimally include any archeological deposit, feature, burial, or evidence of burial.

group on the research building site or garage expansion site, an appropriate representative[5] of the descendant group and UCSF (for the research building site) and the City or its designated representative (for the garage expansion site) shall be contacted. The representative of the descendant group shall be given the opportunity to monitor archeological field investigations of the sites and to consult with UCSF regarding the research building site, and the City or its designated representative for the garage expansion site, regarding appropriate archeological treatment of the site, of recovered data from the site, and, if applicable, any interpretative treatment of the associated archeological site. A copy of the Final Archeological Resources Report shall be provided to the representative of the descendant group.

Archeological Monitoring Program. If UCSF (for the research building site) or the City or its designated representative (for the garage expansion site) in consultation with the archeological consultant determines that an archeological monitoring program shall be implemented, the archeological monitoring program for each respective site shall minimally include the following provisions:

- The archeological consultant and UCSF (for the research building site) or the City or its designated representative (for the garage expansion site) shall meet and consult on the scope of the archeological monitoring program (AMP) reasonably prior to any project-related soils disturbing activities commencing. UCSF (for the research building site) or the City or its designated representative (for the garage expansion site) in consultation with the archeological consultant shall determine what project activities shall be archeologically monitored. In most cases, any soils- disturbing activities, such as demolition, foundation removal, excavation, grading, utilities installation, foundation work, driving of piles (foundation, shoring, etc.), site remediation, etc., shall require archeological monitoring because of the risk these activities pose to potential archeological resources and to their depositional context;

- The archeological consultant shall advise all project contractors to be on the alert for evidence of the presence of the expected resource(s), of how to identify the evidence of the expected resource(s), and of the appropriate protocol in the event of apparent discovery of an archeological resource;

- The archeological monitor(s) shall be present on each respective project site according to a schedule agreed upon by the archeological consultant and UCSF (for the research building site) or the City or its designated representative (for the garage expansion site) until UCSF or the City or its designated representative has, in consultation with project archeological consultant, determined that project construction activities could have no effects on significant archeological deposits;

- The archeological monitor shall record and be authorized to collect soil samples and artifactual/ecofactual material as warranted for analysis;

- If an intact archeological deposit is encountered, all soils-disturbing activities in the vicinity of the deposit shall cease. The archeological monitor shall be empowered to

[5] An "appropriate representative" of the descendant group is here defined to mean, in the case of Native Americans, any individual listed in the current Native American Contact List for the City and County of San Francisco maintained by the California Native American Heritage Commission and in the case of the Overseas Chinese, the Chinese Historical Society of America. An appropriate representative of other descendant groups should be determined in consultation with the Department archeologist.

temporarily redirect demolition/excavation/pile driving/ construction activities and equipment until the deposit is evaluated. If in the case of pile driving activity (foundation, shoring, etc.), the archeological monitor has cause to believe that the pile driving activity may affect an archeological resource, the pile driving activity shall be terminated until an appropriate evaluation of the resource has been made in consultation with UCSF (for the research building site) or the City or its designated representative (for the garage expansion site). The archeological consultant shall immediately notify UCSF (for the research building site) or the City or its designated representative (for the garage expansion site) of the encountered archeological deposit. The archeological consultant shall make a reasonable effort to assess the identity, integrity, and significance of the encountered archeological deposit, and present the findings of this assessment to UCSF or the City or its designated representative, respectively.

Whether or not significant archeological resources are encountered, the archeological consultant shall submit a written report of the findings of the monitoring program to UCSF (for the research building site) or the City or its designated representative (for the garage expansion site).

Archeological Data Recovery Program. If UCSF (for the research building site) or the City or its designated representative (for the garage expansion site) in consultation with the archeological consultant determines that an archeological data recovery program shall be implemented, the archeological data recovery program shall be conducted in accord with an archeological data recovery plan (ADRP). The archeological consultant and UCSF (for the research building site) or the City or its designated representative (for the garage expansion site) shall meet and consult on the scope of the ADRP prior to preparation of a draft ADRP. The archeological consultant shall submit a draft ADRP to UCSF (for the research building site) or the City or its designated representative (for the garage expansion site). The ADRP shall identify how the proposed data recovery program will preserve the significant information the archeological resource is expected to contain. That is, the ADRP will identify what scientific/historical research questions are applicable to the expected resource, what data classes the resource is expected to possess, and how the expected data classes would address the applicable research questions. Data recovery, in general, should be limited to the portions of the historical property that could be adversely affected by the proposed project. Destructive data recovery methods shall not be applied to portions of the archeological resources if nondestructive methods are practical.

The scope of the ADRP shall include the following elements:

- *Field Methods and Procedures.* Descriptions of proposed field strategies, procedures, and operations.
- *Cataloguing and Laboratory Analysis*. Description of selected cataloguing system and artifact analysis procedures.
- *Discard and Deaccession Policy*. Description of and rationale for field and post-field discard and deaccession policies.
- *Interpretive Program*. Consideration of an on-site/off-site public interpretive program during the course of the archeological data recovery program.

- *Security Measures*. Recommended security measures to protect the archeological resource from vandalism, looting, and non-intentionally damaging activities.
- *Final Report*. Description of proposed report format and distribution of results.
- *Curation*. Description of the procedures and recommendations for the curation of any recovered data having potential research value, identification of appropriate curation facilities, and a summary of the accession policies of the curation facilities.

Human Remains and Associated or Unassociated Funerary Objects. The treatment of human remains and of associated or unassociated funerary objects discovered during any soils disturbing activity shall comply with applicable State and Federal laws. This shall include immediate notification of the Coroner of the City and County of San Francisco and in the event of the Coroner's determination that the human remains are Native American remains, notification of the California State Native American Heritage Commission (NAHC) who shall appoint a Most Likely Descendant (MLD) (PRC Section 5097.98). The archeological consultant and UCSF (for the research building site) or the City or its designated representative (for the garage expansion site), and MLD shall make all reasonable efforts to develop an agreement for the treatment of, with appropriate dignity, human remains and associated or unassociated funerary objects (CEQA Guidelines Section 15064.5[d]). The agreement should take into consideration the appropriate excavation, removal, recordation, analysis, custodianship, curation, and final disposition of the human remains and associated or unassociated funerary objects.

Final Archeological Resources Report. The archeological consultant shall submit a Draft Final Archeological Resources Report (FARR) to UCSF (for the research building site) or the City or its designated representative (for the garage expansion site) that evaluates the historical significance of any discovered archeological resource and describes the archeological and historical research methods employed in the archeological testing/monitoring/data recovery program(s) undertaken. Information that may put at risk any archeological resource shall be provided in a separate removable insert within the final report.

Once approved by UCSF (for the research building site) or the City or its designated representative (for the garage expansion site), copies of the FARR shall be distributed as follows: California Archeological Site Survey Northwest Information Center (NWIC) shall receive one (1) copy and UCSF (for the research building site) or the City or its designated representative (for the garage expansion site) shall receive a copy of the transmittal of the FARR to the NWIC. The Environmental Planning division of the Planning Department shall receive one bound, one unbound and one unlocked, searchable PDF copy on CD of the FARR (for the garage expansion site) along with copies of any formal site recordation forms (CA DPR 523 series) and/or documentation for nomination to the National Register of Historic Places/California Register of Historical Resources. In instances of high public interest in or the high interpretive value of the resource, the City or its designated representative may require a different final report content, format, and distribution than that presented above for the garage expansion site.

Significance after Mitigation: Less than Significant.

Impact CP-3: Construction of the proposed project could disturb any human remains, including those interred outside of formal cemeteries. (Potentially Significant)

Based on the background research and geological assessment, there is generally a low potential for project construction to uncover human remains. Although no known human burials have been identified within the project C-APE, the possibility of encountering human remains cannot be entirely discounted. Earth-moving activities associated with project construction could result in direct impacts on previously undiscovered human remains.

If encountered, the treatment of human remains and of associated or unassociated funerary objects discovered during any soils disturbing activity shall comply with applicable State and federal laws, including immediate notification of the Coroner of the City and County of San Francisco and in the event of the Coroner's determination that the human remains are Native American remains, notification of the California State Native American Heritage Commission (NAHC) who shall appoint a Most Likely Descendant (MLD) (PRC Section 5097.98).

UCSF (for the research building site) or the City (for the garage expansion site) would be required to retain a qualified archeological consultant, who in conjunction with UCSF (for the research building site) or the City (for the garage expansion site) and the MLD, shall make all reasonable efforts to develop an agreement for the treatment of, with appropriate dignity, human remains and associated or unassociated funerary objects (CEQA Guidelines Section 15064.5[d]). The agreement should take into consideration the appropriate excavation, removal, recordation, analysis, curation, possession, and final disposition of the human remains and associated or unassociated funerary objects.

These requirements are consistent with provisions listed in Mitigation Measure CP-2, Archeological Research Design, Testing and Evaluation Plan, Archeological Monitoring Program and/or Archeological Data Recovery Program.

Because the project would be required to comply with the regulations described above and to implement the measures specified under those regulations, impacts related to disturbance of human remains would be less than significant.

Significance after Mitigation: Less than Significant

Impact CP-4: Construction of the proposed project could cause a substantial adverse change in the significance of a tribal cultural resource as defined in PRC Section 21074. (Potentially Significant)

CEQA Section 21074.2 requires the lead agency to consider the effects of a project on tribal cultural resources. As defined in Section 21074, tribal cultural resources are sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are listed, or determined to be eligible for listing, on the national, state, or local register of historical resources. Background research at the NWIC did not reveal recorded tribal cultural resources in the

C-APE. On January 20, 2016 UCSF sent letters to five tribes who requested information on UCSF projects in San Francisco. No responses were received. Based on the results of the background research and consultation efforts, the project would have a less than significant impact on tribal cultural resources. In the event that construction activities disturb previously unrecorded archeological sites that are also considered tribal cultural resources, inadvertent damage would be considered a significant impact. With implementation of Mitigation Measure CP-2, Archeological Research Design, Testing and Evaluation Plan, Archeological Monitoring Program and/or Archeological Data Recovery Program as described above, the proposed project would have a less-than-significant impact on previously unrecorded tribal cultural resources.

Significance after Mitigation: Less than Significant

Impact CP-5: Construction of the proposed project could directly or indirectly destroy a unique paleontological resource or site, or a unique geologic feature. (Potentially Significant)

A significant impact would occur if a project would destroy a unique paleontological resource or site, or a unique geologic feature. Based on the assessment provided above there is the potential to encounter and adversely impact paleontological resources at the research building and/or the parking garage expansion sites, which could result in a significant impact. This impact would be reduced to less-than-significant level with implementation of Mitigation Measure CP-5, Inadvertent Discovery of Paleontological Resources. This requires the contractor to stop all ground disturbance within 50 feet if a paleontological resource is encountered during excavation and to implement actions to investigate the discovery and recover the fossil remains by a qualified professional, as appropriate, before ground disturbing activities can resume.

Mitigation Measure CP-5: Inadvertent Discovery of Paleontological Resources.

The following measures shall be implemented should construction result in the accidental discovery of paleontological resources:

To reduce the potential for the proposed project to result in a significant impact on paleontological resources, UCSF (for the research building site) or the Planning Department (for the garage expansion site) shall arrange for a paleontological training by a qualified paleontologist regarding the potential for such resources to exist in the project site and how to identify such resources. The training could consist of a recorded presentation of the initial training that could be reused for new personnel. The training shall also include a review of penalties for looting and disturbance of these resources. An alert sheet shall be prepared by the qualified paleontologist and shall include the following:

1. A discussion of the potential to encounter paleontological resources.
2. Instructions for reporting observed looting of a paleontological resource; and instructions that if a paleontological deposit is encountered within a project area, all soil disturbing activities in the vicinity of the deposit shall cease and UCSF

(for the research building site) or the Planning Department (for the garage expansion site) shall be notified immediately.

3. Who to contact in the event of an unanticipated discovery.

If potential fossils are discovered by construction crews, all earthwork or other types of ground disturbance within 50 feet of the find shall stop immediately until the qualified professional paleontologist can assess the nature and importance of the find. Based on the scientific value or uniqueness of the find, the paleontologist may record the find and allow work to continue, or recommend salvage and recovery of the fossil. The paleontologist may also propose modifications to the stop-work radius based on the nature of the find, site geology, and the activities occurring on the site. If treatment and salvage is required, recommendations shall be consistent with the Society of Vertebrate Paleontology 2010 guidelines and currently accepted scientific practice, and shall be subject to review and approval by UCSF (for the research building site) or the City or designee (for the garage expansion site). If required, treatment for fossil remains may include preparation and recovery of fossil materials so that they can be housed in an appropriate museum or university collection, and may also include preparation of a report for publication describing the finds. UCSF (for the research building site) or the City (for the garage expansion site) shall be responsible for ensuring that treatment is implemented and reported. If no report is required, UCSF or the City shall nonetheless ensure that information on the nature, location, and depth of all finds is readily available to the scientific community through university curation or other appropriate means.

Significance after Mitigation: Less than Significant.

4.3.6.1 Cumulative Impacts

The geographic scope for potential cumulative impacts encompasses past, present, and reasonably foreseeable projects within the SFGH District, as well as those in the immediately surrounding neighborhood, that could affect cultural resources. The list of reasonably foreseeable future actions in the neighborhood surrounding the ZSFG campus is based on a review of the San Francisco Planning Department's list of active permits.

Historic Architectural Resources

The 2008 SFGH Rebuild Program EIR identified a significant and unavoidable impact to the integrity of the SFGH District resulting from the construction of the new acute care hospital (renamed the Priscilla Chan and Mark Zuckerberg San Francisco General Hospital and Trauma Center in 2015). The EIR stated that, "The hospital would result in the loss of the remaining few contributing landscape features, and would disrupt important visual and spatial relationships that define the SFGH District as a significant concentration of buildings united by common historical values. The proposed project would overwhelm the ordered design of the SFGH District envisioned by Newton J. Tharp as an expression of the City Beautiful Movement. For these reasons, the proposed project would result in an adverse impact that would be considered a significant impact under CEQA. While the project sponsor would implement the Architectural

Resources Mitigation Measures to reduce the severity of impacts to the architectural resources, this would not reduce the impacts to a less-than-significant level." (San Francisco Planning Department, 2008).

The proposed research building would alter the SFGH District by introducing a new, five-story, 175,000 gsf building within the boundaries of the District, which could combine with impacts of the SFGH Rebuild Program. Implementation of Mitigation Measure CP-1 Design Guidelines for New Construction, would assure that the new facility is architecturally compatible with the character-defining features of the District, thereby reducing both the individual and cumulative impact of the proposed project to a less-than-significant level.

Reasonably foreseeable projects in the vicinity of the ZSFG campus includes relatively minor alterations primarily to smaller scale residential buildings, such as vertical and horizontal additions to single family homes, which would not be expected to have significant adverse impacts on historic architectural resources, including any which could combine with the impacts of the proposed project to form a significant cumulative impact to historic resources.

Archeological Resources, Tribal Cultural Resources, and Human Remains

As discussed in Impacts CP-2 and CP-3, excavation associated with the proposed project would have a significant impact related to the potential to encounter previously unrecorded archeological resources and/or human remains interred outside of a formal cemetery. Cumulative projects in the proposed project vicinity could also involve excavation that has the potential to encounter previously unrecorded archeological resources or human remains, which would be a potentially significant cumulative impact. The proposed project's contribution to this impact would be cumulatively considerable.

As discussed in Impacts CP-2 and CP-3, the proposed project's potential to encounter previously unrecorded archeological resources and human remains would be reduced to a less-than-significant level with implementation of Mitigation Measures CP-2 (Archeological Research Design, Testing and Evaluation Plan, Archeological Monitoring Program and/or Archeological Data Recovery Program) (see Impact CP-2, above, for description). These measures require that if an archeological resource may be present within the project area, UCSF or the City is required to retain the services of a qualified archeological consultant to assist in evaluating the find. With regard to the accidental discovery of human remains, in particular, the San Francisco County coroner must be notified immediately, and, in the event the coroner determined that the remains were Native American, the NAHC must be notified. Implementation of these measures would effectively avoid damage to or loss of resources, and little to no residual impact would remain after mitigation. With implementation of these mitigation measures, the project's contribution to this cumulative impact would not be cumulatively considerable (less than significant).

As discussed in Impact CP-4, tribal cultural resources in the project area or in the vicinity have not been identified. Assuming none are identified, there would be no cumulative impact to tribal cultural resources from implementation of the proposed project.

Paleontological Resources

As discussed in Impact CP-5, the proposed project could have a significant impact related to the potential to encounter paleontological resources during excavation within Pleistocene-age alluvium, which has a high paleontological potential. Cumulative projects in the proposed project vicinity may involve excavation in the same geologic unit or other paleontologically sensitive landforms. These cumulative projects could also encounter paleontological resources during construction, which would be a potentially significant cumulative impact, and the proposed project's contribution to this impact would be cumulatively considerable.

Impact CP-5 notes that the proposed project's impacts on paleontological resources would be site-specific and limited to the project construction areas, and would be reduced to a less-than-significant level with implementation of Mitigation Measure CP-5 (Inadvertent Discovery of Paleontological Resources) (see Impact CP-5, above, for description). This measure requires UCSF at the research building site and the Planning Department at the garage expansion site ensure proper procedures are followed in the event that potentially significant resources are unearthed. Implementation of this mitigation measure would ensure that any paleontological resources encountered during construction would be recovered and appropriately managed. Implementation of this measure would effectively avoid damage to or loss of resources, and little to no residual impact would remain after mitigation. Therefore, the proposed project's contribution to this cumulative impact would not be cumulatively considerable (less than significant).

4.3.7 References

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4.4 Greenhouse Gas Emissions

4.4.1 Introduction

This section describes greenhouse gas (GHG) emissions and global climate change, the existing regulatory framework governing GHG emissions, and the potential impacts related to GHGs associated with implementation of the proposed project. The proposed research building is evaluated for consistency with plans and policies of the University of California while the parking garage expansion is evaluated for compliance with San Francisco's *Strategies to Address Greenhouse Gas Emissions*, recognized by the Bay Area Air Quality Management District (BAAQMD) as meeting the criteria of a qualified GHG Reduction Strategy.

4.4.2 Environmental Setting

4.4.2.1 Greenhouse Gas Emissions and Climate Change

Gases that trap heat in the atmosphere are referred to as greenhouse gases (GHGs) because they capture heat radiated from the sun as it is reflected back into the atmosphere, much like a greenhouse does. The accumulation of GHGs contributes to global climate change. The primary GHGs, or climate pollutants, are carbon dioxide (CO_2), black carbon, methane (CH_4), nitrous oxide (N_2O), ozone, and water vapor.

Individual development projects contribute to the cumulative effects of climate change by emitting GHGs during demolition, construction, and operational phases. While the presence of the primary GHGs in the atmosphere is naturally occurring, CO_2, CH_4, and N_2O are also emitted from human activities, accelerating the rate at which these compounds occur within the earth's atmosphere. Emissions of CO_2 are largely by-products of fossil fuel combustion, whereas CH_4 results from off-gassing associated with agricultural practices and landfills. Black carbon has emerged as a major contributor to global climate change, possibly second only to CO_2. Black carbon is produced naturally and by human activities as a result of the incomplete combustion of fossil fuels, biofuels, and biomass (Center for Climate and Energy Solutions, 2010). N_2O is a byproduct of various industrial processes. Other GHGs include hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride, and are generated in certain industrial processes. GHGs are typically reported in "carbon dioxide-equivalent" measures (CO_2e).[1]

There is international scientific consensus that human-caused increases in GHGs contribute to climate change. Many impacts resulting from climate change, including sea level rise, increased fires, floods, severe storms, and heat waves, already occur and will only become more severe and costly in the future. Secondary effects of climate change likely include impacts to agriculture, the state's electricity system, and native freshwater fish ecosystems; an increase in the vulnerability of levees such as in the Sacramento-San Joaquin Delta; changes in disease vectors; and changes in habitat and biodiversity (CEC, 2012).

[1] Because of the differential heat absorption potential of various GHGs, GHG emissions are frequently measured in "carbon dioxide-equivalents," which present a weighted average based on each gas's heat absorption (or "global warming") potential.

4.4.2.2 Greenhouse Gas Emission Estimates and Energy Providers in California

The California Air Resources Board (CARB) estimated that in 2013 California produced about 459.3 million gross metric tons of CO_2e (million metric tons CO_2e) (CARB, 2015). The CARB found that transportation is the source of 37% of the state's GHG emissions, followed by industrial sources at 23%, and electricity generation (both in-state generation and imported electricity) at 20%. Commercial and residential fuel use (primarily for heating) accounted for 12% of GHG emissions. In San Francisco, motorized transportation and natural gas sectors were the two largest sources of GHG emissions, accounting for approximately 40% (2.1 million metric tons CO_2e) and 29% (1.5 million metric tons CO_2e) respectively, of San Francisco's 5.3 million metric tons CO_2E emitted in 2010 (SFDOE, 2013). Electricity consumption (building operations and transit) accounts for approximately 25% (1.3 million metric tons CO_2e) of San Francisco's GHG emissions.

Electricity in San Francisco is primarily provided by the Pacific Gas and Electricity Company (PG&E) and the San Francisco Public Utilities Commission (SFPUC). In 2010, electricity consumption in San Francisco was approximately 6.1 million megawatt-hours (MWh). Of this total, PG&E produces approximately 73% of the electricity distributed (4.5 million MWh; about 79% of San Francisco's electricity-driven GHG emissions), and the SFPUC produces approximately 14% of the electricity distributed (0.9 million MWh; about 0.01% of San Francisco's electricity-driven GHG emissions) (SFDOE, 2013).

The majority of land use projects in San Francisco, including those on the ZSFG campus, are provided power by PG&E, whose 2010 power mix was as follows: 20% natural gas, 24% nuclear, 16% eligible renewables, 16% large hydroelectric, 23% unspecified power, 1% coal, and 1% other fossil fuels (PG&E, 2010).

Muni, City buildings, and a limited number of other commercial accounts in San Francisco are provided energy by the SFPUC, which operates three hydroelectric power plants that are part of San Francisco's Hetch Hetchy water supply and distribution system. This system has the lowest GHG emissions of any large electric utility in California.

In addition, San Francisco General has its own boilers that operate as a cogeneration plant, which contribute some of the electrical load for existing facilities at the hospital.

4.4.3 Regulatory Considerations

4.4.3.1 State Regulations

Executive Orders S-3-05 and B-30-15

In 2005, Executive Order (EO) S-3-05, set forth a series of target dates by which statewide emissions of GHGs need to be progressively reduced, as follows: by 2010, reduce GHG emissions to 2000 levels (approximately 457 million metric tons CO_2e); by 2020, reduce emissions to 1990 levels (estimated at 427 million metric tons CO_2e); and by 2050 reduce emissions to 80% below 1990 levels (approximately 85 million metric tons CO_2e). As discussed in the Setting section above,

California produced 459.3 million metric tons CO_2e in 2010. In April 2015, Governor Jerry Brown issued EO B-30-15, which set an additional statewide GHG reduction target of 40% below 1990 levels to be achieved by 2030.

Assembly Bill 32 and California Climate Change Scoping Plan

In 2006, the California legislature passed Assembly Bill No. 32 (California Health and Safety Code Division 25.5, Sections 38500, *et seq.*, or AB 32), also known as the California Global Warming Solutions Act. AB 32 requires ARB to design and implement emission limits, regulations, and other measures, such that feasible and cost-effective statewide GHG emissions are reduced to 1990 levels by 2020.

Pursuant to AB 32, the ARB adopted a Scoping Plan in December 2008, outlining measures to meet the 2020 GHG reduction limits. In order to meet the goals of AB 32, California must reduce its GHG emissions by 30% below projected 2020 business-as-usual emissions levels, about 15% below 2008 levels (CARB, 2010). The Scoping Plan estimates a reduction of 174 million metric tons CO_2e from transportation, energy, agriculture, forestry, and other high global warming sectors, as shown in **Table 4.4-1**. (CARB, 2008)

TABLE 4.4-1
GHG REDUCTIONS FROM THE AB 32 SCOPING PLAN SECTORS

	GHG Reductions (million metric tons CO_2e)
GHG Reduction Measures By Sector	
Transportation Sector	62.3
Electricity and Natural Gas	49.7
Industry	1.4
Landfill Methane Control Measure (Discrete Early Action)	1
Forestry	5
High Global Warming Potential GHGs	20.2
Additional Reductions Needed to Achieve the GHG Cap	34.4
Total	**174**
Other Recommended Measures	
Government Operations	1-2
Methane Capture at Large Dairies	1
Additional GHG Reduction Measures:	
Water	4.8
Green Buildings	26
High Recycling/ Zero Waste • Commercial Recycling • Composting • Anaerobic Digestion • Extended Producer Responsibility • Environmentally Preferable Purchasing	9
Total	**41.8-42.8**

metric tons CO_2e = metric tons of carbon dioxide equivalent
SOURCE: CARB, 2008 and CARB, 2010

The AB 32 Scoping Plan also anticipates that local government actions will result in reduced GHG emissions because local governments have the primary authority to plan, zone, approve, and permit development to accommodate population growth and the changing needs of their jurisdictions (CARB, 2008). The Scoping Plan also relies on the requirements of Senate Bill (SB) 375 (discussed below) to align local land use and transportation planning for achieving GHG reductions.

The Scoping Plan must be updated every five years to evaluate AB 32 policies and ensure that California is on track to achieve the 2020 GHG reduction goal. In 2014, CARB released the First Update to the Scoping Plan, which builds upon the Initial Scoping Plan with new strategies and recommendations. The First Update identifies opportunities to leverage existing and new funds to further drive GHG emission reductions through strategic planning and targeted low carbon investments. This update defines CARB's climate change priorities for the next five years and sets the groundwork to reach long-term goals set forth in EO S-3-05. The update highlights California's progress toward meeting the "near-term" 2020 GHG emission reduction goals in the original 2008 Scoping Plan. It also evaluates how to align the State's "longer-term" GHG reduction strategies with other State policy priorities for water, waste, natural resources, clean energy, transportation, and land use (CARB, 2014).

Senate Bill 375

The Scoping Plan also relies on the requirements of Senate Bill 375 (SB 375), known as the Sustainable Communities and Climate Protection Act of 2008, to reduce carbon emissions from land use decisions. SB 375 requires regional transportation plans developed by each of the State's 18 Metropolitan Planning Organizations (MPOs) to incorporate a "sustainable communities strategy" (SCS) in each regional transportation plan that will then achieve GHG emission reduction targets set by CARB. For the Bay Area, the per-capita GHG emission reduction target is a 7% reduction by 2020 and a 15% reduction by 2035 from 2005 levels. The Metropolitan Transportation Commission's 2013 Regional Transportation Plan, Plan Bay Area, adopted in July 2013, is the region's first plan subject to SB 375 requirements.

Senate Bill 1078, 107, and X1-2 and Executive Order S-14-08 and S-21-09

California established aggressive Renewable Portfolio Standards under SB 1078 (Chapter 516, Statutes of 2002) and SB 107 (Chapter 464, Statutes of 2006), which require retail sellers of electricity to provide at least 20% of their electricity supply from renewable sources by 2010. EO S-14-08 (November 2008) expanded the State's Renewable Portfolio Standard from 20% to 33% of electricity from renewable sources by 2020. In September 2009, then-Governor Schwarzenegger continued California's commitment to the Renewable Portfolio Standard by signing EO S-21-09, which directed CARB to enact regulations to help California meet the Reviewable Portfolio Standard goal of 33% renewable energy by 2020. (CEC, 2015)

To codify the GHG reduction goal of 33% by 2020 for energy suppliers, SB X1-2 (Chapter 1, Statutes of 2011) was signed by Governor Edmund G. Brown, Jr., in April 2011. This Renewable Portfolio Standard preempts CARB's 33% renewable sources electricity standard and applies to all electricity suppliers (not just retail sellers) in the state, including publicly owned utilities,

investor-owned utilities, electricity service providers, and community choice aggregators. All of these entities must adopt the new Renewable Portfolio Standard goals of 20% of retail sales from renewable sources by the end of 2013, 25% by the end of 2016, and 33% by the end of 2020. Eligible renewable sources include geothermal, ocean wave, solar photovoltaic, and wind, but exclude large hydroelectric (30 MW or more). Therefore, any non-hydroelectric sources of electricity provided by the SFPUC are required to be 100% renewable.

4.4.3.2 Regional and Local Regulations and Plans

Bay Area Air Quality Management District (BAAQMD)

The BAAQMD is responsible for attaining and maintaining federal and state air quality standards in the San Francisco Bay Area Air Basin (SFBAAB), as established by the federal Clean Air Act (CAA) and the California Clean Air Act (CCAA), respectively. The CAA and the CCAA require plans to be developed for areas that do not meet air quality standards, generally. The most recent air quality plan, the 2010 Clean Air Plan, includes a goal of reducing GHG emission to 1990 levels by 2020 and to 40% below 1990 levels by 2035.

In addition, the BAAQMD established a climate protection program to reduce pollutants that contribute to global climate change and affect air quality in the SFBAAB; the program includes GHG-reduction measures that promote energy efficiency, reduce vehicle miles traveled, and develop alternative energy sources. (BAAQMD, 2015)

The BAAQMD also assists lead agencies in complying with the requirements of CEQA regarding potentially adverse impacts to air quality with respect to their CEQA Air Quality Guidelines. The BAAQMD advises lead agencies to consider adopting a Greenhouse Gas Reduction Strategy capable of meeting AB 32 goals and then reviewing projects for compliance with the Greenhouse Gas Reduction Strategy. (BAAQMD, 2012) This is consistent with the approach to analyzing GHG emissions in the CEQA Guidelines, Section 15183.5.

BAAQMD CEQA Guidelines and Thresholds

In June 2010, the BAAQMD issued its CEQA Air Quality Guidelines, replacing former guidelines adopted in December 1999, and adopted new thresholds of significance to assist lead agencies in determining when potential air quality impacts would be considered significant under CEQA. Updated in May 2011, these guidelines include recommendations for analytical methodologies to determine air quality impacts and identify mitigation measures that can be used to avoid or reduce air quality impacts, including for GHGs (BAAQMD, 2011).

The *BAAQMD CEQA Guidelines* is an advisory document and local jurisdictions are not required to utilize the methodology outlined therein. The document describes the criteria that BAAQMD uses when reviewing and commenting on the adequacy of environmental documents. It recommends thresholds for use in determining whether projects would have significant adverse environmental impacts, identifies methodologies for predicting project emissions and impacts, and identifies measures that can be used to avoid or reduce air quality impacts. BAAQMD adopted new thresholds of significance (BAAQMD thresholds) on June 2, 2010, to assist lead agencies in

determining when potential air quality impacts would be considered significant under CEQA. BAAQMD also released new *CEQA Guidelines* in May 2011, which advise lead agencies on how to evaluate potential air quality impacts with the adopted new thresholds of significance.

On March 5, 2012, the Alameda County Superior Court issued a judgment finding that BAAQMD had failed to comply with CEQA when it adopted its 2010 thresholds of significance. However, in August 2013 the First District Court of Appeal issued a full reversal of the Superior Court ruling, upholding the 2010 thresholds of significance. The 2011 thresholds are based on substantial evidence provided by BAAQMD (BAAQMD, 2009), and have been accepted by the Regents of the University of California for use in this EIR.

The threshold for stationary sources is 10,000 metric tons of CO_2e per year (i.e., emissions above this level may be considered significant). For non-stationary sources, four separate thresholds have been established:

- Compliance with a Qualified Greenhouse Gas Reduction Strategy (i.e., if a project is found to be out of compliance with a Qualified Greenhouse Gas Reduction Strategy, its GHG emissions may be considered significant); or
- 1,100 metric tons of CO_2e per year (i.e., emissions above this level may be considered significant); or
- 4.6 metric tons of CO_2e per service population (SP) per year (i.e., emissions above this level may be considered significant). "Service population" is the sum of residents plus employees expected for a development project.; or
- For General Plans, 6.6 metric tons of CO_2e per service population (SP) per year (i.e., emissions above this level may be considered significant). This threshold should only be applied to general plans. Other plans, e.g. specific plans, congestion management plans, etc., should use the project-level threshold of 4.6 CO_2e/SP/year.

For quantifying a project's GHG emissions, BAAQMD recommends that all GHG emissions from a project be estimated, including a project's direct and indirect GHG emissions from operations. Direct emissions refer to emissions produced from onsite combustion of energy, such as natural gas used in furnaces and boilers, emissions from industrial processes, and fuel combustion from mobile sources. Indirect emissions are emissions produced offsite from energy production and water conveyance due to a project's energy use and water consumption. BAAQMD has provided guidance on detailed methods for modeling GHG emissions from proposed projects (BAAQMD, 2012). The above stated thresholds apply only to operational emissions. To date, the BAAQMD has not adopted numeric thresholds for the assessment of construction-related emissions. Nonetheless, construction-related GHG emissions resulting from the project are estimated and disclosed in this EIR.

University of California

Policies and Plans of the UC Regents and University of California Office of the President (UCOP)

In 2007, the Chancellor of UCSF signed the *American College and University President's Climate Commitment* (ACUPCC) to complete an emissions inventory, set target dates and interim milestones for becoming climate-neutral,[2] take steps to reduce GHG emissions, and prepare public progress reports (American College, 2007). As an intermediate target, UCOP established the goals of reducing GHG emissions to 2000 levels by 2014; 1990 levels by 2020; and achieving climate neutrality as soon as possible after reaching the 2014 and 2020 reduction targets. More recently, UCSF committed to achieving climate neutrality by the year 2047.[3] These goals pertain to Scope 1 and Scope 2 emissions of the six Kyoto greenhouse gases originating from sources specified in the ACUPCC,[4] as well as Scope 3 emissions from business airline travel and commuting by UCSF staff and students. The Regents' policy specifies that these goals will be pursued while maintaining the primary research and education mission of the University.

As outlined in UCSF's *Climate Action Plan* of December 2009, the UC President adopted the *Policy on Sustainable Practices* in 2007, which committed UC to implementing actions intended to minimize the University's impact on the environment and reduce the University's dependence on non-renewable energy. The policy was most recently revised in June 2015, and now covers the areas of green building, clean energy, transportation, climate protection, sustainable operations, waste reduction and recycling, environmentally preferable purchasing, sustainable foodservice, and sustainable water systems. The UC *Policy on Sustainable Practices* will continue to be updated over time.[5]

In addition the *Policy on Sustainable Practices* sets the following requirements and goals relevant to GHG emissions reduction:

- Requires each campus to develop a long-term strategy for voluntarily meeting the requirements of California's Global Warming Solutions Act of 2006 (AB 32);
- Instructs campuses to aim for climate neutrality as soon as possible after achieving 2014 and 2020 reduction targets;
- Requires 20% better energy performance than Title 24 (policy maintained as Title 24 is revised) for new construction and renovations, and strives to achieve 30%;
- Requires new laboratory buildings to meet Labs21 Environmental Performance Criteria (EPC);

2 Climate neutrality for UCSF is defined as the University having a net-zero impact on the Earth's climate; it will be achieved by minimizing GHG emissions as much as possible and using other measures to mitigate the remaining GHG emissions (*UCSF Climate Action Plan*, December 2009).

3 This is the current commitment made under the ACUPCC and the goal that is referenced in UCSF's Annual Progress Report to the UC Regents.

4 The six greenhouse gases identified in the Kyoto Protocol/ACUPCC are carbon dioxide, methane, nitrous oxide, sulfur hexafluoride, hydrofluorocarbons, and perfluorocarbons.

5 The current version of the Policy is available at: http://sustainability.universityofcalifornia.edu/policy.html

- All new construction and major renovations projects must meet a minimum standard of LEED-NC Silver and strive for LEED NC Gold when possible;
- The University will use energy efficiency retrofits to reduce system-wide energy consumption by 10% or more, from 2000 baseline, by 2014;
- Renovation projects greater than $5 million that do not quality for LEED-NC must be certified under LEED-CI;
- Renovation projects that require 100% equipment replacement, and 50% non-shell areas, must achieve LEED Silver at a minimum and strive for Gold;
- Each campus will submit one pilot LEED-EBOM building for certification by July 1, 2014;
- University system will provide up to 10 MW capacity of on-site renewable energy by 2014 (approximately 1 MW per UC campus);
- Develop goals for reducing transportation related GHG's and report on progress annually;
- Expand Transportation Demand Management (TDM) programs and projects;
- Divert 50% solid waste by 2008, 75% by 2012, and achieve zero waste by 2020 (defined as diverting 95% or more of municipal solid waste);
- Develop a Water Action Plan and reduce water consumption by 20% by 2020;
- All new buildings achieve at least two points in LEED NC Water Efficiency category;
- Maximize procurement of environmentally preferable products and services; and
- Purchase 20% sustainable food products by 2020.

The UC President has set a goal for UC to become carbon neutral by 2025 and purchase only clean energy (UCOP, 2013). This goal has not been formally adopted by the Regents, but UC is actively working on the President's initiative to be the first major research university to achieve carbon neutrality, involving four efforts:

- Create a shared service center, which both owns electricity-generation resources and purchases long-term forward contracts, and which will manage the supply of wholesale electricity to campuses eligible for direct access.
- Continue energy-efficient projects and expand them to include small- to medium-scale renewable energy sources at all campus sites, and seek additional funding sources for these projects.
- Effectively manage the purchase of natural gas to mitigate risk tolerance to price changes, develop renewable natural gas (biogas) and purchase biogas contracts through outside producers.
- Manage allowances and offsets; comply with California's cap-and-trade program and other environmental attribute programs; and generate new funds to support projects resulting in GHG emission reductions.

University of California, San Francisco

UCSF has a robust sustainability program covering sustainability activities across the entire campus and medical center. Through its Office of Sustainability, UCSF has created work groups addressing sustainability in the following areas, most of which have direct implications for GHG emissions: Carbon Neutrality, Zero Waste, Water Conservation, Sustainable Food, Toxics Reduction, Green Procurement, Green Buildings, and Sustainable Operations.

UCSF's Sustainability Governance consists of the Academic Senate Sustainability Committee and the Chancellor's Advisory Committee on Sustainability (CACS). The Academic Senate Sustainability Committee identifies faculty recommendations on improving sustainability at UCSF. The charge of the CACS is to:

- Annually examine UCSF's effect on the environment from a comprehensive perspective;
- Evaluate existing UCSF policies, procedures, and programs that affect the environment;
- Serve as a coordinating body for groups or individuals concerned with sustainability issues;
- Advise selected work groups in the development and implementation of UCSF's sustainability initiatives and goals; and
- Support reduction of greenhouse gas emissions to 1990 levels by 2020.

UCSF includes a Sustainability Dashboard on its Living Green web site that includes performance metrics for multiple issue areas including GHG emissions. UCSF also publishes an annual sustainability report on its web site.[6]

UCSF Climate Action Plan

As part of implementing the UC *Sustainable Practices Policy*, UCSF has developed a Climate Action Plan, a long-term strategy for voluntarily meeting the State of California's goal for reducing GHG emissions to 1990 levels by 2020, pursuant to AB 32. The Climate Action Plan also addresses the UCOP goals of reducing GHG emissions to 2000 levels by 2014; and attaining climate neutrality[7] as soon as possible after achieving the 2014 and 2020 reduction targets. GHG emissions inventories are included for the years 1990, 2000, 2008, and 2011. The Climate Action Plan forecasts future emissions and assesses the impact of UCSF sustainability policies and programs on future GHG emissions and the prospects for achieving GHG reduction goals. The Climate Action Plan concludes that UCSF is expected to meet the goal of reducing GHG emissions to 2000 levels by 2014, but that the goal of reducing to1990 levels by 2020 would not likely be met without the use of additional reduction measures or carbon offsets.

6 Annual Sustainability Reports are available on the UCSF LivingGreen web site: http://sustainability.ucsf.edu/

7 The Climate Action Plan defines climate neutrality as having a net zero impact on the Earth's climate, to be achieved by minimizing GHG emissions as much as possible and using carbon offsets or other measures to mitigate the remaining GHG emissions.

UCSF Greenhouse Gas Reduction Strategy

UCSF prepared a *GHG Reduction Strategy* in conjunction with the 2014 Long Range Development Plan (LRDP) to ensure that the LRDP is implemented in alignment with the UC *Sustainable Practices Policy*, particularly the directives on GHGs, and to fulfill the GHG reduction requirements of AB 32. The *GHG Reduction Strategy* updates UCSF's portfolio of GHG reduction strategies in categories that pertain to physical development under the LRDP. These categories include the following: campus infrastructure improvements, renewable energy facilities construction, renewable energy purchase, equipment retrofits, operational energy efficiencies, and measures that can be applied to individual projects with the goal of incrementally reducing UCSF's overall GHG emissions over the LRDP horizon.

UC Strategic Energy Plan

The UC Strategic Energy Plan (SEP) was prepared in 2008 for all UC campuses, to fulfill a goal of UC's Policy on Sustainable Practices to implement energy efficiency projects in existing buildings. The UCSF portion of the SEP analyzes energy use and GHG trends, and identifies potential energy efficiency retrofit projects at all buildings over 50,000 square feet at UCSF (primarily lighting, HVAC, commissioning and central plant measures). Energy savings, GHG emissions savings, and financial returns are estimated for hundreds of projects, which are grouped into Tier 1 (high priority) and Tier 2 (longer term planning) projects based on their energy savings and financial payback. The SEP project list is intended to be regularly updated by each campus to evaluate the feasibility of additional energy-saving measures.

Transportation Demand Management

UCSF employs an aggressive Transportation Demand Management (TDM) program that includes an extensive shuttle system, among other alternative transportation opportunities. Based on UCSF's 2013 employee commute survey, 66% of the campus population commutes by means other than driving alone. In 2011, UCSF received the Gold level award for the Best Workplace for Commuters. Key features of UCSF's existing TDM program include the following:

- 60 shuttles serving 17 locations, with over 2.3 million passengers per year
- 33 vanpools that travel as far as Sacramento and operate using the Green Road Safety System, which improves fuel consumption and safety
- 62 reserved carpool stalls at various sites
- Marin Commute Club buses with about 55 daily riders who live in Marin and Sonoma Counties to the north of San Francisco
- 18 City CarShare vehicles with dedicated parking spaces, along with 1,500 UCSF members who can use these vehicles by scheduling their use on-line
- A fleet of 43 low-emitting alternative-fuel and hybrid vehicles, including cars, shuttles, golf carts, and trucks
- 18 electric-vehicle charging stations at Parnassus Heights, Mount Zion, and Mission Bay, with plans for another 20 at Mission Bay in the Owens Street Garage and 10 at other locations

- Over 1,900 UCSF users of the ZimRide online carpool matching program
- 972 bicycle parking spaces with another 100 planned at Mission Bay, as well as bike racks on shuttles, a cyclist shower program that allows bicyclists to use UCSF showers at a discount, and other bicycle-related benefits
- Bay Area Bike Share station at Mission Bay (due to commence operation by the end of 2016), where members will have access to bicycles (and a regional network of stations) provided by the Bay Area Air Quality Management District
- More than 400 off-street motorcycle parking stalls in garages and surface parking lots
- An "emergency ride home" program to encourage use of alternative modes of transportation
- Clipper Card (public transit pass) sales at easily accessible locations, including through UCSF's website
- Close to 1,800 UCSF employees that participate in a pretax transit program, which saved UCSF employees over $700,000 on public transit commute costs in 2013

Annual GHG Inventory Reporting

UC *Sustainability Practices Policy* requires each campus to report a GHG emissions inventory to an independent reporting organization. UCSF reported calendar year 2008 Scope 1 and Scope 2 emissions[8] to the California Climate Action Registry (CCAR). UCSF currently reports its annual Scope 1 and Scope 2 GHG emissions inventory to The Climate Registry (TCR). The most recent inventory reported to TCR was for calendar year 2014. UCSF emissions inventories reported to outside agencies are verified by accredited independent auditors.

Since 2008 UCSF has also been required to report its annual Scope 1 emissions from the Parnassus Heights Central Utility Plant (PCUP) to the California Air Resources Board (CARB) annually under the AB 32 Reporting Rule. UCSF tracks and reports its progress towards meeting its GHG emissions goals in its Annual Sustainability Report. The most recent inventory reported to CARB was for calendar year 2014. UCSF also reports to the UC Regents annually on its progress in meeting the goals in the UC *Sustainable Practices Policy*.[9] The most recent Annual Report on Sustainable Practices reported is for 2015.

Local

San Francisco Greenhouse Gas Reduction Ordinance

In May 2008, the City and County of San Francisco (CCSF) adopted Ordinance No. 81-08 amending the San Francisco Environment Code to establish GHG emissions targets and departmental action plans and to authorize the San Francisco Department of the Environment to coordinate efforts to meet these targets. The City ordinance establishes the following GHG emissions reduction limits and target dates by which to achieve them: determine 1990 Citywide

8 For more information on UCSF's Scope 1, Scope 2 and Scope 3 GHG emissions, see "UCSF GHG Emissions Inventory and Forecasts" later in this document.

9 The University of California system-wide Annual Sustainability Reports are available at: http://sustainability.universityofcalifornia.edu/reports.html

GHG emissions by 2008, the baseline level, with reference to which target reductions are set; reduce GHG emissions by 25% below 1990 levels by 2017; reduce GHG emissions by 40% below 1990 levels by 2025; and reduce GHG emissions by 80% below 1990 levels by 2050. The City's GHG reduction targets are consistent with—in fact, more ambitious than—those set forth in Governor Brown's recent Executive Order B-30-15 by targeting a 40% reduction by 2025 rather than a 40% reduction by 2030.

San Francisco Greenhouse Gas Reduction Strategy

San Francisco has developed a number of plans and programs to reduce the City's contribution to global climate change and to meet the goals of the City's Greenhouse Gas Reduction Ordinance. San Francisco's Greenhouse Gas Reduction Strategy documents its actions to pursue cleaner energy, energy conservation, and alternative transportation and solid waste policies. For instance, the City has implemented mandatory requirements and incentives that have measurably reduced GHG emissions including, but not limited to, increasing the energy efficiency of new and existing buildings, installation of solar panels on building roofs, implementation of a green building strategy, adoption of a zero waste strategy, a construction and demolition debris recovery ordinance, a solar energy generation subsidy, incorporation of alternative fuel vehicles in the City's transportation fleet (including buses), and a mandatory recycling and composting ordinance. The strategy also identifies 42 specific regulations for new development that would reduce a project's GHG emissions.

San Francisco's policies and programs have resulted in a reduction in GHG emissions to below 1990 levels, exceeding statewide AB 32 GHG reduction goals. San Francisco's GHG emissions in 2010 were 5.3 million metric tons CO_2e, which represents a 14.5% reduction in GHG emissions compared to 1990 levels (6.2 million metric tons CO_2e). The reduction is largely a result of reduced GHG emissions from the electricity sector, from 2.0 million metric tons CO_2e (1990) to 1.3 million metric tons CO_2e (2010), and the waste sector, from 0.5 million metric tons CO_2e (1990) to 0.2 million metric tons CO_2e (2010). (SF DOE, 2013)

4.4.4 Significance Standards

Would the project:

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

4.4.5 Analysis Methodology

GHG emissions and global climate change represent cumulative impacts of human activities and development projects locally, regionally, statewide, nationally, and worldwide. GHG emissions from all of these sources cumulatively contribute to the significant adverse environmental impacts of global climate change. No single project could generate enough GHG emissions to noticeably

change the global average temperature; instead, the combination of GHG emissions from past, present, and future projects around the world have contributed and will continue to contribute to global climate change and its associated environmental impacts.

BAAQMD has prepared guidelines and methodologies for analyzing the impacts associated with GHG emissions. These guidelines are consistent with CEQA Guidelines Sections 15064.4 and 15183.5, which address the analysis and determination of significant impacts from a proposed project's GHG emissions. CEQA Guidelines Section 15064.4 allows lead agencies to rely on a qualitative analysis to describe GHG emissions resulting from a project. CEQA Guidelines Section 15183.5 allows for public agencies to analyze and mitigate GHG emissions as part of a larger plan for the reduction of greenhouse gases and describes the required contents of such a plan. Accordingly, San Francisco has prepared its own Greenhouse Gas Reduction Strategy (described above), which the BAAQMD has reviewed and concluded that "Aggressive GHG reduction targets and comprehensive strategies like San Francisco's help the Bay Area move toward reaching the State's AB 32 goals, and also serve as a model from which other communities can learn." (BAAQMD, 2010)

Given that the City's local greenhouse gas reduction targets are more aggressive than the State and region's 2020 and 2030 GHG reduction targets and consistent with the long-term 2050 reduction targets, the City's Greenhouse Gas Reduction Strategy is consistent with the goals of EO S-3-05, EO B-30-15, AB 32, and the Bay Area 2010 Clean Air Plan. Therefore, proposed projects that are consistent with the City's Greenhouse Gas Reduction Strategy would be consistent with the goals of EO S-3-05, EO B-30-15, AB 32, and the Bay Area 2010 Clean Air Plan, would not conflict with these plans, and would therefore not exceed the GHG significance threshold.

Separate analyses are performed for the proposed research building and the proposed parking garage expansion, as the former would require the discretionary approval of the UC Regents, while the latter would require the discretionary approval of the City of San Francisco. Consequently, GHG emissions from construction and operation of the research building are quantified and compared to the BAAQMD-developed significance thresholds. Potential impacts are assessed by modeling the estimated GHG emissions generated by the construction activities and operations, using the California Emissions Estimator Model (CalEEMod) version 2013.2.2 land use emissions model, and comparing modeled emissions to the significance thresholds. Model data and additional assumptions are included in Appendix D of this EIR.

Expansion of the parking garage would contribute to annual long-term increases in GHGs that would be associated primarily with building construction. Potential retail uses of some variants also would emit GHGs. GHG emissions associated with the proposed garage expansion are quantified in the EIR analysis and compared to the BAAQMD guidelines. The analysis also determines the consistency of the garage expansion with the City's GHG Reduction Strategy.

4.4.6 Impacts and Mitigation Measures

Impact GHG-1: The proposed project and its variants would result in an increase in greenhouse gas emissions. (Potentially Significant)

Construction Sources. Construction activities would result in emissions of GHGs from the use of heavy-duty construction equipment, haul truck trips, and vehicle trips generated from construction workers traveling to and from the site. Construction-related emissions were calculated using CalEEMod for the proposed project and each of the variants, assuming completion by 2020. Phasing lengths were based on CalEEMod default estimates which are based on square footage for hospitals and medical office buildings. All model inputs and outputs are provided in Appendix D.

Table 4.4-2 presents the annual GHG emissions generated by the proposed project while **Table 4.4-3** presents a comparison of GHG emissions for the proposed project and for each of the variants. As discussed earlier, BAAQMD has not established a quantitative threshold relative to construction-related emissions. In lieu of any proposed or adopted thresholds relative to construction-related emissions, these emissions are considered significant unless best management practices are implemented to reduce GHG emissions during construction, as feasible.

TABLE 4.4-2
ANNUAL GHG EMISSIONS FOR THE PROPOSED PROJECT

Source	Annual CO_2e, Metric Tons		
	Research Building	**Garage**	**Total**
Construction (30-year amortized)	13.9	3.30	17.2
Operations			
Area Sources	0.00391	0.00579	0.0097
Energy	393	110	502
Solid Waste	6.05		6.05
Water	168		168
Generator	70.6		70.6
Mobile	183		183
Total Emissions	**835**	**113**	**948**
BAAQMD Brightline Threshold	1,100	1,100	1,100
Potentially Significant?	No	No	No
Service Population	800		800
Total Emissions per Service Population	**1.0**		**1.2**
BAAQMD Efficiency Threshold	4.6		4.6
Potentially Significant?	No		No

TABLE 4.4-3
ANNUAL GHG EMISSIONS

Condition	Annual CO_2e Metric Tons	Potentially Significant?
Total Emissions		
Project	948	No
Variant 1	1,022	No
Variant 2	1,028	No
Variant 3	1,102	**Yes**
Variant 4	835	No
BAAQMD Brightline Threshold	1,100	
Total Emissions per Service Population		
Project	1.2	No
Variant 1	1.3	No
Variant 2	1.3	No
Variant 3	1.4	No
Variant 4	1.0	No
BAAQMD Efficiency Threshold	4.6	

SOURCE: CARB CalEEMod Version 2013.2.2 and USEPA AP 42 Section 3.4

Consequently, Mitigation Measure GHG-1 is identified to ensure implementation of best management practices during construction of the proposed research building. As noted in Section 4.2, *Air Quality*, because the parking garage component of the proposed project would be funded by the City, construction activities would be subject to the City's Clean Construction Ordinance, which would require use of biodiesel fuel in off-road equipment and engines and that equipment meet or exceed Tier 2 emissions standards. Section 708 of the City's Green Building Requirements for City Buildings (San Francisco Environment Code, Chapter 7) would require preparation of a Construction and Demolition Debris Management Plan that demonstrates how a minimum of 75% of the material used in construction of the garage expansion will be diverted from landfill. Compliance with these requirements would be consistent with measures in Mitigation Measure GHG-1 and would reduce the impact to less than significant for the garage expansion.

Nonetheless, construction emissions are summed and amortized over an assumed 30-year lifespan of the project and added to operational emissions for the purposes of comparison to thresholds.

Mitigation Measure GHG-1: Construction-Related GHG Reduction Measures during Construction of Research Building.

The following BAAQMD-suggested measures shall be implemented during demolition and construction activities related to the research building:

- Use alternative fueled (e.g., biodiesel, electric) construction vehicles/equipment where feasible;

- Use locally sourced building materials for at least 10% of overall materials brought to site; and
- Recycle or reuse at least 50% of construction waste or demolition materials.

Significance after Mitigation: Less than Significant. Implementation of Mitigation Measure GHG-1 would ensure that UCSF and its contractors employ feasible, effective measures to reduce GHG emissions during demolition and construction activities of the research building. This mitigation measure would therefore reduce this potential impact to less than significant.

Area, Energy, and Indirect Sources. Operational GHG emissions associated with the proposed project and its variants would result from electrical and natural gas usage, water and wastewater transport, and solid waste generation. GHG emissions from electrical usage are generated when energy consumed by UCSF is generated by the non-renewable resources of an electrical supplier such as PG&E. GHG emissions from natural gas are direct emissions resulting from on-site combustion for heating and other purposes. GHG emissions from water and wastewater transport are also indirect emissions resulting from the energy required to transport water from its source, and the energy required to treat wastewater and transport it to its treated discharge point. Solid waste-related emissions are generated when the increased waste generated by the project is disposed in a landfill where it decomposes, producing methane gas.[10]

GHG emissions from electrical usage, natural gas combustion, mobile transportation, water and wastewater conveyance, and solid waste were estimated using the CalEEMod model, and are presented in Table 4.4-2. The default GHG emissions factor for PG&E was adjusted to reflect future reductions envisioned by PG&E[11], which is a conservative estimate because while power to the expanded garage would be supplied by PG&E, SFPUC supplies electrical power to the ZSFG facilities and has a lower emission factor due to the high percentage of renewable energy within its portfolio. Electrical and natural gas emissions also assume compliance with UCSF policy to achieve a 20% energy reduction beyond Title 24 requirements. Energy emissions include a component from natural gas combustion for space and water heating of the proposed research building. These emissions would be reported by UCSF in its annual inventory. If UCSF purchases steam from the ZSFG central utility plant, then minor increased emissions could be generated at the ZSFG central utility plant, which is under the permit control of ZSFG, not UCSF, and those GHG emissions would be reported by ZSFG pursuant to its federal Title V permit.

Mobile Emission Sources

One of the sources of operational emissions would be increased vehicle emissions from additional staff, patients, visitors and residents. Traffic volumes used to estimate vehicle-related emissions were derived from the Transportation Demand Analysis prepared for the project and its variants (Fehr & Peers, 2015). Implementation of the proposed project would generate an estimated 196 net new daily vehicle trips. Project variants that include the retail option would generate an additional 98 net new daily vehicle trips. GHG emissions from motor vehicle sources were

[10] CH_4 from decomposition of municipal solid waste deposited in landfills is counted as an anthropogenic (human-produced) GHG. (USEPA, 2006).

[11] PG&E, Greenhouse Gas Emission Factors: Guidance for PG&E Customers, November 2015.

calculated using the CalEEMod. Table 4.4-2 includes the incremental mobile source GHG emissions associated with the project.

As shown in Table 4.4-2, the sum of both direct and indirect GHG emissions[12] resulting from the proposed project, would result in an estimated 948 metric tons CO_2e per year. Applying a service population of 800 persons associated with the project results in emissions of approximately 1.2 metric tons CO_2e/SP per year. This is below the service population threshold of 4.6 metric tons CO_2e/SP per year and operational GHG emissions associated with the proposed project would therefore be a less than significant impact. While Variant 3 would have GHG emissions exceeding the 1,100 metric tons per year bright-line threshold, it would not exceed the 4.6 metric tons CO_2e/SP per year operational threshold.

Impact GHG-2: The proposed project and its variants would not conflict with the AB32 Scoping Plan, the UCSF Climate Action Plan, the UCSF GHG Reduction Strategy, or the City of San Francisco's GHG Reduction Strategy. (Less than Significant)

Consistency with Assembly Bill 32 and the State of California Climate Change Scoping Plan

The State of California's Climate Change Scoping Plan identifies 39 Recommended Actions (qualitative measures) to address climate change. Of the 39 measures identified, those that would be considered to have the greatest potential applications to the proposed project would be those actions related to electricity and natural gas use (E), and green building design (GB).

Scoping Plan Actions E-1 and GB-1 together aim to reduce electricity demand by increased efficiency of Utility Energy Programs and adoption of more stringent building and appliance standards. Elements of this action include encouraging construction of zero net energy (ZNE) buildings and implementation of passive solar design.

The proposed research building would be designed to meet certain criteria established by UCSF, including the requirement that all new construction and major renovations projects meet a minimum standard of LEED-NC Silver as well as a UC-imposed goal of achieving a 20% reduction in building energy demand beyond Title 24 requirements. Achievement of such an energy reduction would demonstrate that the proposed research building would be highly energy, waste and water-efficient.

Consequently, the proposed research building would implement a variety of green building design measures and use renewable energy sources and would therefore be consistent with the Recommended Actions of the Climate Change Scoping Plan adopted by CARB to achieve the goals of AB 32.

The UCSF *GHG Reduction Strategy* includes GHG reduction measures that, if fully implemented, would achieve an emissions reductions target that is consistent with and supports the state-

[12] CO_2e in all calculations include CO_2, CH_4 and N_2O.

mandated reduction target embodied in AB 32. This includes a requirement for new laboratory buildings to achieve a LEED™-NC "Gold" rating or higher as well as to meet Labs21 Environmental Performance Criteria. These requirements would apply to the proposed research building. Therefore, implementation of the construction and operation of the proposed research building would not conflict with the GHG reduction measures identified in CARB's AB 32 Scoping Plan.

Consistency with Policies and Plans of the UC Regents and University of California Office of the President (UCOP)

In 2007, the Chancellor of UCSF signed the *American College and University President's Climate Commitment* (American College and University, 2007) to complete an emissions inventory, set target dates and interim milestones for becoming climate-neutral,[13] take steps to reduce GHG emissions, and prepare public progress reports.

As outlined in UCSF's *Climate Action Plan* of December 2009, UC adopted the President's *Policy on Sustainable Practices* in 2007, which committed UC to implementing actions intended to minimize the University's impact on the environment and reduce the University's dependence on non-renewable energy. The policy was most recently revised in June 2015, and now covers the areas of green building, clean energy, transportation, climate protection, sustainable operations, waste reduction and recycling, environmentally preferable purchasing, sustainable foodservice, and sustainable water systems.

UCSF developed its *GHG Reduction Strategy* to establishing campus-wide GHG emissions targets for 2020 that are consistent with UC Policy on GHG emissions. As discussed above, the Strategy includes a requirement for new laboratory buildings to achieve a LEED™-NC "Gold" rating or higher as well as to meet Labs21 Environmental Performance Criteria. These requirements would apply to the proposed research building. Therefore, implementation of the construction and operation of the proposed research building would not conflict with policies and plans of the UC Regents or UCOP.

Consistency of the Parking Garage Expansion with the City of San Francisco GHG Reduction Strategy

The proposed parking garage expansion would increase the intensity of use of the site primarily by increasing the power demand for additional lighting**.** Construction activities would also result in temporary increases in GHG emissions.

The proposed parking garage expansion would be subject to and required to comply with several regulations adopted to reduce GHG emissions as identified in the City of San Francisco's GHG Reduction Strategy. The regulations that are applicable to the proposed garage expansion include the Street Tree Planting Requirements for New Construction, and SF Green Building Requirements for Energy Efficiency, which would promote energy and water efficiency, thereby

[13] Climate neutrality for UCSF is defined as the University having a net-zero impact on the Earth's climate; it will be achieved by minimizing GHG emissions as much as possible and using other measures to mitigate the remaining GHG emissions (*UCSF Climate Action Plan*, December 2009).

reducing the proposed garage expansion's energy-related GHG emissions.[14] Additionally, the garage expansion would be required to meet the renewable energy criteria of the Green Building Code, further reducing the project's energy-related GHG emissions.

Compliance with the City's Street Tree Planting requirements would serve to increase carbon sequestration. Regulations requiring low-emitting finishes would reduce volatile organic compounds (VOCs).[15] Thus, the proposed project was determined to be consistent with San Francisco's GHG reduction strategy.[16]

The garage expansion sponsor is required to comply with these regulations, which have proven effective as San Francisco's GHG emissions have measurably decreased when compared to 1990 emissions levels, demonstrating that the City has met and exceeded EO S-3-05, AB 32, and the *Bay Area 2010 Clean Air Plan* GHG reduction goals for the year 2020. Other existing regulations, such as those implemented through AB 32, will continue to reduce a proposed project's contribution to climate change. In addition, San Francisco's local GHG reduction targets are consistent with the long-term GHG reduction goals of EO S-3-05, EO B-30-15, AB 32, and the *Bay Area 2010 Clean Air Plan.* The proposed garage expansion was determined to be consistent with San Francisco's GHG Reduction Strategy through completion of the required GHG Compliance Checklist Table for Municipal Projects for the proposed ZSFG City Parking Garage Expansion. The checklist was completed by the Department of Public Health.[17]

Therefore, because the proposed parking garage expansion is consistent with the City's GHG reduction strategy, it is also consistent with the GHG reduction goals of EO S-3-05, EO B-30-15, AB 32, and the *Bay Area 2010 Clean Air Plan*, would not conflict with these plans, and would therefore not exceed San Francisco's applicable GHG threshold of significance. As such, the proposed parking garage expansion would result in a less-than-significant impact with respect to GHG emissions. No mitigation measures are necessary.

Mitigation: None required.

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14 Compliance with water conservation measures reduce the energy (and GHG emissions) required to convey, pump and treat water required for the project.

15 While not a GHG, VOCs are precursor pollutants that form ground level ozone. Increased ground level ozone is an anticipated effect of future global warming that would result in added health effects locally. Reducing VOC emissions would reduce the anticipated local effects of global warming.

16 San Francisco Planning Department, *Greenhouse Gas Analysis: Compliance Checklist for City Parking Garage Expansion at ZSFG*. January 19, 2016.

17 Greenhouse Gas Analysis: Compliance Checklist. January 19, 2016. This document is included in Appendix E.

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4.5 Land Use and Planning

4.5.1 Introduction

This section addresses the consistency of the proposed project with applicable land use plans, policies, and regulations of agencies with jurisdiction over the project site.

4.5.2 Environmental Setting

ZSFG is located in the Mission district, bordering the western portion of the Potrero Hill neighborhood (see Figure 1, Project Site). The ZSFG campus is approximately 24 acres and covers 1.5 city blocks. The campus is bounded by U.S. Highway 101 (U.S. 101) to the north and east, Twenty-Third Street to the south and Potrero Avenue to the west. The area immediately surrounding ZSFG is primarily residential with some neighborhood-serving commercial activity on the ground floor, especially along Twenty-Fourth Street.

A new acute care hospital will replace existing inpatient facilities in the Main Hospital building (Building 5). The new hospital (Building 25), completed in 2015, is nine stories tall, including seven stories above grade and two basement levels. The new hospital connects to the existing Main Hospital building at the ground level and at the second floor. Patient move-in is planned for spring 2016.

4.5.3 Regulatory Considerations

Pursuant to the University of California's constitutional autonomy, development and uses on property owned or leased by the University that are in furtherance of the University's educational purposes are not subject to local land use regulation. However, UCSF reviews local land use policies as planning guidelines and includes those policies that are germane to the analysis of land use impacts in this EIR.

In 1987, the City and UCSF entered into a *Memorandum of Understanding* (MOU) to foster harmonious relations between the City and UCSF regarding the growth and development of UCSF facilities within the City's boundaries. The MOU describes the responsibilities of the City and UCSF for the oversight of their respective land uses and the development, maintenance and use of physical facilities, including methods of communication and consultation regarding UCSF's proposed development.

UCSF also has partnered with its neighbors to prepare *Community Planning Principles*. These Principles formalize UCSF's commitment to communicate with neighbors regarding its space needs and potential future development, in order to identify potential community concerns that may arise from UCSF's physical development prior to the time that individual projects are brought forward for approval. The *Community Planning Principles* are intended to aid UCSF in both complementing and advancing the planning priorities of the City and of its campus neighbors. The Principles apply to UCSF's development throughout San Francisco.

UCSF consults with the City when planning new development, especially if improvements are being proposed within City rights-of-way adjacent to campus sites. In addition, it is UCSF's intent to adhere substantially, to the extent practicable, to City zoning codes related to building use, height, and bulk limitations; floor area ratios; and parking requirements or restrictions for the purpose of ensuring compatibility with surrounding areas.

The project and Variants 1-3 would include an expansion of the existing ZSFG parking garage. The proposed parking structure expansion would be developed by the Parking Authority, which owns the site and the parking structure. Therefore, the parking garage expansion and its variants would be subject to the City's land use regulations.

4.5.3.1 San Francisco General Plan

The *San Francisco General Plan* provides general policies and objectives to guide land use decisions and includes policies that relate to environmental issues. Although the University is constitutionally exempt from land use regulation by local agencies when using its properties to further its educational mission, the University strives to be substantially consistent with local policies where feasible. The parking garage expansion would be subject to General Plan policies and regulations as a City-owned site and structure.

The General Plan contains 10 elements (Commerce and Industry, Recreation and Open Space, Housing, Community Facilities, Urban Design, Environmental Protection, Transportation, Air Quality, Community Safety, and Arts) that set forth goals, policies and objectives for the physical development of the City. Two General Plan elements that are particularly applicable to the parking garage component of the proposed project are the Urban Design and Transportation elements. The Urban Design Element focuses on the physical character and order of the City, and is concerned both with development and preservation. The Urban Design Element also seeks to protect public views of open space and water bodies, and protect and enhance the aesthetic character of San Francisco. Objectives and policies that are relevant to the proposed parking garage expansion include the following:

> **Objective 3:** Moderation of major new development to complement the city pattern, the resources to be conserved, and the neighborhood environment.
>
> > ***Policy 3.1*:** Promote harmony in the visual relationships and transitions between new and older buildings.
> >
> > ***Policy 3.2*:** Avoid extreme contrasts in color, shape and other characteristics which will cause new buildings to stand out in excess of their public importance.
> >
> > ***Policy 3.5*:** Relate the height of buildings to important attributes of the city pattern and to the height and character of existing development.
> >
> > ***Policy 3.6*:** Relate the bulk of buildings to the prevailing scale of development to avoid an overwhelming or dominating appearance in new construction.
>
> **Objective 4:** Improvement of the neighborhood environment to increase personal safety, comfort, pride and opportunity.

> ***Policy 4.15*:** Protect the livability and character of residential properties from the intrusion of incompatible new buildings. (The following elaborates on this policy: "Human scale can be retained if new buildings, even large ones, avoid the appearance of massiveness by maintaining established building lines and providing human scale at their lower levels through use of texture and details. If the ground level of existing buildings in the area is devoted to shops, then new buildings should avoid breaking the continuity of retail space.")

The Transportation Element of the General Plan provides policies and objectives related to transportation, congestion management, circulation, transit, alternative modes of transit (bicycles and walking), parking, and movement of goods. Objectives and policies that are relevant to the proposed parking garage expansion include the following:

> **Objective 30:** Ensure that the provision of new or enlarged parking facilities does not adversely affect the livability and desirability of the city and its various neighborhoods.
>
> > ***Policy 30.1*:** Assure that new or enlarged parking facilities meet need, locational and design criteria.
>
> **Objective 33:** Contain and lessen traffic and parking of institutions on surrounding residential areas.
>
> > ***Policy 33.1*:** Limit the provision of long-term automobile parking facilities at institutions and encourage such institutions to regulate existing facilities to assure use by short-term clients and visitors. (The following elaborates on this policy: "Although there are some trips to institutions which are appropriately made by automobile, especially for medical appointments and hospital visits, work trips should be made by transit wherever possible.")
>
> > ***Policy 33.2*:** Protect residential neighborhoods from the parking impacts of nearby traffic generators.

Showplace Square/Potrero Area Plan

In addition, the General Plan includes area plans that outline goals and objectives for specific geographic and community planning areas. The ZSFG campus is located within the *Eastern Neighborhoods Plan*, which was adopted in 2008. This plan also added new area plans to the General Plan, including the *Showplace Square/Potrero Area Plan*, where the ZSFG campus is located. Objectives of the plan that relate to the proposed project include: Objective 3.1, promote an urban form that reflects Showplace Square and Potrero Hill's distinctive place in the City's larger form and strengthens its physical fabric and character; Objective 3.2, promote an urban form and architectural character that supports walking and sustains a diverse, active and safe public realm; Objective 4.3, establish parking policies that improve the quality of neighborhoods and reduce congestion and private vehicle trips by encouraging travel by non-auto modes; Objective 4.6, support walking as a key transportation mode by improving pedestrian circulation within Showplace Square/Potrero Hill and to other parts of the City; and Objective 4.9, facilitate movement of automobiles by managing congestion and other negative impacts of vehicle traffic.

ZSFG Institutional Master Plan

All medical and post-secondary educational institutions in San Francisco must file an Institutional Master Plan (IMP) with the San Francisco Planning Department per Section 304.5 of the Planning Code. IMPs provide notice and information to the Planning Commission, other government agencies, and the public regarding future development plans; enable the institution to make modifications in response to comments prior to advanced planning decisions; and provide public agencies and the public with information that may help guide land use decisions. Following the Planning Commission's acceptance of an IMP, an institution must submit updates to the Zoning Administrator every two years. The Department of Public Health submitted the latest ZSFG IMP revision to the Planning Department in June 2015. Information regarding the proposed research building and parking garage expansion is included in this IMP Update.

4.5.3.2 San Francisco Planning Code

The San Francisco Planning Code regulates development in the City by prescribing the permitted uses and development standards consistent with the land use designations and policies in the *San Francisco General Plan*. The San Francisco Zoning Map defines the locations and boundaries of zoning use, building height and bulk limit districts. Zoning in San Francisco generally consists of multiple layers of districts. Use Districts are the base zoning districts that prescribe permitted land uses and most development standards (except height and bulk). Height and Bulk Districts are mapped separately from Use Districts and prescribe the permitted height and bulk of buildings. In some instances, on top of the Use Districts and Height and Bulk Districts, Special Use Districts (SUDs) are mapped to address particular issues for targeted areas; SUDs provide controls that supersede some or all of the underlying Use Districts to meet certain goals.

4.5.3.3 City of San Francisco Zoning

The ZSFG campus site, including the B/C Lot and the parking garage, are located in the City's P (Public) Zoning District. P Districts refer to land owned by a governmental agency that is in public use, including open space. Residential blocks located south of the B/C Lot and surrounding the parking garage are designated as Residential House District, Two-Family (RH-2) and Three-Family (RH-3), and Residential Mixed, Low Density (RM-1). Residential house districts are intended to recognize, protect, conserve and enhance residential areas characterized by limited scale in terms of building width and height. Neighborhood Commercial Transit (NCT - 24th Street-Mission) is located along Twenty-Fourth Street between San Bruno Avenue and Potrero Avenue. NCT Districts are transit-oriented moderate- to high-density mixed-use neighborhoods of varying scale concentrated near transit services. These districts support neighborhood-serving commercial uses on lower floors and housing above. This mixed-use district provides convenience goods to its immediate neighborhood as well as comparison shopping goods and services to a wider trade area. The street has a great number of Latin American restaurants, grocery stores, and bakeries as well as other gift and secondhand stores. Most commercial businesses are open during the day while the district's bars and restaurants are also active in the evening.

The B/C Lot is located within the 105-E Height and Bulk District while the parking garage is in the 40-X district. The "E" designation limits floor plans above 65 feet to a maximum plan length of 110 feet and a maximum diagonal plan dimension of 140 feet. The "X" designation permits all floors of structures to cover the entire building footprint.

4.5.3.4 Other San Francisco Plans and Policies

Development of the ZSFG campus is subject to other plans, objectives, and policies of San Francisco, including the Sustainability Plan, the Climate Action Plan, Better Streets Plan, Bicycle Plan and other adopted City policies such as the Transit First Policy and Proposition M—The Accountable Planning Initiative. Development on the ZSFG campus is also regulated by the ZSFG Institutional Master Plan.

Policy conflicts do not, in and of themselves, constitute a significant environmental impact and are considered to be environmental impacts only when they would result in direct physical effects. Therefore, land use policies are discussed in this section for informational purposes only. All other associated physical impacts are discussed in this EIR in specific topical sections such as the air quality, noise, and transportation sections.

The consistency of the proposed project with applicable plans and policies that do not directly relate to physical environmental issues will be considered by decision-makers as part of their decision whether to approve or disapprove the proposed project. The project cannot be approved if it is not generally consistent with adopted plans and policies. Policy conflicts are considered to be environmental impacts only when they would result in direct physical impacts.

Sustainability Plan and Climate Action Plan

In 1993, the San Francisco Board of Supervisors established the Commission on San Francisco's Environment, charged with, among other things, drafting and implementing a plan for San Francisco's long-term environmental sustainability. The goal of the *San Francisco Sustainability Plan* is to enable the City and its people to meet their present needs without sacrificing the ability of future generations to meet their own needs.

The *Climate Action Plan for San Francisco: Local Actions to Reduce Greenhouse Emissions* is a local action plan that examines the causes of global climate change and human activities that contribute to global warming, provides projections of climate change impacts on California and San Francisco based on recent scientific reports, presents estimates of San Francisco's baseline greenhouse gas emissions inventory and reduction targets, and describes recommended actions for reducing the City and County's greenhouse gas emissions.

The proposed garage expansion is reviewed against the City's Greenhouse Gas Reduction Strategy in Section 4.4, Greenhouse Gas Emissions. As explained in Section 4.4, this strategy documents the City's actions to pursue cleaner energy, energy conservation, alternative transportation, and solid waste policies. Adherence to the strategy would ensure that the garage expansion would not conflict with the sustainability plan or climate action plan.

Better Streets Plan

The *Better Streets Plan* focuses on creating a positive pedestrian environment through measures such as careful streetscape design and traffic calming measures to increase pedestrian safety. The *Better Streets Plan* includes guidelines for the pedestrian environment, which it defines as the areas of the street where people walk, sit, shop, play, or interact. Generally speaking, the guidelines are for design of sidewalks and crosswalks; however, in some cases, the *Better Streets Plan* includes guidelines for certain areas of the roadway, particularly at intersections.

Bicycle Plan

The *San Francisco Bicycle Plan*, completed in 2009, describes a City program to provide the safe and attractive environment needed to promote bicycling as a transportation mode. The *San Francisco Bicycle Plan* identifies the citywide bicycle route network, and establishes the level of treatment (i.e., Class I, Class II or Class III facility) on each route. The *San Francisco Bicycle Plan* also identifies near-term improvements as well as policy goals, objectives and actions to support these improvements. It also includes long-term improvements, and minor improvements that would be implemented to facilitate bicycling in San Francisco.

Current on-street bicycle facilities in the vicinity of the ZSFG campus, as designated by the 2013 San Francisco Bikeway Network Map, include the following: Bicycle Route 25 (Class II), which runs north-south along Potrero Avenue between Seventeenth and Twenty-Fifth streets; Bicycle Route 44 (Class III), which runs east-west along Twenty-Second Street between Potrero Avenue and Chattanooga Street; and Bicycle Route 525 (Class III), which runs east-west along Twenty-Third Street between Potrero Avenue and Kansas Street. The *San Francisco Bike Plan* includes planned short-term improvements to Bicycle Route 525. These improvements include the striping of Class II bicycle lanes on Twenty-Third Street between Potrero Avenue and Kansas Street.

Transit First Policy

The City of San Francisco's *Transit First* policy, adopted by the Board of Supervisors in 1973 and contained within Section 8A.115 of the City Charter, was developed in response to the damaging impacts over previous decades of freeways on the City's urban character. The policy is aimed at restoring balance to a transportation system long dominated by the automobile, and improving overall mobility for residents and visitors whose reliance chiefly on the automobile would result in severe transportation deficiencies. It encourages multi-modalism, the use of transit, and other alternatives to the single-occupant vehicle as modes of transportation, and gives priority to the maintenance and expansion of the local transit system and the improvement of regional transit coordination.

Accountable Planning Initiative

In November 1986, the voters of San Francisco approved Proposition M, the Accountable Planning Initiative, which added Section 101.1 to the Planning Code to establish eight Priority Policies. The Priority Policies provide general policies and objectives to guide certain land use decisions and generally relate to physical environmental issues:

- Preservation and enhancement of neighborhood-serving retail uses;
- Protection of neighborhood character;
- Preservation and enhancement of affordable housing;
- Discouragement of commuter automobiles;
- Protection of industrial and service land uses from commercial office development and enhancement of resident employment and business ownership;
- Maximization of earthquake preparedness;
- Landmark and historic building preservation; and,
- Protection of open space.

Prior to issuing a permit for any project which requires an EIR under CEQA, and prior to issuing a permit for any demolition, conversion, or change of use, and prior to taking any action which requires a finding of consistency with the General Plan, the City is required to find that the proposed project or legislation is consistent with the Priority Policies. As with policies in the General Plan, Priority Policies may conflict with one another, depending on the project; decision-makers, in considering whether to approve the proposed project, would need to assess whether the project, on balance, is consistent with the applicable Priority Policies when adopting the necessary findings.

4.5.4 Significance Standards

Would the project:

a) Physically divide an established community?

b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

c) Conflict with any applicable habitat conservation plan or natural community conservation plan?

d) Have a substantial impact upon the existing character of the vicinity?

e) Conflict with local land use regulations such that a significant incompatibility is created with adjacent land uses?

4.5.5 Analysis Methodology

The examination of land use impacts is based on information obtained from UCSF; review of published environmental documentation and land use studies of the ZSFG campus site; and review of documents pertaining to land use published by the City of San Francisco, including applicable elements of the General Plan. The analysis discusses whether the proposed project and variants would be consistent with applicable land use plans and policies that were adopted for the purpose of avoiding or mitigating an environmental effect. Land use policies are policies that

pertain to the type, location and physical form of new development. For this analysis, policies "adopted for the purpose of avoiding or mitigating an environmental effect" are considered those that, if implemented and adhered to, would avoid or mitigate physical impacts on the environment. For each potential impact, the analysis compares the impact to the standards of significance listed above and determines the impact's level of significance under CEQA.

4.5.6 Issues Adequately Addressed in the Initial Study

After evaluation of the proposed project, the Initial Study concluded that neither the proposed project nor variants would physically divide an established community or conflict with any applicable habitat conservation plan or natural community conservation plan. Therefore, no additional analysis of these issues is required.

4.5.7 Impacts and Mitigation Measures

Impact LU-1: The proposed project would be consistent with the applicable land use plans, policies, and regulations adopted for the purpose of avoiding or mitigating an environmental effect, and would not conflict with local land use regulations such that a significant incompatibility is created with adjacent land uses. (Less than Significant)

Impacts of the Research Building

As noted above in Section 4.5.3, pursuant to the University of California's constitutional autonomy, development and uses on property owned or leased by the University that are in furtherance of the University's educational purposes are not subject to local land use regulation. Therefore, the research building that is proposed by the project (and all variants) would not be subject to land use regulation of the City of San Francisco. However, UCSF also considers the land use policies and zoning regulations of the City when analyzing potential land use impacts under CEQA.

The ZSFG campus site, including the B/C Lot where the research building would be constructed, is located in the City's P (Public) Zoning District. P Districts refer to land owned by a governmental agency that is in public use. As noted in the Project Description, UCSF occupies nearly 300,000 gross square feet of research labs, office, and clinic space on the ZSFG campus in ten buildings. The proposed research building would allow UCSF to relocate employees currently working in seismically compromised buildings on the ZSFG campus to a new, safer structure. The proposed research building would be located within the existing boundaries of the ZSFG campus and it would be a continuation of existing institutional and medical uses on the campus. The proposed uses of the building would be consistent with campus uses and would be permitted under the P (Public Use) district.

The B/C Lot where the research building would be constructed is located within the City's 105-E Height and Bulk District. The "E" designation limits floor plans above 65 feet to a maximum plan length of 110 feet and a maximum diagonal plan dimension of 140 feet. The City's height and bulk districts are intended to serve a variety of urban design purposes. Generally, the height and

bulk districts seek to relate the scale of new development to existing development, in order to prevent the new development from overwhelming or dominating the City's skyline. The regulation of height and bulk is also intended to promote harmony in the visual relationships and transitions between new and existing development.

Although the research building has not yet been designed, it is anticipated to be five-stories in height, plus a mechanical penthouse. The building height would be about 80 feet to the top of the fifth story, plus an additional 12 feet to accommodate rooftop mechanical equipment. The building would be set back from adjacent streets and surrounded by landscaping. Based on this preliminary building design information, and as reflected in the conceptual bulk and height shown in Figure 4 in the *Project Description*, the research building would likely exceed the City's bulk limitations of the 105-E district. As noted above, the University is exempt from local zoning. However, UCSF strives to adhere to City zoning codes to the extent practicable in accordance with the *UCSF 2014 Long Range Development Plan (LRDP)* Objective 1: Respond to the City and Community Context. The 2014 LRDP also includes an objective (Objective 3) to ensure that its facilities are seismically safe.

As noted in Section 3.3, *Project Background and Overview*, the UC *Seismic Safety Policy* requires that UCSF employees be located in seismically safe buildings. Currently, most UCSF employees at the ZSFG campus are located in seismically compromised buildings. Therefore, in order to comply with this policy, UCSF has proposed construction of the new, seismically robust research building on the B/C Lot. To the extent feasible, UCSF would design the research building to avoid or minimize the effects of this conflict with the City's Planning Code, but it would not be possible to move UCSF employees into a seismically safe building that complies with the City's 105-E Height and Bulk District Regulations due to the amount of space needed to accommodate UCSF research programs and employees currently located in seismically compromised buildings. As noted below under Impact LU-2, the proposed research building would be compatible with adjacent land uses and would not create a significant land use impact.

Mitigation: None required.

Impacts of the Expanded Parking Garage

The existing parking garage is located in the City's P (Public) Zoning District. Expansion of the garage as proposed by the project and Variant 2 would represent a continuation of the existing, allowable use in this district. Variants 1 and 3 would substitute up to 5,000 square feet of ground floor retail space for up to 15 of the proposed new parking spaces within the garage expansion. Retail uses would be located along the Twenty-Fourth Street frontage, which would necessitate moving the main entrance to the garage from Twenty-Fourth Street to a new entrance on Utah Street. Retail uses proposed under Variants 1 and 3 would be allowed in the P (Public) district as an accessory nonpublic use in accordance with City Planning Code Section 211.1 (c). No expansion of the garage would occur under Variant 4.

The parking garage is located in the City's 40-X Height and Bulk District. The "X" designation permits all floors of structures to cover the entire building footprint. Under the project and

Variant 1, the garage expansion would occur south toward Twenty-Fourth Street on the surface parking lot portion of the garage site. The maximum allowable height of the existing parking structure as measured under the City Planning Code is 40 feet to the finish floor of the roof deck, not including the parapet, guard rails, or elevator towers. Due to the sloping topography of the garage site, this "maximum" height includes averaging at certain points of measurement. Assuming that the same building design would be used as the existing garage, the expansion under the proposed project and Variant 1 would be up to five stories above grade, which would not exceed the height of the existing garage. The new circular towers that would be constructed on the corners of Twenty-Fourth and Utah streets and Twenty-Fourth Street and San Bruno Avenue would exceed 40 feet, with the tower at Utah Street measuring approximately 60 feet above street level (CCSF, 1993). However, the overall building height would still comply with the 40-foot height limit as measured under the City Planning Code. Thus, the proposed project and Variant 1 would be consistent with the height and bulk designation of the site.

Variants 2 and 3 would add one additional floor to the garage, in addition to the horizontal expansion proposed under the project and Variant 1. The addition of a sixth floor under these two variants would exceed the underlying 40-X height restriction. Therefore, construction of Variant 2 or 3 would require a height reclassification of the garage site to conform with the City Planning Code.

The parking garage expansion under the project or Variants 1- 3 would not obviously or substantially conflict with any General Plan goals, policies, or objectives, including those of the Urban Design and Transportation Elements, or the *Showplace Square/Potrero Area Plan*. However, the garage expansion proposed under the project and Variant 2 would not include a retail component. Development of the garage under these two scenarios would contradict current City practice that seeks to activate street-level uses. Construction of the garage without ground-level retail would negatively contrast with the small-scale and neighborhood serving uses located across Twenty-Fourth Street.

The proposed project and variants would increase traffic congestion at intersections on the roadway network adjacent to the ZSFG campus. These impacts are discussed in Section 4.7, *Transportation and Traffic*, and are mitigated to the extent feasible, but were found to be significant and unavoidable. The compatibility of the proposed garage expansion with any goals, policies, and objectives that do not relate to physical and environmental issues will be considered by the City as part of their assessment whether to approve or disapprove the proposed garage expansion. Any potential conflicts identified as part of that process would not alter the physical environmental effects of the project or these variants.

Mitigation: None required.

Consistency with Other Plans

The proposed project and variants would not affect the bicycle routes on Potrero Avenue, Twenty-Second Street, or Twenty-Third Street. As stated under Section 4.7, *Transportation and Traffic*, the project would not cause a substantial conflict with bicycle facilities or otherwise

decrease the performance or safety of such facilities. The project would not conflict with the *San Francisco Bicycle Plan*. The project site is located in proximity to numerous transit routes and is easily accessible by bicycle and sidewalks. Additionally, bike storage and parking would be provided on the project site. Therefore, the project would not obviously conflict with the *Transit First* policy.

Further, the Department of Public Health submitted the latest ZSFG Institutional Master Plan (IMP) update to the Planning Department in June 2015. Information regarding the proposed research building and parking garage expansion is included in this IMP Update. The update noted that both components of the proposed project would be in conformity with the *San Francisco General Plan* or would be subject to further review as part of the EIR process, i.e., this document.

Mitigation: None required.

Impact LU-2: The proposed project would not have a substantial impact upon the existing character of the vicinity. (Less than Significant)

The proposed project and Variants 1-3 consist of a new research building and parking garage expansion on the existing ZSFG campus. The research building would be a relatively minor addition in terms of height, scale, and use to the multiple buildings that already exist on the campus, and would be constructed on an existing surface parking lot. Although the specific design of the research building is yet to be determined, it would not be expected to detract from the existing character of the ZSFG campus or surrounding neighborhood.

Impacts of the Research Building

The proposed research building would be a continuation of existing uses on the ZSFG campus, which are generally compatible with the surrounding residential, commercial, and transportation land uses. The types of existing uses on campus include general acute care, outpatient, emergency, skilled nursing, diagnostic, mental health, rehabilitation services, administration, research, and laboratory uses. These uses are consistent with the existing P (Public Use) zoning designation for the campus. Medical uses have been provided on the site of the campus since at least 1872 and these uses have co-existed with adjacent residential and commercial uses for over 143 years. Various physical changes to on-campus buildings have occurred over the history of the campus, including a rebuild of facilities in 1915, and several building additions and expansions of facilities and services since then, including the recent construction of the new hospital building (Building 25) in 2015.

As shown in Figure 3 in the *Project Description*, the research building would be somewhat larger than some of the existing buildings on the campus, but would be generally consistent with the scale of on-campus structures. While the building would be taller than Building 9 to the west, it would be shorter than other nearby buildings, including Building 30/40, Building 5, and the new hospital building on Potrero Avenue (see Figure 4).

The proposed project would involve relocation of existing UCSF employees located in other ZSFG campus buildings to the proposed research building. The internal relocation of approximately 680 UCSF employees on the ZSFG campus and the possible relocation of other UCSF employees from off-campus leased space on the ZSFG campus would not be expected to have a substantial adverse impact upon the existing character of the vicinity.

Mitigation: None required.

Impacts of the Expanded Parking Garage

The parking garage expansion also would occur on a surface parking lot adjacent to the existing garage. The garage expansion under the project and Variants 1-3 would represent a continuation of the existing use of the site for public parking. As noted above under Impact LU-1, the garage is located in the City's P (Public) Zoning District. Expansion of the garage as proposed by the project and Variant 1-3 would represent a continuation of the existing, allowable use in this district. However, as noted under Impact LU-2, development of the garage without ground-level retail would not be consistent with current City practice that aims to enliven streets with active uses.

The structure's approximate 60-foot maximum height along Twenty-Fourth Street (tower at corner of Utah and Twenty-Fourth streets) under the project and Variant 1would contrast with the 30-foot high buildings in the surrounding neighborhood. However, the overall building height would still comply with the 40-foot height limit as measured under the City Planning Code.

Variants 2 and 3 would add one additional floor to the garage, in addition to the horizontal expansion proposed under the project and Variant 1. Reclassification of the site's 40-X height restriction to conform with the City Planning Code would be required under Variants 2 and 3. Although the scale and mass of the garage would be noticeably greater with the addition of another floor, this change would not adversely affect the character of the ZSFG campus or surrounding neighborhood. In addition, impacts of the additional story regarding wind or shadow were determined to be less than significant in the Initial Study (Appendix A).

Retail uses proposed under Variants 1 and 3 would be allowed in this district as an accessory nonpublic use in accordance with City Planning Code Section 211.1 (c). Variants 1 and 3 would substitute up to 5,000 square feet of ground floor retail space for up to 15 of the proposed new parking spaces within the garage expansion. Retail uses would be located along the Twenty-Fourth Street frontage, which would necessitate moving the main entrance to the garage from Twenty-Fourth Street to a new entrance on Utah Street. Provision of ground floor retail uses along Twenty-Fourth Street would be compatible with the adjacent neighborhood commercial uses along Twenty-Fourth Street between San Bruno Avenue and Potrero Avenue. The scale of the garage expansion on the existing neighborhood businesses across Twenty-Fourth Street, and especially considering the additional story proposed under Variant 3, could be reduced if the upper floors of the garage are setback from the street frontage so that the building height is consistent with adjacent buildings.

In conclusion, the expansion of the garage as proposed by the project or under Variants 1-3 would not have a substantial impact on the ZSFG campus or surrounding neighborhood. Variant 4 does not include the garage expansion so no impact would result. See also Section 4.1, *Aesthetics*, for discussion of the effects on visual character or quality and Section 4.3, *Cultural and Paleontological Resources*, for analysis of effects on the significance of the SFGH Historic District.

Mitigation: None required.

4.5.7.1 Cumulative Impacts

Cumulative land use impacts are evaluated in the context of existing and reasonably foreseeable future development in the project vicinity, as well as applicable land use policies that guide future development in the project vicinity. The cumulative land use analysis is geographically based on projects in the vicinity that would affect the overall land use character of the Mission and Potrero Hill neighborhoods, within a few blocks in each direction of the project site.

The cumulative analysis includes potentially reasonably foreseeable development on the SFGH campus. A proposed General Obligation Bond Measure scheduled for June 2016 would fund the expansion of existing uses and backfill of uses into vacated areas in the former Main Hospital (Building 5) as well as the phasing out of certain uses on the ZSFG campus, which would be completed by approximately 2020. Improvements to Building 5 include interior renovations, upgrade of obsolete building systems, and minor voluntary seismic improvements to accommodate UCSF's policy to maintain occupancy in the building. Buildings 80 and 90 would be seismically upgraded and building systems would be modernized. (DPH, 2015) The Department of Public Health (DPH) would be relocating certain functions from off-campus sites into the Building 5, such as the Department's Public Health Lab currently located at 101 Grove Street. Year 2040 conditions also assume the space vacated by UCSF at ZSFG will be backfilled with new DPH staff.

Development of cumulative projects on the ZSFG campus, in combination with the proposed project, would likely result in some intensification of uses and potential shifts in land uses on the campus, but not to the extent that it would result in a cumulatively considerable land use impact. The proposed project would not be expected to contribute considerably to cumulative impacts.

The proposed project and reasonably foreseeable future projects, in combination with existing development on campus, would be required to be generally consistent with adopted plans and policies of the City, or they could not be approved for development. The proposed project and cumulative projects on campus would be a continuation of existing medical uses. The uses associated with the cumulative on-campus projects would not create land use conflicts as they would be a continuation of historic medical and associated uses that have been present on campus since at least 1872. Cumulative development on campus would be expected to be consistent with the scale and intensity of existing and proposed uses in the vicinity because these developments

involve construction of similar or smaller-scale development and of development of similar or less intensity as present in the vicinity.

Reasonably foreseeable projects in the vicinity of the ZSFG campus include relatively minor alterations primarily to smaller scale residential buildings, such as vertical and horizontal additions to single-family homes, which would not be expected to have significant adverse land use impacts, including any which could combine with the impacts of the proposed project to form a significant cumulative impact.

Overall, implementation of the proposed project in combination with other cumulative projects would not result in cumulatively considerable impacts related to land use.

4.5.8 References

City and County of San Francisco, Department of Public Health, *San Francisco General Hospital and Trauma Center Institutional Master Plan Update*, revision submitted June 2015.

City and County of San Francisco, *San Francisco Bicycle Plan*, June 26, 2009.

City and County of San Francisco, *Better Streets Plan*, adopted December 2010.

City and County of San Francisco, Height and Bulk Districts map, Sheet HT08.

City and County of San Francisco, *San Francisco General Hospital Parking Garage Draft Environmental Impact Report*, January 15, 1993.

City and County of San Francisco, *San Francisco General Hospital Parking Garage Draft Supplemental Environmental Impact Report*, February 11, 1994.

City and County of San Francisco, *San Francisco General Hospital Seismic Compliance Hospital Replacement Program Environmental Impact Report*, certified June 19, 2008.

City and County of San Francisco, *San Francisco General Plan*, Transportation and Urban Design Elements, available at http://www.sf-planning.org/ftp/general_plan/.

City and County of San Francisco, *Showplace Square/Potrero Hill Area Plan*, adopted December 2008.

City and County of San Francisco, Zoning Map, July 2015.

University of California, San Francisco, *2014 Long Range Development Plan*, adopted November 2014.

4.6 Noise

4.6.1 Introduction

This section describes the existing noise environment in the project area and identifies the potential for noise and vibration associated with implementation of the proposed project to adversely affect established sensitive land uses or land use activities. The impact analysis evaluates the potential noise and vibration impacts of the proposed project and identifies mitigation measures to avoid or reduce adverse impacts.

4.6.2 Environmental Setting

4.6.2.1 Noise Background

Sound is characterized by various parameters that describe the rate of oscillation (frequency) of sound waves, the distance between successive troughs or crests in the wave, the speed that it travels, and the pressure level or energy content of a given sound. The sound pressure level has become the most common descriptor used to characterize the loudness of an ambient sound, and the decibel (dB) scale is used to quantify sound intensity. Because sound can vary in intensity by over one million times within the range of human hearing, a logarithmic loudness scale is used to keep sound intensity numbers at a convenient and manageable level. Since the human ear is not equally sensitive to all sound frequencies within the entire spectrum, human response is factored into sound descriptions in a process called "A-weighting," expressed as "dBA." The dBA, or A-weighted decibel, refers to a scale of noise measurement that approximates the range of sensitivity of the human ear to sounds of different frequencies. On this scale, the normal range of human hearing extends from about 0 dBA to about 140 dBA. An increase of 10-dBA in the level of a continuous noise represents a perceived doubling of loudness. The noise levels presented herein are expressed in terms of dBA, unless otherwise indicated. **Table 4.6-1** shows some representative noise sources and their corresponding noise levels in dBA (HUD, 1985).

Planning for acceptable noise exposure must take into account the types of activities and corresponding noise sensitivity in a specified location for a generalized land use type. Some general guidelines are as follows: sleep disturbance can occur at levels above 35 dBA; interference with human speech begins at about 60 dBA; and hearing damage can result from prolonged exposure to noise levels in excess of 85 to 90 dBA (U.S. EPA, 1974).

Attenuation of Noise

Line sources of noise, such as roadway traffic, attenuate (lessen) at a rate of 3.0 to 4.5 dBA per doubling of distance from the source, based on the inverse square law and the equation for cylindrical spreading of noise waves over hard and soft surfaces.

Point sources of noise, including stationary mobile sources such as idling vehicles or onsite construction equipment, attenuate at a rate of 6.0 to 7.5 dBA per doubling of distance from the source, based on the inverse square law and the equations for spherical spreading of noise waves

TABLE 4.6-1
TYPICAL SOUND LEVELS MEASURED IN THE ENVIRONMENT

Examples of Common, Easily Recognized Sounds	Decibels (dBA) at 50 feet	Subjective Evaluations
Near Jet Engine	140	Deafening
Threshold of Pain (Discomfort)	130	
Threshold of Feeling – Hard Rock Band	120	
Accelerating Motorcycle (at a few feet away)	110	
Loud Horn (at 10 feet away)	100	Very Loud
Noisy Urban Street	90	
Noisy Factory	85	
School Cafeteria with Untreated Surfaces	80	Loud
Near Freeway Auto Traffic	60	Moderate
Average Office	50	
Soft Radio Music in Apartment	40	Faint
Average Residence Without Stereo Playing	30	
Average Whisper	20	Very Faint
Rustle of Leaves in Wind	10	
Human Breathing	5	
Threshold of Audibility	0	

NOTE: Continuous exposure above 85 dBA is likely to degrade the hearing of most people. Range of speech is 50 to 70 dBA.

SOURCE: United States Department of Housing and Urban Development, *The Noise Guidebook*, 1985.

over hard and soft surfaces. For the purposes of this analysis, it is assumed that noise from line and point sources to a distance of 200 feet attenuates at rates of between 3.0 and 6.0 dBA per doubling of distance, and the noise from line and point sources at a distance greater than 200 feet attenuates at a rate of 4.5 to 7.5 dBA per doubling of distance, to account for the absorption of noise waves due to ground surfaces such as soft dirt, grass, bushes, and intervening structures (Caltrans, 2009).

Noise Descriptors

Time variations in noise exposure are typically expressed in terms of a steady-state energy level (L_{eq}) that represents the acoustical energy of a given measurement. L_{eq} is used to describe noise over a specified period of time, in terms of a single numerical value. The L_{eq} is the constant sound level that would contain the same acoustic energy as the varying sound level, during the same time period (i.e., the average noise exposure level for the given time period). The L_{90} is also a noise metric that can be used to describe existing ambient noise levels. Because community receptors are more sensitive to unwanted noise intrusion during the evening and at night, state law requires that, for planning purposes, an artificial dBA increment be added to "quiet time" noise levels to form a 24-hour noise descriptor called the day-night noise level (DNL). DNL adds a 10-dBA penalty during the night hours (10:00 p.m. to 7:00 a.m.). The maximum noise level (L_{max}) is the maximum instantaneous noise level measured during the measurement period of interest.

Health Effects of Environmental Noise

The World Health Organization (WHO) is perhaps the best source of current knowledge regarding the health effects of noise impacts because European nations have continued to study noise and its health effects, while the United States Environmental Protection Agency all but eliminated its noise investigation and control program in the 1970s.[1] According to WHO, sleep disturbance can occur when continuous indoor noise levels exceed 30 dBA or when intermittent interior noise levels reach 45 dBA, particularly if background noise is low. With a bedroom window slightly open (a reduction from outside to inside of 15 dB), the WHO criteria suggest that exterior continuous (ambient) nighttime noise levels should be 45 dBA or below, and short-term events should not generate noise in excess of 60 dBA. WHO also notes that maintaining noise levels within the recommended levels during the first part of the night is believed to be effective for the ability of people to initially fall asleep (WHO, 1999).

Other potential health effects of noise identified by WHO include decreased performance for complex cognitive tasks, such as reading, attention span, problem solving, and memorization; physiological effects such as hypertension and heart disease (after many years of constant exposure, often by workers, to high noise levels); and hearing impairment (again, generally after long-term occupational exposure, although shorter-term exposure to very high noise levels, for example, exposure several times a year to concert noise at 100 dBA, can also damage hearing). Finally, noise can cause annoyance and can trigger emotional reactions like anger, depression, and anxiety. WHO reports that, during daytime hours, few people are seriously annoyed by activities with noise levels below 55 dBA or moderately annoyed with noise levels below 50 dBA.

Vehicle traffic and continuous sources of machinery and mechanical noise contribute to ambient noise levels. Short-term noise sources, such as truck backup beepers, the crashing of material being loaded or unloaded, car doors slamming, and engines revving outside a nightclub, contribute very little to 24-hour noise levels but are capable of causing sleep disturbance and severe annoyance. The importance of noise to receptors depends on both time and context. For example, long-term high noise levels from large traffic volumes can make conversation at a normal voice level difficult or impossible, while short-term peak noise levels, if they occur at night, can disturb sleep.

4.6.2.2 Existing Noise Environment

Long-term environmental noise in urbanized areas is primarily dependent on vehicle traffic volumes and the mix of vehicle types. The existing ambient noise environment within the project area is dominated by vehicular traffic on Potrero Avenue, Twenty-Third and Twenty-Fourth streets. Vehicle traffic on U.S. Highway 101 also contributes to ambient noise levels in the project area.

[1] The *San Francisco General Plan* Land Use Compatibility Guidelines for Community Noise, presented below in Figure 4.6-2, were created during the same era.

The San Francisco Department of Public Health (DPH) has mapped transportation noise throughout the City and County of San Francisco, based on modeled baseline traffic volumes derived from the San Francisco County Transportation Authority travel demand model (SFDPH, 2006). DPH maps indicate the areas subject to noise levels over 60 dBA (DNL) and the range of DNL noise levels that occur on every street in San Francisco. The portions of these maps that cover the project area indicate that areas nearest Potrero Avenue between Sixteenth Street and Caesar Chavez Street experience roadway noise levels in excess of 70 dBA (DNL).

Ambient Noise Measurements

Ambient short-term (10-minute) noise measurement data were collected in July of 2015 to characterize noise conditions at locations in the project area; noise measurement locations are shown in **Figure 4.6-1**. To characterize ambient noise in the project area, short-term measurement data were collected at locations where residential and hospital land uses exist near the project site.

TABLE 4.6-2
SHORT-TERM AMBIENT NOISE LEVEL DATA IN THE PROJECT AREA

Measurement Location	Time	Noise Levels in dBA		
		Hourly L_{eq}	L_{90}	L_{max}
Location 1: Vermont Street residence near freeway	12:24 pm	68.4	66	79.6
Location 2: 23rd Street Residence across from research Building Site	12:45 pm	61.4	57	76.4
Location 3: San Bruno Avenue residence across from parking garage	12:06 pm	58.9	56	71.0
Location 4: Utah Street residence across from parking garage	11:49 am	65.8	52	86.7
Location 5: Residence at 24rd Street and Utah Street	11:33 am	63.7	56	81.7
Location 6: Project site and hospital entrance	1:02 pm	63.0	59	71.4

NOTE: See Figure 4.4-1 for noise measurement locations. L_{eq} represents the constant sound level; L_{max} is the maximum noise level. L90 is the background noise level. Times of day of short term monitoring reflect daytime hours during which construction activities could occur.

SOURCE: Environmental Science Associates, 2015.

4.6.2.3 Vibration Background

Vibration is an oscillatory motion through a solid medium in which the motion's amplitude can be described in terms of displacement, velocity, or acceleration. Several different methods are used to quantify vibration. The peak particle velocity (PPV) is defined as the maximum instantaneous peak of the vibration signal. The PPV is most frequently used to describe physical vibration impacts on buildings. Typically, groundborne vibration generated by human activities attenuates rapidly with distance from the source of the vibration. Sensitive receptors to vibration include people (especially residents, the elderly, and sick people), structures (especially older masonry structures), and vibration-sensitive equipment.

SOURCE: ESA

UCSF Research Building and City Parking Garage Expansion at ZSFG

Figure 4.6-1

Noise Monitoring Locations

Another useful vibration descriptor is known as vibration decibels or VdBs. VdBs are generally used when evaluating human response to vibration, as opposed to structural damage (for which PPV is the more commonly used descriptor). Vibration decibels are established relative to a reference quantity, typically 1 x 10^{-6} inches per second (FTA, 2006).

There are no significant sources of vibration in the project area, such as Muni streetcars. Most motor vehicles and trucks have independent suspension systems that substantially reduce if not eliminate vibration generation on adjacent streets, barring discontinuities in the roadway, which are temporary occurrences and not specifically related to existing uses or the proposed project.

4.6.2.4 Sensitive Receptors

Sensitive receptors for noise are generally considered to include hospitals, nursing homes, senior citizen centers, schools, churches, libraries, and residences. The sensitive receptors nearest to the project site are residential and hospital uses. Single-family and multi-family residences exist across Twenty-Third Street from the proposed research building location and surround the block where the parking garage extension is proposed. The proposed research building location is also approximately 80 feet from the existing ZSFG to the north, which also would be considered a sensitive receptor.

4.6.3 Regulatory Considerations

4.6.3.1 Federal Regulations

Federal Aviation Administration

The Federal Aviation Administration (FAA) develops noise exposure maps that use average annual DNL noise contours around the airport as the primary noise descriptor. The FAA states that all land uses are considered compatible when aircraft noise effects are less than 65 decibels (dB) DNL. San Francisco International Airport is approximately seven miles south, and Oakland International Airport is approximately ten miles east, of the project site. The project site is outside the 55 dB CNEL noise contour of both airports (C/CAG, 2012 and ACCDA, 2012)

4.6.3.2 State Regulations

State regulations include requirements for the construction of new hotels, motels, apartment houses, and dwellings other than detached single-family dwellings that are intended to limit the extent of noise transmitted into habitable spaces. These requirements are collectively known as the California Noise Insulation Standards and are found in Title 24 of the California Code of Regulations.

The State of California updated its Building Code requirements with respect to sound transmission, effective January 2014. Section 1207 of the California Building Code (Title 24 of the California Code of Regulations) establishes material requirements in terms of sound transmission class (STC)[2]

[2] The STC is used as a measure of a materials ability to reduce sound. The STC is equal to the number of decibels a sound is reduced as it passes through a material.

rating of 50 for all common interior walls and floor/ceiling assemblies between adjacent dwelling units or between dwelling units and adjacent public area. The previous code requirements (before 2014) set an interior performance standard of 45 dBA from exterior noise sources. This requirement will be re-instated in July of 2015.

4.6.3.3 Local Regulations

UCSF is not subject to local plans, policies, or ordinances whenever using land under its control in furtherance of its educational mission. However, it is UCSF policy to be consistent with such plans, policies, or ordinances to the extent feasible.

San Francisco General Plan

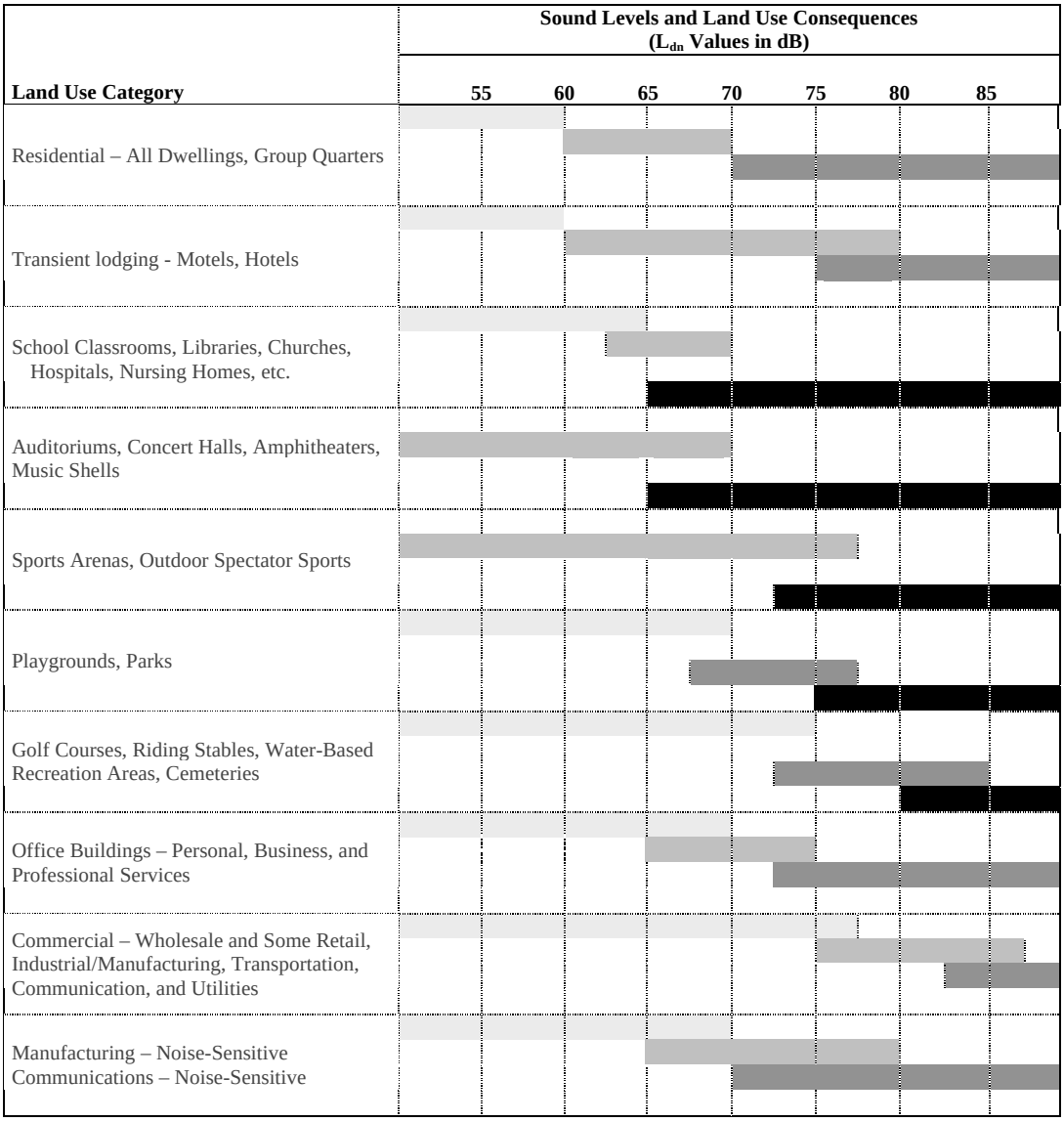
Land Use Compatibility Guidelines for Community Noise

The Environmental Protection Element of the *San Francisco General Plan* contains Land Use Compatibility Guidelines for Community Noise (CCSF, 1996). These guidelines, which are similar to but differ somewhat from state guidelines promulgated by the Governor's Office of Planning and Research, indicate maximum acceptable exterior noise levels for various newly developed land uses. The City's guidelines, which are presented in **Figure 4.6-2**, indicate exterior noise levels that might be inappropriate for sensitive land uses and would therefore require additional noise insulation considerations beyond standard practices. Though this figure presents a range of noise levels that are considered compatible or incompatible with various land uses, the maximum "satisfactory" noise level is 60 dBA (DNL) for residential and hotel uses; 65 dBA (DNL) for school classrooms, libraries, churches, and hospitals; 70 dBA (DNL) for playgrounds, parks, office buildings, retail commercial uses, and noise-sensitive manufacturing/communications uses; and 77 dBA for other commercial uses such as wholesale, some retail, industrial/manufacturing, transportation, communications, and utilities. If these uses are proposed to be located in areas with noise levels that exceed these guidelines, a detailed analysis of noise reduction requirements will normally be necessary prior to final review and approval.

Noise-Related Policies

The following policies of the *San Francisco General Plan* Environmental Protection Element that relate to noise issues are relevant to the proposed project:

> ***Policy 10.1*:** Promote site planning, building orientation and design and interior layout that will lessen noise intrusion. Because sound levels drop as distance from the source increases, building setbacks can play an important role in reducing noise for the building occupants. Buildings sited with their narrower dimensions facing the noise source and sited to shield or be shielded by other buildings also help reduce noise intrusion. Although walls with no windows or small windows cut down on noise from exterior sources, in most cases it would not be feasible or desirable to eliminate wall openings. However, interior layout can achieve similar results by locating rooms whose use require more quiet, such as bedrooms, away from the street noise.



Satisfactory, with no special noise insulation requirements.

New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design.

New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

New construction or development should generally not be undertaken.

SOURCE: San Francisco, 1996.
San Francisco General Plan,
adopted on June 27, 1996

Figure 4.6-2
San Francisco Land Use Compatibility Chart for Community Noise

***Policy 10.2*:** Promote the incorporation of noise insulation materials in new construction. State-imposed noise insulation standards apply to all new residential structures except detached single-family dwellings. Protection against exterior noise and noise within a building is also important in many nonresidential structures. Builders should be encouraged to take into account prevailing noise levels and to include noise insulation materials as needed to provide adequate insulation.

***Policy 11.1*:** Discourage new uses in areas in which the noise level exceeds the noise compatibility guidelines for that use. New development should be examined to determine whether background and/or thoroughfare noise level of the site is consistent with the guidelines for the proposed use. If the noise levels for the development site….exceed the sound level guidelines established for that use, as shown in the accompanying land use compatibility chart, then either needed noise insulation features should be incorporated in the design or else the construction or development should not be undertaken.

***Policy 11.3*:** Locate new noise-generating development so that the noise impact is reduced. Developments which will bring appreciable traffic into or through noise-sensitive areas should be discouraged, if there are appropriate alternative locations where the noise impact would be less. For those activities—such as a hospital—that need a quiet environment, yet themselves generate considerable traffic, the proper location presents a dilemma. In those cases, the new development should locate where this traffic will not present a problem and, if necessary, incorporate the proper noise insulation.

San Francisco Noise Ordinance

In San Francisco, regulation of noise is stipulated in Article 29 of the Police Code (Regulation of Noise), which states that the City's policy is to prohibit unnecessary, excessive, and offensive noises from all sources subject to police power. Sections 2907 and 2908 of Article 29 regulate construction equipment and construction work at night, while Section 2909 provides for limits on stationary-source noise from machinery and equipment. Sections 2907 and 2908 are enforced by the Department of Building Inspection, and Section 2909 is enforced by the Department of Public Health. Summaries of these and other relevant sections are presented below. Although UCSF is not subject to the City's Noise Ordinance, it strives to be consistent with it.

Sections Regulating Construction Noise

Sections 2907(a) and (b) of the Police Code state that it shall be unlawful for any person, including the City and County of San Francisco, to operate any powered construction equipment, regardless of age or date of acquisition, if the operation of such equipment emits noise at a level in excess of 80 dBA when measured at a distance of 100 feet from such equipment, or an equivalent sound level at some other convenient distance. Exemptions from this requirement include:

- Impact tools and equipment with intake and exhaust mufflers recommended by the manufacturers and approved by the Director of Public Works as best accomplishing maximum noise attenuation; and

- Pavement breakers and jackhammers equipped with acoustically attenuating shields or shrouds recommended by the manufacturers and approved by the Director of Public Works as best accomplishing maximum noise attenuation.

Section 2908 prohibits any person, between the hours of 8:00 p.m. of any day and 7:00 a.m. of the following day, from erecting, constructing, demolishing, excavating for, altering, or repairing any building or structure if the noise level created is in excess of the ambient noise level by 5 dBA at the nearest property line unless a special permit has been applied for and granted by the Director of Public Works.

Sections Regulating Operational Noise

Section 2909 establishes a not-to-exceed noise standard for fixed sources of noise, such as building mechanical equipment and industrial or commercial processing machinery. Unlike the state building code (Title 24) standard, which is applicable to interior living space only, the standards in Section 2909(a), (b), and (c) are applicable outdoors, at the property line of the affected use, and vary based on the residential or commercial nature of the noise generator's use. For example, the noise limits for commercial and industrial properties (Section 2909(b)) provide that no person shall produce or allow to be produced a noise level more than 8 dBA above the local ambient level at the property plane. If the noise generated from commercial and industrial properties is generated from a licensed place of entertainment or other location subject to regulation by the Entertainment Commission, such use shall not produce or allow to be produced a noise level more than 8 dBC[3] above the local ambient level at the property plane in addition to the 8 dBA standard.

For noise generated by residential properties, the noise limits are 5 dBA above the ambient level at any point outside of the property plane of a residential use. The noise limits for public property provide that no person shall produce a noise level more than 10 dBA above the local ambient level at a distance of 25 feet or more on public property.

As is common for noise standards, the permitted noise level for fixed residential interior noise limits identified in Section 2909(d) is lower at night than during the day. For example, maximum noise levels at any sleeping or living room in any dwelling unit located on residential property must not exceed 45 dBA between 10:00 p.m. and 7:00 a.m., and 50 dBA between 7:00 a.m. and 10:00 p.m. None of the noise limits set forth in this section apply to activity for which the City and County of San Francisco has issued a permit that contains noise limit provisions that are different from those set forth in this article. Additionally, the Directors of Public Health, Public Works, or Building Inspection, or the Entertainment Commission, or the Chief of Police may grant variances to noise regulations, over which they have jurisdiction pursuant to Section 2916.

4.6.4 Significance Standards

Would the project:

a) Result in exposure of persons to, or generation of, noise levels in excess of standards established in any applicable plan or noise ordinance, or applicable standards of other agencies?

b) Result in exposure of persons to, or generation of, excessive groundborne vibration or groundborne noise levels?

[3] C-weighted decibels include low-frequency sounds that are more common to amplified sound/concerts.

c) Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

d) Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project (including construction)?

e) For a project located within an airport land use plan area, or, where such a plan has not been adopted, in an area within two miles of a public airport or public use airport, would the project expose people residing or working in the area to excessive noise levels?

f) For a project located in the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

4.6.5 Analysis Methodology

Methodology for Analysis of Direct Impacts

Construction Impact Methodology – Noise

To assess potential short-term construction noise impacts, sensitive receptors and their relative exposure were identified. Combined intermittent noise levels from the simultaneous operation of onsite equipment expected to be used in project construction were estimated based on equipment noise data published by the Federal Highway Administration (FHWA), as shown in **Table 4.6-3**. The sources assessed were identified as typically involved with construction of a research building and parking structure using the CalEEMod emissions estimator model. The roadway noise construction model of the FHWA was then used to predict noise levels at the nearest receptors during both pile driving activity and non-impact construction activity.

TABLE 4.6-3
TYPICAL NOISE LEVELS FROM CONSTRUCTION EQUIPMENT

Construction Equipment	Noise Level (dBA, Lmax, at 50 feet)
Dump Truck	76
Air Compressor	78
Street Sweeper	82
Excavator	81
Scraper	84
Loader	79
Tractor/Dozer	82
Auger Drill Rig	84
Crane, Mobile	81
Forklift[a]	84
Concrete saw	90
Concrete Mixer	79

NOTES:
[a] From Ventura County Construction Noise Threshold Criteria and Control Plan, 2010.

SOURCE: Federal Highway Administration, *Roadway Construction Noise Model User Guide*, 2006.

The San Francisco Noise Ordinance prohibits construction activities between 8:00 p.m. and 7:00 a.m. and limits noise from any individual piece of construction equipment, except impact tools approved by the Department of Public Works, to 80 dBA at 100 feet.

As long as project construction activities comply with the noise ordinance, construction noise impacts from non-impact equipment would be considered less than significant. If construction activities using non-impact equipment would exceed these standards, then the noise effects would be potentially significant and mitigation measures would be required. The San Francisco Noise Ordinance does not identify any quantitative noise limit standard for impact equipment. To assess the potential impacts related to rapid impact compaction, this analysis employs the general construction noise assessment methodology and criteria suggested by the Federal Transit Administration (FTA, 2006). This guidance identifies a 1-hour L_{eq} of 90 dBA for daytime and 80 dBA for nighttime construction noise exposure at residential uses. Commercial and industrial land use exposure to construction noise of 100 dBA is suggested as an assessment criterion.

In addition to the above criteria, to determine if the proposed project would result in a substantial temporary increase in noise levels in the project vicinity above levels existing without the project, persistent construction equipment noise related to an increase of 10 dBA over the existing noise levels would represent a perceived doubling of loudness and is considered a substantial temporary increase in noise levels warranting implementation of construction noise control measures. Consistent with FTA and FHWA methodology, this increase in construction noise is assessed relative to an hourly L_{eq} and also accounts for equipment percentage uses as inventoried by FHWA.

Construction Impact Methodology – Vibration

Vibration impacts are considered significant if they would either result in levels substantial enough to result in damage to nearby structures or buildings, or result in vibration levels generally accepted as an annoyance to sensitive land uses. Groundborne noise occurs when vibrations transmitted through the ground result in secondary radiation of noise. Groundborne noise is generally associated with transit trains through tunnels and underground blasting activities, neither of which is proposed as part of this project, and therefore, this analysis is focused on groundborne vibration.

The local regulations of the affected jurisdictions in the project area do not address vibration or provide numerical thresholds for identifying groundborne vibration impacts. In the absence of local regulatory significance thresholds for vibration from construction equipment, this evaluation uses the Caltrans-identified peak particle velocity (PPV) thresholds for adverse human reaction and risk of architectural damage to buildings. For adverse human reaction, this analysis applies the “strongly perceptible” threshold of 0.1 inches per second (in/sec) PPV (Caltrans, 2013). For building damage, the threshold depends on the architectural characteristics of the potentially affected structure (see **Table 4.6-4**).

TABLE 4.6-4
CALTRANS GUIDELINE VIBRATION DAMAGE POTENTIAL THRESHOLD CRITERIA

Structure Type and Condition	Transient Vibration Sources[a]	Continuous Frequent Intermittent Vibration Sources[b]
	Maximum Peak Particle Velocity (PPV), inches per second (in/sec)	
Extremely fragile historic buildings, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some old buildings	0.5	0.25
Older residential structures	0.5	0.3
New residential structures	1.0	0.5
Modern industrial/commercial buildings	2.0	0.5

NOTES:

[a] Transient sources create a single isolated vibration event, such as blasting or drop balls.

[b] Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

SOURCE: Caltrans, 2013.

Operational Impact Methodology

Operational noise issues evaluated in this section include (1) noise generated by automobile and bus traffic that would occur during typical daily conditions with the project; and (2) compatibility of potential future uses with San Francisco Land Use Compatibility Guidelines for Community Noise. Traffic noise modeling was completed using the Federal Highway Administration Traffic Noise Model.

Traffic noise level significance is determined by comparing the increase in noise levels (traffic contribution only) to increments recognized by Caltrans as representing a perceptible increase in noise levels. Additionally, it is widely accepted methodology by both FTA and the Federal Interagency Committee on Noise (FICON) that thresholds should be more stringent for environments that are already noise impacted (FICON, 1992).

Consequently, for noise environments where the ambient noise level is 65 dBA DNL or less, the significance threshold applied is an increase of 5 dBA or more, which Caltrans recognizes as a readily perceptible increase. In noise environments where the ambient noise level exceeds 65 dBA DNL, the significance threshold applied is an increase of 3 dBA or more, which Caltrans recognizes as a barely perceptible increase Caltrans, 2013b).

The proposed project would not introduce new operational vibration sources (e.g., impact equipment, streetcar and rail operations, and blasting activities), and therefore, there would be no operational vibration impacts, and operational vibration is not discussed further.

Methodology for Analysis of Cumulative Impacts

Cumulative Construction Impact Methodology

Cumulative construction noise impacts are assessed by review of the cumulative project list for proposed projects that could be constructed at the same time as the proposed project and are within close enough proximity (within 500 feet) to make a meaningful contribution to the construction noise impact of the proposed project. An approximation is made of the cumulative construction sound levels based on the Roadway Noise Construction Model and compared to FTA criteria for construction discussed above.

Cumulative Operations Impact Methodology

Cumulative operational noise impacts are assessed by modeling cumulative plus project roadside noise levels and comparing the results with existing modeled roadside noise levels and to Caltrans perceptibility criteria discussed above.

4.6.6 Issues Adequately Addressed in the Initial Study

The complete list of CEQA significance criteria used in the noise analysis is included in the Initial Study, which also explains that criteria related to public airports or private airstrips are not applicable to the proposed project. No further analysis of these subjects is presented in this section. The nearest airport or airstrip to the project site, the San Francisco International Airport, is located approximately 9 miles away. The helipad at the UCSF Medical Center at Mission Bay is located approximately 1 mile away. The ZSFG campus is not located along any of the primary or alternative flight paths of helicopters accessing the helipad. The project site is not located within an airport land use plan and the proposed project or variants would not expose people to excessive noise levels from aircraft operations.

4.6.7 Impacts and Mitigation Measures

Impact NO-1: Construction of the proposed project could cause a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project. (Potentially Significant)

Construction activities for the proposed research building are expected to occur over an approximate three year period from late 2016 through 2019. Construction for garage expansion would occur over an approximate two year period from 2018 to 2020. Construction phases would include site preparation, excavation and soil stabilization, installation of any necessary piles, placement of infrastructure, placement of foundations for structures, and fabrication of structures. Construction activities would require the use of heavy trucks, material loaders, cranes, concrete saws, and other mobile and stationary construction equipment listed in Table 4.4-3 above.

Based on the preliminary geotechnical evaluation of the project site (Kleinfelder, 2014), recommended feasible foundation types would either consist of spread mat foundations or drilled and cast-in-place piles, neither of which would require use of an impact or vibratory pile driver.

Other Construction Activities. Other construction activities such as general building construction would be less noise intrusive, involving cranes, forklifts saws, and nail guns. Trucks would be used to off-haul excavated materials which would also marginally increase hourly noise levels on Potrero Avenue and Twenty-Third or Twenty-Fourth streets.

Effect on Sensitive Receptors. Construction noise would be noticeably elevated compared to existing L_{eq} noise levels along Twenty-Third, Twenty-Fourth, and Utah streets and San Bruno Avenue where daytime noise levels were monitored to be 59 to 66 dBA. Noise level increases at receptors on Vermont Street would be less due to the contributions from the adjacent U.S. 101 freeway. As described below, this impact would be significant and therefore warrant implementation of mitigation for noise control.

Research Building Grading and Excavation. Grading and excavation activities for the research building would be the first activities to occur. Equipment estimated by the CalEEMod model include a grader a backhoe and a dozer. Noise levels at the closest surrounding sensitive receptors, approximately 75 feet away, from simultaneous operation of this equipment were calculated using the Roadway Noise Construction Model. **Table 4.6-5** presents the resultant noise levels. As can be seen from the Table 4.6-5, the contribution of excavation noise at residential receptors and the hospital would be more than 10 dBA over existing levels.

TABLE 4.6-5
NOISE LEVELS FROM RESEARCH BUILDING CONSTRUCTION ACTIVITIES AT SENSITIVE RECEPTORS IN THE PROJECT AREA

Location	Noise Levels in dBA (Hourly Leq)			
	Existing Leq	Mass Excavation	Pile Installation	Building Construction
1. 23rd Street residences residential receptor 75 feet south of project site	61.4	82.7	77.1	78.0

NOTE: See Figure 4.6-1 for noise measurement locations. L_{eq} represents the constant sound level

SOURCE: Environmental Science Associates, 2016.

Research Building Pile Installation. Piles for the proposed project would not be driven with an impact hammer, but rather cast in place in holes drilled by an auger. Pile installation activities at the project site were assumed to involve a drill rig, a loader and a concrete pump truck. Noise levels at surrounding sensitive receptors from simultaneous operation of this equipment were calculated using the Roadway Noise Construction Model. As can be seen from Table 4.6-5, the contribution of pile installation noise at residential receptors and the hospital would be more than 10 dBA over existing levels.

Research Building Construction. Building construction at the project site would involve operation of a generator, a crane, a forklift, a backhoe and three welders. As can be seen from Table 4.6-5, the noise contribution of building construction activities at residential receptors and the hospital would be more than 10 dBA over existing levels.

Parking Garage Grading and Excavation. Grading and excavation activities for the garage expansion would occur in 2018. Equipment estimated by the CalEEMod model includes a concrete saw, a backhoe, a loader and a dozer. Noise levels at the closest surrounding sensitive receptors, approximately 60 feet away, from simultaneous operation of this equipment were calculated using the Roadway Noise Construction Model. **Table 4.6-6** presents the resultant noise levels. As can be seen from the Table 4.6-6, the contribution of excavation noise at residential receptors and the hospital would be more than 10 dBA over existing levels

TABLE 4.6-6
NOISE LEVELS FROM GARAGE EXPANSION CONSTRUCTION ACTIVITIES AT SENSITIVE RECEPTORS IN THE PROJECT AREA

Location	Noise Levels in dBA (Hourly Leq)		
	Existing Leq	Mass Excavation	Building Construction
1. 24th Street residences residential receptor 60 feet south of project site	63.7	83.1	78.3

NOTE: See Figure 4.6-1 for noise measurement locations. L_{eq} represents the constant sound level

SOURCE: Environmental Science Associates, 2016.

Parking Garage Construction. Building construction at the garage expansion site would involve operation of a crane, two forklifts, a backhoe and a loader. As can be seen from Table 4.6-6, the noise contribution of building construction activities at residential receptors and the hospital would be more than 10 dBA over existing levels.

Construction Noise from Research Building and Parking Garage Combined. The construction schedule indicates that excavation of the garage expansion could take place concurrently with construction of the research building. This would represent the worst case scenario in terms of overall construction noise from the project. Receptors on Utah Street and San Bruno Avenue would experience noise increases from the combination of activities. However, the noise increase at receptors experiencing contributions from both activities would not be as great as the noise increase that would be experienced by singular impact at the closest receptors for the research building and garage, respectively.

Other Construction Activities. During peak excavation activities, truck trips could be generated to and from the site daily. These truck trips would increase hourly noise levels on Potrero Avenue and potentially Twenty-Third and Twenty-Fourth streets.

Mitigation Measure NO-1: Construction Noise Control Measures.

Contractors shall employ site-specific noise attenuation measures during construction to reduce the generation of construction noise to less than 10 dBA over existing noise levels. These measures shall be included in a Noise Control Plan that shall be submitted for review and approval by UCSF for construction of the research building and the City or its designated representative for construction of the garage expansion to ensure that construction noise is reduced to the degree feasible. Measures specified in the Noise Control Plans and implemented during project construction shall include, at a minimum, the following noise control strategies:

- Equipment and trucks used for construction shall use the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures, and acoustically attenuating shields or shrouds).
- Construction equipment with lower noise emission ratings shall be used whenever possible, particularly for air compressors.
- Sound-control devices no less effective than those provided by the manufacturer shall be provided on all construction equipment.
- Impact tools (e.g., jack hammers, pavement breakers, and rock drills) used for construction shall be hydraulically or electrically powered wherever possible to avoid noise associated with compressed air exhaust from pneumatically powered tools. Where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used; this muffler can lower noise levels from the exhaust by up to about 10 dBA. External jackets on the tools themselves shall be used where feasible; this could achieve a reduction of 5 dBA. Quieter procedures, such as use of drills rather than impact tools, shall be used where feasible.
- Stationary noise sources such as material stockpiles and vehicle staging areas shall be located as far from adjacent receptors as possible.
- Enclosures and mufflers for stationary equipment shall be provided, impact tools shall be shrouded or shielded, and barriers shall be installed around particularly noisy activities at the construction sites so that the line of sight between the construction activities and nearby sensitive receptor locations is blocked to the extent feasible.
- Unnecessary idling of internal combustion engines shall be prohibited.
- Construction-related vehicles and equipment shall be required to use designated truck routes to travel to and from the project sites as determined with consultation with the SFMTA as part of the permit process prior to construction.
- The project sponsor shall designate a point of contact to respond to noise complaints. The point of contact must have the authority to modify construction noise-generating activities to ensure compliance with the measures above and with the San Francisco Noise Ordinance.

Significance after Mitigation: Less than Significant. Implementation of Mitigation Measure NO-1 would reduce the project's construction noise impacts to a less-than-significant level. Given that this measure would implement construction-related noise control measures for a project that does not include impact pile-driving, the proposed project's construction noise impact would be less than significant with mitigation.

Impact NO-2: Construction of the proposed project would not expose people to or generate noise levels in excess of standards established in the local general plan, noise ordinance, or applicable standards of other agencies. (Less than Significant)

Proposed construction of the garage expansion would be required to comply with the San Francisco Noise Ordinance, which prohibits construction activities between 8:00 p.m. and 7:00 a.m. and limits noise from any individual piece of construction equipment, except impact tools approved by the Department of Public Works, to 80 dBA at 100 feet. Although UCSF is not

subject to the Noise Ordinance, it would comply with its requirements during construction of the proposed research building. Table 4.6-3, above, presents the maximum noise levels generated by construction equipment identified by the project sponsor as likely to be used during construction. All non-impact equipment would be consistent with the San Francisco Noise Ordinance. Consequently, the project would not generate noise levels in excess of standards established in the local noise ordinance, and this impact would be *less than significant*.

Mitigation: None required.

Impact NO-3: Construction of the proposed project would not expose people and structures to or generate excessive groundborne vibration levels. (Less than Significant)

Construction activities would not involve construction equipment that are typically associated with substantial groundborne vibration such as impact or vibratory pile driving or impact compaction technologies.

There are no adopted state or local policies or standards for groundborne vibration. Vibration intensity is expressed as peak particle velocity (PPV), the maximum speed at which the ground moves while it temporarily shakes. Since ground shaking speeds are very slow, PPV is measured in inches per second. The average person is quite sensitive to ground motion and levels as low as 0.02 inch per second can be detected by the human body when background noise and vibration levels are low and levels of 0.1 inches per second are considered "strongly perceptible." The Federal Transit Administration has published guidance relative to vibration impacts (see Table 4.6-4, above). According to Caltrans, new structures can be exposed to groundborne vibration PPV levels of up to 0.5 inch per second without experiencing structural damage (Caltrans, 2013).

Building Damage

Caisson drilling activities for pile installation would be the lone activity that would generate measureable vibration. Inventoried vibration data published by the FTA indicates that such drilling can result in vibration levels of 0.089 inches per second PPV at a distance of 25 feet. This vibration level is below the Caltrans building damage threshold of 0.25 inches per second PPV for historic and older structures. Given that the nearest structures are over 75 feet away, proposed construction drilling activities would result in *less than significant* vibration impacts with respect to building damage.

Human Annoyance

Vibration levels can also result in interference or annoyance impacts at residences or other land uses where people sleep, such as hotels and hospitals. Vibration impact criteria published by Caltrans relative to these land uses are stated in terms of PPV, in inches per second. For adverse human reaction, this analysis applies the “strongly perceptible” threshold of 0.1 inches per second PPV (Caltrans, 2013).

Caisson drilling activities for pile installation would be the lone activity that would generate measureable vibration. Inventoried vibration data published by the FTA indicates that such drilling can result in vibration levels of 0.089 inches per second PPV at a distance of 25 feet. The closest residence would be approximately 70 feet away at which distance vibration would be further attenuated to 0.02 inches per second. Therefore, due to the distance of receptors from the project site, impacts from vibration with respect to human annoyance would be *less than significant.*

Impact NO-4: Operation of the proposed project would cause a substantial permanent increase in ambient noise levels in the project vicinity. (Less than Significant)

Mobile Noise Source – Vehicular Traffic Noise

Long-term noise sources associated with operation of the new research building would primarily consist of marginal increases in roadway traffic. There will likely be some new mechanical equipment (e.g. heating ventilation and air conditioning, backup generator testing) associated with operation of the new building. The potential location of such equipment in not known but such equipment would be operated is such a manner as to conform to the requirements of the City of San Francisco Noise Ordinance. Noise from maintenance testing of any needed backup generator would occur briefly once a week during daytime hours and would be roughly equivalent to that generated by a single truck engine, which would not be expected to represent a substantial increase in noise levels in an urban environment.

Increased vehicular traffic associated with the proposed project or its variants would increase noise levels along existing roadways. Increases in noise from traffic on existing roadways are assessed by modeling existing and future roadway noise levels and comparing the resulting increase to standards published by FICON. For noise environments where the ambient noise level is 65 dBA DNL or less, the applicable significance threshold is an increase of 5 dBA or more, which Caltrans recognizes as a readily perceptible increase. In noise environments where the ambient noise level exceeds 65 dBA DNL, the applicable significance threshold is an increase of 3 dBA or more, which Caltrans recognizes as a barely perceptible increase.

Increased traffic noise was assessed for the project and four variant scenarios, consistent with those analyzed in Section 4.7, *Transportation and Traffic*. Roadside noise levels were modeled for both existing and near term conditions (year 2015 inclusive of traffic from foreseeable development that would be operational by the time of project completion) during the weekday peak hour (4:00 to 6:00 p.m.) and compared to conditions with the addition of proposed project traffic.

Noise levels were determined for this analysis using the Federal Highway Administration (FHWA) Traffic Noise Prediction Model based on baseline and future traffic projections developed as part of the transportation analysis (see Section 4.7, *Transportation and Traffic*). Modeled weekday and weekend traffic noise level estimates for the six roadway segments are presented in **Table 4.6-7**.

TABLE 4.6-7
MODELED TRAFFIC NOISE LEVELS, FOR THE PROPOSED PROJECT AND VARIANTS

Roadway Segment	Near Term (2016)	Near Term plus Project	dBA Difference	Significant Increase?
Proposed Project				
23rd Street between Potrero Avenue and Utah Street	61.7	60.7	-1.0	No
23rd Street between San Bruno Avenue and Vermont Street	59.7	59.7	0.0	No
24th Street between Potrero Avenue and Utah Street	59.4	61.2	+1.8	No
Potrero Avenue between 23rd and 24th	68.5	68.5	0.0	No
Potrero Avenue between 22nd and 23rd	68.8	68.8	0.0	No
Utah Street between 23rd and 24th	56.8	57.2	+0.4	No
San Bruno Avenue between 23rd and 24th	55.1	56.3	+1.2	No
Roadway Segment	**Near Term (2016)**	**Near Term plus Variant 1**	**dBA Difference**	**Significant Increase?**
Variant 1				
23rd Street between Potrero Avenue and Utah Street	61.7	61.1	-0.6	No
23rd Street between San Bruno Avenue and Vermont Street	59.7	60.3	+0.6	No
24th Street between Potrero Avenue and Utah Street	59.4	60.7	+1.3	No
Potrero Avenue between 23rd and 24th	68.5	68.3	-0.2	No
Potrero Avenue between 22nd and 23rd	68.8	68.8	0.0	No
Utah Street between 23rd and 24th	56.8	59.7	+2.9	No
San Bruno Avenue between 23rd and 24th	55.1	55.4	+0.3	No
Roadway Segment	**Near Term (2016)**	**Near Term plus Variant 2**	**dBA Difference**	**Significant Increase?**
Variant 2				
23rd Street between Potrero Avenue and Utah Street	61.7	60.7	-1.0	No
23rd Street between San Bruno Avenue and Vermont Street	59.7	59.7	0.0	No
24th Street between Potrero Avenue and Utah Street	59.4	61.1	+1.7	No
Potrero Avenue between 23rd and 24th	68.5	68.5	0.0	No
Potrero Avenue between 22nd and 23rd	68.8	68.8	0.0	No
Utah Street between 23rd and 24th	56.8	56.9	+0.1	No
San Bruno Avenue between 23rd and 24th	55.1	56.3	+1.2	No
Roadway Segment	**Near Term (2016)**	**Near Term plus Variant 3**	**dBA Difference**	**Significant Increase?**
Variant 3				
23rd Street between Potrero Avenue and Utah Street	61.7	61.6	-0.1	No
23rd Street between San Bruno Avenue and Vermont Street	59.7	60.4	+0.7	No
24th Street between Potrero Avenue and Utah Street	59.4	60.7	+1.3	No
Potrero Avenue between 23rd and 24th	68.5	68.3	-0.2	No
Potrero Avenue between 22nd and 23rd	68.8	68.8	0.0	No
Utah Street between 23rd and 24th	56.8	60.2	+3.4	No
San Bruno Avenue between 23rd and 24th	55.1	55.1	0.0	No

TABLE 4.6-7 (Continued)
MODELED TRAFFIC NOISE LEVELS, FOR THE PROPOSED PROJECT AND VARIANTS

Roadway Segment	Near Term (2016)	Near Term plus Variant 4	dBA Difference	Significant Increase?
Variant 4				
23rd Street between Potrero Avenue and Utah Street	61.7	60.7	+1.0	No
23rd Street between San Bruno Avenue and Vermont Street	59.7	59.4	-0.3	No
24th Street between Potrero Avenue and Utah Street	59.4	59.9	+0.5	No
Potrero Avenue between 23rd and 24th	68.5	68.4	-0.1	No
Potrero Avenue between 22nd and 23rd	68.8	68.7	-0.1	No
Utah Street between 23rd and 24th	56.8	57.2	+0.4	No
San Bruno Avenue between 23rd and 24th	55.1	55.4	+0.3	No

NOTES:

[a] Road center to receptor distance is assumed to be 50 feet for values shown in this table. Noise levels were determined using the Federal Highway Administration (FHWA) traffic noise model. The average speed on these segments is assumed to be 25 miles per hour, depending on the roadway. In an existing ambient noise environment of 65 dBA or greater, an incremental increase is considered significant if the noise increase is equal to or greater than 3.0 dBA. In an existing ambient noise environment below 65 dBA, an incremental increase is considered significant if the noise increase is equal to or greater than 5.0 dBA.

SOURCE: ESA 2016

As shown in Table 4.6-7, weekday traffic noise level increases would be less than significant for receptors along all seven roadway segments where noise levels would increase by less than 3 dBA along Potrero Avenue where existing noise levels are 65 dBA or above and less than 5 dBA along all other roadway segments where existing noise levels are less than 65 dBA.

Impact C-NO-1: Operation of the proposed project when considered with other cumulative development would cause a substantial permanent increase in ambient noise levels in the project vicinity. (Less than Significant)

Operational noise impacts of the proposed project would primarily result from increased traffic on the local roadway network. Cumulative plus project traffic data were used to estimate the cumulative operational noise increases shown in **Table 4.6-8** and compared to existing (not near term) traffic noise levels. Cumulative roadside noise increases would be less than 3 dBA along all seven roadway segments analyzed. Consequently, the cumulative increase in roadway noise would be less than significant.

TABLE 4.6-8
MODELED CUMULATIVE TRAFFIC NOISE LEVELS, FOR THE PROPOSED PROJECT

Roadway Segment	Existing	2040 plus Project	dBA Difference	Significant Increase?
Proposed Project				
23rd Street between Potrero Avenue and Utah Street	60.9	61.9	+1.0	No
23rd Street between San Bruno Avenue and Vermont Street	59.3	61.8	+2.5	No
24th Street between Potrero Avenue and Utah Street	59.4	61.9	+2.5	No
Potrero Avenue between 23rd and 24th	68.4	69.6	+1.2	No
Potrero Avenue between 22nd and 23rd	68.6	69.6	+1.0	No
Utah Street between 23rd and 24th	56.8	58.2	+1.4	No
San Bruno Avenue between 23rd and 24th	55.1	56.9	+1.8	No

NOTES:

[a] Road center to receptor distance is assumed to be 50 feet for values shown in this table. Noise levels were determined using the Federal Highway Administration (FHWA) traffic noise model. The average speed on these segments is assumed to be 25 miles per hour, depending on the roadway. In an existing ambient noise environment of 65 dBA or greater, an incremental increase is considered significant if the noise increase is equal to or greater than 3.0 dBA. In an existing ambient noise environment below 65 dBA, an incremental increase is considered significant if the noise increase is equal to or greater than 5.0 dBA.

SOURCE: ESA 2016

4.6.8 References

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World Health Organization, Guidelines for Community Noise, Geneva, 1999.

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4.7 Transportation and Traffic

4.7.1 Introduction

This section considers the transportation and traffic setting and impacts of construction of a research building on the site of a surface parking lot on the ZSFG campus, and the expansion of the ZSFG parking garage.

4.7.2 Environmental Setting

This section provides a description of the existing transportation and circulation setting within the vicinity of ZSFG. It includes descriptions of the ZSFG Transportation Demand Management (TDM) Plan, existing roadway network, intersection operating conditions, transit network and service, pedestrian and bicycle conditions, on-street loading, emergency access, and parking supply and occupancy.

4.7.2.1 ZSFG Transportation Demand Management Plan

There are many different factors that determine how people travel to/from work, including home location, work shifts, access to transit, and travel incentives and disincentives (i.e. how convenient or costly it is to park). A TDM program is a set of policies and programs that include incentives, information, and education to encourage employees to commute to work by modes other than driving alone. The ZSFG TDM program includes DPH- and UCSF-led strategies that emphasize alternative commuting options, such as public transit, private shuttle service, biking, walking, and carpooling. Note that some strategies are specific to DPH or UCSF employee populations. The key elements of the existing ZSFG TDM plan are listed in **Table 4.7-1**.

Approximately 3,600 employees travel to ZSFG on a daily basis (ZSFG Institutional Master Plan, 2007). Furthermore, approximately 95 to 98 percent of these workers travel to or from ZSFG between 6:00 AM and 12:00 AM, which are the general operating hours for regional transit service in the area (ZSFG Employee Transportation Survey, 2013). As part of the Project Description development and Environmental Review process, TDM planning coordination with UCSF, DPH, the SFMTA, and transportation consultants yielded a list of potential TDM strategies that could be pursued in addition to those already in place to reduce single-occupant vehicle trips for UCSF and DPH employees. Because DPH oversees ZSFG, DPH and UCSF would implement any additional or enhanced TDM measures that would affect transportation conditions at ZSFG, in consultation with SFMTA as necessary. Because the SFMTA is responsible for the operation of the 23rd Street Garage, they may offer input into any potential changes to DPH-led TDM measures that may affect parking conditions at ZSFG. Additional information about the existing travel patterns for DPH and UCSF employees, key elements of the existing ZSFG TDM plan, and new or modified TDM elements under consideration are described in Appendix B of the TIS for this EIR (Appendix C).

TABLE 4.7-1
EXISTING ZSFG TDM PROGRAM ELEMENTS

TDM Measure	Affected Employees	Description
Bicycle Parking	UCSF, DPH	All ZSFG employees may use one of two secure on-site bicycle cages, which have a total of 91 Class I spaces. In addition, there are 34 bike lockers spread between three locations on the campus site. Bicycle racks are available on Potrero Avenue between 22nd and 23rd Streets, on 22nd Street, east of Potrero Avenue, and near the main hospital entrance.
Showers	UCSF, DPH	Showers are provided, which can be used by bicyclists.
Bicycle Riders Guide	DPH	Routes information and bicycle parking location on SFDPH website.
Car Share	UCSF, DPH	There are two City CarShare and two Zipcar cars available at the 23rd Street parking garage.
Commuter Benefits	UCSF, DPH	All ZSFG employees are eligible for pretax discount purchase of monthly transit passes.
Emergency Ride Home Program	UCSF, DPH	In the case of an emergency, unexpected work delay, or vehicle mechanical problem (including a bicycle problem), UCSF and DPH employees may be reimbursed up to $50 for their alternative ride home, including a taxi ride, rental car, or car share vehicle.
23rd Street Garage Use	UCSF, DPH	SFMTA offers monthly night parking permits at the 23rd Street parking garage to all ZSFG employees, area residents, and businesses at a discounted rate.
Pre-Tax Program	UCSF	The Pre-Tax program allows UCSF employees to reduce their public transit and non-UCSF vanpool costs by about one-third. The program works by allowing participants to deduct up to $255 per month from their paycheck without paying payroll taxes on this income
Rideshare Match	UCSF, DPH	SF Environment, Zimride, and 511 assist in matching commuters with similar daily routes to carpool to their destination
Shuttles	UCSF, DPH	*UCSF*: All UCSF and DPH employees and visitors can use the free UCSF shuttles to travel to/from all UCSF campus sites and secondary campus sites in the City. Two shuttles (Gold and Blue routes) operate from ZSFG to the UCSF Parnassus, Mt. Zion, and Mission Bay campus sites. UCSF also operates the Yellow route that provides shuttle service to16th Street BART station. *ZSFG*: All UCSF and DPH employees and visitors can use the free ZSFG shuttle that operates between ZSFG and the 24th St BART station during peak commute hours (5:30 AM-9:00 AM and 4:00 PM - 7:00 PM).
TDM Program Marketing	DPH	DPH participates in outreach to all employees on the campus site to raise awareness about the existing TDM program through information tables, newsletters, and website advertising.
Telecommuting Policy	UCSF, DPH	Eligibility to telecommute for all ZSFG employees determined by job position/requirements and Department
Vanpool Program	UCSF	The UCSF vanpool program requires a minimum of seven participants per vanpool. The driver participates for free, and the riders pay between $220 and $500 per month per person; monthly fees are based on the total round-trip miles driven per day.
Zimride	UCSF	UCSF-specific Zimride (ride sharing) website

SOURCE: UCSF and DPH Staff, 2013

UCSF Transportation Services monitors transportation conditions at all campus sites. However, UCSF does not monitor conditions at the same level of detail at ZSFG as at other campus sites and would have to coordinate with the DPH, which oversees ZSFG, to implement any changes that would affect transportation conditions at ZSFG. In the future, DPH will continue to monitor vehicle traffic conditions, transit operations, DPH shuttle ridership, adequacy of pedestrian and bicycle facilities, and loading and parking conditions within and surrounding ZSFG. UCSF will continue to monitor ridership of the UCSF shuttle at ZSFG. This monitoring program would be informed by the annual ZSFG Employee Transportation Survey, and input from UCSF and DPH staff and patients and visitors.

4.7.2.2 ZSFG-Serving Shuttle Systems

UCSF and DPH independently operate shuttle systems that serve all ZSFG employees, patients, and visitors at ZSFG.

The DPH-operated free shuttle travels between ZSFG and the 24th Street BART station during peak commute hours (5:30 AM-9:00 AM and 4:00 PM-7:00 PM). The shuttle currently serves about 90 passengers on average per weekday, with no passengers left behind due to "pass-bys" (i.e., shuttle not stopping because it is full). If DPH notices that this condition occurs, additional shuttle runs would be scheduled. In addition, during construction of the new ZSFG hospital, a shuttle traveled between ZSFG and a free, off-site parking lot for employees located at 2000 Marin Street.[1]

The UCSF-operated free shuttle provides service between its campus sites, transit facilities, and remote parking lots within the city. Service includes 13 fixed-route lines and two on-demand evening services between the Parnassus Heights and Mission Bay campus sites - three of the fixed route lines serve ZSFG: Gold, Blue, and Yellow. UCSF shuttle headways are generally between 15 to 25 minutes, and most routes operate between 6:00 AM and 9:00 PM, Monday through Friday. On average, the Gold and Blue routes serve 450 passengers per weekday, while the Yellow route serves 220 passengers. UCSF monitors the capacity utilization of its routes via monthly boarding audits, driver and rider feedback, program analysis from external consultants, stop audits, and consultation with UCSF Planning. UCSF's shuttle system is a key strategy in providing efficient inter-campus travel. As part of this service, UCSF has and will continue to make periodic minor operational changes to improve operations or to respond to specific community concerns.

Both DPH and UCSF shuttles stop at the following locations: on the north side of ZSFG on 22nd Street, on the south side in the passenger drop-off circle, and on 23rd Street in front of the 23rd Street garage (which is shared with Muni). The capacity for the DPH shuttle is 30 people per vehicle. The seated capacity of the Blue and Yellow lines is 22 people per vehicle, while the Gold line uses a mixed fleet of 22- and 30-seater vehicles.

[1] This parking lot closed and the shuttle ceased operation in January 2016.

4.7.2.2 Regional Setting

Regional Roadway System

U.S. Highway 101 (U.S. 101) provides the primary regional access to ZSFG and runs north-south through the study area. U.S. 101 connects San Francisco with the peninsula and the South Bay to the south and with the North Bay to the north via the Golden Gate Bridge. U.S. 101 connects to Interstate 80 north of the study area, providing access to the East Bay via the San Francisco-Oakland Bay Bridge. Northbound and southbound on- and off- ramps from U.S. 101 are located just south of ZSFG at Cesar Chavez Street. A northbound U.S. 101 off-ramp is also located just north of ZSFG at Mariposa Street. Within the northern part of San Francisco, U.S. 101 operates on surface streets (i.e., Van Ness Avenue and Lombard Street).

Regional Transit System

The following regional transit services operate within San Francisco and are accessible from ZSFG via Muni or shuttle. The regional transit routes (including service frequencies during the weekday morning and evening peak periods, hours of operations and neighborhoods served) serving the transit study area are presented in **Table 2-6** in Appendix B of the TIS for this EIR (Appendix C).

Caltrain provides passenger rail service on the Peninsula between San Francisco and Downtown San Jose, with several stops in San Mateo County and Santa Clara County; limited service is available south of San Jose. Caltrain service headways during the AM and PM peak periods are 10 to 60 minutes, depending on the type of train. The peak direction of service is southbound during the AM peak period and northbound during the PM peak period. Caltrain service terminates at the San Francisco Station at Fourth/King which is served by local, limited, and express "Baby Bullet" trains. The closest Caltrain station to the study area is the 22nd Street station, which is accessible via Muni Route 48.

BART provides regional commuter rail service between San Francisco and the East Bay, as well as between San Francisco and San Mateo County. Weekday hours of operation are between 4:00 AM and midnight. During the weekday PM peak period, headways are 5 to 15 minutes along each line. Within San Francisco, BART operates underground along Market Street to Civic Center Station and through the Mission District towards Daly City. The closest BART station to the study area is the 24th Street Mission BART station, which is accessible via Muni Route 48 or the ZSFG shuttle.

AC Transit operates bus service in western Alameda and Contra Costa Counties, as well as routes to the City of San Francisco and San Mateo County. AC Transit operates 33 "Transbay" bus routes between the East Bay and the Temporary Transbay Terminal, located at Howard Street and Beale Street. AC Transit does not directly serve ZSFG, and riders need to transfer to Muni at the Temporary Transbay Terminal to access ZSFG. The majority of Transbay service is provided only during commute periods in the peak direction of travel (into San Francisco during the AM peak period and out of San Francisco during the PM peak period), with headways between buses from 15 to 20 minutes. All-day service is provided on a few lines, with headways of approximately 30 minutes.

SamTrans operates bus and rail service in San Mateo County. A few SamTrans bus routes also serve the Temporary Transbay Terminal, including Routes 292 and 397. These routes are only allowed to carry passengers to and from San Francisco and not within San Francisco. Route 292 makes San Francisco stops along Potrero Avenue and Mission Street throughout the day. The AM peak-hour headways are between 10 and 15 minutes, and the PM peak-hour headways are 20 minutes. Route 397 run along Mission Street in San Francisco, but stop only at the Temporary Transbay Terminal. Route 397 is a late night service route with headways of one hour.

Golden Gate Transit (GGT) provides bus service between the North Bay (Marin and Sonoma counties) and San Francisco. GGT operates 22 commuter bus routes, nine basic bus routes, and 16 ferry feeder bus routes into San Francisco. Bus routes operate at headways of 15 to 90 minutes depending on time and day of week and bus type. GGT also operates ferry service between the North Bay and San Francisco, connecting Larkspur and Sausalito with the Ferry Building at the foot of Market Street in San Francisco during the morning and evening commute periods. GGT bus and ferry services do not directly serve ZSFG, and riders need to transfer to Muni to access ZSFG.

4.7.2.3 Local Setting

Local Roadway System

Local access to ZSFG is provided by an urban street grid network. The local road network consists primarily of two-lane roadways with on-street parking (Residential Parking Permit Zone W) and sidewalks provided on both sides of the streets in most areas. Exceptions to these characteristics are noted in the roadway descriptions below.

- **Potrero Avenue** is a north-south Major Arterial that borders ZSFG to the west, running parallel to, and connecting with, U.S. 101. There are interchanges with U.S. 101 at Division Street to the north, and at Cesar Chavez Street to the south. In the study area, Potrero Avenue has two travel lanes in each direction in addition to a northbound bus-only lane that extends from 22nd Street to 23rd Street. There are protected left-turn lanes on the southbound approaches to 22nd Street and 23rd Street. There are Class II bicycle lanes (part of Bicycle Route 25). Potrero Avenue is designated as a Freight Traffic Route (between Bryant Street and Cesar Chavez Street) in the *San Francisco General Plan*, and is also part of the Congestion Management Program network and the Metropolitan Transportation System street network.
- **Utah Street** runs north-south from 23rd Street to just south of 25th Street (dead ends at Potrero del Sol Park), and borders the ZSFG parking garage to the west.
- **San Bruno Avenue** runs north-south from 23rd Street to south of 25th Street (where it dead ends). In addition there is a segment that extends from 22nd Street northward to a dead end.
- **Vermont Street** runs north-south between 22nd Street and 25th Street and borders ZSFG to the east. Between 22nd Street and 23rd Street, it is part of the campus site and runs one-way in the southbound direction. On the west side of the street, there is a discontinuous 12- to 15-foot-wide sidewalk, with an approximately 500-foot-long gap north of 23rd Street.

- **20th Street** is a discontinuous east-west road, with one of its breaks being U.S. 101. West of U.S. 101, 20th Street runs from Potrero Avenue to Sanchez Street.
- **22nd Street** is a discontinuous east-west road, with one of its breaks being U.S. 101. West of U.S. 101, 22nd Street runs between Vermont Street and Diamond Street. Between Vermont Street and Potrero Avenue. 22nd Street runs through ZSFG, and the street continue westward from Potrero Avenue, about 250 feet to the south.[2] A pedestrian overpass connects 22nd Street from Vermont Street over U.S. 101 to Kansas Street. 22nd Street is designated as Bicycle Route 44 between Potrero Avenue and Chattanooga Street.
- **23rd Street** runs east-west between Carolina Street and Grand View Avenue, crossing over U.S. 101 and bordering ZSFG campus to the south and the ZSFG parking garage to the north. 23rd Street provides access to the main entrance of ZSFG. The street is offset by about 100 feet on either side of Potrero Avenue. Between Potrero Avenue and Kansas Street, 23rd Street has Class II bicycle lanes or sharrows and is designated as Bicycle Route 525.
- **24th Street** is a discontinuous east-west road, with one of its breaks being U.S. 101. West of U.S. 101, 24th Street runs between Vermont Street and Grand View Avenue.
- **25th Street** is a discontinuous east-west road, with one of its breaks being U.S. 101. West of U.S. 101, 25th Street runs between Vermont Street and Grand View Avenue. The street is offset by about 150 feet on either side of Potrero Avenue.

Intersection Operating Conditions

On January 20, 2016, under Senate Bill (SB) 743 passed in 2013, the Governor's Office of Planning and Research (OPR) released a revised proposal for changes to the CEQA Guidelines that will amend the way transportation impacts are analyzed (Public Resources Code Section 21099). Specifically, SB 743, codified as Public Resources Code Section 21099, requires OPR to amend the CEQA Guidelines to provide an alternative to Level of Service (LOS) for evaluating transportation impacts. Measurements of transportation impacts may include "vehicle miles traveled, vehicle miles traveled per capita, automobile trip generation rates, or automobile trips generated." Once the CEQA Guidelines are amended to include those alternative criteria, auto delay will no longer be considered a significant impact under CEQA. Because the amended CEQA Guidelines are still under review, and the UC Regents has not yet adopted VMT as a transportation impact criterion, the transportation analysis herein presents LOS analysis.

Intersection operating conditions at 13 intersections were evaluated during the weekday peak hours of the AM (7:00 AM-9:00 AM) and PM (4:00 PM-6:00 PM) peak periods. Intersections usually form the critical capacity constraints on roadways. Therefore, most transportation analyses examine intersection operations as a measure of overall roadway conditions.

The operating characteristics of intersections are evaluated using the concept of Level of Service ("LOS"). LOS is a qualitative description of driver comfort and convenience. Intersection levels of service range from LOS A, which indicates free flow or excellent vehicle flow conditions with short

[2] Upon completion of the new hospital, emergency vehicles will access the Emergency Department via 22nd Street; parking will be removed from the north side of 22nd Street from Potrero Avenue to just east of the Emergency Department driveway.

delays, to LOS F, which indicates congested or overloaded vehicle flow conditions with extremely long delays. In San Francisco, LOS A through D is considered acceptable, and LOS E and LOS F are considered unsatisfactory service levels. The intersections were evaluated using the 2000 Highway Capacity Manual (HCM) methodology. Tables summarizing the relationship between average delay per vehicle and LOS for signalized and unsignalized intersections according to the 2000 HCM method can be found in the appendices of the TIS for this EIR (Appendix C).

For signalized intersections, this methodology determines the capacity for each lane group approaching the intersection. The LOS is based on average delay (in seconds per vehicle) for the various movements within the intersection. A combined weighted average delay and LOS is presented for the intersection. For unsignalized intersections, operations are defined by the average control delay per vehicle (in seconds per vehicle) for each stop-controlled movement or movement that must yield the right-of-way, and the LOS is determined by the worst (highest average delay) approach. Generally, the delay ranges for each LOS are lower than for signalized intersections because drivers expect less delay at unsignalized intersections.

As shown in **Table 4.7-2**, all 13 study intersections operate at an acceptable level of service, which is LOS D or better, during the AM and PM peak hours. In fact, 11 of the 13 intersections operate at LOS C or better during the AM and PM peak hours; Potrero Avenue / 23rd Street operates at LOS D during the AM and PM peak hours, and Potrero Avenue / 24th Street operates at LOS D during the PM peak hour.

Local Transit System

Local transit service for ZSFG is provided by the San Francisco Municipal Railway (Muni) bus and light rail lines, which can be used to access regional transit operators. As described above, ZSFG and UCSF supplement Muni transit service with separate shuttle systems that provide direct connections to BART, off-site parking locations[3], and UCSF-operated facilities throughout San Francisco.

San Francisco Municipal Railway (Muni) provides transit service within the City and County of San Francisco, including bus (both diesel and electric trolley), light rail (Muni Metro), cable car, and electric streetcar lines. Muni operates eight bus lines within about a quarter-mile walk (see the TIS, Appendix G for details about these transit lines). Muni Forward (formerly the Transit Effectiveness Project, or TEP) serves as both a thorough review of and repositioning of San Francisco's public transit system, initiated by SFMTA in collaboration with the City Controller's Office. Muni Forward is aimed at improving reliability, reducing travel times, providing more frequent service and updating Muni bus routes and rail lines to better match current travel patterns. Muni Forward recommendations include new routes and route realignments, more service on busy routes, and elimination or consolidation of certain routes or route segments with low ridership. The recommendations were unanimously endorsed by the SFMTA Board of Directors in October 2008, for environmental impact review. The initial recommendations were revised based on public feedback on the draft environmental impact report (EIR). The final EIR

[3] The off-site lot (and shuttle service serving it) closed in January 2016.

TABLE 4.7-2
EXISTING PEAK-HOUR INTERSECTION LEVEL OF SERVICE (LOS)

Intersection	Traffic Control[a]	Peak Hour	Delay (seconds)[b]	LOS[c]
1. Potrero Avenue / 20th Street	Signal	AM PM	12 13	B B
2. Potrero Avenue / 22nd Street (north)	Signal	AM PM	13 12	B B
3. Potrero Avenue / 22nd Street (south)	Signal	AM PM	15 14	B B
4. Potrero Avenue / 23rd Street	Signal	AM PM	49 43	D D
5. Utah Street / 23rd Street	SSS	AM PM	12 (NB) 13 (NB)	B B
6. West ZSFG Driveway / 23rd Street	AWS	AM PM	>10 (EB) <10 (WB)	B A
7. San Bruno Avenue / 23rd Street	AWS	AM PM	<10 (WB) >10 (WB)	A B
8. East ZSFG Driveway / 23rd Street	SSS	AM PM	>10 (SB) >10 (SB)	B B
9. Vermont Street / 23rd Street	AWS	AM PM	12 (WB) 12 (WB)	B B
10. Potrero Avenue / 24th Street	Signal	AM PM	22 47	C D
11. Utah Street / 24th Street	AWS	AM PM	12 (EB) 11 (WB)	B B
12. Parking Garage Driveway / 24th Street	SSS	AM PM	<10 (SB) >10 (SB)	A B
13. Potrero Avenue / 25th Street	Signal	AM PM	31 20	C C

NOTES:

[a] AWS = All-way stop controlled; SSS = Side Street stop controlled; Signal = Signal controlled

[b] Delay reported as seconds per vehicle. For signalized intersections, a combined weighted average delay for the various movements within the intersection is reported. For SSS and AWS intersections, the highest average delay for an approach is reported.

[c] For signalized intersections, LOS based on average intersection delay, based on the methodology in the Highway Capacity Manual, 2000. For unsignalized intersections, LOS is based on the worst approach, which is indicated in parentheses.

SOURCE: Fehr & Peers, 2013.

was certified on March 27, 2014, and the SFMTA Board of Directors approved most of the Service Improvements and portions of the Transit Travel Time Reduction Proposals on March 28, 2014.[4] Muni Forward projects would be implemented based on funding and resource availability. The Muni Forward Implementation Strategy anticipates that many of the improvements would be implemented sometime between Fiscal Year 2014 and Fiscal Year 2019, subject to funding

[4] San Francisco Planning Department. 2014. TEP Final EIR, March 27, 2014, Available online at http://tepeir.sfplanning.org. Accessed April 3, 2014. Case No. 2011.0558E. The document and supporting information may also be viewed at the Planning Department, 1650 Mission Street, Suite 400, San Francisco, CA in case file 2011.0558E.

sources and resource availability.[5] The changes proposed by Muni Forward for routes near the ZSFG are described in the TIS for this EIR (Appendix C).

Pedestrian Circulation

Pedestrian facilities include sidewalks, crosswalks, curb ramps, and pedestrian countdown signals at intersections. Pedestrian facilities in the area immediately surrounding ZSFG are relatively complete. There are 12- to 15-foot-wide sidewalks on the both sides of most streets, and crosswalks on most legs of intersections. Pedestrian and countdown signals are currently provided at all study intersections, and there are no missing curb ramps or multiple turning lanes for pedestrians to cross. There is also a signalized midblock crossing across Potrero Avenue between 22nd and 23rd streets that provides pedestrian access to the Muni bus stops on either side of the street.

Sidewalks in the study area generally meet or exceed the minimum and recommended widths set forth in the San Francisco Planning Department's *Better Streets Plan* (2010). Exceptions include the sidewalk on the west side of Vermont Street between 22nd and 25th streets, which is only five feet wide.

Pedestrian volumes were collected at each study intersection during the morning (7:00 AM to 9:00 AM), midday (1:00 to 3:00 PM), and evening (4:00 PM to 6:00 PM) peak periods. In addition, pedestrian volumes were collected at four study locations during the midday period (2:30-4:30 PM) to determine the pedestrian volumes during employee shift changes. Note: walking to and from ZSFG is not a primary travel mode option for many of UCSF and DPH employees (approximately 3% of UCSF and DPH employees walk to the hospital).

The busiest pedestrian locations in the study area are along the southern edge of ZSFG, including the crosswalk between the SFMTA parking garage into ZSFG, the sidewalks along 23rd Street, and the signalized intersection of Potrero Avenue and 24th Street. Several hundred pedestrians were counted at each of these locations during the AM, mid-day, and PM peak hours, with the highest pedestrian activity generally occurring during the AM peak hour. Many visitors and employees drive to ZSFG and park at the SFMTA parking garage, while other visitors and employees arrive via UCSF shuttles, which stop on the southern side of 23rd Street, both of which contribute to the high pedestrian volumes crossing 23rd Street. For those that arrive to ZSFG via Muni, the primary walking path from stops at Potrero Avenue and 22rd or 24th streets is along 23rd Street and Utah streets. The 48 Quintara/24th Street stops directly in front of ZSFG on 23rd Street and Utah Street. 24th Street west of Potrero Avenue is a busy commercial thoroughfare that generates a lot of pedestrian activity as well. Other gateways into ZSFG including the mid-block signalized crosswalk just north of 23rd Street and the intersection of 22nd Street. Both gateways were observed to have moderate levels of pedestrian activity, with fewer than 100 pedestrians at each location. The mid-block signalized crosswalk has less pedestrian activity than 22nd Street due to the ongoing construction activity related to the SFGH Hospital project at the time of the pedestrian counts.

[5] San Francisco Municipal Transportation Agency. 2014. TEP Implementation Workbook, March 5, 2014, Available online at: http://www.sfmta.com/sites/default/files/projects/TEP%20Implementation%20Plan%20-%20Section%201%20%282%29_1.pdf. Accessed June 27, 2014.

Pedestrian impediments within the study area include U.S. 101, which provides a barrier to east-west pedestrian circulation in the study area. Pedestrian access across U.S. 101 is provided on 23rd Street and at the pedestrian bridge at 22nd Street. (There also is a pedestrian bridge just north of 25th Street, but it is currently closed, with pedestrians directed to use 23rd Street). The combination of high pedestrian volumes crossing 23rd Street between the parking garage and ZSFG, private vehicles entering the ZSFG passenger drop-off area, Muni buses, and large delivery trucks all contribute to a busy and sometimes disorienting feel in the zone along 23rd Street in front of ZSFG. This is partially caused by the staggered intersections along 23rd Street between Utah Street and San Bruno Avenue. This design creates some uncertainty about where vehicles should stop and where pedestrians should cross, as pedestrian often desire to cross outside the marked crosswalks. However, vehicle travel speeds are generally slow through this area, which minimizes the potential for pedestrian and vehicle conflicts.

Bicycle Circulation

The majority of the study area is flat, with limited changes in grades, facilitating bicycling within and through the area. UCSF has identified bicycling as an effective tool in reducing congestion and pollution, promoting good health, and creating a livable environment. Based on transportation commute surveys conducted in 2013[6], approximately 7% of UCSF and DPH employees bike to the hospital, which is consistent with the bicycling mode share throughout San Francisco.

Bicycle facilities in San Francisco consist of bicycle paths, bicycle lanes, bicycle routes, and cycle tracks. Bicycle Paths (Class I) provide a completely separated right-of-way for the exclusive shared use of cyclists and pedestrians. These facilities are off-street and minimize cross-flow traffic, but they can be adjacent to an existing roadway. Bicycle Lanes (Class II) provide a striped, marked and signed lane for bicycle travel. These one-way facilities are located on roadways and reserve a minimum of four to five feet of space for exclusive bicycle traffic. Bicycle Routes (Class III) provide a shared travel lane marked and signed for shared use with motor vehicle traffic. These facilities may or may not be marked with "sharrows" to emphasize that the roadway space is shared. Cycle Tracks (Class IV) provide a striped, marked and signed bicycle lane physically buffered from vehicle traffic (via vertical obstructions such as bollards, parked vehicles, or other mechanism). These facilities are located adjacent to roadways and reserve a minimum of four to five feet of space for exclusive bicycle traffic. Bicycle facilities located within or near ZSFG are described above as part of the description of local roadways.

The *San Francisco Bike Plan* (June 2009) (herein "Bike Plan") includes planned short-term improvements to Bicycle Route 525 on 23rd Street (i.e., the striping of Class II bicycle lanes between Kansas Street and Potrero Avenue). There are no planned Class IV cycle tracks in the study area.

Bicycle counts were collected at each study intersection during the morning (7:00 AM to 9:00 AM) and evening (4:00 PM to 6:00 PM) peak periods. In addition, bicycles were counted at four study locations during the midday period (2:30 to 4:30 PM) to determine the bicycle volumes during shift changes. The highest number of bicycles during the AM and PM peak hours were observed on

6 The employee survey was updated in October 2015, yielding similar results.

Potrero Avenue and 23rd Street, which provide the primary north-south and east-west bicycle access within the study area, respectively.

The San Francisco Planning Code Section 155.2 defines two types of bicycle parking. Class 1 spaces are spaces in secure, weather-protected facilities intended for use as long-term, overnight, and work-day bicycle storage by dwelling unit residents, nonresidential occupants, and employees. Class 2 spaces are spaces located in a publicly-accessible, highly visible location intended for transient or short-term use by visitors, guests, and patrons to the building or use.

Class 1 spaces provided for employee use include two secure onsite bicycle cages with a total of 91 spaces. Use of the Class 1 storage space requires a ZSFG ID badge, but lockers are not assigned. These lockers are typically 65 percent full. The 23rd Street garage also has 127 Class 1 spaces in three areas, which are typically 100 percent full.

Class 2 spaces provided for visitors and patients include a total of 116 bicycle rack spaces on-campus, on Potrero Avenue between 22nd and 23rd Streets, 22nd Street east of Potrero Avenue (near the main hospital entrance), and inside the 23rd Street parking garage. Within the garage, 10 Class 2 spaces are provided on the 24th Street side next to the stairway, while another 10 Class 2 spaces are located on the 3rd level on the 23rd Street side. On a typical weekday, about half of the available bicycle parking spaces are used.

Loading Conditions

ZSFG has both service vehicle and passenger loading. There are four off-street and two on-street service vehicle loading facilities serving the existing uses on the project site. Deliveries to the off-street service vehicle loading facilities are infrequent, and loading vehicles are often parked for extended periods. On-street loading facilities are typically used for deliveries or short-term loading demand. There are also two designated passenger drop-off locations on the north and south side of the main hospital building. The southern passenger drop-off area adjacent to 23rd Street is generally used more frequently than the northern passenger drop-off area.

There are existing loading areas that provide space for passenger and vehicle loading. They are well-utilized throughout the day, with peak levels of utilization typically occurring from 8:00 to 10:00 AM and 12:00 to 3:30 PM. Although no delivery vehicles were observed double parking or using other facilities, on occasion, some passenger vehicles were observed to double park near the intersection of 23rd Street / San Bruno Avenue while waiting to pick-up/drop-off employees, patients, or visitors at ZSFG. Additionally, some passenger loading vehicles used empty parking spots for pick-up and/or drop-off because of proximity to destination. No conflicts between loading vehicles and Muni were observed.

Emergency Vehicle Access

Emergency transport vehicles typically use Potrero Avenue through the study area when heading to and from an emergency and/or the emergency drop-off area at ZSFG. Arterial roadways allow emergency vehicles to travel at higher speeds and provide enough clearance space to permit other traffic to maneuver out of the path of the emergency vehicle and yield the right of way. Ambulances

currently use an exclusive driveway off 23rd Street west of Vermont Street to access the emergency room drop-off area on the south side of the main hospital. Upon completion of the new ZSFG hospital, the emergency room will be relocated to the new hospital, and ambulances will be rerouted to a loop driveway off 22nd Street. There are two San Francisco Fire Department fire stations within one mile of ZSFG: Station 7 (Folsom Street at 19th Street in the Mission) and Station 8 (Wisconsin Street at 22nd Street in Potrero Hill).

Parking Conditions

On-Campus Parking

The ZSFG campus site currently has 18 surface parking areas and three adjacent streets designated for ZSFG employee or visitor parking (see Table 2-8 in the TIS, Appendix C). The ZSFG campus site contains a total of 728 parking spaces, of which 527 are located in parking lots, and 201 are located on streets. Additionally, a garage structure, closely associated with ZSFG, owned by the Parking Authority of the City and County of San Francisco, and operated by LAZ Parking, is located at the southern edge of the ZSFG campus site. The main access is on 24th Street, with secondary access on 23rd Street (after 6:00 PM on weekdays and all day on weekends). The 23rd Street access point is not open prior to 6:00 PM in order to reduce the amount of traffic on 23rd Street during the day. The parking structure has a parking capacity of 820 stalls. Attendant parking is offered from 8:30 AM to 6:00 PM on weekdays, and with valet parking on the roof and on the first, the total parking capacity increases by approximately 110 vehicles.

Hospital employees pay to park at the ZSFG campus. All ZSFG employees are eligible for monthly parking permits. Parking permits for on-campus parking lots, the 23rd Street Garage, and designated on-street areas are issued to employees by the ZSFG Garage Parking Office on a first come, first served basis, although the ZSFG administration may elevate the priority of some clinical staff to move faster in the waiting list. Employees pay a fee for monthly parking. Approximately 850 employees receive a subsidy on the parking fee as part of an SEIU employee benefit per a collective bargaining agreement.

Of the total number of off-street parking spaces provided within the ZSFG campus site (excluding the 23rd Street Garage), about 66% are reserved for hospital staff, service vehicles, and City officials. Of the total number of all parking spaces at the campus site (including the 23rd Street garage), about two-thirds could be used by patients and visitors, although in practice only about 30 percent of the spaces are currently available to them, as more than two-thirds of the vehicles parked at the 23rd Street garage are estimated to be ZSFG employees.

Parking occupancy was surveyed three times on a single day (from 10:00 AM to noon, from noon to 2:00 PM, and from 6:00 to 8:00 PM) throughout the campus site and the adjacent 23rd Street garage. The period with the highest occupancy is between 10:00 AM and noon (97%), followed by the period between noon and 2:00 PM (93%); the utilization after 6:00 PM drops substantially (37%).

According to management of the 23rd Street garage, the peak times of ingress and egress occur at the beginning and end of the day. Most cars come in by 9:30 AM and exit around 3:30 to 5:30 PM. Overnight utilization rates are below 5%, while weekend utilization is around 15%.

Vehicle queuing at the garage exit has been observed during the shift change period (from 3:00 to 4:00 PM), as well as during the PM peak commute period (from 4:00 to 6:00 PM). This vehicle queuing is due to the requirement to pay at the exit booth and the merging with the surrounding traffic flows. In general, inbound traffic to the 23rd Street garage operates smoothly, with each entering lane providing queuing space for approximately two vehicles. Occasional inbound vehicle queuing has also been observed during the AM peak period (from 7:00 AM to 9:00 PM), but the queues neither extend down the block nor interfere with Muni, bicyclists, or pedestrians.

Off-Campus (On-Street) Parking

There are approximately 1,510 off-campus parking spaces within a two-block radius of the ZSFG campus site.[7] Most of the on-street parking spaces in the study area are part of RPP Zone W.[8] The following street sections are not affected by RPP Zone W:

- 22nd Street between Potrero Avenue and Vermont Street – the north side of the street is signed for ZSFG staff parking only, while the south side has a combination of yellow zone for service loading and short-term public parking.
- The north side of 23rd Street between Potrero Avenue and Vermont Street – this section allows 2-hour parking without any permit.
- The west side of San Bruno Avenue, north of 22nd Street – this section is signed for ZSFG staff parking only.

Off-campus parking occupancy was surveyed three times on a single day (from 10:00 AM to noon, from noon to 2:00 PM, and from 6:00 to 8:00 PM). During the weekday midday period (10:00 AM to 2:00 PM), the overall average occupancy is approximately 60%, while the average occupancy rate in the immediate vicinity of the ZSFG campus site (one block radius) is substantially higher, at approximately 80%. During the evening period, the overall average occupancy rate is higher (80%), with the parking utilization in the immediate vicinity of the ZSFG campus site is at it practical capacity (96%).

4.7.3 Significance Standards

Would the project:

a) Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?

[7] The parking study area is bounded York Street (on the west), 25th Street (on the south) and Rhode Island Street (on the east); the northern border is 20th Street west of U.S. 101 and 22nd Street east of U.S. 101.

[8] Within RPP Zone W, vehicles without a RPP permit are allowed to park for one hour from Monday to Friday between 8:00 AM and 6:00 PM, while vehicles with a permit are allowed to park without time restrictions. ZSFG does not make residential parking permits available to its faculty and staff.

c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

e) Result in inadequate emergency access?

f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

g) Exceed the applicable LRDP EIR standard of significance by causing substantial conflict among autos, bicyclists, pedestrians, and transit vehicles?

4.7.4 Analysis Methodology

Below is a list of thresholds of significance used by UCSF to assess whether the proposed project would result in significant impacts to the transportation network. With the exception of the transit category, UCSF's significance criteria is the same as that used by the City of San Francisco Planning Department as part of their standard environmental review of proposed projects.

4.7.4.1 Traffic

Signalized Intersections – a significant impact would occur if:

- Project traffic causes intersection LOS D or better to deteriorate to LOS E or F.
- Project traffic causes intersection LOS E to deteriorate to LOS F.
- Project increases traffic by five percent on critical movements operating at LOS E or F of an intersection operating at LOS E or F under Existing conditions.

Unsignalized Intersections – a significant impact would occur if:

- Project traffic causes the LOS at the worst approach to deteriorate from LOS D or better to LOS E or F, and Caltrans signal warrants would be met.
- Project traffic causes Caltrans signal warrants to be met when the worst approach is already operating at LOS E or F.
- Project adds traffic to an intersection that operates at LOS E or F under Existing conditions and makes a considerable contribution (five percent on critical approaches operating at LOS E or F) to the worsening of the average delay per vehicle and Caltrans signal warrants would be met.

Cumulative – a significant impact would occur if:

- Project would make a considerable contribution to the deterioration of intersection conditions (LOS E or F) if Project-generated traffic contributes five percent or more to the critical movements operating at LOS E or F under cumulative conditions.

4.7.4.2 Transit

The project would have a significant effect on the environment if project demand for public transit causes the need for development or expansion of mass transit facilities, the development of which would cause significant environmental impacts.

4.7.4.3 Pedestrians and Bicycles

The project would have a significant effect on the environment if it would cause a substantial conflict among autos, bicyclists, pedestrians, and transit vehicles.

4.7.4.4 Loading

The project would have a significant effect on the environment if it would result in a loading demand during the peak hour of loading activities that could not be accommodated within proposed on-site loading facilities or within convenient on-street loading zones, or if it created potentially hazardous conditions or significant delays affecting traffic, transit, bicycles, or pedestrians.

4.7.4.5 Parking

Project-generated parking demand that is not met by the project is not considered significant.

4.7.4.6 Construction

Construction-related impacts generally would not be considered significant due to their temporary and limited duration.

4.7.5 Issues Adequately Addressed in the Initial Study

After evaluation of the proposed project, the Initial Study concluded that neither the proposed project nor variants would change existing air traffic volumes or affect existing air traffic patterns from San Francisco International Airport (approximately nine miles to the south) that would result in substantial safety risks. Therefore, no additional analysis of this issue is required.

4.7.6 Impacts and Mitigation Measures

4.7.6.1 Impact Methodology

Analysis Approach

The transportation analysis in this EIR considers operations-related issues related to vehicular traffic, transit facilities, pedestrians, bicyclists, and parking, as well as construction-related impacts, associated with the proposed project (new research building and expansion of the 23rd Street garage). Transportation conditions were assessed for Near Term plus Project and Cumulative (Year 2040) conditions. Near Term Conditions assumes the New Hospital, and circulation changes are complete and operational. In addition, Near Term conditions include changes to Potrero Avenue included in SFMTA's Muni Forward and Potrero Streetscape Improvements.

Cumulative (Year 2040) conditions assume that the space vacated in the Main (Old) Hospital upon completion of the New Hospital will be completely backfilled by DPH, and the space vacated by UCSF at ZSFG also will be occupied with new DPH staff. The Year 2040 conditions assess the long-term impacts of the proposed project in combination with projected development within San Francisco and the rest of the Bay Area, as well as implementation of planned transportation infrastructure projects. Year 2040 conditions traffic volumes were estimated based on cumulative development and growth identified by the SFCTA SF-CHAMP travel demand model, using model output that represents Existing conditions as well as Year 2040 conditions. In addition, Year 2040 conditions include changes to the transportation network beyond those envisioned for Near Term conditions, such as SFMTA's Muni Forward, the San Francisco Bicycle Plan, the Caltrain Electrification Program, and other transportation projects outside the study area.

Travel Demand Estimates

Travel demand estimates for the proposed project are based on the current and projected average number of UCSF staff and visitors on a typical weekday. Forecasting the net new travel demand involves estimating the number of trips generated by the proposed project associated with the new population (UCSF staff and visitors) at the site.

Typical weekday, as well as weekday AM and PM peak hour, person trip generation rates were developed for each UCSF population group at the ZSFG campus site, based on the additional number of people arriving and departing the proposed project site, as gathered from surveys. The population groups include staff (clinicians, researchers and other UCSF personnel) and visitors (staff visitors, vendors, and service providers to UCSF). The proposed research building could increase the onsite population by up to 118 people (up to 108 staff and 10 visitors) on an average weekday. The precise number of new staff onsite will be determined after an accounting of how much space is available after staff currently onsite are moved into the new research building.

The proposed project is estimated to generate up to approximately 417 new person trips at ZSFG on a typical weekday. That number of trips reflects the total number of additional person trips that would be generated by the proposed project; it has not been adjusted to subtract trips associated with other existing land uses at the site and internal trips expected to occur within the site. An internal trip is an origin-destination pair within the same site (e.g. a researcher at the ZSFG hospital traveling from her office to the hospital building and returning back to her office afterwards). This applies to staff trips only and not to visitor trips, which are all assumed to be external to the ZSFG campus site. Taking those internal trips into account, the proposed project is estimated to generate up to approximately 340 new external daily person trips.

Variant Trip Generation

The four Variants all would have the same trip generation for the proposed research building at the B/C Lot because the proposed changes to the parking garage would not affect travel demand. However, Variants 1 and 3, which include 5,000 square feet of retail uses, would generate an additional 750 daily person trips, 480 of which would be trips linked to other activities occurring in the vicinity of the campus, and 270 would be new external trips.

Project Trip Distribution

Project-generated person trips were assigned to San Francisco and regional origins / destinations, including the four San Francisco Superdistricts (northeast, northwest, southeast, and southwest quadrants of the City), the East Bay, the North Bay, and the South Bay, as well as areas outside of the Bay Area region. Information collected by UCSF as part of their ongoing transportation surveys of employees, and visitors were used in this analysis. Most project-generated trips would come from Superdistrict 3 (the Southeast quadrant of San Francisco), and the East Bay.

Variant Trip Distribution

The trip distribution for the retail land uses in Variants 1 and 3 is derived from the SF Guidelines. As would be expected, most (more than half) of the retail-generated trips would come from Superdistrict 3 (the Southeast quadrant of San Francisco).

Project Mode Split

"Mode choice" is the designation of trips to the various means that people use to travel, such as automobile, transit, walking, bicycling, taxi, or other mode of transportation. An average vehicle occupancy factor was applied to the number of automobile person trips to determine the number of vehicle trips.

Travel mode split and average vehicle occupancy assumptions for the new UCSF employees and UCSF visitors at the ZSFG campus site were based on information collected by ZSFG and its transportation planning consultants, as described in *Evaluation and Recommendations of Transportation Demand Management Program at San Francisco General Hospital*, Fehr & Peers, October 2013, attached as Appendix B of the TIS for this EIR (Appendix C). The employee survey referenced herein was updated in October 2015, yielding similar results. The methodology assumes that the future modal share will be the same as the existing modal share.

Most ZSFG trips arrive or depart by driving alone (50 percent), with carpooling/vanpooling, public transit, UCSF shuttles, and bicycling combined making up 40 percent of trips. The 340 external daily person trips generated by the proposed project are expected to use the following travel modes (the sum rounded to the 340 total):

168	Auto Drive Alone
7	Drop-Off/Taxi
32	Carpool/Vanpool
42	Public Transit
32	UCSF Shuttle
36	Bicycle/Motorcycle
22	Walk

The auto drive alone, drop-off/taxi, carpool/vanpool, and UCSF shuttle person trips would generate about 195 daily vehicle trips.[9]

[9] Vehicle trips are calculated based on the following formula: Drive Alone trips + (Drop-off trips x 2) + (Carpool trips / 2) + (Vanpool trips / 10) + (UCSF Shuttle / 15).

Variant Mode Split

The mode split for the retail land uses in Variants 1 and 3 is derived from the SF Guidelines. The 270 external daily person trips generated by those Variants are expected to use the following travel modes (the sum rounded to the 270 total):

176	Auto
34	Public Transit
55	Walk
5	Other

Based on the average vehicle occupancy level given in the SF Guidelines, the auto person trips would generate about 98 daily vehicle trips.

Project Peak-Hour Trip Generation

The proposed project would generate approximately 340 net new external weekday person trips of which approximately 200 would be by vehicle and approximately 75 by transit (public transit plus UCSF shuttle bus service). Approximately 30 percent of daily trips would be expected to occur during each of the AM and the PM peak hours. There would be about 58 and 53 new vehicle trips during the AM and PM peak hours, respectively. There would about 25 new transit riders during both the AM and PM peak hours. Finally, there would be fewer than 20 new "other" person trips during both the AM and PM peak hours, including walk, bike, taxi, and motorcycle trips.

Variant Peak-Hour Trip Generation

The mode split for all Variants would be the same as for the proposed research building. Therefore, the number of new vehicle, transit, or other trips generated by the research building would be the same as the proposed project. Variants 1 and 3 include a retail component that would generate peak-hour trips in addition to the trips included in the proposed project. The additional peak-hour trips would consist of about 2AM and 9 PM new peak-hour vehicle trips; about 1 AM and 3 PM new peak-hour transit riders; and about 2 AM and 5 PM new peak-hour "other" person trips.

Project Trip Assignment

External project trips summarized above by mode are assigned to specific routes likely taken to and from the ZSFG campus, including the 23rd Street Garage. Vehicle trips are assigned to roadways and intersection turning movements according to the trip distribution described above. Similarly, transit trips are assigned to specific transit service providers and routes using the expected trip distribution based on the most direct transit route to and from their origin or destination.

Variant Trip Assignment

Vehicle trip assignment for project Variants would change based on the relative size of the 23rd Street garage and the available overall parking supply. In Variants 1, 2 and 3 (with a garage expansion), a majority percent of expected parking demand could be accommodated in the garage. In Variant 4 (with no garage expansion), none of the additional peak parking demand could be

accommodated in the garage. As a result, for the latter variant, new vehicle trips that cannot use the garage would be expected to seek on-street parking in the study area, or to seek parking somewhere outside of the study area and walk to the campus.

The different garage capacity and layout in the various project Variants would affect the assignment of vehicle trips generated by the research building as well as existing trips and trips generated by the new ZSFG Hospital building. In all Variants, approximately 15% of staff and visitors would use the southern driveway to the current B/C Lot for passenger loading and drop-offs. The assumptions for the remaining 85% of vehicles, which would be parked in the 23rd Street Garage, on the streets within the study area, or outside of the study area, are described as follows:

Under Variant 1, some vehicles that would park in the 23rd Street garage under the proposed project would shift to on-street parking adjacent to ZSFG due to the smaller garage expansion: while approximately 50-65% of vehicles are assumed to park in the garage, approximately 25% are assumed to circle the neighborhood and park within the study area, and less than 10% are assumed to park outside of the study area. Under Variant 2 and Variant 3, all vehicles that would park on the street under the proposed project would shift to the 23rd Street garage due to its increased capacity. Under Variant 4, vehicles that would park in the 23rd Street garage under the proposed project would shift to on-street parking, either adjacent to ZSFG or outside of the study area; with limited on-street parking in the immediate proximity of the Research Building, approximately 25% of vehicles are assumed to circle the street network and park within the study area, while 60 to 75% of vehicles are assumed to park outside the study area.

4.7.6.2 Construction Period Impacts

Impact TRAF-1: Construction of the proposed project could cause substantial adverse impacts to traffic flow, circulation and access as well as to transit, pedestrian, and parking conditions during demolition and construction activities. (Less than Significant)

Implementation of the proposed project would occur using a coordinated, phased construction schedule that would preserve UCSF's operations at the ZSFG campus site during the construction period. Construction of the proposed research building is anticipated to begin in 2017 and end in 2019. The expanded 23rd Street garage would require additional coordination with the Parking Authority (the agency responsible for approving and implementing the garage project) and other San Francisco agencies prior to construction, and therefore the timing of its construction is estimated, although it would likely be coordinated closely with the research building project. Prior to project construction, UCSF and their construction contractor(s) would meet with DPH, Department of Public Works (DPW) and SFMTA staff to develop and review truck routing plans for demolition, disposal of excavated materials, materials delivery and storage, as well as staging for construction vehicles. For any work in the public right-of-way, the construction contractor would be required to comply with the SFMTA Blue Book[10], including those regulations regarding

[10] City and County of San Francisco, San Francisco Municipal Transportation Agency (SFMTA), *Regulations for Working in San Francisco Streets*, 8th Edition, January 2012. Accessible at https://www.sfmta.com/services/streets-sidewalks/construction-regulations.

sidewalk and lane closures, and would meet with SFMTA staff to determine if any special traffic permits would be required. Prior to construction, the project contractor would coordinate with Muni's Street Operations and Special Events Office to coordinate construction activities and reduce any impacts to transit operations.

The type of trucks will vary for the project construction, but could include a combination of hauler, excavation, materials delivery, cement, and/or smaller, more specialized trucks for specific functions. Both projects anticipate no more than 30 truck trips per workday through the duration of construction, which is approximately 24 months for the proposed research building and 18 months for the expanded 23rd Street garage.

Most truck trips would enter/exit ZSFG using 23rd Street, and the 23rd Street garage using 24th Street. Potrero Avenue would provide regional access to and from the construction sites. Generally, construction activities would not result in parking, vehicular (including transit), or pedestrian impacts because construction and staging would occur on the existing B/C Lot and surface parking lot at the 23rd Street garage site, and the existing transit/shuttle stop locations on 23rd Street are expected to remain open during construction. The construction of the expanded parking garage would result in the temporary displacement of approximately 130 parking spaces at the B/C Lot and 40 parking spaces in the surface lot at the 23rd Street garage. UCSF will investigate temporary additional off-site parking supply to replace the B/C lot in advance of construction of the research building, including the UCSF Mission Bay campus site, which would be available for use by UCSF contractors. The SFMTA would be responsible for finding replacement parking supply for the 40 surface parking spaces in the 23rd Street garage, if needed.

It is anticipated that the addition of the worker-related vehicle- or transit-trips would not substantially affect transportation conditions, as impacts on local intersections or the transit network would be temporary in nature. Construction workers who drive to the construction sites would cause a temporary increase in parking demand, and potential temporary parking restrictions along frontages where construction and/or staging are occurring would cause a temporary decrease in parking supply. No on-site parking would be provided for construction workers. Construction workers would park in satellite parking lots.

Overall, because construction activities would be temporary and limited in duration and are required to be conducted in accordance with City requirements, construction-related transportation impacts of the proposed project would be *less than significant*.

Mitigation: None required.

While the proposed project's construction-related transportation impacts would be less than significant, Improvement Measure IM-TR-1: Construction Measures would further reduce the proposed project's less-than-significant impacts related to potential conflicts between construction activities and pedestrians, transit, and autos.

Improvement Measure IM-TR-1: Construction Coordination and Monitoring Measures.

Traffic Control Plan for Construction. In order to reduce potential conflicts between construction activities and pedestrians, transit and autos during construction activities at ZSFG, UCSF shall require construction contractor(s) for the proposed research building to prepare a traffic control plan for major phases of project construction (e.g. demolition, construction, or renovation of individual buildings). UCSF and their construction contractor(s) will meet with DPH and relevant City agencies to coordinate feasible measures to reduce traffic congestion, including temporary transit stop relocations, and other measures to reduce potential traffic and transit disruption and pedestrian circulation effects during major phases of construction of the proposed research building. For any work within the public right-of-way, the contractor would be required to comply with the City of San Francisco's Regulations for Working in San Francisco Streets, which establish rules and permit requirements so that construction activities can be done safely and with the least possible interference with pedestrians, bicyclists, transit, and vehicular traffic. The Parking Authority would be responsible for approving and implementing the expanded 23rd Street garage, and therefore would be responsible for coordinating with UCSF, DPH and other City agencies before and during its construction.

In the event that the construction timeframes of the major phases and other development projects adjacent to the ZSFG campus site overlap, including the 23rd Street garage expansion, UCSF and the City should coordinate with City Agencies through the Transportation Advisory Staff Committee (TASC) to minimize the severity of any disruption to adjacent land uses and transportation facilities from overlapping construction transportation impacts. UCSF and the City shall propose a construction traffic control plan that includes measures to reduce potential construction traffic conflicts, such as staggering start and end times, coordinated material drop offs, collective worker parking and transit to job site and other measures.

Reduce SOV Mode Share for Construction Workers. In order to minimize parking demand and vehicle trips associated with construction workers for the proposed research building, UCSF and the City shall require the construction contractors to include in the Traffic Control Plan for Construction methods to encourage walking, bicycling, carpooling, and transit access to the campus sites by construction workers in the coordinated plan. The SFMTA would be responsible for the development of this measure before and during the construction of the 23rd Street garage.

Project Construction Updates for Adjacent Residents and Businesses. In order to minimize construction impacts on access for nearby residences, institutions, and businesses, UCSF and the City shall provide nearby residences and adjacent businesses with regularly-updated information regarding project construction, including construction activities, peak construction vehicle activities (e.g., concrete pours), travel lane closures, and lane closures via a newsletter and/or website.

Implementation of this improvement measure would further reduce the magnitude of the proposed project's less-than-significant construction-related transportation impacts, and would not result in any secondary transportation-related impacts.

Variant Construction Impacts

The estimated range of average truck trips per day and the duration of the construction period would vary for the project Variants. Although Variants 1-3 may require more or fewer construction trips per day and a shorter or longer schedule, they would all fall within the ranges similar to described above for the proposed project. Variant 4 would not propose any construction at the 23rd Street garage, and would be expected to require fewer construction trips per day and/or a shorter schedule.

Overall, because construction activities would be temporary and limited in duration and are required to be conducted in accordance with City requirements, construction-related transportation impacts of the project Variants would be *less than significant*. Improvement Measure IM-TR-1: Construction Measures would further reduce the project Variants' less-than-significant impacts related to potential conflicts between construction activities and pedestrians, transit, and autos.

Mitigation: None required.

4.7.6.3 Near Term Operational Impacts

Near Term Infrastructure Improvements

Potrero Avenue Streetscape Improvements

The Potrero Avenue Streetscape Improvement project includes pedestrian safety improvements, wider crosswalks, high-visibility green Class II bike lanes, new landscaping, and new sidewalk amenities on Potrero Avenue between 21st and 25th streets. Specific improvements adjacent to ZSFG include pedestrian median refuges at 22nd and 23rd streets, and curb extensions and wider crosswalks at 22nd through 25th streets. These improvements will coincide with Muni Forward changes (discussed below).

Potrero Avenue Muni Forward Changes

Muni Forward includes transit improvements for the portion of the 9 San Bruno and 9R San Bruno Rapid bus routes along Potrero Avenue through the study area. Muni Forward includes two alternatives, a Moderate Alternative and Expanded Alternative, although both alternatives are the same in the vicinity of the project site. Specific changes to Potrero Avenue in the study area including the following:

- **Transit Stop Changes**. Transit stop changes include stop consolidation and new transit bulbs at select intersections. Existing transit stops on Potrero Avenue would be consolidated into new 80-foot-long transit zones in both directions at the following locations: In the inbound (northbound) direction, the stops at 20th and 22nd streets would be consolidated into one new stop at 21st Street. In the outbound (southbound) direction, the stops at 20th and 22nd streets would be consolidated into the existing stop at 21st Street, and outbound stops would be removed at 23rd and 25th streets. A new stop at 19th Street would be created in both directions to maintain two-block stop spacing between the new stops at Mariposa and 21st streets. A new stop would be added in the outbound direction midblock on Potrero Avenue between 22nd and 23rd streets at the existing

midblock signalized crosswalk, to serve San Francisco General Hospital. A transit bulb would be constructed at the existing stop in the inbound direction at 24th Street. An existing transit bulb would be lengthened in the inbound direction at the midblock signalized crosswalk between 22nd and 23rd streets.

- **Turn Restrictions**. Turn restrictions would be implemented on 23rd Street at Potrero Avenue, limiting eastbound traffic to right turns only and westbound traffic to left and right turns only (no through movement). The signal timing would be reconfigured from a four-phase signal to a three-phase signal, removing the split phase for 23rd Street.

- **Lane Modifications**. A side-running transit-only lane would be established in the outbound direction between 18th Street and the farside of 24th Street by removing some of the parking spaces on both sides and altering the existing lane widths. The existing side-running transit-only lane in the inbound direction between 200 feet north of 24th Street and 21st Street would be removed. A 2-foot-wide buffer would be added to the northbound and southbound bicycle lanes between 17th and 25th streets.

- **Pedestrian Improvements**. Pedestrian bulbs would be installed to shorten the crosswalk distance at the signalized crossings at the following locations: 20th Street (northwest, northeast, and southwest corners), at 21st Street (northwest corner), at 22nd Street (northeast and southeast corners), at 22nd Street (all four corners), at the new outbound stop and existing inbound stop between 22nd and 23rd streets, at 23rd Street (northeast, southwest, and southeast corners), and at 25th Street (northwest and northeast corners). The existing pedestrian bulb at 24th Street (northwest corner) would be removed. Pedestrian refuge islands would be installed at all intersection crosswalks from 17th to 25th streets. A new crosswalk to provide pedestrian access across Potrero Avenue would be installed on the north side of the Potrero Avenue and 23rd Street east leg intersection.[11] The sidewalk on the east side of Potrero Avenue from 21st Street to 60 feet south would be widened from 9 to 15 feet by removing the parking lane on the east side of the street.

Project Near Term Impacts

Impact TRAF-2: Development of the proposed project would increase traffic at intersections on the adjacent roadway network. (Potentially Significant)

Near Term traffic forecasts include the completion of the new ZSFG Hospital building and above-described proposed streetscape and transit changes. Existing vehicle access to the 23rd Street garage would not change under Near Term conditions, and the additional entry and exit lanes provided on 23rd Street would be open only after 6:00 PM.

The net new peak-hour vehicle trip estimates for the proposed project (see page 4.7-18) were added to Near Term No Project peak hour intersection volumes to represent Near Term Plus Project Conditions. The closure of the B/C Lot would cause staff and visitors who currently park there to shift to other parking locations, although the southern driveway would continue to be used, as described below. It is assumed that 15% of vehicle trips entering and exiting the southern

[11] The Potrero Avenue and 23rd Street intersection is offset with the west leg north of the east leg. For this analysis 23rd Street West refers to the leg to the west, and 23rd Street East the leg to the east.

driveway from 23rd Street due to the Hospital Rebuild would continue to use this driveway for passenger loading or short term parking (30 spaces would remain at the B/C Lot with completion of the proposed project). It was assumed that 60% of these Hospital Rebuild vehicle trips would park in the expanded 23rd Street garage and 25% would park on-street in the vicinity of ZSFG. Of the trips associated with the proposed project, 75% would park in the expanded 23rd Street garage, and 25% would park on-street in the vicinity of ZSFG. The shifts in vehicle trips due to the removal of the B/C Lot and the proposed garage expansion are incorporated into Near Term Plus Project Conditions peak hour turning movement volumes.

Table 4.7-3 presents a summary comparison of Near Term No Project and Near Term Plus Project intersection LOS for the weekday AM and PM peak hours. As presented in Table 4.7-2, all 13 study intersections currently operate at acceptable levels of service (LOS D or better) during the AM and PM peak hours. Under Near Term No Project conditions, all 13 study intersections would continue to operate acceptably during the AM and PM peak hours. In general, the addition of project traffic would result in small changes in the average delay per vehicle at the study intersections, and most study intersections would continue to operate at the same service levels as under Near Term No Project conditions.[12] Under Near Term Plus Project conditions, all except one of the study intersections would continue to operate acceptably. Addition of project traffic would cause the Potrero Avenue / 24th Street signalized intersection to degrade from an acceptable LOS D to an unacceptable LOS F during the PM peak hour. Therefore, the proposed project would have a *significant impact* at this intersection. UCSF would work with SFMTA to implement the following mitigation measures.

Mitigation Measure TR-1: Restripe 24th Street at Potrero Avenue to Provide a Westbound Left-Turn Pocket.

Restripe the westbound approach on 24th Street at Potrero Avenue as two lanes: a 10-foot-wide left-turn pocket approximately 50 feet in length and a 10-foot-wide shared through / right-turn lane. This would require the removal of three or four parking spaces on the southern side of 24th Street at the intersection of Potrero Avenue and the restriping of the eastbound lane adjacent to the removed parking spaces to be 12 feet wide. This mitigation measure would not include the addition of new signal phases or other alterations due to the existing timing plan, although the SFMTA may choose to do so as part of the mitigation measure.

This mitigation measure would require that large trucks or buses making the northbound right-turn movement would sweep into the westbound left-turn lane. As such, the final design of this intersection should include placement of the stop bar on the westbound turn lane approximately one car length back from the current intersection to accommodate larger turning vehicles. UCSF and the City and County of San Francisco would contribute a proportional share to the costs of implementation of this mitigation measure.

[12] The removal of the existing B/C Lot would result in vehicle trips shifting from 23rd Street to 24th Street, which would cause a slight decrease in delay for the six study intersections along 23rd Street under Near Term Plus Project conditions.

TABLE 4.7-3
NEAR TERM PEAK-HOUR INTERSECTION LEVEL OF SERVICE (LOS)
(WITHOUT AND WITH THE PROPOSED PROJECT)

Intersection	Traffic Control[a]	Peak Hour	Near Term No Project		Near Term Plus Project	
			Delay (sec.)[b]	LOS[c]	Delay (sec.)[b]	LOS[c]
1. Potrero Avenue / 20th Street	Signal	AM PM	12 13	B B	12 13	B B
2. Potrero Avenue / 22nd Street (N)	Signal	AM PM	13 12	B B	13 12	B B
3. Potrero Avenue / 22nd Street (S)	Signal	AM PM	15 14	B B	15 14	B B
4. Potrero Avenue / 23rd Street[d]	Signal	AM PM	28 23	C C	24 19	C B
5. Utah Street / 23rd Street	SSS	AM PM	14 (NB) 15 (NB)	B B	13 (NB) 13 (NB)	B B
6. West ZSFG Driveway / 23rd St.	AWS	AM PM	13 (EB) 11(WB)	B B	12 (EB) <10 (WB)	B A
7. San Bruno Avenue / 23rd Street	AWS	AM PM	11 (WB) 11 (WB)	B B	11 (WB) 11 (WB)	B B
8. East ZSFG Driveway / 23rd St.	SSS	AM PM	11 (SB) 11 (SB)	B B	<10 (SB) <10 (SB)	A A
9. Vermont Street / 23rd Street	AWS	AM PM	13 (WB) 12 (WB)	B B	12 (WB) 12 (WB)	B B
10. Potrero Avenue / 24th Street	Signal	AM PM	23 46	C D	31 **>80**	C **F**
11. Utah Street / 24th Street	AWS	AM PM	12 (EB) 11 (WB)	B B	21 (EB) 17 (WB)	C C
12. Parking Garage Driveway / 24th Street[e]	SSS	AM PM	<10 (SB) 11 (SB)	A B	14 (SB) 12 (SB)	B B
13. Potrero Avenue / 25th Street	Signal	AM PM	34 21	C C	39 22	D C

NOTES:

[a] AWS = All-way stop controlled; SSS = Side Street stop controlled; Signal = Signal controlled

[b] Delay reported as seconds per vehicle. For signalized intersections, a combined weighted average delay for the various movements within the intersection is reported. For SSS and AWS intersections, the highest average delay for an approach is reported.

[c] For signalized intersections, LOS based on average intersection delay, based on the methodology in the Highway Capacity Manual, 2000. For unsignalized intersections, LOS is based on the worst approach, which is indicated in parentheses.

[d] The eastbound approach to Potrero Ave/23rd Street is closed as part of TEP and Potrero Streetscape Improvements.

[e] Access to the SFMTA operated parking garage is expected to remain from 24th Street under Near Term conditions.

SOURCE: Fehr & Peers, 2014.

Mitigation Measure TR-2: Open 23rd Street exit of 23rd Street Garage during the PM Peak Period.

Open the 23rd Street exit to the 23rd Street Garage to traffic at 3:00 PM instead of 6:00 PM. Currently, both the entrance and exit at 23rd Street are closed to vehicles from 6:00 AM to 6:00 PM. Opening the exit at 3:00 PM to coincide with a major hospital employee shift change would allow some vehicles to shift away from the 24th Street exit and thus improve the operating condition of the intersection of Potrero Avenue / 24th Street. It is not known

how many people would use this exit if given the option; although there is only one exit lane, which would naturally limit the number of vehicles that can exit during this period. This analysis assumes that not enough vehicles would use this alternative exit to reduce the intersection impact to a less than significant level. In conjunction with the earlier opening of the 23rd Street exit, which would increase the amount of traffic on 23rd Street, the pedestrian crossing that connects the 23rd Street Garage to the east side of the West ZSFG Driveway should be improved. Although SFMTA staff would need to concur on a final design, this should include evaluation of signal phasing prior to implementation, and it could include shifting the eastern edge of the crosswalk to the east by ten feet in order to double the width of the crosswalk to 20 feet, repainting the crosswalk in the continental style to be more visible, and shifting the westbound 48 Quintara/24th Street in the same location 20 feet to the east to increase the visibility of pedestrians. Other potential measures to increase pedestrian visibility and reduce vehicle-pedestrian collision risks include the following measures as noted below:

- Consider converting intersection of Utah Street and 23rd Street to all-way stop controlled,
- Signalize the ZSFG driveway and associated pedestrian crossing,
- Add signage on Potrero Avenue directing vehicles to use 24th Street to reduce circling for visitors,
- Increase employee education regarding appropriate pick-up and drop-off locations to minimize any additional double-parking at the corner of 23rd Street / San Bruno Avenue, which can obscure visibility of pedestrians, and
- Coordinate with the appropriate enforcement agencies (SFMTA, SFPD) to increase pedestrian safety as well as reduce instances of double-parking.

● UCSF and the City and County of San Francisco would contribute a proportional share to the costs of implementation of this mitigation measure.

Mitigation Measure TR-3: Implement Additional TDM Strategies to Reduce Single Occupancy Vehicle Trips.

UCSF and DPH shall each pursue potential TDM measures that they can feasibly implement targeted at reducing Single Occupancy Vehicle (SOV) trips to and from ZSFG. UCSF and DPH staff have worked collaboratively with transportation consultants, the SFMTA, and other City departments to identify a list of potential TDM strategies in addition to those already in place. The implementation of this mitigation measure could improve traffic operations in the immediate vicinity of ZSFG, including at Potrero

● Avenue / 24th Street by reducing SOV trips to and from ZSFG. Additionally, implementation of other TDM strategies not included in this list would have a similar effect of reducing SOV trips to and from ZSFG.

● As outlined in Section 2.2 (of the TIS), UCSF and DPH each already have TDM plans in place and an internal planning process with UCSF, DPH, the SFMTA, and transportation consultants will yield a list of potential TDM strategies that UCSF and DPH could pursue in addition to those already in place. A combination of these measures could potentially reduce single-occupant vehicle (SOV) trips for UCSF and DPH employees. To accomplish this goal, UCSF and DPH shall coordinate and each implement the following policies to the extent feasible:

- Parking Policy/Pricing
  - Adjust hourly parking rate structure to discourage all-day parking and provide spaces for patients/visitors (Parking Authority)
  - In order to discourage driving, increase hourly and monthly parking rates to be more in line with prevailing San Francisco market rates (Parking Authority)
- Transit and Shuttle Systems
  - Expand UCSF and DPH Shuttle Service to Caltrain, Transbay Transit Terminal (applies to UCSF and DPH; would require coordination with SFMTA)

  - Maintain a dialogue with SFMTA regarding ZSFG's strong desire to see that the transit connection between the Mission District and the ZSFG campus remains (applies to UCSF and DPH; would require coordination with SFMTA)
  - Allow patients/visitors to ride DPH Shuttle and advertise the shuttle as a last-mile option (applies to DPH)
  - Expand additional last-mile service by alternate means, including reimbursing employees for taxi use or ride hail companies as a bridge from transit stations (applies to DPH)
  - Add Bike racks on DPH shuttles (applies to DPH)

- Commute Vehicle Trip Reduction
  - Hire a TDM Program Manager for ZSFG to meet modal goals (applies to DPH)
  - Expand number of car share vehicles on-site (applies to DPH)
  - Create more robust carpool matching program (applies to UCSF and DPH)
  - Create a vanpool service or coordinate with the existing UCSF vanpool (applies to DPH)
  - Provide showers and locker facilities on campus and in the new UCSF Research Building (applies to UCSF and DPH)
  - Install Bay Area Bike Share Station on campus (applies to DPH)
  - Install transportation kiosk(s) overseen by the new TDM Program Manager (applies to DPH)
  - Advertise existing pre-tax commuter accounts (applies to UCSF and DPH)
  - Promote bicycle safety along 23rd Street and Potrero Avenue to prevent conflicts with vehicles (applies to DPH)
  - Provide signage indicating the location of bicycle parking at points of access (applies to DPH)
  - Facilitate access to carshare spaces through on-site garage (applies to DPH)

Additional TDM strategies that were considered as part of the internal planning process, but rejected as infeasible or otherwise not recommended include the following:

- Providing traffic calming measures: The Department of Public Works is planning a streetscape improvement project for Potrero Avenue to coincide with their repaving schedule. The project will include traffic calming measures.
- Reimbursing employees who do not drive to work: ZSFG does not have parking spaces available for every subsidized employee. Because employees cannot expect to have a parking space due to limited supply, ZSFG is therefore not required to offer a cash-out policy for employees who do not use a parking space. Additionally, enforcing this measure properly to curtail potential abuse would require diverting resources from the mission of ZSFG.

- Working with the SFMTA to expand Residential Area Parking Permit Zones: The residential permit process is a resident-driven process. The SFMTA has the ability to unilaterally legislate the change, but they do not exercise this right. Rather, they wait until the neighborhood has organized support for it.

Significance after Mitigation: Significant and Unavoidable. Mitigation Measure TR-1 would reduce the impact at Potrero Avenue / 24th Street to less than significant, but UCSF and DPH do not have the authority to implement it without SFMTA's approval and assistance, which is unknown at this time. The effectiveness of Mitigation Measure TR-2 to reduce the impact at Potrero Avenue / 24th Street to less than significant is not known given the uncertainty over the volume of vehicles choosing to exit the northern egress, and UCSF does not have the authority to implement it without SFMTA's approval and assistance, which is unknown at this time. While Mitigation Measure TR-3 can reduce traffic impacts, even full implementation of TR-3 with identified feasible elements would not fully eliminate the significant impact at this intersection.

Variant Near Term Intersection Impacts

Similar to the proposed project, vehicle trips generated by the proposed research building were added to Near Term No Project peak hour intersection volumes to represent Near Term Plus Variant Conditions. As noted above, the project Variants would not affect the number of vehicle trips generated by the proposed research building. However, the trip assignment for those vehicle trips would change based on the size of the 23rd Street garage and the available parking supply.

The closure of the B/C Lot would likely cause staff and visitors who currently park there to shift to other parking locations. Under the proposed project, and the Project Variants, it assumed that 15% of Hospital Rebuild vehicle trips entering and exiting the southern driveway from 23rd Street would continue to use this driveway for passenger loading or short-term parking. Under Variant 1, it was assumed that some Hospital Rebuild vehicles that would shift from the B/C lot would park in the 23rd Street parking garage (50%), while the remaining vehicles would park on-street surrounding ZSFG (25%) or outside the study area (10%). Of the trips associated with the research building, 65% would park in the expanded 23rd Street garage, 25% would park on-street surround ZSFG, and 10% would park outside the study area. Under Variant 2 and Variant 3, it was assumed that all the vehicles that would shift from the B/C lot would park in the 23rd Street parking garage and none would park on-street. Under Variant 4, due to the existing capacity constraints at the 23rd Street garage, it was assumed that no additional vehicles from the Hospital Rebuild or from the research building would be able to park in the 23rd Street garage, and therefore the remaining vehicles would park on-street surrounding ZSFG (25%) or outside the study area (60% of Hospital Rebuild trips and 75% of research building trips). The shifts in vehicle trips due to the removal of the B/C Lot and the expanded 23rd Street garage under the Variants are incorporated into Near Term Plus Variant Conditions peak-hour turning movement volumes and the following analysis.

Traffic conditions (delays and LOS) associated with the project Variants would be similar to those described above for the proposed project, except at the Potrero Avenue / 24th Street intersection with Variant 4, traffic conditions would be somewhat better than with the proposed project (worsen to LOS E instead of LOS F). However, the impact would be the same as the proposed project (i.e., significant). The addition of traffic generated by Variants 1 to 3 would degrade the intersection to LOS F (the same as with the proposed project). Therefore, all of the project Variants would have a *significant impact* at this intersection. UCSF would work with SFMTA to implement Mitigation Measures TR-1, TR-2, and TR-3.

- **Significance after Mitigation: Significant and Unavoidable.** Mitigation Measures TR-1 and TR-2 cannot be implemented without SFMTA's approval and assistance. However, implementation of the full suite of TDM strategies identified in Mitigation Measure TR-3 would reduce the severity of the impact at Potrero Avenue / 24th Street under Variants 1 to 3 (though the impact would remain significant), and would reduce the impact to less than significant under Variant 4 (No Garage Expansion).

VMT Reform to CEQA

The UC Regents has not yet adopted VMT as a transportation impact criterion, thus the following discussion is presented for informational purposes. As noted above, SB 743, implemented in Public Resources Code Section 21099, will change CEQA transportation impact analysis. Those changes will include elimination of auto delay, LOS, and similar measures of vehicular capacity or traffic congestion as a basis for determining significant traffic impacts. The proposed changes in CEQA Guidelines to implement SB 743, under review by OPR as of January 2016, present VMT as an appropriate measure of transportation impacts.

That criterion presumes that certain office projects, including research and development, located within areas where the existing VMT per employee is 15 percent less than the existing regional VMT per employee, are presumed to result in a less than significant VMT impact. The UCSF research building component of the Proposed Project and all Project Variants meets that criterion.

- The new criterion identifies thresholds of significance and screening criteria used to determine if a land use project would result in significant impacts under the VMT metric. For development projects, a project would generate substantial additional VMT if it exceeds the regional VMT per capita or employee for the particular use (i.e., residential, retail, or office) less 15 percent. OPR's proposed transportation impact guidelines state a project would cause substantial additional VMT if it exceeds both the existing City household VMT per capita minus 15 percent and existing regional household VMT per capita minus 15 percent. In San Francisco, the City's average VMT per capita is lower (8.4) than the regional average (17.2). Therefore, the City average is irrelevant for the purposes of the analysis. This approach is consistent with Public Resources Code Section 21099 and the thresholds of significance for other land uses recommended in OPR's proposed transportation impact guidelines.

- On a national level, research has shown that increasing the ratio of parking spaces to area residents can result in an increase in auto mode share of up to 30% (McCahill et al., 2015). Recent intercept surveys conducted for the San Francisco Planning Department, found that individuals were 40 to 60% less likely to travel by automobile than individuals with dedicated parking spaces and thus generated less VMT. These results were found for both office and residential uses (Schuett et al., 2015; City of San Francisco white paper). They also generally correspond to an absolute difference in auto mode share of around 30 percentage points – the same relationship found nationally by McCahill et al.

With respect to the retail component of Variant 1 and 3, the VMT transportation impact criterion adopted by the San Francisco Planning Commission in March 2016 includes guidance that 'small projects' that generate fewer than 100 vehicle trips per day are presumed to result in a less than significant VMT impact; the retail component of Variant 1 and 3 meets this criterion.

Should the parking garage component of the proposed project (307 spaces) be constructed, it would result in a higher peak period parking capacity utilization as compared to the existing condition because even with the additional garage expansion in place, there would still be an unmet demand of 127 spaces at ZSFG. Specifically, the parking garage component of the proposed project would:

- Replace parking supply that would be removed due to construction of the research building on the B/C Lot (net loss of approximately 130 spaces) on a one-to-one basis;
- Replace parking supply that would be removed on 22nd Street due to the reconfiguration of the emergency access to the new hospital (a loss of approximately 35 spaces);
- Replace parking supply for employees who parked at the temporary remote lot on 2000 Marin Street during the hospital reconstruction, which closed in January 2016 (approximately 75 occupied spaces in 2014); and

- Provide for the forecast parking demand due to the maximum number of new staff on site due to the research building (72 spaces).

A similar conclusion is reached with respect to Variant 1, which provides 292 spaces under the same assumptions as listed above, but 15 spaces would be removed to accommodate retail space. Under Variant 1, there would still be an unmet demand for parking. Therefore, considering both the research building and the parking garage expansion together, the project and Variant 1 are not likely to trigger an impact under the new criterion:

- The land use and location of all scenarios are consistent with those that would be presumed to result in a less than significant VMT impact; and
- The parking garage expansion of the project and Variant 1 would not induce new travel, as no extra spaces beyond those needed to accommodate existing parking losses plus the proposed project would be provided; thus, the scenarios would be presumed to result in a less than significant VMT impact.

The parking garage component of Variant 2 (527 spaces) and Variant 3 (512 spaces) would provide about 215 and 200 more spaces, respectively, than the currently unmet near-term peak parking demand at the ZSFG campus due to the proposed project (130+72=202 spaces) plus physical reconfigurations of parking space at the ZSFG (75+35=110 spaces), as noted above. However, this additional parking capacity proposed as part of Variant 2 (215 spaces) and Variant 3 (200 spaces) would allow the ZSFG garage to meet the expected parking demand to be

generated by the previously approved ZSFG Rebuild project (235 spaces) by the year 2021 when full buildout of ZSFG Rebuild project is expected. As noted in Section 3.4.1, the ZSFG Rebuild project, approved in 2008 and nearing completion of the new hospital, includes a new hospital building (with a planned opening in May 2016) as well as the backfill of vacated hospital areas in the previous hospital building with hospital-supportive uses (the backfill is expected to be completed by approximately 2021).

Regardless of the project or variant scenario, any associated expansion of the ZSFG garage would be expected to begin construction in 2018 at the earliest and open no sooner than 2021; thus, if any parking garage expansion were to proceed, including Variant 2 or Variant 3, it is almost certain that the opening of the expanded garage would occur at the same time or after the new travel and parking demand generated by the backfill of the vacated hospital areas in the previous hospital building with uses (i.e., employees) materializes. The travel and parking demand generated by the backfill of the old hospital building with uses was accounted for in the ZSFG Rebuild EIR as part of the ZSFG Rebuild Project, and has been confirmed and updated by DPH staff.

Further, similar to the proposed project, both the new hospital building and backfill of the vacated building aspects of the ZSFG Rebuild project would be consistent with the types of projects and locations where the existing VMT per employee is 15 percent less than the existing regional VMT per employee and would be presumed to result in a less than significant VMT impact under the City's new criterion. Thus, taking into account the fact that the expected schedule for completion of the full buildout of the approved and underway ZSFG Rebuild project and the schedule for completion of the expanded parking garage is the same, the additional parking garage capacity included as part of Variant 2 and Variant 3 would not be expected to induce any new vehicle travel, as no extra spaces above those needed to accommodate the ZSFG Rebuild project would be provided. Thus, Variants 2 and 3 would be presumed to result in a less than significant VMT impact.

Impact TRAF-3: Development of the proposed project would increase transit ridership demand. (Less than Significant)

As described above, approximately 30 new transit trips are expected during both the AM and PM peak hours. Approximately 50 percent of the transit users would use Muni to commute to and from ZSFG, while the remaining transit riders would use BART, AC Transit, SamTrans, Golden Gate Transit, or the UCSF Shuttle system.

San Francisco Muni. Multiple existing Muni transit stops are located within a half-mile of ZSFG, with multiple stops located adjacent to the site on Potrero Avenue and 23rd Street. The relocation of stops on Potrero Avenue is planned as part of Muni Forward (see page 4.7-22).

The estimated number of project-generated Muni trips represents less than a two-percent increase in ridership traveling to and from ZSFG, which would not require the expansion of transit service or facilities. The 10 Townsend Outbound and 19 Polk Outbound during the AM peak hour, and

the 10 Townsend Inbound and Outbound during the PM peak hour, operate above 85% capacity utilization, which represents Muni's crowding standard. The proposed project would add no new peak-hour trips to either of these currently crowded lines.

As described in Impact TR-1, the proposed project would have a significant impact on vehicle traffic at the intersection of Potrero Avenue / 24th Street. This additional vehicle traffic could potentially affect the operation of the following Muni lines that pass through the intersection:

9 – San Bruno (northbound through, southbound through);
9R – San Bruno Rapid (northbound through, southbound through);
10 – Townsend (westbound right turn),
33 – Stanyan (southbound through, eastbound left turn); and
48 – Quintara/24th Street (westbound through, eastbound left turn).

Compared to Near Term conditions, the addition of project trips would result in a minor increase in delay for most of the turning movements made by those Muni lines. The westbound right-turn and through movements would see moderately more increase than the others, with an increase in average delay of up to 25 seconds in both the AM and PM peak hours. The increase in average delay on those movements would affect the 10 Townsend and the 48 Quintara/24th Street, but would not increase operating travel time enough to trigger the need for expansion of mass transit facilities.

It should be noted that Mitigation Measure TR-1 would reduce the vehicle delay on the westbound approach of the intersection (notably by nearly a minute from Near Term conditions to 38 seconds during the PM peak hour). Additionally, while Mitigation Measure TR-2 and Mitigation Measure TR-3 are not directly quantifiable, they would be expected to help further reduce approach delay.

None of the specific proposals of the proposed project would reduce access to or reconfigure transit stops in a way that would degrade transit service to the campus site. Therefore, the new Muni transit trips generated by the proposed project would result in a *less-than-significant impact*.

Regional Transit. ZSFG staff, patrons and students are anticipated to continue to use BART, AC Transit, Caltrain, SamTrans, and Golden Gate Transit for regional transit service. Regional service stations are likely to remain at existing locations, and they can be accessed by other transit modes such as SF Muni and the UCSF shuttle. Fewer than 10 additional regional transit trips are expected during each of the AM and PM peak hours, and that increase would not require the expansion of regional transit service or facilities. Therefore, the new regional transit trips generated by the proposed project would result in a *less-than-significant impact*.

UCSF Shuttle. The proposed project does not propose changes to shuttle service headways, although UCSF Transportation Services may change headways based on shifting shuttle demand as projects are constructed and occupied. UCSF Transportation Services also would monitor shuttle conditions to ensure the shuttle loading zone adequately accommodates additional service, and that the shuttle service would not conflict with Muni operations.

An additional 10 shuttle trips during both the AM and PM peak hours are anticipated due to the proposed project, and that increase would not require the expansion of UCSF shuttle service or facilities beyond what would be expected through the regular monitoring by UCSF Transportation Services, nor would the increased shuttle demand cause a substantial conflict among autos, bicyclists, pedestrians, and transit vehicles. Therefore, the new UCSF shuttle trips generated by the proposed project would result in a *less-than-significant impact*.

Mitigation: None required.

Variant Near Term Transit Impacts

Transit conditions associated with the Variants 2 and 4 would be the same as described above for the proposed project. Therefore, these variants would not require the expansion of transit service or facilities for Muni, regional transit, or UCSF shuttle service (*less-than-significant impacts*). Variants 1 and 3 both include a retail component, which would generate an additional two transit trips in the AM peak hour and 19 trips in the PM peak hour.

San Francisco Muni. The Muni transit trips generated by the retail land use, added to the Muni transit trips generated by the proposed project, would represent less than a two-percent increase in ridership traveling to and from ZSFG, which would not require the expansion of transit service or facilities. The 10 Townsend Outbound and 19 Polk Outbound during the AM peak hour, and the 10 Townsend Inbound and Outbound during the PM peak hour, operate above 85 percent capacity utilization, which represents Muni's crowding standard. Variants 1 and 3 would add no new peak hour trips to either of these currently crowded lines.

As described in Impact TR-1, all of the project Variants would have a significant impact on vehicle traffic at the intersection of Potrero Avenue / 24th Street. This additional vehicle traffic could potentially affect the operation of the following Muni lines that pass through the intersection:

9 – San Bruno (northbound through, southbound through);
9R – San Bruno Rapid (northbound through, southbound through);
10 – Townsend (westbound right turn),
33 – Stanyan (southbound through, eastbound left turn); and
48 – Quintara/24th Street (westbound through, eastbound left turn).

Compared to Near Term conditions, the addition of trips under each of the project Variants would result in a minor increase in delay for most of the turning movements made by those Muni lines. The westbound right-turn and through movements would see moderately more increase than the others, which would affect the 10 Townsend and the 48 Quintara/24th Street, but would not increase operating travel time enough to trigger the need for expansion of mass transit facilities.

It should be noted that Mitigation Measure TR-1 would reduce the vehicle delay on the westbound approach of the intersection. Additionally, while Mitigation Measure TR-2 and Mitigation Measure TR-3 are not directly quantifiable, they would be expected to help further reduce approach delay.

None of the specific proposals of the project Variants would reduce access to or reconfigure transit stops in a way that would degrade transit service to the campus site. Therefore, the new Muni transit trips generated by the project Variants would result in a *less-than-significant impact*.

Mitigation: None required.

Impact TRAF-4: Development of the proposed project would not cause a substantial conflict with pedestrian facilities, or otherwise decrease the performance or safety of such facilities. (Less than Significant)

Pedestrian trips generated by the proposed project would include walk trips to and from nearby commercial uses and residences, as well as walk trips to and from local and regional transit stops. The proposed project would add about 15 and 22 pedestrian trips to the surrounding streets during the AM and PM peak hour, respectively. Pedestrian trips would primarily use Potrero Avenue, 23rd Street, and 24th Street to travel to the surrounding residential neighborhoods or to the commercial areas in the 24th Street area. project-generated transit trips will begin as pedestrian trips traveling to the nearest Muni or UCSF shuttle stops. Most transit riders would use the Muni and UCSF shuttle stops within the site. Other transit riders would walk along Potrero Avenue or 23rd Street to Muni stops along those corridors.

The proposed project would remove the existing surface parking lot (B/C Lot) and replace it with a new research building. Some vehicles would continue to use the 23rd Street driveway, but many would shift to the 23rd Street garage via the driveway on 24th Street. This would reduce some traffic along 23rd Street, which would reduce conflicts between vehicles traveling along, and pedestrians walking along, 23rd Street. 23rd Street has the highest level of pedestrian activity due to the proximity of transit stops, the City-owned parking garage on the southern side of the street, and nearby neighborhoods. Pedestrian traffic between the 23rd Street garage and ZSFG would increase due to the elimination of majority of the parking spaces on the B/C Lot and the associated expanded parking garage; however, there are a series of marked crosswalks along pedestrians' preferred paths between the two destinations to accommodate the additional pedestrians.

The pedestrian enhancements planned as part of Muni Forward and Potrero Avenue Streetscape projects (see page 4.7-22) would help to enhance pedestrian comfort and safety along Potrero Avenue. The immediate area surrounding the proposed project includes existing or proposed pedestrian facilities that provide access to nearby neighborhoods, commercial uses, and transit stops. While the proposed project would increase vehicle traffic on 24th Street due to the removal of the B/C Lot and expansion of the garage, as well as pedestrian traffic crossing 23rd Street due to the increase in parking capacity of the 23rd Street Garage, this increased traffic would not create substantial pedestrian conflicts because of the low existing traffic and pedestrian volumes east of Potrero Avenue and south of ZSFG. Additionally, UCSF will coordinate with the SFMTA and the garage operator to develop strategies to reduce any potential increase in inbound queues on City streets, including potential changes to the physical location of the ticket machines to provide additional queuing space in the garage entrance. UCSF will also coordinate with the

- SFMTA on the ultimate driveway design of the proposed project to ensure that it incorporates safety best practices, including design that promotes safety and minimizes conflicts between modes.

Pedestrian amenities along 24th Street include high-visibility yellow continental crosswalks, which increase pedestrian visibility and driver awareness at the unsignalized intersections adjacent to the 23rd Street garage driveway. The proposed project would not create substantial conflicts between pedestrians and autos, bicyclists, or transit vehicles, or otherwise interfere with pedestrian accessibility to the site and adjoining areas. Therefore, the proposed project's impact to pedestrian facilities would be *less than significant*.

Mitigation: None required.

Variant Pedestrian Impacts

Pedestrian conditions associated with the project Variants would be similar to those described above for the proposed project. The proposed 23rd Street garage expansion under Variants 1, 2 and 3 would likely increase vehicle traffic on 24th Street, and Variants 1 and 3 would increase traffic on 23rd Street. However, in all cases, this increased traffic would not create substantial pedestrian conflicts because of the low existing traffic and pedestrian volumes east of Potrero Avenue and south of 23rd Street, and the existing pedestrian amenities at crossing locations adjacent to the 23rd Street garage. The proposed 23rd Street garage expansion under Variant 1 would likely have lower traffic on 24th Street than under Plus Project Conditions, and the decreased traffic would not create new pedestrian impacts. Therefore, none of the project Variants would create substantial conflicts between pedestrians and autos, bicyclists, or transit vehicles, or otherwise interfere with pedestrian accessibility to the site and adjoining areas. Therefore, all project Variants' impact to pedestrian facilities would be *less than significant*.

Mitigation: None required.

Impact TRAF-5: Development of the proposed project would not cause a substantial conflict with bicycle facilities, or otherwise decrease the performance or safety of such facilities. (Less than Significant)

Bicycle trips generated by the proposed project would include trips to and from nearby residences and commercial uses. The area around the proposed project is generally flat and has several adjacent streets that are designated as bicycle routes, including Kansas Street, 23rd Street, 22nd Street, and Potrero Avenue, which has Class II bicycle lanes. ZSFG is within convenient bicycling distance of residential areas in the Mission and Potrero Hill neighborhoods.

The proposed project is expected to slightly increase bicycle demand in the area, adding 19 new trips during the AM peak period and 17 new trips during the PM peak period by "other" modes, including bicycling. These trips would primarily occur on designated bicycle facilities, which connect to surrounding neighborhoods. The increased bicycle demand would be accommodated at ZSFG through additional bicycle parking provided as a part of UCSF's TDM program.

The City of San Francisco Planning Code Section 155.2 describes the requirements for Class 1 and Class 2 bicycle parking spaces for non-accessory automobile garage or lots, such as the

23rd Street garage. The Planning Code requires one Class 2 space for every 20 auto spaces, except in no case less than six Class 2 spaces. Therefore, 16 additional Class 2 bicycle parking spaces would be required for the 307-auto space expansion of the 23rd Street garage under the proposed project. These Class 2 spaces would provide additional short-term parking for visitors to ZSFG in addition to the bicycle parking provided by UCSF at the proposed research building. The new Class 2 spaces would be publicly accessible and located adjacent to the existing bicycle parking spaces in the 23rd Street Garage. Although no Class 1 spaces are required for this type of land use, Class 1 spaces that are rented out on an hourly basis may count towards the garage's requirement for Class 2 spaces.

The proposed project would not create substantial conflicts between bicyclists and autos, pedestrians, or transit vehicles, or otherwise interfere with pedestrian accessibility to the site and adjoining areas. Additionally, Mitigation Measure TR-1, with its physical design component, would not be expected to have a negative effect on bicycle travel. The proposed project would not affect bicycle accessibility to ZSFG or adjoining areas. Thus, the proposed project's impact to bicycle facilities and circulation would be *less than significant*. UCSF will also coordinate with the SFMTA on the ultimate driveway design of the proposed project to ensure that it incorporates safety best practices, including design that promotes safety and minimizes conflicts between modes.

Mitigation: None required.

Variant Bicycle Impacts

Bicycle conditions associated with the project Variants would be similar to those described above for the proposed project. Similar to the proposed project, the expected increase in bicycle traffic would not represent a level that adversely affects bicycle facilities on the campus site, nor would the Variants create substantial conflicts between bicyclists and pedestrians, autos, or transit vehicles.

Under Variant 1, 13 Class 2 spaces would be required to satisfy the San Francisco Municipal Code Section 155.2 for the 257-space expansion of the 23rd Street garage. Under Variant 2, 27 Class 2 spaces would be required to satisfy the San Francisco Municipal Code Section 155.2 for the 527-space expansion of the 23rd Street garage. Under Variant 3, 24 Class 2 spaces would be required to satisfy the San Francisco Municipal Code Section 155.2 for the 477-space expansion of the 23rd Street garage. Thus, the project Variants' impacts to bicycle facilities and circulation at ZSFG would be considered *less than significant*.

Mitigation: None required.

Impact TRAF-6: Development of the proposed project would increase loading demand. (Less than Significant)

The San Francisco Planning Code requires that land uses, such as medical offices and clinical buildings, provide off-street loading spaces according to a prescribed schedule. For the proposed project, no additional loading supply would be required, but the proposed research building likely would incorporate new loading supply into its design.

The future demand for commercial vehicle and freight loading spaces for the proposed project was calculated based on methods described in the SF Guidelines. There would be an increase in commercial loading demand of 9 spaces over the course of a day, and an increase of one peak hourly loading demand. It is expected that the estimated loading supply should be adequate for the estimated demand, and no conflicts between loading vehicles and Muni vehicles are expected; however, as mentioned previously, ZSFG is unique and should be monitored over time. As a result, the project's impact to commercial loading is considered a *less-than-significant impact*.

In addition to freight loading, there would be a demand for passenger loading spaces, and in order to estimate passenger loading demand, the drop-off/taxi service mode split and a portion of the carpool mode split percentages was applied to the peak AM and PM peak-hour person trips. The peak-hour passenger loading demand is estimated to increase by three trips for both the AM and PM peak hours due to the proposed project. The project is expected to increase the peak demand for passenger loading space by approximately five feet during the AM and PM peak hours. The proposed project would provide an additional 150 feet of passenger loading space. Further, the addition of new passenger loading space may help reduce instances of double-parking at the intersection of 23rd Street / San Bruno Avenue by providing additional passenger loading capacity at the campus. The future passenger loading supply would be sufficient to accommodate the estimated project demand, therefore the proposed project's impact to passenger loading is considered *less than significant*.

Mitigation: None required.

Variant Loading Impacts

The estimated increase in freight loading demand under Variants 2 and 4 would be the same as the proposed project because those Variants would not modify the size of the proposed research building. Loading demand for the retail land uses in Variants 1 and 3 is derived from the SF Guidelines. There would be an increase in commercial loading demand of one space over the course of a day, and an increase of no more than one peak hourly loading demand. An added loading space could be provided within the 23rd Street garage expansion.

The estimated increase in passenger loading trips under all project Variants would be the same as the proposed project because the Variants would not modify the size of the proposed research building, and the retail space in Variants 1 and 3 would not generate a demand for passenger loading. The project Variants would provide an additional 150 feet of passenger loading space, despite a marginal expected increase in peak demand of approximately five feet during the AM and PM peak hours.

Similar to the proposed project, it is expected that the estimated loading supply should be adequate for the estimated demand; however, as mentioned previously, ZSFG is unique and should be monitored over time. As a result, the project's impact to commercial loading is considered a *less-than-significant impact*.

Mitigation: None required.

Impact TRAF-7: Development of the proposed project would not result in inadequate emergency access. (Less than Significant)

The proposed project would not change emergency access to ZSFG. The SFGH Hospital Rebuild project will reroute emergency vehicles from the southern 23rd Street driveway to northern 22nd Street. Emergency vehicles would continue to access the site from arterial roadways through the study area, including Potrero Avenue. Aside from the relatively minor increase in vehicle traffic that would result from the facility expansion, the proposed project would not inhibit emergency access to ZSFG; therefore, the proposed project would have a *less-than-significant* impact to emergency access.

Mitigation: None required.

Variant Emergency Access Impacts

Emergency access associated with the project Variants would be similar to those for the proposed project. Aside from the relatively minor increase in vehicle traffic that would result from the facility expansion, the project Variants would not inhibit emergency access to ZSFG and therefore would have a *less-than-significant* impact to emergency access.

Mitigation: None required.

Impact TRAF-8: Development of the proposed project could increase parking demand. (Less than Significant)

Parking demand estimates for the proposed research building were calculated based on the current and projected UCSF population (staff and visitors) information at the site, as well as the expected mode of travel to/from the site. The proposed research building could generate a demand for up to 90 new daily parked vehicles on a typical weekday. The number of daily parked vehicles is then adjusted in order to estimate the peak parking space demand, as different vehicles would occupy the same parking space during the day in many instances (e.g., staff, patients, or visitors arrive for different work shifts or medical appointments throughout the day). Thus, the peak parking space demand ratios are equal to one (one vehicle parks in a space all day) or less than one (multiple vehicles park in the same space throughout the day), depending on the population group (derived from previous parking studies conducted at various UCSF campus sites for studies including the *2008 Medical Center at Mission Bay EIR* and the *1996 LRDP EIR*).

The proposed project would be constructed on the existing 130-space B/C Lot, and would provide 35 parking spaces for handicapped parkers, service vehicles and ZSFG staff, with no expected reduction in supply. Therefore, the proposed research building would result in a net reduction of 130 parking spaces on the site. The 23rd Street garage is proposed to be expanded to accommodate 307 new parking spaces. In addition, the SFGH Rebuild Project would remove about 35 on-street employee parking spaces on the north side of 22nd Street, between Potrero Avenue and the new Emergency Room entrance to ensure adequate emergency vehicle access along 22nd Street to the

emergency room. The sum of these actions would result in a net gain of 142 parking spaces at the ZSFG campus site.

The proposed research building would generate an additional peak parking demand of 72 parking spaces. Similarly, the completion of the SFGH Rebuild Project, which includes partial backfill of the existing Main Hospital, would result in an estimated additional peak parking demand of 235 parking spaces in the Near Term. In addition, the closure of the remote lot on 2000 Marin Street in January 2016 would increase the parking demand in approximately 75 spaces. As a result, the total peak parking demand at the ZSFG campus would increase in the near-term by 382 spaces. As discussed above, the available on-street parking is well-occupied during the day, and the evaluation of future conditions focuses on the availability of off-street parking spaces.

The construction of the proposed research building and the 307-space expansion of the 23rd Street garage, in addition to the near term SFGH Rebuild Project (Near Term plus Project conditions), would result in an overall parking deficit of 127 to 184 parking spaces between 10:00 AM and 2:00 PM, the peak parking demand period; there would be a surplus of approximately 940 parking spaces after 6:00 PM.

Approximately 20 percent of the parking demand (72 of the 382 total increase in parking demand) would be attributable to the proposed project and approximately 60 percent of the parking demand (235 of the 382 total increase in parking demand) would be attributable to the demand generated by the SFGH Rebuild.

Mitigation: None required.

Variant Parking Impacts

For all project Variants, the proposed research building would remove the 130 parking spaces in the B/C Lot, and would remove the 35 parking spaces that would be removed due to emergency room access on 22nd Street. For Variant 1, the 292 new parking spaces available at the 23rd Street garage would result in a net gain of 127 parking spaces. There would be an overall parking deficit of 156 to 213 spaces between 10:00 AM and 2:00 PM, and a surplus between 917 spaces for the remainder of the day. For Variant 2, the 527 new parking spaces available at the 23rd Street garage would result in a net gain of 362 parking spaces. There would be an overall parking surplus of 37 to 94 spaces between 10:00 AM and 2:00 PM, and a surplus of 1,158 spaces after 6:00 PM.

For Variant 3, the 512 new parking spaces available at the 23rd Street garage would result in a net gain of 347 parking spaces. There would be an overall parking surplus of 7 to 64 spaces between 10:00 AM and 2:00 PM, and a surplus of 1,137 spaces after 6:00 PM. For Variant 4, there would be a net loss of 165 parking spaces from the ZSFG campus site. There would be an overall parking deficit of between 430 and 490 parking spaces between 10:00 AM and 2:00 PM, and a surplus of 631 after 6:00 PM.

Mitigation: None required.

4.7.6.4 Cumulative (2040) Operational Impacts

The transportation impact analysis of the proposed project under Cumulative (Year 2040) conditions assumes that the space vacated in the Main (Old) Hospital upon completion of the New Hospital will be completely backfilled by DPH and the space vacated by UCSF at ZSFG will also be backfilled with new DPH staff. The Year 2040 conditions assess the long-term impacts of the proposed project in combination with projected development within San Francisco and the rest of the Bay Area, as well as implementation of planned transportation infrastructure projects.

The geographic context for the analysis of Year 2040 transportation impacts includes the sidewalks and roadways adjacent to ZSFG, as well as the local roadway and transit network in the vicinity of ZSFG. The discussion of 2040 transportation impacts assesses the degree to which the proposed project would affect the transportation network in conjunction with other reasonably foreseeable projects.

Year 2040 traffic volumes were estimated based on cumulative development and growth identified by the SFCTA SF-CHAMP travel demand model, using model output that represents Existing conditions and model output for Year 2040 Cumulative conditions. The Year 2040 traffic volumes from the SF-CHAMP model include the additional vehicle-trips generated by the proposed project (the vehicles shifted by the closure of the B/C Lot and the expanded 23rd Street garage) as well as background traffic growth from 2015 to 2039 in the vicinity of the ZSFG campus. However, the SF-CHAMP model data does not include the planned backfill of rehabilitated buildings at the ZSFG campus site, and as such, the demand for those buildings was manually overlaid on top of the SF-CHAMP model results.

Cumulative (2040) Foreseeable Development Projects

- Seawall Lot 337 and Pier 48 Mixed-Use Project (Pending approval – Case No. 2013.0208E)
- Pier 70 (Pending approval – Case No. not yet assigned)
- California Pacific Medical Center Long Range Development Plan (Approved – Case No. 2005.0555E)
- UCSF 2014 LRDP
- Development associated with neighborhoods plans including the Eastern Neighborhoods Plan (Approved – Case No. 2004.0160E), Western SoMa Plan (Approved – Case No. 2008.0877E), Market-Octavia Plan (Approved – Case No. 2003.0347E), and Rincon Hill Plan (Approved – Case No. 2000.1081E)

Cumulative (2040) Transportation Network Changes

In addition to the transportation network changes described for Near Term conditions, the following transportation network changes in the study area are incorporated into the Year 2040 analysis:

- **Muni Forward.** Muni Forward is aimed at improving reliability, reducing travel times, providing more frequent service, and updating Muni bus routes and rail lines to better match current travel patterns. Recommendations include new routes and route realignments, more

service on busy routes, and elimination or consolidation of certain routes or route segments with low ridership. Muni Forward recommendations were unanimously endorsed by the SFMTA Board of Directors in October 2008, and the EIR was certified by the San Francisco Planning Commission in March 2014. The Muni Forward Implementation Strategy anticipates that many of the improvements would be implemented sometime between Fiscal Year 2014 and Fiscal Year 2019, subject to funding sources and resource availability.

- **San Francisco Bicycle Plan.** The San Francisco Bicycle Plan aims to expand the City's bicycle network through the addition of 34 miles of Class II bike lanes, 75 miles of on-street Class III bicycle routes, improved bicycle parking, and a variety of programs to improve bicycle access and safety.

- **Caltrain Electrification Program.** Caltrain will be implementing a Modernization Program that will electrify the railway to provide upgraded performance and allow more efficient operations and a higher capacity. The Program is scheduled to be complete by 2019. Currently Caltrain crosses 16th Street at-grade at the intersection of 16th Street / Seventh Street/Mississippi Street. There are currently ten trains per hour during peak periods, and the Modernization Program will allow the number of trains to increase to 12 trains per hour. Additionally, Caltrain is anticipating a "blended system", which will see California High Speed Rail trains running alongside Caltrain on the same tracks. However, the future of the High Speed Rail system is currently unknown due to legal and funding challenges. If the blended system is built, it may require a grade separation at 16th/Seventh/Mississippi Street. Electrification of Caltrain (and the associated improved travel times and frequencies) as well as the introduction of High Speed Rail may improve transit access to ZSFG.

Additional transportation projects outside of the study area include the following:

- Geary Bus Rapid Transit (BRT) Project
- Van Ness BRT Project
- Central Subway Project
- Central SoMa Plan
- Second Street Improvement Project
- Transit Center District Plan

Cumulative (2040) Impacts

Impact TRAF-9: Development of the proposed project, in combination with reasonably foreseeable future developments, would increase traffic at intersections on the adjacent roadway network. (Potentially Significant)

ZSFG plans to rehabilitate and backfill what are known as the brick buildings (168,000 gsf), Building 80 (72,000 gsf), and Building 90 (36,000 gsf). Assuming an average employee density of 276 gsf per employee, the backfill of these buildings results in 1,000 additional employees (610 at the brick buildings, 260 at Building 80, and 130 at Building 90) under 2040 Cumulative conditions. As noted above, the Year 2040 traffic impact analysis also takes into consideration implementation of the Potrero Avenue streetscape circulation changes. It was assumed that existing vehicle access to the 23rd Street garage would not change under Year 2040 conditions, and the additional entry and exit lanes provided on 23rd Street would be open only after 6:00 PM.

Table 4.7-4 presents a summary comparison of Existing and Year 2040 With project intersection LOS for the weekday AM and PM peak hours. As presented in Table 4.7-2, all 13 study intersections currently operate at acceptable levels of service (LOS D or better) during the AM and PM peak hours. Under Year 2040 conditions, one of the 13 study intersections is projected to operate at LOS F (Potrero Avenue / 24th Street signalized intersection during the PM peak hour). The project's contribution to the Year 2040 traffic volumes at the critical movements operating poorly (i.e., at LOS E or LOS F) at that intersection was calculated to determine whether the project's contributions to the LOS F operating conditions under Year 2040 conditions would be considered significant.

TABLE 4.7-4
CUMULATIVE (2040) PEAK-HOUR INTERSECTION LEVEL OF SERVICE (LOS)

Intersection	Traffic Control[a]	Peak Hour	Existing		Year 2040 With Project	
			Delay (sec.)[b]	LOS[c]	Delay (sec.)[b]	LOS[c]
1. Potrero Avenue / 20th Street	Signal	AM PM	12 13	B B	17 22	B C
2. Potrero Avenue / 22nd Street (N)	Signal	AM PM	13 12	B B	35 20	C B
3. Potrero Avenue / 22nd Street (S)	Signal	AM PM	15 14	B B	21 23	C C
4. Potrero Avenue / 23rd Street[d]	Signal	AM PM	49 43	D D	29 23	C C
5. Utah Street / 23rd Street	SSS	AM PM	12 (NB) 13 (NB)	B B	16 (NB) 17 (NB)	C C
6. West ZSFG Driveway / 23rd St.	AWS	AM PM	>10 (EB) <10 (WB)	B A	12 (EB) 12 (WB)	B B
7. San Bruno Avenue / 23rd Street	AWS	AM PM	<10 (WB) >10 (WB)	A B	13 (WB) 13 (WB)	B B
8. East ZSFG Driveway / 23rd St.[e]	SSS	AM PM	>10 (SB) >10 (SB)	B B	<10 <10	A A
9. Vermont Street / 23rd Street	AWS	AM PM	12 (WB) 12 (WB)	B B	20 (WB) 26 (WB)	C D
10. Potrero Avenue / 24th Street	Signal	AM PM	22 47	C D	52 **>80**	D **F**
11. Utah Street / 24th Street	AWS	AM PM	12 (EB) 11 (WB)	B B	33 (EB) 29 (WB)	D D
12. Parking Garage Driveway / 24th Street	SSS	AM PM	<10 (SB) >10 (SB)	A B	20 (SB) 13 (SB)	C B
13. Potrero Avenue / 25th Street	Signal	AM PM	31 20	C C	50 50	D D

NOTES:

Bold indicates a significant impact

[a] AWS = All-way stop controlled; SSS = Side Street stop controlled; Signal = Signal controlled

[b] Delay reported as seconds per vehicle. For signalized intersections, a combined weighted average delay for the various movements within the intersection is reported. For SSS and AWS intersections, the highest average delay for an approach is reported.

[c] For signalized intersections, LOS based on average intersection delay, based on the methodology in the Highway Capacity Manual, 2000. For unsignalized intersections, LOS is based on the worst approach, which is indicated in parentheses.

[d] The eastbound approach to Potrero Ave/23rd Street is closed as part of Muni Forward and Potrero Streetscape Improvements.

[e] The East ZSFG Driveway would be removed under With Project conditions.

SOURCE: Fehr & Peers, 2014.

The proposed project would add no vehicle trips to the northbound left turn critical movement, and would remove 14 vehicle trips from the southbound through/shared right turn critical movement; the proposed project's contribution would not be considered significant. The project would add 120 vehicle trips to the critical westbound approach, which represents a 48 percent increase from Year 2040 conditions, and the proposed project's contribution would be considered significant. Therefore, the proposed project would have a *significant impact* at this intersection, and UCSF and the City shall implement Mitigation Measure TR-1.

With implementation of Mitigation Measure TR-1, intersection operations would improve to acceptable levels (i.e. LOS D or better conditions) during the PM peak hour. However, UCSF and DPH do not have the authority to implement this improvement without SFMTA's approval and assistance, which is unknown at this time. The effectiveness of implementing Mitigation Measure TR-2 to reduce the impact to less than significant is not known, and UCSF does not have the authority to implement it without SFMTA's approval and assistance, which is unknown at this time. While Mitigation Measure TR-3 can reduce traffic impacts, even full implementation of TR-3 with identified feasible elements would not fully eliminate the significant impact at this intersection. The proposed project's traffic impact at the intersection of Potrero Avenue / 24th Street would therefore be considered *significant and unavoidable*.

Significance after Mitigation: Significant and Unavoidable

Variant Cumulative Intersection Impacts

Cumulative traffic conditions associated with project Variants would be similar to those described above for the proposed project. Using Near-Term results as a proxy because Cumulative Variants results were not explicitly modeled, the differences in traffic operating conditions among the Variants are modest. Similar to the Near Term Plus Project scenario, the Near Term Plus Variants conditions reflects modifications to the lane geometries and signal timing plans proposed by both the proposed project and foreseeable (funded) infrastructure improvements for several study intersections surrounding ZSFG, as discussed above.

Significance after Mitigation: Significant and Unavoidable

Impact TRAF-10: Development of the proposed project, in combination with reasonably foreseeable future developments, would increase transit ridership demand. (Less than Significant)

San Francisco Muni. Muni Forward, which will improve Muni's reliability, reduce travel times and provide frequent service, is estimated to be fully implemented by 2040. While there is an anticipated increase in background (non-project) Muni riders between Near Term and Year 2040 Conditions at ZSFG, future transit improvements will increase transit capacity to ZSFG in anticipation of this background growth, and the proposed project or project Variants would not create excess demand for public transit that would require the development or expansion of mass transit facilities. For the above reasons, the proposed project or project Variants, in combination

with reasonably foreseeable development in San Francisco, would have *less than significant* Year 2040 SF Muni transit impacts.

Regional Transit. ZSFG staff, patrons and students are anticipated to continue to use BART, AC Transit, Caltrain, SamTrans, and Golden Gate Transit for regional transit service through 2040. Regional service stations are likely to remain at existing locations, and they can be accessed by other transit modes such as SF Muni and the UCSF shuttle.

As described above, Caltrain is proposing to implement a Modernization Program that will electrify the railway to provide upgraded performance and allow more efficient operations and a higher capacity. It is assumed that in the cumulative transit scenario that this program has been implemented. There are currently 10 trains per hour during peak periods, and the Modernization Program will allow the number of trains to increase to 12 trains per hour. Additionally, Caltrain is anticipating a "blended system" which will see California High Speed Rail trains running alongside Caltrain on the same tracks. Electrification of Caltrain (and the associated improved travel times and frequencies) as well as the introduction of High Speed Rail may improve transit access to ZSFG.

While there would be a general increase in regional transit ridership that is expected through the 2040, the proposed project or project Variants would not create excess demand for public transit that would require the development or expansion of mass transit facilities. For the above reasons, the proposed project or project Variants, in combination with reasonably foreseeable development in San Francisco, would have *less than significant* Year 2040 regional transit service impacts.

UCSF Shuttle. UCSF shuttle service operations will continue to serve ZSFG through 2040. The proposed project does not propose changes to shuttle stop locations or service headways, although UCSF Transportation Services regularly monitors system wide shuttle ridership and may change headways or routes based on shifting demand across all UCSF campus sites.

The *UCSF Shuttle Operations Study Final Report* analyzed cumulative demand on the shuttle program.[13] Population growth projections were made for the cumulative year and population group mode splits, by campus site, and trip rates were used to calculate the number of new daily shuttle trips created by new populations on a campus-by-campus basis. Shuttle growth projections per line were calculated based upon the proportionate increases in population at campuses served by each line. The analysis found that four lines would experience ridership growth of more than ten percent (Gold: 50± percent, Blue: 50± percent, Grey: 45± percent, and Red: 35± percent). Recommendations for increasing the capacity of these four lines to adequately address these cumulative demand increases include increasing peak period shuttle capacity by introducing additional vehicles and reassigning different capacity vehicles to specific lines.

UCSF Transportation Services monitor shuttle performance through a monthly auditing process and implement operational adjustments (which may include additional service) where necessary to meet demand. Therefore, the proposed project or project Variants would not create excess demand for transit that would require the development or expansion of mass transit facilities.

[13] Nelson\Nygaard. 2014. Shuttle Operations Study Final Report, January, 2014

Thus, the proposed project or project Variants, in combination with reasonably foreseeable development in San Francisco, would result in a *less-than-significant impact* on peak hour Year 2040 UCSF shuttle trips.

Mitigation: None required.

Impact TRAF-11: Development of the proposed project, in combination with reasonably foreseeable future developments, would not cause a substantial conflict with pedestrian facilities, or otherwise decrease the performance or safety of such facilities. (Less than Significant)

Pedestrian circulation impacts are by their nature site-specific and generally do not contribute to impacts from other development projects. As indicated in Impact TRAF-4, the proposed project and project Variants would not result in overcrowding of sidewalks or create new potentially hazardous conditions for pedestrians under Near Term conditions.

Pedestrian trips throughout the City may increase under the Year 2040 scenario due to general growth including growth at ZSFG. Existing and proposed pedestrian facilities at ZSFG are designed to facilitate safe and easy pedestrian paths of travel. Walk trips may increase between the completion of the proposed project or project Variants and the Year 2040 conditions due to increasing effectiveness of TDM measures in reducing vehicle trips. Because transit users would walk between the transit stops and ZSFG, TDM measures such as promoting effective use of transit could over time increase the number of pedestrians accessing ZSFG from surrounding neighborhoods.

As the proposed project develops, UCSF would work with DPH staff to monitor pedestrian conditions to ensure increased pedestrian volumes due to the proposed project or project Variants do not cause overcrowding of sidewalks under the Year 2040 Conditions. This monitoring program would be informed by the annual ZSFG Employee Transportation Survey, UCSF staff, students, and patients and visitors, campus site observations by Transportation Services staff, and ongoing coordination with SFMTA and DPH staff.

There is an anticipated increase in background automobile traffic between Near Term and Year 2040 Conditions at ZSFG, as shown in the Year 2040 traffic forecasts. This will result in an increase in automobile-pedestrian conflicts at intersections and driveways in the study area. While there would be a general increase in vehicle traffic that is expected through the future scenario, the proposed project and project Variants would not create substantial conflicts between pedestrians and autos, bicyclists, or transit vehicles. For the above reasons, the proposed project or project Variants, in combination with reasonably foreseeable development in San Francisco, would have *less than significant* Year 2040 pedestrian impacts.

Mitigation: None required.

Impact TRAF-12: Development of the proposed project, in combination with reasonably foreseeable future developments, would not cause a substantial conflict with bicycle facilities, or otherwise decrease the performance or safety of such facilities. (Less than Significant)

Bicycle circulation and facility impacts by their nature are site-specific and generally do not contribute to impacts from other development projects. Bicycle trips throughout the City may increase under the Year 2040 scenario due to general growth.

As the proposed project develops, UCSF and the City would work with DPH staff to monitor bicycle conditions and improve facilities if needed to ensure the growth due to the proposed project or project Variants remains compatible with bicycling to prevent overcrowding of bicycle facilities (bicycle routes or bicycle parking). In addition, UCSF will monitor bicycle parking to ensure the supply accommodates future demand generated by the research building at ZSFG. This monitoring program would be informed by the annual ZSFG Employee Transportation Survey, UCSF staff, students, and patients and visitors, campus site observations by Transportation Services staff, and ongoing coordination with SFMTA and DPH staff.

There is an anticipated increase in background automobile traffic between Near Term and Year 2040 Conditions at ZSFG, as shown in the Year 2040 traffic forecasts. This will result in an increase in automobile-bicycle conflicts at intersections and driveways in the study area. While there would be a general increase in vehicle traffic that is expected through the future Year 2040 scenario, the proposed project or project Variants would not create substantial conflicts between bicyclists and autos, pedestrians, or transit vehicles. For the above reasons, the proposed project and project Variants, in combination with reasonably foreseeable development in San Francisco, would have *less than significant* Year 2040 bicycle impacts.

Mitigation: None required.

Impact TRAF-13: Development of the proposed project, in combination with reasonably foreseeable future developments, would increase loading demand. (Less than Significant)

Loading impacts, similar to pedestrian and bicycle impacts, are by their nature localized and site-specific. ZSFG will likely experience a moderate increase in the amount of loading activity, requiring one new dedicated loading space, due to the backfill of space vacated by staff that populate the new research building. ZSFG may choose to expand additional facilities, convert a surface parking space to a dedicated loading space, etc. to fill this need when it occurs. The rest of the uses that make up ZSFG are expected to generally be the same, and thus the loading needs are expected to be the same as well. Providing adequate loading facilities for the proposed research building would ensure that future changes to loading activity adjacent to ZSFG would not create potential loading conflicts under Year 2040 Conditions.

As the proposed project develops, UCSF would work with DPH staff to monitor loading conditions to ensure they are sufficient to accommodate the proposed project's or Variants' loading demand and do not create potentially hazardous conditions or significant delays affecting traffic, transit, bicycles, or pedestrians. This monitoring program would be informed by the annual ZSFG Employee Transportation Survey, UCSF staff, students, and patients and visitors, campus site observations by Transportation Services staff, and ongoing coordination with SFMTA and DPH staff.

There is an anticipated increase in background automobile traffic between Near Term and Year 2040 Conditions at ZSFG, as shown in the Year 2040 traffic forecasts. This will result in an increase in loading conflicts at intersections and driveways at ZSFG. While there would be a general increase in loading demand that is expected through the future Year 2040 scenario, the proposed project or project Variants would not create potentially hazardous conditions or significant delays affecting traffic, transit, bicycles, or pedestrians, or otherwise interfere with loading access to the campus sites and adjoining areas. For the above reasons, the proposed project or project Variants, in combination with reasonably foreseeable development in San Francisco, would have *less than significant* Year 2040 loading impacts.

Mitigation: None required.

Impact TRAF-14: Development of the proposed project, in combination with reasonably foreseeable future developments, would increase parking demand. (Less than Significant)

As described above, the proposed project would generate a peak parking demand of up to 72 parking spaces by 2040. Similarly, the completion of the SFGH Rebuild Project and the backfill of all buildings at the ZSFG campus site would result in an estimated additional peak parking demand of about 793 parking spaces in the long term. As a result, the total long-term peak parking demand at the ZSFG campus site would increase by about 411 spaces.

With the proposed project, there would be a deficit between 537 and 594 spaces from 10:00 AM to 2:00 PM. There would be no deficit after 6:00 PM. With Variant 1, there would be a deficit between 567 and 624 spaces from 10:00 AM to 2:00 PM; there would be no deficit after 6:00 PM. With Variant 2, there would be an overall long-term parking deficit of 317 to 374 spaces from 10:00 AM to 2:00 PM; there would be no deficit after 6:00 PM. With Variant 3, there would be an overall long-term parking deficit of 347 to 404 parking spaces between 10:00 AM and 2:00 PM; there would be no parking deficits after 6:00 PM. With Variant 4, there would be an overall long-term parking deficit of 844 to 901 parking spaces between 10:00 AM and 2:00 PM; there would be no parking deficits after 6:00 PM.

The neighborhoods surrounding the ZSFG are unlikely to change dramatically in the future. Planned improvements to the transit network would likely reduce parking demand adjacent to ZSFG under Year 2040 Conditions. UCSF (through its Campus Transportation Services Offices) will make efforts to educate faculty, staff, and students about transit options in order to reduce

auto usage and parking demand. Thus, the parking impacts under the proposed project or project Variants would be *less than significant.*

Mitigation: None required.

Impact TRAF-15: Construction of the proposed project, in combination with reasonably foreseeable future developments, could cause substantial adverse impacts to traffic flow, circulation and access as well as to transit, pedestrian, and parking conditions during demolition and construction activities. (Less than Significant)

Construction impacts are localized and site-specific, and would not contribute to impacts from other development projects near ZSFG. The assessment of construction activity at ZSFG may change between the completion of the proposed project or project Variants and the Year 2040 scenario due to additional non-UCSF projects at ZSFG and the surrounding area and due to timing of implementation of all aspects of the UCSF/City projects. Year 2040 impacts of nearby construction projects should not be considered as the construction would be temporary and the project sponsors of such construction projects would coordinate with various City departments such as SFMTA and DPW through the TASC to develop coordinated plans that would address construction-related issues. For the above reasons, the proposed project and project Variants, in combination with reasonably foreseeable development in San Francisco, would have *less than significant* Year 2040 construction impacts.

Mitigation: None required.

4.7.7 References

Advant Consulting and Fehr & Peers, *Proposed UCSF Research Building at San Francisco General Hospital Transportation Impact Study.* March 2016.

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CHAPTER 5
CEQA Statutory Sections

This chapter summarizes the following categories of impacts resulting from implementation of the proposed project; significant and unavoidable environmental impacts; cumulative impacts; growth-inducing impacts; and significant irreversible environmental effects.

5.1 Significant and Unavoidable Impacts

Section 15126.2(b) of the CEQA Guidelines requires an EIR to identify significant environmental effects that cannot be avoided if the project is implemented, including those that can be mitigated, but not to a less-than-significant level. This section identifies significant impacts that could not be eliminated or reduced to a less-than-significant level by mitigation measures imposed by UCSF. The final determination of significance of impacts and of the feasibility of mitigation measures will be made by the Regents as part of their certification action for the EIR. The following significant and unavoidable impacts would result from implementation of the proposed project:

- **Impact TRAF-2:** Development of the proposed project would increase traffic at intersections on the adjacent roadway network.

- **Impact TRAF-9**: Development of the proposed project, in combination with reasonably foreseeable future developments, would increase traffic at intersections on the adjacent roadway network.

5.2 Cumulative Impacts

The CEQA Guidelines define cumulative impacts as two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts. The cumulative impact analysis required under CEQA is intended to describe the "incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects" which can result from "individually minor but collectively significant projects taking place over a period of time" (CEQA Guidelines Section 15355). Cumulative impacts must be discussed when they could be significant, but the discussion may be more general than that for individual project impacts. The discussion should also reflect the potential extent, severity, and probability of the impact. The cumulative impact analysis must be based on either a list of reasonably foreseeable projects, or projections from a General Plan or a contribution to significant cumulative impacts must also be proposed. The proposed project's contribution to cumulative impacts is discussed in this EIR under each environmental topic.

5.3 Significant Irreversible Environmental Effects

Section 15126.2(c) of the CEQA Guidelines requires a discussion of any significant irreversible environmental changes that would be caused by a proposed project. Generally, a project would result in significant irreversible environmental changes if

- The primary and secondary impacts would generally commit future generations to similar uses;
- The project would involve a large commitment of nonrenewable resources;
- The project involves uses in which irreversible damage could result from any potential environmental accidents associated with the project (e.g., highway improvements that provide access to a previously inaccessible area); or
- The proposed consumption of resources is not justified (e.g., the project involves the wasteful use of energy)

The proposed project would result in the development of a research building on a surface parking lot and expansion of an existing parking garage on the SFGH campus. The research building is proposed by UCSF to comply with the UC *Seismic Safety Policy*, which requires that UC employees be located in seismically safe buildings. Development of the proposed project would intensify uses on the SFGH campus consistent with development in an urbanized area, and would be consistent with the *ZSFG Institutional Master Plan*. Future generations could eventually redevelop the research building and garage sites with other uses. Therefore, commitment of these sites for medical/research and parking uses would not be considered a significant adverse effect.

Implementing the proposed project would result in an irreversible commitment of energy resources, primarily in the form of fossil fuels, including fuel oil, natural gas, and gasoline or diesel fuel for construction equipment and automobiles during construction and on-going use of the two sites.

No significant irreversible environmental damage, such as an accidental spill or explosion of hazardous materials, is anticipated to occur with implementation of the proposed project. Hazardous materials typically used in research labs would be brought onto the site packaged in research laboratory quantities and used in accordance with manufacturer recommendations and in accordance with existing UCSF policies and hazardous materials management plans and policies. Compliance with federal, State and local regulations, and implementation of mitigation measures identified in the Initial Study, Section 5.8, *Hazards and Hazardous Materials*, would ensure that remediation, construction, and operation activities at the project site would not result in the release of hazardous materials into the environment and cause significant and unavoidable environmental damage.

Development of the proposed research building would comply with the UC *Presidents Policy on Sustainable Resources*, which requires 20% or better energy performance than California Code of Regulations Title 24 for new construction and renovations, and strives to achieve 30%; requires new laboratory buildings to meet Labs21 Environmental Performance Criteria; and requires all

new construction and major renovations to meet a minimum standard of LEED-NC Silver and strive for LEED-NC Gold when possible. The parking garage expansion would not result in any significant impacts associated with an increase in greenhouse gas emissions or conflict with measures adopted for the purpose of reducing such emissions as it would be compliant with the City's Greenhouse Gas Reduction Strategy.

Therefore, development of the proposed project would not use energy in a wasteful, inefficient or unnecessary manner. The consumption or destruction of other non-renewable or slowly renewable resources also would result during construction activities and operation. These resources include, but are not limited to, lumber, concrete, sand, gravel, asphalt, masonry, metals and water. The project would also irreversibly use water resources. However, the project would not involve a large commitment of those resources relative to supply, nor would it consume any of those resources wastefully, inefficiently, or unnecessarily.

5.4 Growth Inducement

As required by the CEQA Guidelines, an EIR must include a discussion of the ways in which the proposed project could directly or indirectly foster economic or population growth, or the construction of additional housing and how that growth would, in turn, affect the surrounding environment (CEQA Guidelines Section 15126.2(d)). Growth can be induced in a number of ways, including the elimination of obstacles to growth, or through the stimulation of economic activity within the region. The discussion of removal of obstacles to growth relates directly to the removal of infrastructure limitations or regulatory constraints that could result in growth unforeseen at the time of project approval. Under CEQA, induced growth is not necessarily considered beneficial, detrimental, or of little significance to the environment.

The research building is proposed by UCSF to comply with the UC *Seismic Safety Policy*, which requires that UC employees be located in seismically safe buildings. Upon completion of the proposed building, approximately 680 UCSF employees would be relocated from existing facilities on the ZSFG campus to the new research building. In addition, up to 120 employees may relocate from off-campus leased space to the new facility, which could result in subsequent employment growth as other workers, whether UCSF-affiliated or not, occupy the space vacated by UCSF employees. Therefore, the proposed project would not result in substantial employment growth that would indirectly affect demand for housing in the City or the Bay Area as the future occupants of the research building already work for UCSF. Project construction is expected to meet its need for labor from the Bay Area. Further, the proposed project would not extend utilities or transportation infrastructure to previously undeveloped areas.

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CHAPTER 6
Alternatives

6.1 Introduction

CEQA requires that an EIR describe and evaluate the comparative effects of "a reasonable range of potentially feasible alternatives" to the project. A primary criterion for selecting alternatives to be considered is that such alternatives "would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project" (CEQA Guidelines Section 15126.6(a)).

The EIR need only discuss alternatives that could feasibly attain most of the project's basic objectives. CEQA and the CEQA Guidelines generally define a "feasible" alternative as one that is capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, technological, and legal factors, including regulatory constraints and jurisdictional boundaries.

The range of alternatives is governed by the "rule of reason" which requires the EIR to set forth only those alternatives necessary to permit a reasoned choice (CEQA Guidelines Section 15126.6(f)). Evaluation of a No Project Alternative and identification of an environmentally superior alternative are required. The significant effects of the alternatives shall be discussed, but in less detail than the significant effects of the proposed project (CEQA Guidelines Section 15126.6(d)).

6.2 Significant and Unavoidable Impacts of the Project

The following significant and unavoidable impacts would result from implementation of the proposed project:

- **Impact TRAF-2:** Development of the proposed project would increase traffic at intersections on the adjacent roadway network.

- **Impact TRAF-9**: Development of the proposed project, in combination with reasonably foreseeable future developments, would increase traffic at intersections on the adjacent roadway network.

6.3 Alternatives Considered But Rejected From Further Consideration

The following alternatives were considered but rejected for the reasons described.

6.3.1 Seismic Retrofit of Existing Buildings

Working with the City of San Francisco, UCSF has evaluated the potential for a seismic retrofit of the existing brick buildings that it occupies on the ZSFG campus, in order to meet the UC *Seismic Safety Policy* and retain research activities in these buildings. The evaluation concluded that retrofit of the brick buildings would be infeasible for a number of reasons. First, the existing brick buildings were not designed for research; they are comprised of narrow floorplates that are very poor for 21st century research activities and would not meet modern standards. Interior seismic bracing would further decrease functional space. Second, seismic alterations would be further complicated by the historical significance of the brick buildings and the need to comply with the Secretary of the Interior Standards for the Treatment of Historic Properties. Third, the brick buildings cannot be occupied while the seismic retrofits are being conducted, and there is no "surge" space (i.e., temporary relocation space) for occupants of these buildings while construction occurs. Phasing of construction floor-by-floor to allow continued occupancy during construction, while technically feasible, would not be acceptable to occupants due to noise, dust, and vibration impacts on research activities. In addition, phasing would add substantially to the project cost.

The challenges identified above contribute to the prohibitively high cost of a seismic retrofit. As UCSF does not own the brick buildings, it cannot justify the substantial investment needed on property not owned by the Regents. For all of the reasons described, a seismic retrofit of the existing brick buildings for contemporary research use would not be feasible, and would not allow UCSF to meet its continued commitment to serve the ZSFG community.

6.3.2 Locate Research Off-Site

While it has been suggested by some that UCSF move its research functions off of the ZSFG campus to another location such as Mission Bay, UCSF believes that such a move would not be feasible and would be detrimental to patient care. Research activities for physicians at ZSFG must be located on-site in order for physicians to move quickly between their labs and clinical facilities when a rapid response to trauma and urgent clinical needs is required. Additionally, on-site research is critical to the recruitment and retention of world-class clinical staff, which allows faculty to conduct research while also being within walking distance to their clinical and teaching duties at ZSFG. In addition, on-site research is a requirement for ZSFG to be a Level-1 trauma center. Without UCSF's on-site research, the City of San Francisco would lose its only Level 1 trauma center. The other nearest Level 1 trauma centers in the Bay Area would be at Stanford University Medical Center and UC Davis Medical Center, about 33 miles and 90 miles away, respectively, which are too distant to provide adequate trauma center care for San Franciscans and neighboring communities, whether such care is needed for single events or major catastrophes. Finally, locating the research activities off-site would increase operational costs and

increase response times by requiring travel between sites, or would render some research programs infeasible due to the need for proximity to patients. For all of these reasons, UCSF firmly believes that relocating the research activities off-site would not be feasible.

6.4 Alternatives Analyzed in the EIR

The project alternatives selected for evaluation would have the potential to lessen or avoid one or more of the identified significant and unavoidable impacts of the proposed project. The alternatives addressed in this EIR were selected in consideration of one or more of the following factors:

- The extent to which the alternative would accomplish most of the basic objectives of the proposed project (identified in Chapter 3, *Project Description*);
- The extent to which the alternative would avoid or lessen any of the identified significant environmental effects of the proposed project;
- The feasibility of the alternative, taking into account site suitability, economic viability, availability of infrastructure, and consistency with applicable plans regulatory limitations, and jurisdictional boundaries;
- The appropriateness of the alternative in contributing to a range of reasonable alternatives necessary to permit a reasoned choice; and
- The requirement of the CEQA Guidelines to consider a "no project" alternative and to identify an "environmentally superior" alternative that differs from the no project alternative.

This chapter describes three alternatives to the proposed project:

1) No Project Alternative

2) On-site/Underground Parking Alternative

3) No Garage Expansion Alternative (Project Variant 4)

These alternatives are described below, followed by a discussion of their impacts and how the impacts would differ from those of the proposed project.

6.4.1 Alternative 1: No Project Alternative

CEQA requires an evaluation of the "no project" alternative so that decision makers can compare the impacts of approving the project with the impacts of not approving the project. Under the No Project Alternative the proposed research building would not be constructed and no expansion of the existing parking garage would occur. The proposed research building site would remain as a surface parking lot (B/C Lot). UCSF would continue to occupy approximately 297,000 gsf of research labs, office, and clinic space on the ZSFG campus in ten buildings (Buildings 1, 3, 5, 9, 10, 20, 30, 40, 80/90, and 100). Additional UCSF employees in off-campus leased space would not relocate to the ZSFG campus under the No Project Alternative. The No Project Alternative would not meet any of the basic project objectives for the research building or the parking garage expansion.

Aesthetics

The less than significant aesthetic impacts under the proposed project and variants would not occur under the No Project Alternative as no new development would occur on the ZSFG campus that could affect the scenic public setting or the visual character and quality of the site.

Air Quality

The impacts to air quality during construction that would occur under the proposed project and variants would not occur under the No Project Alternative because the research building would not be constructed and the parking garage would not be expanded. Traffic-related air quality effects also would be reduced.

Cultural and Paleontological Resources

The No Project Alternative would not result in the construction of the research building; therefore, no mitigation would be required to reduce impacts to the SFGH Historic District to a less than significant level. Other mitigation measures required to reduce impacts to archaeological resources, paleontological resources, and accidental disturbance of human remains during construction of the research building and garage expansion would not be necessary under the No Project Alternative.

Greenhouse Gas Emissions

The emissions of greenhouse gases (GHG) during construction of the proposed project and variants would not occur under the No Project Alternative because the research building would not be constructed and the parking garage would not be expanded. Traffic-related GHG emissions also would be reduced.

Land Use and Planning

The less than significant land use impacts under the proposed project and variants would not occur under the No Project Alternative as no new development would occur on the ZSFG campus that could conflict with land use plans and policies or affect the character of the campus or vicinity.

Noise

The construction noise impacts that would occur under the proposed project and variants would not occur under the No Project Alternative because the research building would not be constructed and the parking garage would not be expanded. Traffic-related noise effects also would be reduced.

Transportation and Traffic

Existing circulation patterns within and in the vicinity of the ZSFG campus would continue under the No Project Alternative. There would be no changes to traffic, transit, pedestrian, bicycle, loading, or emergency vehicle access compared to existing conditions. Regarding parking

conditions, DPH has calculated that with the completion of the new hospital, the loss of some parking on Twenty-Second Street, the closure of the temporary off-site parking lot at 2000 Marin Street in January 2016, and the backfilling of vacated space in the existing hospital building, demand for parking on the part of patients, visitors, and employees will increase by approximately 480 – 490 spaces by Year 2020. Compared to the proposed project and variants, which would have a significant and unavoidable project and cumulative impact at the Potrero Avenue/Twenty-Fourth Street intersection, the No Project Alternative would not result in any impacts at local intersections.

6.4.2 Alternative 2: On-Site/Underground Parking Alternative

The On-Site/Underground Parking Alternative would consist of the research building as proposed by the project with the addition of an underground parking structure constructed below the building. The underground garage would likely consist of two-levels that would contain 202 parking spaces, which would represent a net gain of 37 spaces in comparison to the 130 existing spaces on the B/C Lot and adjacent 35 spaces for handicapped users, service vehicles, and ZSFG staff that would be displaced by construction of the research building. The expansion of the existing ZSFG parking garage would not occur. This alternative was selected to avoid the significant and unavoidable traffic impact at the Potrero Avenue/Twenty-Fourth Street intersection. The On-Site/Underground Parking Alternative would meet most of the project objectives for the research building, but would not meet the objective to develop a new research building that is cost-effective in terms of design, construction cost, operational costs, and maintenance. It would partially meet the objectives for the garage expansion. While this alternative would accommodate the potential new parking demand for the research building, it would not meet parking demand for recently completed projects such as the new hospital or potential future projects such as new clinics and backfill of vacated space on the ZSFG campus.

Aesthetics

The less than significant aesthetic impacts would be similar for the research building under the On-Site/Underground Parking Alternative. Construction of an underground parking garage beneath the building would not result in any additional impacts to the scenic public setting of the ZSFG campus or visual character or quality. The less than significant aesthetic impacts related to the parking garage would not occur because the garage would not be expanded under this alternative.

Air Quality

The potential criteria pollutant emissions impacts under Alternative 2 would be similar or less than the mitigated impacts of the project and Variants 1-3. Variant 4 would emit less criteria pollutants than Alternative 2 because no garage expansion would occur. Alternative 2 would emit more toxic air contaminants than the project and variants, but these impacts would similarly be less than significant with implementation of mitigation.

Cultural and Paleontological Resources

Impacts regarding the compatibility of the research building with the SFGH Historic District would be similar to the proposed project under this alternative, and mitigation also would be

required to reduce the impact to less-than-significant. Other mitigation measures required to reduce impacts to archaeological resources, paleontological resources, and accidental disturbance of human remains during construction of the research building also would be required. Potential impacts regarding the parking garage would be less than the project because it would not be expanded under this alternative.

Greenhouse Gas Emissions

The potential GHG emissions impacts under Alternative 2 would be less than the mitigated impacts of the project and Variants 1-3 as construction of the underground garage would emit less GHGs than expansion of the existing parking garage. Variant 4 would emit less GHGs than Alternative 2 because no garage expansion would occur.

Land Use and Planning

The less than significant land use impacts for the research building would be similar to the proposed project as the building is anticipated to be nearly identical to the design without an underground garage. Parking would be an allowable use in the P (Public) Zoning District. The less than significant impacts related to the parking garage would not occur because the garage would not be expanded under this alternative.

Noise

The noise impacts that would occur during construction of the research building would likely be greater under this alternative due to the additional excavation necessary to construct the underground garage. However, the overall noise impact would likely be less because the ZSFG parking garage would not be expanded under this alternative. Traffic-related noise effects also would be reduced.

Transportation and Traffic

Under Alternative 2, traffic conditions would remain at an acceptable LOS D at the Potrero Avenue/Twenty-Fourth Street intersection; therefore, the significant and unavoidable project and cumulative impact at this intersection would not occur. Vehicles that currently access the B/C Lot for parking would continue under this alternative and all of the net new trips generated by the research building would be accommodated in the on-site underground garage. There would be an overall parking deficit on the ZSFG campus of between 231 and 288 parking spaces between 10:00 AM and 2:00 PM, and a surplus of 833 after 6:00 PM. Approximately 25% of the parking deficit (72 of 288) would be attributable to UCSF demand while the remaining 75% (216 of 288) would be attributable to the demand generated by the SFGH Rebuild Project.

Other impacts regarding transit conditions, pedestrian access, bicycle access, loading, and emergency vehicle access would remain less than significant under this alternative.

6.4.3 Alternative 3: No Garage Expansion Alternative

Under this alternative, which is included in the analysis as Variant 4, the research building would be constructed as proposed, but the existing City-owned parking garage would not be expanded. This alternative was selected to reduce the severity of potential impacts, including the significant traffic impact at the Potrero Avenue / Twenty-Fourth Street intersection. The No Garage Alternative would meet all of the project objectives for the research building. This alternative would not meet any of the project objectives for the parking garage expansion.

Aesthetics

The less than significant aesthetic impacts would be the same as the proposed project for the research building under this alternative. The less than significant aesthetic impacts related to the parking garage would not occur because the garage would not be expanded under this alternative.

Air Quality

The potential criteria pollutant emissions impacts under this alternative would less than the project because no garage expansion would occur. Alternative 3 would emit less toxic air contaminants than the project, and the impact would similarly be less than significant with implementation of mitigation.

Cultural and Paleontological Resources

Impacts regarding the compatibility of the research building with the SFGH Historic District would be the same as the proposed project under this alternative, and mitigation also would be required to reduce the impact to less-than-significant. Other mitigation measures required to reduce impacts to archaeological resources, paleontological resources, and accidental disturbance of human remains during construction of the research building also would be required. Potential impacts regarding the parking garage would not occur because the garage would not be expanded under this alternative.

Greenhouse Gas Emissions

This alternative would emit less GHGs than the proposed project because no garage expansion would occur. The impact would similarly be considered less than significant.

Land Use and Planning

The less than significant land use impacts for the research building would be the same as the proposed project. The less than significant impacts related to the parking garage would not occur because the garage would not be expanded under this alternative.

Noise

The noise impacts that would occur during construction of the research building would be the same as the proposed project. However, the overall construction noise impact would be less

because the parking garage would not be expanded under this alternative. Traffic-related noise effects also would be slightly reduced.

Transportation and Traffic

Traffic conditions (delays and LOS) associated with this alternative would be similar to those for the proposed project, except at the Potrero Avenue / Twenty-Fourth Street intersection, where traffic conditions would be somewhat better (worsen to LOS E instead of LOS F). However,

- implementation of the full suite of TDM strategies identified in Mitigation Measure TR-3 would result in an acceptable LOS D at this intersection, thereby reducing the impact to less-than-significant. Under this alternative, there would be a net loss of 130 parking spaces from the B/C Lot. There would be an overall parking deficit of between 430 and 490 parking spaces between 10:00 AM and 2:00 PM, and a surplus of 631 after 6:00 PM. Approximately 15% of the parking deficit (72 of 490) would be attributable to the UCSF demand while the remaining 85% (418 of 490) would be attributable to the demand generated by the SFGH Rebuild Project. Due to the existing capacity constraints at the 23rd Street garage, the analysis of traffic impacts assumed that the displaced parking from the B/C Lot and any additional parking demand from the research building or the SFGH Rebuild project would not be met in the 23rd Street garage. Vehicles in excess of the current capacity of the garage would park on-street surrounding the ZSFG campus or outside the study area.

Other impacts regarding transit conditions, pedestrian access, bicycle access, loading, and emergency vehicle access would remain less than significant under this alternative.

6.5 Environmentally Superior Alternative

Of the alternatives assessed in this EIR, the environmentally superior alternative, that is the alternative with the least environmental impact, is the No Project Alternative. Section 15126.6(e)(2) of the CEQA Guidelines directs that if the environmentally superior alternative is the no project alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives. Other than the No Project Alternative, the On-Site/Underground Parking Alternative is the environmentally superior alternative, because it would reduce the significant and unavoidable impact associated with traffic conditions at the Potrero Avenue/Twenty-Fourth Street intersection.

- With mitigation Alternative 3 also would reduce the impact to less-than-significant, but it would not meet any of the project objectives for the parking garage expansion.

CHAPTER 7
Report Preparation

7.1 Report Authors

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CHAPTER 8
Comments and Responses

The Final Environmental Impact Report includes comments received on the Draft EIR during the public review period; a list of persons, organizations, and public agencies that commented on the Draft EIR; and any other information added by the University as Lead Agency, such as text changes.

This chapter contains the comments received regarding the Draft EIR prepared for the UCSF Research Building and City Parking Garage Expansion at the Priscilla Chan and Mark Zuckerberg San Francisco General Hospital and Trauma Center Campus project and the responses to those comments. Section 8.1 contains an index to the comments and responses. Comment letters and responses to comments are presented in Section 8.2. Section 8.3 presents the text changes to the Draft EIR initiated by UCSF staff to make editorial changes and corrections to the Draft EIR text. Verbatim written comments made during the Draft EIR public review period (March 23, 2016 through May 9, 2016) and the transcript of the public hearing held on April 21, 2016 can be found in Section 9.2 of this Chapter.

Where appropriate, in response to the comments received, the text of the EIR has been revised. These text changes are identified in Section 8.2 of this chapter within the response to the specific comments which resulted in the change and are cataloged together in Section 8.3. Text additions are indicated by <u>underlined text</u>. Modified text is indicated by the use of ~~strike-through text~~.

8.1 Index to Comments and Responses

Table 8-1 lists each commenter, the page number and index code comment contained in the letter or oral testimony, and the page numbers in Section 8.2 where the responses can be found.

TABLE 8-1
COMMENTS ON THE DRAFT EIR
INDEX BY COMMENTER

Commenter	Index Code	Issue	Page
Governor's Office of Planning and Research, State Clearinghouse, Scott Morgan, Director Letter dated May 9, 2016	OPR-1	Compliance with State Clearinghouse Review	8-8
City and County of San Francisco, Historic Preservation Commission Letter dated April 6, 2016	HPC-1	Design criteria.	8-11
City and County of San Francisco, Department of Public Health, Barbara A. Garcia MPA, Director of Health Letter dated May 6, 2016	DPH-1	Interim parking relief plan.	8-13
	DPH-2	Interim parking relief plan.	8-13
	DPH-3	Off-site parking.	8-14
San Francisco Municipal Transportation Agency, Charles Rivisplata Letter dated May 6, 2016	MTA-1	TDM mitigation measures.	8-17
	MTA-2	TDM mitigation measures.	8-17
	MTA-3	Project description.	8-17
	MTA-4	TDM mitigation measures.	8-17
	MTA-5	Intersection turning movement counts.	8-17
	MTA-6	Transportation impact mitigation.	8-17
City and County of San Francisco, Planning Department, Sarah Jones, Environmental Review Officer Letter dated May 9, 2016	SFP-1	Construction traffic improvement measure.	8-21
	SFP-2	Parking supply and demand.	8-21
	SFP-3	TDM mitigation measures.	8-21
	SFP-4	Off-site parking.	8-21
	SFP-5	Impact TRAF-2 conclusion.	8-22
	SFP-6	TDM mitigation measures and improvement measure.	8-22
	SFP-7	Ground floor retail.	8-22
	SFP-8	TDM mitigation measures.	8-22
	SFP-9	Construction mitigation.	8-22
	SFP-10	23rd Street pedestrian improvements.	8-23
	SFP-11	TDM mitigation measures.	8-23
	SFP-13	Impacts of variants.	8-23

TABLE 8-1 (Continued)
COMMENTS ON THE DRAFT EIR
INDEX BY COMMENTER

Commenter	Index Code	Issue	Page
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	SFP-15	TDM mitigation measures.	8-23
	SFP-16	VMT criteria.	8-24
	SFP-17	Pedestrian and bicycle safety.	8-24
"SFGH Neighbors" Letter dated May 9, 2016	NEI-1	Retrofit alternative.	8-31
	NEI-2	Lead agency, baseline & applicability of 2008 ZSFG EIR.	8-31
	NEI-3	Significance thresholds & cumulative impacts.	8-32
	NEI-4	Retrofit alternative.	8-33
	NEI-5	Backfill of DPH & UCSF space.	8-33
	NEI-6	SFGH Historic District impacts.	8-33
	NEI-7	Design guidelines.	8-33
	NEI-8	Aesthetics & historic impacts.	8-34
	NEI-9	Project description – parking garage & cumulative impacts.	8-34
	NEI-10	Project description – parking garage & TDM mitigation.	8-34
	NEI-11	TDM mitigation measures.	8-34
	NEI-12	Parking garage impacts.	8-34
	NEI-13	Parking garage consistency with San Francisco plans.	8-35
	NEI-14	Discretionary approvals & land use consistency.	8-35
	NEI-15	TDM mitigation measures.	8-35
	NEI-16	Baseline & cumulative impacts.	8-36
	NEI-17	TDM mitigation measures.	8-36
	NEI-18	TDM mitigation measures.	8-37
	NEI-19	2008 ZSFG EIR mitigation monitoring.	8-37
	NEI-20	TDM mitigation measures.	8-37
	NEI-21	TDM mitigation measures.	8-37
	NEI-22	U.S. 101 off-ramp impact.	8-38
	NEI-23	Employee trip generation rates & survey.	8-38
	NEI-24	Employee trip generation rates & survey.	8-38
	NEI-25	Employee trip generation & parking demand.	8-39
	NEI-26	Parking shortfall & CEQA.	8-39
	NEI-27	Residential parking zones & parking pricing.	8-39

TABLE 8-1 (Continued)
COMMENTS ON THE DRAFT EIR
INDEX BY COMMENTER

Commenter	Index Code	Issue	Page
"SFGH Neighbors" (cont.)	NEI-28	TDM mitigation measures.	8-39
	NEI-29	Residential parking zones & parking pricing.	8-40
	NEI-30	25th Street pedestrian crossing.	8-40
	NEI-31	Summary of comments.	8-40
Potrero Boosters Neighborhood Association, J.R. Eppler, President	PBNA-1	Open space impacts.	8-51
Letter dated May 9, 2016	PBNA-2	Open space impacts.	8-51
Jeremy Battis	JB-1	New hospital construction impacts.	8-53
Letter dated April 3, 2016	JB-2	Potrero Avenue construction project.	8-53
	JB-3	Off-site alternative.	8-53
	JB-4	Existing ZSFG impacts.	8-53
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8.2 Comments and Responses

This section includes the full text of each comment letter and email received during the public review of the EIR. Each comment in the individual letters and emails is marked in the right-hand margin with an identifying comment number. The responses to each comment are presented in the text that follows the comment letter. Each response is indexed to correspond to the appropriate comment number. This section also includes the full transcript of the Public Hearing held on April 21, 2016.

Comment Letter OPR

STATE OF CALIFORNIA

GOVERNOR'S OFFICE *of* PLANNING AND RESEARCH

STATE CLEARINGHOUSE AND PLANNING UNIT

EDMUND G. BROWN JR.
GOVERNOR

KEN ALEX
DIRECTOR

May 9, 2016

Diane Wong
Regents of the University of California
654 Minnesota Street
San Francisco, CA 94143

Subject: UCSF Research Building and City Parking Garage Expansion at the San Francisco General Hospital Campus
SCH#: 2015102010

Dear Diane Wong:

The State Clearinghouse submitted the above named Draft EIR to selected state agencies for review. The review period closed on May 6, 2016, and no state agencies submitted comments by that date. This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. OPR-1

Please call the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process. If you have a question about the above-named project, please refer to the ten-digit State Clearinghouse number when contacting this office.

Sincerely,

Scott Morgan
Director, State Clearinghouse

Comment Letter OPR

SCH# 2015102010
Project Title UCSF Research Building and City Parking Garage Expansion at the San Francisco General Hospital Campus
Lead Agency University of California, Regents of the

Type EIR Draft EIR

Description UCSF proposes to develop a research building on the site of a surface parking lot on the San Francisco General Hospital (SFGH) campus along Twenty-Third Street. UCSF would enter into a long-term ground lease with the City of San Francisco for the parking lot. The proposed research building would be about 175,000 gross sf, and five-stories in height, plus a mechanical penthouse. The building height would be about 80 feet to the top of the fifth story, plus an additional 12 feet to accommodate rooftop mechanical equipment. The proposed project also includes the expansion of the SFGH parking garage, owned and operated by the Parking Authority of San Francisco, located a block to the south of 2500 Twenty-Fourth Street. Up to 527 additional parking spaces and up to 5,000 sf of ground floor retail space could be constructed.

Lead Agency Contact

Name Diane Wong
Agency Regents of the University of California
Phone 415 502 5952 **Fax**
email
Address 654 Minnesota Street
City San Francisco **State** CA **Zip** 94143

Project Location

County San Francisco
City San Francisco
Region
Lat / Long
Cross Streets Twenty-Third Street and Vermont Street
Parcel No. 4154-001 & 4213-001
Township **Range** **Section** **Base**

Proximity to:

Highways US 101, I-280
Airports No
Railways Caltrain
Waterways San Francisco Bay
Schools multiple
Land Use Public Use / 105-E Height and Bulk District / 40-X

Project Issues Aesthetic/Visual; Air Quality; Archaeologic-Historic; Noise; Traffic/Circulation; Landuse; Cumulative Effects; Other Issues

Reviewing Agencies Resources Agency; Department of Fish and Wildlife, Region 3; Department of Parks and Recreation; Department of Water Resources; Office of Emergency Services, California; Caltrans, Division of Aeronautics; California Highway Patrol; Caltrans, District 4; Air Resources Board; Regional Water Quality Control Board, Region 2; Native American Heritage Commission; Public Utilities Commission

Date Received 03/23/2016 **Start of Review** 03/23/2016 **End of Review** 05/06/2016

Note: Blanks in data fields result from insufficient information provided by lead agency

Governor's Office of Planning and Research, May 9, 2016

Response to Comment OPR-1: Compliance with State Clearinghouse CEQA Review

The Office of Planning and Research acknowledges that UCSF has complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to CEQA.

SAN FRANCISCO
PLANNING DEPARTMENT

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DATE:	April 6, 2016
TO:	Diane Wong, University of California Campus Planning
FROM:	Historic Preservation Commission (HPC)
REVIEWED BY:	Tina Tam, Senior Preservation Planner, (415) 558-6325
RE:	**Meeting Notes - Review and Comment on the Draft Environmental Impact Report (DEIR), UCSF Research Building and City Parking Garage Expansion at the Priscilla Chan and Mark Zuckerberg San Francisco General Hospital and Trauma Center Campus Case No. 2013.0225U**

At the request of the UCSF, the Historic Preservation Commission (HPC) was asked to review and comment on the *Draft Environmental Impact Report, UCSF Research Building and City Parking Garage Expansion at the Priscilla Chan and Mark Zuckerberg San Francisco General Hospital and Trauma Center Campus* (March 2016).

The HPC appreciates the response to the ARC Comments, and concurs with the revisions to the Design Criteria for the UCSF Research Building. The HPC has reviewed the DEIR, and concurs with the findings and analysis presented within the Cultural and Paleontological Resources section.

HPC-1

City and County of San Francisco, Historic Preservation Commission, April 6, 2016

Response to Comment HPC-1: Design Review

The Historic Preservation Commission concurs with the findings and analysis of the Draft EIR regarding Cultural and Paleontological Resources. Thank you for your comment.

City and County of San Francisco
Edwin M. Lee, Mayor

Department of Public Health
Barbara A. Garcia, MPA
Director of Health

May 6, 2016

Diane Wong
Principal Planner/Environmental Coordinator
UCSF Campus Planning
654 Minnesota Street, 2nd Floor
San Francisco, CA 94143-0286

Dear Ms. Wong:

An interim Parking Relief Plan (Plan) will need to be implemented during construction of the research building (Project). UCSF and DPH will collaborate on developing the Plan which will provide for a temporary off-site parking lot with shuttle service to the hospital. This off-site lot will be used by both City and UCSF staff that currently have monthly parking permits at ZSFG. Parking and shuttle services will be offered at no cost to staff in exchange for relinquishing their monthly parking permits. At a minimum, the total number of parking spaces set aside for UCSF and City staff will be equal to the number of parking spaces displaced by the project. UCSF will also provide for off-site parking for all contractor construction crews, project management staff and any employees working directly on the construction of the research building. There will be no onsite parking provided for staff or contractors working on the Project. If an insufficient number of monthly parking permits are relinquished (must be equal to the number of parking spaces displaced by the project), additional measures (to be determined) will need to be implemented. DPH-1

The Plan will also include measures to preserve a number of existing ADA and patient parking spaces on the B/C parking lot during construction of the Project. The Plan for these spaces must ensure that there will be no impact to the construction of either the proposed new Research Facility or the planned construction on the existing (Building 5) main hospital. The Plan will incorporate each of the project schedules including coordination of temporary site work construction; designation of mobilization areas for materials and temporary utilities; emergency and fire access to the site; and operational access, by patients and visitors, to the existing (Building 5) main hospital. The Plan's strategies to accommodate ADA parking may be subject to review and approval by the Mayor's Office of Disability. The total number of parking spaces DPH-2

provided for patient and visitor parking at ZSFG will not be diminished at any time by the Project construction. DPH-2 cont.

The Parking Relief Plan will also need to delineate alternative strategies for handling the loss of parking in the event expansion of the parking garage is not approved. This may include acquisition of a permanent long-term off-site lot. This idea should be added to the project description as a possible component of this project, and UCSF should make sure it has taken this idea into account in its analysis. DPH-3

Sincerely,

Barbara A. Garcia, MPA
Director of Health

City and County of San Francisco, Department of Public Health, May 6, 2016

Response to Comment DPH-1:

This comment suggests a strategy for providing temporary off-site parking connected to ZSFG via shuttle to replace the parking spaces on the B/C Lot, which would no longer be available when construction of the research building begins.

This is not a comment on the Draft EIR analysis. As indicated in the comment, UCSF and DPH will collaborate on developing the interim Parking Relief Plan. However, the strategies suggested in the comment letter have not yet been agreed to by both parties. The Draft EIR assumes that UCSF will provide a temporary off-site parking supply to replace the B/C Lot in advance of the research building construction, including at the UCSF Mission Bay campus site, which would be available for UCSF contractors and UCSF employees. Construction workers would ride UCSF shuttles to the ZSFG campus.

As part of negotiations with the City regarding the ground lease of the B/C Lot, UCSF is considering whether it can accommodate temporary City employee parking as well at the Mission Bay campus site during construction of the research building.

Response to Comment DPH-2:

See Response DPH-1. UCSF and DPH will collaborate on developing the interim Parking Relief Plan. However, the strategies suggested in the comment letter have not yet been agreed to by both parties. Because the project is located in an infill development area and a priority development area, a parking shortfall is not considered an impact for this project. (Public Resources Code Section 21099(d)(1)) Further, while the Draft EIR does not address whether patient or visitor parking is reduced during construction, if it were reduced, no impacts would result that were not already examined in the Draft EIR. Specifically, under Variant 4 (No Garage Expansion), trip making to ZSFG would increase, but parking supply was not commensurately increased. Therefore, no other impacts would result that were not already examined or disclosed in the Draft EIR.

Response to Comment DPH-3:

The Draft EIR includes a No Garage Expansion Alternative (Variant 4), which analyzes conditions in the event that the UCSF research building project moves forward but the garage expansion project does not proceed. The analysis states that under this alternative, vehicles in excess of the current capacity of the garage would park on-street surrounding the ZSFG campus or outside of the project study area.

Regarding the comment that the EIR should take into account the potential acquisition of a permanent long-term off-site parking lot, no off-site parking location has been identified or acquired. Up until recently, the Department of Public Health utilized a remote parking lot at

2000 Marin Street near Cesar Chavez Street for contractor parking associated with the construction of the ZSFG hospital, and for off-site employee parking. That facility is no longer available for parking.

Should another off-site parking lot be identified, it would have separate, independent utility from the research building project and would therefore be subject to separate environmental review. As noted in Response to Comment DPH-2, the parking shortfall is not considered an impact for this project. Development of an off-site parking facility would at most involve modest construction activities such as paving and striping, and possibly some lighting. Any impacts from such construction activities would be expected to be within the range of identified construction impacts associated with the research building. Operational impacts would be generally similar to Variant 4, as it is already assumed that drivers would park away from the hospital site if insufficient parking is available at the ZSFG campus. As no specific off-site parking location has been identified or acquired, it would be speculative at this time to analyze, beyond the discussion above, whether use of such a facility would result in different environmental impacts beyond those identified for the project.

MEMORANDUM

DATE: **May 6, 2016**

FROM: **Charles Rivasplata, SFMTA**

TO: **Diane Wong, UCSF**

RE: **UCSF Research Building/Garage at San Francisco General Hospital (SFGH): Comments on the Environmental Impact Report (EIR)**

Staff at the SFMTA has reviewed the March 2016 Environmental Impact Report (EIR) for the University of California, San Francisco (UCSF) Research Building and Garage at San Francisco General Hospital (SFGH). Staff comments on the transportation-related items discussed in the EIR are included below.

SPECIFIC COMMENTS:

Page 2-20, Mitigation Measure TR-3. Under "Transit and Shuttle Systems" measures, identify the need for DPH, SFMTA and UCSF to jointly study the effective use of Transportation Network Companies as a "last-mile" alternative. MTA-1

Page 2-21, Mitigation Measure TR-3. Under "Commute Trip Reduction" measures, add the following: MTA-2

- Consider providing Muni passes to UCSF employees;
- Promote bicycle safety along 23rd St. and Potrero Ave., in order to prevent conflicts with cars;
- Provide signage indicating the location of bicycle parking at points of access;
- Provide free or subsidized bikeshare membership to all employees;
- Provide free or subsidized carshare membership to all employees; and
- Facilitate access to carshare spaces through on-site signage.

Page 3-12, First Paragraph. In order to give full consideration to Variant 4, substitute "would" with "could" on the first line (e.g., "The project could include an expansion of the existing ZSFG parking garage…"). MTA-3

Page 4.2-32, Second Paragraph. Include a list of the transportation control measures (TCMs) to be implemented by the proposed project. MTA-4

Page 4.7-6, Second Paragraph (Intersection Operating Conditions). Provide the date/month/year that the 13 study intersections were evaluated. MTA-5

Page 4.7-42, Second Paragraph. In light of the fact that the project could significantly contribute to adverse conditions at the 24th St./Potrero Ave. intersection, discuss additional improvement measures (e.g., TDM elements of Mitigation Measure TR-3) that could be implemented to soften these impacts. MTA-6

San Francisco Municipal Transportation Agency, May 6, 2016

Response to Comment MTA-1:

Mitigation Measure TR-3 was edited to clarify that this measure applies to DPH. See Section 8.3, *Text Changes*, for revisions to Mitigation Measure TR-3.

Response to Comment MTA-2:

UCSF appreciates the additional TDM measures suggested by SFMTA. Mitigation Measure TR-3 was edited to include the additional "Commute Trip Reduction" measures that can be considered at this time. See Section 8.3, *Text Changes*, for revisions to Mitigation Measure TR-3.

Response to Comment MTA-3:

The first sentence of the first paragraph on page 3-12 of the Draft EIR is revised as follows to acknowledge that implementation of Variant 4 would not include expansion of the existing ZSFG parking garage.

> The project ~~would~~ could include an expansion of the existing ZSFG parking garage, of approximately 307 parking spaces.

Response to Comment MTA-4:

As stated on page 4.2-32 of the Draft EIR, transportation control measures are implemented by the *San Francisco General Plan* and the Planning Code through the City's Transit First Policy, the bicycle parking requirements, and transit impact development fees. As discussed in Section 4.7, *Transportation and Traffic*, UCSF and DPH already implement separate Transportation Demand Management programs which are de facto control measures. Additional control measures are identified in Mitigation Measure TR-3 and would apply to UCSF and DPH employees and ZSFG patients/visitors. Specifically, this mitigation measure requires UCSF and DPH to coordinate and each implement the following policies to the extent feasible (Note that this response includes additions reflected in Responses to Comments MTA-1, MTA-2, SFP-11, and SFP-12):

- Parking Policy/Pricing
  - Adjust hourly parking rate structure to discourage all-day parking and provide spaces for patients/visitors (Parking Authority)
  - In order to discourage driving, increase hourly and monthly parking rates to be more in line with prevailing San Francisco market rates (Parking Authority)
- Transit and Shuttle Systems
  - Expand UCSF and DPH Shuttle Service to Caltrain, Transbay Transit Terminal (applies to UCSF and DPH; would require coordination with SFMTA)
  - Maintain a dialogue with SFMTA regarding ZSFG's strong desire to see that the transit connection between the Mission District and the ZSFG campus remains (applies to UCSF and DPH; would require coordination with SFMTA)

  - Allow patients/visitors to ride DPH Shuttle and advertise the shuttle as a last-mile option (applies to DPH)
  - Expand additional last-mile service by alternate means, including reimbursing employees for taxi use or ride hail companies as a bridge from transit stations (applies to DPH).
  - Add Bike racks on DPH shuttles (applies to DPH)

- Commute Vehicle Trip Reduction
  - Hire a TDM Program Manager for ZSFG to meet modal goals (applies to DPH)
  - Expand number of car share vehicles on-site (applies to DPH)
  - Create more robust carpool matching program (applies to UCSF and DPH)
  - Create a vanpool service or coordinate with the existing UCSF vanpool (applies to DPH)
  - Provide showers and locker facilities on campus and in the new UCSF Research Building (applies to UCSF and DPH)
  - Install Bay Area Bike Share Station on campus (applies to DPH)
  - Install transportation kiosk(s) overseen by the new TDM Program Manager (applies to DPH)
  - Advertise existing pre-tax commuter accounts (applies to UCSF and DPH)
  - Promote bicycle safety along 23rd Street and Potrero Avenue to prevent conflicts with vehicles (applies to DPH)
  - Provide signage indicating the location of bicycle parking at points of access (applies to DPH)
  - Facilitate access to carshare spaces through on-site garage (applies to DPH)

Response to Comment MTA-5:

The following intersection turning movement counts were collected in April, November, and December 2013 on mid-week and non-holiday days when schools were in session, as noted in the *Proposed Research Building and Garage Expansion at Zuckerberg San Francisco General Hospital Transportation Study*, Appendix C of the Draft EIR. With the exception of the opening of the new hospital, which is accounted for in the transportation analysis, there have not been any substantive land use or transportation infrastructure changes in the project area that would have changed the amount of traffic or circulation patterns any more than typical daily fluctuations, which can be plus or minus 10%. Because there have been no substantial changes to traffic conditions in the area, these counts adequately reflect current roadway conditions at the time of analysis.

- Potrero/20th: 11.06.13
- Potrero/22nd (N): 04.09.13
- Potrero/22nd (S): 04.09.13
- Potrero/23rd (S): 04.09.13
- Utah/23rd: 11.06.13

- San Bruno/23rd: 11.06.13
- Vermont/23rd: 11.06.13
- Potrero/24th (S): 04.09.13
- Utah/24th: 11.06.13
- South Driveway/24th: 12.12.13
- Potrero/25th (S): 04.09.13

Response to Comment MTA-6:

The Draft EIR identifies three Mitigation Measures: TR-1, TR-2, and TR-3 to mitigate the significant transportation impact at the intersection of Potrero Avenue / 24th Street.

The first, TR-1, identifies specific physical design changes that could be taken to reduce the impact to less than significant. Because UCSF and DPH do not have the authority to implement it without SFMTA's approval and assistance, which is unknown at this time, among other reasons, additional measures were identified.

TR-2, would open the 23rd Street exit of the 23rd Street Garage during the PM peak period, and thus reduce the amount of vehicles traveling through the intersection of Potrero Avenue / 24th Street and reduce the impact. However, similar to TR-1, it relies on the approval and assistance of SFMTA, which is unknown at this time; further, it is of unknown effectiveness because of uncertainty over the number of vehicles that would choose this exit.

TR-3 requires UCSF and DPH to pursue potential TDM strategies to reduce single occupancy travel to/from ZSFG. UCSF and DPH staff have worked collaboratively as well as in conjunction with SFMTA in order to develop the list of potential TDM measures included in TR-3. Please see Response to Comment SFP-3 for a list of these potential TDM measures. While TR-3 can reduce traffic impacts, even full implementation of Mitigation Measure TR-3 with identified feasible elements would not fully eliminate the significant impact at this intersection for the project and Variants 1 to 3.

Together, TR-1, TR-2, and TR-3 span the breadth of potential mitigation measures, from physical design changes to programmatic changes. The development of TDM strategies as part of TR-3 has been vetted and developed in consultation with City agencies, including SFMTA and the San Francisco Planning Department. UCSF, DPH, and SFMTA staff are currently drafting an additional Modal Performance document to be used in implementation of TR-3. While TR-3 can reduce traffic impacts, even full implementation of Mitigation Measure TR-3 with identified feasible elements would not fully eliminate the significant impact at this intersection for the project and Variants 1 to 3. However, implementation of the full suite of TDM strategies identified in TR-3 would reduce the impact to less than significant under Variant 4 (No Garage Expansion). UCSF and DPH alone cannot implement TR-1 and TR-2, as the concurrence of SFMTA is required and uncertain. As only TR-1 is known to be fully effective, the Draft EIR identifies the impact as significant and unavoidable, even with implementation of TR-3.

SAN FRANCISCO
PLANNING DEPARTMENT

MEMO

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DATE: May 9, 2016

TO: Diane Wong, UCSF Campus Planning

FROM: Sarah Jones, Environmental Review Officer

RE: Comments on the Draft Environmental Impact Report for the UCSF Research Building and City Parking Garage Expansion at the Priscilla Chan and Mark Zuckerberg San Francisco General Hospital and Trauma Center Campus

Dear Ms. Wong,

Thank you for the opportunity to review the *Draft Environmental Impact Report* for the proposed *UCSF Research Building and City Parking Garage Expansion at the Priscilla Chan and Mark Zuckerberg San Francisco General Hospital and Trauma Center Campus*. The Planning Department offers the following comments. Please feel free to contact Kansai Uchida with any questions or concerns, at (415) 575-9048 or kansai.uchida@sfgov.org.

Planning Department Comments

1) **Chapter 2, Page 2-2.** End of first paragraph says that the proposed project includes implementation of two traffic improvement measures. However, the measures are not identified here, and do not appear to be set out in Chapter 3, Project Description. Please either delete this reference to improvement measures or briefly explain here what they concern, describe them in more detail in Chapter 3, Project Description, and set them out in full in Chapter 4, Section 4.7, Transportation. SFP-1
2) **Chapter 2, Pages 2-2 to 2-3.** The text says that one of the parking garage expansion objectives is to enhance the existing TDM program and lessen auto traffic in and around the campus consistent with the City's Transit First Policy. Parking garage expansion is a supply-side measure, rather a demand management measure, which would not lessen auto traffic or promote transit ridership. This point should be clarified. SFP-2
3) **Chapter 2, Page 2-3.** Top of the page states that a project objective for the parking garage is to enhance the existing TDM program. However, neither the summary nor Chapter 3, Project Description, describes the elements or possible elements of an enhanced TDM program. SFP-3
4) The Final EIR should consider whether any possible mitigation or improvements measures could have impacts. The TDM measures discussed in Appendix B, ZSFG TDM Plan Memorandum ("TDM Memorandum"), in Appendix C, Draft EIR, Tranportation Impact Study (TIS), include providing a long-term off-site SFP-4

parking lot for employee use, with shuttle service to the ZSFG. Such a proposal could have construction or operational impacts associated with it. Any impacts associated with any of the possible TDM measures should be discussed in the final EIR. SFP-4 cont.

5) **Chapter 2, page 2-19.** Mitigation Measure TR-1 should include language that says it would be effective to reduce the impact related to transportation to a less than significant level, but is potentially infeasible as it is not within the control of UCSF, but rather SFMTA, to implement. Likewise, Mitigation Measures TR-2 and TR-3 should state any difficulties with effectiveness and implementation (are they fully effective; who would need to implement; are they therefore infeasible for UCSF to implement). SFP-5

6) **Chapter 3, Section 3.6.2.** While page 3-8 repeats the Summary statement to the effect that a project objective is to enhance the campus TDM program, this section should but does not describe these enhancements. Understanding that they may be uncertain, the solution is to describe everything that might be included, so the document has a complete Project Description. There also appears to be no mention of traffic improvement measures that are part of the project. If such measures are to be implemented, they should be described somewhere in Chapter 3. SFP-6

7) **Chapter 4, pages 4.5-9 and 4.5-12.** If the parking garage is expanded, the Planning Department supports inclusion of retail at the ground floor of the 24th Street frontage in order to provide consistency with the adjoining neighborhood commercial district, based on the land use impact analysis on pages 4.5-9 and 4.5-12. SFP-7

8) **Chapter 4, page 4.7-1.** Section 4.7.2.1 appears to contain the only reference in the document to the possible future TDM program by referencing an appendix to an appendix (Appendix B, ZSFG TDM Plan Memorandum ("TDM Memorandum"), in Appendix C, Draft EIR, Tranportation Impact Study (TIS)) for an explanation of possible additional TDMs that are under consideration. Assuming enhanced TDM may be adopted as part of the project, they should be described in the Project Description, and cross-referenced here. Here or in the Project Description, the document should clarify that in the transportation analysis, no additional TDM were assumed to be in place. Thus, the document should clarify that to the extent enhanced TDM are implemented as part of the project, project transportation effects would be improved to some degree, presumably, similarly to Mitigation Measure TR-3. SFP-8

9) **Chapter 4, page 4.7-21**. This page lists an improvement measure, IM-TR-1 Construction Coordination and Monitoring Measures. Please clarify whether UCSF intends to implement this improvement measure (and the other improvement measures) as part of the proposed project. For all improvement SFP-9

measures, please clarify that, even if the improvement measure is not implemented, impacts would still be less than significant. SFP-9 cont.

10) **Chapter 4, page 4.7-25.** Mitigation Measure TR-2 identifies some pedestrian safety features to be implemented as part of a traffic mitigation measure, where the 23rd Street garage vehicle exit would be used during the PM peak period. UCSF should explore similar pedestrian safety improvements along 23rd Street between Utah Street and San Bruno Avenue, particularly at crosswalks, to facilitate new pedestrian movements between the proposed research building and the existing garage even if the 23rd Street vehicle exit is not used. SFP-10

11) **Chapter 4, page 4.7-26.** The Planning Department supports inclusion of the Transportation Demand Management (TDM) mitigation measure, in an effort to reduce single-occupancy vehicle trips and offset the potential trip-related impacts of the proposed project. UCSF should implement as many of the proposed measures as is feasible. The heading "Commute Trip Reduction" in MM TR-3 should be revised to read "Commute Vehicle Trip Reduction" to emphasize that the goal is to shift mode choice away from solo driving, rather than reduce the overall number of commute trips. SFP-11

12) **Chapter 4, page 4.7-26.** Mitigation Measure TR-3, Implement Additional TDM Strategies to Reduce Single Occupancy Vehicle Trips, contains many of the same measures that are described in the TDM Memorandum. If any of the enhanced TDM measures in the TDM Memorandum may be adopted as part of the project, the Final EIR should explain in Chapter 4, how Mitigation Measure TR-3 relates to these enhanced TDM measures. SFP-12

13) **Chapter 4, page 4.7-27.** The statement at the end of the Mitigation Measures TR-1 through TR-3 is clear, but elsewhere in the document, the effectiveness or feasibility of these mitigation measures is not clearly set out (see for example, page 4.7-28). Please review statements throughout the document concerning any of these mitigation measures and make certain that the document describes their effectiveness and feasibility in a consistent manner. SFP-13

14) **Chapter 4, page 4.7-28, VMT Reform to CEQA**. This section should set out more clearly the criteria adopted by the City in March 2016 concerning VMT. While the State's proposed approach applicable to the project is set out on page 4.7-29, and one element of the City's criteria is described, this section does not, but should, set out with clarity the criteria adopted by the City. The Planning Department's staff report regarding adoption of the VMT criteria is available at: http://commissions.sfplanning.org/cpcpackets/Align-CPC%20exec%20summary_20160303_Final.pdf. SFP-14

15) **Chapter 4.7-31 and 32.** Mitigation Measure TR-3 is credited with further helping to reduce approach delay for transit. Assuming the project may include enhanced TDM measures, the text should also note that if enhanced TDM measures are adopted as part of the project, they would have a similar effect to implementation SFP-15

of Mitigation Measure TR-3. Similar clarification should be added elsewhere in the document where Mitigation Measure TR-3 is discussed, for example, page 4.2-32, Air Quality section. SFP-15 cont.

16) **Chapter 4, page 4.7-28.** The "VMT Reform to CEQA" section should incorporate current research regarding how providing more off-street parking spaces can increase the auto mode share and vehicle miles travelled (VMT) generated by a project. Available research includes: Chris McCahill, et al., "Effects of Parking Provision on Automobile Use in Cities: Inferring Causality," Transportation Research Board, November 13, 2015 (available online at: http://www.cows.org/_data/documents/1761.pdf) SFP-16

17) **Chapter 4, page 4.7-33 and 4.7-34.** As further work focused on driveway, bicycle, and pedestrian access to the project site proceeds, UCSF should include features to promote safety and minimize conflicts between modes through design. For example, garage and driveway entrances and exits should be designed such that approaching pedestrians and bicycles are clearly visible to motorists, and vehicle speeds on the project site should be controlled through traffic calming design features. This topic should be added to the discussion of impacts TRAF-4 (page 4.7-33) and TRAF-5 (page 4.7-34), given that the proposed project would increase the number of vehicle trips to the hospital campus. SFP-17

City and County of San Francisco, Planning Department May 9, 2016

Response to Comment SFP-1:

The last sentence of the first paragraph on page 2-2 of the Draft EIR is revised as follows regarding the implementation of traffic improvement measures.

> The proposed project also includes implementation of ~~two~~ one traffic improvement measure~~s~~ (IM-TR-1) that would require preparation and implementation of a traffic control plan during project construction as well as notification on a regular basis to nearby residences, institutions, and businesses of construction activities. The improvement measure is provided under Impact TRAF-1 on page 4.7-21.

Response to Comment SFP-2:

The City's garage expansion project seeks to strike a balance between providing sufficient parking supply to meet critical needs at the campus, while limiting to the extent feasible the projected substantial increase in parking demand in the future. Currently, demand for parking exceeds supply, as evidenced by the existing garage and neighborhood on-street parking being at full capacity during peak hours. The proposed UCSF research building would displace about 130 parking spaces, and would increase parking demand by about 72 parking spaces. The ZSFG Hospital Rebuild project and the City's backfill of vacated space in the future would result in an additional peak parking demand of nearly 800 spaces in the long term (see Draft EIR page 4.7-46).

As discussed under Project Objectives (bottom of page 2-2), one of the objectives of the proposed garage expansion is to provide sufficient parking to accommodate the anticipated loss of parking supply and increase in parking demand. The proposed parking garage expansion of 307 spaces (or up to 527 spaces under Variant 2), would still not be sufficiently large to accommodate all of the parking demand anticipated. Thus, the garage expansion project includes an enhanced TDM program to encourage staff, visitors, and patients to use alternative means of transportation to limit the demand for parking.

Response to Comment SFP-3:

While further investigation into the enhanced TDM measures is necessary, the Draft EIR Project Description on page 3-12 is revised to include the following. (Note that the text changes also include additions reflected in Responses to Comments MTA-1, MTA-2, SFP-11, and SFP-12). To the extent enhanced TDM measures are implemented as part of the project, transportation impacts would be less than described in the Draft EIR.

> TDM planning coordination among UCSF, DPH, and SFMTA staff and transportation consultants yielded a list of potential TDM strategies that could be pursued in addition to those already in place to reduce single-occupant vehicle trips for UCSF and DPH employees.

As part of the proposed project, these enhanced TDM measures, described in Mitigation Measure TR-3 (Draft EIR page 4.7-26 to 4.7-27), and in more detail in the Transportation Impact Study Appendix B: ZSFG TDM Plan Memorandum, will be implemented to the extent feasible. These enhanced TDM measures include:

- **Parking Policy/Pricing**
  - Adjust hourly parking rate structure to discourage all-day parking and provide spaces for patients/visitors (Parking Authority)
  - In order to discourage driving, increase hourly and monthly parking rates to be more in line with prevailing San Francisco market rates (Parking Authority)

- **Transit and Shuttle System**
  - Expand UCSF and DPH Shuttle Service to Caltrain, Transbay Transit Terminal (applies to UCSF and DPH; would require coordination with SFMTA)
  - Maintain a dialogue with SFMTA regarding ZSFG's strong desire to see that the transit connection between the Mission District and the ZSFG campus remains (applies to UCSF and DPH; would require coordination with SFMTA)
  - Allow patients/visitors to ride DPH Shuttle and advertise the shuttle as a last-mile option (applies to DPH)
  - Expand additional last mile service by alternate means, including reimbursing employees for taxi use or ride hail companies as a bridge from transit stations (applies to DPH).
  - Add Bike racks on DPH shuttles (applies to DPH)

- **Commute Vehicle Trip Reduction**
  - Hire a TDM Program Manager for ZSFG to meet modal goals (applies to DPH)
  - Expand number of car share vehicles on-site (applies to DPH)
  - Create more robust carpool matching program (applies to UCSF and DPH)
  - Create a vanpool service or coordinate with the existing UCSF vanpool (applies to DPH)
  - Provide showers and locker facilities on campus and in the new UCSF Research Building (applies to UCSF and DPH)
  - Install Bay Area Bike Share Station on campus (applies to DPH)
  - Install transportation kiosk(s) overseen by the new TDM Program Manager (applies to DPH)
  - Advertise existing pre-tax commuter accounts (applies to UCSF and DPH)
  - Promote bicycle safety along 23rd Street and Potrero Avenue to prevent conflicts with vehicles (applies to DPH)
  - Provide signage indicating the location of bicycle parking at points of access (applies to DPH)
  - Facilitate access to carshare spaces through on-site garage (applies to DPH)

Response to Comment SFP-4:

Mitigation Measures TR-1, TR-2, and TR-3 were reviewed for secondary impacts, vetted, and developed in consultation with City agencies, including SFMTA and the San Francisco Planning Department prior to inclusion in the Draft EIR. The "long term off-site parking lot for employees use" measure noted in the comment was previously singled out for removal as part of this review process, but accidentally remained a part of the list of potential measures included in the Appendix of the TIS. It will be removed consistent with the comment. UCSF, DPH, or SFMTA may pursue this strategy in the future as part of a separate process, but have not indicated any willingness to do so as part of this environmental review process. As noted in Response to Comment DPH-3, no specific off-site parking location has been identified or acquired. See also Response to Comment DPH-3, above.

Response to Comment SFP-5:

The last column of Impact TRAF-2 in Table 2-1 on page 2-19 of the Draft EIR ("Level of Significance After Mitigation") is revised as follows to clearly indicate why the impact would remain significant and unavoidable for the project and Variants 1 to 3.

> Significant and Unavoidable
>
> Mitigation Measure TR-1 would reduce the impact to less than significant, but UCSF and DPH do not have the authority to implement it without SFMTA's approval and assistance, which is unknown at this time.
>
> The effectiveness of Mitigation Measure TR-2 to reduce the impact to less than significant is not known given the uncertainty over the volume of vehicles choosing to exit the northern egress, and UCSF does not have the authority to implement it without SFMTA's approval and assistance, which is unknown at this time.
>
> While Mitigation Measure TR-3 can reduce traffic impacts, even full implementation of TR-3 with identified feasible elements would not fully eliminate the significant impact at this intersection for the project or Variants 1 to 3. Implementation of the full suite of TDM strategies identified in TR-3 would reduce the impact at Potrero Avenue / 24th Street to less-than-significant under Variant 4.

The conclusion to Impact TRAF-2 on page 4.7-27 is similarly revised as follows:

> **Significance after Mitigation: Significant and Unavoidable.** Mitigation Measure TR-1 would reduce the impact at Potrero Avenue / 24th Street to less than significant, but UCSF and DPH do not have the authority to implement it without SFMTA's approval and assistance, which is unknown at this time. The effectiveness of Mitigation Measure TR-2 to reduce the impact at Potrero Avenue / 24th Street to less than significant is not known given the uncertainty over the volume of vehicles choosing to exit the northern egress, and UCSF does not have the authority to implement it without SFMTA's approval and assistance, which is unknown at this time. While TR-3 can reduce traffic impacts, even full implementation of Mitigation Measure TR-3 with identified feasible elements would not fully eliminate the significant impact at this intersection. ~~Further, the effectiveness of Mitigation Measure TR-3 to reduce the impact at Potrero Avenue / 24th Street to less than significant is not known, as it is dependent on the amount, mixture, and schedule of feasible measures implemented by UCSF and DPH. For the above-stated reasons, the traffic impact~~

~~at the intersection of Potrero Avenue / 24th Street due to the proposed project would therefore still be considered *significant and unavoidable*.~~

Response to Comment SFP-6:

See Response to Comments SFP-3 regarding the TDM program. See Response to Comment SFP-1 regarding improvement measures.

Response to Comment SFP-7:

The San Francisco Planning Department's support for inclusion of ground floor retail if the parking garage is expanded is acknowledged.

Response to Comment SFP-8:

See Responses to Comments SFP-2 and SFP-3 regarding the TDM program.

Response to Comment SFP-9:

UCSF intends to implement IM-TR-1 as part of the project. See also Response to Comment SFP-1. The last paragraph on page 4.7-20 of the Draft EIR acknowledges that Impact TRAF-1 would be less than significant even without implementation of IM-TR-1.

Response to Comment SFP-10:

As noted in the Draft EIR, 23rd Street pedestrian improvements are identified as part of Mitigation Measure TR-2. UCSF and DPH, acting in coordination with the SFMTA, can choose to pursue the 23rd Street pedestrian improvements identified in Mitigation Measure TR-2 within or outside of the environmental review process.

Response to Comment SFP-11:

As noted in the Draft EIR, both UCSF and DPH are committed to pursuing and implementing additional TDM measures, to the extent feasible. UCSF, DPH, and SFMTA staff are currently drafting an additional Modal Performance document to be used in implementation of TR-3.

"Commute Trip Reduction" measures described under Mitigation Measure TR-3 on page 4.7-26 of the Draft EIR is revised as follows to emphasize that the goal is the reduction of single-occupant vehicle trips.

Commute <u>Vehicle</u> Trip Reduction

Response to Comment SFP-12:

The text of Mitigation Measure TR-3 was edited to include two parking-related measures from the final TDM memorandum that were in the TDM letter to the SFMTA but not included in TR-3. See Section 8.3, *Text Changes*, for revisions to Mitigation Measure TR-3.

Response to Comment SFP-13:

The statement regarding the significance of mitigation after implementation of Mitigation Measures TR-1 through TR-3for the project variants on page 4.7-28 is intended to be a summary of the significance discussion included on page 4.7-27 for proposed project impacts. The conclusion regarding the project variants is revised as follows:

> **Significance after Mitigation: Significant and Unavoidable.** ~~Because~~ Mitigation Measures TR-1 and TR-2 cannot be implemented without SFMTA's approval and assistance. However, implementation of the full suite of TDM strategies identified in Mitigation Measure TR-3 would reduce the severity of the impact at Potrero Avenue / 24th Street under Variants 1 to 3 (though the impact would remain significant), and would reduce the impact to less than significant under Variant 4 (No Garage Expansion).~~and the effectiveness of TR-3 is not known, as it is dependent on factors including the schedule, structure, and how much UCSF employees are charged to park on campus, the traffic impact at the intersection of Potrero Avenue / 24th Street due to the project Variants would be considered *significant and unavoidable*.~~

Response to Comment SFP-14:

The following is added to the first paragraph on page 4.7-29 of the Draft EIR regarding the City's newly adopted VMT criteria, as detailed in the Planning Department's staff report of March 3, 2016:

> The new criterion identifies thresholds of significance and screening criteria used to determine if a land use project would result in significant impacts under the VMT metric. For development projects, a project would generate substantial additional VMT if it exceeds the regional VMT per capita or employee for the particular use (i.e., residential, retail, or office) less 15 percent. OPR's proposed transportation impact guidelines state a project would cause substantial additional VMT if it exceeds both the existing City household VMT per capita minus 15 percent and existing regional household VMT per capita minus 15 percent. In San Francisco, the City's average VMT per capita is lower (8.4) than the regional average (17.2). Therefore, the City average is irrelevant for the purposes of the analysis. This approach is consistent with Public Resources Code Section 21099 and the thresholds of significance for other land uses recommended in OPR's proposed transportation impact guidelines.

Response to Comment SFP-15:

The following statement has been added to Mitigation Measure TR-3 (See Section 8.3, *Text Changes*, for additional revisions to Mitigation Measure TR-3):

> Additionally, implementation of other TDM strategies not included in this list would have a similar effect of reducing SOV trips to and from ZSFG.

Response to Comment SFP-16:

The following is added to the first paragraph on page 4.7-29 of the Draft EIR to incorporate research regarding off-site parking spaces, auto mode share, and VMT:

> On a national level, research has shown that increasing the ratio of parking spaces to area residents can result in an increase in auto mode share of up to 30% (McCahill et al., 2015). Recent intercept surveys conducted for the San Francisco Planning Department, found that individuals were 40 to 60% less likely to travel by automobile than individuals with dedicated parking spaces and thus generated less VMT. These results were found for both office and residential uses (Schuett et al., 2015; City of San Francisco white paper). They also generally correspond to an absolute difference in auto mode share of around 30 percentage points – the same relationship found nationally by McCahill et al.

Response to Comment SFP-17:

The following sentence is added to the last paragraph of page 4.7-33 and to the second paragraph of page 4.7-35 to mention features to promote safety and minimize conflicts between modes through design:

> UCSF will also coordinate with the SFMTA on the ultimate driveway design of the proposed project to ensure that it incorporates safety best practices, including design that promotes safety and minimizes conflicts between modes.

May 9, 2016

Ms. Dianne Wong, Environmental Coordinator
UCSF Campus Planning
654 Minnesota Street
San Francisco, CA 94143-0286

Re: UCSF Research Building and City Parking Garage Expansion at the San Francisco General Hospital Site, Comments on the Draft Environmental Impact Report

Dear Ms. Wong,

The organizations and individuals listed below submit the following comments on the Draft EIR for the proposed 175,000 square foot addition to the SFGH Campus at 1001 Potrero on the San Francisco General Hospital site. We agree that San Francisco General Hospital researchers should be housed in seismically safe buildings. However, we have serious concerns regarding several aspects of the proposed development and the DEIR, including the complete lack of consideration of seismically retrofitting the existing structures as the environmentally superior alternative. NEI-1

The DEIR is deficient in numerous material respects. We believe that the DEIR must be revised and republished in order to address numerous critical issues that have been ignored or insufficiently analyzed in this draft. Moreover, for the reasons discussed below, we suggest that the City should be the lead agency, or be co-lead agency in order to comply with its responsibilities as owner of the property, and to make consistent the analyses, significance thresholds, and mitigation commitments contained in the 2007 EIR for the new hospital (State Clearinghouse 2007082023), the Institutional Master Plan and the City Use Permit (2007.0603C) for the property upon which the proposed development is located. The inclusion of the City in the CEQA process for this proposed project would assist in assuring that the necessary approvals are appropriately conditioned, consistent with the requirements now in effect for the site, and that those conditions are in fact implemented to minimize traffic, parking noise, light/glare and historic building and district impacts. The baseline for impacts should be the existing certified EIR for the new SFGH Hospital and backfill of Building 5 (the old hospital) rather than beginning anew. Revising the DEIR to include the appropriate baselines is consistent with CEQA Guidelines that require the avoidance of conflicting documents and analyses and require that projects do not piece-meal impacts and mitigations. NEI-2

UCSF Should Not Be the Lead Agency for the Proposed Project.

UCSF should not be the lead agency because the site is City property and is covered by a San Francisco City Use Permit, Final EIR and the SFGH Institutional Master Plan that were prepared by the San Francisco Department of Public Health. We also question which environmental significance thresholds were used—UC's or San Francisco's? The EIR must make explicit its environmental significance thresholds and the assumptions relating to those thresholds. This DEIR, published by UC, does not say whether or how the requirements of the existing use permit for the new hospital would be tied into this project. These use permit conditions apply to the property and run with the land, not the applicant, and thus will apply to UCSF should the development proceed. The DEIR is deficient because it fails to analyze or address the lack of consistency between the New Hospital and Research Building EIRs, the two Institutional Master Plans, the Use Permit for the New Hospital and the Mitigation Monitoring and Reporting (MMRP) requirements.

Allowing UC to be the lead agency for this project and ignoring the prior certified EIR as the correct baseline for new additional infill development on the SFGH Campus fundamentally disconnects the impacts of the proposed project from the impacts already found for the rest of development underway on this site. The UC DEIR ignores all the significant impacts found in these prior developments at this exact site; fails to address, coordinate or otherwise harmonize all the mitigation requirements already imposed at this site, and exacerbates all the impacts previously identified in the SFGH certified EIRs for this site – especially those that were required to be mitigated.

NEI-3

The UC's DEIR is an end-run around the mounting, significant impacts of the dense development at this City-owned site. This DEIR, and its substantial deficiencies in recognizing, much less analyzing and mitigating the impacts already found, and the additional cumulative impacts caused by this final "drop in the development bucket" constitute illegal "piece-mealing" of the overall impacts of the project.

Moreover, allowing UC to function as sole lead agency and author of the DEIR impermissibly allows the City to avoid critical responsibilities under prior permits, the prior EIRs concerning the Hospital site, its Mitigation Monitoring and Reporting Plan and its Institutional Master Plan. As discussed in the Historical Structures comments below, allowing UC to be the lead agency and author of the environmental analysis also may constitute an end run around City laws requiring the Arts Commission to review the design, architecture, and aesthetics of the proposed project.

The terms of both the 2007 EIR for the New Hospital and its Use Permit apply to this project and run with the land, not with the implementing agency. Therefore, the City should be the lead agency for this project.

The DEIR Fails to Mention, Much Less Study, the Seismic Retrofit Alternative.

The most logical alternative—seismically retrofitting the existing historic "finger- ward" buildings—is the environmentally superior alternative, but it has not been mentioned or studied in the DEIR. We are very concerned about the continued structural decline of the existing historic structures on the SFGH Campus in which the existing UCSF research facilities now function. These buildings are part of a designated historic district, as noted in the 2007 New Hospital EIR. The City has an affirmative duty to make certain that these buildings are preserved and do not become a blight or a nuisance. Under the retrofit alternative, no parking would be lost; existing historic buildings would be preserved; and the impacts of the proposed garage addition (parking, transportation, noise and light/glare) would be avoided. UC should not circumvent or frustrate the City's compliance with its obligations. NEI-4

We also demand that the existing historic structure not be allowed to simply sit in a state of disrepair for an interminable period of time. A non-maintained and uninhabited structure will be not only an eyesore, but also an attractive nuisance for rodents, criminal and other undesirable activity. These structures were found to be historically significant in the New SFGH Hospital EIR, a finding not contained in the UCSF DEIR. The complete failure to analyze or even mention a retrofit alternative makes this DEIR fatally incomplete and inadequate.

The DEIR Fails to Analyze the Historic Structures Impacts and Related Issues.

The "Finger Wards" of the old hospital buildings that UCSF will vacate are designated as Class A Historic Resources. A Historic Resources Report was issued and permit conditions imposed upon the new SFGH Hospital as part of the 2007 EIR for the New Hospital and Building 5 backfill. The neighborhood is concerned about the following issues: NEI-5

1. There is no funding allocated for seismic retrofit and reuse of these historic buildings. We are concerned that they will continue to deteriorate and become an ugly nuisance, which will affect our neighborhood. The DEIR fails to address any of these significant impacts of the proposed project.
2. The proposed height of the new structure is seven feet higher than the historic buildings and will visually intrude upon the existing historic nature of the older finger wards (Buildings 10, 20, 30 and 40). NEI-6
3. The New Hospital was required to use materials and colors consistent with those of the historic buildings to protect the character of the historic district. Instead, "Day Glo White" appurtenances were used on the New Hospital rather than the Antique Cream called for in the historic resources mitigations for the new SFGH Hospital. That looks ridiculous next to the historic tiles of the older structures. The new UCSF Structure should be harmonious in colors, materials and textures with the historic buildings on the SFGH Campus. This, too, is a requirement of the New Hospital EIR in the historic resources section. In the late 1980s, an excellent job in creating harmonious and respectful architecture within the historic district was accomplished with the Behavioral Health Center Building. This example should be NEI-7

used as a template for architecture, materials, colors and textures for the new UCSF Research Building and included as an impact and mitigation measure for the historic district.

NEI-7 cont.

4. The neighborhood is not satisfied with the very general language contained in the Aesthetics analysis. The language should be tightened and made more exacting and consistent with that of the 2007 New Hospital EIR. Additionally, because the proposed new medical building would be built on City property, City law requires that the Arts Commission review the design and aesthetics of the new building. The DEIR fails to address or commit to the required design and aesthetic review. It appears that the Art Commission and the City Planning Department will not be the arbiter or have any input or approval function. This is unacceptable and violates city laws.

NEI-8

The DEIR is Incomplete Because of its Cursory Inclusion of the Parking Garage Expansion as a Catchall and Imaginary Mitigation to the Proposed Project's Significant Traffic and Parking Impacts.

Failure to analyze or fund the parking garage expansion mitigation makes this DEIR fatally deficient. There are no transportation, transit or parking mitigations that are believable or consistent with the prior approval at SFGH for over 460,000 square feet of new hospital and the backfill of Building 5. This is despite the fact that this research building addition would be an approximately 38 percent increase in square footage at the SFGH Campus.

NEI-9

The proposed 307-space parking garage expansion is not a realistic mitigation measure because it is neither designed nor funded. The 2015-2019 SFMTA Capital Improvement Program does not contain ANY funding for this garage expansion and none is identified in the Draft EIR. It is therefore an infeasible mitigation. Further, adding to a parking garage will intensify traffic impacts and work at counter purposes to the Transportation Demand Management Program that is supposed to be in place pursuant to the 2007 EIR Mitigation Monitoring and Reporting Plan. It is also inconsistent with the SFGH Institutional Master Plan, the City's General Plan, and the Sustainability Plan. Thus, the Final EIR should either remove all reference to expanding the parking garage, or it should include a funding plan that is realistic and will allow the parking to be in place by 2017-2019—the same schedule as the proposed new UCSF Research Building as well as mitigations for the impacts of adding parking.

NEI-10

Adding parking flies in the face of the City's goal to reduce auto use to and from the SFGH campus and other institutions. There is no mention whatsoever of what parking rates will be and how this garage will interfere with the TDM Program that is supposed to be in place.

NEI-11

The proposed parking garage expansion impacts are not included. There is no analysis of traffic, air quality, light, glare, or noise to the residential area adjacent to the site. CEQA requires that all impacts, including those created by mitigations, be addressed in an EIR. The neighbors who live in close proximity to the SFGH site and the parking garage already suffer hellish intrusions of light, glare and noise into their homes. The DEIR does not mention these intrusions, much less analyze their impacts or propose any mitigation. The

NEI-12

DEIR is inadequate in its failure to recognize or address the light, glare and noise impacts of additional development at this site. NEI-12 cont.

The DEIR is Inconsistent with San Francisco's General Plan.

The project, as currently presented and considering the lack of implementation of the Transportation Demand Management mitigations, violates Objective 33 of the General Plan which states "Contain and lessen the traffic and parking impact of institutions on surrounding residential areas" and Policy 33.1: "Limit the provision of long-term automobile parking facilities at institutions and encourage such institutions to regulate existing facilities to assure use by short-term clients and visitors" and Policy 33.2: "Protect residential neighborhoods from parking impacts of nearby traffic generators." These inconsistencies should be referenced in the EIR and in all approval project reports. These inconsistencies should be eliminated through specific alignment of the impacts of the project with the City's goals vis-à-vis mitigation of impacts. NEI-13

Both the City Sustainability Plan and the General Plan favor aggressively implementing transportation demand management, instituting parking pricing such that transit is the preferable mode, and providing short term versus long term parking over the addition of parking at major institutions. The proposed mitigation of expanding the parking garage is inconsistent with the General Plan Transportation Element and the City's Sustainability Plan.

Discretionary Approvals Need to Include the City as Well as UC and Current Legal Requirements Must Be Enforced Prior to any Approval of the Proposed Project's EIR.

Inasmuch as the City requires city agencies to obtain use permits, the actions to be taken by the City and County of San Francisco on page 3-16 should be expanded to require: 1) Planning Commission approval of use permit for the new Research Building, 2) Planning Department and Art Commission approval of design of the new parking garage for historic district consistency, 3) approval of an amended SFGH Institutional Master Plan Amendment for UCSF Facilities 4) co-certification of the EIR, and 5) implementation of an Effective Joint TDM Program that meets the 45 percent Drive Alone Rate within two years as is required under Use Permit 2007.0603C and New Hospital EIR 2007.0603E and State Clearinghouse 2007082023. In case this is not implemented or otherwise fails to meet the goal of 45 percent DAR, we recommend an updated aggressive joint TDM Program be implemented simultaneously with the opening of the new SFGH Hospital. NEI-14

In addition, both UC and the City should adopt and implement the previously required Transportation Demand Management Program and regularly report progress to the Planning Commission. These were requirements of the SFGH New Hospital use permit and that use permit runs with the land, not with the applicant. It makes sense for the transportation plan implementation to be a joint SFGH/UCSF Lead Agency effort inasmuch as 297,000 gross square feet of the SFGH Campus (approximately half) is occupied by UCSF. NEI-15

The Parking Management and Transportation Demand Management Program requirements currently in place are not being met. The proposed project will exacerbate these impacts. The SFGH IMP states that "An updated Parking Management and Transportation Demand Management (TDM) program will be prepared and included as part of the development of applications to the City and County of San Francisco for environmental review and permit." We find no evidence in the public record that this requirement has ever been met. Similarly, the Use Permit and the 2007 New Hospital EIR require the same, but there is no record that it has been implemented. The neighborhood views this as extreme bad faith on the part of SFGH.

NEI-15 cont.

Prior to any approvals or certification of this EIR, compliance with the existing use permit, the TDM program and the Mitigation Monitoring and Reporting Plan all need to be reviewed for gaps in compliance. These gaps should be rectified immediately. No new land use approvals should be provided until compliance is reviewed and met. We find no evidence in the public record that the City has enforced either the use permit or the MMRP for the New Hospital EIR. This noncompliance constitutes a serious breach of law. This noncompliance also does not engender trust as to future compliance for new buildings and new permits by UC or SFGH.

The Hospital Site Should Comply with its Use Permit Before Additional Development and its Cumulative Impacts Are Approved.

The use permit (2007.0603C) conditions noted that the total SFGH parking deficit is over 700 spaces. The use permit waived 375 of the required spaces based on a finding that, *with the required mitigation measures*, there would not be a significant impact on neighborhood parking. Specific mitigation measures that have NOT been implemented include: parking cash out, parking pricing, a 4th/King Shuttle and elimination of long term parking on campus. Thus, there remains a significant and avoidable impact from the prior new hospital development. This should be used as the baseline for the existing conditions for the UCSF Research Building. Obviously, the addition of more parking runs at counter purposes with the required TDM program elements cited above.

NEI-16

As noted in the IMP, **"**Managing transportation demand at SFGH is an especially critical project in the face of growing geographic dispersion of employees, combined with the need to minimize reliance on private automobiles. Although the number of full-time employees has changed little over the past two decades, fewer of today's employees are San Francisco residents. In 1987, 60% of full-time employees lived in San Francisco. Currently, that number has dropped to about 48%. Many are commuting from increasingly distant areas, especially in the South Bay."

NEI-17

Thus, the required mitigation measures are even more important and should be implemented before this project is considered for approval. No further approvals or densification of the SFGH Campus should be permitted until these already-adopted, legally binding conditions have been met and the Planning Commission has so deemed.

The DEIR Contains Serious Deficiencies in its Traffic and Parking Scope, Analyses and Mitigation Proposals.

Lack of Transportation Demand Management (Mitigation) Implementation for the New Hospital Creates Additional Cumulative Impacts that the Proposed Project Must Address.

The prior approval for the new SFGH Hospital and the "backfill" of the existing hospital building called for a reduction in the Drive Alone Rate from 59% to 45% to mitigate the 375- space-parking **waiver** granted to the project. The Conditional Use Permit accurately noted that this would require both "aggressive marking and financial incentives". Unfortunately, the transportation/transit mitigations and use permit conditions for that development have not and are not being implemented. Specifically, the Transportation Demand Management Program called for in the new hospital EIR has not been implemented. There is no full- time Transportation Coordinator; shuttles have not been implemented; no actions have been taken to price the parking garage parking to encourage short term use; and only half-hearted efforts have been made to get employees into alternative modes. An annual "Transportation Day" is NOT an aggressive TDM program and will not reduce vehicular trips to a 45 percent DAR. Indeed, an employee may park in the garage for only $100 per month. This is cheaper than transit use particularly given that over 50 percent of the employees are coming from the South and East Bay. NEI-18

There has been no reporting of the status of the mitigation implementation to either the staff or the Planning Commission. The lack of MMRP reporting violates CEQA Section 15097, is illegal, and is a slap in the face at the neighborhood which, in good faith, agreed to try the Transportation Demand Management approach in lieu of suing on the project back in 2009 when the new hospital was approved. NEI-19

The DEIR Must Address the Cumulative Impact of Single Occupant Vehicle Trips; A Coordinated and Aggressive Program Is Needed.

The proposed mitigation measure outlined in the Draft UC EIR anticipates that the two institutions--DPH and UCSF—will **separately** pursue Transportation Demand Management. This does not make sense. There should be one unified, coordinated program for both the SFGH Campus and the UCSF Campuses. The objective called out in the 2009 EIR for the New Hospital is to reduce the Drive Alone Rate by 14 percent (from 59% to 45 %). This is difficult even with the best, most proactive TDM program. We note with interest that the 2014 Long Range Development Plan for UCSF states that they have reached a 34 % Drive Alone Rate for their employees which is encouraging if accurate and not an average of all UCSF facilities. Thus, SFGH could benefit from a jointly implemented program in addition to it simply making sense. NEI-20

Further, there is no evidence that there has been any coordinated effort between the City and UCSF to reduce vehicle trips to the SFGH campus. As just one instance of noncompliance with prior requirements, the web link to the DPH web site for alternative transportation to the hospital was recently broken for over a month. The City is not enforcing its current mitigation requirements for the impacts of current development at NEI-21

the site – and the DEIR is silent as to how the mitigations proposed and required for the proposed project will be achieved with both a lead agency and a responsible agency. CEQA requires that Responsible Agencies as well as Lead Agencies adopt findings and mitigations for their parts of development projects. Without adherence to the existing use permit and the Mitigation Monitoring and Reporting Program called for in the new hospital EIR, why should any neighborhood believe that this new project would comply?

NEI-21 cont.

Compliance with TDM goals set for the new SFGH Hospital is required of all uses on the SFGH Campus. It is also consistent with the UC's Community Planning Principles and the commitments made to the City in the 2014 Institutional Master Plan prepared by UC. These documents all call for strengthened and continued progress in reducing the Drive Alone Rate to UC facilities.

Previous Significant and Unavoidable Freeway Ramp Impacts found in the 2007 New Hospital EIR Are Omitted in the Current DEIR.

The Caltrans ramps to/from Highway 101 were found to operate at LOS F and to be a significant and unavoidable impact in the 2007 New Hospital EIR. There is no acknowledgement of this impact in the EIR for the new UCSF Research Facility. While LOS may not alone be cause for a finding of significance here, the safety and air quality issues surrounding this ramp system along with the increased volumes from the backfill of the hospital campus and the new hospital, taken together, create a significant, cumulative impact. The DEIR completely ignores the Highway 101 ramps. By contrast, the City made Findings of Overriding Consideration for this impact using the TDM Program (it has not implemented) as the mitigation in the 2007 New Hospital EIR. Those findings and mitigation measures cannot be ignored in this DEIR analysis.

NEI-22

Serious Numerical Errors Exist In the DEIR Traffic Analysis.

It appears that extremely low trip rates were used for the traffic analysis in the UC EIR. This should be corrected in the final EIR using the rates used in the 2007 New Hospital EIR for consistency. The latter trip rates were based on actual trip surveys of users, employees and UCSF staff at the SFGH campus and provide the most accurate forecast of conditions with the proposed research building.

NEI-23

The Traffic Analysis is Erroneous on Its Face and is "Low Balled."

Only 196 additional daily vehicle trips are forecast for the alleged net addition of 120 employees to be relocated from other leased facilities to the SFGH campus. The absolute minimum number of trips that would result from this addition of 120 employees is 240 additional daily trips—one round trip per employee. More likely, there would be a minimum of approximately 300 additional trips to and from the campus—one round trip per employee plus one mid-day trip for every two employees. To this, the additional trip/mileage factor should be added for people searching for parking in the adjacent neighborhoods. The traffic study should be redone using correct trip rates, mode split and trip distribution consistent with the traffic analysis done for the Certified EIR for the New Hospital. The trip distribution and the mode split should be based upon the SFGH Hospital Traffic Study that is based on actual trip making to and from the hospital. After this is done, the mode split and trip distribution should be revised to reflect the current SFGH Drive

NEI-24

Alone Rate as cited in the 2007 New Hospital EIR. Additionally, the air quality analysis should be updated, and there should be a factor added for emissions due to people driving around and looking for parking. NEI-24 cont.

The DEIR Underestimates the Parking Required by the Proposed Project.

The number of employees to report to the research facility, as referenced in the DEIR, is not consistent with those cited in the 2014 Institutional Master Plan Update. The 2014 SFGH IMP cites a total of 3,275 DPH employees for the 8 am to 3 pm and 5 pm to 11 pm shifts in FY 2013 plus the approximately 1,600 UCSF employees campus-wide. The UC DEIR cites 680 UCSF employees to be relocated from existing facilities on the SFGH campus PLUS 120 employees to relocate from other off-campus leased space. This represents a total growth of at least 800 UCSF employees. At current vehicle occupancy, a minimum of at least 727 parking spaces would be needed just to accommodate UCSF employees reporting to the new proposed UCSF structure. Thus the City would have to waive much more than the 375 parking spaces waived (with mitigation) for the new SFGH Hospital and Building 5 backfill. The project will eliminate 130 surface parking spaces. (These inconsistent estimates and analyses also demonstrate the problems created by changing lead agencies at the Hospital site and changing the analytical teams from the City to UC.) NEI-25

Parking Deficit.

The parking deficit should be accurately specified, and it should be noted that this is a significant neighborhood parking impact, air quality impact and noise impact. The parking deficit should be quantified, and this should be found as a significant impact, both to parking and to air quality as well as traffic, noise and pedestrian safety. NEI-26

Because the previous required mitigations and use permit conditions have not been implemented, the project should include the following mitigations and quarterly reporting on their status both to the neighborhood and to the Planning Commission:

- Increased parking pricing at the garage,
- Time limits of one hour for all parking,
- Elimination of all monthly passes for parking, and
- Establishment of exclusively24-7 neighborhood parking permit program along all streets within 1/2 mile of the boundaries of the campus program. Completely restricting parking along neighborhood streets will serve as an impetus to actually implement the required TDM program.

NEI-27

The DEIR Lacks Any Analysis or Mitigation of the Deficiencies in the Current Mitigation Monitoring and Reporting Plan Reports (MMRP), Which the Proposed Project Will Increase.

MMRP reports are legally required pursuant to 14 CCR Section 15097 and Section 15091. MMRP are required when making the findings required in subdivision (a)(1), and the law states that the agency shall also adopt a program for reporting on or monitoring the changes which it has either required in the project or made a condition of approval to avoid or substantially lessen significant environmental effects. These measures must be fully NEI-28

enforceable through permit conditions, agreements, or other measures. These conditions are contained in the Use Permit issued for the new SFGH Hospital and its Certified EIR.

We see nothing in the UCSF environmental document or in the City's public record that assures us that any of these binding requirements have or will be met. Given the City's past performance in failing to meet the use permit requirements, no additional development project should be approved until the past conditions for growth at the SFGH Campus are all met. The Planning staff and the Planning Commission should require that these conditions be complied with. The two institutions—DPH and UCSF--should prepare one coordinated Transportation Demand Management Program and it should contain all of the previously required measures, including analyzing the residential parking permit "back-up" mitigation measures for parking and traffic. To reduce the Drive Alone Rate by the mandated 14 percent, there should be at least one full time employee managing and promoting the effort along with the other required measures, including shuttles and parking pricing and time limits within the campus.

NEI-28 cont.

The DEIR also does not mention or analyze resident parking zones as a mitigation measure. Such zones should be included and analyzed, with consistent enforcement on all residential streets within one-half mile of the of the SFGH campuses parcel boundaries. These actions, coupled with increasing the price of parking and shortening the allowable parking garage parking period must be analyzed to determine if the City and UC can reduce the DAR by the required 14 percent.

NEI-29

The Pedestrian Overcrossing of Highway 101 Should Be Reopened.
The pedestrian overcrossing at 25th Street is barricaded and closed. The pedestrian bridge should be reopened as part of the project. This will allow additional non-motorized access to the hospital from the other side of the freeway and assist the hospital campus in meeting its traffic control requirements.

NEI-30

Conclusion.
The MMRP violations and the non-compliance with the Institutional Master Plan and the Use Permit must be remedied before this project moves forward in any way. The DEIR must honestly and properly address the traffic, air quality, historic resources, noise and glare impacts as well as the consistency of the project with adopted City plans. The Use Permit Conditions extant with the approval of the new SFGH Hospital run with the land and thus apply to UCSF as well.

Pursuant to City Environmental review procedures, the neighborhood requests that the Zoning Administrator and Environmental Review Officer immediately review the compliance status of the SFGH New Hospital Project with its Use Permit and MMRP and report to the Planning Commission on the lack of progress implementing conditions approved under Conditional Use Permit 2007.0603C as well as instituting specific, credible corrective actions. In the meantime, work on this proposed new SFGH Campus use should be halted until all current, required conditions are met.

NEI-31

Our neighborhood took a leap of faith and trusted the City to implement transportation demand management and other mitigations at SFGH in the New Hospital Project. Unfortunately, the legally required conditions have not been met for the current development at the Hospital site. This lack of compliance must be remedied before the impacts are worsened by additional development.

Our neighborhood stresses that the mitigations for the new SFGH Hospital must be implemented before any additional new development occurs at the site. The City must work with UCSF to ensure that the proposed development does not further impact the neighborhood's visual quality, traffic, parking, air quality, historic resources preservation and safety. We demand that the parking, traffic and visual quality be maintained and improved before any new development proposals are approved.

NEI-31 cont.

Sincerely,

Erick Arguello
Calle 24 Latino Cultural District
Bill Baird
Kat Bodgornoff
Theresa Cangelosi
Patrice Catanio
Karen Cliffe
John J. Davis, Jr.
David Edwards
Del Greger
Greer Hopkins
Catherine Lee
Jean Loura
Loretta M. Lynch
Neighbors of SFGH
Kathleen Ryals
Chris Sabre
Michele Schaal
Marie Sorenson
Geoffrey Williams

Cc: John Rahaim, San Francisco Planning Director

"SFGH Neighbors," May 9, 2016

Response to Comment NEI-1:

Thank you for your comment. UCSF considered retrofitting the existing brick buildings it occupies on the ZSFG campus. However, this alternative was rejected for reasons described under Section 6.3.1, Seismic Retrofit of Existing Buildings, on page 6-2 of the Draft EIR.

Response to Comment NEI-2:

With regard to the appropriate CEQA lead agency, CEQA Guidelines Section 15051 discusses the criteria for identifying the lead agency where two or more public agencies will be involved with a project. Section 15051(a) states that if the project will be carried out by a public agency, that agency shall be the lead agency even if the project would be located within the jurisdiction of another public agency. Section 15051(b) relates to projects carried out by non-governmental agencies. Section 15051(c) states that where more than one public agency equally meet the criteria in subdivision (b), the agency which will act first on the project in question shall be the lead agency. Section 15051(d) states that where the provisions of subdivisions (a), (b), and (c) leave two or more public agencies with a substantial claim to be the lead agency, the public agencies may by agreement designate an agency as the lead agency.

Under each of the pertinent criteria set forth under CEQA Guidelines Section 15051, the University of California is properly the lead agency for the proposed project. The University is a public agency that will carry out the proposed research building project, and is properly the lead agency under Section 15051(a). Sections 15051(b) and (c) do not apply, as neither the proposed research building nor the garage expansion would be carried out by a non-governmental agency. However, if the provisions did apply, the University would be the lead agency because the Regents of the University of California would take the first action to approve the ground lease, prior to the City's action on the ground lease. Finally, pursuant to Section 15051(d), the University and the City of San Francisco have agreed in a Memorandum of Understanding dated September 25, 2013, that the University of California would be lead agency in preparing the EIR for the proposed UCSF research building and City garage expansion, and that the City of San Francisco would be a Responsible Agency having a role in approving conveyance of the B/C parking lot, as well as in approving the parking garage expansion proposed by the Parking Authority of the City and County of San Francisco (Parking Authority). Having approval authority over the proposed City garage expansion, the City will consider whether to approve the garage expansion project, approve the project with conditions, or to disapprove the project.

As a Responsible Agency, the City of San Francisco has been involved in early consultation and review of the Draft EIR, providing input on the significance standards, the approach to the analyses, and mitigation measures. Although the 2008 Hospital Rebuild EIR was reviewed and considered in preparing the Draft EIR for the proposed project, this EIR is not tiered from the 2008 EIR.

The comment that the baseline for impacts in the Draft EIR should be the existing certified EIR for the new SFGH (now ZSFG) hospital and backfill of Building 5 is not consistent with the CEQA Guidelines. CEQA Guidelines 15126.2(a) states that the Lead Agency should normally limit its examination to changes in the existing physical conditions in the affected area as they exist at the time the notice of preparation is published, or where no notice of preparation is published, at the time environmental analysis is commenced. This is the approach taken in the subject Draft EIR. The Notice of Preparation was published on October 5, 2015, and that is the baseline for examination of the environmental impacts of the proposed UCSF research building and City parking garage expansion. Nonetheless, the Draft EIR takes into account cumulative impacts of the proposed projects together with impacts associated with the occupancy of the new hospital and backfill of space on the ZSFG campus.

With regard to compliance with local plans and approvals, the University of California is not subject to local land use jurisdiction with respect to projects developed in furtherance of the University's educational mission on land that the University owns or controls. The University proposes to lease the B/C parking lot and develop a research building on the site in support of its missions at the ZSFG campus. Accordingly, the construction and operation of the research building are not subject to local land use jurisdiction and the City of San Francisco does not have jurisdiction over the approval of the research building project. However, the City of San Francisco will consider whether to approve and execute the ground lease of the B/C parking lot with the University of California. The Parking Authority is also separately proposing the construction of the expansion to the existing City-owned parking structure, which is analyzed in the Draft EIR. Various City agencies will consider whether to approve the proposed parking garage expansion.

The San Francisco Department of Public Health periodically updates its Institutional Master Plan (IMP) for the ZSFG campus. The most recent update, dated June 2015, includes the proposed UCSF research building and the proposed City parking garage expansion. As such, the proposed projects are consistent with the ZSFG IMP.

Response to Comment NEI-3:

Please see Response to NEI-2 regarding the appropriateness under CEQA of the University of California as Lead Agency.

With regard to significance thresholds, the Draft EIR very clearly identifies the significance standards throughout the impacts analysis in Chapter 4 under each environmental topic. UCSF utilizes the same or very similar significance standards as the City of San Francisco, with the exceptions of the significance standards for impacts on traffic and on public transit. The City of San Francisco has recently instituted a significance standard for traffic impacts utilizing a Vehicle Miles Travelled (VMT) metric. Prior to the VMT metric, the City used the Level of Service (LOS) metric for determining the significance of impacts on traffic, which is the method that UCSF currently uses and was the method used in the 2008 Hospital Rebuild EIR. The EIR analyzes traffic impacts using the LOS method, and provides information on the VMT method of analysis and significance standards (see Draft EIR Section 4.7, *Transportation and Traffic*).

The City of San Francisco considers impacts on public transit to be significant when capacity utilization on a Muni line exceeds 85%. UCSF considers impacts on public transit to be significant if project demand for public transit causes the need for development or expansion of mass transit facilities that would cause significant environmental impacts. Using either standard, the proposed projects would not result in significant impacts on public transit.

With regard to comments about the 2008 Hospital Rebuild EIR, this EIR was reviewed and considered in preparing the Draft EIR for the proposed UCSF research building and City parking garage expansion. The comment does not identify any specific inconsistencies between the documents. The Draft EIR takes into account cumulative impacts of the proposed project together with impacts associated with the occupancy of the new hospital and backfill of space on the ZSFG campus. Cumulative impacts are discussed within each environmental topic of the Draft EIR.

With regard to the Arts Commission comment, the Arts Commission is not required to review or approve the proposed UCSF research building or the City parking garage expansion projects. The Arts Commission is expected to be involved in the relocation of the *Stiff Loops* sculpture located east of the B/C parking lot adjacent to Vermont Street. The *Stiff Loops* sculpture would need to be relocated in anticipation of the proposed research building project (see staff-initiated text change discussion in Section 8.2, below).

Response to Comment NEI-4:

UCSF considered retrofitting the existing brick buildings it occupies on the ZSFG campus. However, this alternative was rejected for reasons described under Section 6.3.1, Seismic Retrofit of Existing Buildings, on page 6-2 of the Draft EIR. Comments regarding the condition of these buildings are not relevant to the adequacy of the Draft EIR.

Response to Comment NEI-5:

The impact analyses in the Draft EIR assumes that in the Year 2040 the space vacated in Building 5 will be completely backfilled by San Francisco Department of Public Health (DPH) staff and the space vacated by UCSF will also be backfilled with new DPH staff. The potential use of the “finger wards” will be determined by DPH and is beyond the scope of this EIR.

Response to Comment NEI-6:

Potential impacts to the SFGH Historic District are evaluated under Impact CP-1 beginning on page 4.3-26 of the Draft EIR. The analysis determined that implementation of Mitigation Measure CP-1: Design Guidelines for the Research Building would ensure that the proposed project would be compatible with the SFGH Historic District, would maintain the District’s character and integrity, and would be in substantial conformance with the *Secretary of the Interior’s Standards for Rehabilitation.* The City’s Historic Preservation Commission has concurred with this analysis in comment HPC-1.

Response to Comment NEI-7:

See Response to Comment NEI-6. The Design Guidelines listed under Mitigation Measure CP-1 include items pertaining to architectural features such as "Materials and Cladding" that are listed on page 4.3-28. Comments about the new hospital do not address the adequacy of the Draft EIR.

Response to Comment NEI-8:

The *San Francisco General Hospital Seismic Compliance Hospital Replacement Program EIR* was utilized as a reference source in Aesthetics section of the Draft EIR, and is included in the list of references on page 4.1-12. The City's Historic Preservation Commission did review the Draft EIR per the request of UCSF (see Comment Letter HPC, above) and concurs with the design criteria proposed for the UCSF research building. As noted in Section 8.2, below, the large, steel sculpture entitled *Stiff Loops* would be relocated from its current location in the southeast corner of the campus to another place on the ZSFG campus in order to avoid any potential construction conflicts between this sculpture and the proposed loading zone and driveway on the east side of the proposed research building. Relocation would occur in coordination with ZSFG and the San Francisco Arts Commission.

Response to Comment NEI-9:

Under the proposed project, the garage expansion is proposed as a separate component of the proposed project from the UCSF research building, which includes no additional parking. The garage expansion is analyzed as part of the proposed project under Variants 1 – 3 as detailed in the Draft EIR. Additionally, Alternative 2 includes a new garage under the research building. The garage is not a mitigation measure of the project; it is a separate component of the proposed project that will go through a City review/approval process.

The traffic impacts for this project, including impacts and mitigations related to the expansion of the garage, have been vetted with the assistance of City staff (San Francisco Planning Department and SFMTA). The Draft EIR takes into consideration the contribution of the proposed project to cumulative traffic impacts, including those associated with the occupancy of the new hospital and backfill of space on the ZSFG campus. Please see Response to Comment MTA-6 for a summary of the significant traffic impact at the intersection of Potrero Avenue / 24th Street and the mitigation measures identified to reduce the severity of this impact.

Regarding parking impacts, because the proposed project is located in a transit priority area and an infill area, a parking shortfall does not constitute an impact under CEQA, and mitigation is not required. (Public Resources Code Section 21099(d)(1)) Further, CEQA does not require funding of the project being reviewed.

Response to Comment NEI-10:

The proposed garage expansion is not a mitigation measure; it is part of the proposed project. As stated on page 1-2 of the Draft EIR, "the proposed project also includes the expansion of the ZSFG parking garage, owned and operated by the Parking Authority." CEQA does not require

funding of the project being reviewed to be identified within a Capital Improvement Plan. One traffic impact and three mitigation measures were identified for the proposed project and for the three variants that include a garage expansion (Variants 1 – 3). One of these mitigation measures (TR-3) calls for implementing additional TDM measures to reduce single-occupancy vehicle trips to/from ZSFG. UCSF, DPH, and SFMTA staff are currently drafting an additional Modal Performance document to be used in implementation of TR-3. As stated in Response to Comment NEI-2, the proposed project was included in the most recent ZSFG Institutional Master Plan, which also addresses consistency of the project with the City's General Plan. See also Responses to Comments NEI-9 and NEI-13.

Response to Comment NEI-11:

The City's intent is to address the transportation constraints at ZSFG through both supply-side (parking) and demand-side (TDM) measures. These approaches can be complementary, particularly for non-standard project such as a hospital that generates a substantial demand outside of the traditional commute periods. Therefore, in addition to the potential expansion of the garage as part of the project, one transportation impact and three mitigation measures were identified. One of these measures (Mitigation Measure TR-3) calls for implementing additional TDM measures to reduce SOV trips to/from ZSFG. These measures are being refined by DPH in conjunction with UCSF and SFMTA. DPH and SFMTA are committed to assessing parking rates to meet a goal of reducing SOV rate, as demonstrated in the SFGH TDM Plan and an additional Modal Performance document being drafted for use in implementation of TR-3.

Response to Comment NEI-12:

The proposed garage expansion is not a mitigation measure; it is proposed by the City as a separate component of the project from the proposed research building. Impacts regarding the proposed garage expansion and potential variants are analyzed in all environmental topic sections of the EIR. For example, air quality impacts during construction of the garage expansion are discussed under Impact AQ-1 and Impact AQ-3 in Section 4.2, *Air Quality*; noise impacts are discussed under Impact NO-1 and Impact NO-2 in Section 4.6, *Noise*; and traffic impacts are discussed in Section 4.7, *Transportation and Traffic*. Potential light and glare impacts were analyzed in the Initial Study, included as Appendix A of the Draft EIR.

Response to Comment NEI-13:

See Response to Comment NEI-12. As noted on page 4.5-5 of the Draft EIR: "The consistency of the proposed project with applicable plans and policies that do not directly relate to physical environmental issues will be considered by decision-makers as part of their decision whether to approve or disapprove the proposed project. The project cannot be approved if it is not generally consistent with adopted plans and policies. Policy conflicts are considered to be environmental impacts only when they would result in direct physical impacts." Therefore, the City and County of San Francisco, Board of Supervisors, Planning Commission and its agencies or designees, and the Parking Authority of the City and County of San Francisco will be responsible for determining consistency of the proposed garage expansion with the General Plan and other applicable plans.

Response to Comment NEI-14:

The discretionary approvals listed on page 3-16 is an accurate summary of potential project approvals for the proposed research building and parking garage expansion, depending on the project or variant ultimately selected for implementation. UCSF will not be required to obtain a use permit from the City for construction of the research building, as it is not subject to the City's land use jurisdiction. The most recent update to the ZSFG Institutional Master Plan in June 2015 noted that the proposed research building would be in conformity with the *San Francisco General Plan* or would be subject to further review as part of the EIR process, i.e., this EIR. For purposes of CEQA, the University of California is the lead agency for this EIR with the Parking Authority and the City as responsible agencies for approval actions within their respective jurisdictions. If the Parking Authority decides to proceed with the proposed garage expansion, it would comply with the City approval process in effect at that time for such a structure.

Response to Comment NEI-15:

The previously required Transportation Demand Management Program was a mitigation measure related to the City's ZSFG Hospital Rebuild project. The proposed project does not affect any mitigation measure previously adopted by the City for that project. But, there is no basis for UCSF to adopt the previously required TDM program for a development with which it is not involved. In addition, the previously required TDM program identified physical improvements to facilities on the ZSFG campus, such as additional CarShare parking spaces, signage with transit information at locations around campus, a transit kiosk, and so forth. As UCSF does not own or control facilities on the ZSFG campus, it is not involved with such campus improvements.

DPH has made progress on the previously required TDM program and is discussing with SFMTA the status of those measures. Progress on the TDM program includes the retention of a TDM manager and periodic transportation surveys of all staff at the ZSFG campus. Progress is ongoing, as funding allows.

The Draft EIR for the current project identifies mitigation for traffic impacts and additional TDM measures that UCSF and the City could implement, beyond those measures that are already being implemented (see Mitigation Measure TR-3 on page 4.7-26 of the Draft EIR). In addition, UCSF, DPH, and SFMTA staff are drafting a Modal Performance document, which is in progress. Because UCSF and the City are different entities with different governing bodies, each has its own TDM Program. However, measures that are available at the ZSFG campus benefit all patients and visitors, and both City and UCSF employees. The City and UCSF will continue to coordinate TDM efforts in a joint effort to reduce single-occupant vehicle travel.

Regarding the comment that the subject EIR should not be certified or the projects approved until compliance with the ZSFG Hospital Rebuild project conditions are met, as discussed above, progress on the TDM program has been made, is ongoing and will proceed irrespective of the outcome of this project. The decision-makers on the UCSF research building project and the City parking garage expansion project will consider the information before them at that time, including the subject EIR (which includes these comments and responses to comments), in deciding whether to approve the projects.

Response to Comment NEI-16:

CEQA Guidelines 15126.2(a) states that the Lead Agency should normally limit its examination to changes in the existing physical conditions in the affected area as they exist at the time the notice of preparation is published, or where no notice of preparation is published, at the time environmental analysis is commenced. The date of the notice of preparation is the approach taken in the subject Draft EIR. Nonetheless, the Draft EIR takes into account cumulative impacts of the proposed projects together with impacts associated with the occupancy of the new hospital and backfill of space on the ZSFG campus. See also Responses to Comments NEI-9 and NEI-15.

Response to Comment NEI-17:

See Response to Comment NEI-15.

Response to Comment NEI-18:

See Response to Comment NEI-15.

Response to Comment NEI-19:

See Response to Comment NEI-15. DPH has made progress on the previously required TDM program and is discussing with SFMTA the status of those measures.

Response to Comment NEI-20:

See Responses to Comments NEI-15 and SFP-11.

Response to Comment NEI-21:

See Response to Comment NEI-15.

Response to Comment NEI-22:

The 2008 Hospital Rebuild EIR identified an unavoidable and significant impact at the southbound off-ramp to Potrero Avenue and Cesar Chavez Boulevard, which would deteriorate from LOS D in 2007 to LOS E in 2021 during the 4:00 p.m. to 5:00 p.m. period. No feasible mitigation measure to increase capacity at this ramp and fully mitigate this cumulative impact was identified. LOS improvements would have to occur by reducing automobile travel rates to/from the ZSFG Campus and in the Eastern Neighborhoods in general. The ZSFG TDM Measures were assumed to help reduce this ZSFG project cumulative impact but it would still remain significant and unavoidable.

The ramp was estimated to have approximately 1,180 vehicles in 2021. The proposed project would contribute at most 25 vehicles to this ramp during the weekday PM peak hour, which would be below the 5% threshold (59 vehicles) of significance used by the San Francisco Planning Department when analyzing Caltrans freeway on- and off-ramps. LOS was removed as an impact by the San Francisco Planning Department on March 3, 2016, and air quality impacts from operation of the project were determined to be less than significant under Impact AQ-2.

Response to Comment NEI-23:

The employee daily person trip generation rate used in the analysis (3.7 daily person trips per employee) is the same as the rate used in the 2008 Hospital Rebuild EIR. The rates were obtained from Table 16, page 43, *SFGH Transportation Report* (CHS Consulting, February 2008). Modal split and origin/destination characteristics were based on recent UCSF employee surveys, as stated in the Draft EIR on page 4.7-17. A letter report containing the results of the employee surveys is added to Appendix C of the Draft EIR (Transportation Impact Study).

Response to Comment NEI-24:

The commenter's statement is incorrect. It assumes that every employee is present every day on the ZSFG campus and that they all drive alone, thereby failing to account for differences in travel mode and confusing the number of person trips with the number of vehicle trips. This is not the case based on actual surveys of employees. The trip generation is based on rates as used in the 2008 Hospital Rebuild EIR and updated mode surveys of UCSF employees (conducted in 2013 and again verified in 2015), as described on pages 4.7-16 through 4.7-19 of the Draft EIR. See also Response to Comment NEI-23.

Response to Comment NEI-25:

The commenter's statement is incorrect. The 680 employees cited in the comment are already on the campus and are thus included in the background trips reported in the existing conditions. The additional 120 employees from outside the ZSFG campus would create a forecasted peak daily parking demand of 72 spaces, as analyzed in the Draft EIR and explained in detail in Chapter 3, Travel Demand Analysis, of Draft EIR Appendix C (Transportation Impact Study).

Response to Comment NEI-26:

The overall parking deficit with the proposed project is estimated as 127 to 184 parking spaces, as specified under Impact TRAF-8 on page 4.7-38 of the Draft EIR. As stated in Response to Comment NEI-9, a parking shortfall is not a CEQA impact since this project is located in a transit priority area and an infill area. The secondary effects of limited parking, such as circling the area in search of a parking space, were considered in the traffic, air quality, and noise analyses.

Response to Comment NEI-27:

See Responses to Comments MTA-4 and SFP-4. Further, SFMTA has governance over pricing policies at the 23rd Street garage and expansion of Residential Parking Permit (RPP) zones. ZSFG is surrounded by RPP zones and expansion of such zones has to be requested of SFMTA by at least 50% of the households in the potential expansion blocks. Blank petition forms can be obtained at https://www.sfmta.com/sites/default/files/pdfs/2015/Blank%20RPP%20Petition%20-%20English%2015%20-10.20.pdf.

Response to Comment NEI-28:

See Response to Comment NEI-15.

Response to Comment NEI-29:

See Response to Comment NEI-27.

Response to Comment NEI-30:

There is questionable nexus between the opening of the pedestrian crossing at 25th Street and the project since the crossing at 23rd Street, adjacent to ZSFG, is open. However, UCSF will forward the comment to SFMTA, which has jurisdiction over the crossing.

Response to Comment NEI-31:

Thank you for your comments. Responses to specific concerns are addressed in the responses provided above.

POTRERO BOOSTERS
NEIGHBORHOOD ASSOCIATION
SERVING THE HILL SINCE 1926

May 9, 2016

Diane Wong
UCSF Campus Planning
Box 0286
San Francisco, CA 94143-0286

Re: Potrero Boosters Comments to UCSF Research Building Draft EIR

Via Email

Dear Ms. Wong:

This letter is in response to the Draft Environmental Impact Report (the "Draft EIR") related to the research building and city parking garage expansion project (the "Project") proposed by the University of California, San Francisco ("UCSF") on the site of the Priscilla Chan and Mark Zuckerberg San Francisco General Hospital and Trauma Center ("SF General").

The construction of the recently completed new hospital at SF General resulted in a significant reduction in the amount of open space on the SF General campus. Preservation of remaining open space, including that currently occupied by Parking Lot B/C, became an important neighborhood concern. The preservation of such space was a component of the land use mitigations of the SF General expansion. As a result, the use of Parking Lot B/C for the Project does in fact constitute a significant land use impact of the Project, contrary to the findings in the Draft EIR. PBNA-1

UCSF should provide cushioning payments to offset these land use impacts, and to make the neighborhood, SF General visitors, and future UCSF personnel whole for the loss of this identified open space. Starr King Open Space ("SKOS") is within four blocks of the Project site. UCSF support of SKOS would help ensure the maintenance of the Potrero's only significant remaining natural open space. Such mitigation by UCSF would be of direct benefit to neighborhood, SF General and USCF. PBNA-2

We request that Project's land use impacts be adequately scoped, that that UCSF's support of SKOS be included as a mitigation to such impacts.

Sincerely,

J.R. Eppler
President

1459 EIGHTEENTH ST. #133 • SAN FRANCISCO, CA • 94107

Potrero Boosters Neighborhood Association, May 9, 2016

Response to Comment PBNA-1:

The 2008 Hospital Rebuild EIR refers to open spaces as being landscaped and describes them as being "adjacent to or between buildings, as well as in interior courtyards of buildings, and include exterior gardens or landscaped grassy areas located adjacent to Buildings 80/90, along the internal north-south roadway, West Drive, in the interior of Campus, and along Vermont Street" (page 81). The EIR further states: "Existing open space areas that would remain on Campus after development of the proposed project would include: areas east of Buildings 10/20, 30/40 and 9; southeast of Building 1; south of Building 90; landscaped areas along Vermont Street; and, courtyard areas with limited public access within Building 100 and the Behavioral Health Rehabilitation Building" (page 27). Therefore, the reference to open space areas in the EIR would not be applicable to the existing surface parking lot where the proposed research building would be constructed. The vast majority of the site is paved for surface parking. The existing surface parking lot contains only a small amount of usable open space, the loss of which would be too insubstantial to constitute a significant land use impact for which to provide "cushioning payments." The minor amount of existing usable open space that would be lost during construction of the building would largely be replaced with similar or improved areas along West Drive and between the new building and Building 5 to the north (see Figure 3-3 on page 3-10 of the Draft EIR). Existing open space areas located between Buildings 30/40, Building 9, and West Drive would not be altered by the proposed project. The construction of the proposed research building on the B/C Lot would not be considered a significant land use impact.

Response to Comment PBNA-2:

See Response to Comment PBNA-1.

Comment Letter JB

Jeremy Battis
2662 22nd St
San Francisco CA 94110

April 3, 2016

Diane Wong
UCSF Environmental Coordinator
San Francisco, CA 94110
via email to EIR@planning.ucsf.edu

RE: Draft EIR for SFGH Research Building and Parking Garage Expansion

Ms. Wong:

After enduring five years of construction at SFGH on the new trauma tower, I was disappointed to receive your notice informing of plans for a new pipeline of projects. JB-1

Potrero Avenue at this time is under construction for a water-sewage project likely linked to SFGH's growing capacity needs. JB-2

The neighborhood is beginning to wonder if construction at and around SFGH has become a permanent state of affairs. I question the need for these projects. UCSF has an entire new neighborhood of the city that it can expand into and literally shape as it pleases. Why do we need to have these projects on the doorstep of the lower east Mission neighborhood? JB-3

Given the significant impacts already imposed on the immediate surrounding area by SFGH, I cannot support a higher intensity of use that the one that presently exists. JB-4

I'm concerned that UCSF with its SFGH expansion ambitions is selling the neighborhood short and not being upfront about disclosing the full scope of its final buildout. The SFGH should revise its Institutional Master Plan (IMP) to fully disclose its pipeline of projects for the next ten years. This incremental practice of one EIR for one new building or two does not capture the full environmental effects that come through cumulative impacts. The revised IMP should do a through and comprehensive environmental review of SFGH's impacts at build out. JB-5

Relatedly, it looks as if the SFGH IMP on file with the City Planning Department is out of date with a most recent update of 2008. Can you confirm that UCSF is in compliance on this requirement? JB-5 cont.

SFGH takes far more from the neighborhood than it gives. Among the impacts imposed on the neighborhood by SFGH daily are:

Mitigable Impacts from SFGH Include:

- A large and intensive commuter fleet of shuttle buses without prescribed fixed routes that freely roam and rove the residential streets of the neighborhood, often at speeds in excess of what is appropriate; JB-6
- Ambulances sounding their sirens at 4 a.m. down quiet residential streets for no good reason; JB-7
- Legions of mentally ill patients discharged on the doorstep oft the neighborhood so that they wander aimlessly barefoot and in dressed in patient scrubs clasping a plastic bag holding their worldly possessions. (I've come home numerous times to find these individuals on my front steps with their belongings scattered on the sidewalk); JB-8

Should UCSF and decisonmakers decide that further expansion of SFGH is essential and unavoidable, the following concessions to the neighborhood should be on the top of the list.

Potential Exactions that SFGH Could Provide to the Surrounding Community JB-9

- Increased UCSF Police protection to patrol the residential streets where the SFGH discharged mentally ill are known to wander;
- Improvement of Poterero Avenue.
  - Large volumes of cut-through traffic enter the side streets as a result of delays attributable to multiple and redundant crosswalks at awkward mid-block intervals serving the hospital. These should be consolidated or have the signals synchronized. JB-10
  - Potereo Avenue should be given wider sidewalks and the median should be planted with quality mature deciduous trees. JB-11

Thank you very much for your attention to this matter,

Jeremy Battis

cc: community@cgr.ucsf.edu

Jeremy Battis, April 3, 2016

Response to Comment JB-1:

Comment noted.

Response to Comment JB-2:

Thank you for your comment. This project does not relate to the Draft EIR, which examines the environmental impacts of the proposed UCSF research building and City parking garage expansion at ZSFG.

Response to Comment JB-3:

UCSF considered locating the proposed research building at another location, including at the UCSF Mission Bay campus site. However, this alternative was rejected for reasons described under Section 6.3.2, Locate Research Off-Site, on page 6-2 of the Draft EIR.

Response to Comment JB-4:

Thank you for your comment.

Response to Comment JB-5:

As noted on page 3-3 and page 4.5-4 of the Draft EIR, the San Francisco Department of Public Health submitted the latest ZSFG Institutional Master Plan (IMP) revision to the San Francisco Planning Department in June 2015. Information regarding the proposed research building and parking garage expansion is included in this IMP Update. Impact LU-1discusses the consistency of the proposed project with the IMP (see page 4.5-11).

The IMP available on the Planning Department's website at http://sf-planning.org/institutional-master-plans appears to be out of date. The June 2015 IMP Update referenced in the EIR is available here: https://www.sfdph.org/dph/RebuildSFGH/files/reports/IMP-UpdateSubmitted-June2015.pdf.

Response to Comment JB-6:

Thank you for your comment. As noted in Table 4.7-1 on page 4.7-2 of the Draft EIR, UCSF shuttles provide access between ZSFG and the UCSF Parnassus, Mount Zion, and Mission Bay campus sites as well as the 16th Street BART station. ZSFG operated shuttles provide access to the 24th Street BART station. Both the UCSF and ZSFG operated shuttles serve all ZSFG employees, patients, and visitors. Routes and schedules for UCSF shuttles are available at http://campuslifeservices.ucsf.edu/transportation/services/shuttles/routes_timetables. Information regarding the ZSFG operated shuttle is available here: https://www.sfdph.org/dph/RebuildSFGH/files/SFGH_Shuttle_Map_Schedule.pdf.

Response to Comment JB-7:

Thank you for your comment. The proposed research building would contain wet and dry labs and office space. The building would not include any clinical space; therefore, it would not impact ambulance routes through the surrounding neighborhood.

Response to Comment JB-8:

Thank you for your comment. The proposed research building would contain wet and dry labs and office space. The building would not include any clinical space; therefore, no patients would require access to the project site as a result of the proposed project.

Response to Comment JB-9:

See Response to Comment JB-8.

Response to Comment JB-10:

As noted in the *Proposed Research Building and Garage Expansion at Zuckerberg San Francisco General Hospital Transportation Study*, Draft EIR Appendix C, the Potrero Avenue Streetscape Improvement Project is in progress. While this project is being conducted outside of the environmental review process of the research building and garage, it will result in pedestrian safety improvements, wider crosswalks, high-visibility bike lanes, new landscaping, and new pedestrian amenities on Potrero Avenue between 21st and 25th streets. Additionally, it will include the simplification of the intersection of Potrero Avenue and 23rd Street.

Response to Comment JB-11:

See Response to Comment JB-10.

From: Geoffrey Williams
2501 24th St.
San Francisco, CA 94110

April 23, 2016

Diane Wong
UCSF Campus Planning
Box 0286
San Francisco, CA 94143

Dear Ms. Wong,

This letter contains my written comments during the public comment period about the Draft EIR UCSF Research Building and City Garage Expansion At The Priscilla and Mark Zuckerberg SFGH and Trauma Center Campus dated March 23, 2016. These written comments also include the comments and signatures of our neighborhood petition opposing any expansion of the SFGH parking garage. As the DEIR has not adequately addressed the issues that directly would effect the neighbors I am submitting the petition again with additional signatures. You will see from the petition that there is overwhelming opposition from the homeowners and tenants of the neighborhood who live on the surrounding streets of 24th St, San Bruno Ave, Utah St. Vermont , 23rd St. and Potrero Ave.

The petition heading reads as follows:

Petition Against Further Expansion of San Francisco General Parking Garage
We, the undersigned homeowners and tenants of the residential neighborhood surrounding the San Francisco General Hospital Parking Garage are opposed to any further expansion of the SFGH parking garage. We support Variant#1 in the Initial Study dated October 6, 2015 which calls for no expanded parking garage.. We are extremely concerned about multiple environmental effects this project would have on our two story neighborhood. These include issues of increased traffic, noise, air quality, increased wind and trash, increase in light levels at night, loss of landscaping including significant mature trees, privacy, blocking of views, shading, height of proposed expansion, which is out of character with the surrounding neighborhood, as well as other issues. As well, we are opposed to any inclusion of commercial retail space in the proposed expansion. The UCSF Research Building should include a proposal for their own underground parking at that site to replace any lost surface parking due to construction.

GW-1

Further Comments:

Chapter 3 Project Description
Section 2.4.2 B/C Lot "The ZFGH parking garage is located across Twenty-Third Street between Utah and San Bruno Avenue. Residential and retail properties up to two stories tall front Twenty-Third Street between San Bruno Avenue and Vermont Street."

Comment: This description does not include that adjacent streets of San Bruno Ave., Utah St., and 24th St. are all two stories and residential as well.

GW-2

Section 3.6.3.1 Variant 1 (292-space Garage Expansion with Retail)

" Up to 5,000 square feet of ground floor retail space could be substituted for up to 15 of the proposed 307 new parking spaces within the garage expansion to provide active uses along Twenty-Fourth Street frontage that are compatible with the surrounding neighborhood commercial streets."

Comment: Except for one small café that has been on 24th St. for over thirty years, there are no commercial retail spaces in the surrounding residential neighborhood. The closest retail spaces are on Potrero Ave. The homeowners and tenants of our neighborhood are overwhelmingly opposed to any inclusion of retail space in the proposed garage expansion. This would only increase traffic, traffic noise, pedestrian noise, trash, pollution and destroy our privacy. No studies have been done suggesting what kind of retail would be allowed, what the hours of operation would be, and how it would effect a residential neighborhood.

GW-3

Section 4.1.6 Issues Adequately Addressed in the Initial Study

"After evaluation of the proposed project, the Initial Study concluded that neither the proposed project nor variants would have a substantial adverse effect on a scenic vista,substantially reduce sunlight or significantly increase shadows in the public open space, or increase pedestrian level wind speeds above the hazard level set forth in the San Francisco Planning Code. Therefore no additional analysis of these issues is required."

Comment: The following are quotes from the initial study. "Page18. Section 5.1 Aesthetics
Scenic vistas from the SFGH campus include distant views of the downtown skyline and profiles of hillside and parks, including Twin Peaks, Bernal Heights, McKinley Square Park and the Starr King Open Space." Page19. "Expansion of the parking garage under the proposed project or the Further Expanded Parking Garage Variant would largely be obstructed by existing vegetation and other buildings; new portions of the garage may be glimpsed by motorists."
This initial study only talks about views from the SFGH campus or views of the site from outlying areas. Nowhere is there any discussion of the destruction of neighborhood views from the residential neighbor's homes that they currently have, especially on San Bruno Ave. , 24th Street and Utah Street. The initial study also suggests that mature trees will be removed during construction. Any existing trees or replacement trees are not going to shield the approx.. 120 Ft. height of the proposed garage expansion and stair towers from the neighbors. Let's not talk just about passing motorists! This Initial Study or the Draft EIR Report does not include any discussion of Mass and Scale and how it would impact the neighborhood as found in the Draft Supplemental EIR Report dated February 11, 1994 for the San Francisco General Hospital Parking Garage and its original construction. This document should be fully reviewed and all its issues, including the true extent of contaminated soils, should have been included in the Draft EIR Report, especially pertaining to the proposed Phase Two of the garage. Also, besides the proposed garage expansion and its five Variants , there is no discussion of other alternatives such as putting three or four floors underground as they did with the original Phase One of the garage facing 23rd St. Also, as pertains to aesthetics, no plan for the garage expansion should include the repetition of the stair towers. They are completely out of scale with the neighborhood. I asked the original architect in

GW-4
GW-5
GW-6
GW-7
GW-8

1994 why they were used and he simply thought they were a catchy design element. Your design element, our neighborhood. The stairs and elevators should be placed inside the structure of any proposed Variant and not as corner towers. Besides scale, they also contribute to issues of pedestrian noise, loss of privacy, and increase of night time light especially for the second story apartments and residents of the neighborhood.

Further quotes from the initial study include "Discussion of Potential Cumulative Impacts:"Regarding cumulative shadow impacts, the proposed project and variants would result in less than significant shadow impacts because it would not shade parks or open spaces under the jurisdiction of the Recreation and Parks Department; it would only shade street, sidewalks, and other public areas for a limited duration and extent, resulting in shadow conditions typical of urban areas" and ".... The parking garage would be too short to have pedestrian level impacts, even under the Further Expanded Parking Garage Variant. Therefore, the project and variants would not contribute to cumulative wind impacts."

As the neighborhood is not owned by the Recreation and Parks Department, the proposed garage expansion of over 100 ft would definitely contribute to shading, loss of light as well as views. A structure of that height would also be likely to increase wind velocity, especially along the 24th St. corridor. In regards to the height issue of the proposed garage expansion, the 40 foot height limit that is the code in the area is deceiving. The original garage Phase One was allowed to use a formula for a sloping lot that used an average height from the sidewalk along the North/South axis. The actual height of the existing garage along 24th St. exposure is over 91 feet high. The proposed variant for full expansion at grade on 24th St. would be something like 120 feet to the top of the stair tower. This scale of a structure would utterly destroy the character of our neighborhood, have many cumulative adverse environmental impacts that are referenced above and in the Initial Study and in the Draft Supplemental Environmental Impact Report of February 11, 1994.

GW-8 cont.

GW-9

GW-10

GW-11

Section 2.5 Alternatives to the Proposed Project
Comment:Now UCSF is proposing underground parking at the new research facility. I would suggest three or four floors of parking instead of just two as proposed under Alternative two. Under this proposal no expansion of the existing parking garage would occur. I agree with this alternative if the research building is approved.

GW-12

Section 3.6.3 City Parking Garage Expansion-Project Variants

Comment: Only Variant 4(No garage Expansion) is in keeping with the scale of the surrounding residential neighborhood. No other variants that would include several stories of underground parking have been proposed for the garage expansion. I then have no alternative but to support Variant 4.

GW-13

Section 4 Aesthetics Section 4.1.3.4 San Francisco General Plan

"The City's General Plan includes policies that pertain to views and visual quality These policies also recognize and protect major public views in the city, with particular attention to view of open space.Policies 2.4 through 2.6 of the Conservation section of the Urban Design Element address notable landmarks of aesthetic or other importance,as well as convey a need to respect the character of nearby older development in the design of new buildings. Policy 4.15 of the Neighborhood Environment section of the Urban Design Element includes requirements for protecting the livability and character of neighborhood from intrusion of incompatible new development."

Comment: I agree and hope the City includes these principals in their decision regarding the expansion of the parking garage which the neighborhood does not support because of its incompatibility.

GW-14

Section 4.1.7 Mitigation Measures Impacts of The Expanded Parking Garage

"The two additional towers that would be added to the garage along Twenty Fourth Street also would help to create a more symmetrical balanced structure in comparison to the existing garage.Although the additional floor proposed under Variants 2 and 3 would increase the mass of the structure, the continuation of the existing design features in the proposed garage expansion would help to reduce the perceived scale and mass of the structure under the project and variants. The scale of the garage expansion on the existing neighborhood businesses across Twenty-Fourth Street, and especially considering the additional story proposed under Variant3, could be reduced if the upper floors of the garage are setback from the street frontage so that the building height is consistent with adjacent buildings."

"The garage is located in a neighborhood with compromised architectural integrity. As noted in Section 4.3, Cultural and Paleontological Resources, many of the surrounding buildings have been significantly altered, with the addition of modern facades, fenestration, stucco wall cladding and other adaptations. The expansion of the parking garage under the project or Variants 1-3 would not substantially degrade the visual integrity of the neighborhood. It would be an extension of the modern, institutional architecture that characterizes the eastern edge of the ZSFG campus. The expansion of the garage under the project or Variants 1-3 would have no significant effect on the scenic public setting of the ZSFG campus or substantially degrade the visual character or quality of the site and its surroundings."

GW-15

"Mitigation;None required."

Comment: I think the arrogance and non compliance of this section with The City's General Plan and especially Policy 4.15 of the Neighborhood Environment section of The Urban Design Element speaks for itself. Additionally, there is no design schematic for review included in the DEIR for any setback of upper floors to reduce the impact of the garage expansion. The mixed use buildings on Twenty-Fourth Street across from the garage are all occupied residentially on the second story and are not just commercial structures. Other than mature street trees that the neighbors insisted be planted twenty years ago,the design of the exisiting garage has done nothing to mitigate it's mass and scale for the current neighbors. The proposed height and mass of the proposed Variants, especially the horrific stair towers that would actually be somewhere closer to 120 feet high are completely incompatible with our residential neighborhood. Again, no Variants are proposed to put several stories below grade as they are on 23rd St. or to internalize the stairs and elevator instead of the completely out of scale towers.

GW-15 cont.

A lot of time and energy has been expended in the DEIR referring to archeological and paleontological resources or the migration and nesting patterns of birds but no consideration is being given to the four generations of families that live in the surrounding neighborhood and the degradation of that neighborhood that the garage expansion represents. Again, a nearly unanimous number of the neighbors support no expansion of the parking garage.

Sincerely,

Geoffrey Williams

October 20,2015

PETITION AGAINST FURTHER EXPANSION OF SAN FRANCISCO GENERAL PARKING GARAGE

We, the undersigned homeowners and tenants of the residential neighborhood surrounding the San Francisco General Hospital Parking Garage are opposed to any further expansion of the SFGH parking garage. We support Variant#1 in the Initial Study dated October 6, 2015 which calls for no expanded parking garage. We are extremely concerned about multiple environmental effects this project would have on our residential two story neighborhood. These include issues of increased traffic, noise, air quality,increased wind and trash,increase in light levels at night, loss of landscaping including significant mature trees,privacy,blocking of views, shading, height of proposed expansion,which is out of character with the surrounding neighborhood , as well as other issues. As well, we are opposed to any inclusion of commercial retail space in the proposed expansion. The UCSF Research Building should include a proposal for their own underground parking at that site to replace any lost surface parking due to construction.

Signature	Printed Name	Owner /Tenant	Address
Geoffrey Williams	GEOFFREY WILLIAMS	OWNER, OCCUPANT HOME & BUSINESS	2501 24TH ST
Raymond Tsang	Raymond Tsang	TENANT	JAE CAFE 2537 24th St
Robert F. Vranizan	Robert F. Vranizan	Owner/ occupant/ Business Owner	2533-2535 -24th
[illegible]	ROXY DIETRICH	TENANT	1328 SAN BRUNO AVE #2
[illegible]	THOMAS [illegible]	OWNER	SF, CA [illegible] 1346 SAN BRUNO
FRANCISCO OROZCO		OCCUPANT tenant	1341 San Bruno Ave
Diana Samuelson	Diana Samuelson Page 2 BY1	OWNER, OCCUPANT	1349 SAN BRUNO
Felisa Hitchcock	Felisa Hitchcock	owner OCCUPANT	1343 San Bruno
Annie Yan	ANNIE YAN	OWNER OCCUPANT	1325 SAN BRUNO

October 20, 2015

PETITION AGAINST FURTHER EXPANSION OF SAN FRANCISCO GENERAL PARKING GARAGE

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Signature	Printed Name	Owner /Tenant	Address
	STEPHEN MAK	OWNER OCCUPANT	1320 SAN BRUNO AVE SF CA 94110
	FRANK STONICH	OWNER/OWNER OCCUPANTS	
Shirley Stonich	Shirley Stonich	1326-28 San Bruno 1364- " " 1366-68 " "	1326-28 San Bruno
	AUDREY SAKAMOTO	2442 24th St OWNER OCCUPANT	1342 SAN BRUNO
	Larry Hitchcock	owner occupant	1341 San Bruno
	Alison Schadel	tenant	1330 San Bruno
	Kirsten Haenes	occupant	1355 San Bruno
	Grace Woo	occupant owner (family)	2541-24th St.
	Paul Bellar	owner	1350 San Bruno Ave
	Anthony C. Eason	Tennant	2443 24th St, SF, CA, 94110

October 20,2015

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Signature	Printed Name	Owner /Tenant	Address
	GATE'S HOUSE	TEN	2445 24th St.
	Sandra Stone	Owner	1380 Vermont St.
	Warren Wong	Owner	2505 24TH St.
	Jorge Monroy	OCCUPANT OWNER	2426 24th St
	Carmen M. Sandoval	Owner	1219 San Bruno Ave
	Tucker Williams	Tenant	2501 24th st
		OWNER	2525-2529 24th St
	N. STEGER	OWNER	2405 23rd ST.
	A. RESTREPO STEGER	OWNER	2405 23RD ST
	Jesus Gomez	owner	1136 POTRERO Ave

October 20,2015

PETITION AGAINST FURTHER EXPANSION OF SAN FRANCISCO GENERAL PARKING GARAGE

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Signature	Printed Name	Owner /Tenant	Address
Rhonda Nichols	Rhonda Nichols	owner	1223 San Bruno Avenue
	Sasha Wisotsky	Tenant	1221 SAN BRUNO AVE.
Laura Derry	Laura Derry	Tenant	1223 San Bruno Ave
	Sylvia Alvarez-Lynch	Owner	2664 Bryant St. SF
M.P.R. Howard	M.P.R. Howard	Tenant	2635-23rd St #07 94110
Mari Eliza	Mari Eliza	"	499 Alabama St 94110
Mary Simon	Mary Simon	Owner	1162 Rhode Island St.
Peter Borodin	Peter Borodin	Owner	1252 Vermont St
Claudia Flores	CLAUDIA FLORES	TENANT	1223 POTRERO AVE
Lillian Morada	Lillian Morada	owner	1221 Potrero Ave.
	Pieter M Joosen	owner	1209 San Bruno Ave
	RIGOBERTO GUITRON	OWNER	1211 SAN BRUNO AVE
	Colleen Dillon	owner	1207 San Bruno Ave

October 20,2015

PETITION AGAINST FURTHER EXPANSION OF SAN FRANCISCO GENERAL PARKING GARAGE

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Signature	Printed Name	Owner /Tenant	Address
	Mariana Nelson	Tenant	1217 San Bruno
	JUNE NUGENT	OWNER	1205 San Bruno
	Karen Rice	tenant	1225 San Bruno
	Erika Sabalis	tenant	1287 San Bruno
	Kyle Jensen	tenant	1287 San Bruno
	Tina Landis	tenant	1332 San Bruno
	A. Ballmer	tenant	1338 San Bruno
	Lilly Creighton	owner	1331 San Bruno Ave.
	Joan Rodrigues	tenant.	2441 24th St.

October 20,2015

PETITION AGAINST FURTHER EXPANSION OF SAN FRANCISCO GENERAL PARKING GARAGE

We, the undersigned homeowners and tenants of the residential neighborhood surrounding the San Francisco General Hospital Parking Garage are opposed to any further expansion of the SFGH parking garage. We support Variant#1 in the Initial Study dated October 6, 2015 which calls for no expanded parking garage. We are extremely concerned about multiple environmental effects this project would have on our residential two story neighborhood. These include issues of increased traffic, noise, air quality,increased wind and trash,increase in light levels at night, loss of landscaping including significant mature trees,privacy,blocking of views, shading, height of proposed expansion,which is out of character with the surrounding neighborhood , as well as other issues. As well, we are opposed to any inclusion of commercial retail space in the proposed expansion. The UCSF Research Building should include a proposal for their own underground parking at that site to replace any lost surface parking due to construction.

Signature	Printed Name	Owner /Tenant	Address
[signature]	Andrew Lawrence	Tenant	2439 24TH St SFCA
[signature]	Cheryl C. Tyler	tenant	2429 24th St B 94110
[signature]	Željko Petković	Tenant	2411 24TH ST 94100
[signature]	Elizabeth Woll	tenant	2400 24th St.
[signature]	Alexis C Beach	Owner	2420 24th St
[signature]	SAHIL FAROOQI	Tenant	1266 Utah St
[signature]	Lucas Arguelles	tenant	1254 Utah St.
[signature]	Joanna Adams	Tenant	1212 B Utah
[signature]	Artelia Terrell	owner	1230 Utah
Gerd Konstad	GERD KONSTAD		1230 Utah

October 20,2015

PETITION AGAINST FURTHER EXPANSION OF SAN FRANCISCO GENERAL PARKING GARAGE

We, the undersigned homeowners and tenants of the residential neighborhood surrounding the San Francisco General Hospital Parking Garage are opposed to any further expansion of the SFGH parking garage. We support Variant#1 in the Initial Study dated October 6, 2015 which calls for no expanded parking garage. We are extremely concerned about multiple environmental effects this project would have on our residential two story neighborhood. These include issues of increased traffic, noise, air quality,increased wind and trash,increase in light levels at night, loss of landscaping including significant mature trees,privacy,blocking of views, shading, height of proposed expansion,which is out of character with the surrounding neighborhood , as well as other issues. As well, we are opposed to any inclusion of commercial retail space in the proposed expansion. The UCSF Research Building should include a proposal for their own underground parking at that site to replace any lost surface parking due to construction.

Signature	Printed Name	Owner /Tenant	Address
[signature]	Jesse Friedman	tenant	1212 Utah St
[signature]	IAN COOTOS	TENANT	1208 UTAH
[signature]	KATE BIGENSCHULE	TENANT	2403A 23RD ST.
[signature]	Gita Srinivasan	tenant	1326 Utah St.
[signature]	Theresa Cangelosi	owner	1334 UTAH ST.
[signature]	DAN DWORKIN	OWNER	1340 UTAH ST.
Del Gregan	DAVID EDWARDS	owner	1315 Utah St.
Michael Fong	MICHAEL FONG	Tenant	2423. 24th. St
[signature]	Shuling Guan	Tenant	2423 24th St.

October 20,2015

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Signature	Printed Name	Owner /Tenant	Address
Michele Schaal	Michele Schaal	(owner)	1230 Vermont
Marie Sorenson	Marie Sorenson	owner	1196 Hampshire
K	KATHRYN PODGORNOFF	OWNER	1230 Vermont st

Geoffrey Williams, April 23, 2016

Response to Comment GW-1:

Thank you for your comment. The support for Variant 1 (No Garage Expansion) as described in the Initial Study (Variant 4 in the Draft EIR) is acknowledged. To the extent that potential environmental impacts would result from implementation of the proposed project, they were determined to be less than significant or less than significant with incorporation of mitigation measures, with two exceptions: Impact TRAF-2 and Impact TRAF-9, both of which relate to the intersection of Twenty-Fourth Street and Potrero Avenue. The petition also suggests that UCSF should consider underground parking below the proposed research building, which was subsequently included in the EIR as Alternative 2.

Response to Comment GW-2:

The comment is acknowledged; however, the intent of this sentence is to describe the characteristics of properties directly adjacent to the B/C Lot. The following is added after the second paragraph on page 3-7 of the Draft EIR to provide an accurate description of properties adjacent to the ZSFG parking garage.

> Properties adjacent to the parking garage on San Bruno Avenue, Utah, and Twenty-Fourth streets are predominantly one- and two-story, single- and multi-family residential, with some ground level retail on Twenty-Fourth Street.

Response to Comment GW-3:

The opposition to replacing parking spaces with retail uses as proposed under Variants 1 and 3 is acknowledged. To the extent that inclusion of retail space would result in environmental impacts, those impacts were determined to be less than significant or less than significant with incorporation of mitigation measures, with the exception of traffic impacts at the intersection of Twenty-Fourth Street and Potrero Avenue.

Response to Comment GW-4:

Thank you for your comment. The commenter is correct that the Initial Study and Draft EIR do not discuss views from residential areas that would potentially be affected by the proposed project. Potential impacts to scenic views and vistas are only considered from public viewpoints under CEQA.

Response to Comment GW-5:

As noted in Section 4.1.5, Analysis Methodology, on page 4.1-6 of the Draft EIR, “The scale, massing, bulk and form of the proposed project is evaluated in the context of surrounding development, including the ZSFG campus and surrounding neighborhood.” The 1994 Supplemental EIR was considered in the analysis of the proposed project, and is included in the

references for the land use section on page 4.5-14 of the Draft EIR. The original 1993 EIR was cited specifically in the Aesthetics section of the Draft EIR and is included in the references on page 4.1-12. The 1994 Supplemental EIR only discussed potential impacts regarding shadows and impacts to private views, and no additional mitigation was required beyond that described in the 1993 EIR.

Response to Comment GW-6:

The Initial Study considered the past history of the parking garage site, including its prior use as a San Francisco Muni Railway Maintenance Yard. As noted under criteria "d)" on page 47 of the Initial Study (Appendix A of the Draft EIR), the site was identified on the State Water Resources Control Board Geotracker website. The case was closed in November 2000, indicating no further threat to human health or the environment remained. In addition, the garage site would be required to comply with Mitigation Measure HAZ-1a (Subsurface Investigation Work Plan) and Mitigation Measure HAZ-1b (Excavation Management Plan), in order to comply with the Maher Ordinance (see pages 45 and 46 of the Initial Study).

Response to Comment GW-7:

The proposed expansion of the parking garage is intended to be consistent with the design of the current structure. Redesigning the garage expansion with some levels located underground would likely result in greater impacts to some environmental topics, e.g., air quality and noise impacts during construction activities, compared to the proposed project.

Response to Comment GW-8:

As noted in Response to Comment GW-7, the proposed garage expansion is intended to be consistent with the existing garage. Any additional design features or modifications that would further reduce perceived negative aesthetic effects of the parking garage would be at the discretion of the City and County of San Francisco and the Parking Authority of the City and County of San Francisco.

Response to Comment GW-9:

The comment and the quote from the Initial Study are correct. All of the existing structures, including residences, in the vicinity cast shadows. Shadow from the parking garage currently reaches the northern half of the blocks of Utah Street in the morning and San Bruno Avenue in the afternoons, throughout the year. Morning shadow from the garage currently reaches onto the houses on the west side of Utah Street, while afternoon shadow reaches onto the houses on the east side of San Bruno Avenue. These are what the Initial Study referred to as "shadow conditions typical of urban areas."

The shadow pattern from the proposed project and Variant 1, both of which would extend the garage at its existing height south to Twenty-Fourth Street, would extend the shadowing that already occurs in the northern half of the blocks to the full blocks of Utah Street in the morning

and San Bruno Avenue in the afternoons, throughout the year. With Variants 2 and 3, which would add one floor and expand the garage south to Twenty-Fourth Street, the length of the shadow would be increased in proportion to the increased height of the garage.

Response to Comment GW-10:

All of the existing structures in the vicinity have some effect on the wind. Short buildings typically have little effect on the wind, unless they are very wide or are exposed on an open site. Large buildings can result in wind effects and substantially alter wind speeds at ground level if they are much taller than the surrounding buildings that lie upwind. The much-taller ZSFG campus buildings stand to the north of the parking garage and 2- to 4-story residential buildings stand to the west. Thus the garage site is sheltered from the predominant higher-speed San Francisco winds that approach from the NW, WNW, and W, but would be partially exposed to SW winds.

Wind becomes a problem when it strikes the façade of a tall building and builds up a pressure gradient on the building exterior that directs the wind flow down to street level. The façade of the ZSFG parking garage has large horizontal openings that relieve the pressure build-up and allow wind to flow through each open parking level. As a result, the building does not generate a substantial wind downwash at the ground.

For these reasons, the wind speeds at pedestrian level on surrounding sidewalks around the existing garage should be similar to those in nearby residential neighborhoods. For the same reasons, if the existing garage were to be extended to Twenty-Fourth Street, or even if the garage were to be made a story taller along its length, the resulting changes in wind speeds at pedestrian level on surrounding sidewalks would be relatively small.

Response to Comment GW-11:

Thank you for your comment. As noted on page 4.5-10 of the Draft EIR, the addition of an additional floor proposed under Variants 2 and 3 would exceed the 40-foot height limit of the site's 40-X Height and Bulk District. Therefore, construction of either of these variants would require a height reclassification of the site to conform with the City Planning Code. The compatibility of the proposed garage expansion with the character of the surrounding neighborhood is discussed under Impact LU-2 in Section 4.5, *Land Use and Planning*.

Response to Comment GW-12:

The support for Alternative 2: On-Site/Underground Parking Alternative is acknowledged. The proposed two underground floors would accommodate the potential new parking demand for the research building.

Response to Comment GW-13:

The support for Variant 4, also analyzed as Alternative 3 (No Garage Expansion), is acknowledged.

Response to Comment GW-14:

The support for San Francisco General Plan policies pertaining to views and visual quality is acknowledged. As noted on page 4.5-5 of the Draft EIR: "The consistency of the proposed project with applicable plans and policies that do not directly relate to physical environmental issues will be considered by decision-makers as part of their decision whether to approve or disapprove the proposed project. The project cannot be approved if it is not generally consistent with adopted plans and policies. Policy conflicts are considered to be environmental impacts only when they would result in direct physical impacts." Therefore, the City and County of San Francisco, Board of Supervisors, Planning Commission and its agencies or designees, and the Parking Authority of the City and County of San Francisco will be responsible for determining consistency of the proposed garage expansion with the General Plan and other applicable plans.

Response to Comment GW-15:

See Responses to Comments GW-8, GW-11, and GW-14.

Comment Letter DE

From: David Edwards
To: Campus Planning - EIR
Subject: Regarding UCSF ZSFG public hearing public comment form from April 21st 2016
Date: Thursday, May 05, 2016 1:19:10 PM

To whom it may concern,

I am definitely against building the research center. It is too tall and will make 23rd Street into a canyon. How about some set back? DE-1

Also in an area already crowded with traffic you'll be bringing in hundreds of employees. DE-2

Please provide enough parking for these people underground under the research center and leave the garage the way it is. The existing garage is ugly and has wrecked that side of the block. Now you want to wreck the other side. DE-3

The neighbors respect the hospital's good work but hate the steamroller attitude when they want to build something. Please, be good neighbors!

Since you are not really asking us about extending the garage you are telling us what you're going to do at least try to make the garage architecture aesthetically pleasing. Maybe some large vertical wall Gardens. Too much maintenance you say. Then use quality fake plants, they've gotten very realistic recently. I'd like to see art on the walls but most public art is terrible. And you don't want to pay for a well-known artist or Maya Lin. We just don't want to look at more steel, concrete and bright lights! DE-4

And those Towers! Why do we need symbols of feudal Lord ship on our block? Who at the hospital needs two Giant phalluses to make themselves feel better??

Put a couple levels underground and then the structure will not have to be so imposing.

What you build is a symbol of your attitude like the beautiful new hospital you just built. Do the same with the other buildings and the neighborhood and all those who come here will appreciate your presence. DE-5

Thanks for your consideration, David Edwards

David Edwards, May 5, 2016

Response to Comment DE-1:

Although the architectural design of the proposed research building has not been fully developed, it is anticipated to be setback from Twenty-Third Street by approximately 28 feet. In addition, as acknowledged in Mitigation Measure CP-1: Design Guidelines for the Research Building, the brick and metal fence along the southern edge of the project site should be retained in its current location (see No. 2 on page 4.3-29 of the Draft EIR).

Response to Comment DE-2:

As noted on page 3-8 of the Draft EIR, of the approximately 800 UCSF employees estimated to work in the research building, approximately 680 UCSF employees are already on the ZSFG campus and would be relocated from existing facilities on the ZSFG campus to the proposed research building. In addition, about 120 employees could be relocated from off-campus leased space to the new building.

Response to Comment DE-3:

The support for Alternative 2: On-Site/Underground Parking Alternative is acknowledged.

Response to Comment DE-4:

The proposed expansion of the parking garage is intended to be consistent with the design of the current structure. Any additional design features that would further reduce perceived negative aesthetic effects of the parking garage would be at the discretion of the City and County of San Francisco and the Parking Authority of the City and County of San Francisco.

Response to Comment DE-5:

As noted in Response to Comment DE-4, the garage expansion is intended to be consistent with the existing garage. Redesigning the garage expansion with some levels located underground would likely result in greater impacts to some environmental topics, e.g., air quality and noise impacts during construction activities, compared to the proposed project.

Comment Letter CS

From:	Christopher Sabre
To:	Campus Planning - EIR
Cc:	Karen Cliffe; Loretta Lynch
Subject:	Draft Environmental Report UCSF Research Building
Date:	Monday, May 09, 2016 4:41:01 PM

Christopher Sabre
2012 23rd Street
San Francisco, CA 94107

May 9, 2016

Diane Wong, Environmental Coordinator
UCSF Campus Planning

Dear Ms Wong,

Along with other objections raised by us and our neighbors to the UCSF Research Building at SFGH, we would like to include that the EIR completely ignores the stipulation in section 7 of the landscape component of the SFGH rebuild EIR that states the following:

"Existing open space areas that would remain on Campus after development of the proposed project would include: areas east of Buildings
10/20, 30/40 and 9; southeast of Building 1; south of Building 90; landscaped areas along Vermont Street; and, courtyard areas with limited
public access within Building 100 and the Behavioral Health Rehabilitation Building."

This is a prime example of why the City of San Francisco should be in the lead when it comes to an EIR on this and other projects on City land.

CS-1

Sincerely,
Christopher Sabre
Jean Loura
415.824.2013

Christopher Sabre, May 9, 2016

Response to Comment CS-1:

See Response PBNA-1.

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PUBLIC HEARING ON THE

DRAFT ENVIRONMENTAL IMPACT REPORT

UNIVERSITY OF CALIFORNIA SAN FRANCISCO

RESEARCH BUILDING

- and -

CITY AND COUNTY OF SAN FRANCISCO

PARKING GARAGE EXPANSION

AT

ZUCKERBERG SAN FRANCISCO GENERAL HOSPITAL

AND TRAUMA CENTER

Thursday, April 21, 2016

7:00 o'clock p.m.

San Francisco General Hospital

Second Floor, Cafeteria

1001 Potrero Avenue

REPORTED BY: DEBORAH FUQUA, CSR #12948

APPEARANCES

---o0o---

ROLAND PICKENS, San Francisco General Hospital
Interim CEO

LORI YAMAUCHI, Associate Vice Chancellor, UCSF Campus
Planning

DIANE WONG, UCSF Principal Planner, Campus Planning

KRISTIAN ONGOCO, UCSF Community Relations

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COMMENTS

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---o0o---

Thursday, April 21, 2016 7:04 o'clock p.m.

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LORI YAMAUCHI: Good evening, my name is Lori Yamauchi. I'm the Associate Vice Chancellor for Campus Planning at the University of California San Francisco or UCSF. I will be the hearing officer for tonight's public hearing on the Draft Environmental Impact Report or "Draft EIR" for the proposed UCSF Research Building and City Parking Garage Expansion at the Priscilla Chan and Mark Zuckerberg San Francisco General Hospital and Trauma Center Campus or "ZSFG."

So I'll let Roland Pickens open us with an intro.

ROLAND PICKENS: Thank you, Lori.

So good evening. I'm Roland Pickens, Interim Chief Executive Officer here at Zuckerberg San Francisco General.

I just want to welcome members of the public who have come for this public hearing. We are excited about this project and just look forward to hearing your feedback this evening and going through the process governed by the rules of a public hearing.

So just, again, welcome and thank you for all that you've done and will continue to do to support our hospital, thank you.

LORI YAMAUCHI: Thank you, Roland.

So the purpose of this hearing is to receive public testimony and evidence regarding the analysis of environmental impacts contained in the Draft EIR for proposed project, which was prepared pursuant to the California Environmental Quality Act or "CEQA."

Tonight's hearing is being conducted pursuant to the University of California's procedures for the implementation of CEQA. Accordingly, this is not a community meeting regarding the project itself.

UCSF is proposing to lease the site of the parking lot along 23rd Street between Vermont and Utah Streets known as the B/C Lot and to construct a research building there.

Because the parking lot will be displaced and because there's otherwise a need for more parking at the SFGH campus to meet existing and future parking demand, the City of San Francisco, or "City," is proposing to expand the existing City-owned parking structure along 24th Street.

The EIR analyzes the impacts of both the proposed Research Building and the proposed Garage Expansion. Per memorandum of understanding between the City and UCSF, UCSF is the lead agency for the EIR, meaning that UCSF is taking the lead in preparing the

document; the City is a responsible agency.

Over the last few years, we have held several community meetings regarding the project where we received comments about the proposal. The following meetings were held:

UCSF held community meetings about the proposed Research Building on February 11, 2013; June 17th, 2013.

UCSF engaged with community organizations and neighborhood groups in spring 2015, giving presentations regarding the Research Building at meetings of the Potrero Boosters, Kansas SAFE neighbors, Calle 24 Council, and the East Mission Improvement Association as well as community leaders.

UCSF presented information about the proposed Research Building at the Rebuild Community Meeting on September 30th, 2015.

UCSF held a scoping meeting for the Environmental Impact Report on October 21st, 2015.

Public notice regarding this hearing and the availability of the Draft EIR included:

Mailed postcards to nearly 2,800 residences and businesses surrounding the project site.

Written notification to adjacent property owners.

Written notification to the San Francisco Planning Department's neighborhood organizations list.

E-mailed notice to about 115 individuals and organizations on UCSF neighborhood listserv.

Advertisements in the San Francisco Examiner, Potrero View, and El Tecolote.

And posted notice on the UCSF Campus Planning website.

Please note that this is not a typical UCSF community meeting. It is a formal public hearing as recommended by CEQA to receive public testimony regarding the Draft EIR and, thus, will not be interactive. Tonight's hearing will not be followed by an interactive Q-and-A session as was held after the scoping meeting in October.

As required by CEQA, UCSF and the City will respond to comments in writing and therefore will not respond verbally to testimony or engage in a dialog with the public. In the future, there will be opportunities for dialog as we hold community meetings in a more traditional format.

There are yellow speaker cards on the sign-in table in the back of the room that you may fill out if you wish to speak.

This hearing will be transcribed by a court

reporter. A complete transcript of this proceeding as well as all written comments received during the EIR public review period will be included in and responded to in writing in the Final EIR.

All comments will be presented to the Regents of the University of California for review before considering the certification of the Final EIR. The Regents will then decide whether or not to approve the UCSF Research Building. The City of San Francisco will decide whether or not to approve the expansion of the City-owned garage.

The discretionary approvals of the ground lease, the Research Building, and the Garage Expansion are described in the EIR.

If you do not wish to speak tonight, you may submit written comments, which are given equal weight with oral remarks. Written purple comment forms are available on the table in front. If you would like to use them, you may also supplement any oral testimony given tonight with additional submitted material.

If you submitted comments on the initial study and feel that the Draft EIR does not adequately address these comments, you are welcome to resubmit those comments during the public review period.

I would like to note that all comments must be

received by the close of the public review period on Monday, May 9th, 2016 at 5:00 p.m. in order to be considered as part of the record.

Correspondence should be sent to Diane Wong UCSF Campus Planning, 654 Minnesota Street, San Francisco California 94143-0286.

Regarding the hearing tonight, if you would like to speak and have not already signed up, please fill out a speaker card now and return it to the staff.

In order for your testimony to be accurately recorded and so that we may respond accurately in the Final EIR, please come forward when called, and use the microphone. As you begin your remarks, please spell your name for the reporter and indicate the name of any organization you represent.

Again, UCSF staff will not respond to the testimony this evening or engage in a dialog with the public. However, I will be happy to answer any procedural questions about the hearing.

Are there any questions that have not been addressed by my comments?

(No response)

LORI YAMAUCHI: Therefore, I --

UNIDENTIFIED SPEAKER: I was just trying to understand. Can we ask questions, give comments, voice

concerns? I mean, you say all the legalese, but in a nutshell, can we do that?

LORI YAMAUCHI: This is not an interactive Q-and-A session. So if you ask questions, I will not respond. And staff from the University or the City will not respond.

UNIDENTIFIED SPEAKER: But we can make --

LORI YAMAUCHI: But you can ask questions, make comments as part of your testimony.

Yes, sir?

UNIDENTIFIED SPEAKER: Yes. May I ask you to clarify one point that still seems to be confusing to a lot of us?

And that is that, all the comments that you've made already, including publicly at the microphone and in written form, are not going to be necessarily included in that response document. If you think you need to reiterate something, send them in again or testify tonight because everything we've done up to this point is only on that CD of the Draft EIR. Make sure you're heard.

LORI YAMAUCHI: Okay. Thank you, sir.

So do you have any questions about the proceedings for tonight's hearing, sir?

UNIDENTIFIED SPEAKER: No.

LORI YAMAUCHI: You just wanted -- okay.

Any other questions about the procedures for tonight?

KRIS ONGOCO: Anyone need a speaker card?

LORI YAMAUCHI: So are there any speakers, people who wish to speak?

Okay. So I will call out names of the speakers. And if you could please line up in front of the microphone.

Geoff Williams, followed by M.P.R. Howard, followed by Colleen Dillon.

GEOFF WILLIAMS: Good evening, everyone. I'm Geoff Williams. I've been a 28-year resident of 24th and San Bruno. We live there, and it's also my business location. I'm an artist and have a studio there as well.

At the last meeting, we started to circulate a petition, which was back in October. And by one week, we've had virtually unanimous opposition from all the residents on 24th Street, San Bruno Avenue, Utah Street; there were two or three residences we weren't able to contact.

But I submitted this petition as part of my written comments as well for the Draft EIR. But I think it's relevant to at least read that petition and

PH-1

what the concerns are because I don't feel the Draft EIR has really addressed the issues that are relevant to the neighbors themselves.

So let me read that to you.

"Petition against further expansion of San Francisco General Parking Garage. We, the undersigned homeowners and tenants of the residential neighborhood surrounding the San Francisco General Hospital Parking Garage, are opposed to any further expansion of the SFGH Parking Garage. We support Variant 1 in the initial study dated October 6th, 2015, which calls for no expanded parking garage.

"We are extremely concerned about multiple environmental effects this project would have on our residential two-story neighborhood. These include issues of increased traffic, noise, air quality, increased wind and trash, increase in light levels at night, loss of landscaping, including significant mature trees, privacy, blocking of views, shading, height of the proposed expansion which is out of character with the surrounding neighborhood, as well as other issues. As well, we are opposed to any inclusion of commercial retail space in the proposed expansion.

"The UCSF Research Building should include a

PH-1 cont.

proposal for their own underground parking at that site to replace any lost surface parking due to construction."

This petition is still open for signatures, if anybody would like to be included. As I say, there are over 75 homeowners and tenants in this petition. And I'm going to lead up to some comments that I have in writing, but I'm going to read them and then also submit them. And there may be more by May 9th.

PH-1 cont.

In the Draft EIR, Section 2.5, Alternatives to the Proposed Project. My comment: Now UCSF is proposing underground parking at the new research facility. I would suggest three or four floors of parking instead of just two, as proposed under Alternative 2. Under this proposal, no expansion of the existing parking garage would occur. I agree with this alternative if the Research Building is approved.

PH-2

Section --

KRIS ONGOCO: Your minutes are up.

GEOFF WILLIAMS: Oh. Okay. Can I come back?

KRIS ONGOCO: It's three minutes per speaker, but you can submit your written comments in addition.

GEOFF WILLIAMS: Yeah, I will. Okay. Well, you know, last time we were able to recycle the --

KRIS ONGOCO: But it's a CEQA rule.

GEOFF WILLIAMS: Three minutes? You should have told us that ahead of time.

KRIS ONGOCO: We did.

GEOFF WILLIAMS: You did? Okay.

UNIDENTIFIED SPEAKER: You didn't say it very loudly.

GEOFF WILLIAMS: Well, okay. I'll submit them in writing, but basically the expansion of the parking garage is completely out of character and out of scale with the rest of community. Thank you very much. PH-3

M.P.R. HOWARD: My name is M.P.R. Howard. I live on the corner of 23rd and Potrero. I have found many faults with the EIR.

Most importantly is the particulate matter, 2.5. When the hospital -- new section of the hospital was being built, I have a -- I had a small amateur weather station on the top of my building. One of the things it also measured was particulates in the air.

During the construction of the hospital, when they were digging the soil up for the foundation and when they were pouring the concrete, the particulate matter in the neighborhood was three times the normal level of the normal traffic we have in the neighborhood.

Also, you're making your findings from a test PH-4

station that is over a mile away and southeast of this location. Our winds as normally blown here come out of the south during the winter, when we have the storms, and out of the north in the summertime, when we get the heat. Sometimes we get lucky enough to have some west winds, but they don't blow over the hill. They blow straight through the neighborhood. And this construction is just going to add to the problems that we've had to endure for the last ten years with the hospital being built and then the constructions along Potrero Avenue for the last two or three years.

PH-4 cont.

If you want to build your research center, you've got a nice big parking lot over there at Fourth Street and Campus. Put it over there. We don't want you here.

PH-5

LORI YAMAUCHI: Colleen Dillon followed by John Wilson.

COLLEEN DILLON: My name is Colleen Dillon, C-O-L-L-E-E-N, D-I-L-L-O-N. First off, I'd like to say that --

UNIDENTIFIED SPEAKER: Talk into the microphone

COLLEEN DILLON: Thank you. Okay.

First of all, I'd like to say that I really do support UCSF and SF General.

UNIDENTIFIED SPEAKER: Talk into the microphone.

COLLEEN DILLON: Okay. Stop yelling at me.

First of all, I'd like to say that I support UCSF and SF General. I actually use your services and find that the hospital is a very good hospital. My concern is being a homeowner directly across the street from the hospital. I'm greatly concerned about the proposed construction.

I've been living in a, basically, five-year construction zone. And the possibility of what -- I don't know how many years you've projected that this would take, but let's say maybe another five, ten years -- the quality of life that is being suggested or that we'll be experiencing based on this construction is really of great concerned to me.

As one of us suggested, the quality of air is of great concern. We are already being negatively affected by the current construction and then also with the highway behind us.

In the EIR, it talks about what the plan would be to control these issues. But I'm concerned that they're either not enough or they're not going to be effective enough.

Something as simple as traffic control is already so challenging right now. The intersection of 23rd and Potrero Avenue, there used to be a green arrow

PH-6

PH-7

turning left or east onto 23rd. That arrow went away and hasn't been replaced, and it's made that a very dangerous intersection. So something as simple as that green arrow has been defunct for over a year -- I don't know for how long.

PH-7 cont.

So when you have issues like that, issues like trash, issues like paving, the streets -- our street, the street behind the hospital, just got paved, which is great, but it has been horrible, absolutely horrible, for probably two years.

So we're looking at potentially between five and ten more years of really bad streets, really bad air quality, and challenging and dangerous intersections based on the direction of the traffic and how things will be rerouted.

PH-8

There is confusion around bus stations. I went to catch the bus the other day, and it's actually in a new location. Not a big deal, but these are all things that are going to continue to get worse as the construction ramps up.

PH-9

So I'm also worried about future projects. There was something in the EIR, and I wasn't sure if it was suggesting that they were leaving the door open for future projects. But I know that I've been at a community meeting a few years ago where there was no

PH-10

discussion of this new building being built. And we were told that the last one was the last thing to be built. So then what will come after that as people drive more and parking spaces go away? Are you going then add another floor to the parking garage?

PH-10 cont.

So we're all very concerned as to where this ends. And it feels like our neighborhood has been chosen to be the one to bear the brunt of all of this construction. And, again, the hospital is great, does great things, but we, as a community directly in front of the hospital, are paying a very high price for that between air quality, dangerous intersections, construction traffic, and the quality of the roads and the streets around us. Thank you.

PH-11

LORI YAMAUCHI: John Wilson?

JOHN WILSON: Just a couple thoughts. It strikes me that -- I'll raise it.

It strikes me that the --

LORI YAMAUCHI: Could you identify your name?

JOHN WILSON: I can talk louder. Get closer?

LORI YAMAUCHI: Can we get your name?

JOHN WILSON: I'm John Wilson. I live at 1238 Vermont Street. I've been in the neighborhood for close to 40 years and watched a lot of changes. Was here when the parking garage was originally put up.

PH-12

I can show you the original EIR on the garage. And the elevation drawing is so misleading as to be almost criminal, in my view, in terms of the scale of the existing garage. The idea that you can put another floor on it -- I can't imagine any of the neighbors would have had -- you would have had any support had that been at the origin of the project the first time around.

PH-12 cont.

We understood it was to be built out at that time, and think they ran out of money. If they're going to do it now, if they're going to alter the garage now, there's no way that we should trade retail space, which would attract more people for parking spaces. It's going to create further congestion.

PH-13

I don't know if any of you were out at 5:00 o'clock tonight, but both 24th Street and 23rd Street were congested. Traffic was backed up a block to the west on both streets. That's with the current situation. It's only going to get worse.

PH-14

Both intersections are routinely blocked by cars pulling into the intersection and stuck there when the lights change. MTA was supposed to have addressed this. That was part of the plan on Potrero. We see the basic layout for the new plan already out there, and it isn't working. It's going about as well as

PH-15

their Mission Street plan.

That's really all I have to say. I think if they're not going to address the traffic and the parking issues in a meaningful way, then they shouldn't do any more additions here.

We also need to keep in mind that these spaces that are vacated for the new hospital are going to be filled with more employees. So the net number of employees on this site is already going to go through the roof without taking away parking places and adding a new facility.

KRIS ONGOCO: Next set of speaker cards.

LORI YAMAUCHI: Are there any other speakers?

Can I just also -- I neglected to mention, sir, and I apologize that I didn't specify because I didn't think there were going to be a lot of speakers. But speaking time will be limited to a one-time three minutes per speaker to ensure that everyone who wants to speak has a chance to speak tonight.

So we will let you know when your time is up, as was the case earlier.

So Ellen Moore, followed by Marie Sorenson, followed by Del Greger.

ELLEN MOORE: Hi. My name is Ellen Moore, and I'm a resident of 23rd Street for -- since 1987. And I

PH-15 cont.

PH-16

PH-17

tried to read the EIR. I spent at least an hour on it, online. I found it somewhat confusing. A couple things jumped out to me, one being the suggestion that the parking garage should exit to 23rd Street after 3:00 p.m. during the construction.

This, I think, is a big mistake. 23rd Street is already hugely congested and hard to get across. It's very difficult to exit Potrero Hill. As residents know, you can only exit on 17th, 16th, 23rd, 24th. You can't go across on 25th -- it's only a left turn -- and Cesar Chavez.

So we're kind of trapped here. And to try to leave the Hill during traffic hours, meaning rush-hour, is extremely difficult, and it backs up for blocks. And I don't see this new construction as helping the situation. I see it as contributing to the problem.

PH-17 cont.

I'm also concerned about the lack of open space on the campus. I used to frequently walk across the UCSF Campus and enjoy the lawn and enjoy the flowers. And there's less and less open space, and I think there will be pretty much nil open space with this new building. That also concerns me.

PH-18

I also think pedestrians are an issue. When I try to go on 23rd Street, pedestrians walk across the crosswalk. There is no light, and there's no real

PH-19

organization. And it's becoming worse in recent weeks and months. So I don't see anything in the EIR about pedestrian safety and pedestrian crosswalks and lights or a bridge or something to get pedestrians from the campus to the parking garage. So this is another issue I see.

PH-19 cont.

Thank you for your time. I'm happy to be a neighbor of the hospital. I support the hospital. But I am concerned about the continued development and its impact on the neighbors.

MARIE SORENSON: Hi, my name is Marie Sorenson. I'm with Calle 24. And I think it's a ridiculous project. A, it's going to be way too tall for our neighborhood. I think that we've already lost a number of parking places with General Hospital. We're going to lose a lot more. And adding more people, adding more jobs here, building that building -- traffic is already a nightmare around here thanks to General and the MTA plan and the good old Bicycle Coalition. It's only getting worse.

PH-20

PH-21

PH-22

And we've had to -- we had to suffer through the construction of this monstrosity out front. Now we have to suffer through more construction? Put the place out at Mission Bay, where it belongs. We don't want 600 or how many people this is going to bring in.

PH-23

We don't want an eight-story, nine-story monstrosity.

To be quite honest, General Hospital's a horrible neighbor to the neighborhood. You basically do whatever the hell you want and ignore everybody else, but you pat us on the back for our concern.

I'd really like to not have this project built, and I don't think it's necessary. You're just -- once again, it's a neighborhood that has enough problems as it is. With having lots and lots of luxury high-rise buildings being built right now, to add the hospital to bring more people in I think is just ridiculous.

Put it over where it belongs at Mission Bay, since you all seem to tout Mission Bay as the greatest thing since sliced bread. Please leave our neighborhood alone. Enough with the building. We're sick of it. We suffered so long with having -- I call it Fuckerberg Hospital. And we don't need anymore building. Thank you.

LORI YAMAUCHI: Del Greger.

DEL GREGER: My name is Del Greger. I live a block and a half away on Utah Street for about 30 years. And I concur that I would like to support San Francisco General Hospital. But in general, they have not been a good neighbor. What they say is not what

PH-23 cont.

PH-24

PH-25

they do, again and again.

And the example is they have meetings like this; they take our comments; then they have more meetings like this; then they take our comments; and then they have more and more. And they don't -- they just bulldoze over. And then they have meetings during the day that nobody can attend. And then once they get down to a meeting where there's -- you know, three of them voting, they pass things through.

That is our history. I've never seen anything but that in the number of issues we've dealt with. The promises weren't kept. The promises were to keep the streets clean. Can't tell you how much stuff I clean up or is just there. You know, mattress dumping, people who come from the hospital with their bags hanging off and dumping them.

I know it's a city with issues, but San Francisco General agreed they were going to do certain things. They have not.

I agree, Mission Bay is wide open space. You can split the campus; many businesses do. Or can't they go underground? It's just out of character, not good for this neighborhood.

What I see in the planning, it's as if nobody's talking to each other. They do a Band-Aid.

PH-25 cont.

PH-26

PH-27

PH-28

"Here's a problem. Let's fix it." And then over here they do this, and nothing works together. It's a joke.

I mean, who decided this traffic works? It's worse than ever. You know, they removed the parking, and now there's more traffic. And they have them all come out at the same time with restrictions on how they can do it.

PH-28 cont.

What the neighborhood needs is vital, vibrant retail that gets people on the street. Vacant areas that just get trash and dumping do not work. It's a safety issue as well. We need vital retail and safe walking areas.

Did I say can't it go underground? I've never got an answer to that.

PH-29

UNIDENTIFIED SPEAKER: Well, they're not going to answer you.

DEL GREGER: Right. I'll just give you a little example. There was the -- you know, "We'll have shuttles for the neighborhood. Here's the phone number. Call it." You call that number, there's no answer. You'll never get a return phone call. And the trash and the dumping -- and it's just -- it's not neighborly. We don't want you here if you can't do what you say you're going to do.

PH-30

LORI YAMAUCHI: Are there any other speakers?

If you wish to speak, please fill out a speaker card.

Thank you. I can't read what it says.

CHRISTOPHER SABRE: I'll tell you right here.

My name is Christopher Sabre, and I'm speaking now.

LORI YAMAUCHI: Could you spell your last name?

CHRISTOPHER SABRE: S-A-B-R-E.

LORI YAMAUCHI: Thank you.

CHRISTOPHER SABRE: I haven't heard any very positive feedback on this project here. It seems like this is -- like the community is upset about it. When the hospital first did a -- proposed a hospital here, they -- in their EIR, they said that they were designated this parking lot as anything on this site of these buildings would be designated as open space. It says so right in their EIR. Look at it. You know. PH-31

So if you call them on it, they say, "Oh, no. That's not UCSF. That's SF General. So the two entities are joined at the hip. It's a bad-cop/good-cop kind of scenario that they go -- they always toss it back and forth. PH-32

Well -- and also with buildings, they were going to renovate these buildings. There was -- they were very -- a lot of silence about what they were PH-33

going to do with that, these buildings. Then as soon as the hospital -- they got the hospital, "Okay. Now we can't renovate those buildings. They can't be renovated." What are they going to do with those buildings? Have they incorporated that into this discussion at all? There's none of that. There's none of that.

PH-33 cont.

Now, we all support the hospital. You know, if I break a leg, this is the first place I'm going to show up because it's my hospital. It's my hospital. And I would like to see it be a good neighbor. I've come in here and gone into the restrooms and seen them trashed. I've seen mice running across this floor, right there, right across here.

So take care. Clean up your own house. And also clean up your neighborhood. And also, have good relationships with your neighborhood.

PH-34

This is -- you are not being good neighbors. And you are not -- you know, these kind of things where you pull the community in to spin their wheels, write their name down, you guys can say you've done your due diligence. You know, "Okay. We're good guys. We show the world that we've really done it well." You have your stenographer. You have your well-paid triple-digit person there to take notes and tell you

when to shut up.

You know, and so this is -- I wasn't even going to talk tonight because I feel it's so futile. But it isn't, really. I think this neighborhood is worth it. I think we can all work together. We can have a good hospital. We can have a good community.

But if there's a wall and uncommunication [sic] going on amongst us -- some of us communicate better than others, you know. So it's very difficult sometimes to get it across. But you can hear my frustration, and that's all I have to say. Thank you.

LORI YAMAUCHI: Thank you, sir.

Michelle Schaal.

MICHELLE SCHAAL: Hi, my name is Michelle Schaal. I live on Vermont Street, about four doors down from the emergency entrance.

I would concur with most of what everybody else has said. One of the things that I think gets ignored is that we live -- this is a little cul-de-sac. You know, the limited entrances and exits make it actually kind of a dangerous place to have so many people.

And I think that doesn't really get looked at in any kind of a real way. There's only a few entrances and exits and -- I don't know how many people

PH-34 cont.

PH-35

are going to be additionally employed at the new hospital, but this building is expected to still be full of employees when the new hospital opens. So, you know, it has to be several hundred. And I think I heard the number of 700 for the new building that they're proposing.

PH-35 cont.

So that's an enormous number of people for fewer and fewer parking spots and just, you know, crowded conditions. And my main objection to this -- this building proposal is it's taking the last piece of open space on the campus.

PH-36

And there's those brick buildings. Those brick buildings, yes, they're beautiful, but they're not functional. And that's why UC doesn't want to use them. But they're not dealing with the issue, and the City isn't forcing them to deal with the issue.

And I think that's kind of the problem, that the City's going to be left holding the bag of those buildings. And they're going to allow UC to build a fancy new building on the empty spot and ignore the fact that those buildings need to be dealt with. They're going to be a big expense for the City when we finally recognize that they're dangerous and we need to deal with them.

PH-37

That's why UC wants to leave them because they

don't think they're functional space, and they think they're dangerous for their employees. So if they're dangerous for their employees and the buildings are, from what I heard, are still going to be occupied, does that make any sense? I mean, they're dangerous for whoever is going to be in them.

I think we need to make UC look at those buildings. Use the shells if we have to preserve those buildings. If they're that valuable to us, use the shells; build something fabulous inside. You know, you can use a whole bunch of those shells, make a great big fabulous building in there. But use the spot that we've already got taken up and deal with the problem of those buildings.

And the last time I was here, they said that it wasn't -- that it was declared not to be safe within an eight-foot perimeter of the brick buildings. The walkways of the new hospital are right next to the brick buildings. So as you walk into the new hospital, you walk within eight feet of those buildings. I mean, I don't think they're thinking through about this.

PH-37 cont.

KRIS ONGOCO: Any other comments, speaker cards?

KAT PODGORNOFF: Oh, one more. My name is Kat Podgornoff. Podgornoff.

LORI YAMAUCHI: Is your first name Kat, K-A-T?

KAT PODGORNOFF: Yeah, last name Podgornoff, PO-D-G-O-R-N-O-F-F, like Frank.

And frankly speaking, I'm glad to say that I agree that a vibrant retail environment would be great for this neighborhood. But I don't think it has to be taking up parking.

I think we have businesses that exist that could be revitalized. I see them dying all over the place partially due to the way Potrero Street was and, I think, actually might be getting a little bit better.

PH-38

But it shouldn't be taking up parking space that already exists in order to put in a gigantic monstrosity that will block the light to my house and everybody on Utah and everybody on the other side during the day, and at night pour even more light into our homes. My two big objections. Thank you so much.

PH-39

LORI YAMAUCHI: Thank you.

Anyone else? If not, thank you for your comments. And on the Draft EIR, we will prepare written responses to these comments in a comment-and-response chapter of the Final EIR.

Please be sure to include your name and contact information on the speaker card or sign in on the sign-in sheet, and we'll notify you when the Final EIR becomes available.

I will close the public hearing, and appreciate your attendance and participation.

UNIDENTIFIED SPEAKER: Is there any way to just ask a procedural question?

LORI YAMAUCHI: Yes.

UNIDENTIFIED SPEAKER: So you'll take our comments. It will go into the EIR, but what's the next step of the EIR?

LORI YAMAUCHI: The comments and response document will be prepared and published before being submitted to the Regents of the University of California for their consideration before they certify the final Environmental Impact Report.

UNIDENTIFIED SPEAKER: Will that be a public meeting?

LORI YAMAUCHI: Yes, it will be a public meeting. And we are hoping and anticipating to take -- that we'll take the Final EIR to the July meeting of the University of California Regents.

UNIDENTIFIED SPEAKER: Where will that be?

LORI YAMAUCHI: At the Mission Bay Campus. The meeting will take place at the UCSF Mission Bay Campus.

UNIDENTIFIED SPEAKER: July what?

LORI YAMAUCHI: I don't know exactly, mid-July. You can check the UC Regents website. They publish the

dates of the Regents meeting.

UNIDENTIFIED SPEAKER: But you'll send it out to us?

LORI YAMAUCHI: We notify all those who submitted comments.

UNIDENTIFIED SPEAKER: Only the submitted written comments?

LORI YAMAUCHI: Or if you spoke tonight and you're not submitting written comments but you testified orally, if we have your name and address, we can notify you.

Yes, sir?

UNIDENTIFIED SPEAKER: When these meetings are scheduled, can we get posters for the neighborhood?

I'm not necessarily saying me -- but put posters on the corners or something so that the neighbors who aren't hooked in and aren't following this will be apprised of what's going on? When I talk to the neighbors -- I've been here a long time, I talk to people. Almost no one knows these meetings are happening. They have no idea.

KRIS ONGOCO: We did a mailing.

UNIDENTIFIED SPEAKER: But the mailing is not getting into the neighborhood. A lot of my neighbors didn't know anything about it. There's eight tenants

in my building.

LORI YAMAUCHI: So I acknowledge your request, and we'll make sure that your request is considered.

I said before in my comment, there was -- there were advertisements, there were e-mails, there was mailings. So if there's more to be done, we will try to do that.

But it's not like there has been no notification. But I apologize if it's been --

UNIDENTIFIED SPEAKER: It's been a limited one.

LORI YAMAUCHI: -- insufficient.

UNIDENTIFIED SPEAKER: No, it's been limited, not efficient.

LORI YAMAUCHI: I said "insufficient."

UNIDENTIFIED SPEAKER: Insufficient.

LORI YAMAUCHI: Yes. Okay?

Thank you, everyone, for your attendance.

Oh, I was just notified that the Regents meeting in July is July 20th and 21st.

UNIDENTIFIED SPEAKER: 28th and --

LORI YAMAUCHI: No, 20 and 21. Two, zero and two one, July 20th and 21st. So when the agenda is posted, then the -- the EIR for this project and the Garage Expansion will be noted as an agenda item on one of the committee meetings during the Regents meeting.

UNIDENTIFIED SPEAKER: Where on campus?

LORI YAMAUCHI: The meeting is held in the Rutter Center, on --

UNIDENTIFIED SPEAKER: Spell that, please.

LORI YAMAUCHI: R-U-T-T-E-R, Center, on Owens Street, O-W-E-N-S Street. And you can look it up on the UCSF website for Mission Bay Campus.

Yes, ma'am?

UNIDENTIFIED SPEAKER: So they present the EIR, and then the Board of Regents says, "Oh, well, change this. Don't change that." They make the decisions about -- I mean, you know, there are lots of issues about it. Who decides what the plan is?

LORI YAMAUCHI: So I think I noted that, in the EIR, the discretionary approvals to be taken on the project are described in the EIR.

In July, the Regents will not be asked to take action on the Research Building project. That will be a future action, and there will be future meetings, community meetings, on the Research Building project.

What they will be asked to take action on in July is to certify the Final EIR so that they can approve the ground lease with the City for the parking lot on which the Research Building will be constructed.

UNIDENTIFIED SPEAKER: May be constructed.

LORI YAMAUCHI: May be constructed, is proposed to be constructed, yes. Thank you for that correction.

So in July, the Regents will not be asked to approve the Research Building project. And also I want to remind you that I said that the City is the one who takes action on the Garage Expansion, not the Regents of the University of California because the Garage Expansion is a City project, not a University project.

UNIDENTIFIED SPEAKER: Is it a separate EIR?

LORI YAMAUCHI: No. I said in the beginning of -- you may have missed it.

There's an agreement between the City and the University that the University will be the lead agency for the preparation of the EIR for both projects, the Research Building and the Garage Expansion; however, the Regents will take action on the Research Building, and the City will take action on the Garage Expansion.

UNIDENTIFIED SPEAKER: So Garage Expansion will go to the Board of Supervisors at some point?

LORI YAMAUCHI: I don't -- it says in the EIR what discretionary approvals will be taken, but most likely.

Yes, sir?

UNIDENTIFIED SPEAKER: In that regard, all the people that are on your contact list, will we be notified when it comes up in front of the Planning

Commission, the Parking Authority, the Board of Supervisors?

LORI YAMAUCHI: I don't know if you will be notified, by the City, sir. We will ask that the City -- I don't have control over what the City does.

UNIDENTIFIED SPEAKER: But you're partnering with them.

LORI YAMAUCHI: But I hear you, and we'll make sure that the City receives that request.

UNIDENTIFIED SPEAKER: Okay. Thank you.

LORI YAMAUCHI: Yes, sir?

UNIDENTIFIED SPEAKER: As a long-time resident of this neighborhood, I would demand that the next community meeting on this project that the Regents be here for it.

LORI YAMAUCHI: I'm sorry, sir --

UNIDENTIFIED SPEAKER: I don't care what you're sorry about. They're making decisions that impact our neighborhood. They demand -- we demand that they be here for it and hear us.

LORI YAMAUCHI: I hear your request, sir.

UNIDENTIFIED SPEAKER: It's not a request. It's a demand.

LORI YAMAUCHI: I hear your demand, sir.

Okay. So I think we're closing the public hearing. Thank you very much.

(Whereupon, the proceedings concluded at 7:52 p.m.)

STATE OF CALIFORNIA)
) ss.
COUNTY OF MARIN)

I, DEBORAH FUQUA, a Certified Shorthand Reporter of the State of California, do hereby certify that the foregoing proceedings were reported by me, a disinterested person, and thereafter transcribed under my direction into typewriting and is a true and correct transcription of said proceedings.

I further certify that I am not of counsel or attorney for either or any of the parties in the foregoing proceeding and caption named, nor in any way interested in the outcome of the cause named in said caption.

Dated the 28th day of April, 2016.

DEBORAH FUQUA

CSR NO. 12948

Public Hearing, April 21, 2016

Response to Comment PH-1:

See Response to Comment GW-1.

Response to Comment PH-2:

See Response to Comment GW-12.

Response to Comment PH-3:

Thank you for your comment. Please also see Response to Comment GW-14.

Response to Comment PH-4:

As indicated in Table 4.2-7 on Page 4.2-27 of the Draft EIR, localized concentrations of criteria pollutant emissions from construction activities would represent a significant impact of the proposed project without implementation of mitigation measures. With implementation of Mitigation Measure AQ-3, the annual $PM_{2.5}$ concentration would be reduced to 0.04 µg/m^3. Thus, the annual $PM_{2.5}$ concentration due to project construction would be below the BAAQMD threshold of 0.3 µg/m^3 as well as the City of San Francisco's Air Pollution Exposure Zone threshold of 0.2 µg/m^3 and would be *less than significant with mitigation.*

As discussed on page 4.2-21 of the Draft EIR, BAAQMD's approach to analysis of construction-related particulate impacts (other than exhaust PM) is to emphasize implementation of effective and comprehensive dust control measures rather than detailed quantification of emissions. Implementation of BAAQMD-identified BMPs for control of fugitive dust would be required under Mitigation Measure AQ-1 and would reduce impacts to less than significant levels during construction of the research building. For the parking garage component of the proposed project, construction activities would be subject to the requirements of the City of San Francisco's Construction Dust Control Ordinance, which would be consistent with the measures in Mitigation Measure AQ-1. Therefore, impacts related to fugitive dust during expansion of the parking garage also would be less than significant.

While there may be subtle differences in meteorology between the project site and the site where meteorological data used in the dispersion modeling was collected (one mile away on the other side of Potrero Hill), the maximally exposed receptor identified in the health risk analysis was located directly across the street from the parking garage. No closer receptors would be impacted if an alternative wind direction were considered assuming more localized meteorological data existed. Additionally, the meteorological data used in the dispersion modeling consists of hourly data throughout an entire year, which is inclusive of those hours from which the wind comes from less predominant directions such as from the south during the approach of low pressure systems. Wind data from multiple locations throughout San Francisco indicate that the predominant wind direction is from the west, as stated on page 4.2-2 of the Draft EIR.

Response to Comment PH-5:

See Response to Comment JB-3.

Response to Comment PH-6:

The Draft EIR identifies two mitigation measures to address construction-related emissions. The first is Mitigation Measure AQ-1 identified on pages 4.2-22 and 4.2-23 of the Draft EIR. Studies have shown that the application of best management practices (BMPs) at construction sites significantly controls fugitive dust,[1]and individual measures have been shown to reduce fugitive dust by anywhere from 30 to 90 percent.[2] Further, BAAQMD considers these measures to be sufficient to address construction-related fugitive dust emissions and reduce such emissions to a less than significant level under CEQA.[3]

Mitigation Measure AQ-3 identified on page 4.2-27 of the Draft EIR requires off-road construction equipment to have engines that are retrofitted with a CARB Level 3 Verified Diesel Emissions Control Strategy (VDECS). This mitigation has been documented to reduce particulate emissions by 85 percent or more.[4] This level of reduction results in localized diesel particulate concentrations being reduced to 0.04 $\mu g/m^3$, which would be well below the BAAQMD threshold of 0.3 $\mu g/m^3$ as well as the City of San Francisco's Air Pollution Exposure Zone threshold of 0.2 $\mu g/m^3$. In contrast, in 2008 when the Hospital Rebuild EIR was published, estimates of localized concentrations of particulate matter during construction were not commonly undertaken and identified mitigations reflected a more generic approach to dust control.

Response to Comment PH-7:

See Response to Comment JB-10. The comment will be forwarded to SFMTA, which has jurisdiction over the intersection signal.

Response to Comment PH-8:

With regard to air quality impacts, all impacts assessed in the Draft EIR would either be less than significant or less than significant with implementation of mitigation. As discussed on page 3-8 of the Project Description in the Draft EIR, if approved, construction of the proposed research building is estimated to occur sometime between late 2016 and 2019 and on page 3-12 of the Draft EIR, if approved by the City and the Parking Authority, construction of the proposed garage expansion by the Parking Authority is estimated to occur over a 14-month period sometime between 2018 through 2020. Consequently, while there may be construction occurring during a four-year window, the air quality impacts during this period would not be significant.

1 Western Regional Air Partnership, *WRAP Fugitive Dust Handbook*, September 7, 2006. Available online at wrapair.org/forums/dejf/fdh/content/FDHandbook_Rev_06.pdf (accessed November 20, 2015).
2 BAAQMD, Revised Draft Options and Justification Report, California Environmental Quality Act Thresholds of Significance, October 2009, page 27.
3 BAAQMD, *CEQA Air Quality Guidelines*, May 2011, page D-47
4 http://www.arb.ca.gov/diesel/verdev/vt/cvt.htm

Response to Comment PH-9:

The proposed project would not change the location of transit stops. Temporary relocation of transit stops during project construction would be implemented in accordance with Improvement Measure IM-TR-1 (see page 4.7-21 of the Draft EIR). With respect to temporary transit stop relocations, this is most relevant to Muni stops on 23rd Street, adjacent to the southern border of the ZSFG campus. Transit stop relocations will be temporary and will include appropriate signage to alert transit riders to the relocated stop and the appropriate path of travel. Other potential permanent changes to transit stops may occur due to implementation of the Muni Forward program as discussed on page 4.7-22 of the Draft EIR.

Response to Comment PH-10:

Potential cumulative projects analyzed in the EIR include those reasonably foreseeable projects on the ZSFG campus. These projects are discussed under each environmental topic, e.g., see Section 4.5.7.1 in the Land Use and Planning section on page 4.5-13 of the Draft EIR. Additional information can be found in the latest Institutional Master Plan Update for the campus from June 2015, which is available at https://www.sfdph.org/dph/RebuildSFGH/files/reports/IMP-Update Submitted-June2015.pdf.

Response to Comment PH-11:

Thank you for your comment. To the extent that potential environmental impacts would result from implementation of the proposed project, they were determined to be less than significant or less than significant with incorporation of mitigation measures, with two exceptions: Impact TRAF-2 and Impact TRAF-9, both of which relate to the intersection of Twenty-Fourth Street and Potrero Avenue.

Response to Comment PH-12:

The concern regarding the EIR prepared for the original parking garage as well as the possible addition of another floor to the garage under the proposed project (Variants 2 and 3) is acknowledged.

Response to Comment PH-13:

The opposition to replacing parking spaces with retail uses as proposed under Variants 1 and 3 is acknowledged. As noted on page 4.7-18 of the Draft EIR, the retail variants would generate about 98 daily vehicle trips. The additional peak-hour vehicle trips would consist of about two AM and nine PM trips.

Response to Comment PH-14:

This is not a comment on the Draft EIR analysis, rather an observation that Potrero Avenue and the intersections of 23rd Street and 24th Street are congested during AM and PM commute periods. This is confirmed by the existing intersection LOS reported in the Draft EIR in

Table 4.7-2 on page 4.7-6; Potrero / 23rd was found to operate at LOS D during both the AM and PM peak hours and Potrero / 24th was found to operate at LOS C and LOS D during the AM and PM peak hours, respectively. These results could be interpreted to be consistent with the term "congested." Three mitigation measures (TR-1, TR-2, and TR-3) are identified to reduce the significant project-related and variant-related impact at Potrero / 24th except for the On-Site Alternative, which does not have an impact at any location. The other intersections studied in the traffic analysis operate acceptably both with and without the proposed project or variants.

Response to Comment PH-15:

This is not a comment on the Draft EIR analysis, rather an observation that Potrero Avenue and the intersections of 23rd Street and 24th Street are congested during AM and PM commute periods. See Responses to Comments JB-10 and PH-14.

Response to Comment PH-16:

Thank you for your comment. The cumulative transportation impact analysis assumes that in the Year 2040 the space vacated in Building 5 will be completely backfilled by San Francisco Department of Public Health (DPH) staff and the space vacated by UCSF will also be backfilled with new DPH staff.

Response to Comment PH-17:

The commenter states that Mitigation Measure TR-2, which would open the 23rd Street exit of the 23rd Street Garage during the PM peak period, and thus reduce the amount of vehicles traveling through the intersection of Potrero Avenue / 24th Street to reduce the impact at the intersection should not proceed due to already high levels of traffic on 23rd Street. As part of the traffic analysis conducted for the Draft EIR, 23rd Street was found to operate acceptably during the AM and PM peak hours both with and without the project or variants. However, since the mitigation measure relies on the approval and assistance of SFMTA, this comment will be directed to them for their review and consideration.

Response to Comment PH-18:

The minor amount of existing usable open space that would be lost during construction of the building would largely be replaced with similar or improved areas along West Drive and between the new building and Building 5 to the north (see Figure 3-3 on page 3-10 of the Draft EIR). Existing open space areas located between Buildings 30/40, Building 9, and West Drive would not be altered by the proposed project. See also Response to Comment PBNA-1.

Response to Comment PH-19:

As noted in the Draft EIR, 23rd Street pedestrian improvements are identified as part of Mitigation Measure TR-2. UCSF and DPH, acting in coordination with the SFMTA, can choose

to pursue the 23rd Street pedestrian improvements identified in Mitigation Measure TR-2 within or outside of the environmental review process.

Response to Comment PH-20:

The concern with the height of the proposed research building is acknowledged.

Response to Comment PH-21:

This is not a comment on the Draft EIR analysis, rather a comment on the ZSFG Rebuild Project. Parking spaces were not removed as part of the ZSFG Rebuild project; however, parking spaces were not added by the project, resulting in an increase in demand with a static supply. Several variants of parking garage expansion were analyzed as part of the transportation analysis for the proposed project. The proposed project and all of the variants include a new research building on the existing ZSFG surface parking lot (B/C Lot), which would displace approximately 130 spaces.

Response to Comment PH-22:

Three mitigation measures (TR-1, TR-2, and TR-3) are identified to reduce the significant impact at Potrero Avenue / 24th Street of the proposed project and all of the variants except for the On-Site/Underground Parking Alternative, which does not have an impact at any location. The other intersections included in the traffic analysis operate acceptably both with and without the proposed project or variants.

Response to Comment PH-23:

See Responses to Comments JB-3 and DE-2.

Response to Comment PH-24:

See Response to Comment JB-3.

Response to Comment PH-25:

Thank you for your comment. UCSF strives to schedule public meetings in the evening to encourage maximum public participation. Two community meetings regarding the proposed project were held at 6:30 p.m. on February 11, 2013 and on June 17, 2013. The Scoping Meeting for the EIR was held at 7:00 p.m. on October 21, 2015 and the public hearing on the Draft EIR was held at 7:00 p.m. on April 21, 2016.

Response to Comment PH-26:

Thank you for your comment. This comment does not relate to the Draft EIR, which examines the environmental impacts of the proposed UCSF research building and City parking garage expansion at ZSFG.

Response to Comment PH-27:

See Response to Comment JB-3. The support for providing underground parking below the proposed research building (Alternative 2) is acknowledged.

Response to Comment PH-28:

This is not a comment on the Draft EIR analysis, rather an observation that Potrero Avenue and the intersections of 23rd Street and 24th Street are congested during AM and PM commute periods. See Responses to Comments JB-10 and PH-14.

Response to Comment PH-29:

Variants 1 and 3 of the Draft EIR do include up to 5,000 square feet of ground floor retail space in the proposed garage expansion. The proposed expansion is intended to be consistent with the design of the current structure. Redesigning the garage expansion with some levels located underground would likely result in greater impacts to some environmental topics, e.g., air quality and noise impacts during construction activities, compared to the proposed project.

Response to Comment PH-30:

Thank you for your comment. This comment does not relate to the Draft EIR, which examines the environmental impacts of the proposed UCSF research building and City parking garage expansion at ZSFG. Regarding shuttles, both the UCSF and ZSFG operated shuttles serve all ZSFG employees, patients, and visitors. Routes and schedules for UCSF shuttles are available at http://campuslifeservices.ucsf.edu/transportation/services/shuttles/routes_timetables. Information regarding the ZSFG operated shuttle is available here: https://www.sfdph.org/dph/RebuildSFGH/files/SFGH_Shuttle_Map_Schedule.pdf.

Response to Comment PH-31:

See Response to Comment PBNA-1.

Response to Comment PH-32:

As noted on page 1-2 of the Draft EIR, UCSF does have a major presence at ZSFG. UCSF physicians and other health care professionals provide a large majority of medical services and care at ZSFG in City-owned buildings. UCSF does not own facilities at ZSFG, but leases space or otherwise occupies space in exchange for services. In order to construct the proposed research building on the ZSFG campus, UCSF would enter into a long-term ground lease with the City for the B/C Lot. For purposes of CEQA, the University of California is the lead agency for this EIR with the Parking Authority and the City as responsible agencies for approval actions within their respective jurisdictions. If the Parking Authority decides to proceed with the proposed garage expansion, it would comply with the City approval process in effect at that time for such a structure. See also Response to Comment NEI-1.

Response to Comment PH-33:

UCSF considered retrofitting the existing brick buildings it occupies on the ZSFG campus. However, this alternative was rejected for reasons described under Section 6.3.1, Seismic Retrofit of Existing Buildings, on page 6-2 of the Draft EIR.

Response to Comment PH-34:

Thank you for your comment. This comment does not relate to the Draft EIR, which examines the environmental impacts of the proposed UCSF research building and City parking garage expansion at ZSFG.

Response to Comment PH-35:

The comment notes that increased development represents an unsafe situation from a transportation perspective due to the limited connectivity of adjacent streets. This condition was included in the analysis of the proposed project's effect on emergency access. As noted in the Draft EIR, the development was not found to result in inadequate emergency access (see Impact TRAF-7). In addition, the Draft EIR found that the potential bicycle and pedestrian safety impacts would be less than significant (see Impacts TRAF-4 and TRAF-5).

The cumulative transportation impact analysis assumes that in the Year 2040 the space vacated in Building 5 will be completely backfilled by San Francisco Department of Public Health (DPH) staff and the space vacated by UCSF will also be backfilled with new DPH staff. As noted on page 3-8 of the Draft EIR, approximately 680 UCSF employees would be relocated from *existing* facilities on the ZSFG campus to the proposed research building. In addition, about 120 employees could be relocated from off-campus leased space to the new building.

Response to Comment PH-36:

Several variants of parking garage expansion were analyzed as part of the transportation analysis contained in the Draft EIR. With the exception of the No Garage Expansion variant, all of them would result in additional parking supply at ZSFG even after including new parking demand due to the up to 120 UCSF employees relocated to ZSFG from current off-site leases. Further, UCSF and DPH staff have worked collaboratively with each other as well as the SFMTA in order to develop a list of potential TDM measures included in Mitigation Measure TR-3, as well as to draft an additional Modal Performance document, which is in progress. These measures are intended to reduce single occupancy vehicle trips to ZSFG.

Regarding open space, the minor amount of existing usable open space that would be lost during construction of the building would largely be replaced with similar or improved areas along West Drive and between the new building and Building 5 to the north (see Figure 3-3 on page 3-10 of the Draft EIR). Existing open space areas located between Buildings 30/40, Building 9, and West Drive would not be altered by the proposed project. See also Response to Comment PBNA-1.

Response to Comment PH-37:

See Response to Comment PH-33.

Response to Comment PH-38:

The opposition to replacing parking spaces with retail uses as proposed under Variants 1 and 3 is acknowledged.

Response to Comment PH-39:

Thank you for your comment. See also Response to Comment GW-9.

UCSF

UCSF ZSFG Public Hearing Public Comment Form

4/21/2016

Thank you for coming tonight. UCSF values your input and we welcome your comments on the Draft EIR. This Public Comment Card is provided for your convenience. If you speak tonight, you do *not* need to also fill out this Card– we will have a record of oral comments. Please return this to UCSF Staff at the end of the meeting, or if you prefer to send it to us at a later date, please return so we receive it by **Monday, May 9, 2016** to: EIR@planning.UCSF.edu or Diane Wong, UCSF Campus Planning, 654 Minnesota Street, San Francisco, CA, 94143-0286. You may also just send an email or letter by the deadline to provide comments.

It SEEMS clear that the process choses to ignore the cumulative effect of Staffing the new hospital as well as the certainty that those spaces vacated by the Staff moving to the new facility will be filled with new employees. We are already congested on both 23rd & 24th STS at Potrero. Both of these intersections are gridlocked morning & evening as Staff arrives and departs. SFGH Shuttles routenely run the light making prohibited Rt turns on the red at 23rd and potrero. adding a UC Lab will result in a gridlocked Level 4 Trauma Center & Seems to me poor policy.

JW-1

JW-2

JW-3

JW-4

Name John Wilson

Address 1238 VERMONT ST SF 94110
Street Zip

Email JWILSON153@AOL.COM

John Wilson, April 21, 2016

Response to Comment JW-1:

Potential cumulative projects analyzed in the EIR include those reasonably foreseeable projects on the ZSFG campus. These projects are discussed under each environmental topic, e.g., see Section 4.5.7.1 in the Land Use and Planning section on page 4.5-13 of the Draft EIR. Additional information can be found in the latest Institutional Master Plan Update for the campus from June 2015, which is available at https://www.sfdph.org/dph/RebuildSFGH/files/reports/IMP-UpdateSubmitted-June2015.pdf. The cumulative transportation impact analysis assumes that in the Year 2040 the space vacated in Building 5 will be completely backfilled by San Francisco Department of Public Health (DPH) staff and the space vacated by UCSF will also be backfilled with new DPH staff.

Response to Comment JW-2:

See Response to Comment PH-14.

Response to Comment JW-3:

Thank you for your comment. This comment does not relate to the Draft EIR, which examines the environmental impacts of the proposed UCSF research building and City parking garage expansion at ZSFG.

Response to Comment JW-4:

Thank you for your comment. UCSF considered locating the proposed research building at another location, including at the UCSF Mission Bay campus site. However, this alternative was rejected for reasons described under Section 6.3.2, Locate Research Off-Site, on page 6-2 of the Draft EIR.

8.3 Text Changes

The following changes to the text of the Draft EIR are made in response to comments on the Draft EIR or are included to clarify the Draft EIR text. In each change, new language is underlined, while deleted text is shown in ~~strike-through~~, except where the text is indicated as entirely new, in which case no underlining is used for easier reading.

Chapter 2, Summary

The last sentence of the first paragraph on page 2-2 of the Draft EIR is revised as follows:

> The proposed project also includes implementation of ~~two~~ one traffic improvement measure~~s~~ (IM-TR-1) that would require preparation and implementation of a traffic control plan during project construction as well as notification on a regular basis to nearby residences, institutions, and businesses of construction activities. The improvement measure is provided under Impact TRAF-1 on page 4.7-21.

The third column of Impact AQ-5 in Table 2-1 on page 2-6 of the Draft EIR ("Mitigation/ Improvement Measures") is revised as follows:

> Implement Mitigation Measure AQ-1 and AQ-3.

Impacts NO-4 and C-NO-1 are added to Table 2-1 on page 2-17 of the Draft EIR:

NO-4: Operation of the proposed project would cause a substantial permanent increase in ambient noise levels in the project vicinity.	Less than Significant	None required	Less than Significant
C-NO-1: Operation of the proposed project when considered with other cumulative development would cause a substantial permanent increase in ambient noise levels in the project vicinity.	Less than Significant	None required	Less than Significant

The following is added to Mitigation Measures TR-1 and TR-2 in Table 2-1 on pages 2-19 and 2-20, respectively, of the Draft EIR:

> UCSF and the City and County of San Francisco would contribute a proportional share to the costs of implementation of this mitigation measure.

The last column of Impact TRAF-2 in Table 2-1 on page 2-19 of the Draft EIR ("Level of Significance After Mitigation") is revised as follows:

> Significant and Unavoidable
>
> Mitigation Measure TR-1 would reduce the impact to less than significant, but UCSF and DPH do not have the authority to implement it without SFMTA's approval and assistance, which is unknown at this time.

> The effectiveness of Mitigation Measure TR-2 to reduce the impact to less than significant is not known given the uncertainty over the volume of vehicles choosing to exit the northern egress, and UCSF does not have the authority to implement it without SFMTA's approval and assistance, which is unknown at this time.
>
> While Mitigation Measure TR-3 can reduce traffic impacts, even full implementation of TR-3 with identified feasible elements would not fully eliminate the significant impact at this intersection for the project or Variants 1 to 3. Implementation of the full suite of TDM strategies identified in TR-3 would reduce the impact at Potrero Avenue / 24th Street to less-than-significant under Variant 4.

Mitigation Measure TR-3 in Table 2-1 on page 2-20 of the Draft EIR is revised to be consistent with changes shown below under "Chapter 4, Transportation and Traffic."

Chapter 3, Project Description

The following is added after the second paragraph on page 3-7 of the Draft EIR:

> Properties adjacent to the parking garage on San Bruno Avenue, Utah, and Twenty-Fourth streets are predominantly one- and two-story, single- and multi-family residential, with some ground level retail on Twenty-Fourth Street.

The second paragraph under Section 3.6.1 on page 3-8 of the Draft EIR is revised as follows:

> The proposed research building would be about 175,000 gsf, and five-stories in height, plus a mechanical penthouse. The building height would be about 80 feet to the top of the fifth story, plus an additional 12 feet to accommodate rooftop mechanical equipment. The building would be set back from adjacent streets and surrounded by landscaping. The building footprint would allow for the creation of a new one-way eastbound urban driveway between the new building and Building 5. This redesigned area would include the drop off area for Urgent Care services that will be relocated to Building 5 as part of the new hospital project and new landscaping and pedestrian circulation features. The new site layout also would reconfigure the adjacent approximately 35 parking spaces for handicapped users, service vehicles, and ZSFG staff, with no expected reduction in parking supply. In addition, the Hearty Café trailer and fountain would be relocated to the north side of this new street. The existing driveway that provides access to the ZSFG emergency room would be eliminated. The existing gatehouse, switchgear facility, and fence along Twenty-Third Street~~, and Stiff Loops sculpture~~ would be retained in their current locations. The *Stiff Loops* sculpture would be relocated to another place on the ZSFG campus in order to avoid any potential construction conflicts between the sculpture and the proposed loading zone and driveway on the east side of the proposed research building. Relocation would occur in coordination with ZSFG and the San Francisco Arts Commission. See **Figure 3-2**, ZSFG Existing and Proposed Site Plan, for the location of the proposed project on the ZSFG campus. **Figure 3-3** presents the proposed research building site plan and **Figure 3-4** depicts the conceptual bulk and height of the new building.

The following is added after the last sentence on page 3-8 of the Draft EIR:

> A trailer for workers would be temporarily located on-site during construction and another construction trailer would be located on the Mission Bay campus site.

The first sentence of the first paragraph on page 3-12 of the Draft EIR is revised as follows:

> The project ~~would~~ could include an expansion of the existing ZSFG parking garage, of approximately 307 parking spaces.

The following is added to the Project Description on page 3-12 of the Draft EIR:

> TDM planning coordination among UCSF, DPH, and SFMTA staff and transportation consultants yielded a list of potential TDM strategies that could be pursued in addition to those already in place to reduce single-occupant vehicle trips for UCSF and DPH employees. As part of the proposed project, these enhanced TDM measures, described in Mitigation Measure TR-3 (Draft EIR page 4.7-26 to 4.7-27), and in more detail in the Transportation Impact Study Appendix B: ZSFG TDM Plan Memorandum, will be implemented to the extent feasible. These enhanced TDM measures include:
>
> - **Parking Policy/Pricing**
>   - Adjust hourly parking rate structure to discourage all-day parking and provide spaces for patients/visitors (Parking Authority)
>   - In order to discourage driving, increase hourly and monthly parking rates to be more in line with prevailing San Francisco market rates (Parking Authority)
> - **Transit and Shuttle Systems**
>   - Expand UCSF and DPH Shuttle Service to Caltrain, Transbay Transit Terminal (applies to UCSF and DPH; would require coordination with SFMTA)
>   - Maintain a dialogue with SFMTA regarding ZSFG's strong desire to see that the transit connection between the Mission District and the ZSFG campus remains (applies to UCSF and DPH; would require coordination with SFMTA)
>   - Allow patients/visitors to ride DPH Shuttle and advertise the shuttle as a last-mile option (applies to DPH)
>   - Expand additional last-mile service by alternate means, including reimbursing employees for taxi use or ride hail companies as a bridge from transit stations (applies to DPH).
>   - Add Bike racks on DPH shuttles (applies to DPH)
> - **Commute Vehicle Trip Reduction**
>   - Hire a TDM Program Manager for ZSFG to meet modal goals (applies to DPH)
>   - Expand number of car share vehicles on-site (applies to DPH)
>   - Create more robust carpool matching program (applies to UCSF and DPH)

- Create a vanpool service or coordinate with the existing UCSF vanpool (applies to DPH)
- Provide showers and locker facilities on campus and in the new UCSF Research Building (applies to UCSF and DPH)
- Install Bay Area Bike Share Station on campus (applies to DPH)
- Install transportation kiosk(s) overseen by the new TDM Program Manager (applies to DPH)
- Advertise existing pre-tax commuter accounts (applies to UCSF and DPH)
- Promote bicycle safety along 23rd Street and Potrero Avenue to prevent conflicts with vehicles (applies to DPH)
- Provide signage indicating the location of bicycle parking at points of access (applies to DPH)
- Facilitate access to carshare spaces through on-site garage (applies to DPH)

Chapter 4, Cultural and Paleontological Resources

The following is added before "Neighborhood Context" on page 4.3-8 of the Draft EIR:

Public Art

Intended to coincide with the opening of the Main Hospital Building in the mid-1970s, a large, steel sculpture designed by San Francisco artist Gerald Walburg entitled *Stiff Loops* was installed on the hospital campus. Completed in 1974, *Stiff Loops* is approximately 30 feet long, 8 feet high, and constructed of Corten steel on a concrete base. In 2009, *Stiff Loops* was moved to the southeast corner of the ZSFG campus to make way for the construction of the new acute care facility.[5]

The following is added to the first paragraph under "Non-Contributing District Features Within or Near the B/C Lot" on page 4.3-12 of the Draft EIR:

In addition to the B/C Lot itself, the former Main Hospital, completed in 1976 in a modern Brutalist architectural style, is a non-contributor to the SFGH District. The steel sculpture, *Stiff Loops*, has not been identified as a contributing feature of the District, but is nonetheless an important piece of public art. This sculpture was relocated to its current position at the southeastern corner of the campus in 2009.

The following is added before "Impacts of the Expanded Parking Garage" on page 4.3-29 of the Draft EIR:

Impacts to Public Art

As described in Chapter 3, *Project Description*, the large, steel sculpture entitled *Stiff Loops* would be relocated from its current location in the southeast corner of the campus to another place on the ZSFG campus in order to avoid any potential construction

[5] Art and Architecture-San Francisco, www.artandarchitecture-sf.com/tag/gerald-walburg, accessed March 2, 2015.

conflicts between this sculpture and the proposed loading zone and driveway on the east side of the proposed research building. Relocation would occur in coordination with ZSFG and the San Francisco Arts Commission. Although *Stiff Loops* has not been identified as a contributor to the SFGH Historic District, it is nonetheless being treated as an important work of public art that would be relocated to avoid construction conflicts and retained on the ZSFG campus. For these reasons, the proposed project would have no impact on public art.

Mitigation: None required.

Chapter 4, Transportation and Traffic

The following is added to Mitigation Measures TR-1 and TR-2 on pages 4.7-24 and 4.7-26, respectively, of the Draft EIR:

UCSF and the City and County of San Francisco would contribute a proportional share to the costs of implementation of this mitigation measure.

Mitigation Measure TR-3 on page 4.7-26 of the Draft EIR is revised as follows:

Mitigation Measure TR-3: Implement Additional TDM Strategies to Reduce Single Occupancy Vehicle Trips.

UCSF and DPH shall each pursue potential TDM measures that they can feasibly implement targeted at reducing Single Occupancy Vehicle (SOV) trips to and from ZSFG. UCSF and DPH staff have worked collaboratively with transportation consultants, the SFMTA, and other City departments to identify a list of potential TDM strategies in addition to those already in place. The implementation of this mitigation measure could improve traffic operations in the immediate vicinity of ZSFG, including at Potrero Avenue / 24th Street by reducing SOV trips to and from ZSFG. Additionally, implementation of other TDM strategies not included in this list would have a similar effect of reducing SOV trips to and from ZSFG.

As outlined in Section 2.2 (of the TIS), UCSF and DPH each already have TDM plans in place and an internal planning process with UCSF, DPH, the SFMTA, and transportation consultants will yield~~ed~~ a list of potential TDM strategies that UCSF and DPH could pursue in addition to those already in place. A combination of these measures could potentially reduce single-occupant vehicle (SOV) trips for UCSF and DPH employees. To accomplish this goal, UCSF and DPH shall coordinate and each implement the following policies to the extent feasible:

- Parking Policy/Pricing
  - Adjust hourly parking rate structure to discourage all-day parking and provide spaces for patients/visitors (Parking Authority)
  - In order to discourage driving, increase hourly and monthly parking rates to be more in line with prevailing San Francisco market rates (Parking Authority)

- Transit and Shuttle Systems
  - Expand UCSF and DPH Shuttle Service to Caltrain, Transbay Transit Terminal (applies to UCSF and DPH; would require coordination with SFMTA)
  - Maintain a dialogue with SFMTA regarding ZSFG's strong desire to see that the transit connection between the Mission District and the ZSFG campus remains (applies to UCSF and DPH; would require coordination with SFMTA)
  - Allow patients/visitors to ride DPH Shuttle and advertise the shuttle as a last-mile option (applies to DPH)
  - Expand additional last-mile service by alternate means, including reimbursing employees for ~~Transportation Network Company (TNC), e.g., Lyft, Uber, and~~ taxi use or ride hail companies as a bridge from transit stations (applies to DPH~~; would require coordination with SFMTA as well as a joint effort from UCSF, DPH, and SFMTA to study the effective use of TNCs as a "last-mile" alternative~~).
  - Add Bike racks on DPH shuttles (applies to DPH)

- Commute Vehicle Trip Reduction
  - Hire a TDM Program Manager for ZSFG to meet modal goals (applies to DPH)
  - Expand number of car share vehicles on-site (applies to DPH)
  - Create more robust carpool matching program (applies to UCSF and DPH)
  - Create a vanpool service or coordinate with the existing UCSF vanpool (applies to DPH)
  - Provide showers and locker facilities on campus and in the new UCSF Research Building (applies to UCSF and DPH)
  - Install Bay Area Bike Share Station on campus (applies to DPH)
  - Install transportation kiosk(s) overseen by the new TDM Program Manager (applies to DPH)
  - Advertise existing pre-tax commuter accounts (applies to UCSF and DPH)
  - Promote bicycle safety along 23rd Street and Potrero Avenue to prevent conflicts with vehicles (applies to DPH)
  - Provide signage indicating the location of bicycle parking at points of access (applies to DPH)
  - Facilitate access to carshare spaces through on-site garage (applies to DPH)

Additional TDM strategies that were considered as part of the internal planning process, but rejected as infeasible or otherwise not recommended include the following:

- Providing traffic calming measures: The Department of Public Works is planning a streetscape improvement project for Potrero Avenue to coincide with their repaving schedule. The project will include traffic calming measures.

- Reimbursing employees who do not drive to work: ZSFG does not have parking spaces available for every subsidized employee. Because employees cannot expect

to have a parking space due to limited supply, ZSFG is therefore not required to offer a cash-out policy for employees who do not use a parking space. Additionally, enforcing this measure properly to curtail potential abuse would require diverting resources from the mission of ZSFG.

- Working with the SFMTA to expand Residential Area Parking Permit Zones: The residential permit process is a resident-driven process. The SFMTA has the ability to unilaterally legislate the change, but they do not exercise this right. Rather, they wait until the neighborhood has organized support for it.

The conclusion to Impact TRAF-2 on page 4.7-27 of the Draft EIR for the proposed project is revised as follows:

Significance after Mitigation: Significant and Unavoidable. Mitigation Measure TR-1 would reduce the impact at Potrero Avenue / 24th Street to less than significant, but UCSF and DPH do not have the authority to implement it without SFMTA's approval and assistance, which is unknown at this time. The effectiveness of Mitigation Measure TR-2 to reduce the impact at Potrero Avenue / 24th Street to less than significant is not known given the uncertainty over the volume of vehicles choosing to exit the northern egress, and UCSF does not have the authority to implement it without SFMTA's approval and assistance, which is unknown at this time. While Mitigation Measure TR-3 can reduce traffic impacts, even full implementation of TR-3 with identified feasible elements would not fully eliminate the significant impact at this intersection. ~~Further, the effectiveness of Mitigation Measure TR-3 to reduce the impact at Potrero Avenue / 24th Street to less than significant is not known, as it is dependent on the amount, mixture, and schedule of feasible measures implemented by UCSF and DPH. For the above-stated reasons, the traffic impact at the intersection of Potrero Avenue / 24th Street due to the proposed project would therefore still be considered *significant and unavoidable*.~~

The conclusion to Impact TRAF-2 on page 4.7-28 for the Variants is revised as follows:

Significance after Mitigation: Significant and Unavoidable. ~~Because~~ Mitigation Measures TR-1 and TR-2 cannot be implemented without SFMTA's approval and assistance. However, implementation of the full suite of TDM strategies identified in Mitigation Measure TR-3 would reduce the severity of the impact at Potrero Avenue / 24th Street under Variants 1 to 3 (though the impact would remain significant), and would reduce the impact to less than significant under Variant 4 (No Garage Expansion).~~and the effectiveness of TR-3 is not known, as it is dependent on factors including the schedule, structure, and how much UCSF employees are charged to park on campus, the traffic impact at the intersection of Potrero Avenue / 24th Street due to the project Variants would be considered *significant and unavoidable*.~~

The following is added to the first paragraph on page 4.7-29 of the Draft EIR:

The new criterion identifies thresholds of significance and screening criteria used to determine if a land use project would result in significant impacts under the VMT metric. For development projects, a project would generate substantial additional VMT if it exceeds the regional VMT per capita or employee for the particular use (i.e., residential, retail, or office) less 15 percent. OPR's proposed transportation impact guidelines state a

project would cause substantial additional VMT if it exceeds both the existing City household VMT per capita minus 15 percent and existing regional household VMT per capita minus 15 percent. In San Francisco, the City's average VMT per capita is lower (8.4) than the regional average (17.2). Therefore, the City average is irrelevant for the purposes of the analysis. This approach is consistent with Public Resources Code Section 21099 and the thresholds of significance for other land uses recommended in OPR's proposed transportation impact guidelines.

On a national level, research has shown that increasing the ratio of parking spaces to area residents can result in an increase in auto mode share of up to 30% (McCahill et al., 2015). Recent intercept surveys conducted for the San Francisco Planning Department, found that individuals were 40 to 60% less likely to travel by automobile than individuals with dedicated parking spaces and thus generated less VMT. These results were found for both office and residential uses (Schuett et al., 2015; City of San Francisco white paper). They also generally correspond to an absolute difference in auto mode share of around 30 percentage points – the same relationship found nationally by McCahill et al.

The following sentence is added to the last paragraph of page 4.7-33 and to the second paragraph of page 4.7-35 of the Draft EIR:

UCSF will also coordinate with the SFMTA on the ultimate driveway design of the proposed project to ensure that it incorporates safety best practices, including design that promotes safety and minimizes conflicts between modes.

Chapter 6, Alternatives

The second sentence under "Transportation and Traffic" on page 6-8 of the Draft EIR is revised as follows:

However, implementation of the full suite of TDM strategies identified in Mitigation Measure TR-3 would result in an acceptable LOS D at this intersection, thereby reducing the impact to less-than-significant ~~the impact would still be considered significant~~.

The following sentence is added to the last paragraph on page 6-8:

With mitigation Alternative 3 also would reduce the impact to less-than-significant, but it would not meet any of the project objectives for the parking garage expansion.

Appendix C, Transportation Impact Study

A letter report containing the results of the employee surveys is added to the Transportation Impact Study (Appendix C of the Draft EIR): *Priscilla Chan and Mark Zuckerberg San Francisco General Hospital Employee Travel Survey Results – 2015*.

CHAPTER 9
Mitigation Monitoring and Reporting Program

9.1 Introduction

When approving projects with mitigation measures that if implemented would avoid or lessen significant impacts, the California Environmental Quality Act (CEQA) requires public agencies to adopt monitoring and reporting programs or conditions of project approval to mitigate or avoid the identified significant effects (Public Resources Code Section 21081.6(a)(1)). A public agency adopting measures to mitigate or avoid the significant impacts of a proposed project is required to ensure that the measures are fully enforceable, through permit conditions, agreements, or other means (Public Resources Code Section 21081.6(b)). The mitigation measures required by a public agency to reduce or avoid significant project impacts not incorporated into the design or program for the project may be made conditions of project approval as set forth in a Mitigation Monitoring and Reporting Program (MMRP). The program must be designed to ensure project compliance with mitigation measures during project implementation.

The MMRP includes the mitigation measures identified in the UCSF Research Building and City Parking Garage Expansion at ZSFG EIR, which are required to address the significant impacts associated with the proposed project. The required mitigation measures are summarized in this MMRP; the full text of the impact analysis and mitigation measures are presented in the Final EIR (August 2016). This table also includes mitigation measures identified in the Initial Study, which is included as Appendix A of the Final EIR.

9.2 Format

The MMRP is organized in a table format (see Table 9-1), keyed to each significant impact and each mitigation measure. Only mitigation measures adopted to address significant impacts are included in this program. Each mitigation measure is set out in full, followed by a tabular summary of monitoring requirements. The column headings in the tables are defined as follows:

- **Environmental Impact:** This column presents the environmental impacts identified in the EIR.
- **Mitigation Measures:** This column identifies the mitigation measures associated with the impacts identified in the EIR.
- **Implementation Procedure:** This column identifies the procedure for implementing each mitigation measure.

- **Responsible Unit:** This column contains an assignment of responsibility for the implementation, monitoring and reporting tasks for the mitigation measure and identifies any regulatory agency approval needed.

- **Report Mechanism:** This column refers to the outcome from implementing the mitigation measure.

9.3 Enforcement

Under the proposed project, UCSF would develop the research building on the B/C Lot site, and if there is an expansion of the ZSFG parking garage, the Parking Authority would be responsible for its development. If the proposed UCSF research building is approved, the MMRP would be adopted by the Regents. Therefore, all mitigation measures applicable to the UCSF research building for significant impacts must be carried out by the designated public agency in order to fulfill the requirements of approval. A number of the mitigation measures would be implemented during the course of the development review process. These measures would be checked on plans, in reports, and in the field prior to construction. Most of the remaining mitigation measures would be implemented during the construction or implementation of the project. If the proposed City parking garage expansion at ZSFG is pursued and approved, implementation and enforcement of mitigation measures related to construction and operation of the parking garage expansion would be adopted by the Parking Authority and City and County of San Francisco approving bodies as applicable, which may include the Board of Supervisors, Planning Commission, Public Health Commission and Department of Public Health (DPH), San Francisco Municipal Transportation Agency (SFMTA), San Francisco Public Works (SFPW), and Building Department.

TABLE 9-1
MITIGATION MONITORING AND REPORTING PROGRAM

Environmental Impact	Mitigation/Improvement Measures	Implementation Procedure	Responsible Unit	Report Mechanism
Aesthetics *(from Initial Study)*				
Would the project create a new source of substantial light or glare which would adversely affect daytime or nighttime views in the area?	**AES-1:** UCSF shall require a condition in construction contracts that flood or area lighting for construction activities be placed and directed so as to avoid potential disturbances to adjacent residences, Building 5 nighttime uses, or other uses.	Issue instructions to construction contractors to incorporate flood lighting restrictions in construction contracts. Require construction contractors to document how flood and area lighting measures are addressed and incorporated. Review construction plans for the placement and direction of flood and area lighting to ensure disturbances to adjacent residences are avoided.	UCSF Project Manager and Construction Teams (Research Building) Parking Authority and City and County of San Francisco (Parking Garage)[1]	Review construction contracts prior to execution to ensure restrictions are in the contract. Monitor project sites during construction to verify appropriate placement of flood and area lighting and provide written report to verify compliance with this mitigation measure.
	AES-2: Minimize light and glare resulting from the new research building and garage expansion through the orientation of the building, use of landscaping materials, and choice of primary façade materials. Design standards and guidelines to minimize light and glare shall include: • Reflective metal walls and mirrored glass walls shall not be used as primary building materials for façades. • Illuminated building signage shall be consistent with the more stringent of City Planning Code sign standards for illumination and/or UCSF design guidelines. • Exterior light fixtures shall be configured to emphasize close spacing and lower intensity light. Light fixtures shall use luminaries that do not direct the cone of light towards nearby campus structures and off-campus structures. • Design parking structure lighting to minimize off-site glare, consistent with the existing parking structure.	Issue instructions to design teams to incorporate design standards in all project plans and designs. Require architects and design professionals to document how design standards are addressed and incorporated. Review project plans to ensure that such features have been incorporated in the design to address the impacts.	UCSF Project Manager and Design Teams (Research Building) Parking Authority and City and County of San Francisco (Parking Garage)	Ensure project incorporates design standards prior to final project approval. After construction, the Project Manager shall provide written verification to the Monitor for the contract bid[2] that design standards have been incorporated to address the impacts.

[1] Mitigation measures applicable to construction of the parking garage expansion would be carried out by the San Francisco department overseeing the construction contract unless otherwise stated.

[2] Documentation of compliance with mitigation measures applicable to construction of the parking garage expansion also would be submitted to the City's ERO by the San Francisco department overseeing the construction contract.

TABLE 9-1 (Continued)
MITIGATION MONITORING AND REPORTING PROGRAM

Environmental Impact	Mitigation/Improvement Measures	Implementation Procedure	Responsible Unit	Report Mechanism
Air Quality				
AQ-1: The proposed project and its variants would result in increased emissions of dust and criteria air pollutants during demolition and construction activities.	**AQ-1: Best Management Practices for Controlling Particulate Emissions during Construction of Research Building.** The following BAAQMD Best Management Practices for particulate control will be required for all construction activities related to the research building (BAAQMD, 2012). These measures will reduce particulate emissions primarily during soil movement, grading and demolition activities but also during vehicle and equipment movement on unpaved project sites 1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day. 2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered. 3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited. 4. All vehicle speeds on unpaved roads shall be limited to 15 mph. 5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used. 6. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, § 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points. 7. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation. Post a publically visible sign with the telephone number and person to contact at UCSF regarding dust complaints. This person shall respond and take corrective action within 48 hours. BAAQMD's telephone number shall also be visible to ensure compliance with applicable regulations.	Issue instructions in the bid package for contractors to incorporate the mitigation measure. The successful contractor will prepare a construction air pollution control strategy to report on the implementation of the mitigation measure.	UCSF Project Manager and Construction Teams Construction activities related to the Parking Garage would be subject to the requirements of the City's Construction Dust Control Ordinance	Provide written verification in report form to the Monitor for the contract bid to certify that selected bid includes provision for construction air pollution control. Provide a report on construction air pollution control strategies and report to Monitor for the contract bid upon request, but no less than quarterly after beginning each construction phase.

TABLE 9-1 (Continued)
MITIGATION MONITORING AND REPORTING PROGRAM

Environmental Impact	Mitigation/Improvement Measures	Implementation Procedure	Responsible Unit	Report Mechanism
Air Quality (cont.)				
AQ-3: Construction and operation of the proposed project would generate toxic air contaminants, including diesel particulate matter, and could expose sensitive receptors to substantial air pollutant concentrations.	**Mitigation Measure AQ-3: Construction Exhaust Emissions Reduction Measures during Construction of Research Building.** The construction contractor shall implement the following measures during construction of the research building to further reduce construction-related exhaust emissions: All off-road equipment greater than 25 horsepower (hp) and operating for more than 20 total hours over the entire duration of construction activities shall meet the following requirements: 1. Where access to alternative sources of power are available, portable diesel engines shall be prohibited; and 2. All off-road equipment shall have: a. Engines that meet or exceed either USEPA or CARB Tier 2 off-road emission standards, and b. Engines that are retrofitted with a CARB Level 3 Verified Diesel Emissions Control Strategy. Acceptable options for reducing emissions include the use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, add-on devices such as particulate filters, and/or other options as such are available.	Issue instructions in the bid package for contractors to incorporate the mitigation measure. The successful contractor will ensure that off-road construction equipment complies with emissions standards listed in the mitigation measure.	UCSF Project Manager and Construction Teams Construction activities related to the Parking Garage would be subject to the requirements of the City's Clean Construction Ordinance.	Provide written verification in report form to the Monitor for the contract bid to certify that off-road construction equipment complies with emission standards. Provide a report on construction air pollution control strategies and report to Monitor upon request, but no less than quarterly after beginning each construction phase.
AQ-5: The proposed project could conflict with, or obstruct implementation of, the *2010 Clean Air Plan*.	Implement Mitigation Measure AQ-1 and AQ-3.	See Mitigation Measure AQ-1 and AQ-3.	See Mitigation Measure AQ-1 and AQ-3.	See Mitigation Measure AQ-1 and AQ-3.
Biological Resources *(from Initial Study)*				
Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	**BIO-1: Nesting Bird Protection Measures.** Should construction activities commence during the bird nesting season (February 15 through August 15), UCSF shall retain a qualified biologist to conduct preconstruction nesting bird surveys in surrounding habitat for nesting birds. UCSF shall implement specific measures to avoid and minimize impacts on nesting birds including, but not limited to, those described below: • To avoid and minimize potential impacts on nesting raptors and other birds, preconstruction surveys shall be performed not more than two weeks prior to initiating vegetation removal and/or construction and demolition activities during the breeding season (i.e., February 15 through August 15).	Issue instructions in the bid package for project managers and contractors to incorporate the mitigation measure. The successful construction project team will work with a qualified biologist to conduct preconstruction surveys, as specified, and report on biological resource avoidance procedures to implement the mitigation measure.	UCSF Project Manager and Design Teams (Research Building) Parking Authority and City and County of San Francisco (Parking Garage)	Provide written verification in report form to the Monitor for the contract bid to certify that selected bid includes provision for biologist to prepare preconstruction surveys. Review preconstruction surveys to determine if buffer zones are required. If so, inspect construction site periodically to ensure that buffer zones are in place and observed. Provide a report on implementation of biological resource avoidance procedures and report to Monitor prior to the start of construction or tree removal activities.

TABLE 9-1 (Continued)
MITIGATION MONITORING AND REPORTING PROGRAM

Environmental Impact	Mitigation/Improvement Measures	Implementation Procedure	Responsible Unit	Report Mechanism
Biological Resources *(from Initial Study)* **(cont.)**				
	• To avoid and minimize potential impacts on nesting raptors and other birds, a no-disturbance buffer zone shall be established around active nests during the breeding season until the young have fledged and are self-sufficient, when no further mitigation would be required. Typically, the size of individual buffers ranges from a minimum of 250 feet for raptors to a minimum of 50 feet for other birds but can be adjusted based on an evaluation of the site by a qualified biologist in cooperation with the USFWS and/or CDFW. • Birds that establish nests after construction starts are assumed to be habituated to and tolerant of the indirect adverse impacts resulting from construction noise and human activity. However, direct take of nests, eggs, and nestlings is still prohibited and an appropriate buffer shall be established around the nest according to species and proximity to project activities in order to avoid nest abandonment or destruction, as determined by a qualified biologist. • If construction or demolition activities ceases for a period of more than two weeks, or vegetation removal is required after a period of more than two weeks has elapsed from the preconstruction surveys, then new nesting bird surveys shall be conducted.			
	BIO-2: Bird-Safe Building Treatments. • Employ glazing options such as use of fritted glass, Dichroic glass, etched glass, translucent glass, or glass that reflects ultraviolet light in appropriate portions of the building façade. Any feature-related hazards, such as freestanding glass walls, glass wind barriers, or transparent building corners, must have 100% of the glass on the feature-related hazards treated with these glazing options. • Minimize light and glare through the orientation of the building, use of landscaping materials, shielded lighting, and choice of primary façade materials. The building design shall prohibit use of reflective metal walls and mirrored glass walls as primary building materials for façades.	Issue instructions to design team to incorporate bird-safe building treatments in building design. Require architects and design professionals to document use of bird-safe treatments and review project plans to ensure that such features have been incorporated in the design.	UCSF Project Manager and Design Teams (Research Building) Parking Authority and City and County of San Francisco (Parking Garage)	Verify that project incorporates treatments prior to final project approval. After construction, the Project Manager shall provide written verification to the Monitor for the contract bid that treatments were installed according to the design.

TABLE 9-1 (Continued)
MITIGATION MONITORING AND REPORTING PROGRAM

Environmental Impact	Mitigation/Improvement Measures	Implementation Procedure	Responsible Unit	Report Mechanism
Cultural Resources				
CP-1: Construction of the proposed project could cause a substantial adverse change in the significance of the SFGH Historic District, a historical resource as defined in Section 15064.5, including those resources listed in Article 10 or Article 11 of the San Francisco Planning Code.	**CP-1: Design Guidelines for the Research Building.** The design of the proposed research building shall adhere to the following design guidelines. ***Siting*** 1. The west elevation of the building should be generally parallel to the north-south entry road that bisects the campus. At the ground level, the setback of the building from this north-south road should be similar in extent to the setbacks from this road exhibited by Building 1/1A/1B/1C, Building 9, Building 10/20, and Building 30/40. 2. In keeping with the site's urban setting, the south elevation of the building should be generally rectilinear and parallel to Twenty-Third Street. ***Height, Scale and Massing*** 1. The height of the building should be kept at or below the 85-foot-height of Buildings 10/20 and 30/40. This height is exclusive of rooftop mechanical equipment, assuming such equipment is sufficiently setback and differentiated in material that is does not "read" as a vertical extension of the façade. 2. The façades of the new building should have a vertical orientation that is underscored by bays at the building corners that project relative to the central portions of the façades. 3. Blank, mirrored, or opaque facades should be avoided. 4. On the south and west façades, architectural elements should be used to divide the façades into intervals similar to those found elsewhere in the District, including Building 9 and the Building 30/40 "finger wards." This could be accomplished through a variety of means, including the use of bays, setbacks, horizontal belt courses, and/or changes in material or ornamentation. ***Materials and Cladding*** 1. Given the prevalence of brick within the SFGH Historic District, the use of masonry (including brick and terra cotta) exclusively or in combination with other compatible exterior cladding materials is encouraged. Masonry should be a prominent material if used in combination with other materials.	Issue instructions to design team to incorporate design guidelines in project plan. Require architects and design professionals to document how design standards are addressed and incorporated. A qualified architectural historian will review the project plan to ensure that such features have been incorporated in the design.	UCSF Project Manager and Design Teams	Ensure project incorporates design standards prior to final project design approval. After construction, the Project Manager shall provide written verification to the Monitor for the contract bid that design standards have been incorporated.

TABLE 9-1 (Continued)
MITIGATION MONITORING AND REPORTING PROGRAM

Environmental Impact	Mitigation/Improvement Measures	Implementation Procedure	Responsible Unit	Report Mechanism
Cultural Resources (cont.)				
CP-1 (cont.)	2. New construction should use materials in a manner that creates details and textures that draw from the District and that give the building a three-dimensional character. Monolithic wall treatments should be avoided. ***Windows*** 1. Fenestration patterns and proportions, as well as the percent of the façade devoted to fenestration, should be consistent with the District, especially adjacent contributory buildings (Buildings 9 and 30/40). Building 9 features recessed, double-hung, wood sash windows of either round arched or rectangular shape that are arranged singly and in pairs. Building 30/40 exhibits a variety of window types. Most of the building's windows are recessed, double-hung, wood sash windows of round arched or rectangular shape that are arranged either singly or in groups of three. The fifth floor (added in 1931) features wood sash, paired casement windows surmounted by arched transom and separated by terra cotta colennettes. The chamfered, east-facing bays of the building feature rectangular, wood sash, paired casement windows surmounted by rectangular transoms. These windows are arranged singly, in pairs and in groups of four. Accordingly, use of recessed, punched windows on at least substantial portions of the building exterior is encouraged. Uninterrupted expanses of full-height glazing should be avoided. Arranging windows into bands of two, three or more is encouraged. 2. In keeping with the District contributors, windows should have a vertical orientation. Use of rectangular windows and/or round arched windows is encouraged. ***Street Frontage*** 1. The south façade of the building should incorporate at least one prominent pedestrian entry. ***Site Features*** 1. The brick Guardhouse and Gate Pillar should be retained in their current location. If temporary relocation is necessary to accommodate construction, a Historic Architect satisfying the Secretary of the Interior's Professional Qualifications Standards should be engaged to oversee the temporary relocation and reinstallation of these historic resources.			

TABLE 9-1 (Continued)
MITIGATION MONITORING AND REPORTING PROGRAM

Environmental Impact	Mitigation/Improvement Measures	Implementation Procedure	Responsible Unit	Report Mechanism
Cultural Resources (cont.)				
CP-1 (cont.)	2. The brick and metal fence along the southern edge of the site should be retained in its current location. If temporary relocation of any portion of the fence is necessary to accommodate construction, a Historic Architect satisfying the Secretary of the Interior's Professional Qualifications Standards should be engaged to oversee the temporary relocation and reinstallation of this historic resource. 3. A conservator well-versed in the assessment of historic fountains and related statuary should be engaged to evaluate the feasibility of relocating the fountain, which exhibits noticeable wear and may be constructed of fairly porous cement. 4. If deemed feasible, the fountain should be moved to a location elsewhere within the SFGH Historic District that reflects the character and prominence of its original location within the grass lawn courtyard of the Tubercular Ward (the fountain should not be located between parking spots). Accordingly, the fountain should be relocated to an area south or west of the proposed building, where it can continue its current use as a planter.			
CP-2: Construction of the proposed project could cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5.	**CP-2: Archeological Research Design, Testing and Evaluation Plan, Archeological Monitoring Program and/or Archeological Data Recovery Program** ***Archeological Research Design, Testing, and Evaluation Plan.*** Because archeological resources may be present within the C-APE for both the B/C Lot and the parking garage expansion site, the following measures shall be undertaken to avoid any potentially significant adverse effect from the proposed project on archeological resources. UCSF shall retain the services of an archeological consultant to prepare and implement an Archeological Research Design, Testing, and Evaluation Plan (ARDTEP) prior to project construction of the research building. The City shall similarly retain the services of an archeological consultant to prepare and implement a separate ARDTEP prior to construction of the parking garage expansion. Each ARDTEP will guide fieldwork and help to determine if identified archeological remains qualify as significant. Each ARDTEP shall be prepared by professionals who meet the Secretary of the Interior's Professional Qualifications Standards in historical archeology, prehistoric archeology, and history	Issue instructions in the bid package for contractors to incorporate the mitigation measure. The successful contractor will demonstrate knowledge of procedures and requirements when archaeological resources are discovered during construction activities.	UCSF Project Manager and Design Teams (Research Building) Parking Authority and City and County of San Francisco (Parking Garage)	Provide written verification in report form to the Monitor for the contract bid to certify that selected bid includes provisions for implementation of mitigation measure if archaeological resources are discovered during construction activities. Provide construction status report to Monitor upon request.

TABLE 9-1 (Continued)
MITIGATION MONITORING AND REPORTING PROGRAM

Environmental Impact	Mitigation/Improvement Measures	Implementation Procedure	Responsible Unit	Report Mechanism
Cultural Resources (cont.)				
CP-2 (cont.)	(36 CFR Part 61)[3], and shall be reviewed and approved by UCSF for the research building site and the City's Environmental Review Officer (ERO) for the garage expansion site. Each ARDTEP shall address and ensure the following: (1) a geoarcheological landscape approach to identify potential presence of paleosols that may have provided living surfaces for prehistoric populations; (2) the appropriateness of specific protocols for the identification and evaluation of paleosol deposits; (3) the full exposure, documentation, and recordation of the former residences, businesses, and hospital related outbuildings; and (4) appropriate field investigation strategies for the identification and evaluation of other types of historical archeological deposits and/or features (e.g., burned structural/building contents debris, artifact filled privies, etc.). At a minimum, the *research design* component of each ARDTEP shall contain the following sections: • Introduction and Purpose • Project Location and Description • Regulatory Context • Methods and Sources • Holocene Landscape Evolution • Prehistory and Ethnography • History • Previous Archeological Research – Prehistoric Archeology – Historical Archeology • Archeological Research Design • Geoarcheology • Archival and Oral History Research – Block Histories by Address – Research Context: Prehistoric Archeology – Research Themes and Issues – Data Requirements			

[3] Secretary of the Interior. Standards and Guidelines for Archeology and Historic Preservation, Professional Qualifications Standards.

TABLE 9-1 (Continued)
MITIGATION MONITORING AND REPORTING PROGRAM

Environmental Impact	Mitigation/Improvement Measures	Implementation Procedure	Responsible Unit	Report Mechanism
Cultural Resources (cont.)				
CP-2 (cont.)	– Property Types: Prehistoric Archeology – Archeological Sensitivity: Prehistoric • Research Context: Historical Archeology – Research Themes and Issues – Data Requirements – Property Types: Historical Archeology – Archeological Sensitivity: Historical Archeology At a minimum, the *testing component* of each ARDTEP will contain the following sections: • Introduction and Purpose • Test Areas and their Potential Significance Fieldwork Methods • Hazardous Materials, Health, and Safety • Treatment of Human Remains and Burial Goods Public Involvement • Laboratory Work – Laboratory Methods • Archeological Evaluation Plan: Evaluation Procedures and Criteria Integrity • Infield Evaluation Post-field Evaluation • Reporting and Dissemination of Results – Public Outreach • Curation Each ARDTEP will be used to inform decisions regarding project design, and will be carried out prior to project construction. At the completion of the archeological testing program, the archeological consultant shall submit a written report of the findings to UCSF for the research building site and the City or its designated representative for the garage expansion site. If based on the archeological testing program the archeological consultant finds that significant archeological resources may be present, UCSF and the City or its designated representative in consultation with the archeological consultant shall determine if additional measures are warranted for each respective site. Additional measures that may be undertaken include additional			

TABLE 9-1 (Continued)
MITIGATION MONITORING AND REPORTING PROGRAM

Environmental Impact	Mitigation/Improvement Measures	Implementation Procedure	Responsible Unit	Report Mechanism
Cultural Resources (cont.)				
CP-2 (cont.)	archeological testing, archeological monitoring, and/or an archeological data recovery program. No archeological data recovery shall be undertaken without the prior approval of UCSF for the research building site and the City or its designated representative for the garage expansion site. If UCSF determines that a significant archeological resource is present on the research building site, or the City or its designated representative determines that a significant archeological resource is present on the garage expansion site, and that the resource could be adversely affected by the proposed project, at the discretion of UCSF or the City either: • The proposed research building or garage expansion shall be re-designed so as to avoid any adverse effect on the significant archeological resource; or • A data recovery program shall be implemented, unless UCSF (for the research building site) or the City or its designated representative (for the garage expansion site) determines that the archeological resource is of greater interpretive than research significance and that interpretive use of the resource is feasible. ***Consultation with Descendant Communities.*** On discovery of an archeological site[4] associated with descendant Native Americans, the Overseas Chinese, or other descendant group on the research building site or garage expansion site, an appropriate representative[5] of the descendant group and UCSF (for the research building site) and the City or its designated representative (for the garage expansion site) shall be contacted. The representative of the descendant group shall be given the opportunity to monitor archeological field investigations of the sites and to consult with UCSF regarding the research building site, and the City or its designated representative for the garage expansion site, regarding appropriate archeological treatment of the site, of recovered data from the site, and, if applicable, any interpretative treatment of the associated archeological site. A copy of the Final Archeological Resources Report shall be provided to the representative of the descendant group.			

[4] By the term "archeological site" is intended here to minimally include any archeological deposit, feature, burial, or evidence of burial.
[5] An "appropriate representative" of the descendant group is here defined to mean, in the case of Native Americans, any individual listed in the current Native American Contact List for the City and County of San Francisco maintained by the California Native American Heritage Commission and in the case of the Overseas Chinese, the Chinese Historical Society of America. An appropriate representative of other descendant groups should be determined in consultation with the Department archeologist.

TABLE 9-1 (Continued)
MITIGATION MONITORING AND REPORTING PROGRAM

Environmental Impact	Mitigation/Improvement Measures	Implementation Procedure	Responsible Unit	Report Mechanism
Cultural Resources (cont.)				
CP-2 (cont.)	***Archeological Monitoring Program*.** If UCSF (for the research building site) or the City or its designated representative (for the garage expansion site) in consultation with the archeological consultant determines that an archeological monitoring program shall be implemented, the archeological monitoring program for each respective site shall minimally include the following provisions: • The archeological consultant and UCSF (for the research building site) or the City or its designated representative (for the garage expansion site) shall meet and consult on the scope of the archeological monitoring program (AMP) reasonably prior to any project-related soils disturbing activities commencing. UCSF (for the research building site) or the City or its designated representative (for the garage expansion site) in consultation with the archeological consultant shall determine what project activities shall be archeologically monitored. In most cases, any soils- disturbing activities, such as demolition, foundation removal, excavation, grading, utilities installation, foundation work, driving of piles (foundation, shoring, etc.), site remediation, etc., shall require archeological monitoring because of the risk these activities pose to potential archeological resources and to their depositional context; • The archeological consultant shall advise all project contractors to be on the alert for evidence of the presence of the expected resource(s), of how to identify the evidence of the expected resource(s), and of the appropriate protocol in the event of apparent discovery of an archeological resource; • The archeological monitor(s) shall be present on each respective project site according to a schedule agreed upon by the archeological consultant and UCSF (for the research building site) or the City or its designated representative (for the garage expansion site) until UCSF or the City or its designated representative has, in consultation with project archeological consultant, determined that project construction activities could have no effects on significant archeological deposits; • The archeological monitor shall record and be authorized to collect soil samples and artifactual/ecofactual material as warranted for analysis; • If an intact archeological deposit is encountered, all soils-disturbing activities in the vicinity of the deposit shall cease. The archeological monitor shall be empowered to			

TABLE 9-1 (Continued)
MITIGATION MONITORING AND REPORTING PROGRAM

Environmental Impact	Mitigation/Improvement Measures	Implementation Procedure	Responsible Unit	Report Mechanism
Cultural Resources (cont.)				
CP-2 (cont.)	temporarily redirect demolition/excavation/pile driving/ construction activities and equipment until the deposit is evaluated. If in the case of pile driving activity (foundation, shoring, etc.), the archeological monitor has cause to believe that the pile driving activity may affect an archeological resource, the pile driving activity shall be terminated until an appropriate evaluation of the resource has been made in consultation with UCSF (for the research building site) or the City or its designated representative (for the garage expansion site). The archeological consultant shall immediately notify UCSF (for the research building site) or the City or its designated representative (for the garage expansion site) of the encountered archeological deposit. The archeological consultant shall make a reasonable effort to assess the identity, integrity, and significance of the encountered archeological deposit, and present the findings of this assessment to UCSF or the City or its designated representative, respectively. • Whether or not significant archeological resources are encountered, the archeological consultant shall submit a written report of the findings of the monitoring program to UCSF (for the research building site) or the City or its designated representative (for the garage expansion site). ***Archeological Data Recovery Program.*** If UCSF (for the research building site) or the City or its designated representative (for the garage expansion site) in consultation with the archeological consultant determines that an archeological data recovery program shall be implemented, the archeological data recovery program shall be conducted in accord with an archeological data recovery plan (ADRP). The archeological consultant and UCSF (for the research building site) or the City or its designated representative (for the garage expansion site) shall meet and consult on the scope of the ADRP prior to preparation of a draft ADRP. The archeological consultant shall submit a draft ADRP to UCSF (for the research building site) or the City or its designated representative (for the garage expansion site). The ADRP shall identify how the proposed data recovery program will preserve the significant information the archeological resource is expected to contain. That is, the ADRP will identify what scientific/historical research questions are applicable to the expected resource, what data classes the resource is expected to possess, and how the expected data classes would address the applicable research questions. Data recovery, in general, should be limited to the			

TABLE 9-1 (Continued)
MITIGATION MONITORING AND REPORTING PROGRAM

Environmental Impact	Mitigation/Improvement Measures	Implementation Procedure	Responsible Unit	Report Mechanism
Cultural Resources (cont.)				
CP-2 (cont.)	portions of the historical property that could be adversely affected by the proposed project. Destructive data recovery methods shall not be applied to portions of the archeological resources if nondestructive methods are practical. The scope of the ADRP shall include the following elements: • Field Methods and Procedures. Descriptions of proposed field strategies, procedures, and operations. • Cataloguing and Laboratory Analysis. Description of selected cataloguing system and artifact analysis procedures. • Discard and Deaccession Policy. Description of and rationale for field and post-field discard and deaccession policies. • Interpretive Program. Consideration of an on-site/off-site public interpretive program during the course of the archeological data recovery program. • Security Measures. Recommended security measures to protect the archeological resource from vandalism, looting, and non-intentionally damaging activities. • Final Report. Description of proposed report format and distribution of results. • Curation. Description of the procedures and recommendations for the curation of any recovered data having potential research value, identification of appropriate curation facilities, and a summary of the accession policies of the curation facilities. **Human Remains and Associated or Unassociated Funerary Objects.** The treatment of human remains and of associated or unassociated funerary objects discovered during any soils disturbing activity shall comply with applicable State and Federal laws. This shall include immediate notification of the Coroner of the City and County of San Francisco and in the event of the Coroner's determination that the human remains are Native American remains, notification of the California State Native American Heritage Commission (NAHC) who shall appoint a Most Likely Descendant (MLD) (PRC Section 5097.98). The archeological consultant and UCSF (for the research building site) or the City or its designated representative (for the garage expansion site), and MLD shall make all reasonable efforts to develop an agreement for the treatment of, with appropriate dignity, human remains and associated or unassociated funerary objects (CEQA Guidelines Section 15064.5[d]). The			

TABLE 9-1 (Continued)
MITIGATION MONITORING AND REPORTING PROGRAM

Environmental Impact	Mitigation/Improvement Measures	Implementation Procedure	Responsible Unit	Report Mechanism
Cultural Resources (cont.)				
CP-2 (cont.)	agreement should take into consideration the appropriate excavation, removal, recordation, analysis, custodianship, curation, and final disposition of the human remains and associated or unassociated funerary objects. ***Final Archeological Resources Report.*** The archeological consultant shall submit a Draft Final Archeological Resources Report (FARR) to UCSF (for the research building site) or the City or its designated representative (for the garage expansion site) that evaluates the historical significance of any discovered archeological resource and describes the archeological and historical research methods employed in the archeological testing/monitoring/data recovery program(s) undertaken. Information that may put at risk any archeological resource shall be provided in a separate removable insert within the final report. Once approved by UCSF (for the research building site) or the City or its designated representative (for the garage expansion site), copies of the FARR shall be distributed as follows: California Archeological Site Survey Northwest Information Center (NWIC) shall receive one (1) copy and UCSF (for the research building site) or the City or its designated representative (for the garage expansion site) shall receive a copy of the transmittal of the FARR to the NWIC. The Environmental Planning division of the Planning Department shall receive one bound, one unbound and one unlocked, searchable PDF copy on CD of the FARR (for the garage expansion site) along with copies of any formal site recordation forms (CA DPR 523 series) and/or documentation for nomination to the National Register of Historic Places/California Register of Historical Resources. In instances of high public interest in or the high interpretive value of the resource, the City or its designated representative may require a different final report content, format, and distribution than that presented above for the garage expansion site.			
CP-3: Construction of the proposed project could disturb any human remains, including those interred outside of formal cemeteries.	Implement Mitigation Measure CP-2.	See Mitigation Measure CP-2.	See Mitigation Measure CP-2.	See Mitigation Measure CP-2.
CP-4: Construction of the proposed project could cause a substantial adverse change in the significance of a tribal cultural resource as defined in PRC Section 21074.	Implement Mitigation Measure CP-2.	See Mitigation Measure CP-2.	See Mitigation Measure CP-2.	See Mitigation Measure CP-2.

TABLE 9-1 (Continued)
MITIGATION MONITORING AND REPORTING PROGRAM

Environmental Impact	Mitigation/Improvement Measures	Implementation Procedure	Responsible Unit	Report Mechanism
Cultural Resources (cont.)				
CP-5: Construction of the proposed project could directly or indirectly destroy a unique paleontological resource or site, or a unique geologic feature.	**CP-5: Inadvertent Discovery of Paleontological Resources.** The following measures shall be implemented should construction result in the accidental discovery of paleontological resources: To reduce the potential for the proposed project to result in a significant impact on paleontological resources, UCSF (for the research building site) or and the Planning Department (for the garage expansion site) shall arrange for a paleontological training by a qualified paleontologist regarding the potential for such resources to exist in the project site and how to identify such resources. The training could consist of a recorded presentation of the initial training that could be reused for new personnel. The training shall also include a review of penalties for looting and disturbance of these resources. An alert sheet shall be prepared by the qualified paleontologist and shall include the following: 1. A discussion of the potential to encounter paleontological resources. 2. Instructions for reporting observed looting of a paleontological resource; and instructions that if a paleontological deposit is encountered within a project area, all soil disturbing activities in the vicinity of the deposit shall cease and UCSF (for the research building site) or the Planning Department (for the garage expansion site) shall be notified immediately. 3. Who to contact in the event of an unanticipated discovery. If potential fossils are discovered by construction crews, all earthwork or other types of ground disturbance within 50 feet of the find shall stop immediately until the qualified professional paleontologist can assess the nature and importance of the find. Based on the scientific value or uniqueness of the find, the paleontologist may record the find and allow work to continue, or recommend salvage and recovery of the fossil. The paleontologist may also propose modifications to the stop-work radius based on the nature of the find, site geology, and the activities occurring on the site. If treatment and salvage is required, recommendations shall be consistent with the Society of Vertebrate Paleontology 2010 guidelines and currently accepted scientific practice, and shall be subject to review and approval by UCSF (for the research	Issue instructions in the bid package for contractors to incorporate the mitigation measure. The successful contractor will demonstrate knowledge of procedures and requirements when paleontological resources are discovered during construction activities.	UCSF Project Manager and Design Teams (Research Building) Parking Authority and City and County of San Francisco (Parking Garage)	Provide written verification in report form to the Monitor for the contract bid to certify that selected bid includes provisions for implementation of mitigation measure if paleontological resources are discovered during construction activities. Provide construction status report to Monitor upon request.

TABLE 9-1 (Continued)
MITIGATION MONITORING AND REPORTING PROGRAM

Environmental Impact	Mitigation/Improvement Measures	Implementation Procedure	Responsible Unit	Report Mechanism
Cultural Resources (cont.)				
CP-5 (cont.)	building site) or the City or designee (for the garage expansion site). If required, treatment for fossil remains may include preparation and recovery of fossil materials so that they can be housed in an appropriate museum or university collection, and may also include preparation of a report for publication describing the finds. UCSF (for the research building site) or the City (for the garage expansion site) shall be responsible for ensuring that treatment is implemented and reported. If no report is required, UCSF or the City shall nonetheless ensure that information on the nature, location, and depth of all finds is readily available to the scientific community through university curation or other appropriate means.			
Greenhouse Gas Emissions				
GHG-1: The proposed project and its variants would result in an increase in greenhouse gas emissions.	**GHG-1: Construction-Related GHG Reduction Measures during Construction of Research Building.** The following BAAQMD-suggested measures shall be implemented during demolition and construction activities related to the research building: • Use alternative fueled (e.g., biodiesel, electric) construction vehicles/equipment where feasible; • Use locally sourced building materials for at least 10% of overall materials brought to site; and • Recycle or reuse at least 50% of construction waste or demolition materials.	Issue instructions in the bid package for contractors to incorporate the mitigation measure. The successful contractor will prepare a construction GHG reduction strategy to report on the implementation of the mitigation measure.	UCSF Project Manager and Construction Team (Parking Garage) Construction activities related to the Parking Garage would be subject to the requirements of the City's Clean Construction Ordinance and would require preparation of a Construction and Demolition Debris Management Plan in accordance with the Green Building Requirements for City Buildings (San Francisco Environment Code, Chapter 7)	Provide written verification in report form to the Monitor for the contract bid to certify that selected bid includes provision for construction air pollution control. Provide a report on construction GHG reduction strategies and report to Monitor upon request, but no less than quarterly after beginning each construction phase.
Hazards and Hazardous Materials *(from Initial Study)*				
Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	**HAZ-1a:** A Subsurface Investigation (SI) Work Plan shall be prepared and implemented in accordance with San Francisco Health Code Article 22A and Building Code Section 106A.3.2.4. The Plan shall be prepared by a qualified consultant to characterize subsurface soils and groundwater, if applicable, that would be disturbed by construction activities. The plan shall detail the soil sampling and analysis efforts to adequately profile the site soils. Compliance with this plan shall be a condition of the construction contract for the project.	Issue instructions in the bid package of the Parking Garage construction contract to prepare a Subsurface Investigation Work Plan in accordance with San Francisco Health Code Article 22A and Building Code Section 106A.3.2.4.	Parking Authority and City and County of San Francisco (Parking Garage) DPH – Bureau of Environmental Health (approves subsurface investigation work plan)	Provide written verification in report form to the Monitor for the contract bid to certify that Subsurface Investigation Work Plan was prepared and implemented in accordance with San Francisco Health Code Article 22A and Building Code Section 106A.3.2.4.

TABLE 9-1 (Continued)
MITIGATION MONITORING AND REPORTING PROGRAM

Environmental Impact	Mitigation/Improvement Measures	Implementation Procedure	Responsible Unit	Report Mechanism
Hazards and Hazardous Materials *(from Initial Study)* **(cont.)**				
	HAZ-1b: An Excavation Management Plan shall be prepared by a qualified consultant to guide all earthwork activities in the characterization of all soils that are targeted for offsite disposal. Compliance with this plan shall be a condition of the construction contract for the project. Based on the findings of the January 14, 2015 Iris Environmental In-Situ profiling and any subsequent findings on the garage site, excavated soils shall be isolated, protected from potential runoff, and sampled in accordance with the requirements of the receiving disposal facilities requirements.	Issue instructions in the bid package of construction contracts to prepare an Excavation Management Plan for soils targeted for offsite disposal.	UCSF Project Manager and Design Teams (Research Building) Parking Authority and City and County of San Francisco (Parking Garage) DPH - Bureau of Environmental Health (approve excavation management plan)	Provide written verification in report form to the Monitor for the contract bid to certify that Excavation Management Plan was prepared and implemented.
Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	Implement Mitigation Measures HAZ-1a and HAZ-1b.	See Mitigation Measures HAZ-1a and HAZ-1b.	See Mitigation Measures HAZ-1a and HAZ-1b. Applies only to City.	See Mitigation Measures HAZ-1a and HAZ-1b.
Noise				
NO-1: Construction of the proposed project could cause a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project**.**	**NO-1: Construction Noise Control Measures.** Contractors shall employ site-specific noise attenuation measures during construction to reduce the generation of construction noise to less than 10 dBA over existing noise levels. These measures shall be included in a Noise Control Plan that shall be submitted for review and approval by UCSF for construction of the research building and the City or its designated representative for the garage expansion to ensure that construction noise is reduced to the degree feasible. Measures specified in the Noise Control Plans and implemented during project construction shall include, at a minimum, the following noise control strategies: Equipment and trucks used for construction shall use the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures, and acoustically attenuating shields or shrouds). • Construction equipment with lower noise emission ratings shall be used whenever possible, particularly for air compressors.	Issue instructions in the bid package for contractors to incorporate the mitigation measure. The successful contractor will prepare a construction noise control plan to report on the implementation of the mitigation measure.	UCSF Project Manager and Design Teams (Research Building) Parking Authority and City and County of San Francisco (Parking Garage)	Provide written verification in report form to the Monitor for the contract bid to certify that selected bid includes provisions for construction noise control. Provide a report on construction noise control to Monitor upon request, but no less than quarterly after beginning each construction activity.

TABLE 9-1 (Continued)
MITIGATION MONITORING AND REPORTING PROGRAM

Environmental Impact	Mitigation/Improvement Measures	Implementation Procedure	Responsible Unit	Report Mechanism
Noise (cont.)				
NO-1 (cont.)	• Sound-control devices no less effective than those provided by the manufacturer shall be provided on all construction equipment. • Impact tools (e.g., jack hammers, pavement breakers, and rock drills) used for construction shall be hydraulically or electrically powered wherever possible to avoid noise associated with compressed air exhaust from pneumatically powered tools. Where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used; this muffler can lower noise levels from the exhaust by up to about 10 dBA. External jackets on the tools themselves shall be used where feasible; this could achieve a reduction of 5 dBA. Quieter procedures, such as use of drills rather than impact tools, shall be used where feasible. • Stationary noise sources such as material stockpiles and vehicle staging areas shall be located as far from adjacent receptors as possible. • Enclosures and mufflers for stationary equipment shall be provided, impact tools shall be shrouded or shielded, and barriers shall be installed around particularly noisy activities at the construction sites so that the line of sight between the construction activities and nearby sensitive receptor locations is blocked to the extent feasible. • Unnecessary idling of internal combustion engines shall be prohibited. • Construction-related vehicles and equipment shall be required to use designated truck routes to travel to and from the project sites as determined with consultation with the SFMTA as part of the permit process prior to construction. • The project sponsor shall designate a point of contact to respond to noise complaints. The point of contact must have the authority to modify construction noise-generating activities to ensure compliance with the measures above and with the San Francisco Noise Ordinance.			

TABLE 9-1 (Continued)
MITIGATION MONITORING AND REPORTING PROGRAM

Environmental Impact	Mitigation/Improvement Measures	Implementation Procedure	Responsible Unit	Report Mechanism
Transportation and Traffic				
TRAF-1: Construction of the proposed project could cause substantial adverse impacts to traffic flow, circulation and access as well as to transit, pedestrian, and parking conditions during demolition and construction activities.	**IM-TR-1: Construction Coordination and Monitoring Measures.** ***Traffic Control Plan for Construction*.** In order to reduce potential conflicts between construction activities and pedestrians, transit and autos during construction activities at ZSFG, UCSF shall require construction contractor(s) for the proposed Research Building to prepare a traffic control plan for major phases of project construction (e.g. demolition, construction, or renovation of individual buildings). UCSF and their construction contractor(s) will meet with DPH and relevant City agencies to coordinate feasible measures to reduce traffic congestion, including temporary transit stop relocations, and other measures to reduce potential traffic and transit disruption and pedestrian circulation effects during major phases of construction of the proposed Research Building. For any work within the public right-of-way, the contractor would be required to comply with the City of San Francisco's Regulations for Working in San Francisco Streets, which establish rules and permit requirements so that construction activities can be done safely and with the least possible interference with pedestrians, bicyclists, transit, and vehicular traffic. The Parking Authority would be responsible for approving and implementing the expanded 23rd Street Garage, and therefore would be responsible for coordinating with UCSF, DPH, and other City agencies before and during its construction. In the event that the construction timeframes of the major phases and other development projects adjacent to the ZSFG campus site overlap, including the 23rd Street garage expansion, UCSF and the City should coordinate with City Agencies through the Transportation Advisory Staff Committee (TASC) to minimize the severity of any disruption to adjacent land uses and transportation facilities from overlapping construction transportation impacts. UCSF and the City shall propose a construction traffic control plan that includes measures to reduce potential construction traffic conflicts, such as staggering start and end times, coordinated material drop offs, collective worker parking and transit to job site and other measures. ***Reduce SOV Mode Share for Construction Workers.*** In order to minimize parking demand and vehicle trips associated with construction workers for the proposed research building, UCSF and the City shall require the construction contractors to include in the Traffic Control Plan for Construction methods to encourage walking, bicycling, carpooling, and transit access to	Issue instructions in the bid package for contractors to incorporate the mitigation measure. The successful contractor will prepare a traffic control plan to reduce impacts from construction traffic and report on the implementation of the mitigation measure.	UCSF Project Manager and Design Teams (Research Building) Parking Authority and City and County of San Francisco (Parking Garage) SFMTA (approve traffic plans)	Provide written verification in report form to the Monitor for the contract bid to certify that selected bid includes provisions for traffic control plan (including plan to reduce construction worker SOV mode share, and to provide updates to adjacent residents). Provide a report on traffic control plan implementation to Monitor upon request; but no less than quarterly after beginning each construction activity.

TABLE 9-1 (Continued)
MITIGATION MONITORING AND REPORTING PROGRAM

Environmental Impact	Mitigation/Improvement Measures	Implementation Procedure	Responsible Unit	Report Mechanism
Transportation and Traffic (cont.)				
TRAF-1 (cont.)	the campus sites by construction workers in the coordinated plan. The SFMTA would be responsible for the development of this measure before and during the construction of the 23rd Street garage. ***Project Construction Updates for Adjacent Residents and Businesses.*** In order to minimize construction impacts on access for nearby residences, institutions, and businesses, UCSF and the City shall provide nearby residences and adjacent businesses with regularly-updated information regarding project construction, including construction activities, peak construction vehicle activities (e.g., concrete pours), travel lane closures, and lane closures via a newsletter and/or website.			
TRAF-2: Development of the proposed project would increase traffic at intersections on the adjacent roadway network.	**TR-1: Restripe 24th Street at Potrero Avenue to Provide a Westbound Left-Turn Pocket.** Restripe the westbound approach on 24th Street at Potrero Avenue as two lanes: a 10-foot-wide left-turn pocket approximately 50 feet in length and a 10-foot-wide shared through/right-turn lane. This would require the removal of three or four parking spaces on the southern side of 24th Street at the intersection of Potrero Avenue and the restriping of the eastbound lane adjacent to the removed parking spaces to be 12 feet wide. This mitigation measure would not include the addition of new signal phases or other alterations due to the existing timing plan, although the SFMTA may choose to do so as part of the mitigation measure. This mitigation measure would require that large trucks or buses making the northbound right-turn movement would sweep into the westbound left-turn lane. As such, the final design of this intersection should include placement of the stop bar on the westbound turn lane approximately one car length back from the current intersection to accommodate larger turning vehicles. UCSF and the City and County of San Francisco would contribute a proportional share to the costs of implementation of this mitigation measure.	Implement proposed improvements to 24th Street at Potrero Avenue in accordance with the mitigation measures.	UCSF Project Manager and Design Teams SFMTA (approve restriping and removal of parking spaces)	Completion of proposed improvements prior to opening of Research Building. Note: Mitigation Measure TR-1 would reduce the impact at Potrero Avenue / 24th Street to less than significant, but UCSF does not have the authority to implement it without SFMTA's approval and assistance.
	TR-2: Open 23rd Street exit of 23rd Street Garage during the PM Peak Period. Open the 23rd Street exit to the 23rd Street Garage to traffic at 3:00 PM instead of 6:00 PM. Currently, both the entrance and exit at 23rd Street are closed to vehicles from 6:00 AM to 6:00 PM. Opening the exit at 3:00 PM to coincide with a major hospital employee shift change would allow some vehicles to shift away from the 24th Street exit and thus improve the	Implement proposed improvements in accordance with the mitigation measure.	UCSF Project Manager and Design Teams DPH (conduct education of employees) Parking Authority (approve 23rd Street parking garage exit operation)	Completion of proposed improvements prior to opening of Research Building. Note: TR-2 would be implemented if TR-1 is not approved by SFMTA. The effectiveness of TR-2 to reduce the impact at Potrero Avenue / 24th Street to less than

TABLE 9-1 (Continued)
MITIGATION MONITORING AND REPORTING PROGRAM

Environmental Impact	Mitigation/Improvement Measures	Implementation Procedure	Responsible Unit	Report Mechanism
Transportation and Traffic (cont.)				
TRAF-2 (cont.)	operating condition of the intersection of Potrero Avenue / 24th Street. It is not known how many people would use this exit if given the option; although there is only one exit lane, which would naturally limit the number of vehicles that can exit during this period. This analysis assumes that not enough vehicles would use this alternative exit to reduce the intersection impact to a less than significant level. In conjunction with the earlier opening of the 23rd Street exit, which would increase the amount of traffic on 23rd Street, the pedestrian crossing that connects the 23rd Street Garage to the east side of the West ZSFG Driveway should be improved. Although SFMTA staff would need to concur on a final design, this should include evaluation of signal phasing prior to implementation, and it could include shifting the eastern edge of the crosswalk to the east by ten feet in order to double the width of the crosswalk to 20 feet, repainting the crosswalk in the continental style to be more visible, and shifting the westbound 48 Quintara/24th Street in the same location 20 feet to the east to increase the visibility of pedestrians. Other potential measures to increase pedestrian visibility and reduce vehicle-pedestrian collision risks include the following measures as noted below: • Consider converting intersection of Utah Street and 23rd Street to all-way stop controlled, • Signalize the ZSFG driveway and associated pedestrian crossing, • Add signage on Potrero Avenue directing vehicles to use 24th Street to reduce circling for visitors, • Increase employee education regarding appropriate pick-up and drop-off locations to minimize any additional double-parking at the corner of 23rd Street / San Bruno Avenue, which can obscure visibility of pedestrians, and • Coordinate with the appropriate enforcement agencies (SFMTA, SFPD) to increase pedestrian safety as well as reduce instances of double-parking. UCSF and the City and County of San Francisco would contribute a proportional share to the costs of implementation of this mitigation measure.		SFMTA (approve intersection and driveway control changes, pedestrian improvements, new signage)	significant is not known given the uncertainty over the volume of vehicles choosing to exit the northern egress, and UCSF does not have the authority to implement it without Parking Authority and SFMTA approval and assistance.

TABLE 9-1 (Continued)
MITIGATION MONITORING AND REPORTING PROGRAM

Environmental Impact	Mitigation/Improvement Measures	Implementation Procedure	Responsible Unit	Report Mechanism
Transportation and Traffic (cont.)				
TRAF-2 (cont.)	**TR-3: Implement Additional TDM Strategies to Reduce Single Occupancy Vehicle Trips.** UCSF and DPH shall each pursue potential TDM measures that they can feasibly implement targeted at reducing SOV trips to and from ZSFG. UCSF and DPH staff have worked collaboratively with transportation consultants, the SFMTA, and other City departments to identify a list of potential TDM strategies in addition to those already in place. The implementation of this mitigation measure could improve traffic operations in the immediate vicinity of ZSFG, including at Potrero Avenue / 24th Street by reducing SOV trips to and from ZSFG. Additionally, implementation of other TDM strategies not included in this list would have a similar effect of reducing SOV trips to and from ZSFG. As outlined in Section 2.2 (of the TIS), UCSF and DPH each already have TDM plans in place and an internal planning process with UCSF, DPH, the SFMTA, and transportation consultants will yield a list of potential TDM strategies that UCSF and DPH could pursue in addition to those already in place. A combination of these measures could potentially reduce single-occupant vehicle (SOV) trips for UCSF and DPH employees. To accomplish this goal, UCSF and DPH shall coordinate and each implement the following policies to the extent feasible: • Parking Policy/Pricing – Adjust hourly parking rate structure to discourage all-day parking and provide spaces for patients/visitors (Parking Authority) – In order to discourage driving, increase hourly and monthly parking rates to be more in line with prevailing San Francisco market rates (Parking Authority) • Transit and Shuttle Systems – Expand UCSF and DPH Shuttle Service to Caltrain, Transbay Transit Terminal (applies to UCSF and DPH; would require coordination with SFMTA) – Maintain a dialogue with SFMTA regarding ZSFG's strong desire to see that the transit connection between the Mission District and the ZSFG campus remains (applies to UCSF and DPH; would require coordination with SFMTA)	Implement proposed TDM strategies in accordance with the mitigation measure. Establish the annual TDM budget to fund a TDM program.	UCSF Project Manager and Design Teams DPH - ZSFG Parking Authority	Implement feasible proposed TDM strategies prior to opening of Research Building. Note: TR-3 would be implemented if TR-1 is not approved by SFMTA. While TR-3 can reduce traffic impacts, even full implementation of Mitigation Measure TR-3 with identified feasible elements would not fully eliminate the significant impact at this intersection for the project or Variants 1 to 3. Implementation of the full suite of TDM strategies identified in TR-3 would reduce the impact at Potrero Avenue / 24th Street to less than significant under Variant 4.

TABLE 9-1 (Continued)
MITIGATION MONITORING AND REPORTING PROGRAM

Environmental Impact	Mitigation/Improvement Measures	Implementation Procedure	Responsible Unit	Report Mechanism
Transportation and Traffic (cont.)				
TRAF-2 (cont.)	– Allow patients/visitors to ride DPH Shuttle and advertise the shuttle as a last-mile option (applies to DPH) – Expand additional last-mile service by alternate means, including reimbursing employees for taxi use or ride hail companies as a bridge from transit stations (applies to DPH) – Add Bike racks on DPH shuttles (applies to DPH) • Commute Vehicle Trip Reduction – Hire a TDM Program Manager for ZSFG to meet modal goals (applies to DPH) – Expand number of car share vehicles on-site (applies to DPH) – Create more robust carpool matching program (applies to UCSF and DPH) – Create vanpool service or coordinate with existing UCSF vanpool (applies to DPH) – Provide showers and locker facilities on campus and in the new UCSF Research Building (applies to UCSF and DPH) – Install Bay Area Bike Share Station on campus – Install transportation kiosk(s) overseen by the new TDM Program Manager (applies to DPH) – Advertise existing pre-tax commuter accounts (applies to UCSF and DPH) – Promote bicycle safety along 23rd Street and Potrero Avenue to prevent conflicts with vehicles (applies to DPH) – Provide signage indicating the location of bicycle parking at points of access (applies to DPH) – Facilitate access to carshare spaces through on-site garage (applies to DPH)			
TRAF-9: Development of the proposed project, in combination with reasonably foreseeable future developments, would increase traffic at intersections on the adjacent roadway network.	Implement Mitigation Measures TR-1, TR-2, and TR-3.	See Mitigation Measures TR-1, TR-2, and TR-3.	See Mitigation Measures TR-1, TR-2, and TR-3.	See Mitigation Measures TR-1, TR-2, and TR-3.

APPENDIX A
Initial Study and Notice of Preparation

University of California
San Francisco

UCSF

Campus Planning

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October 5, 2015

Notice of Preparation of an Environmental Impact Report and Notice of a Public Scoping Meeting

Project:	UCSF Research Building and City Parking Garage Expansion
Location:	Priscilla and Mark Zuckerberg San Francisco General Hospital and Trauma Center Campus
Block/Lot:	4154/001; 4213/001
Sponsor:	University of California, San Francisco; and the Parking Authority of the City and County of San Francisco
Lead Agency:	The Regents of the University of California
Staff Contact:	Diane Wong, UCSF (415) 502-5052

Project Description

The University of California, San Francisco (UC San Francisco or UCSF) is proposing to develop a research building at the Priscilla and Mark Zuckerberg San Francisco General Hospital and Trauma Center Campus (SFGH) on 23rd Street between Vermont and Utah Streets. Additionally, the Parking Authority of the City and County of San Francisco is considering expanding the existing SFGH public parking structure at 2500 24th Street.

UCSF's mission at SFGH is to provide patient care, informed and enhanced by the research performed there. UCSF physicians work with San Francisco Department of Public Health staff to treat patients, conduct research and train medical, nursing, dental, pharmacy and advanced science students. Research is guided by the needs of patients, especially those from high-risk or underserved populations. Research laboratories in close proximity to clinics enable faculty to collaborate across disciplines and make important discoveries.

The proposed UCSF research building would be located on the site of the B/C Lot, a surface parking lot on the SFGH campus along the north side of 23rd Street between Vermont and Utah Streets. The University would enter into a long-term ground lease with the City and County of San Francisco for the B/C Lot. The proposed research building would be 5 stories (80 feet in height, plus 12 feet to accommodate rooftop mechanical equipment), approximately 175,000 gross square feet (gsf), and would meet University of California (UC) seismic safety requirements.

Because the proposed research building would displace existing surface parking on the B/C Lot, the proposed project also includes the expansion of the SFGH parking garage, owned and operated by the Parking Authority of the City and County of San Francisco ("Parking Authority"), located a block to the south at 2500 24th Street. The proposal includes extending the garage to the south to 24th Street (an addition of 307 parking spaces), and

(continued on next page)

possibly adding one floor to the height of the entire structure (220 more parking spaces, for a total addition of 527 parking spaces), potentially with the development of up to 20,000 square feet of ground floor retail space on site. Under the project, UCSF would develop the research building on the B/C site, and the Parking Authority would develop the SFGH parking garage expansion.

For purposes of the California Environmental Quality Act (CEQA), the University of California is lead agency. The Parking Authority and the City and County of San Francisco would act as responsible agencies under CEQA for approval actions within their respective jurisdictions.

Determination

This project may have a significant effect on the environment and an Environmental Impact Report is required. This determination is based upon the criteria of the State CEQA Guidelines, Sections 15063 (Initial Study), 15064 (Determining Significant Effect), and 15065 (Mandatory Findings of Significance), and for the reasons documented in the Initial Study for the project, which is attached.

Public Scoping Process

The purpose of the Initial Study is to: (1) inform responsible agencies and the public of the nature of the proposed project and its location, (2) identify impacts that will clearly not result or will clearly be less than significant and therefore will not be discussed in the EIR, and (3) provide a general description of the environmental topics, scope and content of the issues intended to be addressed in the EIR.
As discussed in the Initial Study, the EIR will analyze the potential effects of the proposed project with respect to the environmental topics listed below:

- Aesthetics
- Air Quality
- Cultural Resources
- Greenhouse Gas Emissions
- Land Use and Planning
- Noise
- Transportation and Traffic

This Notice of Preparation of an Environmental Impact Report and Initial Study is available for public review and comment for 30 days from **October 6, 2015 to November 5, 2015**. To give written feedback on the Initial Study, comments should be sent to the attention of Ms. Diane Wong at the address noted below, or submitted via email to the following address: **EIR@planning.ucsf.edu**. All comments must be received no later than **November 5, 2015**.

UCSF will hold a public EIR scoping meeting on Wednesday, October 21, 2015. The meeting will be held at the SFGH Cafeteria at 1001 Potrero Avenue, 2nd Floor, beginning at 7:00 PM. The EIR scoping meeting provides an opportunity for the community to provide verbal feedback on the Initial Study. This allows UCSF to learn about potential concerns early, as well as further define the issues, feasible alternatives, and potential mitigation measures that may warrant in-depth analysis in the environmental review process.

Submit comments on the Initial Study and EIR scoping to:
Diane Wong, Environmental Coordinator
UCSF Campus Planning
654 Minnesota Street
San Francisco, CA 94143-0286
EIR@planning.ucsf.edu

University of California
San Francisco

UCSF

Campus Planning

Financial and Administrative Services

INITIAL STUDY

UCSF RESEARCH BUILDING AND CITY PARKING GARAGE EXPANSION AT THE PRISCILLA AND MARK ZUCKERBERG SFGH AND TRAUMA CENTER CAMPUS

Lead Agency
The University of California

Prepared by
UCSF Campus Planning
654 Minnesota Street
San Francisco, CA 94143-0286

October 6, 2015

UCSF RESEARCH BUILDING AND CITY PARKING GARAGE EXPANSION AT THE PRISCILLA AND MARK ZUCKERBERG SFGH AND TRAUMA CENTER CAMPUS

Initial Study

Prepared for
UCSF Campus Planning

October 6, 2015

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UCSF RESEARCH BUILDING AND CITY PARKING GARAGE EXPANSION AT THE PRISCILLA AND MARK ZUCKERBERG SFGH AND TRAUMA CENTER CAMPUS

Initial Study

1. Project Information

1.	**Project Title:**	UCSF Research Building and City Parking Garage Expansion – Priscilla and Mark Zuckerberg San Francisco General Hospital and Trauma Center Campus
2.	**Lead Agency Name and Address:**	The Regents of the University of California 1111 Franklin Street Oakland, California 94607
3.	**Contact Person and Phone Number:**	Diane Wong Principal Planner/Environmental Coordinator UCSF Campus Planning (415) 502-5952 diane.wong@ucsf.edu
4.	**Project Location:**	San Francisco General Hospital Campus Twenty-Third Street and Vermont Street
5.	**Project Sponsor's Name and Address:**	See contact person listed above.
6.	**Custodian of the Administrative Record for this Project:**	Same as above.
7.	**Zoning Designation(s):**	P (Public Use) B/C Lot: 105-E Height and Bulk District Parking Garage: 40-X

8. **Description of Project:**

   See Section 2, Project Description, below.

9. **Surrounding Land Uses and Setting:**

   See Section 2, Project Description, below.

10. **Other public agencies whose approval is required:**

    See Section 2.6, Discretionary Approvals, below.

2. Project Description

2.1 Introduction

The University of California, San Francisco (UC San Francisco or UCSF) is one of ten campuses in the University of California (UC) system, and is the only UC campus devoted solely to the health sciences. UCSF's mission is to advance health worldwide through innovative health sciences education, research and patient care.

UCSF is a multi-site campus with locations throughout the City of San Francisco. Its major academic and clinical sites are at Parnassus Heights, Mission Bay, and Mount Zion. UCSF also has a major presence at the Priscilla and Mark Zuckerberg San Francisco General Hospital and Trauma Center (SFGH), an acute-care medical center owned and operated by the City and County of San Francisco (City). Through its affiliation agreement with the City, UCSF physicians and other health care professionals provide a large majority of medical care at SFGH in City-owned buildings. UCSF does not own facilities at SFGH, but leases space or otherwise occupies space in exchange for services. It is one of two major hospital affiliations that UCSF maintains, the other being the San Francisco Veterans Affairs Medical Center operated by the U.S. Department of Veterans Affairs.

In support of its programs at the SFGH campus, and to meet UC seismic safety requirements[1], UCSF proposes to develop a research building on the site of the B/C Lot, a surface parking lot on the SFGH campus along Twenty-Third Street. The University would enter into a long-term ground lease with the City and County of San Francisco for the B/C Lot.

Because the proposed research building would displace existing surface parking on the B/C Lot, the proposed project also includes the expansion of the SFGH parking garage, owned and operated by the Parking Authority of the City and County of San Francisco ("Parking Authority"), located a block to the south at 2500 Twenty-Fourth Street.[2] Under the project, UCSF would develop the research building on the B/C site, and the Parking Authority would develop the SFGH parking garage expansion.

For purposes of the California Environmental Quality Act (CEQA), the University of California is lead agency. The Parking Authority and the City would act as responsible agencies under CEQA for approval actions within their respective jurisdictions.

2.1.1 UCSF Long Range Development Plan

Each campus of the University of California is required to prepare a Long Range Development Plan (LRDP) that sets forth concepts, principles, and plans to guide the future growth of the campus. On November 20, 2014, the Regents of the University of California adopted UCSF's

1 The current version of the UC *Seismic Safety Policy* is available at http://ucop.edu/real-estate-services/resources/seismic-safety-policy/index.html.

2 Under San Francisco Charter Section 8A.112, all powers and duties of the Parking Authority, a legal entity created in accordance with Cal. Sts & Hwy Code Sections 32501 and 32650-32655, are exercised by the San Francisco Municipal Transportation Agency.

2014 LRDP, which outlines development proposals for UCSF through 2035, following certification of the Final Environmental Impact Report (EIR) on the 2014 LRDP.

The LRDP EIR sets standards of significance for environmental impacts and evaluates whether construction and operational activities of UCSF under the 2014 LRDP through 2035 would exceed these standards of significance. The LRDP EIR did not include the proposed project in its analyses, with the understanding that the proposed project would undergo a separate environmental review.

2.1.2 Purpose of the Initial Study

Pursuant to Section 15063 of the CEQA Guidelines, an Initial Study is a preliminary environmental analysis that may be used by the lead agency as a basis for determining whether a Negative Declaration, Mitigated Negative Declaration, or EIR is required for a project. The CEQA Guidelines require that an Initial Study contain a project description, a description of the environmental setting, an identification of environmental effects by checklist or other similar form, an explanation of environmental effects, a discussion of mitigation for significant environmental effects identified, if any, an evaluation of the project's consistency with existing, applicable land use controls, and the names of the persons who prepared or participated in the Initial Study.

The purpose of this Initial Study is to evaluate the potential environmental effects of the proposed project in order to determine the appropriate level of environmental review.

As shown in the Determination in Section 4 of this document, and based on the analysis contained in this Initial Study, it has been determined that the proposed project would result in potentially significant impacts that requires preparation of an EIR.

2.2 SFGH Background

As a County hospital, SFGH's mission is to provide quality health care and trauma services with compassion and respect. Its stated vision is to advance community wellness by aligning care, discovery and education. SFGH is an essential provider for people throughout the City who would otherwise be without access to health care because of economic and social issues.

Since its establishment in 1854, SFGH has evolved into a major academic tertiary care medical center. It is the only hospital in the City and in northern San Mateo County to operate a Trauma Center (Level I) for 1.5 million residents of the area. In addition, SFGH provides the community with a complete range of emergency, inpatient, primary care, specialized medical and surgical services, and diagnostic and rehabilitation services. SFGH also has a full complement of mental health care services from psychiatric emergency services to in-patient psychiatric care and rehabilitation and post-hospitalization care.

A comprehensive medical center, SFGH is the acute care facility for the San Francisco Department of Public Health. It is licensed for 547 inpatient beds and provides 20 percent of the City's inpatient care. As the City's sole Level 1 trauma center, it receives 29 percent of the City's 911 ambulance calls, records 70,000 emergency department visits per year, and initiates

approximately 3,900 trauma activations. In addition, over 58,000 ambulatory care visits occur at SFGH every year. SFGH provided $154 million dollars in charity care in fiscal year 2012, which represents 84 percent of San Francisco inpatient and outpatient charity care; 79 percent of all charity care patients in San Francisco were seen at SFGH.

SFGH has a long history and strong commitment to healthcare education; physician, nurse and health worker training; and medical research. It takes pride in its longtime affiliation, since 1884, with UCSF, serving as a major teaching hospital and home to a number of prominent research centers and institutes. Approximately 1,900 UCSF physicians, specialty nurses, health care professionals and other professionals work side-by-side with 4,300 City employees at SFGH.[3] Each year, over 350 third- or fourth-year medical students, 900 residents, and 60 clinical fellows are trained at SFGH.

In addition, UCSF faculty conduct critical research at SFGH that is essential to the University's mission there and which is integral to patient treatment and care on the campus. SFGH is home to more than 20 research centers and major laboratories. About 200 UCSF principal investigators direct important research through programs based at the SFGH campus.

In 1996, California Senate Bill 1953 was passed as an amendment to and furtherance of the Alfred E. Alquist Hospital Seismic Safety Act (Alquist Act) enacted in 1973. The intent of the original act was to ensure that acute care hospitals remain functional after a major earthquake. The Alquist Act requires all general acute care hospital buildings to meet explicit seismic safety standards by either retrofitting existing buildings or electing the option to rebuild a new hospital building. In 2000, the San Francisco Department of Public Health commissioned a seismic evaluation study, which concluded that if the existing Main Hospital building were to be seismically retrofitted, the cost would be prohibitive when factoring in the need to relocate patients. The following year the San Francisco Health Commission adopted a resolution supporting the construction of a new acute care hospital. The new acute care and trauma center is currently under construction, with ribbon cutting scheduled for November 2015, and patient move-in planned for spring 2016.

All medical and post-secondary educational institutions in San Francisco must file an Institutional Master Plan (IMP) with the San Francisco Planning Department per Section 304.5 of the Planning Code.[4] IMPs provide notice and information to the Planning Commission, other government agencies, and the public regarding future development plans; enable the institution to make modifications in response to comments prior to advanced planning decisions; and provide public agencies and the public with information that may help guide land use decisions. Following the Planning Commission's acceptance of an IMP, an institution must submit updates to the Zoning Administrator every two years. The Department of Public Health submitted the latest SFGH IMP revision to the Planning Department in June 2015.

3 *San Francisco General Hospital and Trauma Center, Annual Report, Fiscal Year 2012-2013,* p. 13.

4 Property owned by UCSF is exempt from this requirement.

2.3 Project Background and Overview

UCSF occupies approximately 297,000 gross square feet (gsf) of research labs, office and clinic space on the SFGH campus in ten buildings (Buildings 1, 3, 5, 9, 10, 20, 30, 40, 80/90, and 100). The UC *Seismic Safety Policy* applies to any location that houses UC employees; therefore, the policy requires that UCSF occupants be located in seismically safe buildings. Except for Building 3, the Community Health Network building located at 2789 Twenty-Fifth Street, and Building 25, the New Acute Care Hospital, all other SFGH buildings occupied by UCSF employees are seismically compromised and require extensive upgrades or must be vacated.

To comply with the UC *Seismic Safety Policy*, UCSF proposes to acquire a long-term interest, through a ground lease with the City, for the B/C surface parking lot (B/C Lot) along Twenty-Third Street. UCSF would construct a new, seismically robust research building on the site for its employees who are in seismically compromised space on the SFGH campus. The new building may also accommodate UCSF employees who are currently located off the SFGH campus in leased space, working in programs that would benefit by relocating to the SFGH campus. UCSF intends to continue to occupy Building 3, which is seismically safe. UCSF employees also may remain in Building 5 (the existing hospital) if it were to be seismically retrofitted in the future.

The surface parking on the B/C Lot would be displaced by the proposed research building and the supply of parking on the SFGH campus and in the vicinity is already insufficient to satisfy the demand for parking. Demand will increase substantially in the near future with the completion of the new hospital and the backfilling of vacated space in the existing hospital building. The UCSF research building could add some UCSF functions to the SFGH campus, which would further increase demand for parking. As a result, the proposed project also includes the expansion of the existing SFGH parking garage owned and operated by the Parking Authority a block south at 2500 Twenty-Fourth Street. The expansion of the SFGH parking garage would be undertaken by the Parking Authority.

2.4 Project Location and Existing Site Characteristics

2.4.1 SFGH Campus

SFGH is located in the Mission district, bordering the western portion of the Potrero Hill neighborhood (see **Figure 1**, Project Site). The site is bounded by U.S. Highway 101 (U.S. 101) to the north and east, Twenty-Third Street to the south and Potrero Avenue to the west. The area immediately surrounding SFGH is primarily residential with some neighborhood-serving commercial activity on the ground floor, especially along Twenty-Fourth Street.

SFGH is currently undergoing renovation/expansion. A new acute care hospital will replace existing inpatient facilities in the Main Hospital building (Building 5). The new hospital (Building 25), to be completed in 2015, will be nine stories tall, including seven stories above grade and two basement levels. The new hospital will connect to the existing Main Hospital building at the ground level and at the second floor. Approximately 179,000 square feet of acute care services currently located in the

UCSF Research Building at SFGH

SOURCE: UCSF

Figure 1
Project Site

existing Main Hospital will be relocated to the new hospital. Approximately 356,970 square feet of uses that are not subject to the SB 1953 requirements would remain in the existing Main Hospital, including Outpatient Services, the majority of Support Services, Acute Inpatient Psychiatry Services, and Psychiatric Emergency Services.

In addition to the construction of a new hospital and relocation of acute care services, the City's hospital project, as a proposed General Obligation Bond Measure scheduled for June 2016, would fund the expansion of existing uses and backfill of uses into vacated areas in the existing Main Hospital as well as the phasing out of certain uses on the SFGH campus site, which would be complete by approximately 2019. The Department of Public Health also would be relocating certain functions from off-campus sites into the existing Main Hospital, such as the Department's Public Health Lab currently located at 101 Grove Street and the City's STD Clinic.

2.4.2 B/C Lot

The existing B/C Lot contains approximately 160 surface parking spaces and is bordered by Vermont Street to the east, West Drive to the west, Twenty-Third Street to the south, and the Main Hospital to the north. Buildings 9, 30, 40 are located across West Drive.

The current SFGH emergency room and ambulance bay in the Main Hospital is accessed through the B/C Lot via a driveway off Twenty-Third Street near its intersection with Vermont Street. Due to construction of the new hospital building, West Drive no longer extends across the SFGH campus from Twenty-Third Street to Twenty-Second Street. Instead, a circular turnaround/drop-off area has been installed where West Drive approaches the southwestern corner of the Main Building. The SFGH Hearty Café stand-alone trailer is located near this drop-off area.

A gatehouse is located at the southwest corner of the B/C Lot at the intersection of West Drive and Twenty-Third Street, and a fountain is located near the center of the parking lot. The gatehouse, fountain, and an existing fence along Twenty-Third Street are considered contributory landscape features of the SFGH Historic District.[5,6] Other existing features on this lot include a switchgear facility protected by a concrete wall, located at the intersection of the emergency room access driveway and Twenty-Third Street, and a large sculpture entitled *Stiff Loops* that sits just north of the switchgear structure.[7]

The SFGH parking garage is located across Twenty-Third Street, between Utah Street and San Bruno Avenue. Residential and retail properties up to two stories tall front Twenty-Third Street between San Bruno Avenue and Vermont Street.

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5 *San Francisco General Hospital Seismic Compliance Hospital Replacement Program, Draft Environmental Impact Report*, March 8, 2008.

6 The San Francisco General Hospital Historic District is identified and documented in the *Historical Resources Evaluation Report for the San Francisco General Hospital Seismic Compliance Hospital Replacement Program, City and County of San Francisco, California*, March 7, 2008.

7 Art and Architecture-San Francisco, www.artandarchitecture-sf.com/tag/gerald-walburg, accessed March 2, 2015.

2.4.3 Existing Parking Garage

The six-story parking garage (five stories with a basement level) across Twenty-Third Street from the B/C Lot, between Utah Street and San Bruno Avenue, is owned by the Parking Authority and privately managed by LAZ Parking. Garage parking is designated for visitors, patients and employees, as well as other members of the public needing a place to park in the neighborhood. The garage occupies the northern two-thirds of the lot with surface parking on the remaining one-third.

The parking structure has five floors plus a roof deck with a total parking capacity of 824 spaces, including 17 handicapped accessible spaces. Attendant parking is offered from 8:30 a.m. to 6:00 p.m. on weekdays; vehicles are double-parked on the roof and on the first floor increasing the total parking capacity by approximately 25 vehicles. One entry, one exit and two reversible (entry-exit) lanes are provided on the main access at Twenty-Fourth Street; an additional entry plus one exit lane are provided on Twenty-Third Street after 6:00 p.m. on weekdays and all day on weekends.

During construction of the new hospital, approximately 75 employees along with construction workers can park at a 120-space temporary off-site lot at 2000 Marin Street, approximately 1.2 miles from the SFGH campus, and take a free 10-minute shuttle ride to SFGH. Shuttles pick up/drop off at the off-site lot and on campus every 20 minutes between 6:00 a.m. and 8:00 p.m. on weekdays. The closure of the temporary lot will occur in late 2015 and staff that park there now will need to find other means of parking or commuting to the SFGH campus.

2.5 Project Characteristics

2.5.1 UCSF Research Building

The proposed research building would contain wet and dry labs and office space to be relocated from their current locations on the SFGH campus. In addition, the proposed building could accommodate UCSF departments currently in off-site leases that could relocate to the SFGH campus.

The proposed research building would be about 175,000 gsf, and five-stories in height, plus a mechanical penthouse. The building height would be about 80 feet to the top of the fifth story, plus an additional 12 feet to accommodate rooftop mechanical equipment. The building would be set back from adjacent streets and surrounded by landscaping. The building footprint would allow for the creation of a new one-way eastbound urban driveway between the new building and Building 5. This redesigned area would include the drop off area for Urgent Care services that will be relocated to Building 5 as part of the new hospital project; 32 surface parking spaces; and new landscaping and pedestrian circulation features. In addition, the Hearty Café trailer and fountain would be relocated to the north side of this new street. The existing driveway that provides access to the SFGH emergency room would be eliminated. The existing gatehouse, switchgear facility, fence along Twenty-Third Street, and *Stiff Loops* sculpture would be retained in their current locations. See **Figure 2**, SFGH Existing and Proposed Site Plan, for the location of the proposed project on the SFGH campus. **Figure 3** presents the proposed research building site plan and **Figure 4** depicts the conceptual bulk and height of the new building.

EXISTING SITE PLAN

PROPOSED SITE PLAN

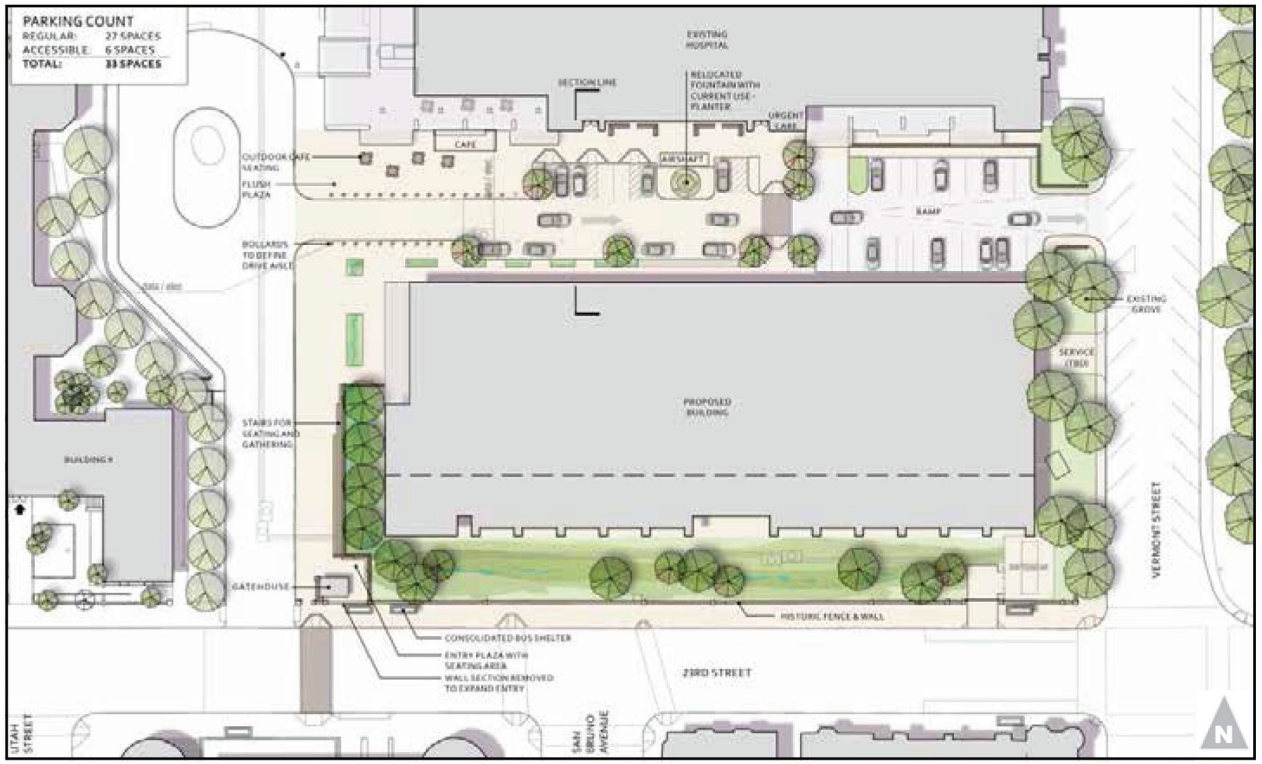
Open space/park
Under construction
Parking
Campus site boundary

SOURCE: UCSF / Fehr & Peers

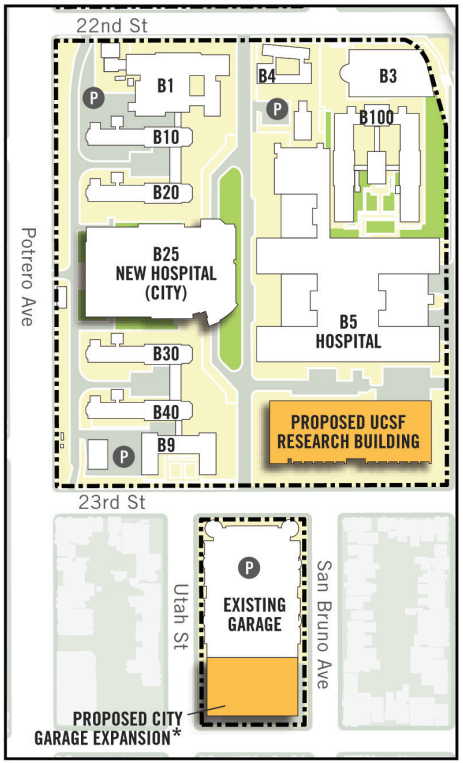
UCSF Research Building at SFGH

Figure 2
San Francisco General Hospital
Existing and Proposed Site Plan

PROPOSED RESEARCH BUILDING SITE PLAN



PROPOSED CITY GARAGE EXPANSION

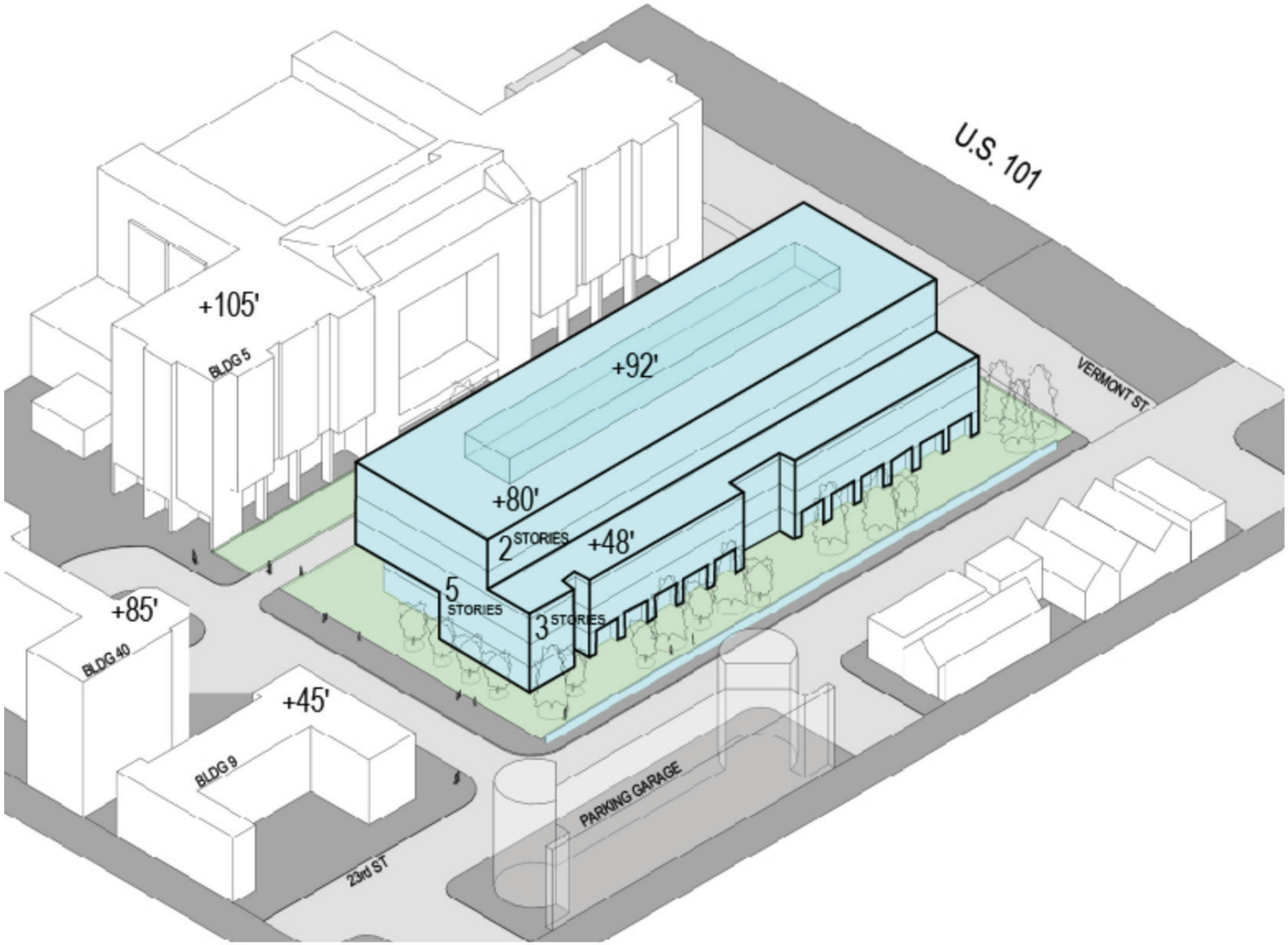


**The expansion would add an additional 290 spaces.*

SOURCE: UCSF / Fehr & Peers

UCSF Research Building at SFGH

Figure 3
Proposed UCSF Research Building



SOURCE: UCSF

UCSF Research Building at SFGH

Figure 4
Conceptual Bulk and Height

Upon completion of the proposed building, approximately 680 UCSF employees would be relocated from existing facilities on the SFGH campus to the new research building. In addition, about 120 employees could relocate from off-campus leased space to the new facility.

If approved, construction of the proposed research building is estimated to occur from late 2016 through 2019.

2.5.2 City Parking Garage Expansion

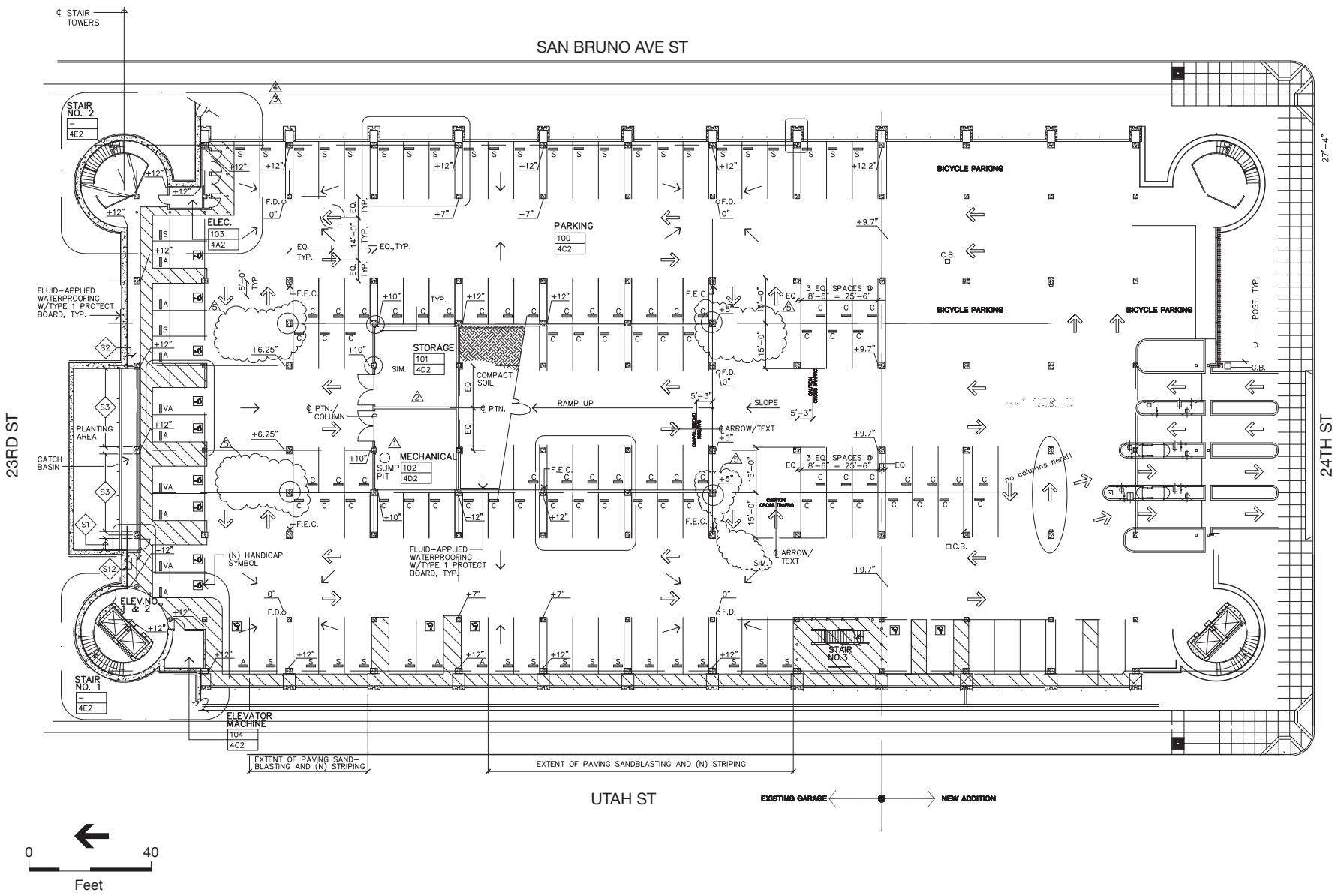
The project would include an expansion of the existing SFGH parking garage, of approximately 307 parking spaces. The proposed parking structure expansion would be developed by the Parking Authority, which owns the site and the parking structure. The proposed expansion of the City parking structure would extend the garage south toward Twenty-Fourth Street on the surface parking lot portion of the garage site. The 307-space expansion would be up to five stories above grade (same as the existing garage). The existing ingress/egress points to the garage would remain – the main access would continue to be on Twenty-Fourth Street, and the secondary access would continue to be on Twenty-Third Street. Please refer to **Figure 5** for a schematic drawing of the first floor of the expanded garage.

Up to 20,000 square feet of ground floor retail space could be substituted for up to 50 of the proposed 307 new parking spaces within the garage expansion to provide active uses along the Twenty-Fourth Street frontage that are compatible with the surrounding neighborhood commercial streets. If the retail space is included, access to the garage would occur at a new entrance on Utah Street, so that the proposed Twenty-Fourth Street frontage could contain retail storefronts. The proposed retail use could support approximately 57 new employees.

As discussed above under Project Background and Overview, development of the proposed UCSF building on the B/C Lot would remove approximately 160 parking spaces, and the new site layout would include about 30 parking spaces. Therefore, the proposed building would result in a net reduction of about 130 parking spaces on the B/C Lot, which would be replaced in the proposed City parking garage expansion. In addition, it is expected that demand for parking will increase in the future. The UCSF research building is expected to increase employee and visitor parking demand by 66 - 72 spaces, if off-site uses in leased space are relocated to the new research building.[8] Further, SFGH has calculated that with the completion of the new hospital, the loss of some parking on Twenty-Second Street, the closure of the temporary off-site parking lot at 2000 Marin Street, and the backfilling of vacated space in the existing hospital building, demand for parking on the part of patients, visitors, and employees will increase parking demand by approximately an additional 355 - 365 spaces, creating a combined parking supply shortfall of 551 – 567 spaces.

Two variants of the proposed parking garage expansion are also being considered and analyzed in this Initial Study and upcoming Draft EIR at the request of the City: (1) A No Expanded Parking Garage Variant, which would include the UCSF research building as proposed but no expansion

[8] Where a range of parking demand is stated, the lower range assumes successful implementation of an expanded transportation demand management ("TDM") strategy to reduce employee auto trips by 10%.



SOURCE: Fong & Chan Architects

UCSF Research Building at SFGH

Figure 5
SFGH Parking Garage Expansion - First Floor

of the City parking structure, and (2) A Further Expanded Parking Garage Variant, which would include the UCSF research building as proposed and a larger expansion of the parking structure. This latter variant would add one additional floor to the existing garage, in addition to the horizontal garage expansion proposed as part of the project, for a newly expanded garage with a total of up to 527 additional spaces. Please refer to **Figure 6** for a schematic drawing of the top floor of the garage under this variant.

This variant intends to address both the increased parking shortfall that would result from construction of the research building and much of the existing and anticipated shortfall that would occur with the completion of the new hospital, loss of parking spaces associated with the completion of the new hospital, and backfilling of vacated space in the existing hospital building. Similar to the proposed project, up to 20,000 square feet of ground floor retail space could be substituted for up to 50 of the proposed 527 new parking spaces within the garage expansion to provide active uses along the Twenty-Fourth Street frontage that are compatible with the surrounding neighborhood commercial streets. If the retail space is included, access to the garage would occur at a new entrance on Utah Street, so that the proposed Twenty-Fourth Street frontage could contain retail storefronts.

If approved by the City and the Parking Authority, construction of the proposed garage expansion by the Parking Authority is estimated to occur from 2018 through 2020.

2.6 Discretionary Approvals

Action by the Regents of the University of California (the Regents), including any Regents delegated-committee or official:

Upon certification of the EIR, the Regents or its designee will consider whether to approve the following:

- acquisition of long-term interest in the B/C Lot, such as a long-term Ground Lease or other transactional structure
- approval of design and construction of the UCSF research building

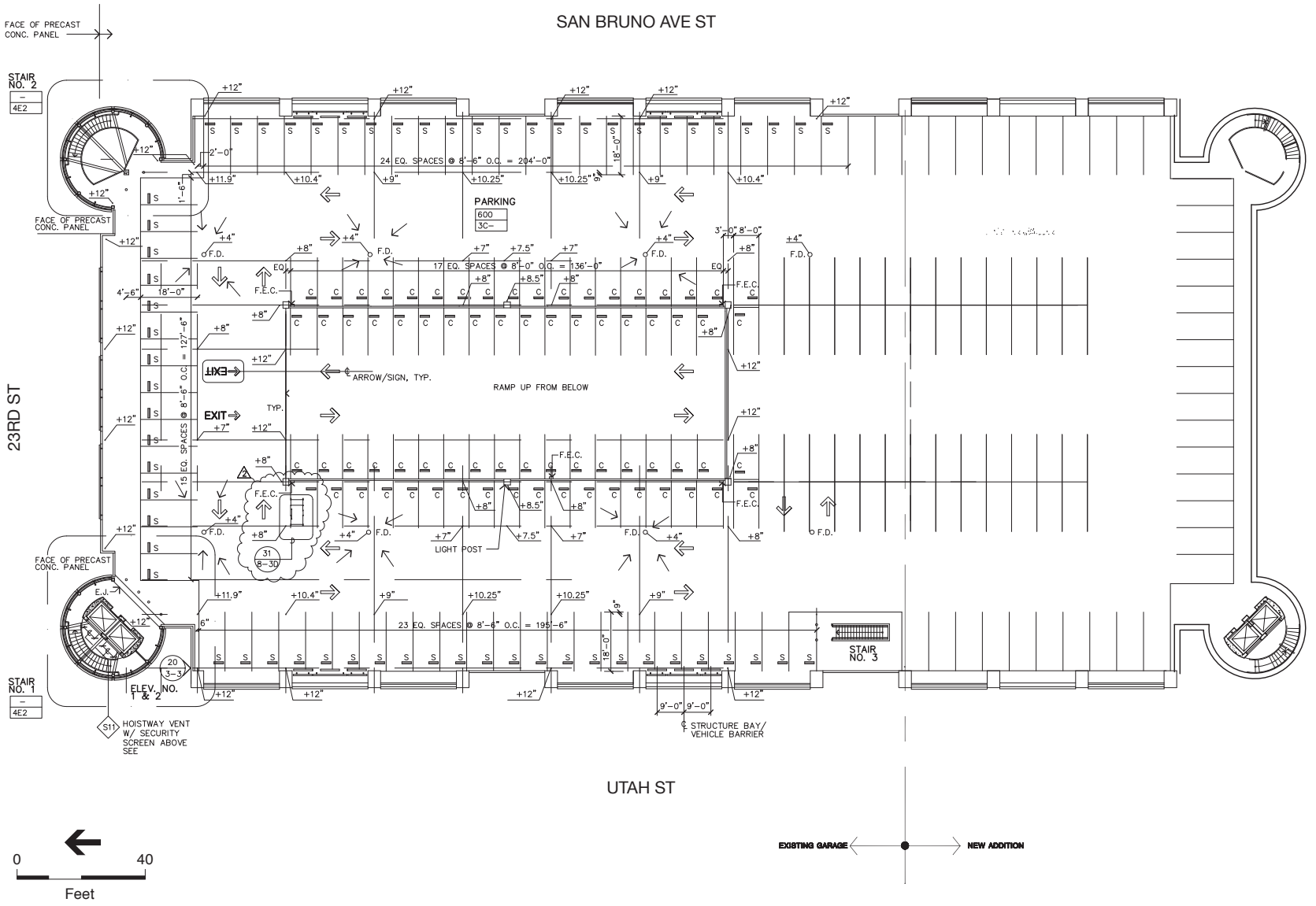
Action by the Parking Authority of the City and County of San Francisco:

- approval of design, construction, and financing of the SFGH parking garage expansion

Actions by the City and County of San Francisco:

The City and County of San Francisco, Board of Supervisors, and its agencies or designees will consider whether to approve the following:

- approval of a long-term Ground Lease granting an interest in the B/C Lot to the Regents and possible approval of financing for the SFGH parking garage expansion
- approval of a height change at the parking garage site, if necessary.



SOURCE: Fong & Chan Architects

Figure 6
SFGH Further Expanded Parking Garage Expansion - Seventh Floor

3. Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

☒ Aesthetics	☐ Agriculture and Forestry Resources	☒ Air Quality
☐ Biological Resources	☒ Cultural Resources	☐ Geology, Soils and Seismicity
☒ Greenhouse Gas Emissions	☐ Hazards and Hazardous Materials	☐ Hydrology and Water Quality
☒ Land Use and Land Use Planning	☐ Mineral Resources	☒ Noise
☐ Population and Housing	☐ Public Services	☐ Recreation
☒ Transportation and Traffic	☐ Utilities and Service Systems	☒ Mandatory Findings of Significance

4. Determination

On the basis of the initial evaluation that follows:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☐ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☒ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, no further environmental documentation is required.

Diane Wong
Signature

10/5/15
Date

Diane Wong
Printed Name

For

5. Evaluation of Environmental Effects

During the completion of the environmental evaluation, the lead agency relied on the following categories of impact noted as column headings in the Initial Study checklist:

A. "Potentially Significant Impact" is appropriate if there is substantial evidence that the project's effect may be significant. If one or more "Potentially Significant Impacts" are checked, a Project EIR will be prepared.

B. "Less than Significant with Mitigation Incorporated" applies where the incorporation of mitigation measures would reduce an effect from a "Potentially Significant Impact" to a "Less Than Significant Impact." All mitigation measures must be described, including a brief explanation of how the measures would reduce the effect to a less than significant level.

C. "Less Than Significant Impact" applies where the project would not result in a significant effect (i.e., the project impact would be less than significant without the need to incorporate mitigation).

D. "No Impact" applies where a project would not result in any impact in the category or the category does not apply (for instance, the project site is not within a surface fault rupture hazard zone; there are no agricultural lands present on or near the site).

5.1 Aesthetics

Issues (and Supporting Information Sources):		*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
1.	**AESTHETICS — Would the project:**				
a)	Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
b)	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway or other features of the built or natural environment which contribute to a scenic public setting?	☒	☐	☐	☐
c)	Substantially degrade the existing visual character or quality of the site and its surroundings?	☒	☐	☐	☐
d)	Create a new source of substantial light or glare which would adversely affect daytime or nighttime views in the area?	☐	☒	☐	☐
e)	Exceed the LRDP EIR significance threshold by substantially reducing sunlight or significantly increasing shadows in public open space areas, or by increasing pedestrian-level wind speeds above the hazard level set forth in the San Francisco Planning Code?	☐	☐	☒	☐

Discussion of Potential Project Impacts

a) Scenic vistas from the SFGH campus include distant views of the downtown skyline and profiles of hillside and parks, including Twin Peaks, Bernal Heights, McKinley Square Park, and the Starr King Open Space.[9] However, the views from the site of the proposed 80-foot tall research building are largely obstructed to the north and west by existing buildings on the campus. These include the existing Main Hospital building (105-foot tall), Building 40 (85-foot tall), Building 9 (45-foot tall), as well as the new Main Hospital building (124-foot tall). The proposed project or variants would not interfere with scenic views from nearby parks and open space areas because the proposed structures would be surrounded by taller existing buildings.

None of the streets bordering the project site is considered "Street Areas Important to Urban Design and Views" in the Urban Design Element of the *San Francisco General Plan*. Potrero Avenue is identified as a street having an "Average" quality of street views in the Urban Design Element (the lowest of three rankings).

A view of the SFGH campus from Bernal Heights Park, which includes a view of the proposed research building site and parking garage extension, is available in the *San Francisco General Hospital Seismic Compliance Hospital Replacement Program EIR* (Figure IV.D-3c on page 86). The proposed project and variants would be partially visible from this vantage point, but they would not substantially alter scenic views of

9 Starr King Open Space is not maintained by the City.

open space and landscaped areas on Potrero Hill, views of the Bay, or views of the downtown skyline.

The proposed project and variants would also be partially visible from the Starr King Open Space on Potrero Hill near Starr King Elementary School on Coral Road (Figure IV.D-3f on page 89). Due to the topography of Potrero Hill and the proposed project site, as well as the heights of existing nearby buildings on the SFGH campus, the proposed project or variants would not diminish scenic vistas of areas to the west of the project site, including views of Twin Peaks or the City skyline. Overall, the proposed project and the project variants would not substantially alter scenic vistas from public viewpoints and the impact would be less than significant.

b) There are no state-designated scenic highways in the vicinity of the project site (Caltrans, 2015). The proposed research building would be visible from Highway 101, which is not a state-designated scenic highway. Expansion of the parking garage under the proposed project or the Further Expanded Parking Garage Variant would largely be obstructed by existing vegetation and other buildings; new portions of the garage may be glimpsed by motorists. As noted in the hospital replacement EIR, the unique design and character of the SFGH campus buildings contribute to the scenic qualities of the campus. Neither the current use of the proposed research building site as a surface parking lot nor the existing parking garage would be considered contributory elements to the scenic public setting of the campus. Although the proposed research building has not yet been designed, UCSF intends that the structure will not detract from the scenic qualities of the SFGH campus. The proposed parking garage extension would strive to match the design and height of the existing garage. The Further Expanded Parking Garage Variant also would match the design and would be one-story taller than the existing garage. The effect of the project and variants on scenic resources within a scenic highway or to resources on the SFGH campus that contribute to a scenic public setting will be evaluated in the EIR.

c) As noted above in criterion b), the proposed research building has not yet been designed. UCSF would ensure that the final building design responds to the form of adjacent buildings on the SFGH campus and the overall campus context. The effect of the project and variants on the existing visual character and quality of the site and its surroundings will be evaluated in the EIR.

d) Although construction is generally expected to take place during the day, some activities could be conducted at night to reduce noise, vibration, or other effects on daytime hospital or research uses. To enable construction at night, flood lighting would be required. The use of night lighting would have the potential to disturb residents in nearby dwellings, may disturb acute and emergency psychiatric patients treated at night in Building 5 and other nighttime activities on campus, and potentially also affect nighttime views. Night lighting of the construction site would be temporary and would cease upon completion of construction. Implementation of **Mitigation Measure AES-1** would reduce the impact of nighttime work lighting to a less than significant level.

Mitigation Measure AES-1: UCSF shall require a condition in construction contracts that flood or area lighting for construction activities be placed and directed so as to avoid potential disturbances to adjacent residences, Building 5 nighttime uses, or other uses.

Significance after Mitigation: Less than Significant

Proposed development also could increase ambient light levels due to light dispersion from the new building and parking garage extension. Increases in night lighting could affect nighttime views in the surrounding neighborhood. New light sources could include street lights, illuminated signage, exterior safety lighting, and light emitted from building windows. Glare could be generated from reflective building materials. Because specific architectural features and building materials of the new research building have yet to be determined, the proposed improvements have the potential to include reflective surfaces, such as metal and glass. The resultant glare could affect nearby residents, pedestrians, and passing motorists. **Mitigation Measure AES-2** would be implemented to reduce the impact to a less than significant level. By employing appropriate design standards and minimizing the quantity of reflective material used in the new building and garage expansion, light and glare impacts and impacts to views related to lighting would be reduced to less-than-significant levels.

Mitigation Measure AES-2: Minimize light and glare resulting from the new research building and garage expansion through the orientation of the building, use of landscaping materials, and choice of primary façade materials. Design standards and guidelines to minimize light and glare shall include:

- Reflective metal walls and mirrored glass walls shall not be used as primary building materials for façades.
- Illuminated building signage shall be consistent with the more stringent of City Planning Code sign standards for illumination and/or UCSF design guidelines.
- Exterior light fixtures shall be configured to emphasize close spacing and lower intensity light. Light fixtures shall use luminaries that do not direct the cone of light towards nearby campus structures and off-campus structures.
- Design parking structure lighting to minimize off-site glare, consistent with the existing parking structure.

Significance after Mitigation: Less than Significant

e) The proposed research building would have a height of approximately 80 feet to the top of the fifth story, plus an additional 12 feet to accommodate rooftop mechanical equipment. The extension of the parking structure would be the same height (5 stories) as the existing garage and the Further Expanded Parking Garage Variant would be 6 stories. San Francisco Planning Code Section 295 mandates that new structures above 40 feet in

height that would cast additional shadows on properties under the jurisdiction of, or designated to be acquired by the Recreation and Parks Department can only be approved by the Planning Commission if the shadow is determined to be insignificant or not adverse to the use of the park.

The nearest parks to the project site include Potrero Del Sol Park and the James Rolph Junior Playground, located at Potrero Avenue between Twenty-fifth and Twenty-sixth streets (0.3 mile south of the campus); McKinley Square Park, located on Vermont Street across Highway 101 (0.5 mile north of the campus); and the 24th and York Street Mini Park (0.2 mile southwest of the campus). As shown on Figures IV.E-2a through IV.E-2d (pp.108-111) of the *San Francisco General Hospital Seismic Compliance Hospital Replacement Program EIR*, shadows from the new Main Hospital Building currently under construction would not reach Section 295 open spaces. Therefore, shadows from the much shorter research building and parking garage extension, or Further Expanded Parking Garage Variant, would not reach Potrero Del Sol Park and the James Rolph Junior Playground or the 24th and York Street Mini Park due to their distance from the site. Shadows would not reach McKinley Square Park due to the taller intervening buildings on the SFGH campus as well as the higher elevation of the park.

The proposed research building and Further Expanded Parking Garage Variant would likely cast shadows on existing and proposed pedestrian and landscaped open space areas on and near the SFGH campus. However, these shadows would not adversely affect the usability of these areas, nor would they affect existing publicly accessible privately-owned open spaces or public open space not under the jurisdiction of the Recreation and Parks Department. The increase in shadow cast by the proposed project or variants on the SFGH campus would not significantly alter the character or setting of the campus. Impacts of shadows cast by the proposed project or variants would be less than significant.

Based on data from the Bay Area Air Quality Management District's Fort Funston meteorological station, 33% of all winds measured there are SW, WSW or W winds with speeds of 7 mph or faster, while nearly 9% of all winds with speeds of 15 mph or faster come from the following directions – S, SSW, SW, WSW, W, WNW, and NW – each with roughly equal frequencies of occurrence. In leaving the coastline and approaching the SFGH campus, winds lose speed and become more turbulent. Pedestrian-level winds at SFGH, regardless of initial directions, will be shaped by the topography and the buildings that line the street grid.

The proposed research building would be located east of the existing 85-foot tall Building 40 and 45-foot tall Building 9, south of the 105-foot tall Building 5, and southeast of the 124-foot tall new Main Hospital building. Therefore, the new research building would be largely shielded from the predominant west winds and there would be little or no change in pedestrian-level winds in the vicinity of the new building. The changes in wind conditions due to construction of the new building would not result in a new pedestrian-

level wind hazard on adjacent sidewalks or alter wind in a manner that substantially affects public areas or outdoor recreation facilities.

A building that is 50 feet tall, or less, has very little to no effect on the wind, unless the building is very wide, or it is the only structure standing on an open site. The proposed parking garage expansion, being relatively short and having open-sided construction that decreases the ability of the structure to redirect winds, would be expected to have no effects on pedestrian-level wind conditions. The addition of a single story under the Further Expanded Parking Garage Variant also would not be expected to result in adverse pedestrian-level wind effects.

The impact with regard to winds would be less than significant.

Discussion of Potential Cumulative Impacts

The geographic scope for potential cumulative visual impacts encompasses projects in the vicinity of the proposed project that could affect scenic vistas, scenic resources, or the visual character of the area. As noted above, scenic vistas that include the proposed project and variant are largely limited due to the presence of other SFGH buildings as well as the topography of Potrero Hill. No other projects are proposed that would combine with the research building or variants and result in a cumulative impact to scenic vistas or scenic resources. Potential cumulative impacts to scenic resources and visual character will be evaluated in the EIR.

Given that wind and shadow effects are highly location-dependent, the geographic context for cumulative wind and shadow effects encompasses the immediate project site vicinity—a few blocks (less than one-quarter of a mile) in each direction. It is in this vicinity that cumulative development, when combined with the proposed project or variants, could have any effect on wind and shadow on the same locations.

Regarding cumulative shadow impacts, the proposed project and variants would result in less than significant shadow impacts because it would not shade parks or open spaces under the jurisdiction of the Recreation and Parks Department; it would only shade streets, sidewalks, and other public areas for a limited duration and extent, resulting in shadow conditions typical of urban areas. There are no other reasonably foreseeable future developments in the project site vicinity that would result in substantial new shadow on recreational features or other public areas.

Regarding cumulative wind impacts, the proposed project and variants would result in less than significant wind effects because the new research building would be mostly shielded from predominant west winds and the parking garage would be too short to have pedestrian level impacts, even under the Further Expanded Parking Garage Variant. Therefore, the project and variants would not contribute to cumulative wind impacts.

References

California Department of Transportation (Caltrans), California Scenic Highway Mapping System, www.dot.ca.gov/hq/LandArch/scenic_highways/index.htm.

San Francisco Planning Department, *San Francisco General Hospital Seismic Compliance Hospital Replacement Program Environmental Impact Report*, certified June 19, 2008.

San Francisco Planning Department, *San Francisco General Plan*, Urban Design Element, available at www.sf-planning.org/ftp/general_plan/I5_Urban_Design.htm.

San Francisco Recreation and Parks Department, Find a Destination, http://sfrecpark.org/parks-open-spaces/find-a-destination/.

5.2 Agriculture and Forest Resources

Issues (and Supporting Information Sources):		*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
2.	**AGRICULTURE AND FOREST RESOURCES — Would the project:**				
a)	Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b)	Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c)	Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d)	Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e)	Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

Discussion of Potential Project Impacts

a) The project site is not currently used for agriculture, and is not designated as Important Farmland on maps prepared pursuant to the Farmland Mapping and Monitoring Program. There would be no impact with regard to this criterion.

b, c) The project site is designated for urban uses. No portion of the project site is zoned for agricultural use or forest land or timberland. In addition, there is no Williamson Act contract applicable to the project site or its vicinity. There would be no impacts with regard to these criteria.

d) The project site and surrounding area does not include any forest land or timberland. There would be no impact with regard to this criterion.

e) No Important Farmland or other agricultural land is present in the project vicinity. Therefore, the project or variants would not involve any changes that could indirectly cause conversion of Important Farmland to non-agricultural use. There would be no impact with regard to this criterion.

Discussion of Potential Cumulative Impacts

The proposed project or variants would have no effect on agriculture or forest resources; therefore, it would not contribute to cumulative effects in these topics.

References

California Department of Conservation, California Important Farmland Finder, maps.conservation.ca.gov.

5.3 Air Quality

Issues (and Supporting Information Sources):		*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
3.	**AIR QUALITY —** Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. **Would the project:**				
a)	Conflict with or obstruct implementation of the applicable air quality plan?	☒	☐	☐	☐
b)	Violate any air quality standard or contribute substantially to an existing or projected air quality violation (e.g., induce mobile source carbon monoxide (CO) emissions that would cause a violation of the CO ambient air quality standard)?	☒	☐	☐	☐
c)	Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☒	☐	☐	☐
d)	Expose sensitive receptors to substantial pollutant concentrations?	☒	☐	☐	☐
e)	Create objectionable odors affecting a substantial number of people?	☒	☐	☐	☐

Discussion of Potential Project Impacts

a) The San Francisco Bay Area Air Basin (SFBAAB) encompasses San Francisco, Alameda, Contra Costa, Marin, San Mateo, Santa Clara, and Napa Counties and portions of Solano and Sonoma counties. The federal Clean Air Act (CAA) and California Clean Air Act (CCAA) contain ambient air standards and related air quality reporting systems to be used by regional regulatory agencies in developing air pollution control measures. The Bay Area Air Quality Management District (BAAQMD) is the primary responsible regulatory agency in the Bay Area for planning, implementing, and enforcing the federal and State ambient air quality standards for criteria pollutants. The CAA and the CCAA require plans to be developed for areas that do not meet air quality standards, generally. The most recent air quality plan, the *2010 Clean Air Plan*, was adopted by the BAAQMD on September 15, 2010. The *2010 Clean Air Plan* updates the *Bay Area 2005 Ozone Strategy* in accordance with the requirements of the CCAA to implement all feasible measures to reduce ozone; provide a control strategy to reduce ozone, particulate matter, air toxics, and greenhouse gases in a single, integrated plan; and establish emission control measures to be adopted or implemented. The *2010 Clean Air Plan* represents the most current applicable air quality plan for the SFBAAB. Consistency with this plan is the basis for determining whether the proposed project or variants would conflict with or obstruct implementation of air quality plans.

The proposed project and the project variants would increase traffic volumes, which contribute to regional air pollution. Air pollutant emissions also could occur over the short term in association with construction activities. Construction vehicle traffic, the use of construction equipment, and wind blowing over exposed earth could emit or create exhaust and dust that affect local and regional air quality. The EIR will include an evaluation of the proposed project's air quality impacts related to local air quality plans.

b) New vehicle trips generated by the proposed project (or variants) and construction activities could increase pollutant levels, and could contribute to violation of an air quality standard. The proposed research building also could emit pollutants from emergency generators. The use of paints and solvents in interior spaces could occur as part of the proposed project or variants, but related emissions would not be significant with adherence to U.S. Occupational Safety and Health Administration regulations and building code requirements. The EIR will include an evaluation of the proposed project's impacts related to air quality standards and existing or projected air quality violations.

c) Construction and operation of the proposed project or variants would generate air pollutants that could be considerable in a regional, cumulative context. The EIR will include an evaluation of the proposed project's air quality impacts related to criteria pollutant emissions and ambient air quality standards.

d) Construction and operation of the proposed project or variants could expose persons in adjacent residential neighborhoods to substantial pollutant concentrations associated with ground disturbance, construction equipment, motor vehicles (including truck trips), laboratory fume hoods, boilers, and emergency generators. In addition, the project site is located within an Air Pollutant Exposure Zone because of its proximity to U.S. Highway 101 (SFDPH, 2015). The EIR will include an evaluation of the proposed project's air quality impacts related to exposure of sensitive receptors to pollutant concentrations.

e) Although not expected, the EIR will include an evaluation of whether the project or variants could generate odors that would affect a substantial number of people.

Discussion of Potential Cumulative Impacts

Potential air quality cumulative impacts will be addressed in the EIR.

References

San Francisco Planning Department and San Francisco Department of Public Health (SFDPH), 2014 Air Pollutant Exposure Zone Map (April 10, 2014) and *Guidance for Project Sponsors* (December 8, 2014). These documents are part of San Francisco Board of Supervisors File No. 14806, Ordinance No. 224-14 Amendment to Health Code Article 38.

5.4 Biological Resources

Issues (and Supporting Information Sources):		*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
4.	**BIOLOGICAL RESOURCES — Would the project:**				
a)	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☐	☒
b)	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☐	☒
c)	Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
d)	Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☒	☐	☐
e)	Conflict with any applicable policies protecting biological resources?	☐	☐	☐	☒
f)	Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒
g)	Exceed the LRDP EIR standard of significance by damaging or removing heritage or landmark trees or native oak trees of a diameter specified in a local ordinance?	☐	☐	☐	☒

Discussion of Potential Project Impacts

a) A comprehensive list of the special-status plant and animal species that may occur or have the potential to occur within the San Francisco North and San Francisco South U.S. Geological Survey quadrangles, which includes the SFGH campus, was developed based on data obtained from the California Natural Diversity Database (CNDDB), the California Native Plant Society (CNPS) Electronic Inventory, the U.S Fish and Wildlife Service (USFWS) and other biological literature pertaining to the bioregion (UCSF, 2014).

The project site currently consists of a surface parking lot and parking garage and thus most of the listed species identified in the records have been extirpated from this area. With the exception of trees and landscaping, the project area does not support or provide habitat for any known rare or endangered species. Aside from breeding birds, special-status wildlife species are not likely to occur within the project site because it is paved and trees are non-native ornamental or ruderal species, which have poor habitat attributes for wildlife. Most

of the species identified within these quadrangles are associated with specific habitat types, such as dunes, valley foothill grasslands, chaparral, coastal prairie, coastal bluff scrub, marshes and swamps. None of these habitats is present on the project site.

The proposed project and the variants would not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS.

b) No riparian habitat or other sensitive natural community is present on the project site or in the project vicinity. As such, the project and variants would not affect riparian habitat or other sensitive natural communities. There would be no impact with regard to this criterion.

c) Proposed development would not have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means because there are no jurisdictional or non-jurisdictional wetlands mapped or identified on the SFGH campus. No impact would occur.

d) The San Francisco Peninsula is an important migratory stopover for birds along the Pacific Flyway—one of the four major migratory routes in North America. Raptors, songbirds, shorebirds and waterfowl stop in San Francisco, including Golden Gate Park, Lake Merced, the Presidio and the Mount Sutro Open Space Reserve during their fall and spring migrations.

Bird flights close to man-made structures are at risk of collisions with such structures. An increase in avian collisions attributed to the proposed project would be a significant impact. Direct effects on migratory as well as resident birds moving through an area could include death or injury if birds collide with lighted structures or other birds attracted to the light, as well as collisions with glass during the daytime. Indirect effects for migratory birds include delayed arrival at breeding or wintering grounds, and reduced energy stores necessary for migration, winter survival, or subsequent reproduction (Gauthreaux and Belser, 2006). It is estimated that, in North America alone, millions of songbirds are killed due to collisions with buildings and other structures each year (Lochhead, 2008). Collisions are currently recognized as one of the leading causes of bird population declines worldwide (Brown et al., 2007).

Daytime collisions occur most often when birds fail to recognize window glass as a barrier. Regardless of overall height, the ground floor and first few stories of buildings present the greatest hazards to most birds; reflections of attractive ground-level features like vegetation draw birds toward glass surfaces and often result in collisions. Recent increases in glass surfaces used to provide more natural light to building interiors can be considered a “biologically significant” issue, potentially affecting the viability of local and regional bird populations (New York Audubon Society, 2007).

Existing street trees could support native nesting birds protected under California Fish and Game Code Section 3503 or the Migratory Bird Treaty Act (MBTA). The project or variants would remove approximately 28 trees, consisting of about 10 small trees in the B/C Lot and up to 18 larger trees on the periphery of the parking lot.

Removal and/or relocation of trees with active nests, and construction noise and activity adjacent to such trees during the bird nesting season (February 15 through August 15) could result in nest abandonment, destruction, injury or mortality of nestlings, and disruption of reproductive behavior during the breeding season. This would be a significant impact because it could directly harm individual birds and could threaten reproductive success. Implementation of **Mitigation Measure BIO-1: Nesting Bird Protection Measures** would reduce the potential impacts on special-status birds to less-than-significant levels by requiring surveys of the project site to identify nests and protection of nesting birds, should any be present.

Mitigation Measure BIO-1: Nesting Bird Protection Measures.

Should construction activities commence during the bird nesting season (February 15 through August 15), UCSF shall retain a qualified biologist to conduct preconstruction nesting bird surveys in surrounding habitat for nesting birds. UCSF shall implement specific measures to avoid and minimize impacts on nesting birds including, but not limited to, those described below:

- To avoid and minimize potential impacts on nesting raptors and other birds, preconstruction surveys shall be performed not more than two weeks prior to initiating vegetation removal and/or construction and demolition activities during the breeding season (i.e., February 15 through August 15).
- To avoid and minimize potential impacts on nesting raptors and other birds, a no-disturbance buffer zone shall be established around active nests during the breeding season until the young have fledged and are self-sufficient, when no further mitigation would be required. Typically, the size of individual buffers ranges from a minimum of 250 feet for raptors to a minimum of 50 feet for other birds but can be adjusted based on an evaluation of the site by a qualified biologist in cooperation with the USFWS and/or CDFW.
- Birds that establish nests after construction starts are assumed to be habituated to and tolerant of the indirect adverse impacts resulting from construction noise and human activity. However, direct take of nests, eggs, and nestlings is still prohibited and an appropriate buffer shall be established around the nest according to species and proximity to project activities in order to avoid nest abandonment or destruction, as determined by a qualified biologist.
- If construction or demolition activities ceases for a period of more than two weeks, or vegetation removal is required after a period of more than two weeks has elapsed from the preconstruction surveys, then new nesting bird surveys shall be conducted.

Significance after Mitigation: Less than Significant

Implementation of **Mitigation Measure BIO-2: Bird Safe Building Treatments** would reduce potential adverse effects on resident and migrating birds that are at risk of collision with man-made structures to a less than significant level by requiring design features be incorporated into the research building design that would make it more visible to birds.

Mitigation Measure BIO-2: Bird-Safe Building Treatments.

- Employ glazing options such as use of fritted glass, Dichroic glass, etched glass, translucent glass, or glass that reflects ultraviolet light in appropriate portions of the building façade. Any feature-related hazards, such as freestanding glass walls, glass wind barriers, or transparent building corners, must have 100% of the glass on the feature-related hazards treated with these glazing options.
- Minimize light and glare through the orientation of the building, use of landscaping materials, shielded lighting, and choice of primary façade materials. The building design shall prohibit use of reflective metal walls and mirrored glass walls as primary building materials for façades.

Significance after Mitigation: Less than Significant

e) Pursuant to the University of California's constitutional autonomy, development and uses on property owned or leased by the University that are in furtherance of the University's educational purposes are not subject to local land use regulation, including City of San Francisco General Plan policies regarding protection of biological resources. Although UCSF is not subject to City policies and regulations, UCSF strives to be consistent with City standards, where feasible.

The San Francisco Board of Supervisors adopted *Standards for Bird-Safe Buildings*, Planning Code Section 139, on July 14, 2011, to reduce the potential for avian collisions with man-made structures (San Francisco Planning Department, 2011). The *Standards for Bird-Safe Buildings* include guidelines for use and types of glass and façade treatments, wind generators and grates, and lighting treatments. The standards define two types of bird hazards: "location-related hazards" and "feature-related hazards." "Location-related hazards" are buildings within 300 feet of an Urban Bird Refuge.[10] "Feature-related hazards" include building- or structure-related features that are considered potential "bird traps" regardless of location (e.g., glass courtyards, transparent building corners, or clear glass walls on rooftops or balconies). Structures that include these elements must treat 100 percent of these elements in the building with bird-safe glazing.

[10] An Urban Bird Refuge is defined in the *Standards for Bird-Safe Buildings* as any area of open space two acres or larger that is dominated by vegetation, including vegetated landscaping, forest, meadows, grassland, water features, or wetlands; open water; and some green rooftops.

The project site is not located within 300 feet of an Urban Bird Refuge, but the proposed research building may contain feature-related hazards such as large windows. Therefore, UCSF will adopt mitigation (Mitigation Measure BIO-2) that is generally consistent with the City's *Standards for Bird-Safe Buildings* for the new research building.

f) There are no adopted habitat conservation plans, natural community conservation plans or other applicable habitat conservation plans that would be applicable to the proposed project or variants. No impact would occur.

g) The San Francisco Board of Supervisors has adopted legislation governing the protection of trees in or near the public right of way or are landmarked trees (Public Works Code Sections 800 *et. seq.*). These code sections require disclosure and protection of landmark, significant, and street trees, collectively referred to as "protected trees," located on private and public property.

Significant trees are trees within 10 feet of the public right-of-way and are either 20 feet or greater in height, 15 feet or greater in canopy width, or 12 inches or greater in trunk diameter at 4.5 feet above grade. Landmark trees are trees that have received special designation by the San Francisco Board of Supervisors due to species rareness, size, age, structure, ecological contribution, or historical and cultural importance.

As noted above under item d), there are approximately 28 existing trees on or adjacent to the B/C Lot, some of which may be considered significant trees or street trees by the City. There are also several trees along streets surrounding the parking garage extension site that may be considered as either street trees or significant trees. If any "protected trees" subject to City jurisdiction are removed by construction of the proposed project or variants, the removal would be subject to the requirements of the Public Works Code, including the planting of appropriate replacement trees. The proposed project or variants would also be required to comply with Planning Code Section 138.1 regarding submittal of a streetscape plan that implement policies in the City's adopted Better Streets Plan, intended to improve the safety and attractiveness of the public right-of-way and achieve best practices in ecological stormwater management.

Discussion of Potential Cumulative Impacts

The geographic scope for potential cumulative biological resources impacts encompasses land uses in the vicinity of the SFGH campus. Similar to the project area, the project vicinity does not include riparian habitat or other sensitive natural communities and with the exception of trees (primarily street trees) and landscaped areas, the area does not support or provide habitat for any known rare or endangered species and project development would not interfere with any resident or migratory species.

Cumulative projects in the area would be required to protect native nesting birds in accordance with the California Fish and Game Code and the MBTA, and comply with the *Standards for Bird-Safe Buildings*. Projects could result in cumulative impacts to street trees or other protected

trees, but would be subject to DPW Code Section 8.02-8.11, as well as Planning Code Section 138.1 regarding streetscape plans. The project and variants may include the removal of significant trees or street trees on the project site, as well as installation of new landscaping. It would not considerably contribute to potential cumulative impacts on biological resources.

As noted above, the project or variants would not have significant impacts on special-status species, avian species, riparian, wetland, or sensitive natural communities; would not conflict with an approved local, regional, or state habitat conservation plan or tree protection ordinance; and would not contribute to potential cumulative impacts on biological resources. Therefore, the proposed project's contribution to cumulative impacts to biological resources would not be cumulatively considerable; the impact would be less than significant.

References

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Gauthreaux, S.A., Belser, C.G., 2006. *Effects of Artificial Night Lighting on Migrating Birds*, In: Rich, C. and Longcore, T., Ecological Consequences of Night Lighting, Island Press, Covelo, CA, pp. 67–93.

Lochhead, Carolyn, 2008. *Bird Species Plummet as Habitat Dwindles*, Chronicle Washington Bureau, July 11, 2008. www.sfgate.com/green/article/Bird-species-plummet-ashabitat-dwindles-3205637.php

New York Audubon Society, 2007. *Bird Safe Building Guidelines*, http://www.nycaudubon.org/pdf/BirdSafeBuildingGuidelines.pdf.

San Francisco Planning Department, *Standards for Bird-Safe Buildings*, adopted July 14, 2011, available at www.sf-planning.org/index.aspx?page=2506.

University of California San Francisco (UCSF), *UCSF 2014 Long Range Development Plan, Environmental Impact Report*, certified November 20, 2014.

5.5 Cultural Resources

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
5. CULTURAL RESOURCES — Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?[11]	☒	☐	☐	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section15064.5?	☒	☐	☐	☐
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☒	☐	☐	☐
d) Disturb any human remains, including those interred outside of formal cemeteries?	☒	☐	☐	☐

Discussion of Potential Project Impacts

a) Development of the proposed project could result in adverse changes to historical resources or eligible resources as designated by the National Register of Historic Places (NRHP) or the California Register of Historical Resources (CRHR). Under CEQA, a cultural resource is considered significant if it is at least 45 years old and meets any of the criteria listed by the CRHR. The fact that a resource is not listed in, or determined to be eligible for listing the CRHR, not included in a local register of historic resources, or identified in a historical resources survey does not preclude a lead agency from determining based on substantial evidence that the resources may be an historical resource (CEQA Guidelines Section 15064.5(a)(4)). Listing of a property in the NRHP or CRHR does not prohibit demolition or alteration of that property, but does denote that the property is a resource worthy of recognition and protection.

Public Resources Code Section 5020.1 and CEQA Guidelines Section 15064.5(b)(1) define a significant effect as one that would materially impair the significance of a historical resource. Alteration in an adverse manner of the physical characteristics of a historical resource that conveys its historical significance would be considered a significant impact under CEQA. Generally, a project that follows the Secretary of the Interior's guidelines for historic buildings would be considered mitigated to a less than significant level, according to CEQA Guidelines Section 15064.5(b)(3).

Development of the proposed project or variants could affect the SFGH Historic District,[12] which includes the proposed research building site and is adjacent to the parking garage. Contributing buildings adjacent to the proposed research building include

[11] Potential resources include those listed in Article 10 or Article 11 of the SF Planning Code.

[12] The San Francisco General Hospital Historic District is identified and documented in the *Historical Resources Evaluation Report for the San Francisco General Hospital Seismic Compliance Hospital Replacement Program, City and County of San Francisco, California*, March 7, 2008.

Buildings 9, 30, and 40. The current Main Hospital building (Building 5) is a non-contributing building (see Figure IV.F-1 of the *San Francisco General Hospital Seismic Compliance Hospital Replacement Program EIR*). Contributing landscape features of the historic district include the fence and gate pillars on Twenty-Third Street (see Figure IV.F-2). Potential adverse effects to historical resources, including individual buildings and historical districts, will be evaluated in the EIR.

b, c, d) As described on page 140 of the *San Francisco General Hospital Seismic Compliance Hospital Replacement Program EIR*, the SFGH campus has the potential to contain archaeological deposits associated with San Francisco's prehistoric past, as well as those from historic periods. Such resources may be considered historical resources for the purposes of CEQA and disturbance would result in a substantial adverse change in significance. The geology of the SFGH campus also suggests that paleontological resources could be encountered and disturbed by the proposed project (page 143). Although less likely due to prior disturbance of the SFGH campus, there is the possibility that historic period human burials are present as well. Therefore, project construction could result in widespread ground disturbance within the project site and damage to, or destruction of, as-yet unknown archaeological, paleontological, or human remains, should such remains exist beneath the project site. This potential impact will be evaluated in detail in the EIR.

Discussion of Potential Cumulative Impacts

Potential cultural resources cumulative impacts will be addressed in the EIR.

References

San Francisco Planning Department, *San Francisco General Hospital Seismic Compliance Hospital Replacement Program Environmental Impact Report*, certified June 19, 2008.

5.6 Geology, Soils, and Seismicity

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
6. GEOLOGY, SOILS, AND SEISMICITY — Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Refer to Division of Mines and Geology Special Publication 42.)	☐	☐	☒	☐
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☐	☒
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒
f) Change substantially the topography or any unique geologic or physical features of the site?	☐	☐	☐	☒
g) Exceed the LRDP EIR standard of significance by exposing people to structural hazards in an existing building rated Level V (Poor), or Level VI (Very Poor), under the University's seismic performance rating system, or substantial nonstructural hazards?	☐	☐	☐	☒

Discussion of Potential Project Impacts

a.i) The project site is located in a seismically-active region of California that is part of the Coast Ranges geomorphic province. The closest active fault to the project site is the San Andreas fault which is located approximately 7 miles to the southwest (Jennings, 2010). The San Andreas fault and other regional active faults, including the Hayward and Calaveras faults, pose the greatest threat of significant damage in the Bay Area according to the USGS Working Group (USGS, 2003). These three faults exhibit strike-slip

orientation and have experienced movement within the last 150 years.[13] However, the project site is not located in an Alquist-Priolo Earthquake Fault Zone nor is it located on or immediately adjacent to an active fault.[14] The Alquist-Priolo Earthquake Fault Zoning Act requires the delineation of zones by the California Department of Conservation, Geological Survey (CGS, formerly known as the California Division of Mines and Geology) along sufficiently active and well-defined faults. The purpose of the Act is to restrict construction of structures intended for human occupancy along traces of known active faults. Alquist-Priolo Zones are designated areas most likely to experience surface fault rupture, although fault rupture is not necessarily restricted to those specifically zoned areas. As the project site is not located in an Alquist-Priolo Earthquake Fault Zone and is not located on or immediately adjacent to an active fault, there would be a less than significant impact related to fault rupture hazards.

a.ii) The project site is located in a seismically active region. A 2013 study by the United States Geological Survey (USGS) indicate there is a 72 percent likelihood of a Richter magnitude 6.7 or higher earthquake occurring in the Bay Area in the next 30 years, beginning 2014 (USGS, 2015). The project site could experience a range of ground shaking effects during an earthquake on one of the aforementioned Bay Area faults.[15] Depending on a variety of factors such as distance to the epicenter, magnitude of the event, and behavior of underlying materials, groundshaking could be significant. According to the preliminary geotechnical report prepared for the research building location, the site is generally underlain by artificial fill and dune sands to a depth of approximately 45 feet below ground surface (Kleinfelder, 2014). If not addressed in building design and site preparation, these materials would be unsuitable for the proposed development. However, implementation of geotechnical recommendations such as the use of deep foundation systems could provide adequate support for the proposed structure in the event of a substantial seismic event. The expansion of the existing parking garage by the Parking Authority would be subject to the California Building Code and any more stringent applicable provisions in San Francisco's Building Code and the construction of the research building would be subject to the UC *Seismic Safety Policy*. The proposed project would be required to include site preparation and design in accordance with the UC *Seismic Safety Policy* (UC, 2014) and current and most stringent of either the California Building Code or local building code requirements, which includes measures to ensure that proposed structures can withstand maximum expected groundshaking without catastrophic failure. While complete avoidance of any damage may not be feasible, incorporation of industry standard seismic design measures in

13 A strike-slip fault is a fault on which movement is parallel to the fault's strike or lateral expression at the surface.

14 An active fault is defined by the State of California is a fault that has had surface displacement within Holocene time (approximately the last 11,000 years). A potentially active fault is defined as a fault that has shown evidence of surface displacement during the Quaternary (last 1.6 million years), unless direct geologic evidence demonstrates inactivity for all of the Holocene or longer. This definition does not, of course, mean that faults lacking evidence of surface displacement are necessarily inactive. Sufficiently active is also used to describe a fault if there is some evidence that Holocene displacement occurred on one or more of its segments or branches (Hart, 2007).

15 Shaking intensity is a measure of ground shaking effects at a particular location, and can vary depending on the overall magnitude of the earthquake, distance to the fault, focus of earthquake energy, and type of underlying geologic material. The Modified Mercalli (MM) intensity scale is commonly used to measure earthquake effects due to ground shaking. The MM values for intensity range from I (earthquake not felt) to XII (damage nearly total).

accordance with current building code and UC *Seismic Safety Policy* requirements would reduce potential impacts related to ground shaking to less than significant levels. The impact would be less than significant.

a.iii) In general, loose unconsolidated saturated soils within the upper 50 feet of ground surface can have the potential to liquefy during a seismic event.[16] According to the geotechnical investigation prepared for the project site, soils beneath the site, including dune sands and groundwater, could range from 10 to 40 feet below ground surface (Kleinfelder, 2014). The geotechnical investigation did not include laboratory analysis of site soils which is the only way to confirm whether the underlying materials are susceptible to liquefaction. Regardless, the proposed project would be required to adhere to the seismic standards of the UC *Seismic Safety Policy* and most stringent California or local building codes, which includes measures to ensure that potential settlement and resultant damage from liquefaction is minimized. While complete avoidance of any damage may not be feasible, incorporation of industry standard seismic design measures in accordance with current building requirements would reduce potential impacts related to liquefaction to less than significant levels. For example, use of deep foundation systems that anchor the building foundation to underlying bedrock materials can avoid potential liquefaction hazards. Seismic shaking of this intensity can also trigger ground failures caused by liquefaction, potentially resulting in foundation damage, disruption of utility service and roadway damage. Incorporation of geotechnical recommendations in accordance with the UC *Seismic Safety Policy* and most stringent building code requirements into project design can reduce potential liquefaction hazards to less than significant levels.

a.iv) The project site is located on a relatively level developed lot that would not be susceptible to landslide or slope failure. As a result, the proposed project or variants would have no impact related to landslides.

b) The project site is currently developed and largely covered by asphalt and concrete. However, construction activities would include earthwork activities, which could expose soils to the effects of erosion and loss of topsoil. Because the project site and proposed amount of disturbance is greater than one acre it would require coverage under the State Water Resources Control Board's statewide General Construction Activities Stormwater Permit (General Permit). As part of the requirements of this permit, best management practices would be described within a stormwater pollution prevention plan (SWPPP) that would include erosion control measures. Once constructed, surface soils at the site would be covered by the proposed structure and landscaping, which would prevent any long term erosional effects from occurring. Therefore, with implementation of this regulatory requirement, the potential impact is less than significant.

c) The project site is underlain by artificial fills and dune sands (Kleinfelder, 2014). If not designed appropriately, construction on materials that are unable to support new loadings

[16] Liquefaction is the process by which saturated, loose, fine-grained, granular, soil, like sand, behaves like a dense fluid when subjected to prolonged shaking during an earthquake.

from proposed improvements could be subject to subsidence or differential settlement. However, the proposed project would be required to adhere to site preparation standards in accordance with the UC *Seismic Safety Policy* and most stringent building code requirements, which include site specific design level evaluation of underlying materials and their engineering characteristics. In the preliminary geotechnical investigation prepared for the research building site, it has been determined that the proposed improvements are feasible provided that all recommendations are implemented (Kleinfelder, 2014). As such, the proposed project may include site design measures such as construction of deep foundation systems to support the proposed structure (Kleinfelder, 2014). Therefore, with implementation of industry standard engineering design measures in accordance with the UC *Seismic Safety Policy* and most stringent building code standards, the potential impacts associated with unstable soils would be less than significant. Potential impacts related to liquefaction are discussed under criterion a.ii), above.

d) In general, sandy deposits with a low clay content such as those likely found at the project site have a lower potential for expansion. However, if not addressed during site preparation prior to construction, foundations could be subject to damage as a result of long term exposure to expansive soils. The preliminary geotechnical investigation for the site did not include any site specific testing of underlying soils; however, a final design level geotechnical investigation as required by the UC *Seismic Safety Policy* and most stringent building code requirements, would include an evaluation of the potential for expansive soils to adversely affect the proposed structure (Kleinfelder, 2014). Foundation systems would be designed to ensure that they are placed on soils that have a low potential for expansion and site preparations could include treatment measures to ensure that expansive properties would not adversely affect proposed improvements. Therefore, with implementation of industry standard techniques in accordance with the UC *Seismic Safety Policy* and most stringent building code requirements, the proposed project or variants would have a less than significant impact related to expansive soils.

e) Sewers are available at the project site for wastewater disposal. The proposed project or variants does not require the use of septic tanks or any other alternative wastewater disposal system. Therefore, the project or variants would have no impact related to the support of septic or other alternative wastewater systems.

f) The project site is relatively level and already developed as a parking lot and parking garage. Development of the site under the proposed project or variants would not alter the existing topography substantively and as a result there would be no impact related to this criterion.

g) The proposed project involves construction of a new, seismically robust research building for UCSF employees who are in seismically compromised space on the SFGH campus. Therefore, the project or variants would have no impact regarding exposure of people in existing buildings to structural hazards. The proposed parking garage expansion would not be subject to this UCSF policy because the garage is owned by the Parking Authority.

The expansion of the parking garage by the Parking Authority would be subject to the California Building Code and any more stringent applicable provisions in San Francisco's Building Code; no impact would result.

Discussion of Potential Cumulative Impacts

Geologic impacts are usually restricted to the immediate vicinity and geologic impacts resulting from the proposed project or variants are limited to seismic effects and the potential for location on an unstable geologic unit. There are no other projects in the vicinity that would expose substantial numbers of people to seismic risks that would, in combination with the project, create a cumulative impact. The project site is not subject to fault rupture because there are no known earthquake faults that cross the site or vicinity. The proposed project, project variants, and any development within the project area would be subject to very strong groundshaking and could experience liquefaction effects in the event of an earthquake on a nearby fault. Implementation of the proposed project or variants could result in ground settlement if new construction is unable to support loadings. However, the project's new buildings would be constructed in accordance with the UC *Seismic Safety Policy* and most stringent building code requirements for seismic safety, providing for increased life-safety protection of residents and workers, and would include site design measures such as construction of deep foundation systems to support the proposed structure. These requirements would reduce potential cumulative impacts to a less than significant level, and the proposed project's compliance with these requirements would ensure that it would not make a considerable contribution to cumulative impacts related to seismic safety or unstable geologic units.

References

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Jennings, C.W. and Bryant, W.A., compilers, California Geological Survey (CGS), *2010 Fault Activity Map of California*, CGS Geologic Data Map No. 6, also available online http://www.quake.ca.gov/gmaps/FAM/faultactivitymap.html, 2010.

Kleinfelder, *Preliminary Geotechnical Evaluation Research Building, San Francisco General Hospital Campus 1001 Potrero Avenue San Francisco, California*, December 30, 2014.

United States Geological Survey (USGS) Working Group on California Earthquake Probabilities (WG02), 2003. Open File Report 03-214, *Earthquake Probabilities in the San Francisco Bay Region: 2002-2031,* http://pubs.usgs.gov/of/2003/of03-214/.

USGS, Fact Sheet 2015-3009, *UCERF3: A New Earthquake Forecast for California's Complex Fault System*, http://www.wgcep.org/sites/wgcep.org/files/fs2015-3009.pdf, 2015.

University of California (UC), *Seismic Safety Policy*, revised September 15, 2014.

5.7 Greenhouse Gas Emissions

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
7. GREENHOUSE GAS EMISSIONS — Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☒	☐	☐	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☒	☐	☐	☐

Discussion of Potential Project Impacts

a, b) Greenhouse gas (GHG) emissions and global climate change represent cumulative impacts. GHG emissions cumulatively contribute to the significant adverse environmental impacts of global climate change. No single project could generate enough GHG emissions to noticeably change the global average temperature; instead, the combination of GHG emissions from past, present, and future projects have contributed and will contribute to global climate change and its associated environmental impacts.

Individual projects contribute to the cumulative effects of climate change by directly or indirectly emitting GHGs during construction and operational phases. Direct operational emissions include GHG emissions from new vehicle trips and area sources (natural gas combustion). Indirect emissions include emissions from electricity providers, energy required to pump, treat, and convey water, and emissions associated with waste removal, disposal, and landfill operations.

The Bay Area Air Quality Management District (BAAQMD) has prepared guidelines and methodologies for analyzing GHGs. These guidelines are consistent with CEQA Guidelines Sections 15064.4 and 15183.5, which address the analysis and determination of significant impacts from a proposed project's GHG emissions. The guidelines recommend only quantifying and reporting GHG emissions from construction activities, and do not provide significance thresholds. Operational emissions may be compared to an absolute threshold of 1,100 metric tons of carbon dioxide equivalents per year (CO_2e/year) or an efficiency standard of 4.6 metric tons of CO_2e per service persons/year (service persons include residents plus employees).

CEQA Guidelines Section 15064.4 also allows lead agencies to rely on a qualitative analysis to describe GHG emissions resulting from a project. CEQA Guidelines Section 15183.5 allows for public agencies to analyze and mitigate GHG emissions as part of a larger plan for the reduction of greenhouse gases and describes the required contents of such a plan. UCSF adopted such a plan, the *UCSF GHG Reduction Strategy*, in conjunction with adoption of the *UCSF 2014 Long Range Development Plan*. Development of the

proposed research building would contribute to annual long-term increases in GHGs as a result of increased vehicle trips (mobile sources) and research/office operations that result in an increase in energy use, water use and wastewater treatment, and solid waste disposal. Construction activities would also result in temporary increases in GHG emissions.

GHG emissions associated with the proposed research building will be quantified in the EIR analysis and compared to the BAAQMD guidelines. The analysis will also determine the project's consistency with the *UCSF GHG Reduction Strategy* as well as other plans and policies of the UC Regents and the UC Office of the President.

The City of San Francisco has prepared *Strategies to Address Greenhouse Gas Emissions* (GHG Reduction Strategy), which presents a comprehensive assessment of policies, programs, and ordinances that collectively represent San Francisco's Qualified GHG Reduction Strategy in compliance with the CEQA Guidelines. The actions outlined in the strategy have resulted in a 14.5 percent reduction in GHG emissions in 2010 compared to 1990 levels, exceeding the year 2020 reduction goals outlined in the BAAQMD's *2010 Clean Air Plan*, Executive Order (EO) S-3-05, and Assembly Bill 32 (also known as the Global Warming Solutions Act.)

Given that the City's local GHG reduction targets are more aggressive than the State and Region's 2020 GHG reduction targets and consistent with the long-term 2050 reduction targets, the City's GHG Reduction Strategy is consistent with the goals of EO S-3-05, AB 32, and the *2010 Clean Air Plan*. Therefore, proposed projects that are consistent with the City's GHG Reduction Strategy would be consistent with the goals of EO S-3-05, AB 32, and the Bay Area *2010 Clean Air Plan*, would not conflict with these plans, and would therefore not exceed San Francisco's applicable GHG threshold of significance. On April 29, 2015, Governor Brown issued Executive Order B-30-15, which established a new statewide GHG reduction target of 40 percent below 1990 levels by 2030.[17] It is unknown if the City's GHG Reduction Strategy is consistent with this goal.

Expansion of the parking garage would contribute to annual long-term increases in GHGs that would be associated primarily with building construction. Potential retail uses also would emit GHGs. GHG emissions associated with the proposed garage extension will be quantified in the EIR analysis and compared to the BAAQMD guidelines. The analysis will also determine the consistency of the garage extension with the City's GHG Reduction Strategy.

Discussion of Potential Cumulative Impacts

GHG emissions are by their nature cumulative effects. Potential GHG emissions impacts will be addressed in the EIR.

[17] "Governor Brown Establishes Most Ambitious Greenhouse Gas Reduction Target in North America," April 29, 2015, gov.ca.gov/home.php.

References

San Francisco Planning Department, *Strategies to Address Greenhouse Gas Emissions in San Francisco*, 2010. Available online at www.sf-planning.org/index.aspx?page=2627.

UCSF, *UCSF 2014 Long Range Development Plan*, Appendix E: *UCSF GHG Reduction Strategy*, 2014.

5.8 Hazards and Hazardous Materials

Issues (and Supporting Information Sources):		*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
8.	**HAZARDS AND HAZARDOUS MATERIALS — Would the project:**				
a)	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☒	☐	☐
b)	Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c)	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐
d)	Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☒	☐	☐
e)	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f)	For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g)	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
h)	Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☒	☐

Discussion of Potential Project Impacts

a) The proposed project and the project variants would include the routine transport, use, and disposal of hazardous materials associated with construction as well as operation of the proposed wet and dry labs, office space, and potential retail uses (i.e., maintenance and cleaning purposes). During construction, all construction activities for the proposed improvements would require the use of hazardous materials such as fuels, oils, solvents, and glues. Inadvertent release of large quantities of these materials into the environment could adversely impact workers, the public, soil, surface waters, or groundwater quality if not managed appropriately. The use of construction best management practices (BMPs) (e.g., use of hay bales, silt fences, and protection of storm drains) implemented as part of a Storm Water Pollution Prevention Plan (SWPPP) (discussed further in Section 5.9, *Hydrology*) as required by the National Pollution Discharge Elimination System

(NPDES) General Construction Permit would minimize the potential adverse effects to workers, the public, and the environment by ensuring that these hazardous materials are appropriately handled, stored, and disposed.

San Francisco is among the identified counties where ultramafic bedrock materials are present and have the potential for naturally occurring asbestos fibers, which could be encountered during excavation activities. If present, groundbreaking activities could disturb these fibers causing them to be airborne and potentially adversely affect workers and the public. However, an evaluation of site soils was conducted for the B/C Lot that included the collection and analysis of soils for the presence of asbestos as well as for other potential contaminants including metals, petroleum hydrocarbons, and volatile organic compounds. The proposed parking garage expansion is located in an area mapped by the City of San Francisco as being within the Maher Ordinance area. Properties in these areas that require a grading or building permit may have potential subsurface chemical contamination and may be regulated under the San Francisco Maher Ordinance: Article 22A of the San Francisco Health Code and Article 106A.3.4.2 of the San Francisco Building Code. The Maher Ordinance covers areas with current or historical industrial use or zoning, areas within 100 feet of current or historical underground tanks, filled former Bay, marsh or creek areas, and areas within 150 feet of a current or former elevated highway.

According to the findings of the laboratory analysis for the samples from the B/C Lot, all 50 soil samples had asbestos concentrations that were either below the limits of detection or at trace amounts that are well below levels considered to be a potential hazard (Iris, 2015). However, the findings of the chemical analysis of the site soils indicated that some soils may be classified as a hazardous waste and require disposal at a Class I facility based on the results of chromium and lead levels detected. No sampling was conducted at the proposed garage expansion site. Therefore, with implementation of **Mitigation Measure HAZ-1b,** construction activities at the proposed research building site would include the appropriate further analysis of disturbed or excavated soils and ensure that any soils that are identified as hazardous waste are disposed of in accordance with regulatory requirements and the requirements of receiving disposal facilities. Construction at the garage extension site would require implementation of **Mitigation Measure HAZ-1a**, in order to comply with the Maher Ordinance, as well as **Mitigation Measure HAZ-1b**.

> **Mitigation Measure HAZ-1a:** A Subsurface Investigation (SI) Work Plan shall be prepared and implemented in accordance with San Francisco Health Code Article 22A and Building Code Section 106A.3.2.4. The Plan shall be prepared by a qualified consultant to characterize subsurface soils and groundwater, if applicable, that would be disturbed by construction activities. The plan shall detail the soil sampling and analysis efforts to adequately profile the site soils. Compliance with this plan shall be a condition of the construction contract for the project.

Mitigation Measure HAZ- 1b: An Excavation Management Plan shall be prepared by a qualified consultant to guide all earthwork activities in the characterization of all soils that are targeted for offsite disposal. Compliance with this plan shall be a condition of the construction contract for the project. Based on the findings of the January 14, 2015 Iris Environmental In-Situ profiling and any subsequent findings on the garage site, excavated soils shall be isolated, protected from potential runoff, and sampled in accordance with the requirements of the receiving disposal facilities requirements.

Significance after Mitigation: Less than Significant

Once constructed, the hazardous materials typically used in the research labs would be brought onto the site packaged in research laboratory quantities and used in accordance with manufacturer recommendations and in accordance with existing UCSF policies and hazardous materials management plans and policies (e.g., *Chemical Hygiene Plan for Laboratory Workers* (UCSF, 2015), Environmental Health & Safety *Laboratory Safety Design Guide* (UCSF, 2007), Hazardous Materials Management Plan, etc.). Hazardous waste generated at SFGH is managed and tracked using an online program called WASTe (Waste Accumulation Storage and Tracking electronically). Article 21 of the San Francisco Health Code provides for safe handling of hazardous materials in the City. It requires any person or business that handles, sells, stores, or otherwise uses specified quantities of to keep a current certificate of registration and to implement a hazardous materials business plan. Article 21A provides for safe handling of federally regulated hazardous, toxic, and flammable substances in the City, requiring businesses that use these substances in excess of the reportable quantities to register with DPH and prepare a Risk Management Plan that includes an assessment of potential off-site consequences of an accidental release and programs for preventing and responding to an accidental release.

The overall quantities of these materials on the site at any one time would not result in storage of large bulk amounts that, if spilled, could cause a significant public health hazard. Given the required protective measures (i.e., BMPs), the expected compliance with the requirements of the City's hazardous materials handling requirements, and the quantities of hazardous materials typically needed for the proposed project and variants, the threat of exposure to the public or contamination to soil and/or groundwater from construction- or operation-related hazardous materials is considered a less than significant impact.

b) As noted above, construction would require the use of certain hazardous materials such as fuels, oils, solvents, and glues in limited quantities. If not managed appropriately, these hazardous materials could be released through upset and accident conditions resulting in exposure to workers, the public or the environment. However, project and variant construction would require adherence to the NPDES General Construction Permit which would necessitate the preparation and implementation of a SWPPP. The SWPPP would include BMPs that cover the transport, use, and disposal of any hazardous materials used

during construction that minimize the potential exposure to workers, the public, and the environment as well as the potential for upset and accidental release conditions. BMPs could include creation of a dedicated refueling area, use of appropriate storage containers, and having spill response supplies at the project site easily accessible in the unlikely event that a spill might occur.

During operation of the proposed research building, hazardous materials use associated with the wet and dry labs would be managed in accordance with existing regulatory requirements, UCSF policies, and hazardous materials management practices as largely documented within UCSF's *Chemical Hygiene Plan for Laboratory Workers*. The *Chemical Hygiene Plan for Laboratory Workers* is reviewed and updated on an annual basis and includes safety procedures, training requirements, personal protective equipment requirements, signage protocols, emergency response details, and disposal guidelines that is in accordance with all federal, state, local regulatory requirements. Hazardous materials management that is done in accordance with these existing regulatory requirements and policies would reduce the potential for upset and accident conditions to less than significant levels.

c) There are several schools located within a quarter mile of the proposed project and variant including Bryant Elementary and Valdivia Family Daycare, which are both located approximately 0.2 mile from the site. While compared to existing conditions there will be an increase in the amount and type of hazardous materials handled, stored, and disposed of at the research building, the quantities of hazardous materials would be relatively small compared with industrial uses and a majority of the time contained within manufacturer's packaging. As stated above, the handling of all hazardous materials would be done in accordance with UCSF's *Chemical Hygiene Plan for Laboratory Workers*, which is designed to limit the emissions of any hazardous materials. The proposed project would handle all hazardous materials in accordance with federal, state, local, and UCSF policies and regulatory requirements such that there would be a less than significant impact to nearby schools.

d) The B/C Lot is not identified on the Geotracker or EnviroStor databases maintained by the State Water Resources Control Board and Department of Toxic Substances Control (SWRCB, 2015a and DTSC, 2015). The parking garage site is listed on the Geotracker database, though as a closed case. A listing for the address of 2500 Twenty-fourth Street was identified as the San Francisco Muni Railway Maintenance Yard that reportedly had a leak of gasoline (SWRCB, 2015b). The case was closed, however, in November 2000, indicating that no further threat to human health or the environment remained. In addition, the intersection of Twenty-Fourth and Utah streets was listed and ascribed to the San Francisco Muni as a site of a past release of petroleum hydrocarbons and volatile organic compounds (SWRCB, 2015c). This case was also closed in August 2000. As described above, the project received preliminary sampling of site soils to identify the presence of any constituents that might be above regulatory action levels at the B/C Lot. Soils below action levels can be disposed of at any landfill but soils that are above action

levels can be classified as hazardous waste requiring disposal at a Class I facility. According to the soil profiling most of the site soils at the B/C Lot are below regulatory action levels but there are some soils that may require disposal at a Class I facility. With implementation of Mitigation Measures HAZ-1a and HAZ-1b, the potential impact from any legacy contaminants would be less than significant.

e, f) The nearest airport or airstrip to the project site, San Francisco International Airport, is located approximately 9 miles away. The helipad at the UCSF Medical Center at Mission Bay is located approximately 1 mile away. The SFGH campus is not located along any of the primary or alternative flight paths of helicopters accessing the helipad. The project site is not located within an airport land use plan and there would be no safety hazards to people resulting from aircraft operations.

g) The San Francisco Fire Department would provide fire protection and emergency response services to the project site. The proposed project and variant would not change emergency access to SFGH. The opening of the new Main Hospital building in 2016 will result in a relocation of the SFGH emergency room from the existing Main Hospital to the new building. Emergency vehicles will no longer access SFGH from Twenty-Third Street (and through the B/C Lot), instead they will be rerouted to the new emergency room from Twenty-Second Street via a looped road with ingress and egress only from Twenty-Second Street (San Francisco Planning Department, 2008). The proposed project and variants would not substantively change the circulation plan for the site and all improvements would be designed to ensure appropriate emergency access to and egress from all areas. Additionally, all project-specific designs, including private internal circulation and building site plans, would be subject to review and approval by the City. Therefore, the proposed project and variants would not impair or interfere with the implementation of emergency response or evacuation plans and the potential impact would be less than significant.

h) The project site is located in an urban area that is serviced by the San Francisco Fire Department. All new construction would be required to comply with all applicable fire code and fire suppression requirements. Therefore, the proposed project and variants would not expose people or structures to significant risks associated with wildland fires. The impact would be less than significant.

Discussion of Potential Cumulative Impacts

Hazardous materials impacts related to the project and variants could result from use of hazardous materials and disturbance of contaminated onsite soils. These impacts would be primarily restricted to the project site and immediate vicinity. As described above, the proposed project and variants could involve an increase in the use of hazardous materials and generation of hazardous wastes during operation. Similarly, cumulative projects also could include an increase in the use of hazardous materials and generation of hazardous wastes. However, the proposed project, project variants, and all reasonably foreseeable cumulative projects would comply with existing

UCSF policies and hazardous materials management plans and/or City regulations, which would minimize potential exposure of site personnel and the public to any accidental releases of hazardous materials or waste and would also protect against potential environmental contamination. With implementation of these regulatory requirements, cumulative impacts related to the use of hazardous materials and generation of hazardous wastes would be less than significant.

Cumulative projects in the vicinity could encounter contaminated soils during construction activities, similar to the proposed project or variants. However, construction activities at the garage expansion site and the majority of the reasonably foreseeable future projects would be subject to the regulatory requirements of Articles 21 and 22A of the *San Francisco Health Code*. Regardless, any contamination that might be present at any particular cumulative project site would represent site specific conditions, which are typically isolated incidents that are unlikely to combine with others because of scope and timing such that the contribution would not be cumulatively considerable. Because each project would likely need to assess the potential for soil and groundwater contamination to occur in locations where the potential is considered highest as required by Articles 21 and 22A, and these requirements would reduce unacceptable risks identified in accordance with regulatory requirements, cumulative impacts related to exposure to hazardous materials in soil and groundwater would be less than significant.

References

Department of Toxic Substances Control (DTSC), Envirostor Database search, http://www.envirostor.dtsc.ca.gov/public/mapfull.asp?global_id=&x=-119&y=37&zl=18&ms=640,480&mt=m&findaddress=True&city=2419%2023rd%20ST,%20San%20Francisco%20CA&zip=&county=&federal_superfund=true&state_response=true&voluntary_cleanup=true&school_cleanup=true&ca_site=true&tiered_permit=true&evaluation=true&military_evaluation=true&school_investigation=true&operating=true&post_closure=true&non_operating=true, accessed April 10, 2015.

Iris Environmental, *Report of In-Situ Soil Profiling San Francisco General Hospital, Lot B/C,* January 14, 2015.

State Water Resources Control Board (SWRCB), Geotracker Database search, http://geotracker.waterboards.ca.gov/map/?CMD=runreport&myaddress=2419+23rd+ST%2C+San+Francisco+CA, accessed April 10, 2015a.

SWRCB, Geotracker Database search, 2500 24th Street, http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0607500264, accessed July 8, 2015b.

SWRCB), Geotracker Database search, Cross 24th and Utah Streets, http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=SL20216834, accessed July 8, 2015c.

UCSF, *Laboratory Safety Design Guide*, second edition, September 2007.

UCSF, *Chemical Hygiene Plan for Laboratory Workers*, January 22, 2015.

5.9 Hydrology and Water Quality

Issues (and Supporting Information Sources):		*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
9.	**HYDROLOGY AND WATER QUALITY — Would the project:**				
a)	Violate any water quality standards or waste discharge requirements?	☐	☐	☒	☐
b)	Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☒	☐
c)	Substantially alter the existing drainage pattern of a site or area through the alteration of the course of a stream or river, or by other means, in a manner that would result in substantial erosion or siltation on- or off-site?	☐	☐	☒	☐
d)	Substantially alter the existing drainage pattern of a site or area through the alteration of the course of a stream or river, or by other means, substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site?	☐	☐	☒	☐
e)	Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐
f)	Otherwise substantially degrade water quality?	☐	☐	☒	☐
g)	Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h)	Place within a 100-year flood hazard area structures that would impede or redirect flood flows?	☐	☐	☒	☐
i)	Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☒	☐
j)	Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

Discussion of Potential Project Impacts

a) The construction phase of the proposed project or variants has the greatest potential to release sediment or hazardous materials in stormwater such that site runoff would be in non-compliance with water quality objectives found in the Basin Plan. The actual rate of stormwater runoff and amount of pollutants that might be generated from the construction site is unknown and depends on the timing of rainfall relative to construction phases. Because the project site is greater than one acre, construction activities would require coverage under the State Water Resources Control Board's statewide General Construction Activities Stormwater Permit (General Permit). Construction activity

includes, but is not limited to clearing, grading, excavation, temporary dewatering, and construction of new structures. For the research building, UCSF would be required, as per the General Permit, to develop and submit a site-specific plan called the Storm Water Pollution Prevention Plan (SWPPP). For the garage expansion, the City would be required to develop and submit a site-specific SWPPP. The SWPPP could include a description of appropriate BMPs that minimize the discharge of pollutants from the site. Construction contractor(s) are responsible for implementation of the SWPPP including maintenance, inspection, and repair to erosion and sediment control measures and water quality BMPs throughout the construction period, and are responsible for the maintenance of all protective devices in good and effective condition.

In addition, the garage expansion portion of the project would be required to adhere to the City of San Francisco's Public Works Code Article 4.2. Effective January 1, 2014, the Construction Site Runoff Control Ordinance (Article 4.2 of the San Francisco Public Works Code) requires that any construction project within San Francisco, under City jurisdiction, where 5,000 or more square feet of ground surface will be disturbed must first obtain a Construction Site Runoff Control Permit prior to the commencement of any land-disturbing activities. The ordinance also requires that a site-specific Erosion and Sediment Control Plan be included with the permit application. The site-specific Erosion and Sediment Control Plan must include the following:

- the location and perimeter of the project site;
- the location of nearby storm drains and/or catch basins;
- existing and proposed roadways and drainage patterns at the site; and
- a drawing or diagram of the proposed sediment and erosion control devices to be used.

In 2013, UCSF was designated by the State Water Resources Control Board (SWRCB) as a Phase 2 non-traditional Municipal Separate Storm Sewer System (MS4) (State Water Quality Board Order 2013-0001-DWQ) because its campus facilities (with the exception of the Mission Bay campus site) feed into the City's combined sewer system (CSS). Elsewhere in the City, stormwater discharges to the CSS are governed by the SFPUC *Stormwater Design Guidelines* (SFPUC, 2010). UCSF manages its stormwater in a way that is consistent with the guidelines, but the guidelines are not enforceable on UCSF campus sites due to their coverage under the Phase 2 MS4.

In 2003, the SWRCB adopted the General Permit for the Discharge of Storm Water from Small Municipal Separate Storm Sewer System (MS4s), SWRCB Order No. 2003-0005-DWQ (Phase 2 General Stormwater Permit). A revised permit applying to the MS4 at UCSF was approved in 2013. The revised Phase 2 General Permit requires UCSF to develop, implement and enforce a Storm Water Management Plan/Program (SWMP) by July 2016 that is designed to minimize the discharge of pollutants into receiving waters; identify appropriate stormwater treatment practices with measurable performance criteria;

and ensure that the program includes provisions to address six minimum measures to promote pollutant load reduction. These measures are public education, public participation and involvement, illicit discharge detection and elimination, construction site runoff control, post-construction runoff control and pollution prevention and good housekeeping.

The revised Phase 2 permit also requires that by July 2015, plans for UCSF projects that create and/or replace (including projects with no net increase in impervious footprint) more than 2,500 square feet of impervious surface include the following:

- Site design measures such as porous pavement, setbacks, and impervious area disconnections to reduce project site runoff
- Low-Impact Design (LID) standards to effectively reduce runoff and pollutants from the project site, including:
    - Source control measures such as permanent and/or operational source control measures at loading docks, fuel dispensing areas, pools, and other areas;
    - Numeric sizing criteria for stormwater retention and treatment; and
    - Stormwater treatment measures and baseline hydromodification management measures

The proposed UCSF research building would be subject to the above requirements.

Project design for both the proposed UCSF research building, City garage expansion and project variants would be required to adhere to drainage control requirements that are included as part of the San Francisco Public Works Code Sections 147 et seq, and San Francisco *Stormwater Design Guidelines* (SFPUC, 2010) adopted by the San Francisco Public Utilities Commission (SFPUC) to implement these requirements ("San Francisco Stormwater Management Ordinance"). The City developed these requirements in order for new development and redevelopment in the city to comply with the City's National Pollutant Discharge Elimination System (NPDES) permit. All wastewater from the proposed project or variants and storm water runoff from the project site would flow into the city's combined sewer system to be treated at the Southeast Water Pollution Control Plant prior to discharge into San Francisco Bay. Development of a Stormwater Control Plan for the project site must demonstrate that the project or variants would maintain or reduce the existing volume and rate of stormwater runoff discharged from the site. To achieve this, the project or variants would implement and install appropriate stormwater management systems that retain runoff on-site, promote stormwater reuse, and limit site discharges before entering the combined sewer collection system. In addition, if temporary dewatering is deemed necessary as part of construction, the project or variants would be required to adhere to discharge permit requirements for any temporary dewatering that might occur to prevent the discharge of pollutants that may be present in groundwater (also discussed above in a)).

Implementation of these permit requirements would reduce the potential for offsite migration of contaminants to a less than significant level during construction activities.

b) The proposed project or variants would use municipal water supply sources to serve the proposed structure. SFPUC primarily obtains its water supplies from surface waters of the Hetch Hetchy, Alameda, and Peninsula watersheds and does not access local groundwater in the vicinity of the project site. The project site is already largely covered in impervious surfaces such that onsite infiltration is relatively minor. Drainage control requirements for the development would include low impact development (LID) measures that could even provide additional infiltration of stormwater runoff that would recharge underlying groundwater resources. Therefore, with no demand on local groundwater resources and potential additional sources of stormwater infiltration, the impact to groundwater levels would be less than significant.

c, d) The proposed project and variants are located in an urban watershed served by municipal storm drains and there are no natural water features within or immediately adjacent to the project site. The proposed project or variants would therefore not alter or otherwise affect the course of a stream or a river.

The project site is largely covered in impervious surfaces and the development plan for the property would alter the existing drainage patterns through development. As discussed above, the proposed improvements would be required to include drainage control features in accordance with San Francisco Stormwater Management Ordinance requirements. With these requirements, stormwater runoff would be managed through the incorporation of permanent stormwater control features into project designs to manage runoff from the new improvements. These design requirements would minimize the rate and amount of stormwater runoff generated from the project site as well as control water quality of stormwater that is discharged offsite. While changes in the drainage patterns of stormwater runoff would occur due to the modifications of the project site, with implementation of drainage control requirements the proposed project or variants would not substantially alter drainage patterns such that it would result in erosion, siltation, or flooding on- or off-site. The impact would be less than significant.

e) As discussed above, potential project impacts associated with the capacity of drainage infrastructure are addressed largely through adherence to drainage control requirements as required by the City. As such, stormwater runoff would be managed through the incorporation of these permanent stormwater controls into project designs. These proposed improvements would include LID features that could even reduce the amount of runoff discharging offsite. Therefore, the potential impact on drainage capacity would be less than significant.

f) With adherence to the drainage control requirements described above, the project or variants would not otherwise degrade water quality. All stormwater runoff and wastewater flows that discharge from the site would be collected at the Southeast Water

Treatment Plant operated by the SFPUC under its NPDES permit. Therefore, with implementation of all stormwater requirements both during construction and operational phases, the potential impact from the project or variants would be less than significant.

g) The proposed project or variants does not include the construction of any housing and as a result, there would be no impact related to placement of housing in a flood hazard area.

h) According to preliminary maps prepared by the Federal Emergency Management Agency (FEMA), the proposed project site is not located within a floodplain hazard area and is not within any known flood prone areas according to SFPUC data (FEMA, 2008). Therefore, the potential impact related to flood hazards would be less than significant.

i) According to mapping provided in the *San Francisco General Plan* Safety Element, the project site is not located with a dam inundation area (San Francisco, 2012) and it is not within a floodplain hazard area. There would be a less than significant impact related to flooding.

j) The project site is located inland and well away from any seiche, tsunami, or mudflow hazards. It is not located in a landslide hazard zone. There would be no impact.

Discussion of Potential Cumulative Impacts

Impacts resulting from the proposed project or variants are limited to potential water quality impacts on the Eastern Drainage Basin of the combined sewer system and central San Francisco Bay. Therefore, the geographic scope of potential cumulative impacts on water quality encompasses the Eastern Drainage Basin of the combined sewer system and central San Francisco Bay.

Construction activities associated with the proposed project or variants could degrade water quality as a result of increased soil erosion and associated sedimentation as well as an accidental release of hazardous materials. However, these discharges would flow into San Francisco's combined sewer system and would be subject to NPDES permit requirements and the San Francisco Stormwater Management Ordinance. The cumulative projects within the vicinity and throughout San Francisco that would also include discharges to the combined sewer system would be subject to the same regulatory requirements, and adherence to the NPDES permit stipulations would ensure compliance with water quality objectives. Therefore, cumulative impacts related to degradation of water quality would be less than significant.

The stormwater runoff peak rate and total discharge volume would also be reduced by implementation of stormwater control measures. Other development projects in the City would also be required to minimize wastewater flows and reduce stormwater flows in accordance with the same regulatory requirements. The net effect of these projects on combined sewer discharges would depend on the relative volume of wastewater increases and stormwater decreases. However, the project or variants would not have a cumulatively considerable contribution to any increase in combined sewer discharges. Therefore, the project's or variants' contribution to

combined sewer overflows and sewer capacity would not be cumulatively considerable and this impact would be less than significant. Similarly, the proposed project, project variants, and all of the cumulative projects would be required to decrease the peak rate and total stormwater flow to the combined sewer system in accordance with the City's Stormwater Design Guidelines, and cumulative impacts related to exceedance of storm sewer capacity and additional sources of stormwater pollutants would be less than significant.

References

City of San Francisco, *General Plan, Safety Element*, http://www.sf-planning.org/ftp/general_plan/community_safety_element_2012.pdf, October 2012.

FEMA, *San Francisco Interim Floodplain Map*, http://sfgsa.org/Modules/ShowDocument.aspx?documentid=1763, July 2008.

San Francisco Public Utilities Commission (SFPUC), *Stormwater Design Guidelines*, adopted January 12, 2010.

5.10 Land Use and Planning

Issues (and Supporting Information Sources):		*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
10.	**LAND USE AND PLANNING — Would the project:**				
a)	Physically divide an established community?	☐	☐	☐	☒
b)	Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☒	☐	☐	☐
c)	Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒
d)	Have a substantial impact upon the existing character of the vicinity?	☒	☐	☐	☐
e)	Conflict with local land use regulations such that a significant incompatibility is created with adjacent land uses?	☒	☐	☐	☐

Discussion of Potential Project Impacts

a) Implementation of the proposed project and variants would have no potential to physically divide an established community. No development outside of the established SFGH campus is proposed, and incursion into, or division of, surrounding residential communities would not occur. No physical barriers such as roads or other infrastructure that would divide an established community are proposed. No impact would occur.

b) Pursuant to the University of California's constitutional autonomy, development and uses on property owned or leased by the University that are in furtherance of the University's educational purposes are not subject to local land use regulation. However, UCSF also considers the land use policies and zoning regulations of the City when analyzing potential land use impacts under CEQA. Neither the proposed project nor the variants are expected to conflict with those City plans and policies adopted for the purpose of avoiding or mitigating an environmental effect; however, consistency will be discussed in the EIR analysis.

c) There are no adopted habitat conservation plans, natural community conservation plans or other applicable habitat conservation plans that would be applicable to the proposed project or variants. No impact would occur.

d) The proposed project and the Further Expanded Parking Garage Variant consist of a new research building and parking garage expansion on the existing SFGH campus. The research building would be a relatively minor addition in terms of height, scale, and use to the multiple buildings that already exist on the campus, and would be constructed on an existing surface parking lot. Although the specific design of the research building is

yet to be determined, it would not be expected to detract from the existing character of the SFGH campus or surrounding neighborhood. The parking garage expansion would also occur on a surface parking lot adjacent to the existing garage. The effect of the project and variants on the existing character of the site and vicinity will be evaluated in the EIR.

e) As noted above under criterion b), development and uses on property owned or leased by the University that are in furtherance of the University's educational purposes are not subject to local land use regulation. However, UCSF also considers the land use policies and zoning regulations of the City when analyzing potential land use impacts under CEQA. The proposed project and variants are not expected to conflict with City land use regulations such that a significant incompatibility is created; however, consistency with the regulations will be discussed in the EIR analysis.

Discussion of Potential Cumulative Impacts

Cumulative land use impacts are evaluated in the context of existing and reasonably foreseeable future development in the project vicinity, as well as applicable land use policies that guide future development in the project vicinity. The cumulative land use analysis is geographically based on projects in the vicinity that would affect the overall land use character of the Mission and Potrero Hill neighborhoods, within a few blocks in each direction of the project site:

- 1315 Utah Street: Vertical addition to single family home.
- 1366 San Bruno Avenue: Demolition of two-unit residential building and construction of three-unit building.
- 1140 Potrero Avenue: Vertical and horizontal additions to single family home.
- 1152 Potrero Avenue: Vertical and horizontal additions to single family home.
- 1280 Hampshire Street: Demolition of garage and construction of three-unit building.
- 1076 Rhode Island Street: Vertical and horizontal additions to single family home.
- 1138 Rhode Island Street: Residential remodel.

Given that the proposed project and uses would occur within the boundaries of the existing lot lines, no physical barriers to movement through the community would occur, and that the project and variants would continue and intensify an existing use, cumulative land use impacts regarding criteria a), c), and d) would be less than significant. Potential cumulative impacts regarding consistency with land use plans, policies, and regulations will be discussed in the EIR.

5.11 Mineral Resources

Issues (and Supporting Information Sources):		*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
11.	**MINERAL RESOURCES — Would the project:**				
a)	Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b)	Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

Discussion of Potential Project Impacts

a, b) All land in San Francisco, including the project site, is designated Mineral Resource Zone 4 (MRZ-4) by the California Division of Mines and Geology (CDMG) under the Surface Mining and Reclamation Act of 1975. This designation indicates that there is inadequate information available for assignment to any other MRZ and thus the project site is not a designated area of significant mineral deposits. No known or potential mineral resources of state, regional, or local importance are located on the project site, and the site is not in an area used for mineral extraction. Therefore, development of the project or the variants would not impede extraction or result in the loss of availability of a known mineral resource. No impacts on mineral resources would occur.

Discussion of Potential Cumulative Impacts

The proposed project or variants would have no effects on mineral resources; therefore, it would not contribute to cumulative effects for this topic.

5.12 Noise

Issues (and Supporting Information Sources):		*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
12.	**NOISE — Would the project:**				
a)	Result in exposure of persons to, or generation of, noise levels in excess of standards established in any applicable plan or noise ordinance, or applicable standards of other agencies?	☒	☐	☐	☐
b)	Result in exposure of persons to, or generation of, excessive groundborne vibration or groundborne noise levels?	☒	☐	☐	☐
c)	Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☒	☐	☐	☐
d)	Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project (including construction)?	☒	☐	☐	☐
e)	For a project located within an airport land use plan area, or, where such a plan has not been adopted, in an area within two miles of a public airport or public use airport, would the project expose people residing or working in the area to excessive noise levels?	☐	☐	☐	☒
f)	For a project located in the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Discussion of Potential Project Impacts

a, c) The Environmental Protection Element of the *San Francisco General Plan* contains Land Use Compatibility Guidelines for Community Noise. These guidelines, which are similar to State guidelines promulgated by the Governor's Office of Planning and Research, indicate maximum acceptable exterior noise levels for various newly developed land uses. These exterior noise standards assume a 20 A-weighted decibel (dBA) reduction attributable to standard building construction materials. For office uses, the maximum satisfactory noise level under which additional noise insulation need not be incorporated into a project is 70 dBA on the day-night average level (Ldn) rating scale.

The guidelines state that new office development should be generally discouraged at noise levels 73 dBA Ldn and above (new office development in areas subject to noise levels between 66 and 75 dBA Ldn should be undertaken "only after a detailed analysis of the noise mitigation requirements is made and needed noise insulation features included in the design"). For retail land uses, noise environments of up to 75 dBA Ldn are considered normally acceptable and up to 82 dBA is considered conditionally acceptable if a noise reduction analysis is included.

Proposed activities at the project site could increase ambient noise levels, primarily through increased daytime population, vehicle trips, and the use of new stationary

equipment, such as heating and ventilation systems. Increased vehicle trips around the project site would contribute to the noise environment and could increase ambient noise levels. This potential impact, and potential conflicts with the Noise Ordinance, will be evaluated in the EIR.

b) Construction activities proposed as part of the project or variants would generate perceptible groundborne vibration levels when heavy equipment or impact tools are used. Structures around the project site could be adversely affected by vibration caused by construction of the proposed project or variants. These impacts will be evaluated in detail in the EIR.

d) Construction noise levels would fluctuate depending on construction phase, equipment type and duration of use, distance between noise source and listener, and presence or absence of barriers. Impacts would generally be limited to demolition and the periods during which new foundations and exterior structural and façade elements would be constructed; this phase could include pile driving. Interior construction noise would be substantially reduced by exterior walls.

The project would be required to comply with the San Francisco Noise Ordinance (article 29 of the Police Code), which regulates construction noise. The Noise Ordinance requires that noise levels from individual construction equipment, other than impact tools, not exceed 80 dBA at a distance of 100 feet from the source. Impact tools (pile drivers, jackhammers, impact wrenches, etc.) must have both intake and exhaust muffled to the satisfaction of the Department of Public Works (DPW) Director or the Director of Building Inspection. Section 2908 of the Noise Ordinance prohibits construction work between the hours of 8:00 p.m. and 7:00 a.m. if noise would exceed the ambient noise level by 5 dBA at the project property line, unless the DPW Director or the Director of Building Inspection grants a special permit. Construction noise impacts will be evaluated in the EIR.

e, f) The nearest airport or airstrip to the project site, the San Francisco International Airport, is located approximately 9 miles away. The helipad at the UCSF Medical Center at Mission Bay is located approximately 1 mile away. The SFGH campus is not located along any of the primary or alternative flight paths of helicopters accessing the helipad. The project site is not located within an airport land use plan and the proposed project or variants would not expose people to excessive noise levels from aircraft operations.

Discussion of Potential Cumulative Impacts

As discussed above, the project or variants would not expose people to excessive noise levels resulting from airport or airstrip operations; therefore, the project or variants would not contribute to cumulative effects in these topics. Potential cumulative noise impacts for all other topics will be addressed in the EIR.

References

San Francisco Planning Department, *San Francisco General Plan*, Environmental Protection Element, available at www.sf-planning.org/ftp/general_plan/I6_Environmental_Protection.htm.

5.13 Population and Housing

Issues (and Supporting Information Sources):		*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
13.	**POPULATION AND HOUSING — Would the project:**				
a)	Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☒	☐
b)	Displace substantial numbers of existing housing units, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c)	Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
d)	Exceed the LRDP EIR standard of significance by creating a demand for housing outside the market area where the facilities or site are located?	☐	☐	☒	☐

Discussion of Potential Project Impacts

a, d) No residential units are present on the project site and none are proposed. Upon completion of the proposed project or variants, about 120 UCSF employees could relocate from off-campus leased space to the new research building. An additional approximately 57 non-UCSF employees could work at the potential retail space in the expanded parking garage. Many of the relocated UCSF employees currently work at other UCSF sites in San Francisco and are already housed in the Bay Area. Potential new retail employees in the expanded parking garage would similarly be expected to currently reside in San Francisco or the Bay Area. Even if some employees relocate to the City or the Bay Area, the number of employees would be very small compared to the total regional population. The project and variants would not induce population growth or necessitate the construction of new housing in San Francisco or the region. The impact would be less than significant.

b, c) The project site is currently developed as a parking lot and parking garage. As a result, no existing housing or residents would be displaced, and there would be no impact with regard to these criteria.

Discussion of Potential Cumulative Impacts

The proposed project or the variants would not displace housing or people; therefore, it would not contribute to cumulative effects in these topics. As discussed above, the potential number of employees working at the project site that are not already residents of San Francisco or the Bay Area would be small compared to overall employment at SFGH and in San Francisco. Thus, the proposed project or variants would not contribute to substantial population growth or create a demand for housing outside the Bay Area.

5.14 Public Services

Issues (and Supporting Information Sources):		*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
14.	**PUBLIC SERVICES — Would the project:**				
a)	Result in substantial adverse physical impacts associated with the provision of, or the need for, new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services:				
	i) Fire protection?	☐	☐	☒	☐
	ii) Police protection?	☐	☐	☒	☐
	iii) Schools?	☐	☐	☒	☐
	iv) Parks?	☐	☐	☒	☐
	v) Other public facilities?	☐	☐	☒	☐

Discussion of Potential Project Impacts

a.i) Upon completion of the proposed research building, approximately 680 UCSF employees would be relocated from existing facilities on the SFGH campus to the new building. In addition, about 120 UCSF employees could relocate from off-campus leased space to the new facility. An additional approximately 57 non-UCSF employees could work at the potential retail space in the expanded parking garage. Many of the relocated UCSF employees currently work at other UCSF sites in San Francisco and also reside in the City.[18] Potential new retail employees would similarly be expected to currently work and reside in San Francisco or the Bay Area. The nearest fire station, Station No. 37, is located at 798 Wisconsin Street, approximately 0.5 mile from the project site. Station No. 7 (2300 Folsom Street) is located approximately 1.0 mile from the site, as is Station No. 29 (299 Vermont Street).

By increasing occupancy on the SFGH campus the proposed project or variants could increase the number of calls for fire protection services; however, the increase would not likely be substantial in light of the existing demand and capacity for fire suppression and emergency medical services in the City. Furthermore, the proposed project and variants would be designed to comply with building and fire codes and include appropriate fire safety measures and equipment, including but not limited to, use of fire retardant building materials, inclusion of emergency water infrastructure (fire hydrants and sprinkler systems), installation of smoke detectors and fire extinguishers, emergency response notification systems and provision of adequate emergency access ways for emergency vehicles.

[18] Approximately half of UCSF employees reside within San Francisco.

The increase in employees associated with the proposed project or variants would neither adversely affect SFFD service standards nor require an increase in SFFD staff that would require the construction of new fire protection facilities. Therefore, the project and variants would have a less than significant impact regarding the construction of new or physically altered fire protection facilities.

a.ii) The increased occupancy on the SFGH campus resulting from the proposed project or variants could increase the number of calls for police protection services; however, the increase would not likely be substantial in light of the existing demand and capacity for such services in the City. The project site currently receives police protection services from the San Francisco Police Department's (SFPD) Mission Station at 630 Valencia Street, approximately 1.5 miles from the project site.

The increase in employees associated with the proposed project or variants would neither adversely affect SFPD service standards nor require an increase in SFPD staff that would require the construction of new police protection facilities. Therefore, the project and variants would have a less than significant impact regarding the construction of new or physically altered police facilities.

a.iii) The proposed project or variants would not include residential dwelling units. A large percentage of the approximately 120 UCSF staff that would be relocating to the project site would be transferring from other UCSF locations in the City. A small fraction of the new UCSF workforce could be newly hired to work at the proposed site, and a small fraction of this workforce could be new residents of San Francisco with school age children. Some potential retail employees also could be new residents of San Francisco with school age children; however, most of the retail employees are expected to currently reside in the City. As a result, it is anticipated that the number of new students resulting from the proposed project would be minimal. Therefore, the proposed project or the variants would result in a less than significant impact related to the construction of new school facilities.

a.iv, v) Because the proposed project or variants does not involve residential uses, and would result in few, if any, new employees not currently residing in San Francisco, it would not result in substantial increased demand for parks or other public facilities such as libraries or community centers. The proposed project or the variants would have a less than significant impact related to the construction of other public facilities.

Discussion of Potential Cumulative Impacts

The geographic scope for potential cumulative public services impacts encompasses public service providers in the vicinity of the SFGH campus. Public services in the project vicinity include services provided by the San Francisco Police Department, San Francisco Fire Department, and the San Francisco Unified School District. Similar to the proposed project and variants, projects within the vicinity would utilize services provided by these departments. The

proposed project's increase in employment would incrementally increase demand for public services, but this increase would not be cumulatively considerable because the increase in demand would not be beyond levels anticipated and planned for in the project site vicinity. For these reasons, the proposed project or the variants would not result in a considerable contribution to cumulative public service impacts, and this impact would be less than significant.

References

San Francisco Fire Department, Fire Station Location Map, www.sf-fire.org/index.aspx?page=176.

San Francisco Police Department, Police Department District Stations and Map, http://sf-police.org/index.aspx?page=796.

5.15 Recreation

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
15. RECREATION — Would the project:				
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facilities would occur or be accelerated?	☐	☐	☒	☐
b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	☐	☐	☒	☐

Discussion of Potential Project Impacts

a) The nearest parks to the project site include Potrero Del Sol Park and the James Rolph Junior Playground, located at Potrero Avenue between Twenty-fifth and Twenty-sixth streets (0.3 mile south of the SFGH campus); McKinley Square Park, located on Vermont Street across Highway 101 (0.5 mile north of the campus); and the 24th and York Street Mini Park (0.2 mile southwest of the campus).

The proposed project or variants would result in an increase in the number of employees in the area. As opposed to residential populations, which rely heavily on nearby recreational facilities, employee populations tend to make substantially less use of nearby park and recreational facilities because most employees arrive at work from their homes and leave the area immediately upon completion of their workday. Therefore, it is not anticipated that the proposed project or variants would result in a substantial increase in the use of the nearby parks such that substantial deterioration could occur. Consequently, impacts on recreational facilities related to the proposed project or the variants would be less than significant.

b) The proposed project or variants would result in a negligible increase in the demand for existing recreational facilities and parks in the project vicinity as a result of the increased number of employees working at the project site. The proposed project or variants would not necessitate the construction of new recreational facilities or the expansion of existing facilities. No recreational facilities are proposed as part of the project or variants. Therefore, implementation of the project and variants would have a less than significant impact related to construction of new recreational resources.

Discussion of Potential Cumulative Impacts

The proposed project or variants would not require or result in new recreational facilities and are not expected to noticeably increase usage; therefore, it would not contribute to cumulative impacts for this topic. Other projects in the vicinity of the project site could result in increased population that could use nearby parks and recreation facilities. However, the use of such

facilities by employees at the project site would be minimal and would not result in a considerable contribution to a cumulative impact. The impact would be less than significant.

References

San Francisco Recreation and Parks Department, Find a Destination, http://sfrecpark.org/parks-open-spaces/find-a-destination/.

5.16 Transportation and Traffic

Issues (and Supporting Information Sources):		*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
16.	**TRANSPORTATION AND TRAFFIC — Would the project:**				
a)	Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☒	☐	☐	☐
b)	Conflict with an applicable congestion management program, including, but not limited to, level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☒	☐	☐	☐
c)	Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒
d)	Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☒	☐	☐	☐
e)	Result in inadequate emergency access?	☐	☐	☒	☐
f)	Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities, or cause a substantial increase in transit demand which cannot be accommodated by existing or proposed transit capacity or alternative travel modes?	☒	☐	☐	☐
g)	Exceed the applicable LRDP EIR standard of significance by causing substantial conflict among autos, bicyclists, pedestrians, and transit vehicles?	☒	☐	☐	☐

Discussion of Potential Project Impacts

a, b) The proposed project or variants would increase both the amount of building space on the SFGH campus and the daily population, which would result in increased vehicular traffic on local streets. The EIR will analyze the impact of additional project-related and cumulative traffic on the local street network, including intersection capacity, and effects on pedestrian and bicycle paths, as well as mass transit. Conflicts with an applicable congestion management program will also be analyzed in the EIR.

c) The project site is approximately nine miles north of San Francisco International Airport (SFO). The proposed project or variants will not change existing air traffic volumes or affect existing air traffic patterns from SFO that would result in substantial safety risks. No impact would result.

d) Although the proposed project or the project variants are not expected to include hazardous roadway design features or incompatible uses this criterion will be evaluated in the EIR.

e) The proposed project and variants would not change emergency access to SFGH. The opening of the new Main Hospital building will result in a relocation of the SFGH emergency room from the existing Main Hospital to the new building. Emergency vehicles will no longer access SFGH from Twenty-Third Street (through the B/C Lot), instead they will be rerouted to the new emergency room from Twenty-Second Street via a looped road with ingress and egress only from Twenty-Second Street (San Francisco Planning Department, 2008). Emergency vehicles would continue to access SFGH from arterial roadways through the study area, including Potrero Avenue. Emergency access to the proposed research building would be provided via West Drive, Vermont Street, and a new internal driveway connecting these two streets located between the new building and Building 5 (see Figure 3). Emergency access to the parking garage expansion would occur via Twenty-Fourth Street, as it is now for the existing garage, or via Utah Street if ground level retail is included in the garage expansion. The project or the variants would not result in inadequate emergency access.

f) The proposed project or variants are not anticipated to conflict with policies, plans, or programs supporting alternative transportation or cause a substantial increase in transit demand that cannot be accommodated by existing or proposed transit capacity or alternative travel modes. Nonetheless, these topics will be analyzed in the EIR.

g) The proposed project or variants are not anticipated to result in substantial conflict between various transportation modes. Nonetheless, these topics will be analyzed in the EIR.

Discussion of Potential Cumulative Impacts

As discussed above, the project and variants would not result in a change in air traffic patterns or inadequate emergency access; therefore, the project and variants would not contribute to cumulative effects in these topics. Potential cumulative transportation and traffic impacts for all other topics will be addressed in the EIR.

References

San Francisco Planning Department, *San Francisco General Hospital Seismic Compliance Hospital Replacement Program Environmental Impact Report*, certified June 19, 2008.

5.17 Utilities and Service Systems

Issues (and Supporting Information Sources):		*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
17.	**UTILITIES AND SERVICE SYSTEMS — Would the project:**				
a)	Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☒	☐
b)	Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
c)	Require or result in the construction of new storm water drainage facilities, or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
d)	Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☒	☐
e)	Result in a determination by the wastewater treatment provider that would serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐
f)	Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☒	☐
g)	Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☒	☐
h)	Result in the wasteful, inefficient and unnecessary consumption of energy (see CEQA Statutes Section 21100(b)(3))?	☐	☐	☒	☐
i)	Exceed the LRDP EIR standard of significance by requiring or resulting in the construction of new electrical or natural gas facilities, which would cause significant environmental effects?	☐	☐	☐	☒

Discussion of Potential Project Impacts

a) The proposed project or the project variants would not substantially increase the amount of impervious surfaces; and therefore, it would not create a substantial amount of additional runoff water. As noted in Hydrology and Water Quality criterion a), construction activities would require coverage under the State Water Resources Control Board's statewide General Construction Activities Stormwater Permit (General Permit). For the research building, UCSF would be required, as per the General Permit, to develop and submit a site-specific plan called the Storm Water Pollution Prevention Plan (SWPPP). For the garage expansion, the City would be required to develop and submit a site-specific SWPPP. The site-specific SWPPP would include appropriate BMPs to minimize the discharge of pollutants from the site. Project design would also comply with the City's National Pollutant Discharge Elimination System permit. In addition, the garage expansion portion of the project would be required to adhere to the Construction

Site Runoff Control Ordinance (Article 4.2 of the San Francisco Public Works Code), which requires that any construction project within San Francisco where 5,000 or more square feet of ground surface will be disturbed must first obtain a Construction Site Runoff Control Permit prior to the commencement of any land-disturbing activities. The ordinance also requires that a site-specific Erosion and Sediment Control Plan be included with the permit application. Project design would further be required to adhere to drainage control requirements that are included as part of the San Francisco Public Works Code Sections 147 et seq, and San Francisco *Stormwater Design Guidelines* (SFPUC, 2010) adopted by the San Francisco Public Utilities Commission (SFPUC) to implement these requirements ("San Francisco Stormwater Management Ordinance"). The proposed project or variants would result in increased wastewater flows and potentially decreased stormwater runoff, if all requirements of the Stormwater Management Ordinance are met. The potential increase in wastewater flows would not cause the City's combined sewer system to exceed wastewater treatment requirements of the Regional Water Quality Control Board. The impact would be less than significant.

b, e) The project site is served by San Francisco's combined sewage system. The sewage system is designed to collect and treat both sanitary sewage and rainwater runoff in the same sewer and treatment plants. Wastewater treatment for the east side of the City is provided primarily by the Southeast Water Pollution Control Plant.

The new research building would be designed to incorporate water-conserving measures, such as installing low-flush toilets and urinals, as required by Chapter 4 of the California Plumbing Code. The UC *Policy on Sustainable Practices*, which was adopted by the UC President in 2007 and most recently updated in 2015, requires new construction meet a minimum standard of LEED-NC Silver and strive for LEED-NC Gold when possible, and requires all new buildings achieve at least two points in the LEED NC Water Efficiency category (UCSF, 2013). Thus, additional water-conserving features that reduced wastewater generation would be included in the final project design. The proposed project would meet wastewater pre-treatment requirements of the San Francisco Public Utilities Commission (SFPUC), as required by the San Francisco Industrial Waste Ordinance. Additionally, the proposed project would be subject to the City's Wastewater Capacity Charge. As required, funds raised through the capacity charge would be directly used to offset the cost of future wastewater capital improvement projects and repairs.

Upon completion of the proposed research building, approximately 680 UCSF employees would be relocated from existing facilities on the SFGH campus to the new building. About 120 employees would relocate from off-campus leased space to the new facility. An additional approximately 57 non-UCSF employees could work at the potential retail space in the expanded parking garage. Many of the relocated UCSF employees currently work at other UCSF sites in San Francisco. Similarly, it is reasonable to assume that a substantial portion of potential new retail employees also currently work at other locations in the City. Therefore, both new UCSF and non-UCSF employees would be considered as existing consumers in the SFPUC system. The additional wastewater

generated by the proposed project or variants would be minimal because most employees would merely be relocating to the new building from existing buildings on the SFGH campus; the addition of approximately 120-177 employees would not cause the collection treatment capacity of the sewer system in the City to be exceeded. No wastewater collection and treatment facilities would be required to serve the project or variants. Impacts to wastewater capacity and treatment would be less than significant.

c) The proposed project and variants would be required to meet the standards for stormwater management identified in the City's Stormwater Management Ordinance and would be designed to meet the San Francisco *2010 Stormwater Design Guidelines,* which would reduce the total stormwater runoff volume and peak stormwater runoff rate through the use of low impact design approaches and BMPs. UCSF would be required to submit for SFPUC's approval a Stormwater Control Plan that complies with the stormwater design guidelines, and implementation of the plan would ensure that the project meets performance measures set by the SFPUC related to stormwater runoff rate and volume. Since the proposed project or variants would not substantially increase the amount of impervious surfaces, it would not create a substantial amount of additional runoff water. Therefore, the proposed project or variants would not require or result in the construction of a new or expanded storm drainage facility; the impact would be less than significant.

d) Water for the proposed project or variants would be provided by the SFPUC, which provides both water supply and wastewater collection and treatment. On June 14, 2011, the SFPUC adopted the *2010 Urban Water Management Plan* (UWMP) (SFPUC, 2010). The UWMP includes citywide demand projections to the year 2035, compares available water supplies to meet demands, and presents water demand management measures to reduce long-term water demand. In May 2013, the SFPUC updated citywide water supply and demand projections with the *2013 Water Availability Study* (WAS) (SFPUC, 2013). According to the WAS, available water supply in 2015 will be 83.5 million gallons per day (mgd). Retail water use[19] will be 83.7 mgd in 2015. Total retail demand is expected to hold relatively steady, at 83.4 mgd in 2020 and 84.2 mgd in 2035. The SFPUC plans to augment local supplies by extracting up to 4 mgd of groundwater from new wells in the City's Westside Groundwater Basin, as well as 4.0 mgd of recycled water from new recycled water projects. Total retail supply is expected to increase to 90.3 mgd by 2035.

According to the WAS, the SFPUC can meet the current and future water demand in years of average or above-average precipitation. It can also meet future water demand in single-dry-year and multiple-dry-year events, with the exception of 2015. The deficit shown for 2015 in a normal year represents less than a 0.25 percent shortfall and during a multiple dry year drought event represents a 2.0 percent shortfall, which can be easily managed through voluntary conservation measures or rationing. With the Water Shortage

[19] Retail water use is distinguished from wholesale use, under which the SFPUC provides potable water to suburban water agencies throughout the Bay Area.

Allocation Plan in place, and the addition of local supplies developed under the SFPUC Water System Improvement Program, the SFPUC concluded that it has sufficient water available to serve existing customers and planned future uses.

The proposed project or the project variants would be subject to the City's Commercial Water Conservation Ordinance, which is designed to minimize water use, and would be designed to incorporate water-conserving measures, such as low-flush toilets and urinals and high-efficiency water fixtures, as required by the ordinance and Chapter 4 of the California Plumbing Code. In addition, as noted above, the proposed research building would also comply with the UC *Policy on Sustainable Practices*, which requires all new buildings achieve at least two points in the LEED NC Water Efficiency category (UCSF, 2013).

Upon completion of the proposed research building, approximately 680 UCSF employees would be relocated from existing facilities on the SFGH campus to the new building. About 120 employees would relocate from off-campus leased space to the new facility. Many of these relocated employees currently work at other UCSF sites in San Francisco and would therefore be considered as existing consumers in the SFPUC system; the majority of potential retail employees also would be considered as existing consumers. The proposed project and the variants would not be considered a "water-demand project" and therefore is not required to prepare a "water assessment" per CEQA Guidelines Section 15155. Any additional water demand generated by the proposed project and variants would be available from existing entitlements; the impact would be less than significant.

f, g) Recology provides solid waste collection, recycling, and disposal services in San Francisco. Materials collected are hauled to the Recology transfer station/recycling center on Tunnel Avenue for sorting and subsequent transportation to other facilities. Recyclable materials are taken to Recology's Pier 96 facility, where they are separated into commodities (e.g., aluminum, glass, and paper) and transported to other users for reprocessing. Compostables are transferred to a Recology composting facility in Solano County, where they are converted to soil amendment and compost. The remaining material that cannot otherwise be reprocessed ("trash") is transported and disposed at the Altamont Landfill in Alameda County.

The Altamont Landfill has a permitted peak maximum daily disposal of 11,150 tons and has an estimated remaining capacity of approximately 46 million cubic yards or 74 percent of its permitted capacity. The estimated closure date of the landfill is 2025 (CalRecycle, 2015). The City's contract with the Altamont Landfill will expire around 2016.[20]

[20] The City's contract with Altamont Landfill is based on overall tonnage and not a specific timeframe.

The City is currently considering entering into an agreement to transport and dispose of solid waste at Recology's Hay Road Landfill in Solano County, southeast of Vacaville. Such an agreement would correspond with the cessation of transport of solid waste to the Altamont Landfill. At current rates of disposal, it is estimated that an agreement would have a term of approximately 13 – 15 years. Based on the current volume of waste received at the landfill, it has sufficient capacity to accommodate the addition of waste from San Francisco. The ultimate determination with respect to future landfill contracting will be made by the Board of Supervisors on the basis of solid waste planning efforts being undertaken by the City's Department of the Environment (San Francisco Planning, 2015).

Recycling, composting, and waste reduction are expected to increasingly divert waste from the landfill, per California and local requirements. The City was required by the State's Integrated Waste Management Act (AB 939) to divert 50 percent of its waste stream from landfill disposal by 2000. The City met this threshold in 2003 and has since increased it to 69 percent in 2005 and 70 percent in 2006. The City estimates that it diverted 80 percent of its waste from landfills in 2011. The City's per resident disposal target rate is 6.6 pounds per person per day (PPD), and its per employee disposal target rate is 10.6 PPD. In 2013, which is the most recent date for which data are available, the measured disposal rate was 3.0 PPD for residents and 4.3 PPD for employees, thereby meeting the City's target rates (CalRecycle 2015b).

Regardless of the future destination of solid waste generated by the City (including that generated by the proposed project and variants), UCSF employees would continue to participate in existing recycling and composting programs and other efforts to reduce the solid waste disposal stream. UCSF has consistently increased its landfill diversion rate, rising from 51 percent in 2009 to 64 percent in 2014, as it strives to meet the UC *Policy on Sustainable Practices*[21] goal of zero waste by 2020 (defined as diverting 95 percent or more of municipal solid waste).[22]

The proposed project also would comply with the City's Construction and Demolition Debris Recovery Ordinance, which requires all construction and demolition (C&D) debris to be transported to a registered facility that can divert a minimum of 65 percent of the material from landfills. This requirement has been augmented by the Green Building Ordinance, which requires that, for projects of a certain size, at least 75 percent of C&D debris be diverted from landfills. The proposed research building portion of the project would also comply with UC *Policy on Sustainable Practices*, which provides for a stricter target than the City ordinance as discussed above (i.e., diversion of 95 percent or more of all municipal solid waste).

[21] http://policy.ucop.edu/doc/3100155/SustainablePractices

[22] http://sustainability.ucsf.edu/what_ucsf_is_doing_2#leed

Given the existing and anticipated increase in solid waste recycling and the existing and potential future landfill capacities, as well as the limited increase in the number of persons using the site compared to those already in San Francisco and just relocating to the site, implementation of the proposed project or variants would not result in a landfill exceeding its permitted capacity or non-compliance with federal, state, and local statutes and regulations related to solid waste. Therefore, this impact would be less than significant.

h) The proposed project and variants would include expansion of existing uses, which would consume incrementally more energy than under existing conditions. These expanded uses would not result in the use of large amounts of fuel, water, or energy in the context of energy use throughout the City and region.

The project's energy demand would be typical for a development of this scope and nature. The proposed research building would comply with current State codes concerning energy consumption, including Title 24 of the California Code of Regulations. The proposed parking garage extension would also comply with current State and local codes concerning energy consumption, including the City's Green Building Ordinance.

In addition, as noted above, the proposed research building would also comply with the UC *Policy on Sustainable Practices*, which requires new construction meet a minimum standard of LEED-NC Silver and strive for LEED-NC Gold when possible, requires 20 percent better energy performance than Title 24 (and strives to achieve 30 percent), and requires new laboratory buildings meet Labs21 Environmental Performance Criteria.[23]

The project site is served by existing utility systems, and it would not require a major expansion of power facilities. As stated under criterion d), the project and the variants would be served by adequate water supplies. In addition, the project site is located in a developed urban area. Therefore, the energy demand associated with the proposed project or the variants would result in a less than significant impact.

i) The proposed project and the variants would not require or result in the construction of new electrical or natural gas facilities. No impact would result.

Discussion of Potential Cumulative Impacts

The geographic scope for potential cumulative utilities impacts include the City of San Francisco for wastewater systems, the SFPUC regional water supply system for water service, and those jurisdictions that transport and dispose of solid waste at the Altamont and Hay Road landfills. Similar to the proposed project or project variants, projects within these service areas would

[23] Labs21 Environmental Performance Criteria is a rating system specifically designed for laboratory facilities that is based on the LEED Green Building Rating System.

utilize the same water, wastewater, and waste disposal systems, which would increase the demand on such facilities.

Like the proposed project or variants, cumulative projects in the area would be subject to the City's Wastewater Capacity Charge. The Wastewater Capacity Charge funds the cost of expansion of the wastewater conveyance and treatment system, if necessary. All funds raised through the capacity charge are directly used to offset the cost of future wastewater capital improvement projects and repairs. Furthermore, cumulative projects would utilize high-efficiency water fixtures as required by the City's Commercial Water Conservation Ordinance or Green Building Ordinance, as applicable, which would further decrease the amount of wastewater and water entering treatment facilities.

The proposed project or variants, like cumulative projects, would be required meet the San Francisco *2010 Stormwater Design Guidelines,* which would reduce the total stormwater runoff volume and peak stormwater runoff rate through the use of low impact design approaches and other BMPs. As noted above, the proposed project or variants would comply with all applicable regulations and would reduce operational discharges to the combined sewer system. Therefore, its contribution to San Francisco's combined sewer system would not be cumulatively considerable.

Like the proposed project or variants, cumulative projects in the area would be subject to the City's Commercial Water Conservation Ordinance or Green Building Ordinance, as applicable, which requires projects to utilize high-efficiency water fixtures to offset the need for water. Such requirements would cumulatively reduce the increase demand for water. The proposed project or variants, in addition to cumulative projects in the region, would incrementally increase demand on the water supply. However, as discussed above, SFPUC has available water supply to serve existing and projected growth. Therefore, cumulative impacts to the SFPUC water system would be less than significant.

Increased waste generation from the proposed project or variants and cumulative developments would be partially offset by existing San Francisco ordinances and policies regarding waste reduction. The increasing rate of diversion through recycling, composting, and other methods would result in a decreasing share of total waste disposed in local landfills.

As stated above, the Hay Road Landfill is anticipated to be the future disposal site of all solid waste collected in the City, which has sufficient capacity to receive the additional waste. Therefore, the increased generation of solid waste from the proposed project or variants and cumulative development would not exceed the permitted landfill capacity, and this impact would be less than significant.

References

CalRecycle, 2015a, Active Landfills Profile for Altamont Landfill and Resource Recovery (01-AA-0099), www.calrecycle.ca.gov/SWFacilities/Directory/01-AA-0009/Detail/.

CalRecycle, 2015b, Jurisdiction Diversion/Disposal Rate Summary for San Francisco, www.calrecycle.ca.gov/LGCentral/reports/diversionprogram/JurisdictionDiversionPost2006.aspx.

San Francisco Planning Department, *Agreement for Disposal of San Francisco Municipal Solid Waste at Recology Hay Road Landfill in Solano County, Preliminary Negative Declaration*, March 4, 2015.

San Francisco Public Utilities Commission (SFPUC), *2010 Urban Water Management Plan*, adopted June 14, 2011.

SFPUC, 2013 *Water Availability Study*, March 2013.

UC Policy on Sustainable Practices, available at http://policy.ucop.edu/doc/3100155/Sustainable%20Practices.

5.18 Mandatory Findings of Significance

Issues (and Supporting Information Sources):		*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
18.	**MANDATORY FINDINGS OF SIGNIFICANCE — Would the project:**				
a)	Have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	☒	☐	☐	☐
b)	Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☒	☐	☐	☐
c)	Have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly?	☒	☐	☐	☐

Discussion

a) As indicated in the discussions above, the proposed project and variants have the potential to result in significant cultural resource impacts. The EIR will evaluate whether the project or the project variants would eliminate important examples of the major periods of California history or prehistory.

b) Potential cumulative impacts in the following resource topics will be evaluated in the EIR: Aesthetics, Air Quality, Cultural Resources, Greenhouse Gas Emissions, Land Use, Noise, and Transportation.

c) As indicated in the discussions above, the proposed project or the variants have the potential to result in significant impacts. The EIR will evaluate whether any of those impacts have the potential to result in substantial adverse effects on human beings either directly or indirectly.

APPENDIX B
EIR Scoping Comments

DEPARTMENT OF TRANSPORTATION
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November 3, 2015

SF101203
SF-101-PM 3.2
SCH# 2015102010

Ms. Diane Wong
Regents of the University of California
654 Minnesota Street
San Francisco, CA 94143

UCSF Research Building and City Parking Garage Expansion at the San Francisco General Hospital Campus – Notice of Preparation

Dear Ms. Wong:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the project referenced above. To ensure a safe and efficient transportation system, we provide these comments consistent with the State's smart mobility goals that support a vibrant economy, and build communities, not sprawl. The comments below are based on the Notice of Preparation.

Project Understanding

The proposed University of California San Francisco (UCSF) project includes construction of a research building that would meet UC seismic safety requirements and would be five stories and approximately 175,000 gross square feet on the existing B/C parking lot. The project also includes potential expansion of the City parking garage of about 307 additional parking spaces, to be undertaken by the Parking Authority of the City and County of San Francisco. The potential garage expansion could include up to 20,000 gross square feet of ground floor retail space in lieu of fifty parking spaces. Vermont Street is bounded by U.S. Highway 101 (U.S. 101) to the north and east. The U.S. 101 on- and off-ramps at Cesar Chavez Street/Potrero Avenue are located approximately 0.5 miles from the project sites.

Mitigation Responsibility

As the lead agency, the Regents of the University of California is responsible for identifying and ensuring the coordinated implementation of all project mitigations. The project's fair share contribution, financing, scheduling, implementation responsibilities associated with planned improvements on Caltrans' right-of-way (ROW) should be listed, if any, in addition to identifying viable funding sources per General Plan Guidelines.

Transportation Impact Study
The environmental document should analyze travel demand expected from the proposed project. Caltrans recommends using the *Guide for the Preparation of Traffic Impact Studies* (TIS Guide) for determining which scenarios and methodologies to use in the analysis, available at: http://dot.ca.gov/hq/tpp/offices/ocp/igr_ceqa_files/tisguide.pdf.

Please ensure that a Transportation Impact Study (TIS) is prepared providing the information detailed below:

1. A Vicinity map, regional location map, and a site plan clearly showing project access in relation to nearby State roadways. Ingress and egress for all project components on State ROW should be clearly identified. Project driveways, local roads and intersections, car/bike parking, and transit facilities should be mapped.

2. Project-related trip generation, distribution, and assignment including per capita use of transit, rideshare, or active transportation modes such as existing bus service; new bus service to major transit centers; and vehicle miles traveled (VMT) reduction factors. The assumptions and methodologies used to develop this information should be detailed in the study, utilize the latest place-based research, and be supported with appropriate documentation.

3. An assessment of 2035 Cumulative and 2035 Cumulative Plus Project conditions. Caltrans believes 2035 with a 20-year timeframe is sufficiently long enough to reflect a long-term traffic impact. Calculation of cumulative traffic volumes should consider all traffic-generating developments, both existing and future, that would affect State facilities being evaluated. Caltrans recommends the TIS include turning movement traffic per study intersection under Existing, Project, 2035 Cumulative, and 2035 Cumulative + Project Conditions for roadways and intersections in the project area.

4. A Schematic illustration of walking, biking and auto conditions at State facilities and study area roadways, trip distribution percentages and volumes as well as intersection geometrics, (i.e., lane configurations, for AM and PM peak periods). Potential safety issues for all road users should be identified and fully mitigated.

5. The project site building potential as identified in the UCSF Long Range Development Plan and the project's consistency with both the Circulation Element of the General Plan and the Congestion Management Agency's Congestion Management Plan should be evaluated.

Transportation Demand Management Strategies
Please include any transportation demand management strategies that the Regents may implement to reduce vehicle use between campuses. We recommend coordinating with transit agencies to provide greater service to the targeted areas, subsidized transit passes to employees

and residents, restructuring parking requirements, coordinating with car-share programs, etc.

Transportation Impact Fees
Please identify any transportation impact fees to be used for project mitigation. Given the project's potential contribution to area traffic and its proximity to U.S. 101 and Interstate 280, mitigation may include fair share contributions to the regional fee program as applicable and multimodal programs. These contributions would be used to lessen future traffic congestion and improve transit in the project vicinity.

Transportation Management Plan
A Transportation Management Plan (TMP) or construction TIS may be required of the City for approval by Caltrans prior to construction where traffic restrictions and detours affect State highways. TMPs must be prepared in accordance with California *Manual on Uniform Traffic Control Devices.* Please ensure that such plans are also prepared in accordance with the transportation management plan requirements of the corresponding jurisdictions. For further TMP assistance, please contact the Office of Traffic Management Plans/Operations Strategies at 510-286-4579. TMP information is also available at the following webpage: http://www.dot.ca.gov/hq/traffops/engineering/mutcd/pdf/camutcd2014/Part6.pdf.

Encroachment Permit
Please be advised that any work or traffic control that encroaches onto the State ROW requires an encroachment permit that is issued by Caltrans. Traffic-related mitigation measures should be incorporated into the construction plans prior to the encroachment permit process. To apply, a completed encroachment permit application, environmental documentation, and five (5) sets of plans clearly indicating State ROW must be submitted to the following address: David Salladay, District Office Chief, Office of Permits, California Department of Transportation, District 4, P.O. Box 23660, Oakland, CA 94623-0660. See the following website for more information: http://www.dot.ca.gov/hq/traffops/developserv/permits.

Should you have any questions regarding this letter or require additional information, please contact Sherie George at (510) 286-5535 or by email at: sherie.george@dot.ca.gov.

Sincerely,

Keith Wayne

for

PATRICIA MAURICE
District Branch Chief
Local Development - Intergovernmental Review

c: State Clearinghouse

From: SF24th Street
To: Campus Planning - EIR
Subject: UCSF Research Building and City Parking Garage Expansion
Date: Thursday, October 15, 2015 11:05:06 AM

This is in regards to the UCSF Research Building and City Parking Garage Expansion projects.

First off I think its a good idea, but I do have 4 main concerns, I own a 3 story building on 24th street and the parking expansion would impact me greatly as my building is directly across from the entrance. My concerns are:

1) I like the direction of having commercial space at street level on 24th street. This would help the neighborhood greatly, adding a better sense of community and would add “life" to the surrounds instead of having a “dead zone” of cement and walls.

2) On the current structure there is no “lighting screens” on the upper floors, this currently sends light from the structure and also car headlines into my 2nd and 3rd stories, currently my tenants keep the blinds closed from sunset on, as well as during the day for privacy. Some sort of “lighting screen” which deflects the beams of light but is open for air and esthetics would greatly help reduce the sense of a 5 story cement block sitting across the street. Having the structure built up to the 24th street would really add to this issue.

3) Adding trees and other green to the streets would help rejuvenate the look and feel of there street.

4) A fifth story could be too dense for the neighborhood. the look and feel of the structor would play a vital role.

Kind Regards,

Will Clayton

Will Clayton
2525-2529 24th street
415 621 0435
SF24thStreet@yahoo.com

cc: Supervisor Cohen

From: Theresa Cangelosi
To: Campus Planning - EIR
Subject: SFGH Parking Lot
Date: Tuesday, October 20, 2015 10:03:44 PM

Dear Ms. Wong,

I wanted to send you a comment about the SFGH Parking Lot and Research building projects.

Although the new hospital is beautiful and obviously needed to be built for earthquake safety, it is up against a mountain of granite on one side.
In a way, the mountain has prevented the area from being too overbuilt, because it is limited by the geography. That said the little streets, 23'rd and 24'th are little and can't be expanded to allow any more traffic than they can handle, which isn't much.

Extra parking always seems like a good idea, but cars have to come and go from a parking garage and the little streets I don't think can handle the load. The other end of Utah is a dead end, and therefore no expansion that way either. I suppose 23'rd going over the bridge and off to the right could be used to direct traffic in and out and over to Caesar Chavez, but again we have a mountain and the traffic can only go to the right to get out of the neighborhood.

Utah street is often used like a freeway ramp as it is, and turning into my driveway can be a very scary experience as people in a hurry try to pass on the right side of my car as I try and turn into my garage. I fear the compression of cars in this tight little area needs to be considered seriously before adding more buildings and garages for more cars.

I always thought putting an Electric train down the middle of Potrero was a way to get people in an out safely and reducing pollution (good for ill patients and neighbors alike). In Eugene, Oregon they have these free trains running up and down by their university. Folks get on and off smoothly and efficiently. Yes they are FREE. This encourages people to ride vs. drive and then walk the rest of the way to their destination. Including space for bikes is always recommended.

We now have a beautiful hospital….let''s not go too far and destroy the neighborhood that houses it.

Theresa Cangelosi

From: gracemwoo@gmail.com on behalf of Grace Woo
To: Campus Planning - EIR
Subject: Comments on UCSF Research Building and City Parking Garage Expansion
Date: Tuesday, October 20, 2015 12:49:26 PM

Hi Diane

I am a General Hospital neighbor at 2541 24th Street. My house is directly across from the 24th Street entrance of the garage. My family has lived here since 1979 so please consider my comments and ideas as a lifelong wish list.

When planning and building the new UCSF Research Building please consider the following:

1) **Widen sidewalk and street on 23rd street between San Bruno Ave.** and Potrero. This can be done by removing or moving fence along the SFGH 23rd Street side. Because the fence is deemed historic, it could be moved in closer to the proposed new UCSF research building. This would help alleviate pedestrian traffic at bus stops. Neighborhood car, bus (48 and 10) and shuttle bus traffic would also benefit.

2) **Build the new UCSF Research building in the parking area located between Behavioral Health Rehabilitation and B2.** This part of the campus is less used and would probably cause less of an impact.

3) **Make Vermont Street between 22nd and 23rd a 2 way street.**

When planning and building the expanded City Parking Garage please consider the following:

1) **Design underground access from garage to SFGH campus.** This addresses pedestrian traffic.

2) **Design walls of residential facing sides to be solid or have screens to ensure privacy and mitigate excessive light** projecting through residential windows at night.

3) **Design a turn left turn lane into the 24th Street side entrance.** This can be done by moving the sidewalk back 12 feet and removing some of the landscaping. This addresses concerns about congestion.

4) **Build the new multi story parking structure in the parking lot located between Behavioral Health Rehabilitation and B2.**

I look forward attending the scoping meeting tomorrow. Thank you for your time.

Grace Woo

UCSF SFGH Scoping Meeting Public Comment Form 10/21/2015

Thank you for coming tonight. UCSF values your input and we welcome your comments on Areas to be Analyzed in the EIR. This Public Comment Card is provided for your convenience. If you speak tonight, you do *not* need to also fill out this Card—we will have a record of oral comments. Please return this to UCSF Staff at the end of the meeting, or if you prefer to send it to us at a later date, please return so we receive it by **November 5, 2015** to: EIR@planning.UCSF.edu or Diane Wong, UCSF Campus Planning, Box 0286, San Francisco CA 94143. You may also just send an email or letter by the deadline to provide comments.

- Traffic pattern of employees of SFGH is, for many, coming off HWY coming North on Potrero, where many turn (R) on 25th, then (L) on Utah, (R) on 24th & into parking garage. In early a.m. many do not stop @ stop signs (esp. Utah & 25th), & afternoon see large back-ups going in reverse direction when combined w/ school (Bryant Elementary on 25th) traffic from dismissal. Please consider the route described above & impact that this will have in neighborhood.

- Where will the parking go during construction?

- ~~And what will happen to the old fountain in the parking lot?~~ GOOD!

- Why not build out a multi-story parking garage @ parking lots between Bldg 80/90 & Behavioral Health Rehabilitation Bldg? You can go down & up.

- The "new" entrance into Hospital Grounds from Vermont Street, north of 23rd is still unclear in diagrams/maps.

- Thank you for being the standing representative to listen to (& receive) during the public comment & speaker card.

Name DAN DWORKIN

Address 1340 UTAH ST 94110
Street Zip

Email dandworkinsf@aol.com

Notice of Preparation of an Environmental Impact Report
and Notice of a Public Scoping Meeting

I've copied sections of the above named notice from the link below. These are extracted sections and my questions and comments are italicized and underlined. The full report is at the link immediately below. The comments are mine. Page numbers were added to facilitate locating the copied text.

I'll email copies to those requesting them.

John Wilson
JWILSON153@AOL.COM

PAGE 2
http://campusplanning.ucsf.edu/pdf/UCSF_SFGH_Research_Bldg_IS_Final_with_NOP.pdf

Because the proposed research building would displace existing surface parking on the B/C Lot, the proposed project also includes the expansion of the SFGH parking garage, owned and operated by the Parking Authority of the City and County of San Francisco ("Parking Authority"), located a block to the south at 2500 Twenty-Fourth Street.2 Under the project, UCSF would develop the research building on the B/C site, and the Parking Authority would develop the SFGH parking garage expansion.

PAGES 6,7

SFGH is currently undergoing renovation/expansion. A new acute care hospital will replace existing inpatient facilities in the Main Hospital building (Building 5). The new hospital (Building 25), to be completed in 2015, will be nine stories tall, including seven stories above grade and two basement levels. The new hospital will connect to the existing Main Hospital building at the ground level and at the second floor. Approximately 179,000 square feet of acute care services currently located in the existing Main Hospital will be relocated to the new hospital. Approximately 356,970 square feet of uses that are not subject to the SB 1953 requirements would remain in the existing Main Hospital, including Outpatient Services, the majority of Support Services, Acute Inpatient Psychiatry Services, and Psychiatric Emergency Services.
In addition to the construction of a new hospital and relocation of acute care services, the City's hospital project, as a proposed General Obligation Bond Measure scheduled for June 2016, would fund the expansion of existing uses and backfill of uses into vacated areas in the existing Main Hospital as well as the phasing out of certain uses on the SFGH campus site, which would be complete by approximately 2019. The Department of Public Health also would be relocating certain functions from off-campus sites into the existing Main Hospital, such as the Department's Public Health Lab currently located at 101 Grove Street and the City's STD Clinic.

It's clear from the above two extracts that new construction of a new main hospital building and a proposed lab will result in a very significant increase in the population on campus and on the streets bordering the campus and garage. Not mentioned anywhere is the fact that alterations to the traffic lanes, (bus lanes, bicycle lanes, left turn lanes, realignment of the defined intersection at 24th and Potrero and a planned solid median) have as judged from personal experience created significant negative impacts on the traffic in the neighborhood.

I ask that this environmental impact review use employee and patient numbers that reflect the fully built out and occupied populations that would exist with ALL buildings fully developed and fully occupied.

I ask that DPT provide traffic studies with data points reflecting the impacts of changes in the configuration of Potrero from 25th St. to 21 St. It is important to put real numbers on the congestion. We should know the impacts on time to travel on Potrero from 25 th St. to 21 St. both North and South bound during primary commute hours. These numbers should include average time to travel these four blocks and include numbers for the period before the lanes were reduced from three to two, the present configuration and rush hours estimates with the proposed additions to the parking garage and the maximum number of employees expected on campus with every building occupied at capacity.

PAGE 7
2.4.2 B/C Lot
The existing B/C Lot contains approximately 160 surface parking spaces and is bordered by Vermont Street to the east, West Drive to the west, Twenty-Third Street to the south, and the Main Hospital to the north. Buildings 9, 30, 40 are located across West Drive.

PAGE 8

2.4.3 Existing Parking Garage
The six-story parking garage (five stories with a basement level) across Twenty-Third Street from the B/C Lot, between Utah Street and San Bruno Avenue, is owned by the Parking Authority and privately managed by LAZ Parking. Garage parking is designated for visitors, patients and employees, as well as other members of the public needing a place to park in the neighborhood. The garage occupies the northern two-thirds of the lot with surface parking on the remaining one-third. The parking structure has five floors plus a roof deck with a total parking capacity of 824 spaces, including 17 handicapped accessible spaces. Attendant parking is offered from 8:30 a.m. to 6:00 p.m. on weekdays; vehicles are double-parked on the roof and on the first floor increasing the total parking capacity by approximately 25 vehicles. One entry, one exit and two reversible (entry-exit) lanes are provided on the main access at Twenty-Fourth Street; an additional entry plus one exit lane are provided on Twenty-Third Street after 6:00 p.m. on weekdays and all day on weekends. During construction of the new hospital, approximately 75 employees along with construction workers can park at a 120-space temporary off-site lot at 2000 Marin Street, approximately 1.2 miles from the SFGH campus, and take a free 10-minute shuttle ride to SFGH. Shuttles pick up/drop off at the off-site lot and on campus every 20 minutes between 6:00 a.m. and 8:00 p.m. on weekdays. The closure of the temporary lot will occur in late 2015 and staff that park there now will need to find other means of parking or commuting to the SFGH campus.

The number of parking spots available regardless of plans for the UC laboratory is to be reduced by 75 parking spots when he construction lot closes late this year (within the next 2 1/3 months).

2.5.1 UCSF Research Building
The proposed research building would contain wet and dry labs and office space to be relocated from their current locations on the SFGH campus. In addition, the proposed building could accommodate UCSF departments currently in off-site leases that could relocate to the SFGH campus.
The proposed research building would be about 175,000 gsf, and five-stories in height, plus a mechanical penthouse. The building height would be about 80 feet to the top of the fifth story, plus an additional 12 feet to accommodate rooftop mechanical equipment. The building would be set back from adjacent streets and surrounded by landscaping. The building footprint would allow for the creation of a new one-way eastbound urban driveway between the new building and Building 5. This redesigned area would include the drop off area for Urgent Care services that will be relocated to Building 5 as part of the new hospital project; 32 surface parking spaces; and new landscaping and pedestrian circulation features. In addition, the Hearty Café trailer and fountain would be relocated to the north side of this new street.

I'd like to know why SFGH needs to maintain a restaurant trailer on the campus parking area competing with neighborhood businesses. There is a snack bar and large cafeteria in the main hospital building. This also brings up the topic of ground floor retail in the garage addition proposals. I doubt that my neighbors find the trade of parking spaces for retail space to be acceptable. 24th St. was retail from Potrero to Vermont and was down zoned to residential. Has the zoning of these properties been changed to allow retail?

PAGE 12
Upon completion of the proposed building, approximately 680 UCSF employees would be relocated from existing facilities on the SFGH campus to the new research building. In addition, about 120 employees could relocate from off-campus leased space to the new facility.

Presuming that the spaces vacated by employees moving to the proposed UC lab will be utilized by SFGH. The change in campus population with all seats filled would be the 120 new employees plus another estimated 680

new SFGH employees in the vacated space. Net increase 800. Note this is lab only. The increase as SFGH moves to the new hospital and fills the vacated space in the old hospital are likely much larger than that associated with the proposed lab and will occur regardless of the lab construction or garage expansion.

2.5.2 City Parking Garage Expansion
The project would include an expansion of the existing SFGH parking garage, of approximately 307 parking spaces. The proposed parking structure expansion would be developed by the Parking Authority, which owns the site and the parking structure. The proposed expansion of the City parking structure would extend the garage south toward Twenty-Fourth Street on the surface parking lot portion of the garage site. The 307-space expansion would be up to five stories above grade (same as the existing garage). The existing ingress/egress points to the garage would remain – the main access would continue to be on Twenty-Fourth Street, and the secondary access would continue to be on Twenty-Third Street. Please refer to Figure 5 for a schematic drawing of the first floor of the expanded garage.
Up to 20,000 square feet of ground floor retail space could be substituted for up to 50 of the proposed 307 new parking spaces within the garage expansion to provide active uses along the Twenty-Fourth Street frontage that are compatible with the surrounding neighborhood commercial streets. If the retail space is included, access to the garage would occur at a new entrance on Utah Street, so that the proposed Twenty-Fourth Street frontage could contain retail storefronts. The proposed retail use could support approximately 57 new employees.

Any expansion of the garage that includes an entrance on Utah is in my opinion not acceptable to the neighborhood as it simply increases congestion at the Utah intersections with 23rd St. and 24th St. It should be noted that even the 307 space expansion would seem to require that the 23rd St garage entrance be open during the morning and evening periods when employees arrive and depart.

As discussed above under Project Background and Overview, development of the proposed UCSF building on the B/C Lot would remove approximately 160 parking spaces, and the new site layout would include about 30 parking spaces. Therefore, the proposed building would result in a net reduction of about 130 parking spaces on the B/C Lot, which would be replaced in the proposed City parking garage expansion. In addition, it is expected that demand for parking will increase in the future. The UCSF research building is expected to increase employee and visitor parking demand by 66 - 72 spaces, if off-site uses in leased space are relocated to the new research building.8 Further, SFGH has calculated that with the completion of the new hospital, the loss of some parking on Twenty-Second Street, the closure of the temporary off-site parking lot at 2000 Marin Street, and the backfilling of vacated space in the existing hospital building, demand for parking on the part of patients, visitors, and employees will increase parking demand by approximately an additional

Tallying the parking places so far lost. 130 from the BC lot, 75 employees using the 2000 Marin St. off site parking. We're down what would appear to be down about 200 parking places without counting any of the new people who will be moving into the spaces vacated by the lab or relocation to the new hospital.

PAGES 12 ,13
Two variants of the proposed parking garage expansion are also being considered and analyzed in this Initial Study and upcoming Draft EIR at the request of the City: (1) A No Expanded Parking Garage Variant, which would include the UCSF research building as proposed but no expansion

8 Where a range of parking demand is stated, the lower range assumes successful implementation of an expanded transportation demand management ("TDM") strategy to reduce employee auto trips by 10%.

of the City parking structure, and (2) A Further Expanded Parking Garage Variant, which would include the UCSF research building as proposed and a larger expansion of the parking structure. This latter variant would add one additional floor to the existing garage, in addition to the horizontal garage expansion proposed as part of the project, for a newly expanded garage with a total of up to 527 additional spaces. Please refer to Figure 6 for a schematic drawing of the top floor of the garage under this variant.
This variant intends to address both the increased parking shortfall that would result from construction of the research building and much of the existing and anticipated shortfall that would

occur with the completion of the new hospital, loss of parking spaces associated with the completion of the new hospital, and backfilling of vacated space in the existing hospital building. Similar to the proposed project, up to 20,000 square feet of ground floor retail space could be substituted for up to 50 of the proposed 527 new parking spaces within the garage expansion to provide active uses along the Twenty-Fourth Street frontage that are compatible with the surrounding neighborhood commercial streets. If the retail space is included, access to the garage would occur at a new entrance on Utah Street, so that the proposed Twenty-Fourth Street frontage could contain retail storefronts.

If this is clear you're doing better than I am. Is the ***(1) A No Expanded Parking Garage Variant,*** *actually an increase of 307 spaces created by extending the structure to 24th St? Or is it no addition to the garage as the title suggests and the text validates, ("but no expansion of the City parking structure")?*

PAGE 22
Regarding cumulative shadow impacts, the proposed project and variants would result in less than significant shadow impacts because it would not shade parks or open spaces under the jurisdiction of the Recreation and Parks Department; it would only shade streets, sidewalks, and other public areas for a limited duration and extent, resulting in shadow conditions typical of urban areas. There are no other reasonably foreseeable future developments in the project site vicinity that would result in substantial new shadow on recreational features or other public areas.

One must presume that the neighbors loss of sunlight and views of the horizon is insignificant because they are not parks or open spaces. It's already darker and damper on San Bruno than it was before the Muni Garage was replaced by the much larger garage.

PAGES 26, 27
Discussion of Potential Project Impacts
a) The San Francisco Bay Area Air Basin (SFBAAB) encompasses San Francisco, Alameda, Contra Costa, Marin, San Mateo, Santa Clara, and Napa Counties and portions of Solano and Sonoma counties. The federal Clean Air Act (CAA) and California Clean Air Act (CCAA) contain ambient air standards and related air quality reporting systems to be used by regional regulatory agencies in developing air pollution control measures. The Bay Area Air Quality Management District (BAAQMD) is the primary responsible regulatory agency in the Bay Area for planning, implementing, and enforcing the federal and State ambient air quality standards for criteria pollutants. The CAA and the CCAA require plans to be developed for areas that do not meet air quality standards, generally. The most recent air quality plan, the 2010 Clean Air Plan, was adopted by the BAAQMD on September 15, 2010. The 2010 Clean Air Plan updates the Bay Area 2005 Ozone Strategy in accordance with the requirements of the CCAA to implement all feasible measures to reduce ozone; provide a control strategy to reduce ozone, particulate matter, air toxics, and greenhouse gases in a single, integrated plan; and establish emission control measures to be adopted or implemented. The 2010 Clean Air Plan represents the most current applicable air quality plan for the SFBAAB. Consistency with this plan is the basis for determining whether the proposed project or variants would conflict with or obstruct implementation of air quality plans.
The proposed project and the project variants would increase traffic volumes, which contribute to regional air pollution. Air pollutant emissions also could occur over the short term in association with construction activities. Construction vehicle traffic, the use of construction equipment, and wind blowing over exposed earth could emit or create exhaust and dust that affect local and regional air quality. The EIR will include an evaluation of the proposed project's air quality impacts related to local air quality plans.

Congestion resulting from the increased populations at SF General and the removal of traffic lanes on Potrero may, (personal perception, I've seen nothing from DPT) result in longer waits in traffic. Does this result in greater pollution and might we conclude that increasing the SFGH population will increase these pollution impacts?

PAGE 44
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?
Less Than Significant Impact

Given that the current UC Lab does animal experimentation, consideration of bio controls at the proposed facility and the removal and treatment of bio-hazardous waste on the new site would seem appropriate given the proximity to residences and an elementary school on 25th St. and Star King on Potrero hill both it would appear are within the quarter mile

PAGE 68
e) Result in inadequate emergency access?

Less Than Significant Impact

Changes that I understand are moving forward would appear to reduce traffic flow on Potrero and include raised medians. Current practice of emergency vehicles when Potrero is congested is crossing the medians to proceed against oncoming traffic. The addition of medians cannot seriously be considered as having less than significant impact on emergency access. I would remind those considering this conclusion that a careless dismissal of there concerns could well result in the loss of life. It is beyond my comprehension that the changes planned for Potrero are not a part of the environmental review of the UC lab or expansion or of the parking garage, both of which are clearly affected.

Discussion of Potential Project Impacts
a, b) The proposed project or variants would increase both the amount of building space on the SFGH campus and the daily population, which would result in increased vehicular traffic on local streets. The EIR will analyze the impact of additional project-related and cumulative traffic on the local street network, including intersection capacity, and effects on pedestrian and bicycle paths, as well as mass transit. Conflicts with an applicable congestion management program will also be analyzed in the EIR.

Why is this not tied to alterations to Potrero?

From: Geoffrey Williams
2501 24th St.
San Francisco, CA 94110

October 28, 2015

Diane Wong
UCSF Campus Planning
Box 0286
San Francisco, CA 94143

Dear Ms. Wong,

This letter contains my written comments during the public comment period about the Initial Study UCSF Research Building and City Garage Expansion At The Priscilla and Mark Zuckerberg SFGH and Trauma Center Campus dated October 6, 2015. These written comments also include the comments and signatures of our neighborhood petition opposing any expansion of the SFGH parking garage. You will see from the petition that there is overwhelming opposition from the homeowners and tenants of the neighborhood who live on the surrounding streets of 24th St, San Bruno Ave, Utah St. Vermont , 23rd St. and Potrero Ave.

The petition heading reads as follows:

Petition Against Further Expansion of San Francisco General Parking Garage
We, the undersigned homeowners and tenants of the residential neighborhood surrounding the San Francisco General Hospital Parking Garage are opposed to any further expansion of the SFGH parking garage. We support Variant#1 in the Initial Study dated October 6, 2015 which calls for no expanded parking garage.. We are extremely concerned about multiple environmental effects this project would have on our two story neighborhood. These include issues of increased traffic, noise, air quality, increased wind and trash, increase in light levels at night, loss of landscaping including significant mature trees, privacy, blocking of views, shading, height of proposed expansion, which is out of character with the surrounding neighborhood, as well as other issues. As well, we are opposed to any inclusion of commercial retail space in the proposed expansion. The UCSF Research Building should include a proposal for their own underground parking at that site to replace any lost surface parking due to construction.

Further Comments:

2. Project Description
Page 7. Section 2.4.2 B/C Lot "The SFGH parking garage is located across Twenty-Third Street between Utah and San Bruno Avenue. Residential and retail properties up to two stories tall front Twenty-Third Street between San Bruno Avenue and Vermont Street."

Comment: This description does not include that adjacent streets of San Bruno Ave., Utah St., and 24th St. are all two stories and residential as well.

Page 12. Section 2.5.2 City Parking Garage Expansion

" Up to 20,000 square feet of ground floor retail space could be substituted for up to 50 of the proposed 307 new parking spaces within the garage expansion to provide active uses along Twenty-Fourth Street frontage that are compatible with the surrounding neighborhood commercial streets."

Comment: Except for one small café that has been on 24th St. for over thirty years, there are no commercial retail spaces in the surrounding residential neighborhood. The closest retail spaces are on Potrero Ave. The homeowners and tenants of our neighborhood are overwhelmingly opposed to any inclusion of retail space in the proposed garage expansion. This would only increase traffic, traffic noise, pedestrian noise, trash, pollution and destroy our privacy. No studies have been done suggesting what kind of retail would be allowed, what the hours of operation would be, and how it would effect a residential neighborhood.

Page18. Section 5.1 Aesthetics
"Scenic vistas from the SFGH campus include distant views of the downtown skyline and profiles of hillside and parks, including Twin Peaks, Bernal Heights, McKinley Square Park and the Starr King Open Space."
Page19. "Expansion of the parking garage under the proposed project or the Further Expanded Parking Garage Variant would largely be obstructed by existing vegetation and other buildings; new portions of the garage may be glimpsed by motorists."

Comment: This initial study only talks about views from the SFGH campus or views of the site from outlying areas. Nowhere is there any discussion of the destruction of neighborhood views from the residential neighbor's homes that they currently have, especially on San Bruno Ave. , 24th Street and Utah Street. The initial study also suggests that mature tree will be removed during construction. Any existing trees or replacement trees are not going to shield the approx.. 120 Ft. height of the proposed garage expansion from the neighbors. Let's not talk just about passing motorists! This initial study does not include any discussion of Mass and Scale and how it would impact the neighborhood as found in the Draft Supplemental EIR Report dated February 11, 1994 for the San Francisco General Hospital Parking Garage and its original construction. This document should be fully reviewed and all its issues included in the new Draft EIR Report, especially pertaining to the proposed Phase Two of the garage. Also, besides the two proposed current Variants to the expansion of the garage , there is no discussion of other alternatives such as putting three or four floors underground as they did with the original Phase One of the garage. Also, as pertains to aesthetics, no plan for the garage expansion should include the repetition of the stair towers. They are completely out of scale with the neighborhood. I asked the original architect why they were used and he simply thought they were a catchy design element. Your design element, our neighborhood. The stairs and elevators should be placed inside the structure of any proposed Variant and not as corner towers. Besides scale, they also contribute to issues of pedestrian noise, loss of privacy, and increase of night time light especially for the second story apartments and residents of the neighborhood.

Page 22. Discussion of Potential Cumulative Impacts
"Regarding cumulative shadow impacts, the proposed project and variants would result in less than significant shadow impacts because it would not shade parks or open spaces under the jurisdiction of the Recreation and Parks Department; it would only shade street, sidewalks, and other public areas for a limited duration and extent, resulting in shadow conditions typical of urban areas."

"…. The parking garage would be too short to have pedestrian level impacts, even under the Further Expanded Parking Garage Variant. Therefore, the project and variants would not contribute to cumulative wind impacts."

Comment: As the neighborhood is not owned by the Recreation and Parks Department, the proposed garage expansion of over 100 ft would definitely contribute to shading, loss of light as well as views. A structure of that height would also be likely to increase wind velocity, especially along the 24th St. corridor. In regards to the height issue of the proposed garage expansion, the 40 foot height limit that is the code in the area is deceiving. The original garage Phase One was allowed to use a formula for a sloping lot that used an average height from the sidewalk along the North/South axis. The actual height of the existing garage along 24th St. is over 91 feet high. The proposed variant for full expansion would be something like 120 feet to the top of the stair tower. This scale of a structure would utterly destroy the character of our neighborhood, have many cumulative adverse environmental impacts that are referenced above and in the Initial Study and in the Draft Supplemental Environmental Impact Report of February 11, 1994.

Sincerely,

Geoffrey Williams

October 20,2015

PETITION AGAINST FURTHER EXPANSION OF SAN FRANCISCO GENERAL PARKING GARAGE

We, the undersigned homeowners and tenants of the residential neighborhood surrounding the San Francisco General Hospital Parking Garage are opposed to any further expansion of the SFGH parking garage. We support Variant#1 in the Initial Study dated October 6, 2015 which calls for no expanded parking garage. We are extremely concerned about multiple environmental effects this project would have on our residential two story neighborhood. These include issues of increased traffic, noise, air quality,increased wind and trash,increase in light levels at night, loss of landscaping including significant mature trees,privacy,blocking of views, shading, height of proposed expansion,which is out of character with the surrounding neighborhood , as well as other issues. As well, we are opposed to any inclusion of commercial retail space in the proposed expansion. The UCSF Research Building should include a proposal for their own underground parking at that site to replace any lost surface parking due to construction.

Signature	Printed Name	Owner /Tenant	Address
Geoffrey Williams	GEOFFREY WILLIAMS	OWNER, OCCUPANT HOME & BUSINESS	2501 24TH ST
Raymond Tsang	Raymond Tsang	TENANT	JAE CAFE 2537 24th St.
Robert F. Vranizan	Robert F. Vranizan	Owner/ occupant/	2533-2535 -24th St
ROXY DIETRICH	ROXY DIETRICH	Business Owner	1328 SAN BRUNO AVE #2
Thomas Piana	THOMAS PIANA	TENANT	GF, CA PATIO
Francesco Orozco		OWNER	1346 SAN BRUNO
Diana Samuelson	Diana Samuelson	OCCUPANT tenant	1341 San Bruno Ave -
	Page 2 1341	OWNER, OCCUPANT	1349 San Bruno
Felisa Hitchcock	Felisa Hitchcock	owner occupant	1343 San Bruno
Annie Yan	ANNIE YAN	OWNER OCCUPANT	1325 SAN BRUNO

October 20,2015

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Signature	Printed Name	Owner /Tenant	Address
	STEPHEN MAK	OWNER OCCUPANT	1320 SAN BRUNO AVE SF CA 94110
	FRANK STONICH	OWNER/~~OWNER~~ OCCUPANTS 1326-28 San Bruno	1326-28 SAN BRUNO
Shirley Stonich	Shirley Stonich	1364 " "	
	ALAN SAKAMOTO	1366-68 " " 2442 24th St OWNER OCCUPANT	1342 SAN BRUNO
	Larry Hitchcock	OWNER OCCUPANT	1341 San Bruno
	Alison Schindel	tenant	1336 San Bruno
	Kirsten Hoenes	occupant	1355 San Bruno
	Grace Woo	occupant owner (family)	2541-24th St.
	Paul Bellar	owner	1350 San Bruno Ave
	Anthony C. Eason	Tennant	2443 24th St, SF, CA. 94110

October 20, 2015

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Signature	Printed Name	Owner /Tenant	Address
	GATE'S HOUSE	TEN	2445 24th St.
	Sandra Stone	Owner	1380 Vermont St.
	Warren Wong	Owner	2505 24TH St.
	Jorge Monroy	occupant owner	2426 24th
	Carmen M. Sandoval	Owner	1219 San Bruno Ave
	Tucker Williams	Tenant	2501 24th st
WILL CLAYTON		OWNER	2525-2529 24th st
	N. STEGER	owner	2405 23rd ST.
	A. RESTREPO STEGER	OWNER	2405 23RD ST
	Jesus Gomez	owner	1136 POTRERO Ave

October 20,2015

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Signature	Printed Name	Owner /Tenant	Address
Rhonda Nichols	Rhonda Nichols	owner	1223 San Bruno Avenue
	Sasha Wisotsky	Tenant	1221 SAN BRUNO AVE.
Laura Derry	Laura Derry	Tenant	1223 San Bruno Ave
	Sylvia Alvarez-Lynch	Owner	2664 Bryant St. SF
M.P.R. Howard	M.P.R. Howard	Tenant	2635-23RD ST #07 94110
Mari Eliza	Mari Eliza	"	499 Alabama St 94110
Mary Simon	Mary Simon	Owner	1162 Rhode Island St.
Peter Borodin	Peter Borodin	Owner	1252 Vermont St
Claudia Flores	CLAUDIA FLORES	TENANT	1223 POTRERO AVE.
Lillian Morada	Lillian Morada	owner	1221 Potrero Ave.
	Pieter M Joosen	owner	1209 San Bruno Ave
	RIGOBERTO GUITRON	OWNER	1211 SAN BRUNO AVE
	Colleen Dillon	owner	1207 San Bruno Ave.

October 20,2015

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Signature	Printed Name	Owner /Tenant	Address
	Mariana Nelson	Tenant	1217 San Bruno
	JUNE NUGET	owner	1205 San Bruno
	Karen Rice	tenant	1225 San Bruno
	Erika Sabatis	tenant	1287 San Bruno
	Kyle Jensen	tenant	1287 San Bruno
	Tina Landis	tenant	1332 San Bruno
	A. Ballmer	tenant	1338 San Bruno
	Lilly Creighton	owner	1331 San Bruno Ave.
	Juan Rodriguez	tenant.	2441 24th St.

October 20,2015

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Signature	Printed Name	Owner /Tenant	Address
	Andrew Lawrence	Tenant	2439 24TH St SFCA
	Cheryl C. Tyler	tenant	2429 24th St B 94110
	Željko Petković	Tenant	2411 24TH ST 94100
	Elizabeth Woll	tenant	2400 24th St.
	Alexis C Beach	Owner	2420 24th St
	SAHIL FAROOQI	Tenant	1266 46th St
	LUCAS Argnelles	tenant	1254 Utah St.
	Joanna Adams	Tenant	1212 B Utah
	Artelia Terrell	owner	1230 Utah
Gerd Konstad	GERD KONSTAD		1230 Utah

October 20,2015

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Signature	Printed Name	Owner /Tenant	Address
	Jesse Friedman	Tenant	1212 Utah St.
	IAN COOTOS	TENANT	1208 UTAH
	KATE BOGENSCHUTZ	TENANT	2403A 23RD ST.
	Gita Srinivasan	tenant	1326 Utah St.
	Theresa Cangelosi	owner	1334 UTAH ST.
	Dan Dworkin	OWNER	1340 UTAH ST.
	DAVID EDWARDS	owner	1315 Utah St.
	MICHAEL FONG	Tenant	2423. 24th. St
	Shuling Guan	Tenant	2423 24th St.

From:	Lisa Roth
To:	Campus Planning - EIR
Subject:	Comments on Expansion of 23rd Street Garage
Date:	Wednesday, October 28, 2015 5:47:10 PM

Dear friends,

Since I wasn't able to attend the October 21 community meeting, I wanted to share some concerns about the proposed expansion of the 23rd Street garage.

I live on Vermont Street between 23rd and 24th Streets, closer to 24th.

The existing garage already brings a tremendous amount of traffic, noise, and pollution to our modest neighborhood. Between the freeway to the east and the garage to the west, residents on San Bruno and Vermont Streets find ourselves in an automotive sandwich!

The automotive sandwich generates a huge amount of dirt and pollution. Ask anyone on the surrounding blocks and they'll tell you, our homes are dirtier than the same home would be in another neighborhood. We don't need more cars or a bigger garage.

When I leave the house in my car any weekday after 4PM I have to allow 20 minutes just to get from Vermont Street to the other side of Potrero (three blocks). That's crazy! Increasing the size/capacity of the garage will only increase the already unacceptable level of traffic, noise, noxious fumes, and pollution.

For the past many, many years this has been considered a poor neighborhood, populated mainly by poor people and people of color. There were gang problems. The streets are dirty. 24th Street is still a shopping hub, but not for yuppies. As a result residents have had no voice and no representation to protect our interests. Going up against a giant, well-funded institution, like UCSF, is probably a losing battle. But the last thing this neighborhood needs is a bigger garage.

On a more personal note, the existing garage blocks almost the entire view to the west from the back of my house. Expanding the garage all the way to 24th Street and increasing the height by another level will insure that it's the only thing I will see.

I realize that my personal outlook is probably not very important to anyone. However, I suspect that what's true for my view is true for every single person living on San Bruno Ave and Vermont Street between 23rd and 24th Streets.

Thank you for taking comments from the community. I hope you'll consider these views.

Best,
Lisa Roth

Lisa Roth
1268 Vermont Street
SF, CA 94110

415-601-7264 mobile
lisa@lisarothgrafix.com

From:	Mary Hill
To:	Campus Planning - EIR
Subject:	SFGH proposal comments
Date:	Thursday, October 29, 2015 10:56:26 AM

I attended the October 21st EIR meeting and was surprised to learn that there are currently several buildings being used for
research at SFGH. Apparently the problem is that they are not earthquake safe. I would much prefer that you found a way
to retrofit these buildings as opposed to removing the parking spaces and building another huge building and adding a floor
to that hideous parking lot across the street. Or move the research facility to Mission Bay where there is more room.

Thank you.

Mary Hill Simon
Potrero Hill neighbor

From: Christie White
To: Campus Planning - EIR
Subject: Parking Garage expansion SF General
Date: Monday, November 02, 2015 11:31:30 AM

I am writing to let you know that as neighbors on San Bruno ave we oppose the proposed additional floor to the current garage. The expansion to 24th street makes sense but the light into our property will be impacted by the additional height during the day and the lights from the garage will impact our house at night. As well as the additional noise, car alarms, etc. that we currently deal with.

Proposed night time construction would be very disruptive to the residents on our street.

Christie White
1213 San Bruno Ave
SF CA

From:	Chet Roaman
To:	Campus Planning - EIR
Subject:	Research building
Date:	Tuesday, November 03, 2015 10:03:10 AM

Dear Ms Wong

I am opposed to the placing of a research building on promised open space on the SFGH campus. The SF General Hospital rebuild EIR section describes preservation of open space,

This important issue was supposed to prevent further building in our highly congested area. The neighborhood thought that this would put an end to further construction.

I would love to know why this issue was ignored. And what justification was used to ignore the open space provisions in that document.

Sincerely,

Chet Roaman 1180 De Haro San Francisco 94107
(415) 359 8807 (415) 695 9497

From:	Christopher Sabre
To:	Campus Planning - EIR
Subject:	Opposition to proposed research building at San Francisco General Hospital
Date:	Tuesday, November 03, 2015 8:50:18 AM
Attachments:	SFGH EIR.pdf

Dear Ms Wong,

As a concerned neighbor I am opposed to the placing of a research building on promised open space on the SFGH campus. (see attached SF General Hospital rebuild EIR section describing preservation of open space).

The proposal for this research facility does not adequately address the crushing effect it would have on the surrounding neighborhood. 23rd Street, the only western access to Potrero Hill, is presently overburdened by uncontrolled pedestrian and vehicle traffic from the hospital. Adding to the parking structure would not only be contrary to San Fancisco's transit only policy; it would exacerbate congestion on 23rd, 24th and 25th Streets to intolerable levels. Furthermore, the City of San Francisco is planning to build a subsidized housing project on Potrero Hill, four blocks east of San Francisco General, that will potentially add at least 4000 more vehicles to the daily burden on 23rd Street.

The stated reason for building this research facility at San Francisco General is to "attract" top rated researchers to UCSF. This a perk given out at public expense, not a necessity.

Sincerely,
Christopher Sabre

7. Landscaping and Open Space

The proposed new hospital would be constructed on the west lawn, the main stairs flanked by landscaped beds near Potrero Avenue, and a portion of West Drive and its landscaped median, resulting in the removal of approximately 111 trees from the Campus, on or adjacent to the project site. The proposed project would create a total of 11,120 square feet of rooftop open space at the seventh level, approximately 8,370 square feet of which would be publicly accessible and approximately 2,840 square feet of which would be private. Approximately 8,110 square feet of non-accessible landscaped area would also be provided above the first floor rooftop. In addition, residual open space areas adjacent to the proposed new hospital (that would remain with development of the proposed new hospital of the west lawn) would be re-landscaped after construction of the new building. Existing open space areas that would remain on Campus after development of the proposed project would include: areas east of Buildings 10/20, 30/40 and 9; southeast of Building 1; south of Building 90; landscaped areas along Vermont Street; and, courtyard areas with limited public access within Building 100 and the Behavioral Health Rehabilitation Building.

Trees along Potrero Avenue in the project vicinity generally include southern magnolias along the eastern side of the street (adjacent to the Campus) and rusty leaf fig along the western side of the street. There are six southern magnolia trees located adjacent to the proposed new hospital site, within the sidewalk planting strip along Potrero Avenue. These six trees are considered "significant trees" per the DPW Code Article 16, Section 802 to 811. The eastern and northeastern edge of the Campus adjacent to U.S. Highway 101 is buffered by mature stands of primarily eucalyptus trees, which screen the Campus from the freeway. There are six southern magnolia trees located adjacent to the project site along Potrero Avenue in the public right-of-way, which are considered to be significant trees. The removal of these significant street trees would require a tree removal permit from the DPW. As required by the permit, the project sponsor would replace all significant trees removed with new trees.

New landscaping would be planted as part of the proposed project. The existing street edge of the Campus along Potrero Avenue would remain generally as it currently exists, with perimeter fencing and the gate, guardhouse, and the railway passenger shelter located at the main pedestrian entrance. Landscaping and pedestrian improvements would be provided at the entrance to the new acute care hospital, along the proposed new West Drive cul-de-sacs and between the new hospital building and the existing adjacent buildings. The new acute care hospital would provide landscaping on the second floor ("view terrace" on the roof of the podium level), and on the publicly accessible landscaped seventh floor rooftop garden on the seventh floor. Both the rooftop garden area and the podium-level view terrace would be west-facing along the Potrero Avenue frontage.

8. Utilities and Infrastructure

An existing service tunnel distributes utilities from the Service Building to other Campus buildings. The service tunnel runs southerly under the existing west lawn and includes the following utilities:

From: k.cliffe@comcast.net
To: Campus Planning - EIR
Subject: UCSF Research BUilding at SFGH
Date: Tuesday, November 03, 2015 9:15:10 PM

Dear Ms Wong
I am concerned that the traffic and parking has not been sufficiently mitigated, in fact I don't think they can be mitigated. Even if 20,000 sq ft of retail is not added to the garage the whole plan adds just a few additional parking spaces. Once again you are overbuilding ...there is insufficient space for your project...and once again you are ignoring the communities need for open space.
Sincerely
Karen
Cliffe
sfgh Neighbor

Sent from Xfinity Connect Mobile App

From: David Edwards
To: Campus Planning - EIR
Date: Wednesday, November 04, 2015 11:04:54 AM

Attention Diane Wong,

The new research building is in violation of the EIR for the expanded acute care hospital. Why not move the research into the existing main building?
Just because you've been given a huge donation to build does not mean it has to be on this site in total disregard for your neighbors.
Besides the out of scale size and shadows it will create - the traffic, which is already bad, will become unbearably slow for local residents.
Pick a more appropriate site!
Then: no need to expand the parking garage which will exacerbate all the same problems.

Thank you, David Edwards

1315 Utah St. SF, CA 94110
davide57@comcast.net

From:	Del Greger
To:	Campus Planning - EIR
Subject:	research center and parking
Date:	Wednesday, November 04, 2015 11:19:57 AM

Attention Diane Wong,

If a new research building is built PLEASE include underground parking for all personnel and displaced parking lots. This will eliminate the need to expand the garage.
A 7 story, even a five story garage, will create a monolithic cavernous feel to the surrounding streets. Completely out of character with the neighborhood.
It's already and eye sore of concrete by day and bright lights at night.
The ugly 24th street side is made partially bearable by the trees at one end which I suspect you plan to remove.
How about adding planter boxes to all levels of the garage and create a beautiful green wall to the demonstrate what good neighbors you are?

thank you for addressing these issues, Del Greger

PS: Also include a real solution to the increased traffic flow in the neighborhood !

Del Greger
1315 Utah St. SF, CA 94110
delgreger@comcast.net

From: Martha Miranda
To: Campus Planning - EIR
Subject: Comments on initial Study and EIR
Date: Wednesday, November 04, 2015 7:45:24 PM

Dear Diane Wong:

We read the Public Notice sent to us to let us know about the project that UCSF is proposing to develop. We think there are some real bad things about it and want to give you our feedback.

Our main concern is about the parking lot across from Utah Street. On the proposal, the parking lot would extend to the south to 24th Street which it is OK. The problem arises with the possibility of the addition of one floor to the height of the existing entire structure; that to us is totally unacceptable since it would cover the little sun light that we get in the morning. Also, this height is over what is permitted in this zone. We do not understand why there is no proposal to make 2 or 3 basements under the structure of the research building that UCSF is proposing. Yes, it would cost more, but in a city like San Francisco were space is so limited and so valuable, that should not be an issue. It could create 300 parking spaces or more depending how it is developed.

We know that the research building has its benefits, but the way the parking issue is addressed is totally off for us.

We appreciate it if you can address our concerns.

Sincerely,

Rosa Marcano
Martha Miranda
1210 1212 Utah Street
Owners

NEIGHBORS OF SAN FRANCISCO GENERAL HOSPITAL
1242 De Haro Street
San Francisco CA 94107

November 5, 2015

transmitted by email to EIR@planning.ucsf.edu
Diane Wong, Environmental Coordinator
UCSF Campus Planning
654 Minnesota Street
San Francisco, CA 94123

Re: City Application 2013.0225PPA—
UCSF SFGH Research Building and City Garage Expansion

Dear Ms. Wong,

Our association, the Neighbors of San Francisco General Hospital, has reviewed the Initial Study for the proposed replacement of SFGH Parking lot B/C with a 175,000 gross square foot research and office building, 75,000 square feet of which is to be a lab, and the hoped-for expansion of the parking garage across 23rd Street. We understand that the project is intended to backfill existing, seismically unsafe office space now being used on the SFGH campus by UCSF researchers and staff. We have several concerns relating directly to impacts on our neighborhood and would like to see them thoroughly addressed and mitigated in the upcoming Environmental Impact Report for the project. Our concerns and issues are shown below.

Overall: We see a situation where 175,000 square feet of R&D and office space is being developed with virtually no traffic, parking or transit mitigations agreed to except for a possible parking garage, yet to be funded, in a neighborhood of severe parking constraints and shortage.

Current traffic congestion around SFGH is severe. Both of the proposed projects, the expansion of the parking structure and the replacement of the surface parking lot with a new research facility, will exacerbate the current levels of congestion, air pollution, noise pollution and light pollution in the neighborhood.

Suggested alternative: UCSF and the City should consider the alternative of building the new research facility at Mission Bay and moving the current research operations there. Doing so would alleviate traffic congestion, air pollution, noise pollution, light pollution and the concomitant misery inflicted on the neighborhood.

Building the research facility at Mission Bay would also allow SFGH to more effectively carry out its statutory obligation to provide medical care, especially emergency medical care. As we discuss below, the projects described in the initial study will impede emergency deliveries to SFGH and make SFGH a far less effective trauma center.

Alternatives to the Initial Study's proposal require your evaluation and serious consideration.

NEIGHBORS OF SAN FRANCISCO GENERAL HOSPITAL
1242 De Haro Street
San Francisco CA 94107

Demand for Parking Due to Project and Cumulatively: The numbers presented do not account for the loss of the existing 126 spaces in the B/C lot. Eleven of these spaces are for
the disabled. Taking this into account, the **new** supply and demand for parking, if everyone drives alone (which is the observable trend if one watches the entrance to the parking
garage during shift change) is as follows:

Demand:
680 internal UCSF employees to be located in new building that now report to SFGH (not new trips)

120 new UCSF reports to the new building
50 employees from elsewhere
75 employees now using the parking shuttle which will be discontinued later in 2015
57 new employees for the proposed retail in the garage
302

New demand totals at least 302 new employees **NOT including the backfill of DPH employees to the existing hospital. This SFGH backfill number must be known and considered in order for any analysis of impacts and mitigation to be complete.**

Supply:
The total proposed parking for the garage expansion, which is not funded and therefore uncertain, is 307 spaces from which we subtract the loss of the current B/C lot (126 spaces) to arrive at a net supply of new on site parking of 181 new spaces.

The Initial Study predicts that total demand will increase by 355 to 365 spaces. There are 184 employees needing parking under the UCSF 365-space assumption if the new parking garage is built. Where will the other 184 people park? **There is simply no room in the neighborhood for additional on-street parking for hospital employees, UCSF employees or patients. Our neighborhood requests that all parking demand be met on site or, preferably, at Mission Bay or on property from which UCSF employees can be shuttled, like presently unused Port or City land.** Our numbers estimated above assume that there is one person per vehicle. Absolutely no updated numbers are provided for either SFGH or UCSF's TDM programs, so we assume almost everyone is still driving alone.

Pricing of Parking Spaces and Parking Management: The parking spaces on campus and in the garages should all be priced at levels that reflect the fact that there is a waiting list for permits. Pricing should also be implemented along the curbs for

anyone not having a neighborhood parking permit. All neighborhood parking permits issued should be reviewed and audited by the SFMTA to ensure that they are legitimate neighborhood residents.

Project Implementation, Funding and Mitigation for Parking Impacts on the Neighborhood: The expansion of the City-owned parking garage with both retail uses and an additional floor vertically as well as additional parking horizontally is a project that would be implemented by the City Parking Authority. It is presented as the primary mitigation for the UCSF project. However, it is not funded. It is unclear how it can be relied upon as mitigation if it is not funded. A variant shown in the analysis will be the "no garage expansion" alternative.

We request that there also be a "no project" alternative studied.

Bracketing Transportation and Air Quality Impacts: There are several references to the City DPH "backfill" of the existing hospital building with other DPH uses; however, there are no statistics on the total numbers of people added, number of additional cars they account for, and status of the backfill process by both SFGH and UCSF. The parking and traffic (as well as the noise and air quality) situations are now untenable with the expansion of the existing hospital. Numbers should be provided that describe precisely how many people will be working at the campus and how many cars they will be adding to the neighborhood, and these figures should be provided for the expected timeframes of the Institutional Master Plan for the SFGH and UCSF.

Thus, the analysis provided should include the **numbers of NEW employees reporting to the SFGH campus as well as the status of both the UCSF and the SFGH Transportation Demand Management (TDM) Programs. TDM was required both for the UCSF hospital as well as the SFGH New Hospital and Backfill and this was to be reported upon annually by both institutions.**

Nearly all of the transportation and air-quality check list items are potentially significant in the Initial Study; however, the commitment made to the TDM programs is very "light." We have reviewed the UCSF Long Range Development Plan (LRDP) (2014), the City's Greenhouse Gas strategy (Department of Environment), the City's Transportation Plan, and the UC Greenhouse Gas Reduction Strategies, and each requires a robust commitment to TDM. We do not see in the materials issued to date that this set of previous required mitigations (see SFGH New Hospital FEIR) is being implemented.

The Initial Study points to an employee commute survey dating from 1991—**24 years ago! It is hard to take promises made by SFGH and UCSF to reduce vehicle trips and increase non-auto access to the hospital site seriously with the**

information provided. A report and updated transportation survey should be taken of all employees, researchers and students who would be reporting to the new facility and how they will get there. This should include SFGH employees as well. This was a mitigation required for both the SFGH New Hospital as well as the UCSF development in Mission Bay. It apparently is not being implemented. No further permits should be issued by any agency until this is corrected and the correction is verified by the City and air district that an effective, real TDM program is in place at both institutions and is working.

Prior to any new permit being issued for activities at the SFGH campus, the neighborhood insists that an audit be done by City Planning to determine which mitigations are not being implemented and to enforce their implementation.

Emergency Vehicle Access: The Initial Study presumes that the new access to the emergency room will handle conflicts with emergency vehicles. However, it is unavoidable that there will be conflicts when an additional 245 UCSF employees over the existing 800 now on site and programmed for the new space all show up to park in the 307 new spaces in the garage. **The Draft EIR must consider the effects of additional congestion on SFGH's ability to provide emergency medical care.**

Noise and vibration: Both noise and vibration should be assessed in the EIR, and the analysis should include the number, time of day and decibel level of noise events attributable to the ER re-location and the new research building. Also, due to the age and wood frame construction of the residential buildings in the Potrero neighborhood, we request that noise blankets be required during construction activities and that no construction occur between 7 pm and 8 am on weekdays and no construction occur on Saturdays, Sundays or holidays.

Consistency with Local, Regional and State Plans: We do not believe that this project is consistent with either the City's or UCSF's or the UC system's Greenhouse gas and Sustainability policies. We also believe that this project is not considering the Transit First policy in effect in San Francisco since 1973. The project does not appear to be consistent with the BAAQMD guidance on greenhouse gas reduction or AB 32. In addition, the project may create a new potential CO hotspot along Potrero Avenue during peak hours and shift changes. A new project description should be developed that is consistent with all of these plans.

Approval Processes: Please explain the approval processes being used for these projects—Is the parking garage addition on a separate time track from the new research and office building proposed? If so, what will be done in the interim to accommodate traffic and parking? If these are separate projects, a mitigation will need

NEIGHBORS OF SAN FRANCISCO GENERAL HOSPITAL
1242 De Haro Street
San Francisco CA 94107

to be developed that truly and robustly solves the problem of getting the employees to and from the site without their cars.

Permits Required: We believe that you will need to add permits to the project as follows:

BAAQMD: CO/GHG Emissions
City of San Francisco Planning Department: Use Permit, Architectural review
Department of Environment: Sustainability Analysis/TDM Requirements
SFMTA: Traffic changes, curb painting
SFHPC: Removal and re-siting of historically significant elements of the SFGH Landscape
SF Arts Commission: Review of design of public buildings for SFGH

Please place us on the mailing list to receive the Draft Environmental Impact Report. Thank you.

Very truly yours,

Neighbors of San Francisco General Hospital

Loretta M. Lynch
John J. Davis, Jr.
1242 De Haro Street
San Francisco CA 94107

Karen Cliffe
1069 Hampshire Street
San Francisco, CA 94110

Cc: Mr. John Rahaim, Planning Director, City of San Francisco
Mr. Ed Reiskin, Director, San Francisco MTA
Mr. Gavin Newsom, UC Regents

From: rhondanich@aol.com
To: Campus Planning - EIR
Cc: rhondanich@aol.com
Subject: SFGH garage expansion and UCSF research building proposal
Date: Thursday, November 05, 2015 11:34:07 AM

Dear Ms Wong,

I am writing to state my concerns about the proposed expansion of the SFGH parking garage and the construction of a new research building on the grounds of SFGH. I am a 33 year resident and homeowner of San Bruno Avenue directly across the street from the existing garage. I attended the October 21 st meeting and have several concerns. I understand the reasons that the new research facility is being proposed and have no objection to it being sited on the current surface parking lot, but would vigorously oppose locating any animal research activities there. In addition, since the proposed expansion of the SFGH parking garage is primarily to accommodate lost surface parking at the campus due to the construction of the research building and to accommodate primarily UCSF researchers and support staff, I recommend you build 2 levels of underground parking on the research building site instead of expanding the existing SFGH garage. If however expansion of the SFGH garage is approved I would not support raising the height above the current level and encourage a maximum of two new stories above ground on the existing surface lot area with two additional underground levels. Shading of the street from the higher level will significantly increase shading of my house. I also am vigorously opposed to ANY retail of ANY kind to be included in the garage project. It is not needed to serve the neighborhood. If you want retail....put it in the research building itself. Not included in the report but of significant concern to me is also the increase in traffic from the many shuttles UCSF runs between it's various campuses along San Bruno Avenue. They are a major traffic hazard, often speeding down the block between 223rd and 24th streets. I hope that in the plans for the research building that shuttles will be rerouted to pick up and drop off not at the MUNI stop on 23rd, but on the hospital grounds as they did prior to the construction of the new hospital and use 23rd street as their access to Potrero Avenue and beyond, not San Bruno Avenue to access 24th street and then Potrero Avenue.

Respectfully,

Rhonda Nichols
1223 San Bruno Avenue
San Francisco, CA. 94110

From:	Juan Guitron
To:	Campus Planning - EIR
Cc:	reposado68@yahoo.com
Subject:	SFGH parking lot
Date:	Thursday, November 05, 2015 4:32:06 PM

UCSF campus planning.

My major concern with this project are as follows.

-Creating excessive noise and dust to surrounding neighborhood.
-Creating more shadows and limiting sun exposure to solar panels.
-Creating more garbage on streets from workers and patients at hospital.
-Decreasing all views of Twin Peaks, Bernal heights and the Mission.
-Increase traffic for surrounding streets.
(Shuttle bus driving in excessive speed)
-Possible reduction of property value.

I would like there to be more input from neighbors and community leaders before this project moves forward.

Juan Guitron
1211 San Bruno Ave
San Francisco CA, 94110

exmech03@yahoo.com

Sent from my iPhone

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ENVIRONMENTAL IMPACT REPORT

SCOPING MEETING

UNIVERSITY OF CALIFORNIA SAN FRANCISCO

- and -

CITY AND COUNTY OF SAN FRANCISCO GARAGE EXPANSION

Wednesday, October 21, 2015

7:00 o'clock p.m.

San Francisco General Hospital

Second Floor, Cafeteria

1001 Potrero Avenue

REPORTED BY: DEBORAH FUQUA, CSR #12948

APPEARANCES

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ROLAND PICKENS, San Francisco General Hospital
Interim CEO

KATHY JUNG, San Francisco Department of Public Health
Director of Facilities & Support Services
Planning and Facility Development at
San Francisco General Hospital

SUE CARLISLE, M.D., Vice Dean UCSF School of Medicine
at San Francisco General Hospital

LORI YAMAUCHI, Associate Vice Chancellor, UCSF Campus
Planning

DIANE WONG, UCSF Principal Planner, Campus Planning

KRISTIAN ONGOCO, UCSF Community Relations

DAMON LEW, UCSF Community and Government Relations

CORY BARRINGHAUS, Environmental Science Associates

MARK PRIMEAU, Consultant

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COMMENTS

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Wednesday, October 21, 2015 8:03 o'clock p.m.

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LORI YAMAUCHI: So are there any questions that have not been addressed by my comments about the process?

(No response)

LORI YAMAUCHI: If not, the first speaker is Geoffrey Williams.

Just -- I'm sorry, Mr. Williams.

The other speakers, next three speakers, are Sylvia Alvarez Lynch, M.P.R. Howard, and John Wilson. If you'd like to line up, that would be great. Thank you.

GEOFFREY WILLIAMS: Good evening, everyone. My name is Geoffrey Williams. I've been a resident at 24th and San Bruno, a property owner since 1987. I've been involved with a number of issues at the San Francisco General Hospital, including the helipad and the early construction, initial construction, of the garage, including toxic cleanup there, which I spent about six years of my life hiring attorneys and consultants and got the State to issue orders against the City to clean up the underground pollution at the time that they built the initial garage. Apparently, there's still some toxics on the site, which has been

addressed in the initial study.

Let me first say that one of the pressing issues for the neighborhood -- it starts with the notification process. This seems to have gone on now for about 28 years that I've been here. Many times we don't get notices when there are meetings that directly affect the most immediate stakeholders in most projects.

Apparently there was a meeting on September 30th about the garage. And none of my adjacent neighbors that I have spoken to received that notification, so we didn't have any initial input into the expansion of the garage. And apparently a lot of the merchants came from Mission District and were opposed to any commercial space in the retail spaces on the ground floor because they felt it would compete with their businesses.

In lieu of that, I would suggest that, from here on out, all the immediate neighbors to the garage be notified of any upcoming meetings involving this issue.

I've spoken with a number of neighbors. We had a meeting on Monday night on the block of 24th Street. And we decided to circulate a petition, see how people felt about the expansion of the garage.

So far, I have -- in about an hour and a half's work yesterday, I received 25 signatures of property owners that are totally opposed to any expansion of the garage. At least half a dozen tenants that happened to be home in the middle of the day are also opposed to this. We continue to get signatures on this petition, and we'll be submitting it to the City as part of the EIR report.

Let me read what the petition states.

"We, the undersigned homeowners and tenants of the residential neighborhoods surrounding the San Francisco General Hospital Parking Garage, are opposed to any further expansion of the S.F. General Parking Garage. We support Variant 1 in the initial study dated October 6th, 2015, which calls for no expanded parking garage. We are extremely concerned about multiple environmental effects this project would have on our residential two-story neighborhood. These include issues of increased traffic; noise; air quality; increased wind and trash; increase in light levels at night; loss of landscaping, including significant mature trees; privacy; blocking of views; shading; height of proposed expansion, which is out of character with the surrounding neighborhood, as well as other issues. As well, we are opposed to any inclusion

of retail space in the proposed expansion. The UCSF research building should include a proposal for their own underground parking at that site to replace any lost surface parking due to construction."

I went through some of my old files because I was in on the original meetings -- I'll cut it short. I'm sorry.

But I found a 1994 Supplemental Draft Environmental Impact Report for the garage that addresses a number of other issues that your initial study does not, including mass and scale impacts on the residential neighborhood, including loss of views, loss of sunlight, et cetera, et cetera.

I would hope that you would also review that early document and include some of those issues in your Draft EIR. Thank you very much.

LORI YAMAUCHI: Thank you.

Sylvia Alvarez Lynch.

SYLVIA ALVAREZ LYNCH: Thank you, sir. And could you please make that petition available to others who agree with you and have not had the chance to sign it?

GEOFFREY WILLIAMS: Certainly.

SYLVIA ALVAREZ LYNCH: Thank you. Thank you.

My observation has been that there is a sincere desire by the neighborhood to communicate with

staff and the hospital regarding this. However, they have not had the opportunity, due to spotty notification.

I was here at the last meeting about two or three weeks ago. And the biggest beef we had with you was that no one -- except a very few of the people around here who by word of mouth -- knew about this meeting. So if there's any glaring error on your part, it's not enough public notification to the neighborhoods or the businesses. Thank you.

Oh, and may I please have a copy of that PowerPoint that you just had presented to us? Thank you.

LORI YAMAUCHI: I think we can post that on the --

SYLVIA ALVAREZ LYNCH: I want a hard copy because a lot of people don't use a computer.

LORI YAMAUCHI: So if you could notify Damon Lew of your address.

SYLVIA ALVAREZ LYNCH: Thank you.

LORI YAMAUCHI: So the next speaker is M.P.R. Howard, followed by John Wilson. Then there's Jack Davis and Rick Hall.

M.P.R. HOWARD: My name is M.P.R. Howard. I live directly across the street from this hospital. As far as the parking garage goes, when that thing was built,

it was built with the understanding that, if needed, it would be expanded out to 24th Street to accommodate more parking but not raise it another floor.

Second, if you're going to take over parking in this area, why didn't you go over to Fourth and Campus Way and take over your own parking lot? It's inconvenient for you. It's a tragedy for people who live in this neighborhood, where you can spend up to two hours driving around looking for a legal space to park.

And lastly, I ran the numbers that you ran on parking. Of the three campuses lost -- three parking lost, it comes to 269. Of the total of 307, it would only gain us 38 additional parking spaces.

If you add in the retail of another 50 spaces lost, that brings it down to 257 with a net loss of 12 parking spaces less in this neighborhood. That's unacceptable. We're already severely impacted by the hospital. Go back to Mission Bay and do your research building over there. We don't want you here.

LORI YAMAUCHI: Next is John Wilson. And just wanted to repeat Jack Davis, Rick Hall and then Jesus Gomez.

JOHN WILSON: I'm John Wilson. I live on Vermont Street and --

LORI YAMAUCHI: Bring the microphone closer.

JOHN WILSON: Closer?

My name is John Wilson. I live on Vermont Street between 23rd and 24th. And I was in this room when the original meetings for the parking structure were held.

And at this point, the changes in the proposal to add a floor on the garage -- I'm just, frankly, stunned, as I think most of my neighbors were, about any consideration of it going higher and any consideration of retail space, which would not only offset parking but potentially add a further grog to the area. I think we're probably paying as much for our parking permits as the employees pay for a monthly pass at the garage. And that's why they have a waiting list.

You know, it's -- the whole process has ignored the congestion. And until we address the congestion issues, I don't think we ought to be building anything more on this site.

LORI YAMAUCHI: Next is Jack Davis followed by Rick Hall.

JACK DAVIS: Good evening. My name is Jack Davis. I live over on DeHaro Street, in the 1200 block. I'm one of the members of the Neighbors of San Francisco

General Hospital who are involved with opposing the helipad that was proposed a few years ago.

So my first question is is there any plan in anything that you're intending to construct that would either build or accommodate a helicopter landing pad?

LORI YAMAUCHI: We're not answering questions during the public comment period. I said so at the beginning.

There will be a Q and A after public comment, after this session.

JACK DAVIS: Most of what I have are questions. But it seems to me that there are public impacts that were not on your list of things that you plan to study in preparing your draft environmental impact report, like public safety, the immediate effect on health, what has been the effect on health and public safety of the construction that's been done over the last several years, what has been the propagation of rodents and pests through the community as a result of the construction that's been done recently.

And I don't remember seeing noise as one of the impacts. So I think that should be one of the impacts that you study in every respect, both the parking garage and with the research building, as you prepare your draft environmental impact report.

LORI YAMAUCHI: Rick Hall, followed by Jesus Gomez?

RICK HALL: Rick Hall from Potrero Hill. Two issues. One is I hope the EIR will look at the plans the hospital has for a major emergency triage with or without that parking lot. You know, at times when there are major health issues and trauma centers have to have exterior augmentation, where are you going to put it with and without having that parking lot there, number one.

Number two is the traffic and parking and the cumulative impacts of such. I really, really hope that, when you do the cumulative impacts on traffic and parking, that you fully take into account all of the other projects that SFMTA is doing in the area that are going -- that are restricting, basically, transportation off of Potrero Hill -- you know, they're screwing up 16th; they're screwing up 17th. If anything, don't let them screw up 23rd.

There's only a few ways to get off the hill. And we're tired of SFMTA impacting the traffic with their nonsense on the streets. They're going to do this -- the Potrero change.

So when you look at your traffic and impact study, please take into account everything SFMTA has

planned, not just in 2020 but wherever it is in their plan. And look at it on a cumulative basis at least within a two-mile radius. Thank you.

LORI YAMAUCHI: Jesus Gomez followed by Kat Podgornoff.

JESUS GOMEZ: Good evening. I want to reiterate what a lot of my neighbors have said regarding the expansion of the parking lot.

Definitely any vertical expansion is going to negatively impact a lot of my neighbors. And I support their cause. It seems like that we've been submitted to a pattern of improvements for the hospital, for the UC campus. And oftentimes or most of the time, the residents' needs and the negative impact on them is ignored -- with the Portrero streetscape and now this.

And also, looking the proposed building, seems like it's a little bit conservative. There probably would be less impact if you added a floor and supplied your own parking, maybe one floor above ground and a couple floors below or one floor below. And it might even net more parking than what you're looking at with the parking lot expansion.

Certainly the top height of 92 feet -- that's with all the mechanicals -- the building itself is 80 feet, the building behind it is 105 and with the

trajectory of the sun, I don't think going higher a floor or two would impact any of the neighbors. So maybe what you should be looking at is redoing the building itself and providing parking underneath. Thank you.

KAT PODGORNOFF: Kat --

LORI YAMAUCHI: Could you please spell your last name for the court reporter?

KAT PODGORNOFF: I'll start with pronouncing it, Podgornoff, P-O-D-G-O-R-N-O-F-F. Now you all know me and can look me up in the phone book.

My main concern -- and I really hope the EIR takes a really close look at the lighting. As it is, my house is never dark at night. And if we add another floor on top of the parking, it's going to be dark all day long. So that's all I have to say. Thank you for your time. And thank you for advertising this meeting as well as you did because I did get a lots of notice about it.

LORI YAMAUCHI: The last speaker I have of the yellow cards, Debra Vails-Qualters.

DEBRA VAILS-QUALTERS: Good evening. My name is Debra Vails-Qualters. I live in the Mission-Bernal Heights area. And I'd just like to say I support everything that everybody said so far. And I know

you're not going to be answering my questions, but I do have questions.

And one is why are we even considering retail space in a garage when we need parking? So that's one.

And I oppose construction of the research building because you had an opportunity at Mission Bay to do all of this, and you didn't do it. So now, instead, you're going to ruin it -- well, I live on the hill. I have to look at this hospital. And I'm not looking forward to seeing a big square building in front of the hospital. Thank you.

LORI YAMAUCHI: Are there any other speakers to the EIR scoping?

Please identify yourself and spell your name, please.

CHRISTOPHER SABRE: My name is Christopher Sabre. Spell that S-A-B-R-E.

I've lived on Potrero Hill for 37 years, up on 23rd Street, above you. And I would like to call attention to a couple of items here on your landscaping, open space element of your EIR.

I'm referring to the EIR that was made for San Francisco General Hospital in March of 2005 for the new hospital. In that EIR, it states that, "Existing open space areas would remain on campus after development of

the proposed project, would include areas east of Buildings 10, 20, 30, 40, and 9. For your information, those are the yellow buildings, the yellow building that you showed there, and the two orange buildings east. That is the area right out in front here that you're proposing to build your research facility. That's one issue.

The other thing I'd like to address is -- and I would like to say the comments I got when I raised this issue with this group at previous meetings were, one, that this was just a concept. Now you're talking about something in the EIR. "Just a concept," okay?

The other thing is is that they said, "Oh, this isn't our EIR. This is San Francisco General's EIR."

Well, as you know and they explained to you in the beginning of this session, UCSF and S.F. General are joined at the hip. So you're talking to one, you're talking to the other. So don't be deceived by that.

The other thing I'd like to talk -- to address, and it was sort of brought up a little bit here already, has to do with the amount of traffic on 23rd Street and the impact this is going to have. If you try to go along -- there's no control on

23rd Street as far as pedestrian traffic right now. People are -- it's just -- it's just an ad hoc thing, just cross the street as you wish.

There's a housing project that they're planning on building up on the top of the hill that's going to increase the traffic by 4,000 cars. Okay? Now, I don't know what -- if you're planning on working with that or not.

And there's one more little picture I'd like to ask about. Are you planning to do research on animals? Thank you.

LORI YAMAUCHI: Are there any other speakers on the EIR?

Do you want to return, sir?

RICK HALL: Thank you. I just want to reinforce the one I had suggested I heard earlier, that you guys actually look at providing your own parking in conjunction with the -- with the construction of this, of this project because -- in particular, because the project's decision is separate from the City's decision to create parking, I think you're going to end up with a project without adequate parking.

If you have the project and supply your own parking, it will be an integrated decision. If you simply leave it to the City, you'll be expecting all

your patients to bike and walk, and that's crazy.

GEOFFREY WILLIAMS: I would just like to expand on a couple of points --

THE COURT REPORTER: Can I get names?

LORI YAMAUCHI: Sir, can I -- your name is Geoffrey Williams?

GEOFFREY WILLIAMS: Right.

As to the height of the proposed garage structure -- okay. Anyways, the new structure they are proposing would be 120 feet on 24th Street. Most of the buildings are 25 to 30 feet high. So the scale will be completely out of character and, including the stair towers, would just be totally oppressive.

If I can read this quick paragraph from the 1994 EIR report, "On November 14th, 1986, the voters of San Francisco passed Proposition M, the Accountable Planning Initiative adopted as Section 101.1 of the City Planning Code. Proposition M establishes eight priority policies. These policies are: preservation-enhancement of neighborhoods serving retail uses, protection of neighborhood character, preservation-enhancement of affordable housing, discouragement of commuter automobiles, protection of industrial and service land uses from commercial office development, and enhancement of resident employment and

business ownership, earthquake preparedness, landmark and historic building preservation, and protection of open space.

"Prior to issuing the permit for any project which requires an initial study under CEQA or adopting any zoning ordinance or development agreement, the City is required to find that the proposed project or legislation is consistent with the priority policies and is consistent with the City's Master Plan. The City Planning Commission, in its decision regarding the proposed project approval or disapproval, would make a determination of the project's conformance with the priority policies. Thank you.

LORI YAMAUCHI: Michelle Schaal or Schaal?

MICHELLE SCHAAL: Schaal, S-C-H-A-A-L.

I also live on Vermont Street, and I'm concerned about any expansion of the parking garage. It's already so bright at night, it's very unpleasant. And it just would be out of scale with the neighborhood.

But the other thing that -- I don't know how this fits into the EIR, but to me, I just find it really shocking that UC is planning to withdraw from the brick buildings and somebody's going to be in there. You know, why is it okay for some people to be

in there but not UC employees? It's crazy.

That needs to be dealt with. The City and UC need to figure that out. It's just not right. And I think there are lots of creative possibilities that you're not looking at it or don't have -- you can keep some of the framework, some of the outside exterior and build something wide and fabulous and have the footprint you want and not take up the open space that's left, not take up the parking, and everybody wins.

It's just -- it's -- so what it's more expensive? Some somebody has to deal with those buildings some day. And as long as we keep people working there, if they're not safe, if they're very seismically unsafe, that's an environmental problem; isn't it? I don't know where it fits, but I just think it's wrong and we need to look at it.

LORI YAMAUCHI: Could you repeat your name, sir?

M.P.R. HOWARD: M.P.R. Howard.

I just wanted to add a couple of things. First of all, in regards to the parking lot and parking garage, they are not filled up by midday. On a good day, they're filled up by 9:00 a.m. and, on a bad day, even earlier than that.

Second the -- I lost my train of thought here.

It's not a two-year wait but a five-year wait to get a permit in the garage. So I don't know where you're getting your information from, but your information is definitely faulty.

LORI YAMAUCHI: All right. So I think --

M.P.R. HOWARD: One last thing. I don't know about anybody else. The only reason I knew about this meeting tonight was because I was at the San Francisco Rebuild last month and heard about this meeting. Arla [phonetic] called me the other day to remind me of the meeting.

There was nothing put out in the neighborhood, nothing mailed. Nobody I know in my immediate block of 23rd Street even knew about this. And the last thing I had heard was, during the San Francisco Rebuild a couple of years ago, this was a concept.

LORI YAMAUCHI: Did anybody wish to speak? Could you identify yourself?

NICK PASQUARIELLO: Nick Pasquariello.

LORI YAMAUCHI: Could you spell your last name, please?

NICK PASQUARIELLO: P, as in Peter, -A-S, as in Sam, -Q-U-A-R-I-E-L-L-O.

You should include in the EIR the need, the necessity, the absolute requirement that the 33 line

continue to this hospital. With all the problems you have with the parking garage -- and there was an article in the Examiner earlier in the year of the crisis at this hospital over parking. Why would you not insist that this 33 line, which of course is a factor in the transportation plan for the hospital, be continued?

It's so unbalanced, what you are doing. I don't know how it could be legal. I don't know how it could be environmentally safe and serve the people of San Francisco, all of the people. That should be part of your EIR, guaranteeing the 33 to the hospital.

LORI YAMAUCHI: Thank you. So if there aren't any other speakers on the EIR public comment, the scope, that is, we will close the public comment period and move to the second part of the meeting, which is the Q-and-A session on the proposed project on topics not covered in the EIR.

(Whereupon, a question-answer session was reported and not transcribed)

KRIS ONGOCO: Okay. Thank you.

This marks the close of the Q and A. And if you did not get a chance to speak, we do still have our public comment forms if you just want to have written comments.

You can also submit public comment to Diane Wong and send her an e-mail as well. We also have cards in the back from our -- our UCSF community relations person. Her name is Michelle Davis. She couldn't be here today, but she does have contact information on the back table.

Thank you.

(Whereupon, the comment session concluded at 8:31 o'clock p.m.)

STATE OF CALIFORNIA)
) ss.
COUNTY OF MARIN)

I, DEBORAH FUQUA, a Certified Shorthand Reporter of the State of California, do hereby certify that the foregoing proceedings were reported by me, a disinterested person, and thereafter transcribed under my direction into typewriting and is a true and correct transcription of said proceedings.

I further certify that I am not of counsel or attorney for either or any of the parties in the foregoing proceeding and caption named, nor in any way interested in the outcome of the cause named in said caption.

Dated the 6th day of October, 2015.

DEBORAH FUQUA

CSR NO. 12948

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ENVIRONMENTAL IMPACT REPORT

QUESTION-ANSWER SESSION

Following Scoping Meeting Public Comment

UNIVERSITY OF CALIFORNIA SAN FRANCISCO

- and -

CITY AND COUNTY OF SAN FRANCISCO GARAGE EXPANSION

Wednesday, October 21, 2015

7:00 o'clock p.m.

San Francisco General Hospital

Second Floor, Cafeteria

1001 Potrero Avenue

REPORTED BY: DEBORAH FUQUA, CSR #12948

APPEARANCES

---o0o---

ROLAND PICKENS, San Francisco General Hospital
Interim CEO

KATHY JUNG, San Francisco Department of Public Health
Director of Facilities & Support Services
Planning and Facility Development at
San Francisco General Hospital

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SPEAKERS

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Wednesday, October 21, 2015 8:31 o'clock p.m.

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LORI YAMAUCHI: Thank you. So if there aren't any other speakers on the EIR public comment, the scope, that is, we will close the public comment period and move to the second part of the meeting, which is the Q-and-A session on the proposed project on topics not covered in the EIR.

There are City -- just to remind people who came in after I introduced myself, my name is Lori Yamauchi. I'm the Associate Vice Chancellor for Campus Planning at University of California San Francisco, UCSF.

And there are representatives from the City. Kathy Jung spoke earlier. She's in the Department of Public Health. And there are -- there is -- there are other, I believe Sue Carlisle is also here from UCSF. So if there are other questions or comments that you'd like to make -- Warren Ramelo [phonetic] is from the SFMTA as well. So we'd be happy to hear any questions you might have other than topics of the EIR.

And Kris Ongoco is going to be reading off those speakers; names who wish to ask questions from the green cards.

KRIS ONGOCO: Hello, my name is Kris Ongoco, with

UCSF Community Relations. If you haven't filled out a comment card, we do have comment cards. You can still fill them out if you have any questions.

If you have a comment card, raise your hand, and I will start calling out names five at a time. And we would -- like Lori said, we do have staff here to try their best to answer the questions. And the DEIR has yet to be published, so they can talk about concept as well as the process.

Okay. So we have John Wilson, Geoffrey Williams, Sylvia Alvarez Lynch, Pieter Joosen, and Colleen.

JOHN WILSON: Actually, most of what I wanted to address on this is covered in the previous speakers. What I want to do is, I took a -- excerpts from the scoping document and responded to it. But I want to present this so they go into the record.

COLLEEN DILLON: Hi. My name is Colleen Dillon, D-I-L-L-O-N.

And so my concern is with regards to the garage, and one of my questions is in regards to the EIR process and how it's going to gauge the traffic. This is my first time here. Okay.

So I live right at 23rd and San Bruno. So my concern is about the garage and the construction that

will happen as a result. And I'm concerned about what the EIR will cover as far as assessing the traffic in the area. So currently, if you sit in front of my house in an average day, I'm constantly shooing people out of my driveway, away from my driveway, calling and having people ticketed and towed for blocking my driveway. And there's just constant traffic in the area.

So the concept of adding another possibly 500 more parking spaces, it's mind boggling to me to understand what that's going to look like for our community once this is all said and done. We all love our neighborhood; we're all very passionate about it.

So I am having a really difficult time understanding what that's going to look at -- and if the EIR will cover more of that personal aspect of it and what that's going to mean for those of us who literally live right in front of the hospital and the parking garage.

DIANE WONG: So we have a transportation consultant who's going to be looking at traffic impacts, both in terms of -- it's a little bit technical, so I don't know if you want to have a discussion later. But they'll be looking at what's called level of service at various intersections around

the garage and around the research building.

And basically level of service looks at delay in intersections, and it measures that delay. So if you're at 23rd and San Bruno, you'll get a sense of will that -- will the level of service change at that intersection, will there be more of a delay at that intersection or if there is a queue forming. So they will be looking at that.

COLLEEN DILLON: So --

THE REPORTER: I'm sorry. I can't hear her.

I can't hear her.

DIANE WONG: So Colleen asked about double parking and such along driveway entrances.

So I'll take that as a comment that that's something you want analyzed in the EIR.

PIETER JOOSEN: Hi, my name is Pieter Joosen, J-O-O-S-E-N. I live on San Bruno Avenue, right adjacent to the parking garage.

My biggest thing with the parking garage, I stare out at it every day. I feel like it already casts quite a big shadow to my house. And any larger it's going to get, I'm not going to be able to see the sky anymore.

Additionally, seems like San Francisco has been trying to get people to use public transportation,

public transportation. But by adding onto this garage, we seem like we're discouraging people to use public transportation, where we're saying, let's drive your cars more over to our neighborhood and into the structure that you guys are proposing that's going to be even larger than our current structures that we have out there. So we're going to have a building that's out of proportion to the rest of the neighborhood.

We're going to cause additional pollution in the neighborhood by adding all these cars. So, you know, my question is why don't we look at more bus lines or shuttles or something else instead of adding more cars to a neighborhood that really can't handle that amount of traffic in our neighborhood?

SYLVIA ALVAREZ LYNCH: Hello. My name is Sylvia Alvarez Lynch.

And I was just stunned by the revelation of the Prop M 1996 issue. I'd like to know if you can please respond to it in writing on things and issues that have been brought forth by the voters and voted upon and approved, and how you and your EIR won't -- have adhered or not to that Proposition M in 1996. I'd like to know that you can present those findings at our next meeting or sooner to the people here. There's a mailing list -- not a mailing list, but there is a

sign-in list.

So if you could do that, I'd really appreciate it. Thank you.

LORI YAMAUCHI: Thank you. I just wanted to note that Proposition M is part of the San Francisco City Planning Code. It's been incorporated into the Planning Code. And so when the City takes their action -- not the University because the University is not bound by the City's Planning Code.

But when the --

SYLVIA ALVAREZ LYNCH: It's not?

LORI YAMAUCHI: No, it is not. The University of California is constitutionally autonomous. It's a State -- it's a State agency, which is why the University is the lead agency on its environmental impact report.

However, the City will have to take an action -- we mentioned in the schedule the City will have to take an action on the ground lease for the parking lot to -- for the University to build this research building project. So when it takes that action on the ground lease, it will have to find that the ground lease action, the approval -- not the research building, but the ground lease action -- is in conformance with City Planning Code and will have to

make findings relative to the City Planning Code and that section that the gentleman referred to.

GEOFFREY WILLIAMS: I like to make another comment on the proposed height of the garage.

In the 1994 Draft EIR report, the City proposed in Phase 2 that they would build four stories for Phase 2, not five and not six. The reason for the four stories was our initial concerns about the height of the proposed project.

At least ten times in the 1994 report it says they must comply with that 40-foot height limit. And as I explained before, the 40-foot height limit is a misnomer. That's a calculated average from the slope of the entire project.

So the actual height of the structure they are proposing would be up to 120 feet high on 24th Street. I just want to make sure people are clear about what 120-foot-high wall of concrete would do the 24th Street and the residential character of that neighborhood.

Now, in lieu of that, seems to all of us that the City -- that it's proposing to build a garage expansion with only two variants, either nothing or take it all. You never talk about maybe doing two stories with three stories underground. And the reason I propose that is, when you did the original Phase 1

construction, you excavated almost three stories down on the 23rd north exposure so there's actually just about two stories facing the hospital.

Why couldn't do you that on the 24th Street side, where you have a very low profile but most of it underground? Thank you very much.

LORI YAMAUCHI: Thank you, sir. Thank you, sir, for your comments.

GEOFFREY WILLIAMS: Would you be willing to entertain more than two variants and have some other possibilities?

LORI YAMAUCHI: I think that we would have to consult with the City's MTA and the Department of Public Health.

GEOFFREY WILLIAMS: Yeah, well, think about it.

LORI YAMAUCHI: Thank you for that.

GEOFFREY WILLIAMS: Because it may be a way for a win-win for every- -- we prefer nothing be built and keep it as open space. But the fact it's seven stories or nothing, we'll take nothing.

LORI YAMAUCHI: Thank you, sir.

KRIS ONGCOCO: We have about nine questions and 19 minutes left in this meeting. So we'll try to go as quickly as possible.

So the next group is Peter -- I'm sorry if I

say your name wrong -- Borodin, Robert Vranizan, Christopher Sabre, M.P.R. Howard, and Rick Hall.

PETER BORODIN: My name is Peter Borodin. I live at 1252 Vermont Street between 23rd and 24th. The traffic there is just really hard to even cross the street at any time other than closing hours of the hospital.

But the parking garage going up is unacceptable. And the -- just the lighting, you can't sleep at night, got to have drapes or curtains to block out the light.

I know in '94, they had some parking garage, there was two phases, Phase 1 is built; Phase 2 was to yet be addressed. And it may be so; if they need parking, they need parking. But you can't go up no higher. That's all I got to say.

M.P.R. HOWARD: Name is Howard.

Over the 25 years, I've lived in this neighborhood, I've been watching parking getting chipped away, space by space, block by block. Now you're talking about building a building on the hospital property and the elimination of more parking.

Where are we supposed to put our cars, Daly City? We live in this neighborhood. Go back to Mission Bay where you belong. Build it over in your

parking garage.

KRIS ONGCOCO: Okay. Robert Vranizan, Christopher Sabre. Rick Hall, Rhonda Nichols, Kat Podgornoff.

ROBERT VRANIZAN: Hi. Good evening. I have a building across from the parking garage on 24th Street, and I just want to reiterate the same. We really don't want to see that additional height. And I don't know why they don't consider, since it's going to be such a large building for the research facility, they can't put parking underneath that. You've got to dig down, you know, to do that.

And then the transit first policy of the City needs to be brought into this as well. Thank you.

And I support the research facility. I'm not afraid of that. Just provide your own parking. Thank you.

CHRIS SABRE: My name is Chris Sabre again. And I would like to address the whole idea of having research facility here at this location.

I was at a meeting, a meeting of the San Francisco Foundation, when it was discussed -- certain executives were there who are here tonight -- when the chief executive of San -- of UCSF said that he did not want to relocate at U- -- the San Francisco General at Mission Bay because, if the clientele of San Francisco

General showed up at Mission Bay, it would ruin his bond rating.

That is what actually happened. I couldn't believe it.

Now, there was a discussion here or a mention here of how important it is for these researchers to have -- to be able to have access immediately. I think it is a -- research is a vital thing and should be done. But there's also an aspect of a perk in this. So I'd just like you to consider that.

RHONDA NICHOLS: Hello. My name is Rhonda Nichols, N-I-C-H-O-L-S. And I am a neighbor and -- on 23rd Street right there on San Bruno, right across from the garage.

A couple of points. I agree with much of what's already been stated. One thing that I had a specific question about from just a glance at those plans, right now, since the construction has taken out the circular drive where all the shuttles, the Gold and the Blue and the -- that go from UC to Mission Bay to all over the place, and they seemed to have like just multiplied in recent years -- have been rerouted and now they race down San Bruno Avenue at a very high rate of speed. It's dangerous to try and pull out of your parking space because you don't know if you're going to

get side -- you know, get completely broadsided by one of those shuttles.

So with this new building and the new drive-through, are the shuttles going to continue the use San Bruno Avenue as their major route for their circuit?

LORI YAMAUCHI: I'm not with the transportation department for UCSF, so I will definitely make sure that there is some -- our community relations office gets back to you because, you know, I don't know the answer to your question.

RHONDA NICHOLS: Yes, it's been a big, big issue ever since the new construction started and you took away the circle drive where they used to go in one way and out the other. And, you know, that won't be possible now. I just literally set foot on the ground, and that's going to be like that [indicating] gone. You can't go from, like, here to there. And that's also going to be the emergency -- ambulance is going to be using 22 Street now, so it's not going to be feasible.

But it looked like it was certainly possible with the drop-off in front of the new proposed outpatient building, the old building being retrofitted for that service, since you're going to have that, that

I would certainly please request that you have your shuttles, you know, run through that transit out back around on 23rd Street and not up and down San Bruno Avenue.

I am definitely opposed to the retail. You know, what kind of retail are we talking about here? Are we going to put a Starbucks in? Is it going to be -- and for whose benefit is this retail? Is this benefit for the retail of the people in the neighborhood or the convenience of having some services for all these additional employees of UCSF and the expanded staff of San Francisco General so that they have places to go to lunch or things like that?

I mean, build a cafeteria. Build another cafeteria in the research building for those needs as opposed to building retail on the garage, should it be built, which I hope it won't, you know.

Definitely that -- we don't need anything in our little block here in terms of retail. We can walk two blocks to Walgreen's with plenty of retail within a very short distance. We don't need any retail to serve us. So clearly the retail would only need to serve the people who work at this hospital and at the research facility.

RICK HALL: Hello, I'm Rick Hall here.

I'm actually a supporter of UC. And I'm a patient. And I love what you do medically, but I've lost a little bit of faith recently. It's my perception that UCSF basically buckled to City pressure with regard to the Warriors stadium and the traffic down there.

And I'd like to see with this project, UCSF sort of standup for what's right against the City's pressures, including push back on the retail, you know, build your own parking and don't rely on SFMTA and push back on anything they do or ask you to do with regard to their sort of livable streets, fold outs, all the stuff they put around, they ask -- associated with new buildings that do nothing more than slow down traffic and create more congestion.

So, you know, I ask you guys to actually push back and don't buckle this time.

JACK DAVIS: Jack Davis again. So now maybe I'll get an answer to my question, which is is there any plan to build or accommodate the construction of a helicopter landing pad in this project?

SUE CARLISLE: No.

JACK DAVIS: Thank you.

Second question, what is your -- what are your baseline forecast years for impacts?

DIANE WONG: So under CEQA, the baseline here is what is existing conditions, so 2015. And the future year, I believe it's 2035. It might be 2040 to coincide the traffic projections. So 2035, 2040 for the future years.

JACK DAVIS: Thank you.

Seems to me that light pollution is something that ought to be addressed in your environmental impact report. I didn't see that on your list. It certainly is a very, very serious problem for people who live here, not just in terms of aesthetics, but also in terms of their ability to sleep and ability to concentrate. Is that something you're going to address, and is that something that you would mitigate?

DIANE WONG: So under aesthetics, we will be looking at light intrusion. And we heard those comments tonight and received via e-mail similar comments. So we will be looking at that.

JACK DAVIS: Will you also assess the health effects?

DIANE WONG: You mean of light intrusion?

JACK DAVIS: Yes.

DIANE WONG: We can take a look at that.

JACK DAVIS: I know that UCSF has a wonderful sleep research center. You are obviously going to

affect people or you are affecting people's sleep; so maybe you should be assessing that as well.

DIANE WONG: Great, we'll take that as a comment. Thank you.

KRIS ONGOCO: We have Will Clayton, and then the last question from Kat.

WILL CLAYTON: There are a lot of different comments here from all over the city. The first thing I did when I learned about this is that I called the Supervisor, Supervisor Cohen. And she was barely aware of this meeting.

I actually had to forward their office your e-mail and the pdf, and I asked her what her position was, what she was doing, what her office was doing. And it was an "I'll get back to you."

And I called her this week, and I said, "Is somebody from her office going to be here at that meeting?"

And they said "no."

There are so many different departments here that someone from the Supervisors office should be here to help the citizens of the neighborhood have a voice and go to one person and have them talk to all of you and all your different departments that we don't understand. So it's not a question. It's just an

observation that Supervisor Cohen or anyone from her office is not here tonight. Thank you.

JACK DAVIS: Jack Davis again.

One more suggestion about -- that's prompted by Ms. Dillon's comment, which is I think you can both raise some money for the City and perhaps alleviate some of the parking difficulties if you were to assign a special parking citation issuer to this neighborhood.

JESUS GOMEZ: Jesus Gomez once again.

One of my neighbors and previous speaker brought up the point of the older, seismically unsafe buildings. And I wanted to know if there was any planned uses for those in the future, and certainly I agree, if they're that seismically unsafe, they should be made seismically safe as much as possible. So I guess my question would be regarding to those buildings.

MARK PRIMEAU: I can answer it. I'm Mark Primeau.

So originally, we were looking at trying to renovate some of the buildings like Building 80, 90 some of the finger buildings. But because the Mayor and the Board had decided it was within their buying capacity to float on November's ballot, November the 3rd, the affordable housing bond, it took away about $310 million of that capacity. So it's pushed forward

now. Some of the planning isn't really going to happen until like 2022.

And then also there was a -- I think a bond in June for SFMTA that took $500 million away from that capacity. So we got pushed back.

JESUS GOMEZ: Yeah, well, that still leaves kind of a gap. Are they going to remain empty until something is -- you know?

MARK PRIMEAU: Because of the funding? Yes.

KRIS ONGOCO: Okay. We have our last question.

NICK PASQUARIELLO: This is similar to what I mentioned before. Do you have any plans to evaluate the impact of the cut of the 33 bus line on transportation to the hospital, on congestion, on the way it's going to affect the plans for the parking garage if you go ahead with the parking garage?

DIANE WONG: So CEQA requires that we analyze the impacts of project. The project does not include removal op the 33 line. So that's the answer.

NICK PASQUARIELLO: The project does not include cutting back the 33 bus line, right? It's a different matter as far as you're concerned?

DIANE WONG: It's not a proposal of this project.

NICK PASQUARIELLO: Right. But it's part of overall MTA plan for the way it deals with

transportation to the hospital and the --

DIANE WONG: Yes.

NICK PASQUARIELLO: -- employees and the patients and the general...

DIANE WONG: We will be analyzing transit service impacts as a result of this project and that -- you know, so there will be some consideration of what is the transit service at the time this project is implemented.

NICK PASQUARIELLO: Which may or may not include the 33? I'm not clear on what --

DIANE WONG: I think you'll have to talk to MTA about -- you know, they spoke earlier about reconsidering removal of the 33 or rerouting the 33 line. So I think you'll have to talk to them more about what their plans are.

NICK PASQUARIELLO: Well, the latest I heard from a PR person who just left, I think, was that they're only guaranteeing the 33 line is going to be running as it now runs until the spring of 2016. They're not making any commitments beyond that. So when does your report come out? And would it include that assessment that MTA now has on its records, on its website?

DIANE WONG: Maybe when we do the draft, the early part of next year, the Draft EIR early part of next

year.

NICK PASQUARIELLO: You don't have a month? Can you be more specific?

DIANE WONG: No, I can't. Might be February, yeah, within that time frame.

NICK PASQUARIELLO: Okay.

KRIS ONGOCO: Okay. Thank you.

This marks the close of the Q and A. And if you did not get a chance to speak, we do still have our public comment forms if you just want to have written comments.

You can also submit public comment to Diane Wong and send her an e-mail as well. We also have cards in the back from our -- our UCSF community relations person. Her name is Michelle Davis. She couldn't be here today, but she does have contact information on the back table.

Thank you.

(Whereupon, the proceedings concluded at 9:00 o'clock p.m.)

STATE OF CALIFORNIA)
) ss.
COUNTY OF MARIN)

I, DEBORAH FUQUA, a Certified Shorthand Reporter of the State of California, do hereby certify that the foregoing proceedings were reported by me, a disinterested person, and thereafter transcribed under my direction into typewriting and is a true and correct transcription of said proceedings.

I further certify that I am not of counsel or attorney for either or any of the parties in the foregoing proceeding and caption named, nor in any way interested in the outcome of the cause named in said caption.

Dated the 6th day of October, 2015.

DEBORAH FUQUA

CSR NO. 12948

APPENDIX C
Transportation Impact Study

UCSF
University of California
San Francisco

July 2016

PROPOSED UCSF RESEARCH BUILDING AT ZSFG

Transportation Impact Study

FEHR & PEERS
Adavant Consulting

Transportation Study for the Proposed UCSF Research Building and City Garage Expansion at Zuckerberg San Francisco General Hospital

Prepared for:

University of California, San Francisco
Campus Planning

Prepared by:

FEHR PEERS

Adavant Consulting

July 2016

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EXECUTIVE SUMMARY

The following Executive Summary describes the project context, project description, analysis scenarios key assumptions, and transportation impacts analysis and findings for a proposed University of California, San Francisco (UCSF) Research Building, and a 307-space expansion of an existing parking garage owned by the San Francisco Municipal Transportation Agency (SFMTA), both on the Priscilla Chan and Mark Zuckerberg San Francisco General Hospital (ZSFG) campus.

PROJECT CONTEXT

UCSF is one of ten campuses in the University of California (UC) system, and is the only UC campus devoted solely to the health sciences. UCSF has a major presence at the City's ZSFG site, an acute-care medical center owned and operated by the City and County of San Francisco. ZSFG is currently undergoing renovation/expansion as described further in Section 1.3. UCSF does not own facilities at ZSFG, but through an affiliation agreement with the City and the DPH, UCSF faculty and physicians provide medical care at ZSFG in City-owned buildings. In addition, UCSF faculty conducts research at ZSFG. UCSF leases or otherwise occupies space in exchange for services. There are approximately 2,000 UCSF faculty and staff at ZSFG. Approximately 1,000 of these employees are faculty (500 are active faculty and 500 are courtesy/volunteer faculty), 600 employees are clinical and administrative staff, and 400 are research staff. There are also approximately 2,000 DPH employees at ZSFG; approximately 1,160 are patient care employees, 340 provide administrative support, 260 provide clinical support, and 240 provide environmental support.

PROJECT DESCRIPTION

This report examines the transportation impacts of a proposed UCSF Research Building and a 307-space expansion of the SFMTA-owned parking garage on the ZSFG campus. Specifically, the Proposed Project includes:

- A new seismically robust research building of about 175,000 gsf on the existing ZSFG surface parking lot along 23rd Street (B/C Lot); and
- The expansion of the parking garage at 23rd Street ("23rd Street Garage") by 307 spaces via the extension of the garage footprint toward 24th Street on the surface parking lot portion of the 23rd Street Garage.

A preliminary site plan of the proposed Research Building and the location of the proposed Research Building and the 23rd Street Garage within the context of the ZSFG campus is shown in **Inset E-1**.

Inset E-1. Preliminary Proposed Project Site Plan

As part of the Proposed Project, UCSF staff would relocate from existing buildings on the ZSFG campus site and from off-site leased space to the proposed Research Building. Parking spaces that would be displaced by the proposed Research Building (approximately 130 spaces), possibly along with new parking demand generated by the proposed Research Building, could be replaced via the proposed expansion of the 23rd Street Garage. The expansion could add up to 307 spaces, depending on the number and final configuration of additional floors added to the existing garage. For the purposes of this report, the Proposed Project assumes that the 23rd Street Garage is expanded by 307 spaces.

Project Variants and Alternative

In addition to the Proposed Project, this report also assesses the transportation impact of four Project Variants and one Alternative. The Proposed Project includes two Variants that involve replacing at least 15 parking spaces with 5,000 square feet of retail and redesigning the garage access. This report presents the Variants and the Alternative with a combination of quantitative analysis and qualitatively discussion:

- Project Variant 1 (292-space expansion, 5,000 sf of retail in the garage fronting 24th Street, and redesigned garage access on Utah Street)
- Project Variant 2 (527-space expansion).
- Project Variant 3 (512-space expansion, 5,000 sf of retail in the garage fronting 24th Street, and redesigned garage access on Utah Street)
- Project Variant 4 (no garage expansion)
- On-Site Alternative (no garage expansion, on-site Parking under the proposed Research Building)

No other changes are proposed for the UCSF Research Building, the ZSFG site, or the surrounding street network as part of the Variants.

ANALYSIS SCENARIOS AND KEY ASSUMPTIONS

This report evaluates the Proposed Project's potential impacts on traffic conditions, transit service, bicycle conditions, pedestrian conditions, loading operations, emergency access, construction activities, and parking conditions. It does so under Near Term and Cumulative Conditions.

Near Term (Year 2015-2020) Conditions assume:

- The opening of the new ZSFG hospital building and proposed hospital circulation changes are complete and operational, but that the vacated hospital areas have not yet been used for other purposes by new DPH staff ('backfill'), as the timing of completion of the backfill is expected to be approximately 2021;
- Changes to Potrero Avenue as included in the SFMTA Muni Forward (formerly 'TEP') and proposed Potrero Streetscape Improvements; and
- The proposed Research Building and 23rd Street Garage Expansion (Proposed Project).

In addition to the Near-Term assumptions, the Cumulative (Year 2040) Conditions assume:

- The backfill of the vacated hospital areas with DPH staff as well as the areas vacated by UCSF staff that moved to the new Research Building; and
- Other reasonably foreseeable development projects as included in the San Francisco County Transportation Authority's travel demand model, SF-CHAMP.

TRANSPORTATION ANALYSIS AND FINDINGS

Of the transportation impact categories assessed as part of this report (traffic, transit, pedestrians, etc.), one potential significant impact was identified due to the Proposed Project.

Traffic Analysis

- In the Near Term condition, traffic generated by the Proposed Project causes the operating condition of the intersection of Potrero Avenue / 24th Street to worsen to a level that is unacceptable according to both City and UCSF significance criteria (LOS F) during the PM Peak Period (4:00 to 6:00 PM).

Three transportation mitigation measures are identified to reduce the significant impacts of the Proposed Project and all of the Variants except for the On-Site Alternative, which does not have an impact at this location. The other intersections included in the traffic analysis operate acceptably both with and without the Proposed Project or Variants.

Mitigation Measures

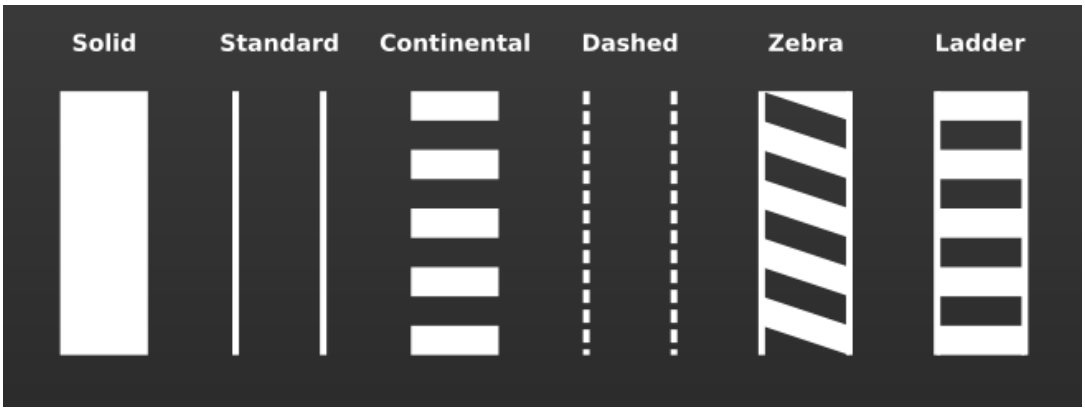
- Mitigation Measure TR-1: Restripe 24th Street at Potrero Avenue to Provide a Westbound Left-Turn Pocket. Restripe the westbound approach on 24th Street at Potrero Avenue as two lanes; a 10-foot

wide left-turn pocket approximately 50 feet in length and a 10-foot wide shared through/right-turn lane pockets. This would require the removal of three to four parking spaces on the southern side of 24th Street at the intersection of Potrero Avenue and the restriping of the eastbound lane adjacent to the removed parking spaces to be 12 feet wide. This mitigation measure would not include the addition of new signal phases or other alterations due to the existing timing plan, although the SFMTA may choose to do so as part of the mitigation measure. This mitigation measure would reduce the intersection impact to a less than significant level.

- Mitigation Measure TR-2: Open 23rd Street exit of 23rd Street Garage during the PM Peak Period.

  Open the 23rd Street exit to the 23rd Street Garage to traffic at 3:00 PM instead of 6:00 PM. Currently, both the entrance and exit at 23rd Street are closed to vehicles from 6:00 AM to 6:00 PM. Opening the exit at 3:00 PM to coincide with a major hospital employee shift change would allow some vehicles to shift away from the 24th Street exit and thus improve the operating condition of the intersection of Potrero Avenue / 24th Street. It is not known how many people would use this exit if given the option; although there is only one exit lane, which would naturally limit the number of vehicles that can exit during this period. This analysis assumes that not enough vehicles would use this alternative exit to reduce the intersection impact to a less than significant level. In conjunction with the earlier opening of the 23rd Street exit, which would increase the amount of traffic on 23rd Street, the pedestrian crossing that connects the 23rd Street Garage to the east side of the West ZSFG Driveway should be improved. Although SFMTA staff would need to concur on a final design, this should include evaluation of signal phasing prior to implementation, and it could include shifting the eastern edge of the crosswalk to the east by ten feet in order to double the width of the crosswalk to 20 feet, repainting the crosswalk in the continental style (see **Inset E-2**) to be more visible, and shifting the westbound 48 Quintara/24th Street in the same location 20 feet to the east to increase the visibility of pedestrians. Other potential measures to increase pedestrian visibility and reduce vehicle-pedestrian collision risks include the following measures as shown or noted below (see **Inset E-3)**:

  - Consider converting intersection of Utah Street and 23rd Street to all-way stop controlled,
  - Signalize the ZSFG driveway and associated pedestrian crossing,
  - Add signage on Potrero Avenue directing vehicles to use 24th Street to reduce circling for visitors,
  - Increase employee education regarding appropriate pick-up and drop-off locations to minimize any additional double-parking at the corner of 23rd Street / San Bruno Avenue, which can obscure visibility of pedestrians, and
  - Coordinate with the appropriate enforcement agencies (SFMTA, SFPD) to increase pedestrian safety as well as reduce instances of double-parking.



Inset E-2. Crosswalk Styles

Inset E-3. Potential Pedestrian Mitigation Measures

Mitigation Measure TR-3: Implement Additional TDM Strategies to Reduce Single Occupancy Vehicle Trips. UCSF and DPH shall each pursue potential TDM measures that they can feasibly implement targeted at reducing SOV trips to and from ZSFG. UCSF and DPH staff have worked collaboratively with transportation consultants, the SFMTA, and other City departments to identify a robust list of potential TDM strategies in addition to those already in place. The implementation of this mitigation measure could improve traffic operations in the immediate vicinity of ZSFG, inccluding at Potrero Avenue / 24th Street by reducing SOV trips to and from ZSFG.

Because Mitigation Measures TR-1 and TR-2 cannot be implemented without SFMTA's approval and assistance and the effectiveness of TR-3 to reduce the impact at Potrero Avenue / 24th Street to less than significant is not known (as it is dependent on the amount, mixture, and schedule of feasible measures implemented by UCSF and DPH), the traffic impact at the intersection of Potrero Avenue / 24th Street would therefore still be considered ***significant and unavoidable***.

Parking Analysis

As noted, the Proposed Project would both remove parking spaces at the B/C Lot (minus 130 spaces) and reconfigure the spaces adjacent to the footprint of the proposed Research Building, and would add additional parking spaces via the expansion of the 23rd Street Garage (plus 307 spaces). Taking into account the following factors, the parking occupancy throughout the day of the ZSFG campus site in Near Term Conditions under the Proposed Project is summarized in **Table E-1**.

- A decrease in campus parking supply of 130 spaces at the B/C Lot due to the Proposed Project.
- An increase in total parking supply of 307 spaces at the 23rd Street garage due to the Proposed Project;
- A decrease in campus parking supply of approximayely 35 on-street employee spaces currently located along the north side of 22nd Street, between Potrero and San Bruno Avenues, to ensure adequate emergency vehicle access along 22nd Street to the emergency room of the New Hospital;
- An increase in daytime parking demand due to the closure in January 2016 of the free temporary remote parking at 2000 Marin Street, which had a peak demand of 75 spaces.
- An increase in daytime parking demand of 310 spaces due to the New Hospital; and
- An increase in daytime parking demand of 72 spaces due to the Proposed Project.

TABLE E-1: NEAR TERM PARKING UTILIZATION BY TIME PERIOD

Location	Total Supply (spaces)	Parking Utilization					
		10:00 AM to Noon		Noon to 2:00 PM		6:00 to 8:00 PM	
		Spaces	%	Spaces	%	Spaces	%
Near Term plus UCSF Project	**1,690**	**1,873**	**110.8%**	**1,816**	**07.5%**	**752**	**44.5%**
Parking Surplus/Deficit		*-183*		*-126*		*938*	

Notes:

1 1,548 (Total ZSFG Campus) – 35 (Near Term Change in Parking Supply on 22nd St) - 130 (Proposed Project at B/C Lot) + 307 (Proposed Project Garage Expansion) = 1,690 spaces.

Source: Adavant Consulting, 2016

The parking occupancy throughout the day of the ZSFG campus site in Near Term Conditions under the Variants is summarized in **Table E-2**.

TABLE E-2: EXISTING AND NEAR-TERM PARKING UTILIZATION BY TIME PERIOD FOR THE VARIANTS

Location	Total (spaces)	Parking Utilization					
		10:00 AM to Noon		Noon to 2:00 PM		6:00 to 8:00 PM	
		Spaces	%	Spaces	%	Spaces	%
Variant 1: 292-space Expansion with Retail Supply	**1,675**[1]	**1,888**	**112.7%**	**1,831**	**109.3%**	**758**	**45.3%**
Near-term Parking Surplus/Deficit		*-213*		*-156*		*917*	
Near-term Change in Parking Demand (Proposed Project)	**87**[2]						
Near-term Change in Parking Demand (Total)	**397**[3]						
Variant 2: 527-space Expansion Supply	**1,910**[4]	**1,873**	**98.1%**	**1,816**	**95.1%**	**752**	**39.4%**
Near-term Parking Surplus/Deficit		*37*		*94*		*1,158*	
Near-term Change in Parking Demand (Proposed Project)	**72**						
Near-term Change in Parking Demand (Total)	**382**						
Variant 3: 512-space Expansion with Retail Supply	**1,895**[5]	**1,888**	**99.6%**	**1,831**	**96.6%**	**758**	**40.0%**
Near-term Parking Surplus/Deficit		*7*		*64*		*1,137*	
Near-term Change in Parking Demand (Proposed Project)	**87**[2]						
Near-term Change in Parking Demand (Total)	**397**[3]						
Variant 4: No Garage Expansion Supply	**1,383**[6]	**1,873**	**135.4%**	**1,816**	**131.3%**	**752**	**54.4%**
Near-term Parking Surplus/Deficit		*-490*		*-433*		*631*	
Near-term Change in Parking Demand (Proposed Project)	**72**						
Near-term Change in Parking Demand (Total)	**382**						
On-Site Alternative: On-Site Parking Supply	**1,585**[7]	**1,873**	**118.2%**	**1,816**	**114.6%**	**752**	**47.4%**
Near-term Parking Surplus/Deficit		*-288*		*-231*		*833*	

TABLE E-2: EXISTING AND NEAR-TERM PARKING UTILIZATION BY TIME PERIOD FOR THE VARIANTS

Location	Total (spaces)	Parking Utilization					
		10:00 AM to Noon		Noon to 2:00 PM		6:00 to 8:00 PM	
		Spaces	%	Spaces	%	Spaces	%
Near-term Change in Parking Demand (Proposed Project)	**72**						
Near-term Change in Parking Demand (Total)	**382**						

Notes:

1. 1,548 (Total ZSFG Campus) – 35 (Near Term Change in Parking Supply on 22nd St) - 130 (Proposed Project at B/C Lot) + 307 (Proposed Project Garage Expansion) = 1,690 spaces.
2. 72 (Research Building Demand) + 15 (Retail component demand) = 87 spaces
3. 72 (Research Building Demand) + 15 (Retail component demand) + 310 (Hospital Rebuild demand) = 397 spaces.
4. 1,548 (Total ZSFG Campus) – 35 (Near Term Change in Parking Supply on 22nd St) – 130 (Proposed Project at B/C Lot) + 527 (Proposed Project Garage Expansion) = 1,910 spaces.
5. 1,548 (Total ZSFG Campus) – 35 (Near Term Change in Parking Supply on 22nd St) – 130 (Proposed Project at B/C Lot) + 512 (Proposed Project Garage Expansion) = 1,895 spaces.
6. 1,548 (Total ZSFG Campus) – 35 (Near Term Change in Parking Supply on 22nd St) – 130 (Proposed Project at B/C Lot) = 1,383 spaces.
7. 1,548 (Total ZSFG Campus) – 35 (Near Term Change in Parking Supply on 22nd St) – 130 (Proposed Project at B/C Lot) + 202 (on-site parking to replace 130 spaces lost from the B/C lot plus parking to meet a new parking demand of 72 spaces) = 1,585 spaces.

Source: Adavant Consulting, Fehr & Peers, 2016

It is assumed that during those time periods in which there are parking deficits on campus, patients, visitors, and employees of ZSFG who choose to drive will instead choose to park on street in the neighborhoods directly adjacent (up to four blocks away). Depending on the demand, this may be challenging, as the overall average occupancy rate of these blocks is between 80 percent throughout the day (10:00 AM to 2:00 PM) and up to 96 percent occupied during the evening (6:00 to 8:00 PM).

In the Cumulative Condition under the Proposed Project and Variants, parking supply is further constrained, increasing the parking deficit.

As noted, no other significant impact was identified; however, two improvement measures were identified to reduce the number of employees that park on campus and improve general transportation and parking conditions at the campus while the Proposed Project is under construction. These mitigation and improvement measures were developed for the Near Term plus Project and Year 2040 conditions, as appropriate.

Improvement Measures

- Improvement Measure IM-TR-1: Construction Coordination and Monitoring Measures. This measure would reduce potential conflicts between construction activities and pedestrians, transit and autos during construction activities at ZSFG. It would consist of a traffic control plan to be

implemented during construction, strategies for reducing the number of single-occupancy trips made by construction workers, and timely project construction updates for adjacent residents and businesses.

1 INTRODUCTION

The University of California, San Francisco (UCSF) is one of ten campuses in the University of California (UC) system, and is the only UC campus devoted solely to the health sciences. UCSF's mission is to advance health worldwide through innovative health sciences education, research and patient care. UCSF is a multi-site campus with locations throughout the City and County of San Francisco and northern San Mateo County, encompassing approximately 8.04 million gross square feet (gsf). Its major academic and clinical sites are at Parnassus Heights, Mission Bay, Mission Center, and Mount Zion. It also has a major presence at the City's Priscilla and Mark Zuckerberg San Francisco General Hospital (ZSFG) site, which is owned and operated by the City of San Francisco.

This report examines the existing transportation conditions of ZSFG and analyzes the transportation impacts of a proposed UCSF Research Building at ZSFG and a 307-space garage expansion in an existing parking garage at owned by the San Francisco Municipal Transportation Agency (SFMTA) (herein "Proposed Project"). Specifically, the Proposed Project includes

- A new seismically robust Research Building of about 175,000 gsf on the existing ZSFG surface parking lot along 23rd Street (B/C Lot); and
- The expansion of the parking garage at 23rd Street ("23rd Street Garage") by 307 spaces via the extension of the garage footprint toward 24th Street on the surface parking lot portion of the 23rd Street Garage.

UCSF staff would shift their work locations from existing buildings on the ZSFG campus site, which do not comply with UC Seismic Safety Policy, and from off-site leases to the proposed Research Building. The existing buildings on the ZSFG campus site that are to be vacated by UCSF staff are not expected to be used for other purposes by new DPH staff ('backfill') under near term conditions due to lack of funds to retrofit them, but are expected to be filled under cumulative conditions.

The approximately 130 parking spaces that would be displaced by the proposed Research Building, possibly along with new parking demand generated by the Proposed Research Building, could be replaced via the proposed expansion of the 23rd Street Garage. The expansion of the 23rd Street Garage is also proposed to help address existing unmet parking demand generated by existing uses on the campus, and to address new parking demand from the new hospital and future backfill of Building 5. The expansion could add up to 307 spaces, depending on the number of additional floors added on the affected footprint area. For the purposes of this report, the Proposed Project assumes that the 23rd Street Garage is expanded by 307 spaces.

This transportation impact analysis evaluates the Proposed Project's potential impacts on traffic conditions, transit service, bicycle conditions, pedestrian conditions, loading operations, emergency access, construction activities, and parking conditions. This chapter summarizes the project study area, proposed changes at the ZSFG campus site, and outlines the report structure. A detailed description of the scope of work is provided in **Appendix A**.

1.1 PROJECT STUDY AREA

The transportation study area of the proposed UCSF Research Building (herein "study area") is bounded by 20th Street (north), Bryant Street (west), 25th Street (south), and U.S. 101 (east). **Figure 1-1** shows the location of ZSFG and streets within the study area.

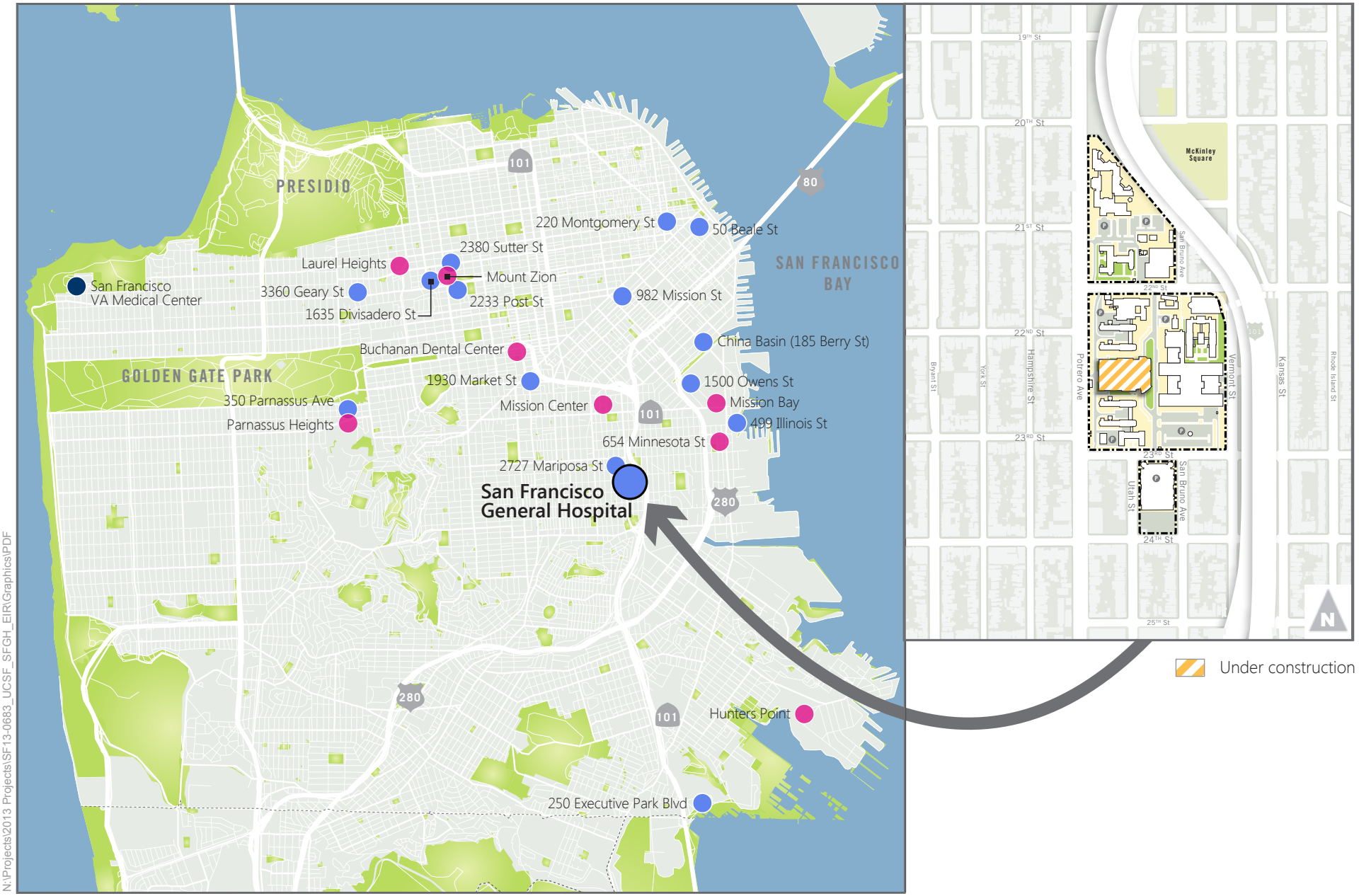


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Figure 1-1

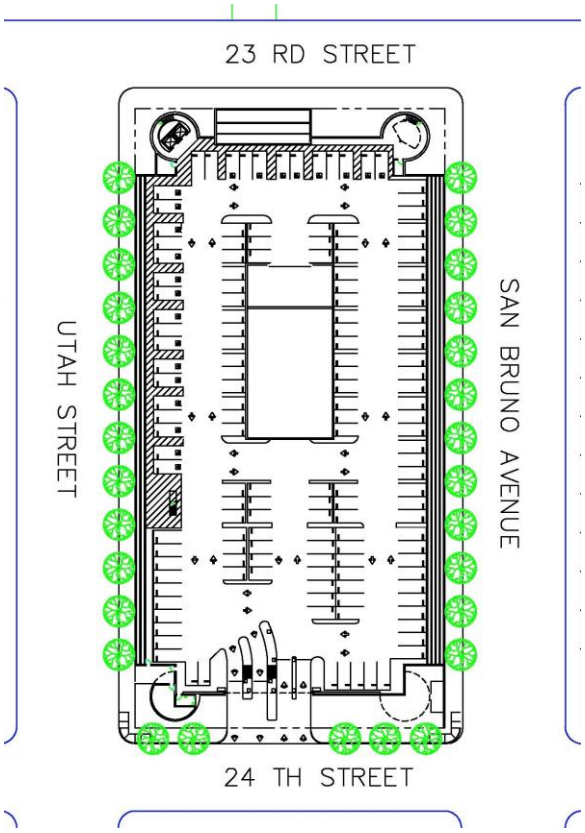
San Francisco General Hospital
Project Site Location Map

1.2 PROJECT DESCRIPTION

ZSFG is an acute-care medical center owned and operated by the City and County of San Francisco. ZSFG is currently undergoing renovation/expansion as described further in Section 1.3. UCSF does not own facilities at ZSFG, but through an affiliation agreement with the City and the DPH from 1999, UCSF faculty and physicians provide medical care at ZSFG in City-owned buildings. In addition, UCSF faculty conducts research at ZSFG. UCSF leases or otherwise occupies space in exchange for services. There are approximately 2,000 UCSF faculty and staff at ZSFG.

ZSFG is located in the Mission district, bordering the western portion of the Potrero Hill neighborhood. The site is bounded by U.S. Highway 101 (U.S. 101) to the north and east, 23rd Street to the south and Potrero Avenue to the west. The area immediately surrounding ZSFG is residential with some neighborhood-serving commercial activity on the ground floor, especially along 24th Street.

UCSF occupies approximately 262,000 gsf of research labs, office and clinic space on ZSFG campus site in ten buildings. Because the University of California Office of the President considers ZSFG to be an adjunct campus site to UCSF, it is subject to UC's Policy on Seismic Safety (Policy), which requires that UCSF occupants be located in seismically safe buildings. To comply with the Policy, UCSF intends to relocate its ZSFG occupants in the non-compliant buildings to a new, UCSF-constructed and seismically robust research building of about 175,000 gsf. The building would be constructed on the existing ZSFG B/C Lot, which is located between the existing hospital (ZSFG Building 5) and 23rd Street as shown on **Figure 1-2** and **Figure 1-3**. The building may also accommodate the transfer of employees whom currently work in off-site leased spaces to the new building. UCSF intends to continue to occupy approximately 87,000 gsf of buildings at the ZSFG campus site which have been deemed seismically safe.



Inset 1 Parking Garage Expansion Draft Layout

The proposed Research Building is in the early stages of conceptual design, and potentially could be five-stories but less than 92 feet in height. The Building footprint would allow for the creation of a new internal street between the existing ZSFG Building 5 and the new Research Building, and the reconfiguration and retention of approximately 35 parking spaces for handicapped parkers, staff vehicles and visitors to the new Urgent Care facility, which will convert the Emergency Room of the existing main hospital. The approximately 130 parking spaces at the B/C Lot parking spaces that would be displaced by the proposed Research Building along with new demand generated by the Proposed Research Building, would be offset via the proposed expansion of the 23rd Street Garage. The expansion of the 23rd Street Garage is also proposed to help address existing unmet parking demand generated by existing uses on the campus, and to address new parking demand from the new

hospital and future backfill of Building 5. The expansion could add up to 307 spaces, depending on the number and final configuration of additional floors added to the existing garage. A draft of the garage expansion is shown in **Inset 1**. For the purposes of this report, the Proposed Project assumes that the 23rd Street Garage is expanded by 307 spaces. The proposed garage expansion would be undertaken by the City, as it is owned by and located on City property.

1.2.1 Project Variants and Alternative

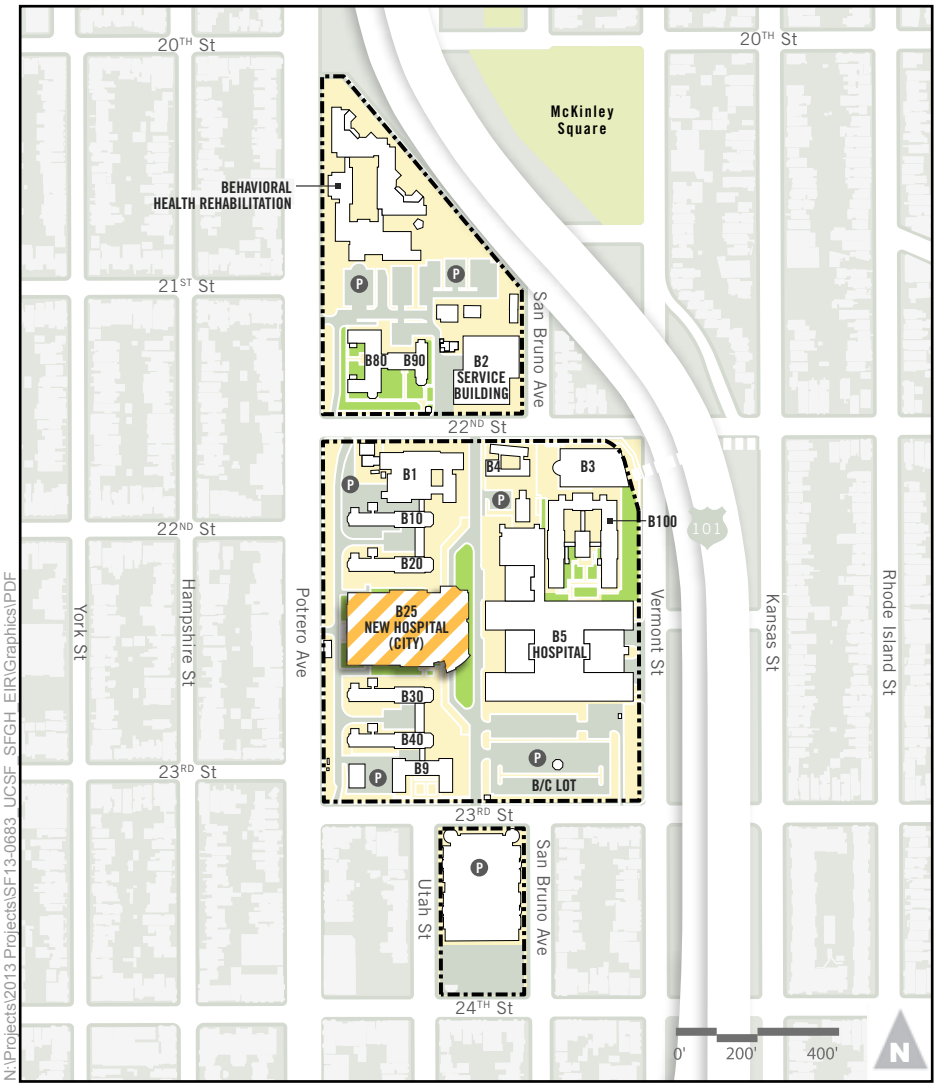
In addition to the Proposed Project, four Project Variants and one Project Alternative are analyzed as part of this transportation study:

- Project Variant 1, in which the 23rd Street parking garage is expanded by up to 292 parking spaces and includes up to 5,000 square feet of retail space[1] fronting 24th Street and redesigned access from Utah Street;
- A 527-space expansion of the 23rd Street garage ("Project Variant 2: 527-space Garage Expansion");
- A 512-space expansion of the 23rd Street garage ("Project Variant 3"), which also includes up to 5,000 square feet of retail space[2] fronting 24th Street and redesigned vehicle access to the garage from Utah Street;
- No expansion of the 23rd Street Garage ("Project Variant 4: No Garage Expansion"), in which the parking garage remains unchanged; and
- Provision of on-site parking at the Research Building site (with no expansion of the 23rd Street Garage) ("Project On-Site Alternative: On-Site Parking), in which the research building includes two levels of underground, on-site parking to replace the 130 spaces removed from the B/C Lot and to accommodate new parking demand generated by potentially relocating UCSF employees from off-sitel leased space to the Proposed Project site.

No other changes are proposed for the UCSF Research Building, the ZSFG site, or the surrounding street network as part of the Variants.

[1] Calle 24 Merchants and the Neighborhood Association will be participating in retail programming if this Variant is selected.
[2] *Ibid.*

EXISTING SITE PLAN



PROPOSED SITE PLAN

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Open space/park

Parking

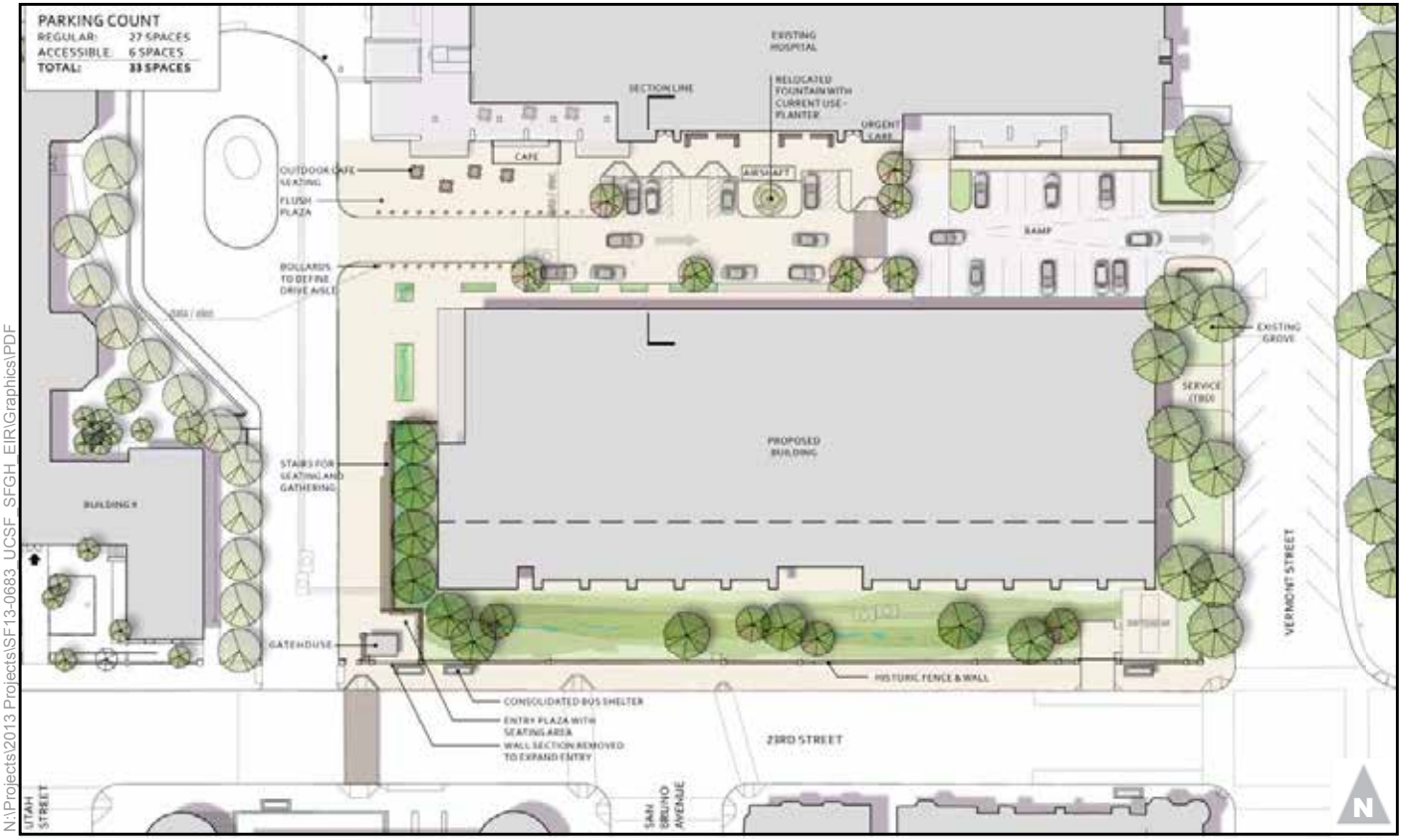
Campus site boundary

Under construction

Figure 1-2

San Francisco General Hospital
Existing and Proposed Site Plan

PROPOSED RESEARCH BUILDING SITE PLAN



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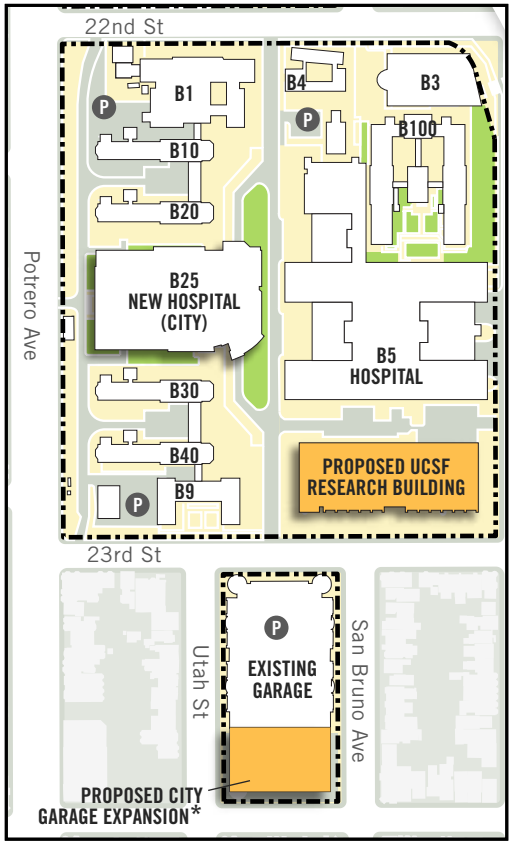
PROPOSED CITY GARAGE EXPANSION



**The expansion would add an additional 307 spaces.*

Figure 1-3

San Francisco General Hospital
Proposed UCSF Research Building and City Garage Expansion Project

1.3 NEW SAN FRANCISCO GENERAL HOSPITAL BUILDING

The City of San Francisco is constructing a New Acute Care Hospital[3] to replace existing inpatient facilities in the Main Hospital building. The New Acute Care Hospital, which is under construction and will be completed in 2015, will be nine stories, including seven stories above grade and two basement levels. The New Hospital will connect to the existing Main Hospital building at the basement level (Basement 1) and at the second floor. All of the approximately 168,000 department square feet) of acute care services currently located in the existing Main Hospital will be relocated to the New Hospital. Approximately 356,970 square feet of uses that are not subject to the SB 1953 requirements would remain in the existing Main Hospital including Outpatient Services, the majority of Support Services, all research uses, Acute Inpatient Psychiatry Services, and Psychiatric Emergency Services.

In addition to the construction of a New Acute Care Hospital and relocation of acute care services from the existing Main Hospital to the New Hospital, the City's hospital project would include the expansion of existing uses and backfill of uses into vacated areas in the existing Main Hospital ('backfill') as well as the phasing out of certain uses on the ZSFG campus site, which would be complete by approximately2022. Uses to be expanded in the existing Main Hospital would include: Inpatient Services (Psychiatric-Forensic), Diagnostic and Treatment Services (Clinical Laboratory), and Outpatient Services (Dental Clinic). Relocated uses from other campus site buildings to the existing Main Hospital would include: Clinical Labs, Anatomic Pathology, Family Practice, and some Outpatient Services (Adult Medicine, Family Medicine, and AIDS Services).

The estimated amount of employees, patients, and visitors on a typical weekday at ZSFG in 2007 prior to construction of the New Hospital, by 2015 at the opening of the New Hospital, and by 2021 when backfill of the existing Main (Old) Hospital is assumed to be complete are summarized in **Table 1-1**.

TABLE 1-1: TYPICAL WEEKDAY POPULATION ESTIMATES AT ZSFG

Population Group	2007	2015	2021
Employees	3,560	3,770	4,370
Patients	2,000	2,030	2,060
Visitors	3,140	3,290	3,820
Total	***8,700***	***9,090***	***10,250***

Source: Tables 13 through 15, pp. 42-43, ZSFG Transportation Report, CHS Consulting, February 2008,

1.4 REPORT ORGANIZATION

The remainder of this report is divided into the following chapters:

Chapter 2 – Existing Conditions describes the operating conditions of the existing transportation network within the vicinity of ZSFG, including the surrounding roadway network, intersection operating conditions,

[3] The City certified the San Francisco General Hospital Seismic Compliance Hospital Replacement Program Final Environmental Impact Report (ZSFG Rebuild EIR) on June 19, 2008.

transit network and service, pedestrian and bicycle conditions, emergency vehicle access, existing loading operations, and parking supply and occupancy.

Chapter 3 – Travel Demand Analysis includes the Proposed Project's trip generation, trip distribution, mode split, and trip assignment forecasts for private vehicles, as well as taxi, shuttle bus, transit, bicycle, pedestrian, and loading travel demand. The Proposed Project's trip generation was developed based on information provided by UCSF and DPH staff and outlined in **Appendix H**.

Chapter 4 – Transportation Impact Analysis describes the anticipated operating conditions of the transportation network with the Proposed Project in place and identifies the extent to which Proposed Project traffic would impact the transportation network. Chapter 4 discusses the transportation network under the following three scenarios:

> Near Term conditions describes the anticipated operating conditions of the transportation network under Existing conditions plus opening of the new ZSFG hospital building. This scenario assumes the new hospital building and proposed circulation changes are complete and operational, but that backfill of the vacated hospital areas would not have yet occurred, as the timing of completion of the backfill is expected to be approximately post 2022. Operations of the transportation network after the addition of the travel demand from the new hospital building are described. Additionally, Near Term Conditions include changes to Potrero Avenue included in the SFMTA Muni Forward Program (formerly 'TEP') and propose Potrero Streetscape Improvements.
>
> Near Term Plus Project conditions describes the anticipated operating conditions of the transportation network under Near Term conditions with the addition of the Proposed Project. Operations of the transportation network after the addition of the travel demand from the Proposed Project and Project Variants are described, including the project's impacts on study intersections, transit, bicycles, pedestrians, loading, emergency vehicles, parking, and the potential impacts of the project construction on the transportation network.

Chapter 5 – Future Year Conditions describes the anticipated operating conditions of the transportation network under Cumulative (Year 2040) conditions, including the traffic associated with the Proposed Project, or Variants, the completion of the ZSFG Rebuild Project plus backfill of all buildings at the ZSFG campus site, and other reasonably foreseeable development projects. It should be noted that Cumulative conditions include the backfill of the space vacated by UCSF in order to move to the New Research Building. Future year traffic forecasts with the Proposed Project were estimated using the San Francisco County Transportation Authority's travel demand model, SF-CHAMP. The Proposed Project's and Variants' contribution to future transportation conditions for traffic, transit, bicycles, pedestrians, loading, emergency vehicles, parking, and the potential impacts of the project construction on the transportation network is described.

Chapter 6 – Transportation Mitigation and Improvement Measures describes the proposed mitigation measures identified to reduce potentially significant transportation impacts created by the Proposed Project, and Variants, if applicable. In addition, improvement measures are provided in cases where project impacts are less-than-significant but measures to improve circulation or project access may be beneficial.

2 EXISTING CONDITIONS

This chapter provides a description of the existing transportation and circulation setting within the vicinity of ZSFG. It includes descriptions of the ZSFG Transportation Demand Management (TDM) Plan, existing roadway network, intersection operating conditions, transit network and service, pedestrian and bicycle conditions, on-street loading, emergency access, and parking supply and occupancy.

2.1 ELEMENTS OF ANALYSIS

The study examines Existing conditions related to the following transportation elements:

- ZSFG TDM Plan – current and proposed TDM measures including UCSF and DPH shuttle service;
- Traffic Conditions – operations along key corridors providing access to and through the study area;
- Transit Conditions – San Francisco Municipal Railway (Muni) and regional transit operations into and within the study area;
- Pedestrian Conditions – qualitative assessment of conditions into and within the study area;
- Bicycle Conditions – qualitative assessment of conditions into and within the study area;
- Loading Conditions – passenger and freight operations within the study area;
- Emergency Service Conditions – operations within the study area; and
- Parking Conditions – characterization of supply throughout the study area.

2.2 ZSFG TRANSPORTATION DEMAND MANAGEMENT PLAN

There are many different factors that determine how people travel to/from work, including home location, work shifts, access to transit, and travel incentives and disincentives. A TDM program is a set of policies and programs that include incentives, information, and education to encourage employees to commute to work by modes other than driving alone. The ZSFG TDM program includes DPH- and UCSF-led strategies that emphasize alternative commuting options, such as public transit, shuttle service, biking, walking, and carpooling. Note that some strategies are specific to DPH or UCSF employee populations. The key elements of the existing ZSFG TDM plan are summarized in **Table 2-1.**

Approximately 3,600 employees travel to ZSFG on a daily basis (ZSFG Institutional Master Plan, 2007). Furthermore, approximately 95 to 98 percent of these workers travel to or from ZSFG between 6:00 am and 12:00 am, which are the general operating hours for regional transit service in the area (ZSFG Employee Transportation Survey, 2013[4]). UCSF Transportation Services monitors transportation conditions at all sites with UCSF employees.

As part of the Project Description development and Environmental Review process, TDM planning coordination with UCSF, DPH, the SFMTA, and transportation consultants yielded a list of potential TDM strategies that could be pursued in addition to those already in place to reduce single-occupant vehicle

[4] The employee survey was updated in October 2015, yielding similar results.

(SOV) trips for UCSF and DPH employees. Because DPH oversees ZSFG, DPH and UCSF would implement any additional or enhanced TDM measures that would affect transportation conditions at ZSFG, in consultation with SFMTA as necessary. Because the SFMTA is responsible for the operation of the 23rd Street Garage, they may offer input into any potential changes to DPH-led TDM measures that may affect parking conditions at ZSFG. Additional information about the existing travel patterns for DPH and UCSF employees, key elements of the existing ZSFG TDM plan and new or modified TDM elements under consideration are described in **Appendix B**.

In the future, DPH will continue to monitor vehicle traffic conditions, transit operations, DPH shuttle ridership, adequacy of pedestrian and bicycle facilities, and loading and parking conditions within and surrounding ZSFG. UCSF will continue to monitor ridership of the UCSF shuttle at ZSFG. This monitoring process would be informed by the annual ZSFG Employee Transportation Survey and input from UCSF and DPH staff and patients and visitors.

TABLE 2-1: EXISTING ZSFG TDM PLAN ELEMENTS

TDM Measure	Affected Employees	Description
Bicycle Parking	UCSF, DPH	All ZSFG Employees may use one of two secure on-site bicycle cages, which have a total of 91 Class I spaces. In addition, there are 34 bike lockers spread between three locations on the campus site. Bicycle racks are available on Potrero Avenue between 22nd and 23rd Streets, on 22nd Street, east of Potrero Avenue, and near the main hospital entrance.
Showers	UCSF, DPH	Showers are provided, which can be used by bicyclists.
Bicycle riders guide	DPH	Routes information and bicycle parking location located on SFDPH website.
Car Share	UCSF, DPH	There are two City CarShare and two Zipcar cars available at the 23rd Street parking garage.
Commuter Benefits	UCSF, DPH	All ZSFG employees are eligible for pretax discount purchase of monthly transit passes.
Emergency Ride Home Program	UCSF, DPH	In the case of an emergency, unexpected work delay, or vehicle mechanical problem (including a bicycle problem), UCSF and DPH employees may be reimbursed up to $50 for their alternative ride home, including a taxi ride, rental car, or car share vehicle.
23rd Street Garage use	UCSF, DPH	SFMTA offers monthly night parking permits at the 23rd Street parking garage to all ZSFG employees, area residents, and businesses at a discounted rate.
Pre-Tax Program	UCSF	The Pre-Tax program allows UCSF employees to reduce their public transit and non-UCSF vanpool costs by about one-third. The program works by allowing participants to deduct up to $255 per month from their paycheck without paying payroll taxes on this income
Rideshare Match	UCSF, DPH	SF Environment, Zimride, and 511 assist in matching commuters with similar daily routes to carpool to their destination
Shuttles	UCSF, DPH	*UCSF*: All UCSF and DPH employees and visitors can use the free UCSF shuttles to travel to/from all UCSF campus sites and secondary campus sites in the City. Two shuttles (Gold and Blue routes) operate from ZSFG to the UCSF Parnassus, Mt. Zion, and Mission Bay campus sites. UCSF also operates the Yellow route which provides shuttle service to the Mission Center Building and also serves the 16th Street BART station. *ZSFG*: All UCSF and DPH employees and visitors can use the free ZSFG shuttle that operates between ZSFG and the 24th St BART station during peak commute hours 5:30 AM-9:00 AM and 4:00 PM - 7:00 PM).
TDM Program Marketing	DPH	DPH participates in outreach to all employees on the campus site to raise awareness about the existing TDM program through information tables, newsletters, transportation fairs and website advertising.
Telecommuting Policy	UCSF, DPH	Eligibility to telecommute for all ZSFG employees determined by job position/requirements and Department.
Vanpool Program	UCSF	The UCSF employee vanpool program requires a minimum of seven participants per vanpool. The driver participates for free and the riders pay between $220 and $500 per month per person; monthly fares are based on the total round-trip miles driven per day.
Zimride	UCSF	UCSF-specific Zimride (ride sharing) website

Source: UCSF and DPH Staff, 2016

2.2.1 ZSFG-Serving Shuttle Systems

UCSF and DPH independently operate shuttle systems that serve all ZSFG employees, patients, and visitors at ZSFG.

The DPH-operated free shuttle travels between ZSFG and the 24th Street BART station during peak commute hours (5:30 AM-9 AM and 4 PM-7 PM). The shuttle currently serves about 90 passengers on average per weekday, with no passengers left behind due to "pass-bys" (i.e. shuttle not stopping because it is full). If DPH notices that this condition occurs, additional shuttle runs would be scheduled. In addition, during construction of the new ZSFG hospital, a shuttle traveled between ZSFG and a free, off-site parking lot for employees located at 2000 Marin Street.[5]

The UCSF-operated free shuttle provides service between its campus sites, transit facilities, and remote parking lots within the city. Service includes 13 fixed-route lines and two on-demand evening services between the Parnassus Heights and Mission Bay campus sites - three of the fixed route lines serve ZSFG: Gold, Blue, and Yellow. UCSF shuttle headways are generally between 15 to 25 minutes, and most routes operate between 6:00 AM and 9:00 PM, Monday through Friday. On average, the Gold and Blue routes serve 450 passengers per weekday, while the Yellow route serves 220 passengers. UCSF monitors the capacity utilization of its routes via monthly boarding audits, driver and rider feedback, program analysis from external consultants, stop audits, and consultation with UCSF Planning. UCSF's shuttle system is a key strategy in providing efficient inter-campus travel. As part of this service, UCSF has and will continue to make periodic minor operational changes to improve operations or to respond to specific community concerns.

Both DPH and UCSF shuttles stop at the following locations: on the north side of ZSFG on 22nd Street, on the south side in the passenger drop-off circle, and on 23rd Street in front of the 23rd Street Garage (this stop is shared with Muni) as shown in **Figure 2-3**. The capacity for the DPH shuttle is 30 persons per vehicle. The seated capacity of the Blue and Yellow lines is 22 persons per vehicle, while the Gold line uses a mixed fleet of 22 and 30-seater vehicles. **Table 2-2** summarizes the existing fixed-route shuttle routes serving ZSFG, route hours of operations, headways, and average daily ridership.

[5] This parking lot closed and the shuttle ceased operation in January 2016.

TABLE 2-2: SHUTTLES TO ZSFG				
Route	**Campus Sites and Stations Served**	**Hours of Operation**	**Headways (minutes)**	**Average Daily Ridership**
UCSF Gold Shuttle[1]	Parnassus – Mt. Zion – Mission Bay – ZSFG	5:45 AM – 9:25 PM	15 – 20	450
UCSF Blue Shuttle[1]	Parnassus – ZSFG – Mission Bay – Mt. Zion	5:35 AM – 8:47 PM	15 – 20	450
UCSF Yellow Shuttle[1]	16th St BART – MCB – 20th/Alabama – ZSFG – 20th/Alabama	6:10 AM – 8:25 PM	15 - 20	220
DPH Shuttle[1]	ZSFG – 24th St BART – Civic Center BART	6:00 AM – 9:00 AM and 4:00 PM – 7:00PM	20 – 50	90
ZSFG Construction Shuttle[3]	ZSFG – 2000 Marin Street (off-site parking)	-[2]	20	N/A

Notes:
1. The UCSF and DPH shuttles do not participate in the SFMTA Commuter Shuttle Program at this time.
2. No quantitative shuttle ridership data available. Anecdotal observations have shown that ridership is high during peak commute periods.
3. The ZSFG Construction Shuttle is no longer in effect as the lot at 2000 Marin Street closed in January 2016.

Source: UCSF Transportation Services, 2013

UCSF's shuttle system is a key strategy in providing efficient inter-campus travel. As part of this service, UCSF has and will continue to make periodic minor operational changes to improve operations or to respond to specific community concerns.

2.3 ROADWAY FACILITIES

This section describes the regional and local roadway system in the study area. Roadway classification definitions, according to the Transportation Element of the San Francisco General Plan, are contained in **Appendix C**.

The primary roadways used to access ZSFG include Potrero Avenue and 23rd Street which form the western and southern borders of ZSFG. The primary vehicular entrances to parking and passenger loading areas are located on 23rd Street in between Utah Street and San Bruno Avenue. Secondary vehicular entrances are provided from 22nd Street between Potrero Avenue and San Bruno Avenue and from Vermont Street. The street network providing access to ZSFG is shown in **Figure 2-1**.

Based on transportation commute surveys conducted in 2013,[6] the majority (65 percent) of employees commute to ZSFG by automobile, of which 56 percent drive alone, 7 percent carpool, and 2 percent are dropped-off.

[6] The employee survey was updated in October 2015, yielding similar results.

2.3.1 Regional Access

Regional access to the study area is provided primarily by U.S. Highway 101, as discussed below.

U.S. Highway 101 (U.S. 101) provides the primary regional access to ZSFG and runs north-south through the study area. U.S. 101 connects San Francisco with the peninsula and the South Bay to the south and with the North Bay to the north via the Golden Gate Bridge. U.S. 101 connects to I-80 north of the study area, which provides access to the East Bay via the San Francisco-Oakland Bay Bridge. Northbound and southbound on- and off- ramps from U.S. 101 are located just south of ZSFG at Cesar Chavez Street. A northbound U.S. 101 off-ramp is also located just north of ZSFG at Mariposa Street. Within the northern part of San Francisco, U.S. 101 operates on surface streets (i.e., Van Ness Avenue and Lombard Street). Van Ness Avenue and Lombard Street are part of the Citywide Pedestrian Network outlined in the Transportation Element of the *San Francisco General Plan*.

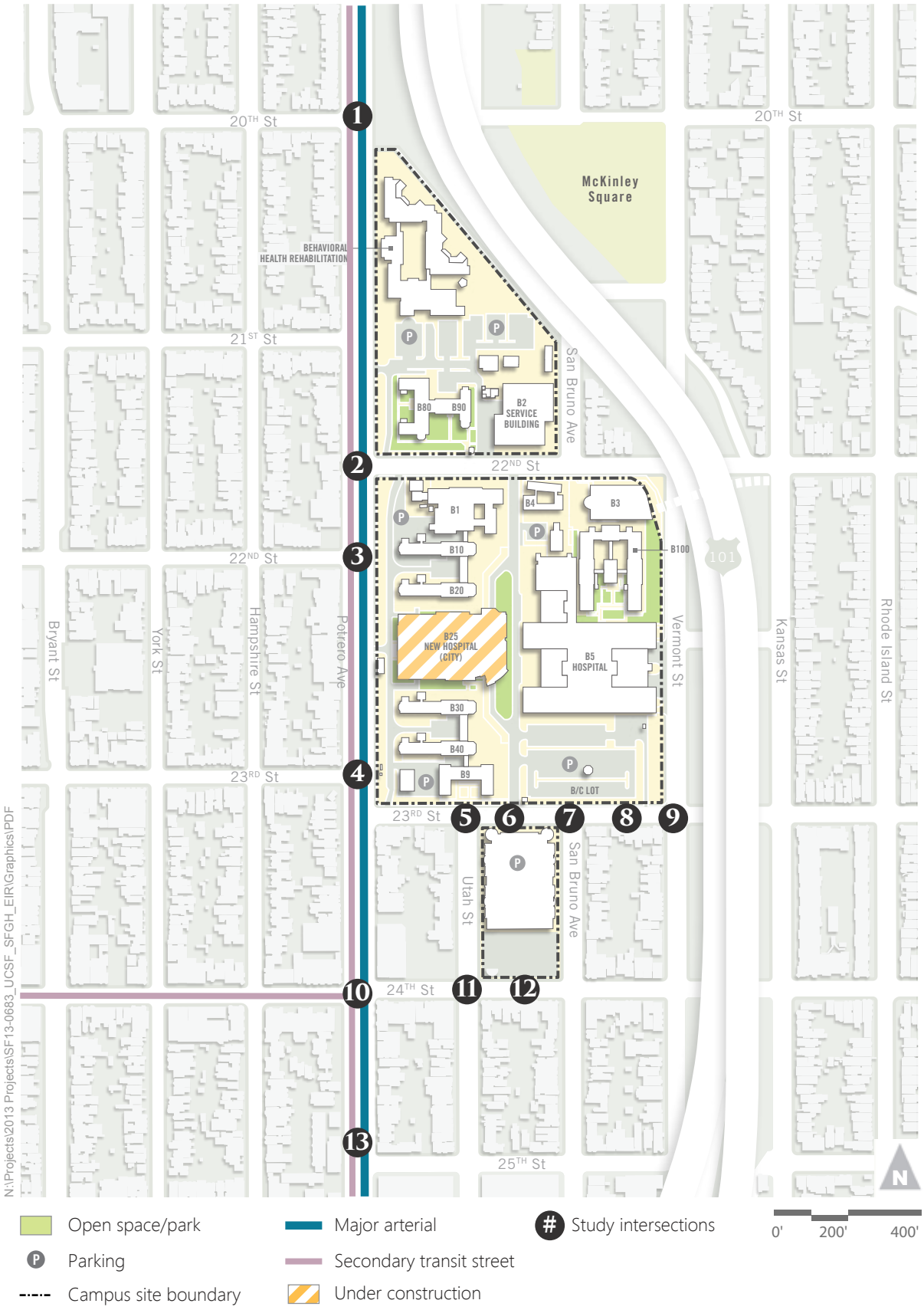


Figure 2-1

Roadway Network & Study Intersections

2.3.2 Local Access

Local access to ZSFG is provided by an urban street grid network. Key local roadways through the study area are discussed in detail below and defined according to roadway classifications identified in the San Francisco General Plan Transportation Element.

Potrero Avenue is a north-south arterial in the southeast part of San Francisco, running parallel to U.S. 101. Potrero Avenue extends from its interchange with U.S. 101 at Division Street to the north, to its interchange with U.S. 101 at Cesar Chavez Street to the south. Potrero Avenue runs through the study area and borders ZSFG to the west. In the study area, Potrero Avenue has two travel lanes in each direction in addition to a northbound bus only lane which extends from 22nd Street to 23rd Street. Muni routes 9/9L San Bruno, 33 Stanyan, and 90 San Bruno Owl run on Potrero Avenue through the study area. There are Class II bicycle lanes which are part of Bicycle Route 25, 8-foot on-street parking lanes, and 9-foot sidewalks on both sides of the street. There are protected left-turn lanes on the southbound approaches to 22nd Street and 23rd Street. Potrero Avenue is designated as a Major Arterial in the *San Francisco General Plan* and as Freight Traffic Route between Bryant Street and Cesar Chavez Street. Potrero Avenue is also part of the Congestion Management Program network and the Metropolitan Transportation System street network.

Utah Street is a local street running north-south between 23rd Street and Potrero del Sol Park, just south of 25th Street. It has one lane of travel in each direction and parking and 12 to 15 foot sidewalks on both sides of the street. On the east side of Utah Street between 23rd Street and 24th Street the on-street parking is perpendicular to the street. Utah Street is in Residential Parking Permit (RPP) zone W.

San Bruno Avenue is a local street running north-south between 23rd Street and deadends south of 25th Street. It has one travel lane in each direction and parking and 12 foot sidewalks on both sides of the street. On the west side of San Bruno Avenue between 23rd Street and 24th Street the on-street parking is perpendicular to the street. There is also a segment that runs through the campus site, starting at 22nd Street and ending at a deadend just north of 22nd Street. This segment has perpendicular parking on both sides of the street. San Bruno Avenue is in RPP zone W.

Vermont Street is a local street running north-south between 22nd Street and 25th Street and boarders ZSFG to the east. Between 22nd Street and 23rd Street, it is part of the campus site and runs one-way in the southbound direction with angled parking on both sides of the street. Between 23rd Street and 25th Street it has one travel lane in each direction, parallel parking on the west side of the street and perpendicular parking on the east side of the street. Vermont Street includes intermittent sidewalks. On the east side of the street, there is a five foot wide sidewalk between 22nd and 25th Streets. On the west side of the street, there is a discontinuous 12-15 foot wide sidewalk, with an approximately 500 foot gap north of 23rd Street. Parking is restricted to ZSFG employees along Vermont Street.

20th Street is a local street running east-west from Illinois Street to Douglass Street, with breaks at U.S. 101, Sanchez Street, and Noe Street. It generally has one lane of travel in each direction and parking and 12 to 15 foot sidewalks on both sides of the street. Between Potrero Avenue and York Street it is in RPP zone W.

22nd Street is a local street. East of U.S. 101 22nd Street runs east-west between Illinois Street and Kansas Street with several breaks. West of U.S. 101 22nd Street runs east-west from Vermont Street to Grand View Avenue with a break at Diamond Street. Between Vermont Street and Potrero Avenue, 22nd Street runs through ZSFG and the street is offset by about 250 feet on either side of Potrero Avenue. Within the study area 22nd Street has one travel lane in each direction and parking and 12 to 15 foot sidewalks

on both sides of the street. 22nd Street is designated as Bicycle Route 44 between Potrero Avenue and Chattanooga Street. Between Potrero Avenue and Florida Street it is in RPP zone W. A pedestrian overpass connects 22nd Street from Vermont Street over U.S. 101 to Kansas Street. Upon completion of the new hospital, emergency vehicles will access the Emergency Department via 22nd Street; parking will be removed from the north side of 22nd Street from Potrero Avenue to just east of the Emergency Department driveway.

23rd Street is a local street running east-west between Illinois Street and Pennsylvania Avenue and then between Missouri Street and Grand View Avenue. 23rd Street provides access across U.S. 101 and along the southern edge of ZSFG. The street is offset by about 100 feet on either side of Potrero Avenue. It generally has one travel lane in each direction and parking and 12 to 15 foot sidewalks on both sides of the street. Between Potrero Avenue and Kansas Street, 23rd Street has Class II bicycle lanes or sharrows and is designated as Bicycle Route 525. Muni routes 48 Quintara/24th Street and 10 Townsend travel on 24th Street between Potrero Avenue and Rhode Island Street. Between Carolina Street and Florida Street it is in RPP zone W. 23rd Street runs along the southern border of ZSFG and provides access to the main entrance of ZSFG.

24th Street is a local street. East of U.S. 101 24th Street runs east-west between Illinois Street and Kansas Street with several breaks. West of U.S. 101 24th Street runs east-west between Vermont Street and Grand View Avenue. It generally has one travel lane in each direction and parking and 12 foot sidewalks on both sides of the street. Muni route 48 Quintara/24th Street travels on 24th Street between Utah Street and Hoffman Avenue. Between De Haro Street and York Street it is in RPP zone W.

25th Street is a local street. East of U.S. 101 25th Street runs east-west between Illinois Street and Kansas Street. West of U.S. 101 25th Street runs east-west between Vermont Street and Grand View Avenue. 25th Street is offset by approximately 150 feet on either side of Potrero Avenue. It generally has one travel lane in each direction and parking and 12 foot sidewalks on both sides of the street. Between De Haro Street and Alabama Street it is in RPP zone W.

2.4 INTERSECTION OPERATING CONDITIONS

On January 20, 2016, under Senate Bill (SB) 743 passed in 2013, the Governor's Office of Planning and Research (OPR) released a revised proposal for changes to the CEQA Guidelines that will amend the way transportation impacts are analyzed (Public Resources Code Section 21099). Specifically, SB 743, codified as Public Resources Code Section 21099, requires OPR to amend the CEQA Guidelines to provide an alternative to Level of Service (LOS) for evaluating transportation impacts. Measurements of transportation impacts may include "vehicle miles traveled, vehicle miles traveled per capita, automobile trip generation rates, or automobile trips generated." Once the CEQA Guidelines are amended to include those alternative criteria, auto delay will no longer be considered a significant impact under CEQA. Because the amended CEQA Guidelines are still under review and the UC Regents has not yet adopted VMT as a transportation impact criterion, the transportation analysis herein presents LOS analysis.

Thus this report evaluates intersection operating conditions during the weekday AM (7:00 AM - 9:00 AM) and PM (4:00 PM - 6:00 PM) peak periods. Intersections usually form the critical capacity constraints on roadways. Therefore, most transportation analyses examine intersection operations as a measure of overall roadway conditions. The following 13 study area intersections were selected for analysis through consultation with UCSF Campus Planning and San Francisco Planning Department staff. These study intersections are shown in **Figure 2-1**.

1. Potrero Avenue / 20th Street
2. Potrero Avenue / 22nd Street (North)
3. Potrero Avenue / 22nd Street (South)
4. Potrero Avenue / 23rd Street
5. Utah Street / 23rd Street
6. West ZSFG Driveway / 23rd Street
7. San Bruno Avenue / 23rd Street
8. East ZSFG Driveway / 23rd Street
9. Vermont Street / 23rd Street
10. Potrero Avenue / 24th Street
11. Utah Street / 24th Street
12. Parking Garage Driveway / 24th Street
13. Potrero Avenue / 25th Street

Figure 2-2 displays the existing AM and PM peak hour traffic volumes, lane configurations and traffic controls at each of the 13 study intersections. Intersection turning movement counts at the study intersections were collected in April, November, and December 2013 on mid-week and non-holiday days when schools were in session. Intersection turning movement count sheets are provided in **Appendix E**.

The operating characteristics of intersections are evaluated using the concept of Level of Service ("LOS"). LOS is a qualitative description of driver comfort and convenience. Most often, an intersection's average delay per vehicle is used as a quantitative proxy for LOS. Intersection levels of service range from LOS A, which indicates free flow or excellent vehicle flow conditions with short delays, to LOS F, which indicates congested or overloaded vehicle flow conditions with extremely long delays. For UCSF, LOS A through D are considered acceptable, and LOS E and LOS F are considered unsatisfactory service levels. The intersections were evaluated using the *2000 Highway Capacity Manual* (HCM) methodology. Tables summarizing the relationship between average delay per vehicle and LOS for signalized and unsignalized intersections according to the 2000 HCM method can be found in **Appendix F**.

For signalized intersections, this methodology determines the capacity for each lane group approaching the intersection. The LOS is based on average delay (in seconds per vehicle) for the various movements within the intersection. A combined weighted average delay and LOS is presented for the intersection. For unsignalized intersections, operations are defined by the average control delay per vehicle (in seconds per vehicle) for each stop-controlled movement or movement that must yield the right-of-way, and the LOS is determined by the worst (highest average delay) approach. Generally, the delay ranges for each LOS are lower than for signalized intersections because drivers expect to have less delay at unsignalized intersections.

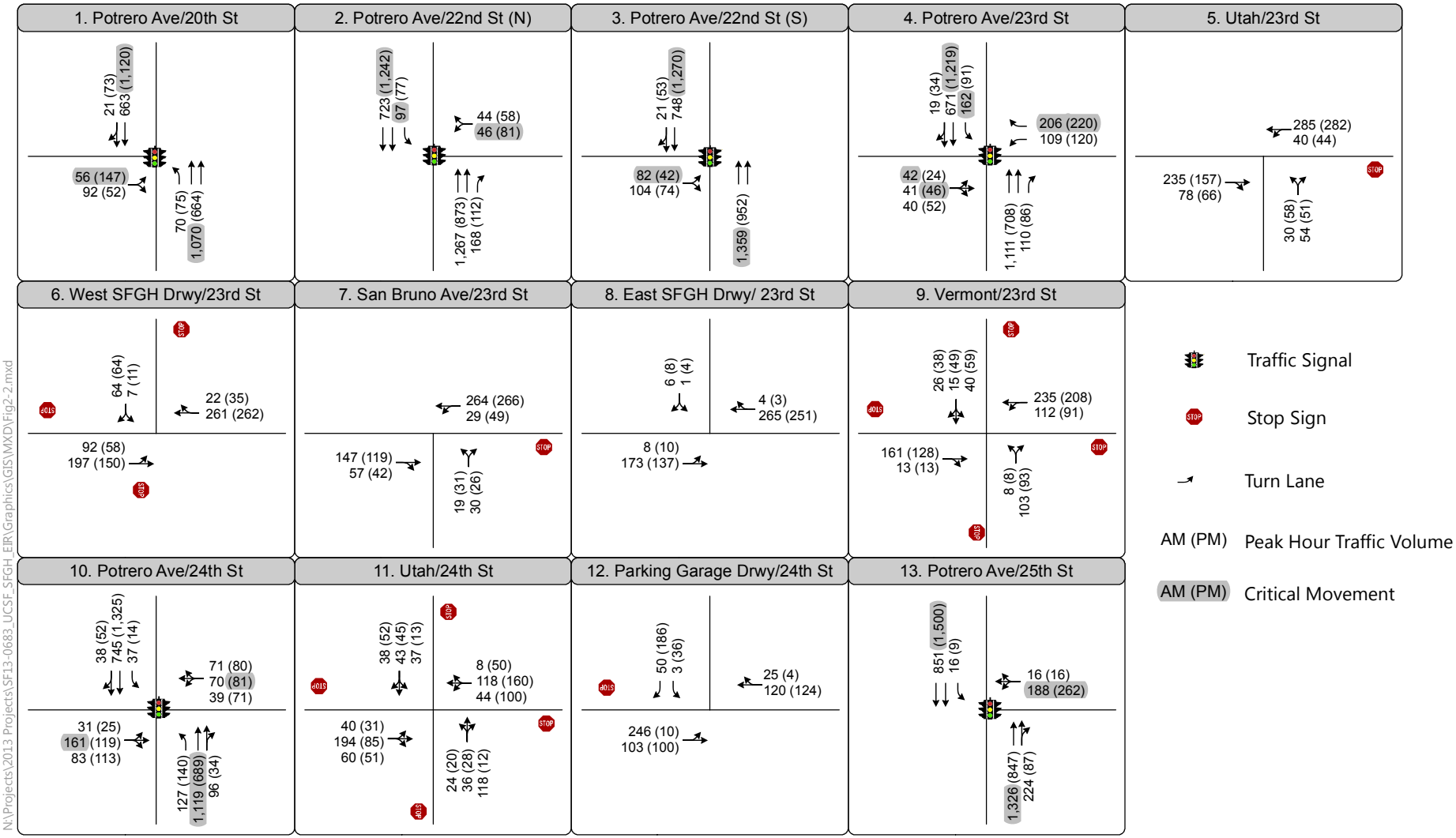


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Figure 2-2

Existing Intersection Turning Movement Volumes & Lane Configuration

LOS was calculated at each study intersection for the weekday AM and PM peak hours, which represents the periods of the day when the transportation network as a whole experiences the highest traffic demand. As shown in **Table 2-3**, all 13 study intersections operate satisfactorily at LOS D or better during the AM and PM peak hours. In fact, most intersections operate at LOS C or better during the AM and PM peak hours, with the exception of Potrero Avenue / 23rd Street, which operates at LOS D during the AM and PM peak hours, and Potrero Avenue / 24th Street, which operates at LOS D during the PM peak hour.

TABLE 2-3: EXISTING PEAK HOUR INTERSECTION LEVEL OF SERVICE

Intersection	Traffic Control	AM Peak Hour		PM Peak Hour	
		Ave. Delay[1]	LOS[2]	Ave. Delay[1]	LOS[2]
1. Potrero Avenue / 20th Street	Signal	12	B	13	B
2. Potrero Avenue / 22nd Street (North)	Signal	13	B	12	B
3. Potrero Avenue / 22nd Street (South)	Signal	15	B	14	B
4. Potrero Avenue / 23rd Street	Signal	49	D	43	D
5. Utah Street / 23rd Street	Side-street Stop	12 (NB)	B	13 (NB)	B
6. West ZSFG Driveway / 23rd Street	All-way stop	10 (EB)	B	<10 (WB)	A
7. San Bruno Avenue / 23rd Street	All-way stop	<10 (WB)	A	10 (WB)	B
8. East ZSFG Driveway / 23rd Street	Side-street stop	10 (SB)	B	10 (SB)	B
9. Vermont Street / 23rd Street	All-way stop	12 (WB)	B	12 (WB)	B
10. Potrero Avenue / 24th Street	Signal	22	C	47	D
11. Utah Street / 24th Street	All-way stop	12 (EB)	B	11 (WB)	B
12. Parking Garage Driveway / 24th Street	Side-street stop	<10 (SB)	A	10 (SB)	B
13. Potrero Avenue / 25th Street	Signal	31	C	20	C

Notes:

1. Delay reported as seconds per vehicle. For signalized intersections, a combined weighted average delay for the various movements within the intersection is reported. For unsignalized intersection, the highest average delay for an approach is reported.
2. For signalized intersections, LOS based on average intersection delay, based on the methodology in the Highway Capacity Manual, 2000. For unsignalized intersection, LOS is based on the worst approach which is indicated in parentheses.

Source: Fehr & Peers, 2013.

2.5 TRANSIT NETWORK

ZSFG is well-served by public transit, both local and regional. Local service is provided by the San Francisco Municipal Railway (Muni) bus and light rail lines, which can be used to access regional transit operators. Service to and from the East Bay is provided by Bay Area Rapid Transit (BART), AC Transit and ferries; service to and from the North Bay is provided by Golden Gate Transit buses and ferries; service to and from the Peninsula and South Bay is provided by SamTrans, BART, and Caltrain. As described in Section 2.2.1, ZSFG and UCSF supplement Muni transit service with separate shuttle systems that provides direct connections to BART, off-site parking locations,[7] and UCSF-operated facilities throughout San Francisco. In many cases, these shuttles provide a direct transit alternative between two campus sites that would otherwise require a transfer between two or more Muni routes. Approximately 25 percent of UCSF and DPH employees take public transit or the UCSF and ZSFG shuttles to work.

2.5.1 San Francisco Muni

San Francisco Municipal Railway (Muni) provides transit service within the City and County of San Francisco, including bus (both diesel and electric trolley), light rail (Muni Metro), cable car, and electric streetcar lines. Muni operates a number of bus lines in the study area. **Figure 2-3** shows the local transit routes in the vicinity of the study area. **Table 2-4** presents the Muni routes serving the campus site within about a quarter-mile walk. The route characteristics are current as of December 2013, including service frequencies during the weekday morning and evening peak periods, hours of operations and neighborhoods served, as well as ridership and capacity utilization at each line's maximum load point ("MLP"). The MLP is the location where the route has its highest number of passengers relative to its capacity. Capacity utilization relates the number of passengers per transit vehicle to the design capacity of the vehicle. The capacity per vehicle includes both seated and standing capacity, where standing capacity is between 30 to 80 percent of seated capacity (depending upon the specific transit vehicle configuration). The capacity of a standard bus is 63 passengers.

[7] The off-site lot (and shuttle service serving it) closed in January 2016.

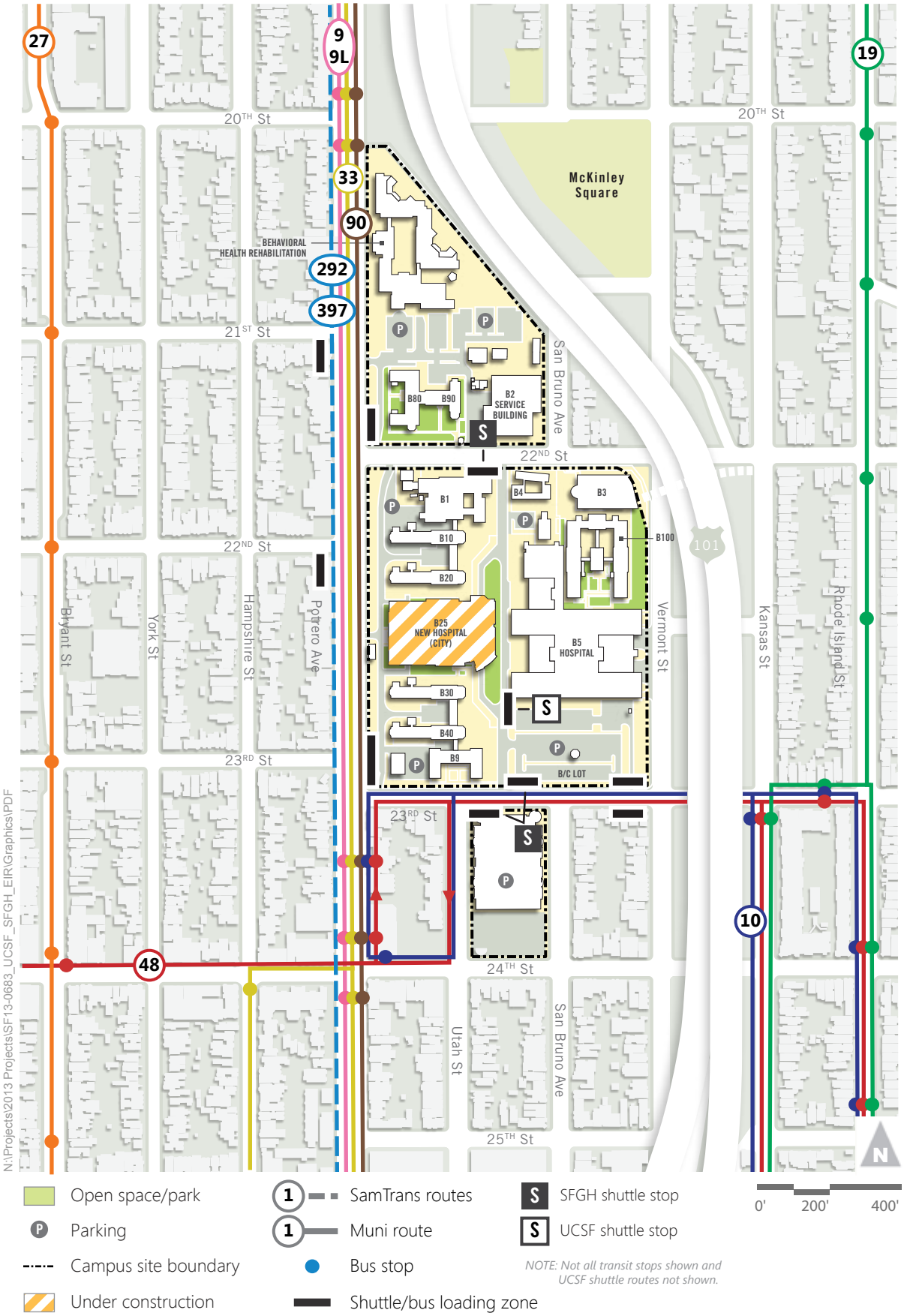


Figure 2-3

Existing Transit Service

TABLE 2-4: LOCAL MUNI OPERATIONS

Route	AM Peak Weekday Headways (7AM-9AM)[1]	PM Peak Weekday Headways (4PM-6PM)[1]	Hours of Operation	Neighborhoods Served by Route	Nearest Stop Location	Distance to ZSFG (feet)
9 – San Bruno	12	12	5:00 AM - 1:30 AM	Visitacion Valley, Potrero Hill, Market Street	22nd & Potrero	<100
9R – San Bruno Limited	12	12	6:00 AM - 6:30 PM	Visitacion Valley, Potrero Hill, Market Street	24th & Potrero	600
10 – Townsend	15	20	5:00 AM - 8:30 PM	Potrero Hill, China Basin, Nob Hill	23rd & Utah	<100
19 – Polk	15	15	5:30 AM - 1:30 AM	Fisherman's Wharf, Hunters Point	Rhode Island & 22nd	800
27 – Bryant	15	15	5:30 AM – 1:00 AM	Russian Hill, Mission	Bryant & 22nd	900
33 – Ashbury/18th	15	15	5:30 AM – 1:00 AM	Mission, Haight, Inner Richmond	22nd & Potrero	<100
48 – Quintara/ 24th Street	10	12	5:30 AM – 12:00 AM	Potrero Hill, Mission, Ocean Beach	23rd & Utah	<100
90 – San Bruno Owl[2]	-	-	12:00 AM – 6:00 AM	Visitacion Valley, Bayview, Mission, SoMa, Fisherman's Wharf	22nd & Potrero	<100

Notes:

1. Headway in minutes.
2. 30 minute headways during operating hours.

Source: SF Muni, 2013; SFMTA, Fall 2011; prepared by Fehr & Peers, 2013.

TABLE 2-5: LOCAL MUNI OPERATIONS - ZSFG

Route	AM Peak Ridership at MLP[1] (Inbound / Outbound)	AM Peak Capacity Utilization at MLP[1] (Inbound / Outbound)	PM Peak Ridership at MLP[1] (Inbound / Outbound)	PM Peak Capacity Utilization at MLP[1] (Inbound / Outbound)
9 – San Bruno	225 175	71% 56%	180 215	57% 68%
9L – San Bruno Limited	240 115	76% 37%	140 200	44% 63%
10 – Townsend	141 165	75% **87%**	186 171	**98%** **90%**
19 – Polk	160 220	63% **87%**	172 124	68% 49%
27 – Bryant	132 140	52% 56%	160 116	63% 46%
33 – Stanyan	140 128	56% 51%	156 132	62% 52%
48 – Quintara/ 24th Street	230 276	73% 73%	175 180	56% 57%
90 – San Bruno Owl[2]	--	--	--	--

Notes:

1. Maximum load point, which is the point at which the route has the maximum number of passengers relative to capacity
2. Route operates during late evening and overnight hours
3. **Bold** indicates capacity utilization of 85 percent or greater, which is a typical crowding standard used by transit agencies.

Source: SF Muni, 2013; SFMTA, Fall 2011; prepared by Fehr & Peers, 2013.

2.5.1.1 Recent and Proposed Changes to Transit Service

Muni Forward (formerly Transit Effectiveness Project; TEP) serves as both a thorough review of and repositioning of San Francisco's public transit system, initiated by SFMTA in collaboration with the City Controller's Office. Muni Forward is aimed at improving reliability, reducing travel times, providing more frequent service and updating Muni bus routes and rail lines to better match current travel patterns. Muni Forward recommendations include new routes and route realignments, more service on busy routes, and elimination or consolidation of certain routes or route segments with low ridership. The recommendations were unanimously endorsed by the SFMTA Board of Directors in October 2008, for environmental impact review. The initial recommendations were revised based on public feedback on the draft environmental impact report (EIR). The EIR was certified on March 27, 2014, and the SFMTA Board of Directors approved most of the Service Improvements and portions of the Transit Travel Time Reduction Proposals on March 28, 2014.[8] Muni Forward projects would be implemented based on funding and resource availability. The Muni Forward Implementation Strategy anticipates that many of the improvements would be implemented sometime between Fiscal Year 2014 and Fiscal Year 2019,

[8] San Francisco Planning Department. 2014. TEP Final EIR, March 27, 2014, Available online at http://tepeir.sfplanning.org. Accessed April 3, 2014. Case No. 2011.0558E. The document and supporting information may also be viewed at the Planning Department, 1650 Mission Street, Suite 400, San Francisco, CA in case file 2011.0558E.

subject to funding sources and resource availability.[9] The following changes are proposed by Muni Forward for routes in the study area.

- **9 San Bruno** – The TEP proposes travel time reductions along the corridor to reduce transit travel time. The proposed changes to Potrero Avenue would include transit stop changes, lane modifications, parking and turn restrictions, bicycle, and pedestrian improvements. Specific changes to Potrero Avenue in the study area are described in Section 4.2.
- **9L San Bruno Limited** – Muni Forward proposes changes to AM peak headways from 12 to 10 minute headways.
- **10 Townsend** – Muni Forward proposes to rename the 10 Townsend to the 10 Sansome. Service would be rerouted off of Townsend down Fourth Street. From Fourth Street the route would extend through Mission Bay to new proposed street segments on Seventh Street between Mission Bay Boulevard and Hubble Street, on Hubble Street between Seventh and 16th streets, on 16th Street between Hubble and Connecticut streets, and on Connecticut Street between 16th and 17th streets. Peak period headways would be reduced from 20 to 6 minutes. Midday headways would be reduced from 20 to 12 minutes.
- **19 Polk** – Muni Forward proposes that the route would end at ZSFG at 23rd Street and Potrero Avenue. The route segment south of 24th Street would be replaced with the rerouted 48 Quintara. With this change, passengers south of 24th Street would be required to transfer to this route in order to travel to the Civic Center and Russian Hill, but would have a more direct connection to Potrero Avenue, the Mission, Noe Valley and the Sunset District.
- **27 Bryant** – Muni Forward proposes to rename the 27 Bryant to the 27 Folsom. This is because the line would be moved from Bryant Street to Folsom Street to replace the 12 Folsom line that is proposed to be discontinued. In addition, the line would be extended north along Leavenworth Street and west along Vallejo Street.
- **33 Stanyan** – Muni Forward proposes two alignment changes. First, the line would be rerouted to Valencia Street between 16th and 18th Streets to alleviate transit congestion on Mission Street. Second, the line would continue along 16th Street to Connecticut Street, south to 18th Street, east to Third Street, south to 20th Street, and west to Tennessee Street to replace the segment of the 22 Fillmore that is proposed to be discontinued and replaced by the Muni 55. Muni Forward also proposes reducing peak period headways from 15 to 12 minutes.
- **48 Quintara-24th Street** – Muni Forward proposes that the route would operate all day from 48th Avenue to the Hunters Point Naval Shipyard. At 25th and Connecticut streets, this route would no longer follow the existing alignment and would change to follow the existing 19 Polk route to Hunters Point via Evans and Innes avenues. This would provide a new connection from the Mission District, Noe Valley and the Sunset to Third Street and Hunters Point.

[9] San Francisco Municipal Transportation Agency. 2014. TEP Implementation Workbook, March 5, 2014, Available online at: http://www.sfmta.com/sites/default/files/projects/TEP%20Implementation%20Plan%20-%20Section%201%20%282%29_1.pdf. Accessed June 27, 2014.

2.5.2 Regional Transit Service

In addition to Muni operations, regional transit service was considered. The following regional transit services operate within San Francisco and are accessible from ZSFG via Muni or shuttle. **Table 2-6** presents the regional transit routes serving the transit study area and route characteristics as of November 2013, including service frequencies during the weekday morning and evening peak periods, hours of operations and neighborhoods served.

Caltrain

Caltrain provides passenger rail service on the Peninsula between San Francisco and Downtown San Jose with several stops in San Mateo County and Santa Clara County. Limited service is available south of San Jose. Caltrain service headways during the AM and PM peak periods are 10 to 60 minutes, depending on the type of train. The peak direction of service is southbound during the AM peak period and northbound during the PM peak period. Caltrain service terminates at the San Francisco Station at Fourth/King which is served by local, limited, and express "Baby Bullet" trains. The closest Caltrain station to the study area is the 22nd Street station, which is accessible via Muni Route 48.

Bay Area Rapid Transit (BART)

BART provides regional commuter rail service between San Francisco and the East Bay (Pittsburg/Bay Point, Richmond, Dublin/Pleasanton and Fremont), as well as between San Francisco and San Mateo County (SFO Airport and Millbrae). Weekday hours of operation are between 4:00 AM and midnight. During the weekday PM peak period, headways are five to 15 minutes along each line. Within San Francisco, BART operates underground along Market Street to Civic Center Station where it turns south through the Mission District towards Daly City. The closest BART station to the study area is the 24th Street Mission BART station, which is accessible via Muni route 48 or the ZSFG shuttle.

Alameda-Contra Costa County Transit District (AC Transit)

AC Transit operates bus service in western Alameda and Contra Costa Counties, as well as routes to the City of San Francisco and San Mateo County. AC Transit operates 33 "Transbay" bus routes between the East Bay and the Temporary Transbay Terminal, temporarily located at Howard Street and Beale Street. The Temporary Transbay Terminal is accessible from ZSFG via Muni. The majority of Transbay service is provided only during commute periods in the peak direction of travel, with headways between buses from 15 to 20 minutes. The peak direction of service is into San Francisco during the AM peak period and out of San Francisco during the PM peak period. All-day service is provided on a few lines, with headways of approximately 30 minutes. AC Transit riders would need to transfer to Muni to access ZSFG.

San Mateo County Transit District (SamTrans)

SamTrans operates bus and rail service in San Mateo County. A few SamTrans routes also serve the Temporary Transbay Terminal in downtown San Francisco, including Routes 292 and 397. These routes are only allowed to carry passengers to and from San Francisco and not within San Francisco. Route 292 makes San Francisco stops along Potrero Avenue and Mission Street throughout the day. AM peak hour headways

are between 10 and 15 minutes, and PM peak hour headways are 20 minutes. Routes 391 and 397 run along Mission Street in San Francisco but stop only at the Temporary Transbay Terminal. Route 397 is a late night service route with headways of one hour.

Golden Gate Transit

The Golden Gate Bridge, Highway, and Transportation District operates Golden Gate Transit (GGT), which provides bus and ferry service between the North Bay (Marin and Sonoma counties) and San Francisco. GGT operates 22 commuter bus routes, nine basic bus routes, and 16 ferry feeder bus routes into San Francisco. Bus routes operate at headways of 15 to 90 minutes depending on time and day of week and bus type. Golden Gate Transit also operates ferry service between the North Bay and San Francisco, connecting Larkspur and Sausalito with the Ferry Building during the morning and evening commute periods. Golden Gate Transit bus and ferry services are accessible from ZSFG via Muni.

TABLE 2-6: REGIONAL TRANSIT OPERATIONS

Route	AM Peak Weekday Headways (7AM-9AM)[1]	PM Peak Weekday Headways (4PM-6PM)[1]	Hours of Operation	Neighborhoods Served by Route	Nearest Stop Location	Distance to ZSFG
Caltrain Local	-	-	4:30AM-12:01AM (IB) 4:55AM-1:32AM (OB)	San Francisco, San Jose, (Gilroy)	22nd and Pennsylvania	0.7 miles
Caltrain Limited-Stop	10-20	20-60	5:50AM-8:00PM (IB) 6:11AM-8:19PM (OB)	San Francisco, San Jose, (Gilroy)	22nd and Pennsylvania	0.7 miles
Caltrain Baby Bullet	10-40	20-40	5:45AM-7:24PM (IB) 6:57AM-7:39PM (OB)	San Francisco, San Jose, (Gilroy)	22nd and Pennsylvania	0.7 miles
BART	5-15	5-15	4:00AM-12:00AM (IB/OB)	East Bay, San Francisco, San Mateo County	24th and Mission	0.8 miles
AC Transit	15-20	15-20	12:00AM-12:00AM(IB/OB)	East Bay, San Francisco	Beale between Folsom and Howard	2.8 miles
SamTrans Route 292	10-15	20	3:55AM-2:28AM (IB) 4:30AM-12:00AM (OB)	San Mateo County, SFO, Transbay Terminal	Potrero and 24th	600 feet
GGT commuter and basic bus routes	15-90	15-90	4:01AM-12:41AM (IB) 5:06AM-2:28AM (OB)	North Bay, San Francisco	8th and Folsom	1.4 miles

Notes:

1. Headway in minutes.

Source: SF Muni, 2013; Prepared by Fehr & Peers, 2013.

2.6 PEDESTRIAN CIRCULATION

Walking to and from ZSFG is not a primary travel mode option for many of UCSF and DPH employees. Approximately three percent of UCSF and DPH employees walk to the hospital.

Pedestrian volumes were collected at each study intersection during the morning (7:00 AM to 9:00 AM), midday (1:00 to 3:00 PM), and evening (4:00 PM to 6:00 PM) peak periods. In addition, pedestrian volumes were collected at four study locations during the midday period (2:30-4:30 PM) to determine the pedestrian volumes during employee shift changes. These volumes are shown in **Figure 2-4**.

The busiest pedestrian locations in the study area are along the southern edge of ZSFG including the crosswalk between the SFMTA parking garage into ZSFG, the sidewalks along 23rd Streets, and the signalized intersection of Potrero Avenue and 24th Street. Several hundred pedestrians were counted at each of these locations during the AM, mid-day, and PM peak hours, with generally the highest pedestrian activity occurring during the AM peak hour. Many visitors and employees drive to ZSFG and park at the SFMTA parking garage, while other visitors and employees arrive via UCSF shuttles, which stop on the southern side of 23rd Street, both of which contribute to the high pedestrian volumes crossing 23rd Street. For those that arrive to ZSFG via Muni, the primary walking path from stops at Potrero Avenue and 22rd or 24th streets is along 23rd Street and Utah streets. The 48 Quintara/ 24th Street stops directly in front of ZSFG on 23rd Street and Utah Street. 24th Street west of Potrero Avenue is a busy commercial thoroughfare which generates a lot of pedestrian activity as well. Other gateways into ZSFG including the mid-block signalized crosswalk just north of 23rd Street and the intersection of 22nd Street. Both gateways were observed to have moderate levels of pedestrian activity, with less than 100 pedestrians at each location. The mid-block signalized crosswalk has less pedestrian activity than 22nd Street due to ongoing construction activity related to the ZSFG Hospital project.

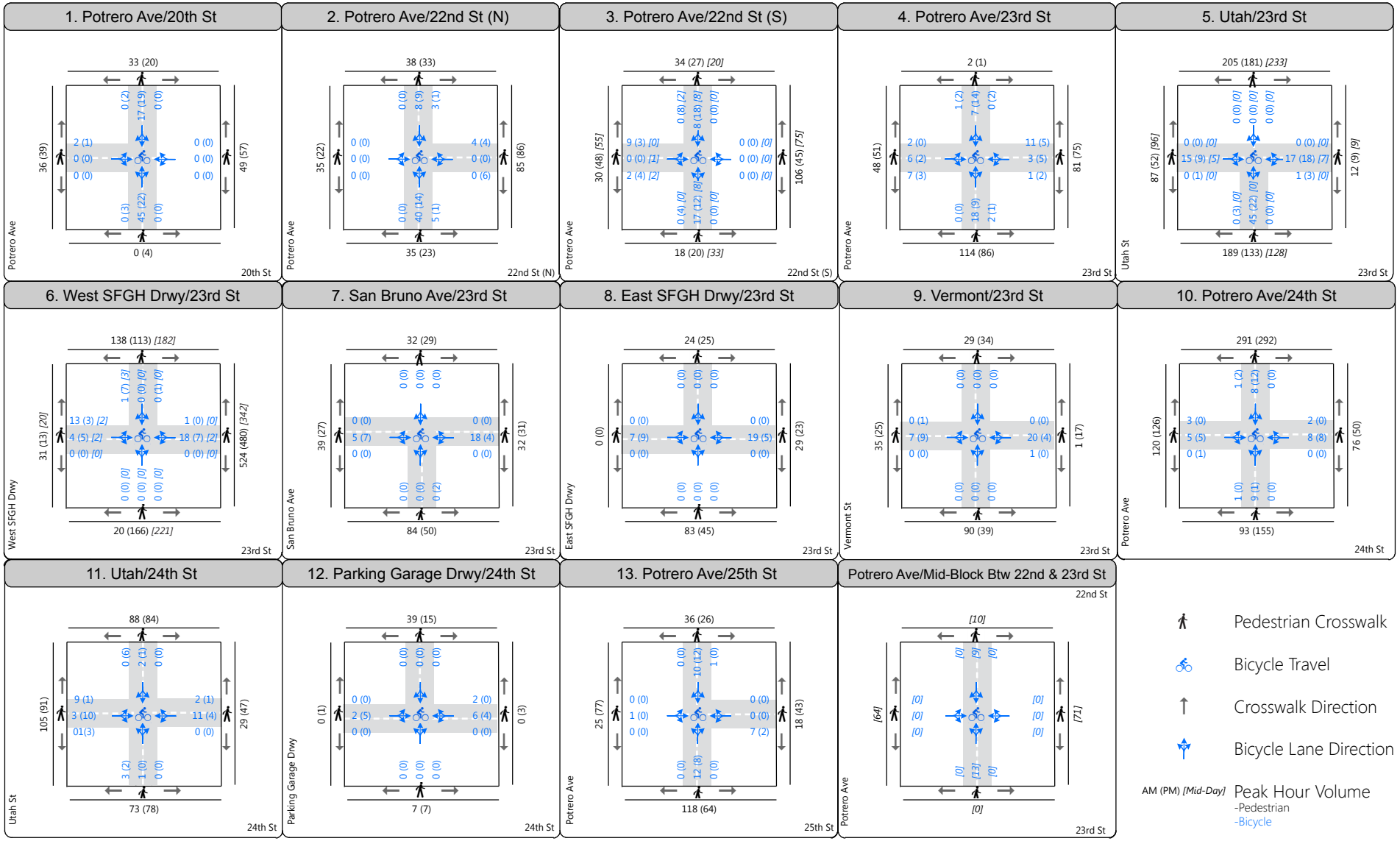


Figure 2-4

Existing Bicycle and Pedestrian Movement Volumes

A qualitative evaluation of existing pedestrian conditions was conducted during field visits to ZSFG in January 2014. Pedestrian facilities include sidewalks, crosswalks, curb ramps, and pedestrian countdown signals at intersections.

Pedestrian facilities in the area immediately surrounding ZSFG are relatively complete. There are 12 to 15 foot wide sidewalks on the both sides of most streets and crosswalks on most legs of intersections. Pedestrian and countdown signals are currently provided at all study intersections and there are no missing curb ramps or multiple turning lanes for pedestrians to cross. There is also a signalized mid-block crossing across Potrero Avenue between 22nd and 23rd streets which provide pedestrian access to the Muni bus stops on either side of the street. Missing sidewalks or crosswalks in the study area include the following locations:

- Vermont Street is missing a sidewalk on the west side for approximately 500 foot north of 23rd Street;
- Potrero Avenue / 23rd Street has four potential crossing locations across Potrero Avenue (due to the offset intersection) but only one crosswalk at the far southern leg of the intersection;
- Utah Street / 23rd Street is missing a crosswalk on the east leg; and
- West ZSFG Driveway / 23rd Street is missing a crosswalk on the west leg.

Mid-block crosswalk on Potrero Avenue between 22nd and 23rd streets.

No crosswalks provided at several legs of Potrero Avenue and 23rd Street.

Sidewalks in the study area generally meet or exceed the San Francisco Planning Department's *Better Streets Plan* (2010) minimum and recommended widths. Exceptions include the sidewalk on the west side of Vermont Street between 22nd and 25th streets which is only five feet wide.

Pedestrian impediments within the study area include U.S. 101 which provides a barrier to east-west pedestrian circulation in the study area. Pedestrian access across U.S. 101 is provided on 23rd Street and at the pedestrian bridge at 22nd Street. (There is also a pedestrian bridge just north of 25th Street, but it is currently closed). The combination of high pedestrian volumes crossing 23rd Street between the parking garage and ZSFG, private vehicles entering the ZSFG passenger drop off area, Muni buses, and large delivery trucks all contribute to a busy and sometimes disorienting feel in the zone along 23rd Street in front of ZSFG. This is partially caused by the staggered intersections along 23rd Street between Utah Street and San Bruno Avenue. This design creates some uncertainty about where vehicles should stop and where pedestrians should cross as pedestrian desire lines are often outside the marked crosswalks. However, vehicle travel speeds are generally slow through this area which minimizes the potential for pedestrian and vehicle conflicts by reducing vehicle stopping distance.

2.7 BICYCLE CIRCULATION

The majority of the study area is flat, with limited changes in grades, facilitating bicycling within and through the area. UCSF has identified bicycling as an effective tool in reducing congestion and pollution, promoting good health, and creating a livable environment. Based on transportation commute surveys conducted in 2013,[10] approximately seven percent of UCSF and DPH employees bike to the hospital. This is consistent with the bicycling mode share throughout San Francisco.

Bicycle facilities in San Francisco consist of bicycle paths, separated bicycle lanes, bicycle lanes, and bicycle routes.

Bicycle Path (Class I) provides a completely separated right-of-way for the exclusive shared use of cyclists and pedestrians. These facilities are off-street and minimize cross-flow traffic, but they can be adjacent to an existing roadway.

Bicycle Lane (Class II) provides a striped, marked and signed lane for bicycle travel. These one-way facilities are located on roadways and reserve a minimum of four to five feet of space for exclusive bicycle traffic.

Bicycle Route (Class III) provides a shared travel lane marked and signed for shared use with motor vehicle traffic. These facilities may or may not be marked with "sharrows" to emphasize that the roadway space is shared.

Cycle Tracks (Class IV) provide a striped, marked and signed bicycle lane physically buffered from vehicle traffic (via vertical obstructions such as bollards, parked vehicles, or other mechanism). These facilities are located adjacent to roadways and reserve a minimum of four to five feet of space for exclusive bicycle traffic.

Current on-street bicycle facilities in the study area, as designated by the 2013 San Francisco Bikeway Network Map and their direction of travel are shown in Section 2.7.1 Bicycle Parking. The following bicycle facilities run through the study area:

- **Bicycle Route 25** runs north-south along Potrero Avenue between 17th Street and 25th Street as a Class II bike lane. The route continues north of the study area up to Aquatic Park and south down to the Bayshore Caltrain station.
- **Bicycle Route 44** is a Class III bicycle route which runs east-west along 22nd Street between Potrero Avenue and Chatanooga Street, where it turns south then west again on Jerset Street.

[10] The employee survey was updated in October 2015, yielding similar results.

- **Bicycle Route 525** is a Class III bicycle route which runs east-west along 23rd Street between Potrero Avenue and Kansas Street and then north-south betwee Kansas Street and Cesar Chavez, connecting portions of Route 25 with Route 60.

The *San Francisco Bike Plan* (June 2009) (herein "Bike Plan") includes planned short-term improvements to Bicycle Route 525 on 23rd Street. 23rd Street improvements include the striping of Class II bicycle lanes between Kansas Street and Potrero Avenue. There are no planned Class IV cycle tracks in the study area.

Bicycle volumes were collected at each study intersection during the morning (7:00 AM to 9:00 AM) and evening (4:00 PM to 6:00 PM) peak periods. In addition, pedestrian volumes were collected at four study locations during the midday period (2:30 to 4:30 PM) to determine the bicycle volumes during shift changes. These volumes are shown in **Figure 2-4**. The highest approach volumes during the AM and PM peak hours were observed on Potrero Avenue and 23rd Street. These designated bicycle routes provide the primary north-south and east-west bicycle access within the study area.

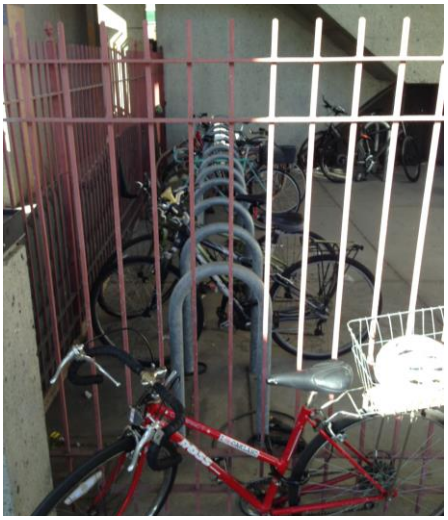
2.7.1 Bicycle Parking

The City of San Francisco Planning Code Section 155.2 defines two types of bicycle parking. Class 1 spaces are spaces in secure, weather-protected facilities intended for use as long-term, overnight, and work-day bicycle storage by dwelling unit residents, nonresidential occupants, and employees. Class 2 spaces are spaces located in a publicly-accessible, highly visible location intended for transient or short-term use by visitors, guests, and patrons to the building or use.

Class 1 bicycle lockers located at the southwestern corner of the existing main hospital

Class 1 spaces for employee use include two secure on-site bicycle cages with a total of 91 spaces as shown on **Figure 2-5.** Use of the Class 1 storage space requires a ZSFG ID badge, but lockers are not assigned. These lockers are typically 65 percent full. The 23rd Street garage also has 127 Class 1 spaces in three areas, which are typically 100 percent full.

Class 2 spaces for visitors and patients include a total of 116 bicycle rack spaces on-campus, on Potrero Avenue between 22nd and 23rd Streets, 22nd Street east of Potrero Avenue, near the main hospital entrance, and inside the 23rd Street parking garage. Within the garage, 10 Class 2 spaces are provided on the 24th Street side next to the stairway, while another 10 Class 2 spaces are located on the 3rd level on the 23rd Street side. On a typical weekday about half of the available bicycle parking spaces are utilized.



Typical bicycle parking conditions

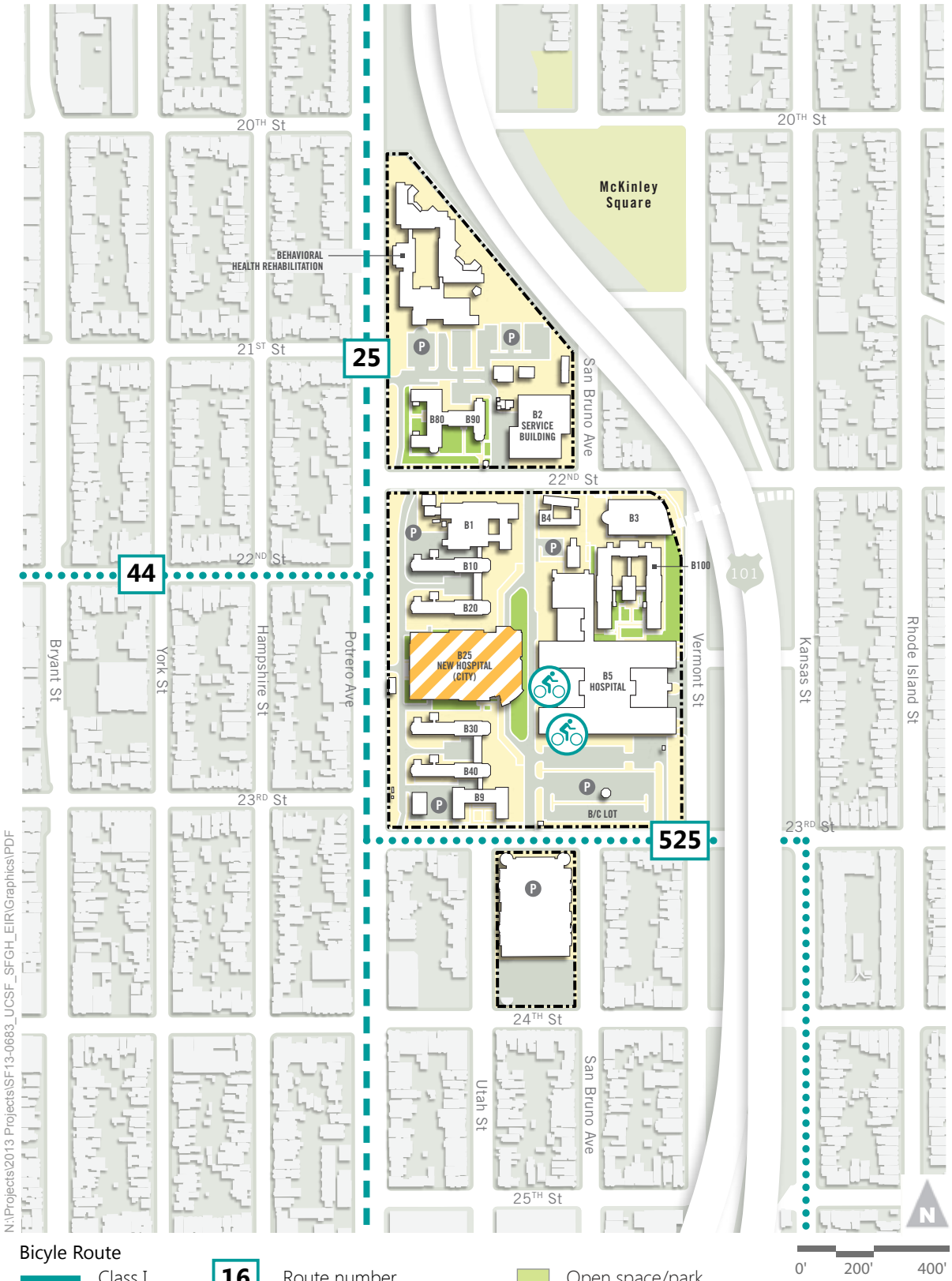


Figure 2-5

Existing Bicycle Facilities

2.8 LOADING CONDITIONS

ZSFG has both service vehicle and passenger loading. There are four off-street and two on-street service vehicle loading facilities serving the existing uses on the project site, and summarized in **Table 2-7** and shown in **Figure 2-6**. Deliveries to the off-street service vehicle loading facilities are infrequent and loading vehicles are often parked for extended periods. On-street loading facilities are typically used for deliveries or short-term loading demand. There are also two designated passenger drop-off locations on the north and south side of the main hospital building. The southern passenger drop-off area adjacent to 23rd Street is generally used more frequently than the northern passenger drop-off area

There are existing loading areas which provide space for passenger and vehicle loading. They are well-utilized throughout the day, with peak levels of utilization typically occurring from 8:00 to 10:00 a.m. and 12:00 to 3:30 p.m. Although no delivery vehicles were observed double parking or using other facilities, on occasion, some passenger vehicles were observed to double park near the intersection of 23rd Street / San Bruno Avenue while waiting to pick-up/drop-off employees, patients, or visitors at ZSFG. Additionally, some passenger loading vehicles used empty parking spots for pick-up and/or drop-off because of proximity to destination. No conflicts between loading vehicles and Muni were observed.

TABLE 2-7: PASSENGER AND VEHICLE LOADING INFORMATION

Building / Location	Loading Areas (Passenger or Vehicle)	# Vehicle Loading Spaces	# Passenger Loading Spaces
Main Hospital (B5) – East Side	Vehicle	9 parcel/truck spaces (Approximately 180 feet)	--[1]
Service Building (B2) – West Side	Vehicle	2 parcel/truck spaces (Approximately 60 feet)	--[1]
Building Three (B3) – East Side	Vehicle	2 parcel/truck spaces (Approximately 60 feet)	--[1]
Behavioral Health Center – South Side	Vehicle	1 parcel/truck space (Approximately 30 feet)	--[1]
22nd Street – South Side of street (curb side loading zone)	Vehicle	11 parcel/truck spaces (Approximately 270 feet)	--[1]
Building 9 / 23rd Street – North Side of street (curb side loading zone)	Vehicle	1 parcel/truck space (Approximately 30 feet)	--[1]
Passenger Drop-Off (23rd Street Entrance)	Passenger	--[1]	6 spaces (Approximately 150 feet)
Passenger Drop-Off (22nd Street Entrance)	Passenger	--[1]	3 spaces (Approximately 75 feet)

Notes:
1. Data not available.

Note that there is a small loading area off the service road running in front of Building 25 that was originally intended to serve the morgue and blood bank deliveries.

Source: ZSFG/DPH, 2014

Figure 2-6

Existing Parking and Loading Conditions

2.9 EMERGENCY VEHICLE ACCESS

Emergency transport vehicles typically use Potrero Avenue through the study area when heading to and from an emergency and/or the emergency drop-off area at ZSFG. Arterial roadways allow emergency vehicles to travel at higher speeds and provide enough clearance space to permit other traffic to maneuver out of the path of the emergency vehicle and yield the right of way.[11] Ambulances currently use an exclusive driveway off 23rd Street west of Vermont Street to access the emergency room drop-off area on the south side of the main hospital. As shown in **Inset 2** below, upon completion of the new ZSFG hospital, the emergency room will be relocated to the new hospital, and ambulances will be rerouted to a loop driveway off 22nd Street. There are two San Francisco Fire Department fire stations within one mile of ZSFG: Station 7 (Folsom Street at 19th Street in the Mission) and Station 8 (Wisconsin Street at 22nd Street in Potrero Hill).

Inset 2 Ambulance Access at New ZSFG Hospital (Source: Fong & Chan Architects, 2009)

[11] Per the California Vehicle Code, Section 21806, all vehicles must yield right of way to emergency vehicles and remain stopped until the emergency vehicle has passed.

2.10 PARKING CONDITIONS

This section presents both on-campus and off-campus (on-street) parking conditions in the vicinity of the ZSFG campus site. On- and off-campus parking surveys were conducted on Tuesday, June 24, 2014 from 10:00 AM to 2:00 PM and from 6:00 PM to 8:00 PM. Detailed parking supply and occupancy data are presented in **Appendix G**.

2.10.1 On-Campus Parking

2.10.1.1 Supply

The ZSFG campus site currently has 18 surface parking areas and three adjacent streets designated for ZSFG employee or visitor parking. **Figure 2-7** presents the locations of the on-campus parking facilities, while **Table 2-8** presents the existing parking supply for each parking location. The ZSFG campus site contains a total of 728 parking spaces, of which 527 are located in parking lots, and 201 are located on the street. The B/C Lot, which contains 130 spaces, is shown in **Figure 2-7** as and the Lot R (Visitor Parking) zone.

A garage structure is located at the southern edge of the ZSFG campus site (2501 23rd Street), which is closely associated with ZSFG. The site bounded by 23rd, San Bruno, 24th, and Utah streets was previously a MUNI maintenance facility that was demolished to construct the parking facility, which opened in 1995. The garage is owned by the SFMTA and operated by LAZ Parking. The parking structure has five floors plus a roof deck with a total parking capacity of 820 spaces. Attendant parking is offered from 8:30 AM to 6:00 PM on weekdays; vehicles are valet-parked on the roof and on the first floor increasing the total parking capacity by approximately 110 vehicles. One entry, one exit and two reversible (entry-exit) lanes are provided on the main access at 24th Street; an additional entry plus one exit lane are provided on 23rd Street after 6:00 PM on weekdays and all day on weekends. The 23rd Street access point is not open prior to 6:00 PM in order to reduce the amount of traffic on 23rd Street during the day.

During construction of the New Hospital, employees could park at a 120-space temporary off-site lot at 2000 Marin Street approximately 1.2 miles from the ZSFG campus site and take a free 10-minute shuttle ride to the campus site. Shuttles picked up/dropped off at the off-site lot and on campus every 20 minutes between 6 a.m. and 8 p.m. on weekdays. This lot was primarily used by construction workers building the New Hospital and was closed in January 2016.

Source: SFGH Institutional Master Plan Update, SFDPH, May 2014

Open space/park

Campus site boundary

X On-campus parking and facilities

Figure 2-7

Existing On-Campus Parking and Facilities

TABLE 2-8: EXISTING ON-CAMPUS PARKING SUPPLY BY LOCATION					
Location	**Population Group**	**Number of Parking Spaces**			
		Regular	**Carshare/ Carpool/ Electric**	**Disabled**	**Total**
Lot A	Staff	11	0	0	11
Lot B	Visitor & Staff	20	0	2	22
Lot C	Visitor, Staff & City Vehicle	23	0	0	23
Lot D	City Vehicle	18	0	1	19
Lot E	Staff	27	0	0	27
Lot F	Visitor & Staff	33	0	0	33
Lot G	Staff	7	0	6	13
Lot H	Staff	41	0	0	41
Lot I	Staff	18	0	2	20
Lot J	Staff	9	0	10	19
Lot K	Staff	35	0	0	35
Lot N	Staff	52	0	0	52
Lot O (adjacent to B/C Lot)	Visitor (HP) & Staff	11	0	12	23
Lot P (adjacent to B/C Lot)	Emergency and Sheriff Department	12	0	0	12
Lot R (B/C Lot)	Visitor	130	0	0	130
Lot S (carport)	Staff	0	4	0	4
Lot T (adjacent to B/C Lot)	Sheriff Department	6	0	0	6
Service Building	Staff	35	0	2	37
Subtotal surface lots		**488**	**4**	**35**	**527**
23rd St Garage	Public & Staff	785	18	17	820
Total off-street		**1,273**	**22**	**52**	**1,347**
Vermont St	Staff				113
San Bruno Av	Staff				32
22nd Street (*)	Staff				56
Total on-street					**201**
GRAND TOTAL					**1,548**

Notes:
This table does not include a 120-space temporary off-site lot at 2000 Marin Street approximately 1.2 miles from the ZSFG campus site. This lot was primarily used by construction workers building the New Hospital and closed in January 2016.
(*) Approximately 42 spaces on the north side of 22nd St will be eliminated with the opening of the New Hospital to facilitate emergency vehicle access, resulting in a total of approximately 14 staff spaces remaining.
Source: ZSFG 2014 Institutional Master Plan Update (May 2014), Adavant Consulting

As shown in **Table 2-9**, of the total number of off-street parking spaces provided within the ZSFG campus site (excluding the 23rd Street Garage), about 60 percent are reserved for hospital staff, service vehicles, and City officials. Of the total number of all parking spaces at the campus site, including the 23rd Street Garage, about two thirds could be used by patients and visitors, although in practice only about 30 percent of the spaces are currently available to them, as more than two thirds of the vehicles parked at the 23rd Street garage are estimated to be ZSFG employees.

TABLE 2-9: EXISTING ON-CAMPUS PARKING SPACES BY POPULATION GROUP

Population Group	Off-street	Structured	On-Street	Total
Staff	279	-	201	480
Patient/Visitor	207	820[1]	-	1,027
Service/Official	41	-	-	41
Total	**527**	**820**	**201**	**1,548**

Note: 1. Staff are able to park in the 23rd Street parking garage either using a monthly pass or paying the daily transient rate. During the busiest period, approximately two-thirds of the vehicles parked in the garage are estimated to belong to employees with a monthly parking pass, and one-third to motorists who are charged an hourly rate (which also includes employees), as illustrated in Chart 4 (Section 2.10.1.3).
Source: ZSFG, Adavant Consulting, 2016

2.10.1.2 Occupancy

Parking occupancy was surveyed three times (from 10:00 AM to noon, from noon to 2:00 PM, and from 6:00 to 8:00 PM) on a single day throughout the campus site and the adjacent 23rd Street Garage. As shown in **Table 2-10**, the period with the highest occupancy is between 10:00 AM and noon (97 percent), followed by the period between noon and 2:00 PM (93 percent); the utilization after 6:00 PM drops substantially (37 percent).

According to management of the 23rd Street Garage there are two peak times which occur at the beginning and end of the day. Most cars come in by 9:30 AM and exit around 3:30 to 5:30 PM. Overnight utilization rates are below 5 percent, while weekend utilization is around 15 percent.

TABLE 2-10: EXISTING ON-CAMPUS PARKING UTILIZATION BY LOCATION AND TIME PERIOD

Location	Total Supply	Percentage of Parking Utilization		
		10:00 AM to Noon	Noon to 2:00 PM	6:00 to 8:00 PM
Lot A	11	45.5%	36.4%	36.4%
Lot B	22	77.3%	72.7%	54.5%
Lot C	23	60.9%	52.2%	17.4%
Lot D	19	89.5%	78.9%	36.8%
Lot E	27	85.2%	81.5%	25.9%
Lot F	33	69.7%	57.6%	54.5%
Lot G	13	38.5%	46.2%	15.4%
Lot H	41	112.2%	102.4%	26.8%
Lot I	20	60.0%	35.0%	55.0%
Lot J	19	84.2%	84.2%	73.7%
Lot K	35	94.3%	94.3%	51.4%
Lot N	52	94.2%	96.2%	9.6%
Lot O (adjacent to B/C Lot)	23	82.6%	100.0%	87.0%
Lot P (adjacent to B/C Lot)	12	25.0%	50.0%	41.7%
Lot R (B/C Lot)	130	98.5%	73.8%	37.7%
Lot S	4	50.0%	50.0%	25.0%
Lot T (adjacent to)	6	83.3%	100.0%	100.0%
Service Building	37	105.4%	110.8%	37.8%
Subtotal surface lots	**527**	**86.5%**	**78.9%**	**39.5%**
23rd St Garage	820	103.0%	101.5%	35.1%
Total off-street	**1,327**	**96.6%**	**92.7%**	**36.8%**
Vermont St	113	83.2%	84.1%	38.9%
San Bruno Av	32	125.0%	109.4%	81.3%
22nd Street	56	100.0%	100.0%	50.0%
Total on-street	**201**	**94.5%**	**92.5%**	**48.8%**
GRAND TOTAL	**1,548**	**96.3%**	**92.6%**	**38.4%**

Notes:
This table does not include a 120-space temporary off-site lot at 2000 Marin Street approximately 1.2 miles from the ZSFG campus site. This lot, which is primarily used by construction workers building the New Hospital, is about 83% full all day. It closed in January 2016.
Values over 100 percent indicate vehicles parked outside marked spaces, at red curb zones, driveways, etc.
Source: Adavant Consulting, 2014

2.10.1.3 23rd Street Garage and B/C Lot Use Profile

The parking demand currently served by the B/C Lot is expected to shift primarily to the 23rd Street Garage when the B/C Lot is removed for construction.

Approximately 50 vehicles arrive in the B/C Lot each hour between 9:00 AM and 11:00, and nearly 45 vehicles depart between 4:00 PM and 5:00 PM (See Chart 1). The lot sees an average of more than 100 accumulated parked vehicles (approximately 70 percent occupancy) from 10:00 AM until 3:00 PM (See Chart 2). The majority of vehicles park for up to two hours (See Chart 3).

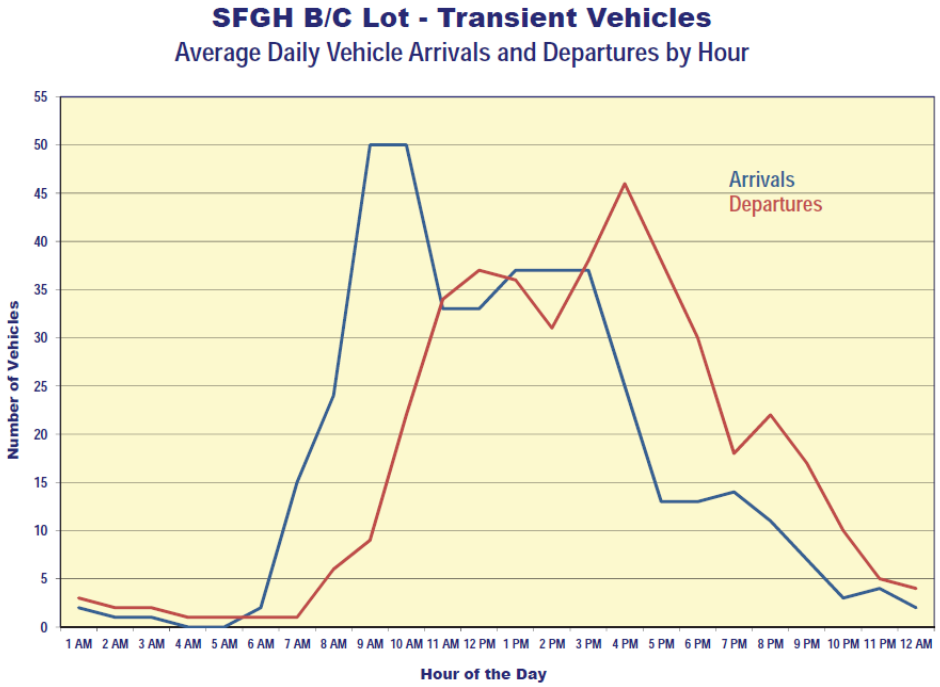


Chart 1: Hourly arrivals and departures in the ZSFG B/C Parking Lot. Source: Adavant Consulting, 2015.

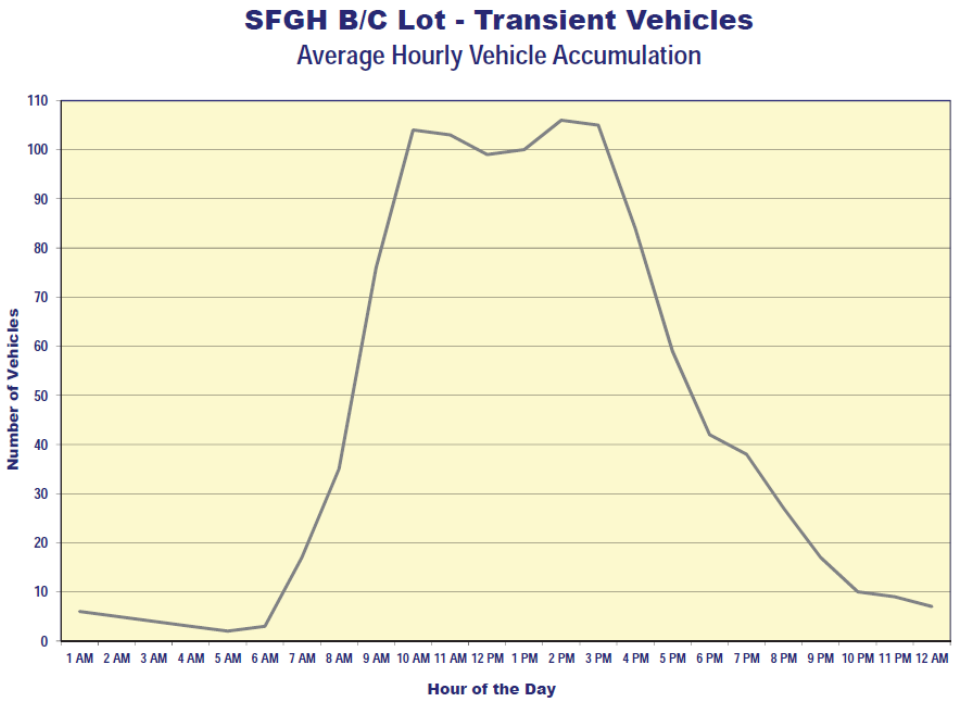


Chart 2: Average hourly accumulated parked vehicles in the ZSFG B/C Parking Lot. Source: Adavant Consulting, 2015.

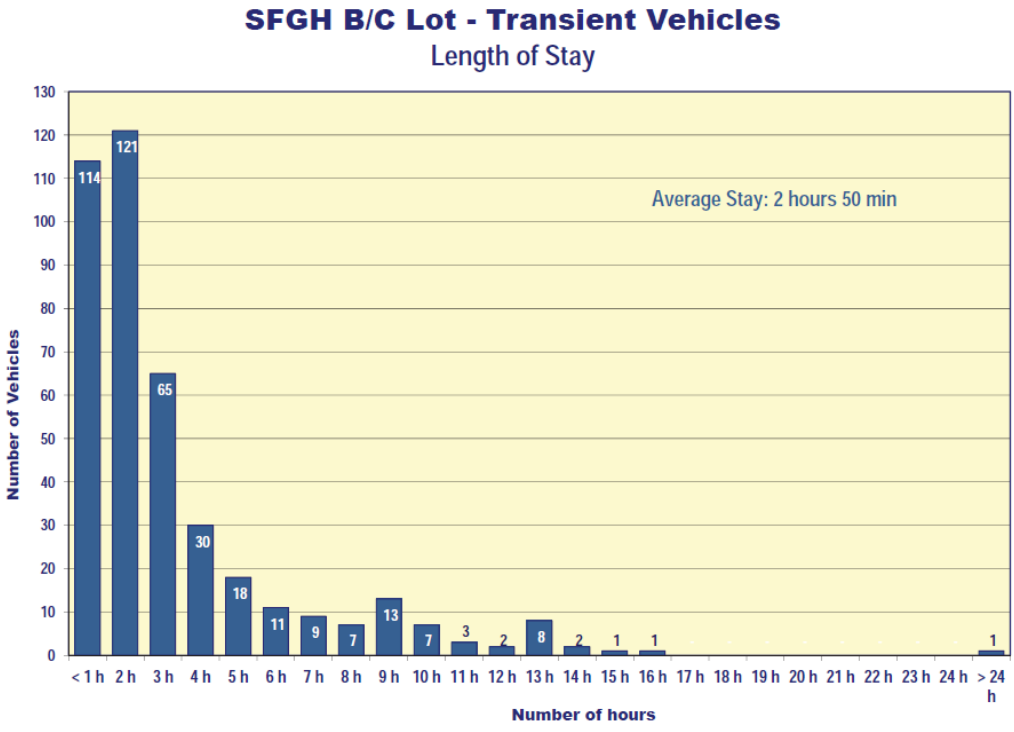


Chart 3: Length of stay in the ZSFG B/C Parking Lot. Source: Adavant Consulting, 2015.

Approximately 275 vehicles arrive between 7:00 AM and 8:00 AM to the 23rd Street Garage, and nearly 200 vehicles depart between 5:00 PM and 6:00 PM. The 23rd Street Garage has two types of users: people in the transient category are paying hourly rates, and people in the monthly category have monthly parking passes. The majority of monthly parkers stay between eight and 10 hours, and the majority of hourly vehicles stay between four and 10 hours.

During the busiest period, approximately two-thirds of the vehicles in the garage belong to employees with a monthly parking pass, and one-third to motorists who are charged an hourly rate, illustrated in Chart 4. Approximately two thirds of these hourly vehicles park for more than seven hours, and the remaining vehicles park for less than seven hours. Generally, patients and visitors tend to park at ZSFG for between two and three hours while employees tend to stay for eight or more hours.

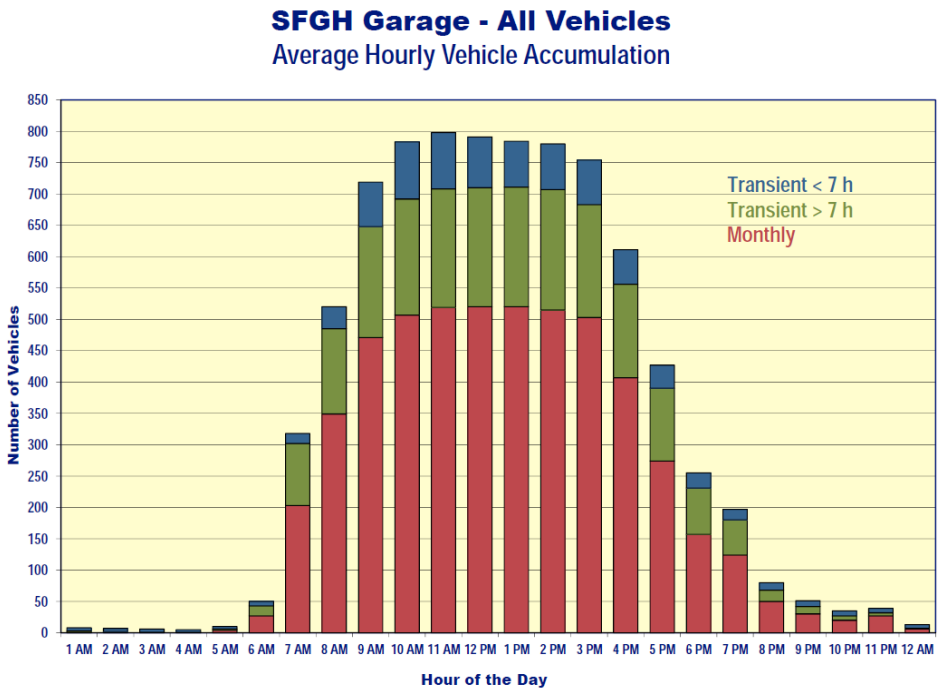


Chart 4: Average hourly accumulated parked vehicles in the 23rd St Garage: Transient (patients/visitors versus employees) and Monthly
Source: Adavant Consulting, 2015.

On average, the garage is over 90 percent occupied by early by 9:00 AM until 3:00 PM, and then remains approximately 85 percent occupied until 5:00 PM. Given the high occupancy of the 23rd Street Garage, the current parking patterns do not leave excess capacity to accommodate the demand currently served by the B/C Lot between 9:00 AM and 3:00 PM.

2.10.1.4 Operations

Vehicle queuing at the garage exit has been observed at the 23rd Street Garage during the shift change period (from 3:00 to 4:00 PM), as well as during the PM peak commute period (from 4:00 to 6:00 PM). This vehicle queuing is due to the requirement to pay at the exit booth and the merging with the surrounding traffic flows. In general, inbound traffic to the 23rd Street Garage operates smoothly, with each entering lane providing queuing space for approximately two vehicles. Occasional inbound vehicle

queuing has also been observed during the AM peak period (from 7:00 AM to 9:00 PM) but the queues would not extend down the block nor interfere with Muni, bicyclists, or pedestrians.

2.10.1.5 Rates

Hospital employees pay to park at the ZSFG campus. All ZSFG employees are eligible for monthly parking permits. Parking permits for on-campus parking lots, the 23rd Street Garage, and designated on-street areas are issued to employees by the ZSFG Garage Parking Office on a first come, first served basis, although the ZSFG administration may elevate the priority of some clinical staff to move faster in the waiting list. Currently, there are 490 daytime permits and nine nighttime permits issued to ZSFG employees, in addition to a several month waiting period for new monthly parking passes.[12]

The existing parking fee structure encourages employee parking in the garage at a lower rate of $100 per month rather than on the campus parking lots (includes designated street parking) at $120 per month. Car/vanpoolers with three or more passengers pay $74/year for designated parking,[13] and night shift employees receive a discounted rate of $50 per month.

An average of approximately 850 employees receive a parking subsidy to the above standard monthly rates as part of an SEIU employee benefit per a collective bargaining agreement; this benefit does not extend to transit. SEIU employees pay a fee equivalent to the cost of a monthly MUNI Fast Pass plus $10 for a monthly pass, and the remainder of their monthly parking rate is covered by DPH. In fiscal year 2013/2014, parking subsidies were $14 per month per employee for those who park at the garage and $34 per month per employee for those who are permitted to park on campus.

Cost of public parking is $1.50 per hour with a daily maximum of $12 (equivalent to 8 hours of parking) at the 23rd Street garage and $2.00 per hour with a daily maximum of $16 (also equivalent to 8 hours of parking) at the ZSFG B/C surface parking lot.

2.10.2 Off-Campus (On-Street) Parking

2.10.2.1 Supply

Figure 2-8 shows the off-campus (on-street) parking supply within a two-block radius of the ZSFG campus site while **Table 2-11** presents a summary of the off-campus parking supply in the study area; additional detailed data by street block is included in **Appendix G**. As shown in **Table 2-11**, there are approximately 1,510 off-campus parking spaces within the study area (1,160 on the north-south streets and 350 spaces on the east-west streets). Additionally, during construction of the new hospital, employees were able to park free-of-charge at the off-site lot at 2000 Marin Street and take a 10 minute shuttle ride to the campus site. This lot closed in January 2016, and the free shuttle to and from the lot and the ZSFG campus has been discontinued.

[12] Per the ZSFG 2014 Institutional Master Plan.
[13] Participation in the Carpool discount program is conducted on the honor system and is not officially enforced.

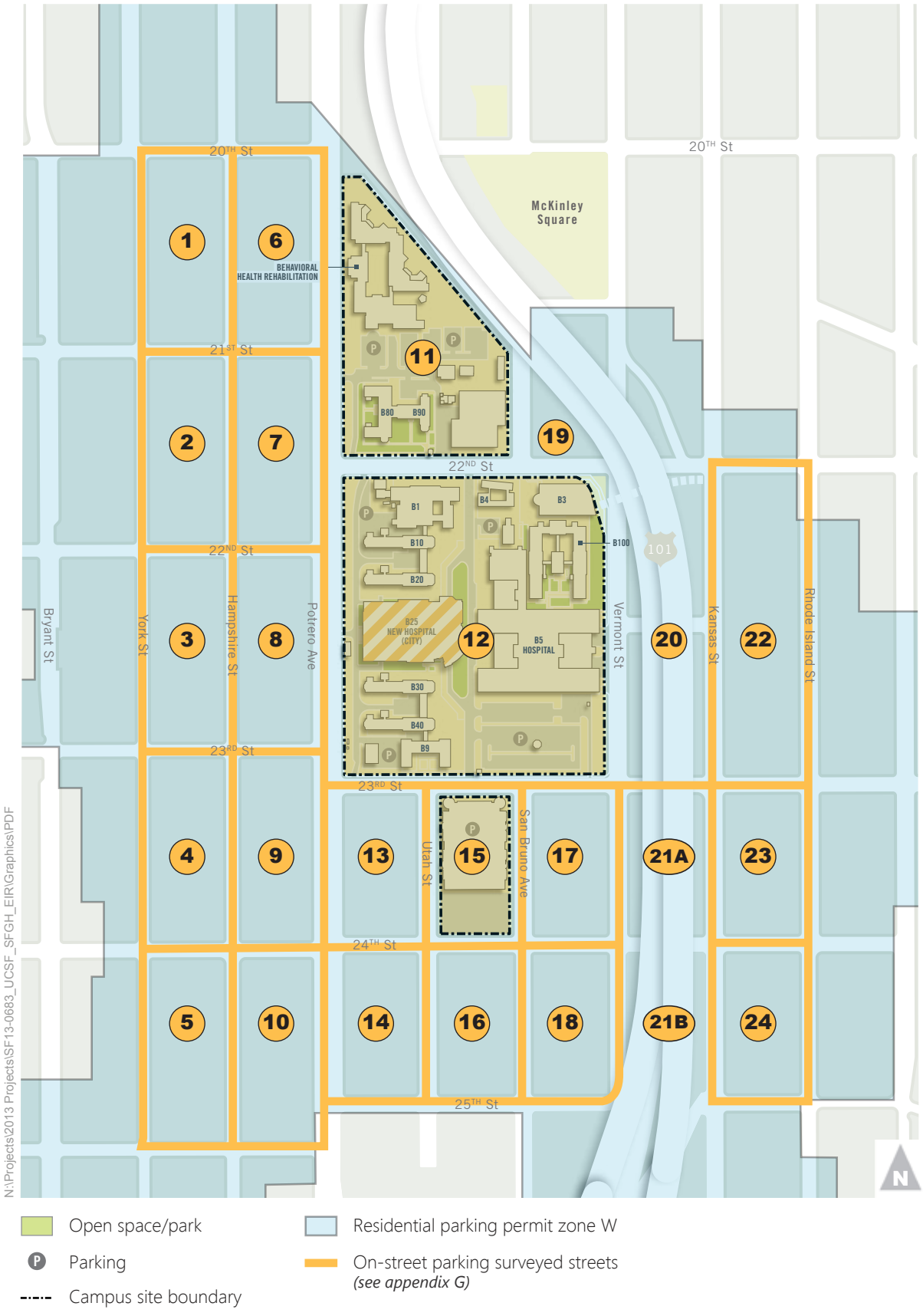


Figure 2-8

Existing Off-Campus Parking and RPP Area W Boundary

TABLE 2-11: EXISTING OFF-CAMPUS PARKING SPACES BY STREET LOCATION

Street Location	Number of Parking Spaces		
	North and East Sides	South and West Sides	Both Sides
East-West Streets adjacent to ZSFG Campus site	25	38	63
Other East-West Streets	117	173	290
Total East-West	**142**	**211**	**353**
North-South Streets adjacent to ZSFG Campus site	127	153	280
Other North-South Streets	408	471	879
Total North-South	**535**	**624**	**1,159**
All Streets adjacent to ZSFG Campus site	152	191	343
Other Nearby Streets	525	644	1,169
GRAND TOTAL	**677**	**835**	**1,512**

Note: On-street parking supply and occupancy data collected on a typical weekday, June 24th, 2014. On-street parking supply and occupancy data was also collected on a single typical weekday as part of ZSFG Rebuild EIR

Source: Adavant Consulting, 2014

As previously shown in **Figure 2-8**, most of the on-street parking spaces in the study area are part of the Residential Parking Permit (RPP) area W. In an effort to preserve the integrity of neighborhoods in San Francisco and to encourage use of public transportation in place of private automobiles, the City of San Francisco established a preferential residential parking system in 1976 "to provide more parking spaces for residents by discouraging long-term parking by people who do not live in the area."

Within RPP Zone W, vehicles without a RPP permit are allowed to park for one hour from Monday to Friday between 8:00 AM and 6:00 PM, while vehicles with a permit are allowed to park without time restrictions. ZSFG does not make residential parking permits available to its faculty and staff. The following street sections are not affected by RPP Zone W:

- 22nd Street between Potrero Avenue and Vermont Street - The north side of 22nd Street is signed for staff parking, while the south side has a combination of yellow zone for service loading and short-term public parking.
- The north side of 23rd Street between Potrero Avenue and Vermont Street. This section of 23rd Street allows 2-hour parking without any permit.
- The west side of San Bruno Avenue, north of 22nd Street - This section of San Bruno Avenue is signed for ZSFG staff parking only.

Anecdotal observations show that not many of the vehicles parked in these areas are neighborhood residents with RPPs.

2.10.2.2 Occupancy

Off-campus parking occupancy was surveyed three times (from 10:00 AM to noon, from noon to 2:00 PM, and from 6:00 to 8:00 PM); the results are summarized in **Table 2-12** while additional detailed data by street block is included in **Appendix G**. The overall average occupancy for these streets during the weekday midday period (10:00 AM to 2:00 PM) is approximately 60 percent, while the average occupancy rate in the immediate vicinity of the ZSFG campus site (one block radius) during the same period is substantially higher, at approximately 80 percent. The overall average occupancy rate in the evening (6:00 to 8:00 PM) is higher (80 percent), with the parking utilization in the immediate vicinity of the ZSFG campus site is shown to be operating at it practical capacity (96 percent).

TABLE 2-12: EXISTING OFF-CAMPUS PARKING UTILIZATION BY LOCATION AND TIME PERIOD

Street Location	Total Supply	Percentage of Parking Utilization		
		10:00 AM to Noon	Noon to 2:00 PM	6:00 to 8:00 PM
East-West Streets adjacent to ZSFG Campus Site	63	71%	86%	97%
Other East-West Streets	290	58%	63%	74%
Total East-West	**353**	**61%**	**67%**	**78%**
North-South Streets adjacent to ZSFG Campus Site	280	82%	76%	96%
Other North-South Streets	879	56%	55%	73%
Total North-South	**1,159**	**62%**	**60%**	**79%**
All Streets adjacent to ZSFG Campus Site	343	80%	78%	96%
Other Nearby Streets	1,169	57%	57%	73%
GRAND TOTAL	**1,512**	**62%**	**62%**	**79%**

Note: On-street parking supply and occupancy data collected on a typical weekday, June 24th, 2014. On-street parking supply and occupancy data was also collected on a single typical weekday as part of ZSFG Rebuild EIR.
Source: Adavant Consulting, 2014

Previous parking occupancy surveys have shown that there are more vehicles with RPP permits during the early morning and later afternoon periods, than during midday. This is to be expected because local residents would use their vehicles during midday to work or conduct other business.

3 TRAVEL DEMAND ANALYSIS

This chapter describes the vehicle, pedestrian, bicycle, parking, and transit travel demand that would be generated by the changes proposed at ZSFG, based on factors developed from surveys conducted at the existing ZSFG campus site in November 2007 and July 2013. The impact of new travel associated with the Proposed Project at the ZSFG campus site was estimated using a four-step process: trip generation, mode split, trip distribution, and trip assignment.

In the first step, the number of person trips generated by the proposed Research Building was estimated on a daily, AM and PM peak hour basis. Next, the person trips were assigned to different modes of travel; automobile, transit, UCSF shuttle, bicycles, etc. Then, the geographic distribution of the trip origins and destinations was predicted. Finally, project trips for each mode were assigned to specific streets, shuttle bus routes and transit lines along the transportation network. The results of this four-step process are described in the following sections. In addition to the travel demand generated by the proposed Research Building, this chapter also summarizes its expected parking, commercial loading, and construction-related travel demands. The travel demand associated with the proposed retail use at the 23rd Street garage under Project Variants 1 and 3 are also presented in this chapter.

Travel demand characteristics and trip forecasts for UCSF population at ZSFG were developed by Adavant Consulting, and the assumptions have been reviewed by UCSF Campus Planning. **Appendix H** shows detailed tables of the summaries below.

3.1 TRIP GENERATION

Travel demand estimates for the Proposed Project are based on the current and projected average number of UCSF staff and visitors on a typical weekday. Forecasting the net new travel demand involves estimating the number of trips generated by the Proposed Project associated with the new population (UCSF staff and visitors) at the site.

The following sections describe person trip generation rates, person trip generation estimates, and the estimation of existing and future person trips for the Proposed Project.

3.1.1 Population Assumptions and Trip Generation Rates

Typical weekday, as well as weekday AM and PM peak hour, person trip generation rates were developed for each UCSF population group, based on the additional number of people arriving and departing the Proposed Project site, as gathered from the surveys.

Estimates for new staffing and visitor levels for a typical weekday were provided by UCSF Campus Planning. The population groups include the following:

Staff: Staff includes clinicians, researchers and other UCSF personnel based at the ZSFG campus site. Due to the Proposed Project, there would be an increase in the total number of staff members of potentially up to 108 individuals on a typical weekday. The number of new staff on site will be determined after an accounting of how much space is available after staff currently on site are moved into the new research building.

Visitors: This population group includes staff visitors, vendors, and service providers to UCSF. Due to the Proposed Project, there would be an increase of potentially up to 10 total individual visitors on a typical weekday.

The resultant population growth assumptions for a typical weekday as a result of the proposed Research Building are summarized in **Table 3-1** by population group. As shown in the table, the additional UCSF average weekday staff and visitor population as a result of the proposed Research Building is expected to increase by potentially up to 118 people due to the Proposed Project.

TABLE 3-1: POPULATION GROWTH ESTIMATES ON A TYPICAL WEEKDAY BY POPULATION GROUP

UCSF Population Group	Population Growth (Proposed Project)
Staff [1]	108
Visitors[2]	10
Grand Total	**118**

Notes:

1. The Proposed Project would potentially increase the total number of UCSF staff members by up to 120 individuals; approximately 10 percent of the total staff population would be absent from the ZSFG campus site on a typical weekday due to scheduled time off or unexpected reasons, resulting in an increase of staff population of about 108 individuals on a typical weekday.
2. This population group includes UCSF staff visitors, vendors, and service providers to UCSF.

Source: UCSF, Adavant Consulting, 2014

3.1.2 Trip Generation Estimates

The daily trip generation rates and additional number of total person trips (including internal to the site) expected at ZSFG due to the Proposed Project are summarized in **Table 3-2**. The number of daily trips estimated for UCSF staff and visitors are based on previous surveys conducted at the ZSFG campus by DPH and UCSF.

Table 3-2 shows that the Proposed Project is expected to generate up to 417 new person trips at ZSFG on a typical weekday.

TABLE 3-2: NEW DAILY PERSON TRIPS BY UCSF POPULATION GROUP

UCSF Population Group	Population Change (Proposed Project)	Daily Person Trip Rate [1]	Additional Daily Person Trips (Proposed Project)[2]
Staff	108	3.75	397
Visitors	10	2.00	20
Grand Total	***118***	***3.54***	***417***

Notes:

1. Daily trip rates from Table 16, p. 43, ZSFG Transportation Report (CHS Consulting, February 2008). See additional details in **Appendix H**.
2. The data shown reflect the future increase in daily person trips due to the Proposed Project.

Source: Adavant Consulting, 2014

3.1.3 Net New External Vehicle Person Trips

As shown in **Table 3-2**, the Proposed Project would yield up to 417 additional weekday person trips at the ZSFG campus site. This value reflects the total number of additional person trips that would be generated by the Proposed Project; it has not been adjusted to subtract trips associated with other existing land uses at the site and internal trips expected to occur within the site. An internal trip is an origin-destination pair within the same site (e.g. a researcher at the ZSFG hospital traveling from her office to the hospital building and returning back to her office afterwards). This applies to staff trips only and not to visitor trips, which are all assumed to be external to the ZSFG campus site.

Thus, the number of internal staff trips within the ZSFG campus site needs to be assessed, such that they are subtracted from the total in order to determine the number of net new external person trips.

Table 3-3 summarizes the net new daily person trip generation external to the ZSFG campus site, as proposed by the project. These trips have one trip end outside of the site. The table shows that the Proposed Project would generate up to approximately 340 net new external person trips per day.

TABLE 3-3: NET FUTURE DAILY INTERNAL AND EXTERNAL PERSON TRIPS

UCSF Population Group	Net New Daily Person Trips (Proposed Project)	
	Internal	External
Staff	79	318
Visitors	0	20
Total	***79***	***338***

Notes:

Analysis assumes that 20 percent of the UCSF staff trips would remain internal or in the immediate vicinity of the ZSFG campus site. This is consistent with data obtained from other medical facilities in San Francisco, such as CPMC's Davies and Pacific Medical Centers (Table 14, p. 24, CPMC LRDP Travel Demand and Estimation for the San Francisco Campuses, Case No. 2005.0555E, Adavant Consulting, April 2010)

Source: Adavant Consulting, 2014

3.1.4 Retail Use Trip Generation

The four Variants all have the same trip generation for the proposed Research Building at the B/C Lot due to the fact that proposed changes to the parking garage do not affect travel demand. However, Variant 1 and Variant 3 also include trip generation for the proposed 5,000 gross square feet of retail uses. The daily trip generation rates and additional number of total person trips (including internal to the site) expected at ZSFG due to the retail component of Variant 1 and Variant 3 are summarized in **Table 3-4**. The retail is expected to generate a total of 750 daily person trips, 480 of which will be trips linked to other activities occurring in the vicinity of the campus. The internal trips are subtracted from the total to determine the number of net new external person trips. Variant 1 and Variant 3 are expected to generate 270 new external daily person trips.

TABLE 3-4: RETAIL TRIP GENERATION SUMMARY

Land Use	Size (gsf)	Daily Rate	Daily Person Trips			
			Trip Type	Total	Internal	External
Retail	5,000	150 trips per ksf[1]	Work[2]	30	-	30
			Visitor/ Shopper[3]	720	480	240
			Total	750	480	270

Notes:

1. SF Guidelines, Appendix C – Table C-1 (General Retail)
2. All work trips assumed to be new trips to the area.
3. Assumes 67% of retail visitor/shopper trips are linked trips, that is, trips already occurring in the area. About 33% of the shopping trips are assumed to be new to the area.

Source: Adavant Consulting, 2016

3.2 TRIP DISTRIBUTION

Project-generated person trips were assigned to San Francisco and regional origins/destinations, including the four San Francisco Superdistricts (northeast, northwest, southeast, and southwest quadrants of the City), the East Bay, the North Bay, and the South Bay, as well as areas outside of the Bay Area region. Information collected by UCSF as part of their ongoing transportation surveys of employees, and visitors were used in this analysis.

Table 3-3 shows approximately 340 new daily external trips to be attracted/generated by ZSFG. These additional external person trips are distributed locally and regionally based on the trip distribution percentages shown in **Table 3-5**.

TABLE 3-5: PEAK HOUR TRIP DISTRIBUTION BY UCSF POPULATION GROUP

Area[1]	Staff[2]	Visitors[3]	All Population Groups Combined
San Francisco			
Superdistrict 1 / Northeast Quadrant	6%	17%	6%
Superdistrict 2 / Northwest Quadrant	12%	8%	13%
Superdistrict 3 / Southeast Quadrant	26%	7%	25%
Superdistrict 4 / Southwest Quadrant	14%	24%	14%
Outside of San Francisco			
East Bay	22%	13%	22%
North Bay[2]	5%	9%	5%
South Bay	15%	11%	15%
Out of Region[2]	0%	11%	0%
Total	***100%***	***100%***	***100%***

Notes:

1. Trip distribution accounts for external trips only.
2. Based on surveys of UCSF employees at the ZSFG campus site, July 2013. (The employee survey was updated in October 2015, yielding similar results.)
3. Based on surveys of UCSF staff, visitors, and vendors at the Parnassus Heights campus site.

Source: Adavant Consulting, 2014

As shown in **Table 3-5**, most trips come from Superdistrict 3, the Southeast quadrant of San Francisco, and the East Bay. **Figure 3-1** shows the general directions of approach and departure of trips generated by the Proposed Project, based on the percentages presented in **Table 3-5**.

3.2.1 Retail Trip Distribution

The trip distribution for the retail land uses is derived from the SF Guidelines trip distribution for retail use and is summarized in **Table 3-6** and detailed in **Appendix H**.

TABLE 3-6: PEAK HOUR TRIP DISTRIBUTION FOR RETAIL TRIPS

Area[1]	Work Trips	Non-Work Trips	All Trips
San Francisco			
Superdistrict 1 / Northeast Quadrant	8%	6%	6%
Superdistrict 2 / Northwest Quadrant	11%	9%	9%
Superdistrict 3 / Southeast Quadrant	24%	61%	57%
Superdistrict 4 / Southwest Quadrant	8%	5%	5%
Outside of San Francisco			
East Bay	14%	3%	4%
North Bay[2]	6%	2%	3%
South Bay	27%	9%	11%
Out of Region[2]	2%	5%	5%
Total	***100%***	***100%***	***100%***

Notes:

1. Trip distribution accounts for external trips only.
2. Based on *SF Guidelines* trip distribution for retail land uses.

Source: Adavant Consulting, 2015

Trip Distribution

AAA XX%

Origin/destination

Percentage of total new trips

Open space/park

Parking

Campus site boundary

Figure 3-1

Net New Trip Distribution

3.3 MODE SPLIT

Travel mode split is the relative proportioning of project-generated trips to various travel modes. Modes of travel categories include automobile, transit, walking and other, where other includes bicycle, motorcycle, and taxi. An average vehicle occupancy factor was applied to the number of automobile person trips to determine the number of vehicle trips.

Travel mode split and average vehicle occupancy assumptions for the new UCSF employees and UCSF visitors at the ZSFG campus site were based on information collected by ZSFG and its transportation planning consultants, as described in *Evaluation and Recommendations of Transportation Demand Management Program at San Francisco General Hospital*, Fehr & Peers, October 2013, attached as **Appendix B**. The employee survey referenced in this document was updated in October 2015, yielding similar results. The methodology assumes that the future modal share will be the same as the existing modal share.

Table 3-7 summarizes the external person trips percentages by mode of travel assumed for each population group of UCSF employees and UCSF visitors at the ZSFG campus. As shown in the table, most trips arrive or depart by driving alone (50 percent), with carpooling/vanpooling, public transit, UCSF shuttles, and bicycling combined making up 40 percent of trips.

TABLE 3-7: EXTERNAL TRIPS MODE OF TRAVEL ASSUMPTIONS

UCSF Population Group	Drive Alone	Drop-Off/Taxi	Carpool/ Vanpool	Public Transit	UCSF Shuttle	Bike / Motorcycle	Walk	All Modes[1]
Staff[2]	47%	2%	10%	13%	10%	11%	7%	100%
Visitors	100%[3]	0%	0%	0%	0%	0%	0%	100%
Total	**50%**	**2%**	**9%**	**12%**	**10%**	**11%**	**6%**	**100%**

Notes:

1. Mode of travel percentages might not add up to 100% due to rounding.
2. Based on surveys of UCSF employees at the ZSFG campus site, July 2013 (this survey was updated in 2015 with similar results).
3. It is assumed that all visitors to UCSF Research Building staff (e.g. vendors, small deliveries, etc.) as opposed to visitors to inpatients or accompanying outpatients all drive to/from the campus.

Source: Adavant Consulting, 2014

Table 3-8 shows the external daily person trips by mode of travel as well as the number of daily vehicle trips for each population group, which have been obtained by applying the percentages shown in **Table 3-7** to the external person trips described in Section 3.1.4.

TABLE 3-8: NEW DAILY EXTERNAL TRIPS BY MODE OF TRAVEL

UCSF Population Group	Daily Person Trips								Daily Vehicle Trips [1]
	Drive Alone	Drop-Off/Taxi	Carpool/ Vanpool	Public Transit	UCSF Shuttle	Bike / Motor cycle	Walk	All Modes	
Staff	148	7	32	42	32	36	22	318	176
Visitors	20	0	0	0	0	0	0	20	20
Total	**168**	**7**	**32**	**42**	**32**	**36**	**22**	**338**	**196**

Notes:

1. Vehicle trips are calculated based on the following formula: Drive Alone trips + (Drop-off trips x 2) + (Carpool trips / 2) + (Vanpool trips / 10) + (UCSF Shuttle / 15). Carpool refers to private automobiles, whereas vanpool refers to vehicles with higher passenger capacity e.g. passenger van.

Source: Adavant Consulting, 2014

3.3.1 Retail Mode Split

The mode split for the retail land use is derived from the SF Guidelines mode split for retail use and is summarized in Table 3-9 and detailed in Appendix H.

TABLE 3-9: EXTERNAL RETAIL TRIPS BY MODE OF TRAVEL

Mode	Daily Trips	AM Peak Hour Trips	PM Peak Hour Trips
Auto Person Trips	176	4	16
Transit Trips	34	1	3
Walk Trips	55	2	5
Other	5	0	0
Total Person Trips	270	7	24
Vehicle Trips[1]	98	2	9

Notes:

1. Assumes average vehicle occupancy for each origin/designation as specified in the SF Guidelines. Source: Adavant Consulting, 2016

3.4 PEAK HOUR TRIP GENERATION

The Proposed Project would generate approximately 320 net new external weekday person trips of which approximately 190 would be by vehicle and approximately 50 by transit (public transit plus UCSF shuttle bus service). Approximately 30 percent of daily trips would be expected to occur during each of the AM and the PM peak hours. **Table 3-10** shows the AM and PM peak hour additional vehicle trips generated by the Proposed Project by population group; **Table 3-11** shows the AM and PM peak hour additional transit person trips by transit service provider; **Table 3-12** shows the AM and PM peak hour additional "other" person trips, which includes walk, bicycle, taxi, and motorcycle.

TABLE 3-10: NEW PEAK HOUR VEHICLE TRIPS						
UCSF Population Group[1]	**AM Peak Hour**			**PM Peak Hour**		
	In	**Out**	**Total**	**In**	**Out**	**Total**
Staff	44	11	55	5	47	52
Visitors	2	1	3	0	1	1
Total	***46***	***12***	***58***	***5***	***48***	***53***

Notes:

1. Peak hour trips account for external trips only. Includes UCSF shuttle vehicles.

Source: Adavant Consulting, 2014

TABLE 3-11: NEW PEAK HOUR TRANSIT PERSON TRIPS						
Transit Mode[1]	**AM Peak Hour**			**PM Peak Hour**		
	In	**Out**	**Total**	**In**	**Out**	**Total**
Public Transit	13	3	16	2	14	16
UCSF Shuttle	8	2	10	1	8	9
Total	***21***	***5***	***26***	***3***	***22***	***25***

Notes:

1. Peak hour trips account for external trips only. Some transit users may use both transit modes in a single trip. The table accounts for the total number of trips on each system, therefore transfer trips are counted twice.

Source: Adavant Consulting, Fehr & Peers, 2014

TABLE 3-12: NEW PEAK HOUR "OTHER" PERSON TRIPS						
Mode[1]	**AM Peak Hour**			**PM Peak Hour**		
	In	**Out**	**Total**	**In**	**Out**	**Total**
Other	15	4	19	2	15	17

Notes:

1. Peak hour trips account for external trips only. "Other" trips include walk, bicycle, taxi, and motorcycle trips.

Source: Adavant Consulting, 2014

As shown in **Table 3-10**, 28 new vehicle trips would occur during the AM peak hour and 53 during the PM peak hour. **Table 3-11** shows 26 new transit riders in the AM peak hour and 25 new transit riders during the PM peak hour. Almost twice as many new transit users would be expected to travel to/from the campus site by general public transit versus the UCSF shuttle bus service. **Table 3-12** shows less than 20 new "other" person trips during the AM and PM peak hour, including walk, bike, taxi, and motorcycle trips.

3.4.1 Retail Peak Hour Trip Generation

This analysis assumes that the mode choice for the proposed Research Building under all the Project Variants would remain the same as under the Proposed Project. Therefore, the number of new vehicle,

transit, or other trips generated by the Research Building under all the Project Variants would be the same as under the Proposed Project.

Variant 1 and Variant 3 include a retail component that will generate additional peak hour trips in addition to the trips included in the Proposed Project. These additional person and vehicle trips are detailed in **Table 3-13**.

TABLE 3-13: RETAIL PEAK HOUR TRIP GENERATION

Mode[1]	AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total
Auto Person Trips	2	2	4	7	9	16
Transit Trips	1	0	1	1	2	3
Walk Trips	1	1	2	2	3	5
Other	0	0	0	0	0	0
Total Person Trips	***4***	***3***	***7***	***10***	***14***	***24***
Vehicle Trips	1	1	***2***	4	5	***9***

Notes:

1. Peak hour trips account for external trips only.

Assumes an average vehicle occupancy as specified by the SF Guidelines. Source: Adavant Consulting, 2015

3.5 TRIP ASSIGNMENT

External project trips summarized above by mode are assigned to specific routes that AM and PM peak hour trips generated by the proposed Research Building would likely take to and from ZSFG campus, including the 23rd Street Garage. Vehicle trips are assigned to roadways and intersection turning movements according to the trip distribution percentages identified in Section 3.2. Similarly, transit trips are assigned to specific transit service providers and routes using the trip distribution and mode split percentages from the tables above based on the most direct transit route to and from their origin or destination.

While this analysis assumes the overall mode of travel for all the Project Variants would remain the same as the Proposed Project, vehicle trip assignment would change based on the size of the 23rd Street Garage and the available overall parking supply. In Variants with a garage expansion, a majority percent of expected parking demand can be served in the garage. In Variants with no garage expansion, none of the additional peak parking demand can be accommodated in the garage. As a result, new vehicle trips that cannot use the garage due to peak capacity constraints would be expected to seek on-street parking in the study area, or to seek parking somewhere outside of the study area and walk to the campus.

The different garage capacity and layout in the various Project Variants would affect the assignment of vehicle trips generated by the Research Building as well as existing trips and trips generated by the new ZSFG Hospital building. In all Project Variants, approximately fifteen percent of existing staff and visitors as well as new staff and visitors generated by the completion of the new ZSFG Hospital building would continue to use the southern driveway to the current B/C Lot for passenger loading and drop-offs. The assumptions for the remaining 85 percent of vehicles which would park in the 23rd Street Garage, on the streets within the study area, or outside of the study area, are presented below.

- Under Variant 1: 292-space expansion with retail, some vehicles that would park in the 23rd Street Garage under the Proposed Project would shift to on-street parking adjacent to ZSFG due to the smaller garage expansion: while approximately 50 to 65 percent of vehicles are assumed to park in the garage, approximately 25 percent are assumed to circle the neighborhood and park within the study area, and less than 10 percent are assumed to park outside of the study area.

- Under Variant 2: 527-space expansion and Variant 3: 512-space expansion with retail, all vehicles that would park on the street under the Proposed Project would shift to the 23rd Street Garage due to the increased capacity.

- Under Variant 4: No Garage Expansion, vehicles that would park in the 23rd Street Garage under the Proposed Project would shift to on-street parking, either adjacent to ZSFG or outside of the study area; with limited on-street parking in the immediate proximity of the Research Building, approximately 25 percent of vehicles are assumed to circle the network and park within the study area, while 60 to 75 percent of vehicles are assumed to park outside the study area.

- In the On-Site Alternative, all of the parking demand generated by the Research Building would be accommodated on-site. Of the existing staff and visitors as well as new staff and visitors generated by the completion of the new ZSFG Hospital building, approximately 25 percent are assumed to circle the neighborhood and park within the study area while approximately 60 percent are assumed to park outside the study area.

3.6 LOADING DEMAND

The *SF Guidelines* methodology for estimating commercial vehicle and freight loading demand is typically used to calculate the demand associated with new development projects in San Francisco. Daily truck trips are calculated based on gross square-footage, a nine-hour day, and a 25-minute average stay. Average hourly demand can then be converted to a peak hour demand by applying peaking factors specified in the *SF Guidelines*. **Table 3-14** shows the calculated demand based on the increase in gross square feet of UCSF-space due to the Proposed Project.

TABLE 3-14: NEW ESTIMATED OFF-STREET LOADING DEMAND (BASED ON SF GUIDELINES)

	New Demand[1]	
	Daily	**Peak Hour**
Proposed Research Building	9	1

Notes:

1. Estimated future loading demand based on proposed 175,000 GSF research building. Calculations based on *SF Guidelines*, Appendix H, Freight Delivery and Service Demand Methodology.

Table 3-14 shows that there would be an increase of nine daily commercial loading trips and one peak hour commercial loading trip. The estimated increase in loading trips under the Variants would be the same as the Proposed Project, since the Variants would not modify the size of the proposed Research Building.

3.6.1 Passenger Loading Demand

In order to estimate passenger loading demand , the drop-off/taxi service mode split and a portion of the carpool mode split percentages presented in **Table 3-7** was applied to the peak AM and PM peak hour person trips. **Table 3-15** summarizes the estimated increase in passenger loading trips generated by the Proposed Project.

TABLE 3-15: NEW ESTIMATED PASSENGER LOADING DEMAND FOR THE UCSF RESEARCH BUILDING

Drop-off[1]		Carpool[1,2]		New Demand	
AM	PM	AM	PM	AM	PM
2	2	1	1	3	3

Notes:
1. Peak hour passenger trips account for external trips only.
2. Analysis assumes 10% of estimated carpool/vanpool use drop-off/passenger loading area before parking.

Source: Adavant Consulting, 2014

Table 3-15 shows that the expected peak hour passenger loading demand will increase by three trips for both the AM and PM peak hours due to the Proposed Project. The estimated increase in passenger loading trips under the Variants would be the same as the Proposed Project, since the Variants would not modify the size of the proposed Research Building.

3.6.2 Retail Loading Demand

Loading demand for the retail land uses in Variant 1 and Variant 3 are derived from the SF Guidelines loading demand for retail use and is summarized in **Table 3-16** and detailed in **Appendix H**. The peak loading demand for the retail component of Variant 1 and Variant 3 is less than one loading space.

TABLE 3-16: ESTIMATED OFF-STREET LOADING DEMAND FOR RETAIL

Land Use	New Demand[1]	
	Daily	Peak Hour
Retail (5,000 sf)	1.1	0.1

Notes:
1. Estimated future loading demand based on proposed 5,000 sf of retail use in Variant 1 and Variant 3. Calculations based on *SF Guidelines*, Appendix H, Freight Delivery and Service Demand Methodology.

3.7 PARKING DEMAND

Parking demand estimates for the proposed Research Building were calculated based on the current and projected UCSF population (staff and visitors) information at the site, as well as the expected mode of travel to/from the site, as described in Section 3.3.

Thus, forecasting the net new parking demand for the proposed Research Building at the ZSFG campus site involves estimating the number of additional daily parked vehicles at the site. The number of daily

parked vehicles includes all arriving vehicles, excluding taxis, UCSF shuttle buses, and those who drop-off or pick up staff, patients, or visitors.

The resulting increase in daily vehicle parking for a typical weekday at the proposed Research Building is summarized in **Table 3-17** by population group.

TABLE 3-17: DAILY VEHICLE PARKING DEMAND GROWTH ESTIMATES ON A TYPICAL WEEKDAY BY UCSF POPULATION GROUP

UCSF Population Group	Daily Vehicle Parking Growth (Proposed Project)
Staff	80
Visitors	10
Total	***90***

Source: Adavant Consulting, 2014

Table 3-17 shows that the Proposed Research Building is expected to generate up to 90 new daily parked vehicles on a typical weekday. Based on surveys conducted at the ZSFG campus site, it is estimated that approximately 75 percent of the additional daily parked vehicles would park at the 23rd Street Parking Garage, while the remaining 25 percent would park on the street.

The number of daily parked vehicles is then adjusted in order to estimate the peak parking space demand, as different vehicles would occupy the same parking space during the day in many instances, for example, in the case of staff, patients, or visitors arriving for different work shifts or medical appointments throughout the day. Thus, the peak parking space demand ratios are equal to one (one vehicle parks in a space all day) or less than one (multiple vehicles park in the same space throughout the day), depending on the population group.

The peak parking space demand ratios used in the analysis are summarized in **Table 3-18** by UCSF population group. They have been derived from previous parking studies conducted at various UCSF campus sites for studies including the *2008 Medical Center at Mission Bay EIR* and the *1996 LRDP EIR*. ZSFG has not established a new demand rate since the 2008 EIR; thus, this is the latest and most comprehensive information available. It is also consistent with previous environmental review analyses at the campus.

TABLE 3-18: PEAK PARKING SPACE DEMAND RATES BY POPULATION GROUP

UCSF Population Group	Peak Parking Space Demand Rate
Staff	0.85
Visitors	0.40

Source: UCSF, Adavant Consulting, 2014

Table 3-19 provides an estimate of the additional number of parking spaces that would be occupied during the peak parking demand period, typically from mid-morning until early afternoon, as a result of the Proposed Project. The Proposed Project is expected to generate an additional peak demand of 72 new parking spaces on a typical weekday. The peak parking demand estimate represents a conservative assumption since it reflects an average ratio of 0.63 spaces per employee (Table 3-1; 108

employees, 68 spaces), while the overall long-term ratio for the ZSFG campus site was found to be 0.37 parking spaces per employee (Table 5-2; 707 employees, 262 spaces).

TABLE 3-19: PEAK PARKING DEMAND INCREASE ON A TYPICAL WEEKDAY BY POPULATION GROUP

UCSF Population Group	Increase in Peak Parking Space Demand[1]
Staff	68
Visitors	4
Total	***72***

Note:
1. The data shown reflect the future peak parking demand through 2040.

Source: Adavant Consulting, 2014

3.7.1 Retail Parking Demand

Parking demand for the retail land use in Variant 1 and Variant 3 are derived from the SF Guidelines parking demand for retail use and is summarized in **Table 3-20** and detailed in **Appendix H**. The total parking demand for the retail component of Variant 1 and Variant 3 is 15 spaces.

TABLE 3-20: PEAK PARKING DEMAND FOR RETAIL LAND USE

Type of Parking Demand	Number of Spaces
Long Term Parking Demand	7
Short Term Parking Demand	8
Total Parking Demand	***15***

Source: Adavant Consulting, 2016

3.8 CONSTRUCTION DEMAND

Implementation of the Proposed Project would occur using a coordinated, phased construction schedule that would preserve UCSF's operations at the ZSFG campus site during the construction period. This section describes the estimated construction schedule and construction truck demand per workday. The type of truck will vary per the construction project but could include a combination of hauler, excavation, materials delivery, cement, and/or smaller, more specialized trucks for specific functions.

The proposed Research Building construction schedule is described in **Table 3-21**. Construction of the proposed Research Building is anticipated to begin in 2017 and end in 2019. The expanded 23rd Street Garage would require additional coordination with the SFMTA and other San Francisco agencies prior to construction, and therefore the timing is estimated, although it would likely be coordinated closely with the Research Building project. Both projects anticipate no more than 30 truck trips per workday

through the duration of construction, which is up to approximately 24 months for the proposed Research Building and 18 months for the expanded 23rd Street Garage.

TABLE 3-21: PROPOSED CONSTRUCTION DATA

Construction Project	Project Completed By	GSF	Average Number of Truck Trips per Workday[1]
Proposed Research Building	2019	175,000	10-30
Expanded 23rd Street Parking Garage (307 spaces)	2019	75,000[2]	10-30

Notes:

1. Average number of truck trips estimated based on construction schedules for similarly sized projects proposed under the UCSF 2014 LRDP. The number of truck trips will range through each phase of the project.
2. Estimated using aerial images: 110 feet (North/South) X 170 feet (East/West) X Four floors = 75,000 sf.

Source: UCSF, 2014

The estimated range of average truck trips per day and the duration of the construction period would vary for the Project Variants. Variant 1: 292-space expansion with retail, Variant 2: 527-space expansion, and Variant 3: 512-space expansion with limited retail may require more or fewer construction trips per day and a shorter or longer schedule, they would all fall within the ranges presented above. Project Variant 4: No Garage Expansion and the On-Site Alternative would not propose any construction at the 23rd Street Garage. Although the On-Site Alternative would not entail any construction at the parking garage, it would require a longer excavation period at the research building site on the B/C lot due to the need to supply two levels of underground parking.

4 TRANSPORTATION IMPACT ANALYSIS

This chapter presents the assessment of transportation impacts resulting from the Proposed Project (New Research Building and Expansion of the 23rd Street Garage). The impacts are grouped into eight areas: traffic, transit, pedestrians, bicyclists, loading, emergency vehicle access, parking, and transportation-related construction impacts. Transportation conditions were assessed for Near Term plus Project and Cumulative conditions.

4.1 SIGNIFICANCE CRITERIA

Below is a list of significance criteria used by UCSF to assess whether a Proposed Project would result in significant impacts to the transportation network under the California Environmental Quality Act (CEQA). These criteria are organized by transportation mode to facilitate the transportation impact analysis. With the exception of the transit category, UCSF's significance criteria is the same as that used by the City of San Francisco Planning Department as part of their standard environmental review of proposed projects.

4.1.1 Traffic

Signalized Intersections – a significant impact would occur if:

- Project traffic causes intersection LOS D or better to deteriorate to LOS E or F
- Project traffic causes intersection LOS E to deteriorate to LOS F
- Project increases traffic by five percent on critical movements[14] operating at LOS E or F of an intersection operating at LOS E or F under Existing conditions.

Unsignalized Intersections – a significant impact would occur if:

- Project traffic causes the LOS at the worst approach to deteriorate from LOS D or better to LOS E or F and Caltrans signal warrants would be met
- Project traffic causes Caltrans signal warrants to be met when the worst approach is already operating at LOS E or F
- Project adds traffic to an intersection that operates at LOS E or F under Existing conditions and makes a considerable contribution (five percent on critical approaches[15] operating at LOS E or F) to the worsening of the average delay per vehicle and Caltrans signal warrants would be met.

Cumulative – a significant impact would occur if:

- The Proposed Project would make a considerable contribution to the deterioration of intersection conditions (LOS E or F) if project-generated traffic contributed five percent or more to the critical movements operating at LOS E or F under Cumulative conditions.

[14] The critical movement is the one whose signal phase requires more green time to serve its demand volume than the concurrent movement's signal phase.
[15] The critical approach is when a critical movement is a single shared movement's lane.

4.1.2 Transit

The Proposed Project would have a significant effect on the environment if project demand for public transit caused the need for development or expansion of mass transit facilities, which would cause significant environmental impacts.

4.1.3 Pedestrians and Bicycles

The Proposed Project would have a significant effect on the environment if it would cause a substantial conflict among autos, bicyclists, pedestrians and transit vehicles.

4.1.4 Loading

The Proposed Project would have a significant effect on the environment if it would result in a loading demand during the peak hour of loading activities that could not be accommodated within proposed on-site loading facilities or within convenient on-street loading zones, or if it created potentially hazardous conditions or significant delays affecting traffic, transit, bicycles or pedestrians.

4.1.5 Emergency Access

The Proposed Project would have a significant effect on the environment if it would result in inadequate emergency access.

4.1.6 Parking

Project-generated parking demand that is not met by the project is not considered significant.

4.1.7 Construction

Construction-related impacts generally would not be considered significant due to their temporary and limited duration.

4.2 TRAFFIC IMPACTS

This section describes traffic operations with and without vehicle traffic generated by the Proposed Project under Near Term No Project and Plus Project conditions. Near Term Conditions assumes the New Hospital, and circulation changes are complete and operational. In addition, Near Term Conditions include changes to Potrero Avenue included in the SFMTA Transit Effectiveness Program (TEP) and Potrero Streetscape Improvements.

4.2.1 Near Term Infrastructure Improvements

This section summarizes near term infrastructure improvements that will occur near ZSFG.

4.2.1.1 Potrero Avenue Streetscape Improvements

The Potrero Avenue Streetscape Improvement project includes pedestrian safety improvements, wider crosswalks, high-visibility green Class II bike lanes, new landscaping, and new sidewalk amenities on

Potrero Avenue between 21st and 25th streets. Specific improvements adjacent to ZSFG include pedestrian median refuges at 22nd and 23rd streets and curb extensions and wider crosswalks at 22nd through 25th streets. These improvements will coincide with Muni Forward changes (discussed below) and are scheduled to be complete by 2015.

4.2.1.2 Potrero Avenue TEP Changes

Muni Forward would provide transit improvements for the portion of the 9 San Bruno and 9L San Bruno Limited bus routes along Potrero Avenue through the study area. Muni Forward includes two alternatives, a Moderate Alternative and Expanded Alternative, although both alternatives are the same in the vicinity of the project site, therefore it could be said that either alternative is assumed. The Moderate Alternative would include transit stop changes, lane modifications, parking and turn restrictions, bicycle, and pedestrian improvements. Specific changes to Potrero Avenue in the study area including the following:

- **Transit Stop Changes**. Transit stop changes include stop consolidation and new transit bulbs at select intersections. Existing transit stops on Potrero Avenue would be consolidated into one new stop that would be located at 80-foot-long transit zones on the farside of the intersection in both directions at the following locations. In the inbound direction, two closely spaced stops at 20th and 22nd streets would be consolidated into one new farside stop at 21st Street. In the outbound direction, the stops on Potrero Avenue at 20th and 22nd streets would be consolidated into the existing stop at 21st Street and outbound stops would be removed on Potrero Avenue at 23rd and 25th streets. A new stop at 19th Street would be created (in both directions, 80-foot-long transit zone on the farside of the intersection) to maintain two-block stop spacing between the new stops at Mariposa and 21st streets. A new stop (80-foot-long transit zone) would be added in the outbound direction midblock on Potrero Avenue between 22nd and 23rd streets, on the farside of the existing midblock signalized crosswalk, to serve San Francisco General Hospital. A 90-foot transit bulb would be constructed at the existing farside stop in the inbound (northbound) direction on Potrero Avenue at 24th Street. An existing transit bulb would be removed in the inbound (northbound) direction at Potrero Avenue located farside of a midblock signalized crosswalk between 22nd and 23rd streets and would be replaced with a 100-foot-long transit zone.
- **Parking and Turn Restrictions**. Turn restrictions would be implemented on 23rd Street at Potrero Avenue limiting eastbound traffic to right turns only and westbound traffic to left and right turns only (no through movement). The signal timing would be reconfigured from a four-phase signal to a three-phase signal, removing the split phase for 23rd Street.
- **Lane Modifications**. A side-running transit-only lane would be established in the outbound (southbound) direction on Potrero Avenue between 18th Street and the farside of 24th Street by removing some of the parking spaces along both sides of Potrero Avenue and altering the existing lane widths. The existing side-running transit-only lane in the inbound (northbound) direction on Potrero Avenue between 200 feet north of 24th Street and 21st Street would be removed. A 2-foot-wide buffer would be added to the northbound and southbound bicycle lanes on Potrero Avenue between 17th and 22nd streets, and between 24th and 25th streets. A 2-foot-wide buffer would be added to the northbound and southbound bicycle lanes on Potrero Avenue between 22nd and 24th streets.

- **Pedestrian Improvements**. Pedestrian bulbs would be installed on Potrero Avenue to shorten the crosswalk distance at the signalized crossings at the followig locations: 20th Street (northwest, northeast, and southwest corners), at 21st Street (northwest corner), at 22nd Street east of Potrero Avenue (northeast and southeast corners), at 22nd Street west of Potrero Avenue (all four corners), at the new outbound stop and existing inbound stop between 22nd and 23rd streets (midblock on the west and east side of Potrero Avenue), at 23rd Street (northeast, southwest, and southeast corners), and at 25th Street (northwest and northeast corners). The existing pedestrian bulb on Potrero Avenue at 24th Street (northwest corner) would be removed. Pedestrian refuge islands would be installed at all intersection crosswalks from 17th to 25th streets. A new crosswalk to provide pedestrian access across Potrero Avenue would be installed on the north side of the Potrero Avenue and 23rd Street east leg intersection.[16] The sidewalk on the east side of Potrero Avenue from 21st Street to 60 feet south would be widened from 9 to 15 feet by removing the parking lane on the east side of the street.

4.2.2 Intersection Impacts

Near Term traffic forecasts include the completion of the new ZSFG Hospital building and proposed streetscape and transit changes proposed for Potrero Avenue as a part of TEP and Potrero Avenue streetscape project. Existing vehicle access to the 23rd Street Garage would not change under Near Term conditions and the additional entry and exit lanes provided on 23rd Street would be open only after 6:00 PM. Near Term No Project Conditions for the selected study intersections are shown on **Figure 4-1**.

The net new vehicle trip estimates for the Proposed Project developed in Chapter 3 were added to Near Term No Project peak hour intersection volumes to represent Near Term Plus Project Conditions. The closure of the B/C Lot would cause staff and visitors who currently park there to shift to other parking locations, although the southern driveway would continue to be used, as described below. This would include both existing staff and visitors and new staff and visitors generated by the completion of the new ZSFG Hospital building. Fifteen percent of vehicle trips entering and exiting the southern driveway from 23rd Street due to the Hospital Rebuild would continue to use this driveway for passenger loading or short term parking (30 spaces would remain at the B/C Lot with completion of the Proposed Project). It was assumed that 60 percent of these Hospital Rebuild vehicle trips would park in the expanded 23rd Street Garage (expanded due to the proposed garage expansion) and 25 percent would park on-street in the vicinity of ZSFG. Of the trips associated with the Research Building (Proposed Project), 75 percent would park in the expanded 23rd Street Garage, and 25 percent would park on-street in the vicinity of ZSFG. The shifts in vehicle trips due to the removal of the B/C Lot and the proposed garage expansion are incorporated into Near Term Plus Project Conditions peak hour turning movement volumes, which are shown on **Figure 4-2A** and **Figure 4-2B**.

Consistent with the significance criteria presented in Section 4.1.1, the Proposed Project was determined to have a significant impact at a signalized intersection if project-generated trips would cause an intersection operating at LOS D or better under Near Term Conditions to operate at LOS E or LOS F, or an intersection operating at LOS E under Near Term Conditions to deteriorate to LOS F conditions. At intersections that would operate at LOS E or LOS F under Near Term Condition and would continue to

[16] The Potrero Avenue and 23rd Street intersection is offset with the west leg north of the east leg. For this analysis 23rd Street West refers to the leg to the west, and 23rd Street East the leg to the east.

operate at LOS E or LOS F under Near Term Plus Project Conditions, the increase in project vehicle trips were reviewed to determine whether the increase would contribute considerably to critical movements operating at LOS E or LOS F.

The Projects were determined to have a significant impact at an unsignalized intersection if project-related traffic causes the level of service at the worst approach to deteriorate from LOS D or better to LOS E or LOS F and Caltrans signal warrants would be met, or causes Caltrans signal warrants to be met when the worst approach is already at LOS E or LOS F.

Table 4-1 presents intersection LOS during the AM and PM peak hour for Near Term No Project and Near Term Plus Project Conditions. As presented in Chapter 2, under Existing conditions all 13 study intersections operate at acceptable levels of service (LOS D or better) during the AM and PM peak hours. Under Near Term No Project conditions, all 13 study intersections would continue to operate acceptably during the AM and PM peak periods. In general, the addition of project traffic would result in small changes in the average delay per vehicle at the study intersections, and most study intersections would continue to operate at the same service levels as under Near Term conditions. The removal of the existing B/C Lot results in vehicle trips shifting from 23rd Street to 24th Street, which causes a slight decrease in delay for the six study intersections along 23rd Street under Plus Project conditions.

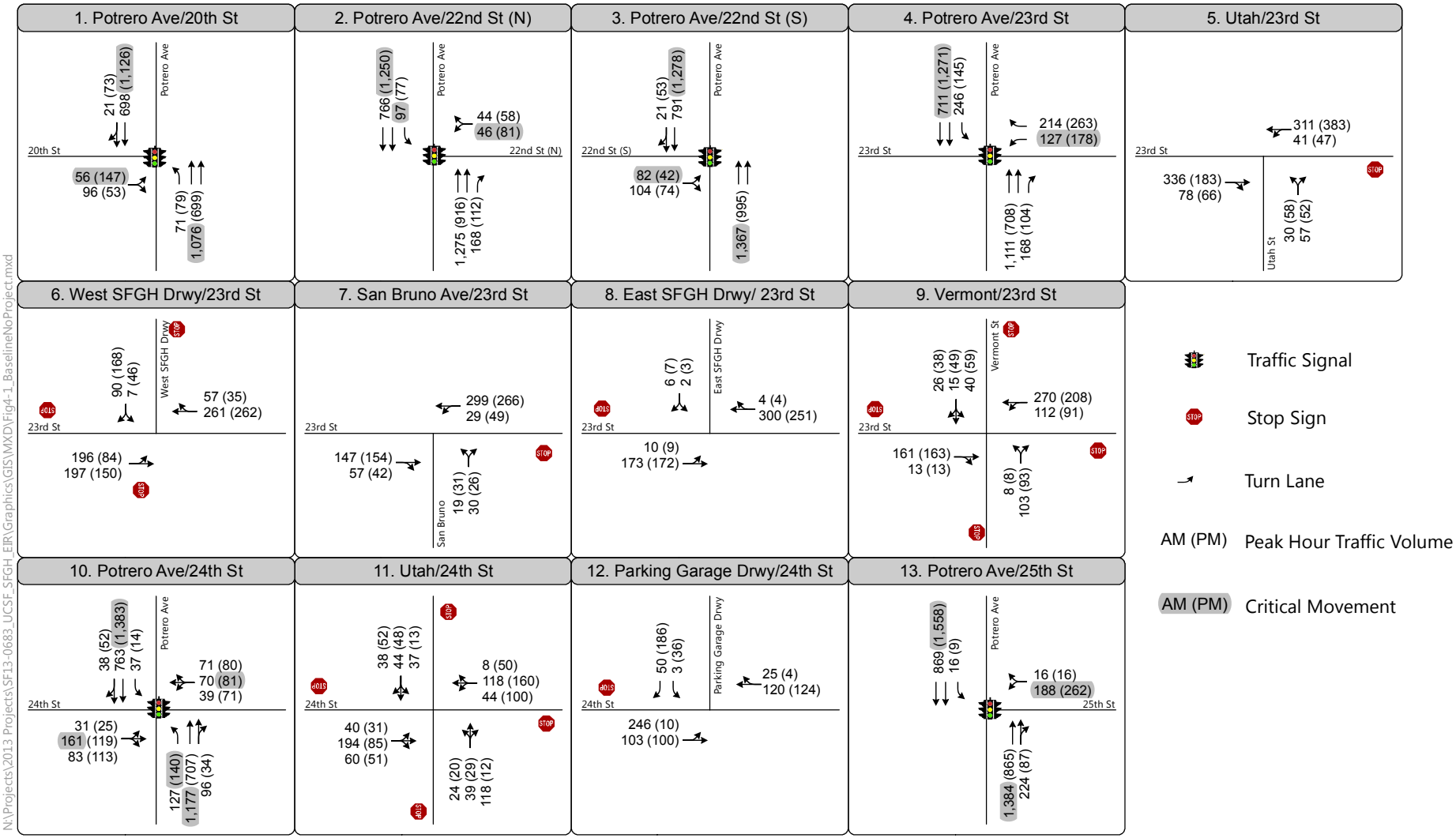


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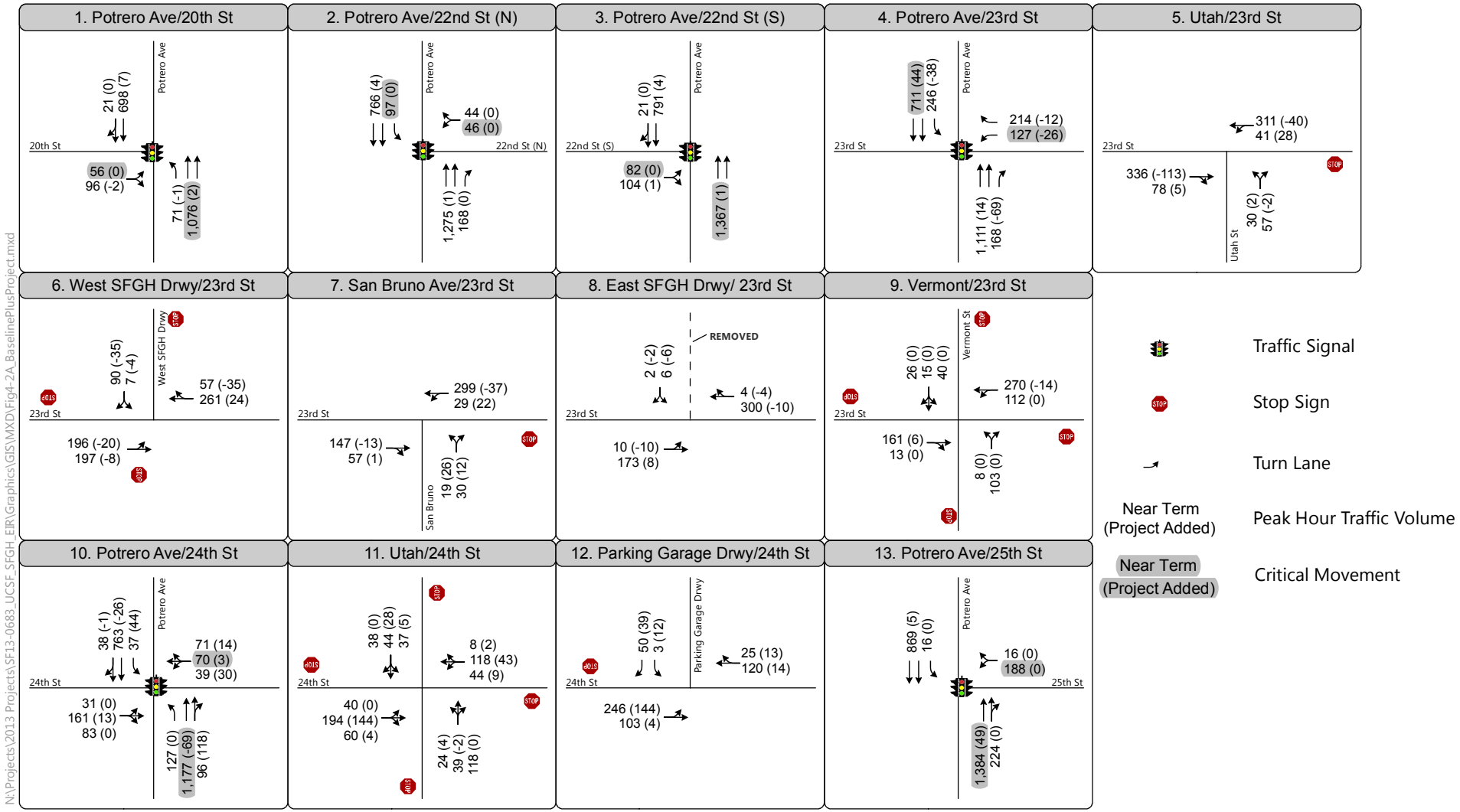
Figure 4-1

Near Term No Project Intersection Turning Movement Volumes & Lane Configuration



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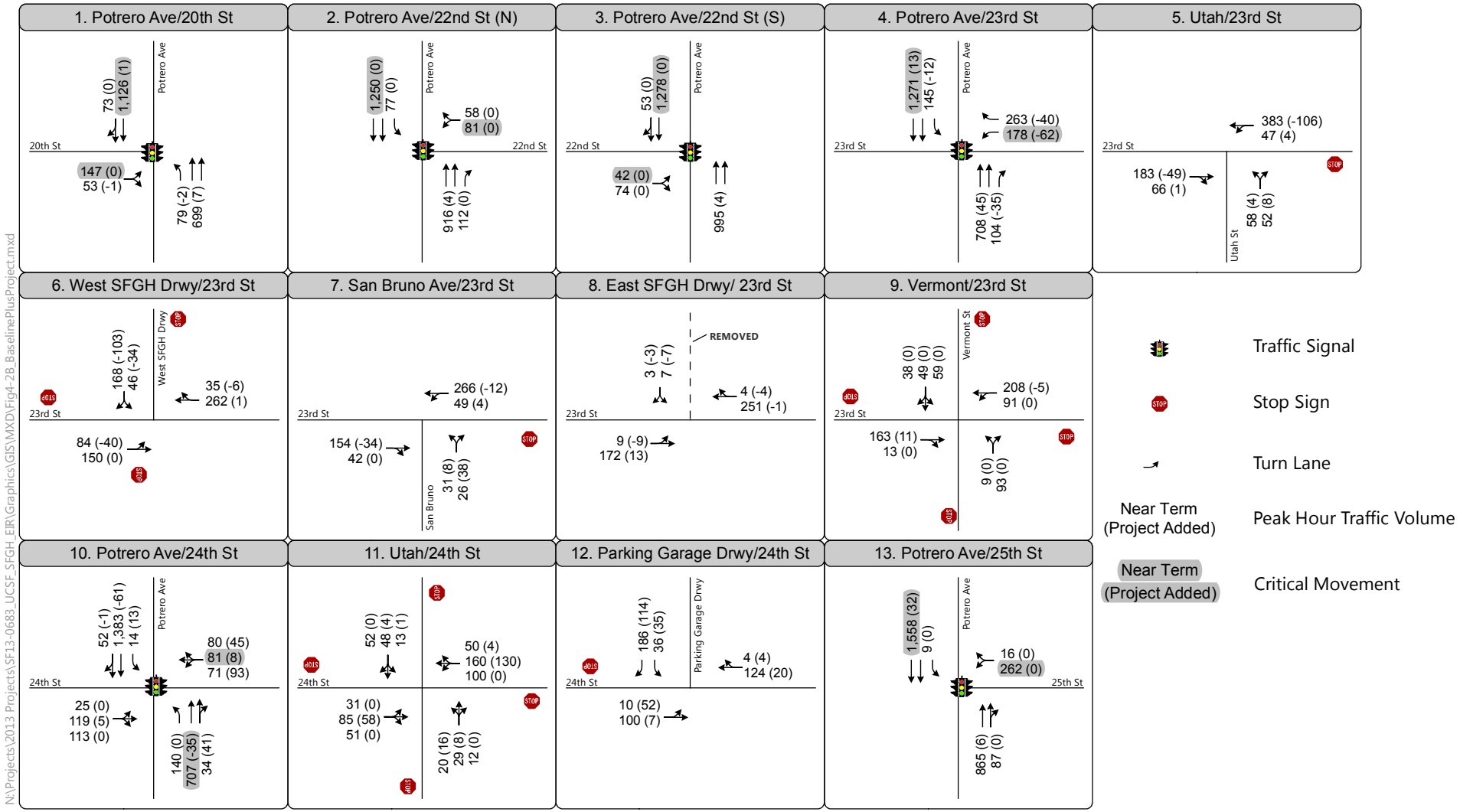
Note: Negative values represent trips that have shifted due to the closure of parking lot B/C.

Figure 4-2A

Near Term Plus Project AM Peak Intersection Turning Movement Volumes & Lane Configuration



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Note: Negative values represent trips that have shifted due to the closure of parking lot B/C.

Figure 4-2B

Near Term Plus Project PM Peak Intersection Turning Movement Volumes & Lane Configuration

TABLE 4-1: NEAR TERM PEAK HOUR INTERSECTION LEVEL OF SERVICE

Intersection	Traffic Control[1]	Peak Hour	Near Term		Near Term Plus Project	
			Ave. Delay[2]	LOS[3]	Ave. Delay[1]	LOS[2]
1. Potrero Avenue / 20th Street	Signal	AM	12	B	12	B
		PM	13	B	13	B
2. Potrero Avenue / 22nd Street (North)	Signal	AM	13	B	13	B
		PM	12	B	12	B
3. Potrero Avenue / 22nd Street (South)	Signal	AM	15	B	15	B
		PM	14	B	14	B
4. Potrero Avenue / 23rd Street[4]	Signal	AM	28	C	24	C
		PM	23	C	19	B
5. Utah Street / 23rd Street	SSS	AM	14 (NB)	B	13 (NB)	B
		PM	15 (NB)	B	13 (NB)	B
6. West ZSFG Driveway / 23rd Street	AWS	AM	13 (EB)	B	12 (EB)	B
		PM	11 (WB)	B	<10 (WB)	A
7. San Bruno Avenue / 23rd Street	AWS	AM	11 (WB)	B	11 (WB)	B
		PM	11 (WB)	B	11 (WB)	B
8. East ZSFG Driveway / 23rd Street	SSS	AM	11 (SB)	B	<10 (EB)	A
		PM	11 (SB)	B	<10 (EB)	A
9. Vermont Street / 23rd Street	AWS	AM	13 (WB)	B	12 (WB)	B
		PM	12 (WB)	B	12 (WB)	B
10. Potrero Avenue / 24th Street	Signal	AM	23	C	31	C
		PM	46	D	**>80**	**F**
11. Utah Street / 24th Street	AWS	AM	12 (EB)	B	21 (EB)	C
		PM	11 (WB)	B	17 (WB)	C
12. Parking Garage Driveway / 24th Street[5]	SSS	AM	<10 (SB)	A	14 (SB)	B
		PM	11 (SB)	B	12 (SB)	B
13. Potrero Avenue / 25th Street	Signal	AM	34	C	39	D
		PM	21	C	22	C

Notes: **Bold** indicates LOS E or F operations

1. AWS = All-way stop controlled; SSS = Side Street stop controlled; Signal = Signal controlled
2. Delay reported as seconds per vehicle. For signalized intersections, a combined weighted average delay for the various movements within the intersection is reported. For an unsignalized intersection, the highest average delay for an approach is reported.
3. For signalized intersections, LOS based on average intersection delay, based on the methodology in the Highway Capacity Manual, 2000. For an unsignalized intersection, LOS is based on the worst approach which is indicated in parentheses.
4. The eastbound approach to Potrero Ave/23rd Street is closed as part of TEP and Potrero Streetscape Improvements.
5. Access to the SFMTA operated parking garage is expected to remain from 24th Street under Near Term conditions.

Source: Fehr & Peers, 2014.

Under Near Term Plus Project conditions, 12 of the 13 study intersections would continue to operate acceptably; therefore, the Proposed Project would have a ***less-than-significant impact*** at these 12 intersections.

The Potrero Avenue / 24th Street (Intersection #10) signalized intersection operates at LOS D during the PM peak period under Near Term conditions and would operate at LOS F under Near Term Plus Project conditions with the addition of project traffic. Therefore, the Proposed Project would have a ***significant impact*** at this intersection.

The Proposed Project would worsen traffic conditions at Potrero Avenue / 24th Street and result in a significant impact; therefore, UCSF shall implement the following mitigation measures:

Mitigation Measure TR-1: Restripe 24th Street at Potrero Avenue to Provide a Westbound Left-Turn Pocket

Restripe the westbound approach on 24th Street at Potrero Avenue as two lanes; a 10-foot wide left-turn pocket approximately 50 feet in length and a 10-foot wide shared through/right-turn lane pockets. This would require the removal of three to four parking spaces on the southern side of 24th Street at the intersection of Potrero Avenue and the restriping of the eastbound lane adjacent to the removed parking spaces to be 12 feet wide. This mitigation measure would not include the addition of new signal phases or other alterations due to the existing timing plan, although the SFMTA may choose to do so as part of the mitigation measure.

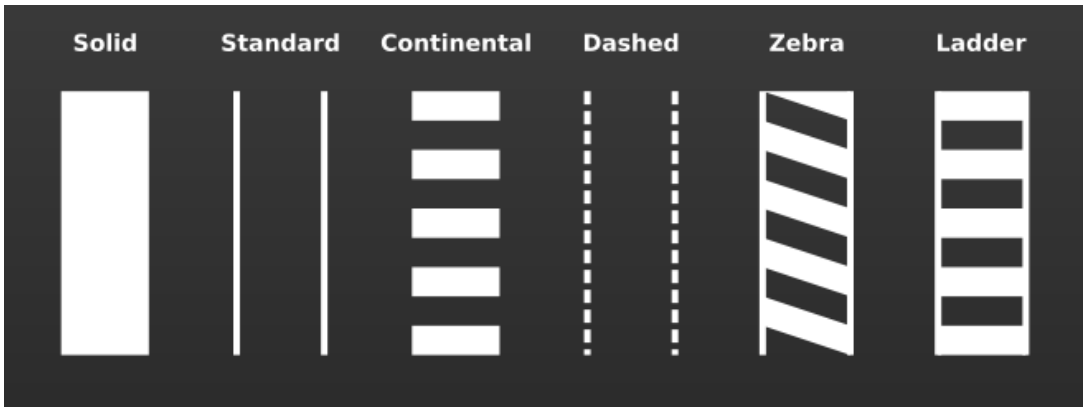
This mitigation measure would require that large trucks or buses making the northbound right movement may sweep into the westbound left turn lane (See Inset below). As such, the final design of the intersection should include placement of the stop bar on the westbound turn lane approximately one car length back from the current intersection to accommodate larger turning vehicles.

Mitigation Measure TR-2: Open 23rd Street exit of 23rd Street Garage during the PM Peak Period

Open the 23rd Street exit to the 23rd Street Garage to traffic at 3:00 PM instead of 6:00 PM. Currently, both the entrance and exit at 23rd Street are closed to vehicles from 6:00 AM to 6:00 PM. Opening the exit at 3:00 PM to coincide with a major hospital employee shift change would allow some vehicles to shift away from the 24th Street exit and thus improve the operating condition of the intersection of Potrero Avenue / 24th Street. It is not known how many people would use this exit if given the option; although there is only one exit lane, which would naturally limit the number of vehicles that can exit during this period. This analysis assumes that not enough vehicles would use this alternative exit to reduce the intersection impact to a less than significant level. In conjunction with the earlier opening of the 23rd Street exit, which would increase the amount of traffic on 23rd Street, the pedestrian crossing that connects the 23rd Street Garage to the east side of the West ZSFG Driveway should be improved. Although SFMTA staff would need to concur on a final design, this should include evaluation of signal phasing prior to implementation, and it could include shifting the eastern edge of the crosswalk to the east by ten feet in order to double the width of the crosswalk to 20 feet, repainting the crosswalk in the continental style (see below) to be more visible, and shifting the westbound

48 Quintara/24th Street in the same location 20 feet to the east to increase the visibility of pedestrians. Other potential measures to increase pedestrian visibility and reduce vehicle-pedestrian collision risks include the following measures as shown or noted below:

- Consider converting intersection of Utah Street and 23rd Street to all-way stop controlled,
- Signalize the ZSFG driveway and associated pedestrian crossing,
- Add signage on Potrero Avenue directing vehicles to use 24th Street to reduce circling for visitors,
- Increase employee education regarding appropriate pick-up and drop-off locations to minimize any additional double-parking at the corner of 23rd Street / San Bruno Avenue, which can obscure visibility of pedestrians, and
- Coordinate with the appropriate enforcement agencies (SFMTA, SFPD) to increase pedestrian safety as well as reduce instances of double-parking.



Crosswalk Styles

Potential Pedestrian Mitigation Measures

Mitigation Measure TR-3: Implement Additional TDM Strategies to Reduce Single Occupancy Vehicle Trips

UCSF and DPH shall each pursue potential TDM measures that they can feasibly implement targeted at reducing SOV trips to and from ZSFG. UCSF and DPH staff have worked collaboratively with transportation consultants, the SFMTA, and other City departments to identify a robust list of potential TDM strategies in addition to those already in place. The implementation of this mitigation measure could improve traffic operations in the immediate vicinity of ZSFG, inccluding at Potrero Avenue / 24th Street by reducing SOV trips to and from ZSFG. Additionally, implementation of other TDM strategies not included in this list would have a similar effect of reducing SOV trips to and from ZSFG.

As outlined in Section 2.2, UCSF and DPH each already have TDM plans in place and an internal planning process with UCSF, DPH, the SFMTA, and transportation consultants yielded a list of potential TDM strategies that UCSF and DPH could pursue in addition to those already in place. A combination of these measures could potentially reduce single-occupant vehicle (SOV) trips for UCSF and DPH employees. To accomplish this goal, UCSF and DPH shall coordinate and each implement the following CEQA-related policies to the extent feasible:

- Parking Policy/Pricing
  - Adjust hourly parking rate structure to discourage all-day parking and provide spaces for patients/visitors
  - Increase Hourly and monthly parking rates to be more in line with prevailing San Francisco market rates
- Transit and Shuttle System
  - Expand UCSF and DPH Shuttle Service toCaltrain, Transbay Transit Terminal (applies to UCSF and DPH; would require coordination with SFMTA)
  - Maintain a dialogue with SFMTA regarding ZSFG's strong desire to see that the transit connection between the Mission District and the ZSFG campus remains (applies to UCSF and DPH; would require coordination with SFMTA)
  - Allow patients/visitors to ride DPH Shuttle and advertise the shuttle as a last-mile option (applies to DPH)
  - Expand additional last mile service by alternate means, including reimbursing employees for Transportation Network Company (TNC e.g. Lyft, Uber) and taxi use as a bridge from transit stations (applies to DPH; would require coordination with SFMTA as well as a joint effort from UCSF, DPH, and SFMTA to study the effective use of TNCs as a "last-mile" alternative).
  - Add Bike racks on DPH shuttles (applies to DPH)
- Commute Trip Reduction
  - Hire a TDM Program Manager (applies to DPH)
  - Expand number of car share vehicles on-site (applies to DPH)
  - Create more robust carpool matching program (applies to UCSF and DPH)

- Create a vanpool service or coordinate with the existing UCSF vanpool (applies to DPH)
- Provide showers and locker facilites on campus and in the new UCSF Research Building (applies to UCSF and DPH)
- Install Bay Area Bike Share Station on campus (applies to DPH)
- Install transportation kiosk(s) overseen by the new TDM Program Manager (applies to DPH)
- Advertise existing pre-tax commuter accounts (applies to UCSF and DPH)
- Promote bicycle safety along 23rd Street and Potrero Avenue to prevent conflicts with vehicles (applies to DPH)
- Provide signage indicating the location of bicycle parking at points of access (applies to DPH)
- Facilitate access to carshare spaces through on-site garage (applies to DPH)

Additional TDM strategies that were considered as part of the internal planning process, but rejected as infeasible or otherwise not recommended include the following:

- Providing traffic calming measures: The Department of Public Works is planning a streetscape improvement project for Potrero Avenue to coincide with their repaving schedule. The project will include traffic calming measures.
- Reimbursing employees who do not drive to work: ZSFG does not have parking spaces available for every subsidized employee. Because employees cannot expect to have a parking space due to limited supply, ZSFG is therefore not required to offer a cash-out policy for employees who do not use a parking space. Additionally, enforcing this measure properly to curtail potential abuse would require diverting resources from the mission of ZSFG.
- Working with the SFMTA to expand Residential Area Parking Permit Zones: The residential permit process is a resident-driven process. The SFMTA has the ability to unilaterally legilsate the change, but they do not exercise this right. Rather, they wait until the neighborhood has organized support for it.

Mitigation Measure TR-1 would reduce the impact at Potrero Avenue / 24th Street to less than significant, but UCSF and DPH do not have the authority to implement it without SFMTA's approval and assistance, which is unknown at this time. The effectiveness of Mitigation Measure TR-2 to reduce the impact at Potrero Avenue / 24th Street to less than significant is not known given the uncertainty over the volume of vehicles choosing to exit the northern egress and UCSF does not have the authority to implement it without SFMTA's approval and assistance, which is unknown at this time. Further, the effectiveness of Mitigation Measure TR-3 to reduce the impact at Potrero Avenue / 24th Street to less than significant is not known, as it is dependent on the amount, mixture, and schedule of feasible measures implemented by UCSF and DPH. Even full implementation of Mitigation Measure TR-3 with identified feasible elments would not fully eliminate the significant impact at this intersection. For the following reasons, the traffic impact at the intersection of Potrero Avenue / 24th Street due to the Proposed Project would therefore still be considered ***significant and unavoidable***.

4.2.3 Project Variants and Alternative

Similar to the Proposed Project, vehicle trips generated by the proposed Research Building were added to Near Term No Project peak hour intersection volumes to represent Near Term Plus Variant Conditions. As noted in Chapter 3, the Project Variants are not expected to affect the number of vehicle trips generated by the proposed Research Building. However, the trip assignment for those vehicle trips would change based on the size of the 23rd Street Garage and the available parking supply.

The closure of the B/C Lot would likely cause staff and visitors who currently park there to shift to other parking locations, except in the On-Site Alternative: On-Site Parking. In all other Variants, this would likely include both existing staff and visitors and new staff, patients, and visitors generated by the completion of the new ZSFG Hospital building.

Under the Proposed Project and Project Variants it assumed that 15 percent of Hospital Rebuild vehicle trips entering and exiting the southern driveway from 23rd Street would continue to use this driveway for passenger loading or short term parking.

Under Variant 1: 292-space expansion with retail, it was assumed that some Hospital Rebuild vehicles that would shift from the B/C lot would park in the 23rd Street Parking Garage (50 percent), while the remaining vehicles would park on-street surrounding ZSFG (25 percent) or outside the study area (10 percent). Of the trips associated with the Research Building, 65 percent would park in the expanded 23rd Street Garage, 25 percent would park on-street surround ZSFG, and 10 percent would park outside the study area.

Under Variant 2: 527-space expansion and Variant 3: 512-space expansion and retail, it was assumed that all the vehicles that would shift from the B/C lot would park in the 23rd Street Parking Garage and none would park on-street.

Under Variant 4: No Garage Expansion Variant, due to the existing capacity constraints at the 23rd Street Garage, it was assumed that no additional vehicles from the Hospital Rebuild or from the Research Building would be able to park in the 23rd Street Garage, and therefore the remaining vehicles would park on-street surrounding ZSFG (25 percent) or outside the study area (60 percent of Hospital Rebuild trips and 75 percent of Research Building trips).

Under the On-Site Alternative: On-Site Parking, the Hospital Rebuild conditions are identical to Variant 4: No Garage Expansion, and trips that currently travel in and out of the B/C Lot would remain. All of the net new trips generated by the Research Building would be able to park on-site in the Research Building. The shifts in vehicle trips due to the removal of the B/C Lot and the expanded 23rd Street Garage under the Variants are incorporated into Near Term Plus Variant Conditions peak hour turning movement volumes and the following analysis.

Traffic conditions associated with Variant 1, Variant 2, Variant 3, and Variant 4, would be similar to those described above for the Proposed Project. The traffic conditions associated with the On-Site Alternative improve at Potrero Avenue / 24th Street. **Table 4-2** presents intersection levels of service and delay for the AM and PM peak hours for the Near Term Plus Project and Near Term Plus Variants. Similar to the Near Term Plus Project scenario, the Near Term Plus Variant conditions reflects modifications to the lane geometries and signal timing plans proposed by both the Proposed Project and foreseeable (funded) infrastructure improvements for several study intersections surrounding ZSFG, as discussed above.

TABLE 4-2: VARIANTS PEAK HOUR INTERSECTION LEVEL OF SERVICE

Intersection	Traffic Control[1]	Peak Hour	Baseline Plus Variant 1 (292-space expansion, retail)	Baseline Plus Variant 2 (527-space expansion)	Baseline Plus Variant 3 (512-space expansion, retail)	Baseline Plus Variant 4 (no expansion)	Baseline Plus On-Site Alternative (on-site parking only)
			Delay[2]/ LOS[3]	Delay[2]/ LOS[3]	Delay[2]/ LOS[3]	Delay[2]/ LOS[3]	Delay[2]/ LOS[3]
1. Potrero Avenue / 20th Street	Signal	AM	12 B	12 B	12 B	12 B	12 B
		PM	13 B	12 B	13 B	13 B	13 B
2. Potrero Avenue / 22nd Street (North)	Signal	AM	13 B	13 B	13 B	13 B	13 B
		PM	12 B	12 B	12 B	12 B	12 B
3. Potrero Avenue / 22nd Street (South)	Signal	AM	15 B	15 B	16 B	15 B	15 B
		PM	14 B	14 B	14 B	14 B	14 B
4. Potrero Avenue / 23rd Street[4]	Signal	AM	32 C	24 C	36 D	24 C	25 C
		PM	24 C	19 B	33 C	19 B	20 C
5. Utah Street / 23rd Street	SSS	AM	15 (NB) B	12 (NB) B	16 (NB) B	13 (NB) B	14 (NB) B
		PM	17 (NB) B	13 (NB) B	19 (NB) B	13 (NB) B	14 (NB) B
6. West ZSFG Driveway / 23rd Street	AWS	AM	12 (EB) B	<10 (EB) A	11 (EB) B	12 (EB) B	14 (EB) B
		PM	10 (WB) B	<10 (WB) A	11 (WB) B	<10 (WB) A	11 (WB) B
7. San Bruno Avenue / 23rd Street	AWS	AM	10 (WB) B	<10 (WB) A	10 (WB) B	<10 (WB) A	10 (WB) B
		PM	11 (WB) B	11 (WB) B	11 (WB) B	11 (WB) B	11 (WB) B
8. East ZSFG Driveway / 23rd Street	SSS	AM	<10 (EB) A	<10 (EB) A	<10 (EB) A	<10 (EB) A	11 (SB) B
		PM	<10 (EB) A	<10 (EB) A	<10 (EB) A	<10 (EB) A	10 (SB) B
9. Vermont Street / 23rd Street	AWS	AM	13 (WB) B	12 (WB) B	13 (WB) B	12 (WB) B	12 (WB) B
		PM	12 (WB) B	12 (WB) B	12 (WB) B	12 (WB) B	12 (WB) B
10. Potrero Avenue / 24th Street	Signal	AM	29 C	30 C	29 C	23 C	23 C
		PM	**>80 F**	**>80 F**	**>80 F**	**57 E**	54 D
11. Utah Street / 24th Street	AWS	AM	18 (EB) C	24 (EB) C	21 (EB) C	13 (EB) B	11 B
		PM	11 (EB) B	17 (WB) C	11 (WB) C	12 (WB) B	11 B
12. Parking Garage Driveway / 24th Street[5]	SSS	AM	--	17 (SB) C	0 A	11 (SB) B	10 (SB) B
		PM	--	12 (SB) B	0 A	11 (SB) B	10 (SB) B
13. Potrero Avenue / 25th Street	Signal	AM	40 D	40 D	46 D	29 C	33 C
		PM	26 C	22 C	27 C	21 C	21 C

TABLE 4-2: VARIANTS PEAK HOUR INTERSECTION LEVEL OF SERVICE

Intersection	Traffic Control[1]	Peak Hour	Baseline Plus Variant 1 (292-space expansion, retail)	Baseline Plus Variant 2 (527-space expansion)	Baseline Plus Variant 3 (512-space expansion, retail)	Baseline Plus Variant 4 (no expansion)	Baseline Plus On-Site Alternative (on-site parking only)
			Delay[2]/ LOS[3]	Delay[2]/ LOS[3]	Delay[2]/ LOS[3]	Delay[2]/ LOS[3]	Delay[2]/ LOS[3]

Notes: **Bold** indicates LOS E or F operations

1. AWS = All-way stop controlled; SSS = Side Street stop controlled; Signal = Signal controlled
2. Delay reported as seconds per vehicle. For signalized intersections, a combined weighted average delay for the various movements within the intersection is reported. For an unsignalized intersection, the highest average delay for an approach is reported.
3. For signalized intersections, LOS based on average intersection delay, based on the methodology in the Highway Capacity Manual, 2000. For an unsignalized intersection, LOS is based on the worst approach which is indicated in parentheses.
4. The eastbound approach to Potrero Ave/23rd Street is closed as part of TEP and Potrero Streetscape Improvements.
5. Access to the SFMTA operated parking garage is expected to remain from 24th Street under Baseline and Cumulative conditions.

In general, the addition of Variant-generated traffic would result in small changes in the average delay per vehicle at most study intersections. Variant 2 and Variant 4 and would have a similar effect as the Proposed Project. In Variant 1 and Variant 3, the redesigned access to the garage would result in more vehicles traveling on Utah Street (to and from the redesigned garage entrance) as well as on 23rd Street. Conversely, there would be fewer vehicles traveling on 24th Street between Utah Street and San Bruno Avenue due to the removed garage entrance. Under the On-Site Alternative, there would be more vehicles traveling on 23rd Street at the existing B/C Lot driveway as well as fewer vehicles traveling on 24th Street to the 23rd Street garage entrance. As detailed in **Table 4-2** these changes in traffic for all Variants lead to a change in vehicle delay of a few seconds and do not substantially degrade the LOS, with the exception of the intersection of Potrero Avenue and 24th Street, which serves as a major access point to the parking garage.

As presented in Chapter 2, all of the study intersections operate at acceptable levels of service (LOS D or better) under both AM and PM peak hour conditions under Existing conditions. Twelve of these 13 intersections would continue to operate acceptably under conditions in all Variants. Therefore, the Variants would have a ***less-than-significant impact*** at these 12 intersections. Under the On-Site Alternative: On-Site Parking, all 13 study intersections would continue to operate acceptably. Therefore, the On-Site Alternative would have a ***less-than-significant impact*** at all study intersections.

The Potrero Avenue / 24th Street (Intersection #10) signalized intersection operates at LOS D during the PM peak period under Near Term conditions and would operate at LOS E under Near Term Plus Project conditions with the addition of traffic due to Variant 4: No Garage Expansion. Therefore, the No Garage Expansion Variant would have a ***significant impact*** at this intersection, and UCSF shall implement the following mitigation measures:

Mitigation Measure TR-1: Restripe 24th Street at Potrero Avenue to Provide a Westbound Left-Turn Pocket

Restripe the westbound approach on 24th Street at Potrero Avenue as two lanes; a 10-foot wide left-turn pocket approximately 50 feet in length and a 10-foot wide shared through/right-turn lane pockets. This would require the removal of three to four parking spaces on the southern side of 24th Street at the intersection of Potrero Avenue and the restriping of the eastbound lane adjacent to the removed parking spaces to be 12 feet wide. This mitigation measure would not include the addition of new signal phases or other alterations due to the existing timing plan, although the SFMTA may choose to do so as part of the mitigation measure.

Mitigation Measure TR-2: Open 23rd Street exit of 23rd Street Garage during the PM Peak Period

Open the 23rd Street exit to the 23rd Street Garage to traffic at 3:00 PM instead of 6:00 PM. Currently, both the entrance and exit at 23rd Street are closed to vehicles from 6:00 AM to 6:00 PM. Opening the exit at 3:00 PM to coincide with a major hospital employee shift change would allow some vehicles to shift away from the 24th Street exit and thus improve the operating condition of the intersection of Potrero Avenue / 24th Street. It is not known how many people would use this exit if given the option; although there is only one exit lane, which would naturally limit the number of vehicles that can exit during this period. This analysis assumes that not enough vehicles would use this alternative exit to reduce the intersection impact to a less than significant level. In conjunction with the earlier opening of the 23rd Street exit, which

would increase the amount of traffic on 23rd Street, the pedestrian crossing that connects the 23rd Street Garage to the east side of the West ZSFG Driveway should be improved. Although SFMTA staff would need to concur on a final design, this should include evaluation of signal phasing prior to implementation, and it could include shifting the eastern edge of the crosswalk to the east by ten feet in order to double the width of the crosswalk to 20 feet, repainting the crosswalk in the continental style to be more visible, and shifting the westbound 48 Quintara/24th Street in the same location 20 feet to the east to increase the visibility of pedestrians. Other potential measures to increase pedestrian visibility and reduce vehicle-pedestrian collision risks include the following measures as noted below:

- Consider converting intersection of Utah Street and 23rd Street to all-way stop controlled,
- Signalize the ZSFG driveway and associated pedestrian crossing,
- Add signage on Potrero Avenue directing vehicles to use 24th Street to reduce circling for visitors,
- Increase employee education regarding appropriate pick-up and drop-off locations to minimize any additional double-parking at the corner of 23rd Street / San Bruno Avenue, which can obscure visibility of pedestrians, and
- Coordinate with the appropriate enforcement agencies (SFMTA, SFPD) to increase pedestrian safety as well as reduce instances of double-parking.

Mitigation Measure TR-3: Implement Additional TDM Strategies to Reduce Single Occupancy Vehicle Trips

UCSF and DPH shall each pursue potential TDM measures that they can feasibly implement targeted at reducing SOV trips to and from ZSFG. UCSF and DPH staff have worked collaboratively with transportation consultants, the SFMTA, and other City departments to identify a robust list of potential TDM strategies in addition to those already in place. The implementation of this mitigation measure could improve traffic operations in the immediate vicinity of ZSFG, inccluding at Potrero Avenue / 24th Street by reducing SOV trips to and from ZSFG.

Because Mitigation Measures TR-1 and TR-2 cannot be implemented without SFMTA's approval and assistance and the effectiveness of TR-3 to reduce the impact at Potrero Avenue / 24th Street to less than significant is not known (as it is dependent on the amount, mixture, and schedule of feasible measures implemented by UCSF and DPH), the traffic impact at the intersection of Potrero Avenue / 24th Street due to Variant 4: No Garage Expansion would therefore still be considered ***significant and unavoidable***.

The Potrero Avenue / 24th Street (Intersection #10) signalized intersection operates at LOS D during the PM peak period under Near Term conditions and would operate at LOS F under Near Term Plus Project conditions with the addition of traffic due to Variant 1: 274-space expansion with retail, Variant 2: 527-space expansion, and Variant 3: 512-space expansion with retail. Therefore, Variant 1, Variant 2, and Variant 3 would have a ***significant impact*** at this intersection, and UCSF shall implement the following mitigation measure:

Mitigation Measure TR-1: Restripe 24th Street at Potrero Avenue to Provide a Westbound Left-Turn Pocket

Restripe the westbound approach on 24th Street at Potrero Avenue as two lanes; a 10-foot wide left-turn pocket approximately 50 feet in length and a 10-foot wide shared through/right-turn lane pockets. This would require the removal of three to four parking spaces on the southern side of 24th Street at the intersection of Potrero Avenue and the restriping of the eastbound lane adjacent to the removed parking spaces to be 12 feet wide. This mitigation measure would not include the addition of new signal phases or other alterations due to the existing timing plan, although the SFMTA may choose to do so as part of the mitigation measure.

Mitigation Measure TR-2: Open 23rd Street exit of 23rd Street Garage during the PM Peak Period

Open the 23rd Street exit to the 23rd Street Garage to traffic at 3:00 PM instead of 6:00 PM. Currently, both the entrance and exit at 23rd Street are closed to vehicles from 6:00 AM to 6:00 PM. Opening the exit at 3:00 PM to coincide with a major hospital employee shift change would allow some vehicles to shift away from the 24th Street exit and thus improve the operating condition of the intersection of Potrero Avenue / 24th Street. It is not known how many people would use this exit if given the option; although there is only one exit lane, which would naturally limit the number of vehicles that can exit during this period. This analysis assumes that not enough vehicles would use this alternative exit to reduce the intersection impact to a less than significant level. In conjunction with the earlier opening of the 23rd Street exit, which would increase the amount of traffic on 23rd Street, the pedestrian crossing that connects the 23rd Street Garage to the east side of the West ZSFG Driveway should be improved. Although SFMTA staff would need to concur on a final design, this should include evaluation of signal phasing prior to implementation, and it could include shifting the eastern edge of the crosswalk to the east by ten feet in order to double the width of the crosswalk to 20 feet, repainting the crosswalk in the continental style to be more visible, and shifting the westbound 48 Quintara/24th Street in the same location 20 feet to the east to increase the visibility of pedestrians. Other potential measures to increase pedestrian visibility and reduce vehicle-pedestrian collision risks include the following measures as noted below:

- Consider converting intersection of Utah Street and 23rd Street to all-way stop controlled,
- Signalize the ZSFG driveway and associated pedestrian crossing,
- Add signage on Potrero Avenue directing vehicles to use 24th Street to reduce circling for visitors,
- Increase employee education regarding appropriate pick-up and drop-off locations to minimize any additional double-parking at the corner of 23rd Street / San Bruno Avenue, which can obscure visibility of pedestrians, and
- Coordinate with the appropriate enforcement agencies (SFMTA, SFPD) to increase pedestrian safety as well as reduce instances of double-parking.

Mitigation Measure TR-3: Implement Additional TDM Strategies to Reduce Single Occupancy Vehicle Trips

UCSF and DPH shall each pursue potential TDM measures that they can feasibly implement targeted at reducing SOV trips to and from ZSFG. UCSF and DPH staff have worked collaboratively with transportation consultants, the SFMTA, and other City departments to identify a robust list of potential TDM strategies in addition to those already in place. The implementation of this mitigation measure could improve traffic operations in the immediate vicinity of ZSFG, inccluding at Potrero Avenue / 24th Street by reducing SOV trips to and from ZSFG.

Because Mitigation Measures TR-1 and TR-2 cannot be implemented without SFMTA's approval and assistance and the effectiveness of TR-3 to reduce the impact at Potrero Avenue / 24th Street to less than significant is not known (as it is dependent on the amount, mixture, and schedule of feasible measures implemented by UCSF and DPH), the traffic impact at the intersection of Potrero Avenue / 24th Street due to Variant 1, Variant 2, and Variant 3 would therefore still be considered ***significant and unavoidable***.

4.2.4 VMT Reform to CEQA

The UC Regents has not yet adopted Vehicle Miles Traveled VMT as a transportation impact criterion, thus the following discussion is presented for informational purposes. As noted, SB 743, implemented in Public Resources Code Section 21099, will change CEQA transportation impact analysis. Those changes will include elimination of auto delay, Level of Service (LOS), and similar measures of vehicular capacity or traffic congestion as a basis for determining significant traffic impacts. The proposed changes in CEQA Guidelines to implement SB 743, under review by the Governor's Office and Planning and Research (OPR) as of January 2016, present (VMT) as an appropriate measure of transportation impacts.

That criteria presumes that certain office projects, including research and development, located within areas where the existing VMT per employee is 15 percent less than the existing regional VMT per employee are presumed to result in a less than significant VMT impact. The UCSF Research Building component of the Proposed Project and all Project Variants meets these criteria. The new criterion identifies thresholds of significance and screening criteria used to determine if a land use project would result in significant impacts under the VMT metric. For development projects, a project would generate substantial additional VMT if it exceeds the regional VMT per capita or employee for the particular use (i.e., residential, retail, or office) less 15 percent. OPR's proposed transportation impact guidelines state a project would cause substantial additional VMT if it exceeds both the existing City household VMT per capita minus 15 percent and existing regional household VMT per capita minus 15 percent. In San Francisco, the City's average VMT per capita is lower (8.4) than the regional average (17.2). Therefore, the City average is irrelevant for the purposes of the analysis. This approach is consistent with Public Resources Code Section 21099 and the thresholds of significance for other land uses recommended in OPR's proposed transportation impact guidelines.

On a national level, research has shown that increasing the ratio of parking spaces to area residents can result in an increase in auto mode share of up to 30% (McCahill et al., 2015). Recent intercept surveys conducted for the San Francisco Planning Department, found that individuals were 40 to 60 percent less likely to travel by automobile than individuals with dedicated parking spaces and thus generated less VMT. These results were found for both office and residential uses (Schuett et al., 2015; City of San

Francisco white paper). They also generally correspond to an absolute difference in auto mode share of around 30 percentage points – the same relationship found nationally by McCahill et al.

With respect to the retail component of Variant 1 and 3, the VMT transportation impact criterion adopted by the San Francisco Planning Commission in March 2016 includes guidance that 'small projects' that generate less than 100 vehicle trips per day are presumed to result in a less than significant VMT impact; the retail component of Variant 1 and 3 meets this criteria.

Should the parking garage component of the Proposed Project (307 spaces) be constructed, it would result in a higher peak period parking capacity utilization as compared to the existing condition because even with the additional garage expansion in place, there would still be an unmet demand of 127 spaces (Table 4-13) at ZSFG. Specifically, the parking garage component of the Proposed Project would:

- Replace parking supply that would be removed due to construction of the Research Building on the B/C Lot (net loss of approximately 130 spaces) on a one-to-one basis;
- Replace parking supply that would be removed on 22nd Street due to the reconfiguration of the emergency access to the new hospital (a loss of approximately 35 spaces);
- Replace parking supply for employees who parked at the temporary remote lot on 2000 Marin Street during the hospital reconstruction, which closed in January 2016 (approximately 75 occupied spaces in 2014); and
- Provide for the forecast parking demand due to the maximum number of new staff on site due to the Research Building (72 spaces).

A similar conclusion is reached with respect to Variant 1, which provides 292 spaces under the same assumptions as listed above, but 15 spaces would be removed to accommodate retail space. Under Variant 1, there would still be an unmet demand for parking. Therefore, considering both the Research Building and the parking garage expansion together, the Project and Variant 1 are not likely to trigger an impact under the new criteria:

- The land use and location of all scenarios are consistent with those that would be presumed to result in a less than significant VMT impact; and
- The parking garage expansion of the Project and Variant 1 would not induce new travel, as no extra spaces beyond those needed to accommodate existing parking losses plus the Proposed Project would be provided, thus the scenarios would be presumed to result in a less than significant VMT impact.

The parking garage component of Variant 2 (527 spaces) and Variant 3 (512 spaces) would provide about 215 and 200 more spaces, respectively, than the currently unmet near-term peak parking demand at the ZSFG campus due to the Proposed Project (130+72=202 spaces) plus physical reconfigurations of parking space at the ZSFG (75+35=110 spaces), as noted above. However, this additional parking capacity proposed as part of Variant 2 (215 spaces) and Variant 3 (200 spaces) would allow the ZSFG garage to meet the expected parking demand to be generated by the previously approved ZSFG Rebuild project (235 spaces, Table 4-12) by the year 2021 when full buildout of ZSFG Rebuild project is expected. As noted in Section 1.3, the ZSFG Rebuild project, approved in 2008 and nearing completion of the new hospital, includes a new hospital building (with a planned opening in May 2016) as well as the backfill of vacated hospital areas in the previous hospital building with hospital-supportive uses ((the backfill is expected to be completed by approximately 2021).

Regardless of the project or variant scenario, any associated expansion of the ZSFG garage would be expected to begin construction in 2018 at the earliest and open no sooner than 2021; thus, if any parking garage expansion were to proceed, including Variant 2 or Variant 3, it is almost certain that the opening of the expanded garage would occur at the same time or after the new travel and parking demand generated by the backfill of the vacated hospital areas in the previous hospital building with uses (i.e. employees) materializes. The travel and parking demand generated by the backfill of the old hospital building with uses was accounted for in the ZSFG Rebuild EIR as part of the ZSFG Rebuild Project, and has been confirmed and updated by DPH staff.

Further, similar to the Proposed Project, both the new hospital building and backfill of the vacated building aspects of the ZSFG Rebuild project would be consistent with the types of projects and locations where the existing VMT per employee is 15 percent less than the existing regional VMT per employee and would be presumed to result in a less than significant VMT impact under the City's new criteria. Thus, taking into account the fact that the expected schedule for completion of the full buildout of the approved and underway ZSFG Rebuild project and the schedule for completion of the expanded parking garage is the same, the additional parking garage capacity included as part of Variant 2 and Variant 3 would not be expected to induce any new vehicle travel, as no extra spaces above those needed to accommodate the ZSFG Rebuild project would be provided. Thus Variants 2 and 3 would be presumed to result in a less than significant VMT impact.

4.3 TRANSIT IMPACTS

Proposed Project transit trips were estimated based on existing travel surveys of UCSF staff and visitors and available transit data as described in Chapter 3. Transit trips by transit mode are assigned to specific transit routes using the trip distribution percentages as shown in Chapter 3. The sections below describe the estimated AM and PM peak hour trips traveling to and from ZSFG by transit route and provider.

As discussed in Section 4.1.2, the Proposed Project would have a significant effect on the environment if project demand for public transit causes the need for development or expansion of mass transit facilities, which would cause significant environmental impacts. Proposed Project impacts on public transit are analyzed relative to this standard of significance. In addition, for informational purposes, the analysis of public transit impacts on Muni relative to the City of San Francisco's crowding standard of 85 percent is discussed below.

The increase in peak hour transit trips generated by the Proposed Project is described in **Table 4-3**. These net new peak hour transit trips are expected to use a combination of local and regional transit services and UCSF shuttle service.

TABLE 4-3: NET NEW PEAK HOUR TRANSIT TRIPS

Transit Route	AM Peak Hour			PM Peak Hour		
	In	Out	Total[1]	In	Out	Total[1]
SF Muni						
9 San Bruno	1	0	1	0	1	1
9L San Bruno Limited	5	1	6	0	5	5
10 Townsend	0	0	0	0	0	0
19 Polk	0	0	0	0	0	0

27 Bryant	1	0	1	0	1	1
33 Stanyan	2	1	3	1	3	4
48 Quintara/ 24th Street	4	0	4	0	4	4
Sub-Total	*13*	*2*	*15*	*1*	*14*	*15*
BART						
Eastbound	2	1	3	0	2	2
Southbound	1	0	1	0	1	1
Sub-Total	*3*	*1*	*4*	*0*	*3*	*3*
AC Transit						
Eastbound	1	0	1	0	1	1
Sub-Total	*1*	*0*	*1*	*0*	*1*	*1*
Caltrain						
Southbound	0	0	0	0	0	0
Sub-Total	*0*	*0*	*0*	*0*	*0*	*0*
SamTrans						
Routes 292	1	0	1	0	1	1
Sub-Total	*1*	*0*	*1*	*0*	*1*	*1*
Golden Gate Transit						
Northbound	1	0	1	0	1	1
Sub-Total	*1*	*0*	*1*	*0*	*1*	*1*
UCSF and ZSFG Shuttles						
All Shuttles	8	2	10	1	8	9
Sub-total	*8*	*2*	*10*	*1*	*8*	*9*
Total	***27***	***5***	***32***	***2***	***28***	***30***

Notes:

1. Peak hour trips account for external trips only. Some transit users may use multiple transit modes on a single trip (e.g. BART+Muni, AC Transit+Muni, Muni+UCSF Shuttle, etc.). The table accounts for the total number of trips on each system, therefore transfer trips are counted multiple times.

Source: Adavant Consulting, 2014

As shown in **Table 4-3**, approximately 35 new transit trips are expected during the AM and PM peak hours. Approximately 50 percent of transit users will use Muni to commute to and from ZSFG, while the remaining transit riders will use BART, AC Transit, SamTrans, Golden Gate Transit, or the UCSF Shuttle system.

4.3.1 SF Muni

Multiple existing Muni transit stops are located within a half-mile of ZSFG, with multiple stops located adjacent to the site on Potrero Avenue and 23rd Street. The relocation of stops on Potrero Avenue is planned as part of Muni Forward. Existing inbound (northbound) transit stops at 20th and 22nd streets would be consolidated into one new farside stop at 21st Street. An existing inbound transit bulb located farside of the midblock signalized crosswalk between 22nd and 23rd streets would be removed and replaced by a 100-foot-long transit zone. Existing outbound (southbound) transit stops at 20th and 22nd streets would be consolidated into the existing farside stop at 21st Street. An outbound stop would also be removed at 23rd Street, replaced by a new farside stop at the existing midblock signalized crosswalk between 22nd and 23rd streets. This stop would be intended to serve San Francisco General Hospital.

The Muni trips as assigned in **Table 4-3** were added to the loads of the lines that serve the site at their maximum load points. **Table 4-4** shows the maximum load point and capacity utilization for the transit

routes with the transit trips generated by the Proposed Project added to them to reflect the Existing Plus Project scenario.

TABLE 4-4: TRANSIT CAPACITY UTILIZATION

	Direction	Existing			Existing Plus Project		
		Pass. Load	Peak Hour Capacity	Capacity Util.	New Transit Trips	Pass. Load	Capacity Util.
AM Peak Hour							
9 – San Bruno	Inbound	225	315	71%	1	226	72%
	Outbound	175	315	56%	0	175	56%
9L – San Bruno Limited	Inbound	240	315	76%	5	245	78%
	Outbound	115	315	37%	1	116	37%
10 – Townsend	Inbound	141	189	75%	0	141	75%
	Outbound	165	189	**87%**	0	165	**87%**
19 – Polk	Inbound	160	252	63%	0	160	63%
	Outbound	220	252	**87%**	0	220	**87%**
27 – Bryant	Inbound	132	252	52%	1	133	53%
	Outbound	140	252	56%	0	140	56%
33 – Stanyan	Inbound	140	252	56%	2	142	56%
	Outbound	128	252	51%	1	129	51%
48 – Quintara/ 24th Street	Inbound	230	315	73%	2	232	74%
	Outbound	276	378	73%	0	276	73%
PM Peak Hour							
9 – San Bruno	Inbound	180	315	57%	0	180	57%
	Outbound	215	315	68%	1	216	69%
9L – San Bruno Limited	Inbound	140	315	44%	5	145	46%
	Outbound	200	315	63%	0	200	63%
10 – Townsend	Inbound	186	189	**98%**	0	186	**98%**
	Outbound	171	189	**90%**	0	171	**90%**
19 – Polk	Inbound	172	252	68%	0	172	68%
	Outbound	124	252	49%	0	124	49%
27 – Bryant	Inbound	160	252	63%	0	160	63%
	Outbound	116	252	46%	1	117	46%
33 – Stanyan	Inbound	156	252	62%	1	157	62%
	Outbound	132	252	52%	3	135	54%
48 – Quintara/ 24th Street	Inbound	175	315	56%	0	175	56%
	Outbound	180	315	57%	4	184	58%

Note: Pass. = Passenger ; Util. = Utilization

Bold: > 85% Capacity Utilization

Source: Adavant Consulting, Fehr & Peers, 2014

The estimated number of project-generated Muni trips represents less than a two-percent increase in ridership traveling to and from ZSFG, which would not require the expansion of transit service or facilities. As shown in **Table 4-4**, the 10 Townsend Outbound and 19 Polk Outbound during the AM peak hour and the 10 Townsend Inbound and Outbound during the PM peak hour operate above 85 percent capacity utilization, which represents Muni's crowding standard. The Proposed Project adds no new peak hour trips to either of these currently crowded lines.

The Proposed Project would have a significant impact on vehicle traffic at the intersection of Potrero Avenue / 24th Street, as detailed in Section 4.2.2. This additional vehicle traffic could potentially affect the operation of Muni lines that pass through the intersection:

- 9 – San Bruno (northbound through, southbound through);
- 9L – San Bruno Limited (northbound through, southbound through);
- 10 – Townsend (westbound right),
- 33 – Stanyan (southbound through, eastbound left); and
- 48 – Quintara/24th Street (westbound through, eastbound left).

Compared to Near Term conditions, the addition of Project trips results in a minor increase in delay at most of the turning movements that include Muni service, as detailed in **Table 4-5**; the northbound through, southbound through, and eastbound left movements increase by up to approximately five seconds in delay in both the AM and PM peak hours and remain at the same LOS as in Near Term conditions. The westbound right and through movements would see moderately more increase than the others; with increase in average delay of up to approximately 25 seconds in both the AM and PM peak hours. The increase in average delay on these movements would affects the 10 Townsend and the 48 Quintara/24th Street, but would not increase operating travel time enough to trigger the need for expansion of mass transit facilities.

TABLE 4-5: TRAFFIC IMPACTS ON MUNI LINES AT POTRERO AVE / 24TH STREET

Turning Movement	Muni Lines	Near Term approach delay (seconds)		Proposed Project approach delay (seconds)		Change in Delay (seconds)	
		AM	PM	AM	PM	AM	PM
NBT	9, 9L	15	10	19	10	4	0
SBT	9, 9L, 33	17	50	19	55	2	5
EBL	33, 48	55	50	46	57	2	7
WBT	48	36	96	62	120	26	24
WBR	10	36	96	62	120	26	24

Source: Fehr & Peers, 2015

It should be noted that Mitigation Measure TR-1a: Restripe 24th Street at Potrero Avenue to Provide a Westbound Left-Turn Pocket would improve vehicle delay at the westbound approach of the intersection. This mitigation measure would decrease the westbound through and westbound right delay to 28 seconds in the AM peak hour (an eight second improvement compared to Near Term conditions) and 38 seconds in the PM peak hour (nearly a minute reduction from Near Term conditions). Additionally, while Mitigation Measure TR-2: Open 23rd Street exit of 23rd Street Garage during the PM Peak Period and Mitigation Measure TR-3: Implement Additional TDM Strategies to Reduce Single Occupancy Vehicle Trips are not directly quantifiable, they would be expected to help further reduce approach delay.

None of the specific proposals of the Proposed Project would reduce access to or reconfigure transit stops in a way that would degrade transit service to the campus site. Therefore, the new transit trips generated by the Proposed Project would result in a ***less-than-significant impact***.

4.3.2 Regional Transit Service

ZSFG staff, patrons and students are anticipated to continue to use BART, AC Transit, Caltrain, SamTrans, and Golden Gate Transit for regional transit service. Regional service stations are likely to remain at existing locations, and they can be accessed by other transit modes such as SF Muni and the UCSF shuttle.

Fewer than 10 additional regional transit trips are expected during each of the AM and PM peak hours. This increase would not require the expansion of regional transit service or facilities; therefore, the new regional transit trips generated by the Proposed Project would result in a ***less-than-significant impact***.

4.3.3 UCSF Shuttle

UCSF shuttle service operations summarized in Chapter 2 will continue to serve ZSFG. The Project does not propose specific changes to shuttle service headways, although UCSF Transportation Services may change headways based on shifting shuttle demand as projects are constructed and occupied. UCSF Transportation Services would also monitor shuttle conditions to ensure the shuttle loading zone would be adequate to accommodate additional service and that the shuttle service would not conflict with Muni operations.

An additional 10 AM peak hour and 10 PM peak hour shuttle trips are anticipated due to the Proposed Project. This increase would not require the expansion of UCSF shuttle service or facilities beyond what would be expected through the regular monitoring by UCSF Transportation Services,[17] nor would the increased shuttle demand cause a substantial conflict among autos, bicyclists, pedestrians, and transit vehicles; therefore, the new UCSF shuttle trips generated by the Proposed Project would result in a ***less-than-significant impact***.

4.3.4 Variants and Alternative

Transit conditions associated with the Variant 2, Variant 4, and the On-Site Alternative would be the same as described above for the Proposed Project. Therefore, these variants would not require the expansion of transit service or facilities for Muni, regional transit, or UCSF shuttle service and the Project Variants would result in ***less-than-significant impacts***.

Variant 1 and Variant 3 both include a retail component, which would generate an additional two transit trips in the AM peak hour and nineteen trips in the PM peak hour, detailed in **Table 4-6**.

[17] This statement was verified by the UCSF Transportation Services.

TABLE 4-6: RETAIL PEAK HOUR TRANSIT TRIPS

Transit Route	AM Peak Hour			PM Peak Hour		
	In	Out	Total[1]	In	Out	Total[1]
SF Muni						
9 San Bruno	-	-	-	1	1	2
9L San Bruno Limited	-	-	-	1	1	2
10 Townsend	-	-	-	-	-	-
19 Polk	-	-	-	-	-	-
27 Bryant	-	-	-	1	1	2
33 Stanyan	1	1	2	2	3	5
48 Quintara/ 24th Street	-	-	-	2	2	4
Sub-Total	*1*	*1*	*2*	*7*	*8*	*15*
Eastbound	-	-	-	-	-	-
Southbound	-	-	-	1	1	2
Sub-Total	-	-	-	*1*	*1*	*2*
Eastbound	-	-	-	-	-	-
Sub-Total	-	-	-	-	-	-
Southbound	-	-	-	-	-	-
Sub-Total	-	-	-	-	-	-
Routes 292	-	-	-	1	1	2
Sub-Total	-	-	-	*1*	*1*	*2*
Northbound	-	-	-	-	-	-
Sub-Total	-	-	-	-	-	-
All Shuttles	-	-	-	-	-	-
Sub-total	-	-	-	-	-	-
Total	***1***	***1***	***2***	***9***	***10***	***19***

Notes:

1. Peak hour trips account for external trips only. Some transit users may use multiple transit modes on a single trip (e.g. BART+Muni, AC Transit+Muni, Muni+UCSF Shuttle, etc.). The table accounts for the total number of trips on each system, therefore transfer trips are counted multiple times.

Source: Adavant Consulting, 2015

The Muni transit trips generated by the retail land use as assigned in **Table 4-6** were added to the Muni transit trips generated by the Proposed Project, detailed in **Table 4-3** and the loads of the lines that serve the site at their maximum load points. **Table 4-7** shows the maximum load point and capacity utilization for the transit routes with the transit trips generated by the Proposed Project added to them to reflect the Near Term Plus Variant 1 and Variant 3 scenario.

TABLE 4-7: TRANSIT CAPACITY UTILIZATION

	Direction	Existing			Near Term Plus Variant 1, Variant 3		
		Pass. Load	Peak Hour Capacity	Capacity Util.	New Transit Trips	Pass. Load	Capacity Util.
AM Peak Hour							
9 – San Bruno	Inbound	225	315	71%	1	226	72%
	Outbound	175	315	56%	0	175	56%
9L – San Bruno Limited	Inbound	240	315	76%	5	245	78%
	Outbound	115	315	37%	1	116	37%
10 – Townsend	Inbound	141	189	75%	0	141	75%
	Outbound	165	189	**87%**	0	165	**87%**
19 – Polk	Inbound	160	252	63%	0	160	63%
	Outbound	220	252	**87%**	0	220	**87%**
27 – Bryant	Inbound	132	252	52%	1	133	53%
	Outbound	140	252	56%	0	140	56%
33 – Stanyan	Inbound	140	252	56%	3	143	57%
	Outbound	128	252	51%	2	130	52%
48 – Quintara/ 24th Street	Inbound	230	315	73%	2	232	74%
	Outbound	276	378	73%	0	276	73%
PM Peak Hour							
9 – San Bruno	Inbound	180	315	57%	1	181	57%
	Outbound	215	315	68%	2	217	69%
9L – San Bruno Limited	Inbound	140	315	44%	6	146	46%
	Outbound	200	315	63%	1	201	64%
10 – Townsend	Inbound	186	189	**98%**	0	186	**98%**
	Outbound	171	189	**90%**	0	171	**90%**
19 – Polk	Inbound	172	252	68%	0	172	68%
	Outbound	124	252	49%	0	124	49%
27 – Bryant	Inbound	160	252	63%	1	161	64%
	Outbound	116	252	46%	2	118	47%
33 – Stanyan	Inbound	156	252	62%	3	159	63%
	Outbound	132	252	52%	6	138	55%
48 – Quintara/ 24th Street	Inbound	175	315	56%	2	177	56%
	Outbound	180	315	57%	6	186	59%

Note: Pass. = Passenger ; Util. = Utilization

Bold: > 85% Capacity Utilization

Source: Adavant Consulting, Fehr & Peers, 2015

The estimated number of project-generated Muni trips represents less than a two-percent increase in ridership traveling to and from ZSFG, which would not require the expansion of transit service or facilities. As shown in **Table 4-7**, the 10 Townsend Outbound and 19 Polk Outbound during the AM peak hour and the 10 Townsend Inbound and Outbound during the PM peak hour operate above 85 percent capacity utilization, which represents Muni's crowding standard. The Proposed Project adds no new peak hour trips to either of these currently crowded lines.

The Proposed Project would have a significant impact on vehicle traffic at the intersection of Potrero Avenue / 24th Street, as detailed in Section 4.2.2. This additional vehicle traffic could potentially affect the operation of Muni lines that pass through the intersection:

- 9 – San Bruno (northbound through, southbound through);
- 9L – San Bruno Limited (northbound through, southbound through);
- 10 – Townsend (westbound right),
- 33 – Stanyan (southbound through, eastbound left); and
- 48 – Quintara/24th Street (westbound through, eastbound left).

Compared to Near Term conditions, the addition of Project trips results in a minor increase in delay at most of the turning movements that have Muni service, detailed in **Table 4-8**; in all Variants, the delay at the northbound through, southbound through, and eastbound left movements either decrease or increase by less than 15 seconds. In Variant 1, Variant 2, Variant 3, and Variant 4, two turning movements are negatively impacted by the addition of trips; delay increase by between eight and 31 seconds in the AM peak hour and by 24 seconds in the PM peak hour at both the westbound through and westbound right movements. These movement affects the 10 – Townsend and the 48 – Quintara/24th Street.

TABLE 4-8: VARIANT TRAFFIC IMPACTS ON MUNI LINES AT POTRERO AVE / 24TH STREET

Turning Movement	Muni Lines	Change in Approach Delay from Near Term Conditions (seconds)									
		Variant 1		Variant 2		Variant 3		Variant 4		On-Site Alternative	
		AM	AM	AM	PM	AM	PM	AM	PM	AM	PM
NBT	9, 9L	4	4	4	-1	5	0	-1	-1	0	1
SBT	9, 9L, 33	2	2	2	5	2	8	0	5	0	14
EBL	33, 48	-13	-7	-7	-4	-12	-3	-1	-4	0	-19
WBT	48	31	23	23	24	29	24	8	24	4	-10
WBR	10	31	23	23	24	29	24	8	24	4	-10

Source: Fehr & Peers, 2015

Mitigation Measure TR-1a: Restripe 24th Street at Potrero Avenue to Provide a Westbound Left-Turn Pocket would improve vehicle delay at the westbound approach of the intersection. This mitigation measure would decrease the westbound through and westbound right delay to 27 seconds in the AM peak period in Variant 1 (the scenario in which the increase in delay was the worst), which is a reduced delay compared to Near Term conditions. This mitigation measure would decrease the westbound through and westbound right delay to 37 seconds in the PM peak period in Variant 2 (the scenario in which there is the most additional vehicle traffic), which is nearly a minute reduction in delay compared to Near Term conditions. Additionally, while Mitigation Measure TR-2: Open 23rd Street exit of 23rd Street Garage during the PM Peak Period and Mitigation Measure TR-3: Implement Additional TDM Strategies to Reduce Single Occupancy Vehicle Trips are not directly quantifiable, they would be expected to help further reduce delay.

Additionally, none of the specific proposals of Variant 1 and Variant 3 would reduce access to or reconfigure transit stops in a way that would degrade transit service to the campus site. Therefore, the new transit trips generated by Variant 1 and Variant 3 would result in a ***less-than-significant impact***.

4.4 PEDESTRIAN IMPACTS

Project-added pedestrian trips were estimated based on existing travel surveys of UCSF staff and visitors as described in Chapter 3. Pedestrian trips generated by the Proposed Project would include walk trips to and from nearby commercial uses and residences, as well as walk trips to and from local and regional transit stops.

The Proposed Project would add approximately 15 pedestrian trips to the surrounding streets (including seven walk trips and eight transit-access trips) during the AM peak hour and approximately 22 pedestrian trips (including seven walk trips and 15 transit-access trips) during the PM peak hour.[18] Pedestrian trips would primarily use Potrero Avenue, 23rd Street, and 24th Street to travel to the surrounding residential neighborhoods or to the commercial areas in the 24th Street area. Project-generated transit trips will begin as pedestrian trips traveling to the nearest Muni or UCSF shuttle stops. Most transit riders would use the Muni and UCSF shuttle stops within the site. Other transit riders would walk along Potrero Avenue or 23rd Street to Muni stops along those corridors.

The Proposed Project would remove the existing surface parking lot (B/C Lot) and replace it with a new research building. Some vehicles would continue to use the 23rd Street driveway, however many would shift to the 23rd Street Garage via the driveway on 24th Street. As presented in Section 4.2, this would reduce some traffic along 23rd Street, which would reduce conflicts between vehicles traveling along- and pedestrians walking along 23rd Street. 23rd Street has the highest level of pedestrian activity due to the proximity of transit stops, the City-owned parking garage on the southern side of the street, and nearby neighborhoods. Pedestrian traffic between the 23rd Street Garage and ZSFG would increase due to the elimination of majority of the parking spaces on the B/C Lot and the associated expanded parking garage, however there are a series of marked crosswalks along the pedestrian desire lines between the two destinations to enable the additional pedestrians to make the crossing.

The pedestrian enhancements planned as part of Muni Forward and Potrero Avenue Streetscape projects would help to enhance pedestrian comfort and safety along Potrero Avenue. The immediate area surrounding the Proposed Project includes existing or proposed pedestrian facilities that provide access to nearby neighborhoods, commercial uses, and transit stops. While the Proposed Project would likely increase vehicle traffic on 24th Street due to the removal of the B/C Lot and expanded garage as well as pedestrian traffic crossing 23rd Street due to the increase in parking capacity of the 23rd Street Garage,, this increased traffic is unlikely to create new pedestrian impacts due to the low existing traffic and pedestrian volumes east of Potrero Avenue and south of ZSFG. Additionally, UCSF will coordinate with the SFMTA and the garage operator to develop strategies to reduce any potential increase in inbound queues on City streets, including potential changes to the physical location of the ticket machines to provide additional queuing space in the garage entrance.

[18] Transit access trips for the pedestrian impact discussion are calculated based on the daily trip generation presented in **Table 3-2** and the AM and PM peak hour percentage of daily trips presented in Section 3.4. These are different from the total transit trips presented in Section 4.3 as the transit impact analysis double counts the riders who use multiple transit modes on a single trip (e.g. BART+Muni, AC Transit+Muni, Muni+UCSF Shuttle, etc.).

Pedestrian amenities along 24th Street include high-visibility yellow continental crosswalks, which increase pedestrian visibility and driver awareness at the unsignalized intersections adjacent to the 23rd Street Garage driveway. The Proposed Project would not create substantial conflicts between pedestrians and autos, bicyclists, or transit vehicles, or otherwise interfere with pedestrian accessibility to the site and adjoining areas. Therefore, the Proposed Project's impact to pedestrian facilities would be ***less than significant***.

4.4.1 Variants and Alternative

Pedestrian conditions associated with Variant 1, Variant 2, Variant 3, Variant 4, and On-Site Alternative would be similar to those described above for the Proposed Project. The proposed 23rd Street Garage expansion under Variants 1, 2, and 3 would likely increase vehicle traffic on 24th Street, and Variant 1, Variant 3, and On-Site Alternative would increase traffic on 23rd Street. However, in all cases, this increased traffic is unlikely to create new pedestrian impacts due to the low existing traffic and pedestrian volumes east of Potrero Avenue and south of 23rd Street, and the existing pedestrian amenities at crossing locations adjacent to the 23rd Street Garage. The proposed 23rd Street Garage expansion under Variant 1 would likely have lower traffic on 24th Street than under Plus Project Conditions, so the decreased traffic is unlikely to create new pedestrian impacts. Therefore, Variant 1, Variant 2, Variant 3, Variant 4, and On-Site Alternative would not create substantial conflicts between pedestrians and autos, bicyclists, or transit vehicles, or otherwise interfere with pedestrian accessibility to the site and adjoining areas. Therefore, all Variants' impact to pedestrian facilities would be ***less than significant***.

4.5 BICYCLE IMPACTS

Project-added bicycle trips were estimated based on existing travel surveys of UCSF staff and visitors as described in Chapter 3. Bicycle trips generated by the Proposed Project would include trips to and from nearby residences and commercial uses.

As discussed in Section 2.7, the area around the Proposed Project is generally flat and has several adjacent streets that are designated as bicycle routes, including Kansas Street, 23rd Street, 22nd Street, and Potrero Avenue, which has Class II bicycle lanes. ZSFG is within convenient bicycling distance of residential areas in the Mission and Potrero Hill neighborhoods.

The Proposed Project is expected to slightly increase bicycle demand in the area, adding 19 new trips during the AM peak period and 17 new trips during the PM peak period by "other" modes, including bicycling. These trips would primarily occur on designated bicycle facilities, which connect to surrounding neighborhoods. The increased bicycle demand would be accommodated at ZSFG through additional bicycle parking provided as a part of UCSF's TDM program.

The City of San Francisco Planning Code Section 155.2 describes the requirements for Class 1 and Class 2 bicycle parking spaces for non-accessory automobile garage or lots, such as the 23rd Street Garage. The Planning Code requires one Class 2 space for every 20 auto spaces, except in no case less than six Class 2 spaces. Therefore, 16 additional Class 2 bicycle parking spaces would be required for the 307 auto space expansion of the 23rd Street Garage under the Proposed Project. These Class 2 spaces would provide additional short-term parking for visitors to ZSFG in addition to the bicycle parking provided by UCSF at the proposed Research Building. The new Class 2 spaces would be publically accessible and located adjacent to the existing bicycle parking spaces in the 23rd Street Garage. Although no Class 1

spaces are required for this type of land use, Class 1 spaces that are rented out on an hourly basis may count towards the garage's requirement for Class 2 spaces.

The Proposed Project would not create substantial conflicts between bicyclists and autos, pedestrians, or transit vehicles, or otherwise interfere with pedestrian accessibility to the site and adjoining areas. Additionally, the mitigation measures with a physical design component would not be expected to have a negative effect on bicycle travel. The Proposed Project would not affect bicycle accessibility to ZSFG or adjoining areas. Thus, the Proposed Project's impact to bicycle facilities and circulation would be ***less than significant***.

4.5.1 Variants and Alternative

Bicycle conditions associated with Variant 1, Variant 2, Variant 3, Variant 4, and On-Site Alternative would be similar to those described above for the Proposed Project. Similar to the Proposed Project, the expected increase in bicycle traffic would not represent a level that adversely affects bicycle facilities on the campus site, nor would the Variants create substantial conflicts between bicyclists and pedestrians, autos, or transit vehicles. With the 527-space expansion of the 23rd Street Garage under Variant 2, 27 Class 2 spaces would be required to satisfy the San Francisco Municipal Code Section 155.2. With the 292-space expansion of the 23rd Street Garage under Variant 3, 13 Class 2 spaces would be required to satisfy the San Francisco Municipal Code Section 155.2. With the 512-space expansion of the 23rd Street Garage under Variant 3, 24 Class 2 spaces would be required to satisfy the San Francisco Municipal Code Section 155.2. Thus, the No Garage Expansion, Medium Garage Expansion, and Maximum Garage Expansion variants impact to bicycle facilities and circulation at ZSFG would be considered ***less than significant***.

4.6 LOADING IMPACTS

The Proposed Project was assessed for both commercial loading and passenger loading transportation impacts, as described below.

4.6.1 Commercial Loading

The San Francisco Planning Code requires that land uses, such as medical offices and clinical buildings, provide off-street loading spaces according to the schedule shown in **Table 4-9**.

TABLE 4-9: SAN FRANCISCO PLANNING CODE LOADING REQUIREMENTS

Use or Activity	Gross Floor Area of Structure or Use (sq. ft.)	Number of Off-Street Freight Loading Spaces Required
Retail stores, wholesaling, manufacturing, live/work units in newly constructed structures, and all other uses primarily engaged in the handling of goods.	0 - 10,000	0
	10,001 - 60,000	1
	60,001 - 100,000	2
	over 100,000	3 plus 1 for each additional 80,000 sq. ft.

Offices, hotels, apartments, live/work units not included above, and all other uses not included above	0 - 100,000	0
	100,001 - 200,000	1
	200,001 - 500,000	2
	over 500,000	3 plus 1 for each additional 400,000 sq. ft.

Source: San Francisco Planning Code Section 152.1, Fehr & Peers, 2014

Loading supply was estimated based on the criteria above. **Table 4-10** shows the calculated new off street loading demand based on the increase in gross square feet of UCSF-space due to the Proposed Project per methodology found on Table 152 of the San Francisco Planning Code Article 1.5, Section 150 for ZSFG. As shown, no additional loading supply is called for by the code; however the proposed Research Building will likely incorporate new loading supply into its design.

TABLE 4-10: PROPOSED PROJECT LOADING REQUIREMENTS

	Building Size (gsf)	New Off-Street Loading Demand		
		Goods Handling	Other	Total
Proposed Research Building	175,000	0	0	0

Notes:

Source: UCSF, Fehr & Peers, 2014

The future demand for loading spaces was described in Section 3, and was calculated based on the methods described in the SF *Guidelines*. It is expected that the estimated loading supply should be adequate for the estimated demand, and no conflicts between loading vehicles and Muni vehicles are expected; however, as mentioned previously, ZSFG is unique and should be monitored over time. As a result, the project's impact to commercial loading is considered a ***less-than-significant impact***.

4.6.2 Passenger Loading

This section describes the Proposed Project's passenger loading impacts. As presented in Chapter 3, the Proposed Project would add approximately three total passenger loading trips during both the AM and PM peak hours. **Figure 4-3** shows the Proposed Project's passenger loading locations.

The SF Guidelines methodology in which peak hour loading arrivals is converted into passenger car equivalents and then compared to supply was used in order to determine whether additional loading areas would be recommended at ZSFG with the Proposed Project. The analysis, as summarized in **Table 4-11**, relies on passenger loading demand from **Table 3-15** and existing passenger loading supply, as presented in Chapter 2.

TABLE 4-11: ESTIMATED PASSENGER LOADING ZONE LENGTH

Existing Supply (feet)	Future Supply[1] (feet)	Growth in Loading Demand[2] (feet)
300	450	4

Notes:

1. Proposed Project would provide six additional passenger loading spaces, an addition of 150 feet of space (see **Figure 4-3**)
2. Demand presented in feet based on methodology presented in *SF Guidelines*, Appendix H.

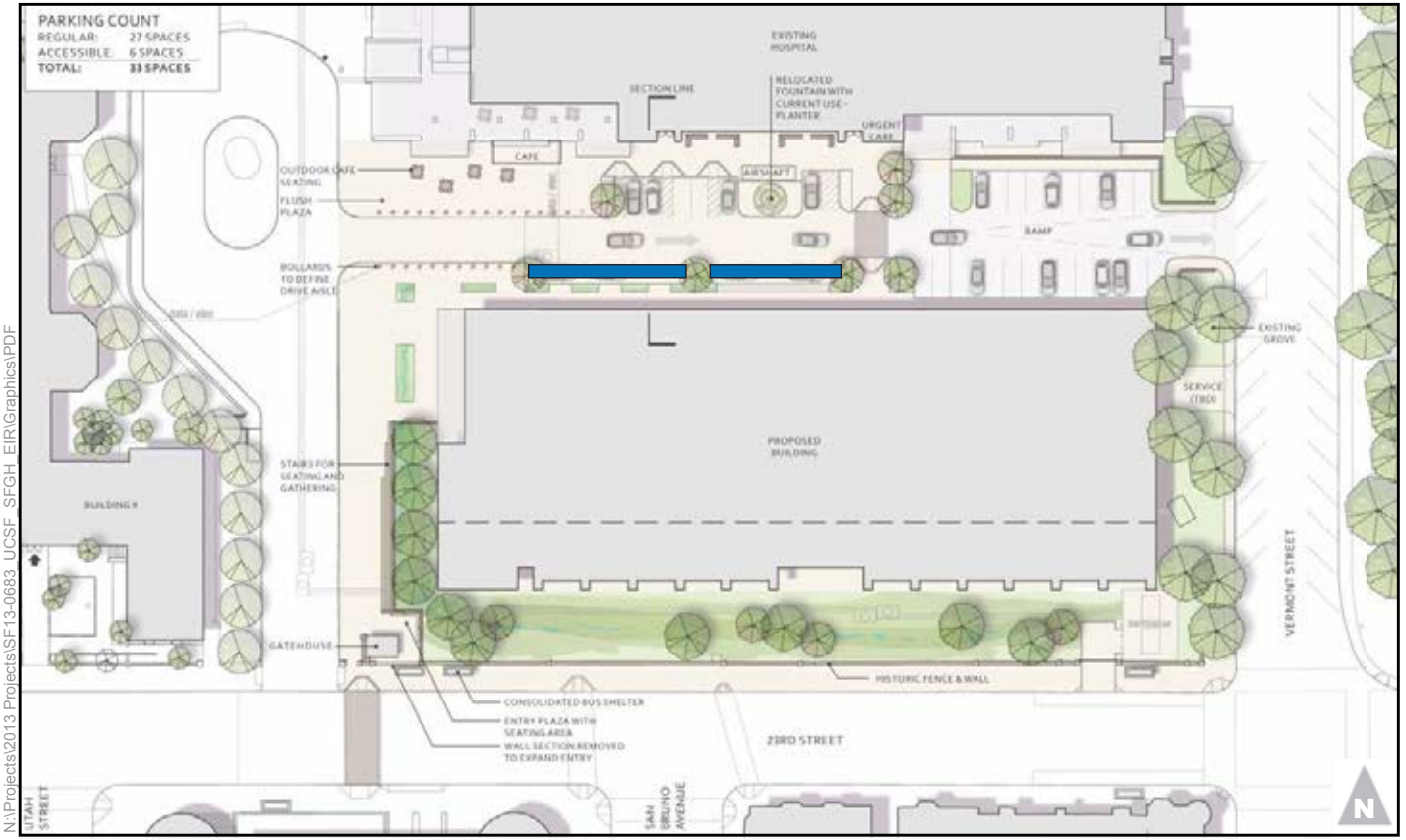
Source: Fehr & Peers, 2014

The Project is expected to increase the peak demand for passenger loading space by approximately five feet during the AM and PM peak hours. **Table 4-11** shows that the Proposed Project would provide an additional 150 feet of passenger loading space. Further, the addition of new passenger loading space may help reduce instances of double-parking at the intersection of 23rd Street / San Bruno Avenue by providing additional passenger loading capacity at the campus. The future passenger loading supply will be sufficient to accommodate the estimated project demand, therefore the Proposed Project's impact to passenger loading is considered ***less than significant***.

4.6.3 Variants and Alternative

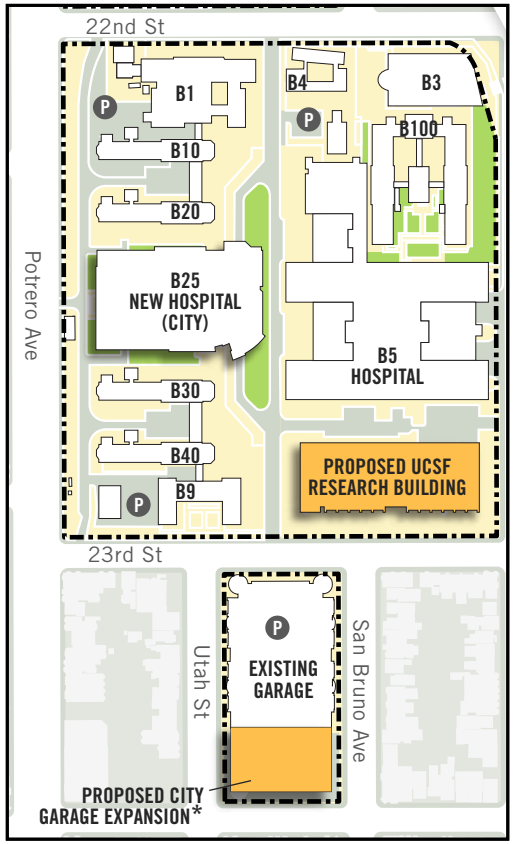
Commercial and passenger loading conditions associated with Variant 1, Variant 2, Variant 3, Variant 4, and On-Site Alternative would be similar to those described above for the Proposed Project. For the three Variants, similar to the Proposed Project, the existing passenger and commercial loading supply is sufficient for the estimated loading needs during both the AM and PM peak hours. Variants 1 and 3 have a retail component which, according to Table 4-9, would require one off-street commercial loading space. This could be provided within the 23rd Street Garage expansion. Thus, the Variants' impact to loading facilities at ZSFG would be considered ***less than significant***.

PROPOSED RESEARCH BUILDING SITE PLAN



Passenger Loading

PROPOSED CITY GARAGE EXPANSION



**The expansion would add an additional 307 spaces.*

N:\Projects\2013 Projects\SF13-0683 UCSF SFGH EIR\Graphics\PDF

Figure 4-3

San Francisco General Hospital
Proposed Parking and Loading Plan for
Proposed UCSF Research Building and City Garage Expansion Project

4.7 EMERGENCY ACCESS IMPACTS

The Proposed Project would not change emergency access to ZSFG. The ZSFG Hospital Rebuild project will reroute emergency vehicles from the southern 23rd Street driveway to northern 22nd Street. Emergency vehicles would continue to access the site from arterial roadways through the study area, including Potrero Avenue. Aside from the relatively minor increase in vehicle traffic that would result from the facility expansion, the Proposed Project would not inhibit emergency access to ZSFG; therefore, the Proposed Project would have a ***less-than-significant*** impact to emergency access.

4.7.1 Variants and Alternative

Emergency access associated with the Variants would be similar to those described above for the Proposed Project. Aside from the relatively minor increase in vehicle traffic that would result from the facility expansion, the Variants would not inhibit emergency access to ZSFG and therefore would have a ***less-than-significant*** impact to emergency access.

4.8 PARKING ANALYSIS

This section includes a discussion of the proposed Research Building's parking demand in relation to the available parking supply.

4.8.1 Changes in Parking Supply

As indicated in Section 1.2-Project Description, the Proposed Research Building Project would be constructed on the existing ZSFG surface parking lot along 23rd Street (B/C Lot), which has a capacity for approximately 130 parking spaces (SFMTA is currently proposing to restripe the B/C Lot in order to expand the supply of parking spaces from 140 to 160 spaces. Should this proposal proceed, the following parking analysis will need to be updated). This includes parking lots O, P, R and T from **Table 2-8**. Development of the proposed Research Building on the B/C Lot site would remove those 130 spaces. The new site layout would also reconfigure the existing parking spaces adjacent to the B/C lot (about 35 parking spaces for handicapped parkers, service vehicles and ZSFG staff) with no expected reduction in supply. Therefore, the proposed Research Building would result in a net reduction of about 130 parking spaces on the site. In addition, as indicated in the same section, the 23rd Street Garage is proposed to be expanded to accommodate 307 new parking spaces by extending the structure footprint towards 24th Street.

Furthermore, as part of the on-going ZSFG Rebuild Project the San Francisco Department of Public Health is planning the removal of approximately 35 on-street employee parking spaces currently located along the north side 22nd Street, between Potrero Avenue and the new Emergency Room entrance, to ensure adequate emergency vehicle access along 22nd Street to the emergency room.

The approximately 130 parking spaces removed due to the proposed Research Building and the additional 35 parking spaces that would be removed due to emergency room access changes combined with the 307 new parking spaces available at the 23rd Street Garage would result in a net gain of 142 parking spaces at the ZSFG campus site.

4.8.1.1 Project Variants and Alternative

Variant 1: 292-space garage expansion with limited (5,000 gsf) retail, the approximately 130 parking spaces removed due to the proposed Research Building and the additional 35 parking spaces that would be removed due to emergency room access on 22nd Street combined with the 292 new parking spaces available at the 23rd Street Garage would result in a net gain of 127 parking spaces.

Variant 2: 527-space garage expansion, the 130 parking spaces removed due to the proposed Research Building and the additional 35 parking spaces that would be removed due to emergency room access on 22nd Street combined with the 527 new parking spaces available at the 23rd Street Garage would result in a net gain of 362 parking spaces.

Variant 3: 512-space garage expansion with limited retail (5,000 gsf), the approximately 130 parking spaces removed due to the proposed Research Building and the additional 35 parking spaces that would be removed due to emergency room access on 22nd Street combined with the 512 new parking spaces available at the 23rd Street Garage would result in a net gain of 347 parking spaces.

Variant 4: No Garage Expansion, the 130 parking spaces removed due to the proposed Research Building Project and the additional 35 parking spaces that would be removed due to emergency room access changes on 22nd Street would result in a net loss of 165 parking spaces from the ZSFG campus site. On-Site Alternative, the parking demand from the 130 spaces that would be removed on the B/C Lot plus an additional parking demand of 72 spaces generated by the new Research Building (i.e. employees whom were formerly in off-site locations, whom would now be on site) would be met in a parking structure at the Project site. The 35 parking spaces that would be removed due to emergency room access on 22nd Street combined with the 72 additional new parking spaces available on-site would result in a net gain of 37 parking spaces.

4.8.2 Near Term Parking Demand and Utilization

As described in Section 3.7-Parking Demand, the proposed Research Building would generate a peak parking demand of 72 parking spaces.

Similarly, the completion of the ZSFG Rebuild Project, which includes partial backfill of the existing Main Hospital, would result in an estimated additional peak parking demand of 235 parking spaces in the Near Term, as indicated in **Table 4-12**.

TABLE 4-12: ZSFG REBUILD PROJECT NEAR TERM INCREASE IN PEAK PARKING DEMAND

Population	Increase in Population over Existing	Increase in Peak Parking Demand
Staff	307	62
Patients	172	86
Visitors	154	87
TOTAL	**633**	**235**

Source: Based on updated DPH data on near term backfill and relocation activities at ZSFG; parking demand rates derived from SFGH Rebuild Transportation Report, CHS Consulting Group, February 2008. – Adavant Consulting 2016

In addition, the closure of the remote lot on 2000 Marin Street in January 2016 would increase the parking demand in approximately 75 spaces. As a result, the total peak parking demand at the ZSFG campus would increase in the near term by 382 spaces.

Table 4-13 summarizes the existing and near term parking supply and occupancy in the vicinity of the ZSFG campus site at the completion of the proposed Research Building, the expansion of the 23rd Street garage by 307 spaces, and the near term ZSFG Rebuild Project. As discussed in the previous sections, the available on-street parking is well occupied during the day. This analysis assumes that on-street parking is typically not available for employees for the following reasons:

- Previous on-street parking surveys of the vicinity of ZSFG have indicated that the streets in close proximity to the ZSFG campus operate at their practical capacity. There is little to no remaining availability, and very few daytime parkers hold RPP Area W permits.
- The on-street parking supply is not expected to increase above current numbers.

As a result, this analysis has focused instead on the availability of off-street parking.

As shown in **Table 4-13**, the construction of the proposed Research Building and the 307-space expansion of the 23rd Street Garage, in addition to the near term ZSFG Rebuild Project (Near Term plus Project conditions), would result in an overall parking deficit of 184 to 127 parking spaces between 10:00 AM and 2:00 PM, the peak parking demand period; there would be a surplus of approximately 940 parking spaces after 6:00 PM.

Table 4-13 shows that approximately 20 percent of the parking demand (72 of the 382 total increase in parking demand) would be attributable to the Proposed Project and approximately 60 percent of the parking demand (235 of the 382 total increase in parking demand) would be attributable to the demand generated by the ZSFG Rebuild.

TABLE 4-13: EXISTING AND NEAR TERM PARKING UTILIZATION BY TIME PERIOD

Location	Total Supply[1] (spaces)	Parking Utilization					
		10:00 AM to Noon		Noon to 2:00 PM		6:00 to 8:00 PM	
		Spaces	%	Spaces	%	Spaces	%
ZSFG Campus Site							
- Surface Lots on-site	507	456	86.5%	416	78.9%	208	39.5%
- On Street on-site	201	190	94.5%	186	92.5%	98	48.8%
Subtotal on-site	728	646	88.7%	602	82.7%	306	42.0%
23rd St Garage	820	845	103.0%	832	101.5%	288	35.1%
Total ZSFG Campus Site	**1,548**	**1,491**	**96.3%**	**1,434**	**92.6%**	**594**	**38.4%**
Existing Parking Surplus/Deficit		*57*		*114*		*954*	
Near Term Changes in Parking Supply							
- UCSF Research Bldg. Project	-130						
- Emergency Room Access on 22nd Street	-35						
- 23rd Street Garage Expansion	307						
Total Net Parking Change	**142**						
Increase in Parking Demand							
- UCSF Research Bldg. Project		72		72		30[2]	
- ZSFG Rebuild Project		310		310		97[2]	
- Closure of 2000 Marin St Lot		75		75		31[2]	
Total Increase Parking Demand		**382**		**382**		**158[2]**	
Near Term plus UCSF Project	**1,690**	**1,873**	**110.8%**	**1,816**	**107.5%**	**752**	**44.5%**
Parking Surplus/Deficit		*-183*		*-126*		*938*	

Notes:

1 The spaces included here align with the parking study area defined in the *2008 Medical Center at Mission Bay EIR*.

2 Assumes that the peak parking demand after 6 p.m. would be a similar to the existing 2 p.m. to 6 p.m. ratio.

Source: Adavant Consulting, 2016

4.8.2.1 Variants

As shown in **Table 4-14**, there would be an overall parking deficit of 156 to 213 spaces between 10:00 AM and 2:00 PM in Variant 1: 292-space expansion and retail, and there would be a surplus of 917 spaces for the remainder of the day. Approximately 40 percent of the parking deficit (87 of 213) would

be attributable to the project-based demand while the remaining 60 percent (126 of 213) would be attributable to the demand generated by the ZSFG Rebuild.

There would be an overall parking surplus of 37 to 94 spaces between 10:00 AM and 2:00 PM in Variant 2: 507-space expansion, and there would be a surplus of 1,158 spaces after 6:00 PM.

There would be an overall parking surplus of 7 to 64 spaces between 10:00 AM and 2:00 PM in Variant 3: 512-space expansion and retail, and there would be a surplus of 1,137 spaces after 6:00 PM.

There would be an overall parking deficit of between 430 to 490 parking spaces between 10:00 AM and 2:00 PM in Variant 4: No Garage Expansion, and there would be a surplus of 631 after 6:00 PM. Approximately 15 percent of the parking deficit (72 of 490) would be attributable to the project-based demand while the remaining 85 percent (418 of 490) would be attributable to the demand generated by the ZSFG rebuild.

There would be an overall parking deficit of between 231 to 288 parking spaces between 10:00 AM and 2:00 PM in the On-Site Alternative: On-Site Parking, and there would be a surplus of 833 after 6:00 PM. Approximately 25 percent of the parking deficit (72 of 288) would be attributable to the project-based demand while the remaining 75 percent (216 of 288) would be attributable to the demand generated by the ZSFG rebuild.

TABLE 4-14: EXISTING AND NEAR-TERM PARKING UTILIZATION BY TIME PERIOD FOR THE VARIANTS

Location	Total (spaces)	Parking Utilization					
		10:00 AM to Noon		Noon to 2:00 PM		6:00 to 8:00 PM	
		Spaces	%	Spaces	%	Spaces	%
Variant 1: 292-space Expansion with Retail Supply	**1,675**[1]	**1,888**	**112.7%**	**1,831**	**109.3%**	**758**	**45.3%**
Near-term Parking Surplus/Deficit		*-213*		*-156*		*917*	
Near-term Change in Parking Demand (Proposed Project)	**87**[2]						
Near-term Change in Parking Demand (Total)	**397**[3]						
Variant 2: 527-space Expansion Supply	**1,910**[4]	**1,873**	**98.1%**	**1,816**	**95.1%**	**752**	**39.4%**
Near-term Parking Surplus/Deficit		*37*		*94*		*1,158*	
Near-term Change in Parking Demand (Proposed Project)	**72**						
Near-term Change in Parking Demand (Total)	**382**						

TABLE 4-14: EXISTING AND NEAR-TERM PARKING UTILIZATION BY TIME PERIOD FOR THE VARIANTS

Location	Total (spaces)	Parking Utilization					
		10:00 AM to Noon		Noon to 2:00 PM		6:00 to 8:00 PM	
		Spaces	%	Spaces	%	Spaces	%
Variant 3: 512-space Expansion with Retail Supply	**1,895**[5]	**1,888**	**99.6%**	**1,831**	**96.6%**	**758**	**40.0%**
Near-term Parking Surplus/Deficit		*7*		*64*		*1,137*	
Near-term Change in Parking Demand (Proposed Project)	**87**[2]						
Near-term Change in Parking Demand (Total)	**397**[3]						
Variant 4: No Garage Expansion Supply	**1,383**[6]	**1,873**	**135.4%**	**1,816**	**131.3%**	**752**	**54.4%**
Near-term Parking Surplus/Deficit		*-490*		*-433*		*631*	
Near-term Change in Parking Demand (Proposed Project)	**72**						
Near-term Change in Parking Demand (Total)	**382**						
On-Site Alternative: On-Site Parking Supply	**1,585**[7]	**1,873**	**118.2%**	**1,816**	**114.6%**	**752**	**47.4%**
Near-term Parking Surplus/Deficit		*-288*		*-231*		*833*	
Near-term Change in Parking Demand (Proposed Project)	**72**						
Near-term Change in Parking Demand (Total)	**382**						

TABLE 4-14: EXISTING AND NEAR-TERM PARKING UTILIZATION BY TIME PERIOD FOR THE VARIANTS

Location	Total (spaces)	Parking Utilization					
		10:00 AM to Noon		Noon to 2:00 PM		6:00 to 8:00 PM	
		Spaces	%	Spaces	%	Spaces	%

Notes:

1. 1,548 (Total ZSFG Campus) – 35 (Near Term Change in Parking Supply on 22nd St) – 130 (Proposed Project at B/C Lot) + 292 (Proposed Project Garage Expansion) = 1,675 spaces.
2. 72 (Research Building Demand) + 15 (Retail component demand) = 87 spaces.
3. 72 (Research Building Demand) + 15 (Retail component demand) + 310 (Hospital Rebuild demand) = 397
4. 1,548 (Total ZSFG Campus) – 35 (Near Term Change in Parking Supply on 22nd St) – 130 (Proposed Project at B/C Lot) + 527 (Proposed Project Garage Expansion) = 1,910 spaces.
5. 1,548 (Total ZSFG Campus) – 35 (Near Term Change in Parking Supply on 22nd St) – 130 (Proposed Project at B/C Lot) + 512 (Proposed Project Garage Expansion) = 1,895 spaces.
6. 1,548 (Total ZSFG Campus) – 35 (Near Term Change in Parking Supply on 22nd St) – 130 (Proposed Project at B/C Lot) = 1,383 spaces.
7. 1,548 (Total ZSFG Campus) – 35 (Near Term Change in Parking Supply on 22nd St) – 130 (Proposed Project at B/C Lot) + 202 (on-site parking to replace 130 spaces lost from the B/C lot plus parking to meet a new parking demand of 72 spaces) = 1,585

Source: Adavant Consulting, Fehr & Peers, 2016

4.9 CONSTRUCTION IMPACTS

The construction of the ZSFG replacement hospital is assumed to be completed by December 2015 with the hospital opening May 2016. Implementation of the Proposed Project would occur using a coordinated, phased construction schedule that would preserve the ZSFG's operations during the construction period. Construction for the proposed Research Building is anticipated to begin in 2017 and end in 2019, following the completion of the New ZSFG Hospital. The estimated cost for construction of the proposed Research Building is approximately $175 million.

The construction impact assessment presented below is based on currently available information from UCSF, and professional knowledge of typical construction practices citywide. Prior to construction, as part of the construction application phase, UCSF and their construction contractor(s) would meet with DPH, Department of Public Works ("DPW") and SFMTA staff to develop and review truck routing plans for demolition, disposal of excavated materials, materials delivery and storage, as well as staging for construction vehicles. For any work in the public right-of-way, the construction contractor would be required to meet the City of San Francisco's Regulations for Working in San Francisco Streets, (the Blue Book), including those regulations regarding sidewalk and lane closures, and would meet with SFMTA staff to determine if any special traffic permits would be required.[19] Prior to construction, the project contractor would coordinate with Muni's Street Operations and Special Events Office to coordinate construction activities and reduce any impacts to transit operations. The Parking Authority would be

[19] The SFMTA Blue Book, 7th Edition, is available online through SFMTA (www.sfmta.com)

responsible for approving and implementing the expanded 23rd Street Garage; however, UCSF would coordinate with the SFMTA on the above areas to ensure construction activities for the two projects do not interfere.

As discussed in Chapter 3, the construction schedules for the proposed Research Building and expanded 23rd Street Garage anticipate no more than 30 truck trips each per workday through the duration of construction. Most truck trips will enter/exit ZSFG using 23rd Street and the 23rd Street Garage using 24th Street. Potrero Avenue would provide regional access to and from the construction sites. Generally, construction projects will not result in a parking, vehicular (including transit), or pedestrian impact as construction and staging will occur on the existing B/C Lot and surface parking lot at the 23rd Street Garage site. Upon completion of the new ZSFG replacement hospital, ambulance access to ZSFG would shift to 22nd Street and therefore construction activity along 23rd Street and 24th Street would not interfere with emergency access to the hospital. Construction activities are not expected to disrupt transit or shuttle service at ZSFG as the existing pick-up/drop-off locations at 23rd Street are expected to remain open during construction. The construction of the expanded parking garage would result in the temporary displacement of approximately 130 parking spaces at the B/C Lot and 40 parking spaces in the surface lot at the 23rd Street Garage. UCSF will investigate temporary additional off-site parking supply to replace the B/C lot in advance of construction of these projects, including the UCSF Mission Bay campus site, which would be available for use by UCSF contractors The SFMTA would be responsible for finding replacement parking supply for the 40 surface parking spaces in the 23rd Street Garage, if needed.

It is anticipated that the addition of the worker-related vehicle- or transit-trips would not substantially affect transportation conditions, as impacts on local intersections or the transit network would be temporary in nature. Construction workers who drive to the construction sites and potential temporary parking restrictions along frontages where construction and/or staging are occurring would cause a temporary increase in parking demand. No on-site parking will be provided for construction workers. Construction workers would park in satellite parking lots.

UCSF would coordinate with various City departments such as DPH, SFMTA and DPW through the Transportation Advisory Staff Committee (TASC) to develop coordinated plans that would address construction-related vehicle routing and pedestrian movements adjacent to the construction area for the duration of construction. Overall, because construction activities would be temporary and limited in duration and are required to be conducted in accordance with City requirements, construction-related transportation impacts of the Proposed Project would be ***less than significant***.

While the Proposed Project's construction-related transportation impacts would be less than significant, Improvement Measure IM-TR-2a: Construction Measures would further reduce the Proposed Project's less-than-significant impacts related to potential conflicts between construction activities and pedestrians, transit, and autos.

Improvement Measure IM-TR-1: Construction Coordination and Monitoring Measures

Traffic Control Plan for Construction – In order to reduce potential conflicts between construction activities and pedestrians, transit and autos during construction activities at ZSFG, UCSF shall require construction contractor(s) for the proposed Research Building to prepare a traffic control plan for major phases of project construction (e.g. demolition, construction, or renovation of individual buildings). UCSF and their construction contractor(s) will meet with DPH and relevant City agencies to coordinate feasible measures to reduce traffic congestion, including temporary transit stop relocations, and other measures to reduce potential traffic and

transit disruption and pedestrian circulation effects during major phases of construction of the proposed Research Building. For any work within the public right-of-way, the contractor would be required to comply with the City of San Francisco's Regulations for Working in San Francisco Streets, which establish rules and permit requirements so that construction activities can be done safely and with the least possible interference with pedestrians, bicyclists, transit, and vehicular traffic. The Parking Authority would be responsible for approving and implementing the expanded 23rd Street Garage, and therefore would be responsible for coordinating with, UCSF, DPH, and other City agencies before and during its construction.

In the event that the construction timeframes of the major phases and other development projects adjacent to the ZSFG campus site overlap, including the 23rd Street Garage expansion, UCSF and the City should coordinate with City Agencies through the Transportation Advisory Staff Committee (TASC) to minimize the severity of any disruption to adjacent land uses and transportation facilities from overlapping construction transportation impacts. UCSF and the City shall propose a construction traffic control plan that includes measures to reduce potential construction traffic conflicts, such as staggering start and end times, coordinated material drop offs, collective worker parking and transit to job site and other measures.

Reduce SOV Mode Share for Construction Workers – In order to minimize parking demand and vehicle trips associated with construction workers for the proposed Research Building, UCSF and the City shall require the construction contractors to include in the Traffic Control Plan for Construction methods to encourage walking, bicycling, carpooling, and transit access to the campus sites by construction workers in the coordinated plan. The SFMTA would be responsible for the development of this measure before and during the construction of the 23rd Street Garage.

Project Construction Updates for Adjacent Residents and Businesses – In order to minimize construction impacts on access for nearby residences, institutions, and businesses, UCSF and the City shall provide nearby residences and adjacent businesses with regularly-updated information regarding project construction, including construction activities, peak construction vehicle activities (e.g., concrete pours), travel lane closures, and lane closures via a newsletter and/or website.

Implementation of this improvement measure would further reduce the magnitude of the Proposed Project's less-than-significant construction-related transportation impacts, and would not result in any secondary transportation-related impacts.

4.9.1 Project Variants and Alternative

No construction activity would occur at the 23rd Street Garage under Variant 4: No Garage Expansion or under the On-Site Alternative: On-site Parking. The construction activities associated with Variant 4 of the proposed Research Building would be similar to those described above for the Proposed Project. Overall, because construction activities would be temporary and limited in duration and are required to be conducted in accordance with City requirements, construction-related transportation impacts of the No Garage Expansion Variant would be ***less than significant***.

While construction-related transportation impacts of Variant 4 and the On-Site Alternative would be less than significant, Improvement Measure IM-TR-2: Construction Measures would further reduce less-

than-significant impacts related to potential conflicts between construction activities and pedestrians, transit, and autos.

Improvement Measure IM-TR-1: Construction Coordination and Monitoring Measures

Traffic Control Plan for Construction – In order to reduce potential conflicts between construction activities and pedestrians, transit and autos during construction activities at ZSFG, UCSF shall require construction contractor(s) for the proposed Research Building to prepare a traffic control plan for major phases of project construction (e.g. demolition, construction, or renovation of individual buildings). UCSF and their construction contractor(s) will meet with DPH and relevant City agencies to coordinate feasible measures to reduce traffic congestion, including temporary transit stop relocations, and other measures to reduce potential traffic and transit disruption and pedestrian circulation effects during major phases of construction of the proposed Research Building. For any work within the public right-of-way, the contractor would be required to comply with the City of San Francisco's Regulations for Working in San Francisco Streets, which establish rules and permit requirements so that construction activities can be done safely and with the least possible interference with pedestrians, bicyclists, transit, and vehicular traffic. The Parking Authority would be responsible for approving and implementing the expanded 23rd Street Garage, and therefore would be responsible for coordinating with, UCSF, DPH, and other City agencies before and during its construction.

In the event that the construction timeframes of the major phases and other development projects adjacent to the ZSFG campus site overlap, including the 23rd Street Garage expansion, UCSF and the City should coordinate with City Agencies through the Transportation Advisory Staff Committee (TASC) to minimize the severity of any disruption to adjacent land uses and transportation facilities from overlapping construction transportation impacts. UCSF and the City shall propose a construction traffic control plan that includes measures to reduce potential construction traffic conflicts, such as staggering start and end times, coordinated material drop offs, collective worker parking and transit to job site and other measures.

Reduce SOV Mode Share for Construction Workers – In order to minimize parking demand and vehicle trips associated with construction workers for the proposed Research Building, UCSF and the City shall require the construction contractors to include in the Traffic Control Plan for Construction methods to encourage walking, bicycling, carpooling, and transit access to the campus sites by construction workers in the coordinated plan. The SFMTA would be responsible for the development of this measure before and during the construction of the 23rd Street Garage.

Project Construction Updates for Adjacent Residents and Businesses – In order to minimize construction impacts on access for nearby residences, institutions, and businesses, UCSF and the City shall provide nearby residences and adjacent businesses with regularly-updated information regarding project construction, including construction activities, peak construction vehicle activities (e.g., concrete pours), travel lane closures, and lane closures via a newsletter and/or website.

Implementation of this improvement measure would further reduce the magnitude of less-than-significant construction-related transportation impacts from Variant 4 and the On-Site Alternative, and would not result in any secondary transportation-related impacts.

Construction activities associated with Variant 1: 292-space expansion with retail, Variant 2: 527-space expansion, and Variant 3: 512-space expansion with retail would be similar to those described above for the Proposed Project. The SFMTA would be the lead for the 23rd Street Garage expansion and UCSF would need to coordinate with various City departments such as SFMTA and DPW through the TASC to develop coordinated plans for the proposed Research Building and 23rd Street Garage expansion that would address construction-related vehicle routing and pedestrian movements adjacent to the construction area for the duration of construction. Overall, because construction activities would be temporary and limited in duration and are required to be conducted in accordance with City requirements, construction-related transportation impacts of Variant 1, Variant 2, and Variant 3 would be ***less than significant***.

While the construction-related transportation impacts of Variant 1, Variant 2, and Variant 3 would be less than significant, Improvement Measure IM-TR-2: Construction Measures would further reduce the less-than-significant impacts related to potential conflicts between construction activities and pedestrians, transit, and autos.

Improvement Measure IM-TR-1: Construction Coordination and Monitoring Measures

Traffic Control Plan for Construction – In order to reduce potential conflicts between construction activities and pedestrians, transit and autos during construction activities at ZSFG, UCSF shall require construction contractor(s) for the proposed Research Building to prepare a traffic control plan for major phases of project construction (e.g. demolition, construction, or renovation of individual buildings). UCSF and their construction contractor(s) will meet with DPH and relevant City agencies to coordinate feasible measures to reduce traffic congestion, including temporary transit stop relocations, and other measures to reduce potential traffic and transit disruption and pedestrian circulation effects during major phases of construction of the proposed Research Building. For any work within the public right-of-way, the contractor would be required to comply with the City of San Francisco's Regulations for Working in San Francisco Streets, which establish rules and permit requirements so that construction activities can be done safely and with the least possible interference with pedestrians, bicyclists, transit, and vehicular traffic. The Parking Authority would be responsible for approving and implementing the expanded 23rd Street Garage, and therefore would be responsible for coordinating with, UCSF, DPH, and other City agencies before and during its construction.

In the event that the construction timeframes of the major phases and other development projects adjacent to the ZSFG campus site overlap, including the 23rd Street Garage expansion, UCSF and the City should coordinate with City Agencies through the Transportation Advisory Staff Committee (TASC) to minimize the severity of any disruption to adjacent land uses and transportation facilities from overlapping construction transportation impacts. UCSF and the City shall propose a construction traffic control plan that includes measures to reduce potential construction traffic conflicts, such as staggering start and end times, coordinated material drop offs, collective worker parking and transit to job site and other measures.

Reduce SOV Mode Share for Construction Workers – In order to minimize parking demand and vehicle trips associated with construction workers for the proposed Research Building, UCSF and the City shall require the construction contractors to include in the Traffic Control Plan for Construction methods to encourage walking, bicycling, carpooling, and transit access to the campus sites by construction workers in the coordinated plan. The SFMTA would be responsible

for the development of this measure before and during the construction of the 23rd Street Garage.

Project Construction Updates for Adjacent Residents and Businesses – In order to minimize construction impacts on access for nearby residences, institutions, and businesses, UCSF and the City shall provide nearby residences and adjacent businesses with regularly-updated information regarding project construction, including construction activities, peak construction vehicle activities (e.g., concrete pours), travel lane closures, and lane closures via a newsletter and/or website. Implementation of this improvement measure would further reduce the magnitude of the Maximum Garage Expansion Variant's less-than-significant construction-related transportation impacts, and would not result in any secondary transportation-related impacts.

5 CUMULATIVE CONDITIONS

This chapter presents the transportation impact analysis of the Proposed Project under Cumulative (Year 2040) conditions. As referenced above, Year 2040 conditions assume that the space vacated in the Main (Old) Hospital upon completion of the New Hospital will be completely backfilled by DPH and the space vacated by UCSF at ZSFG will also be backfilled with new DPH staff. The Year 2040 conditions assess the long-term impacts of the Proposed Project in combination with projected development within San Francisco and the rest of the Bay Area, as well as implementation of planned transportation infrastructure projects.

The geographic context for the analysis of Year 2040 transportation impacts includes the sidewalks and roadways adjacent to ZSFG, as well as the local roadway and transit network in the vicinity of ZSFG. The discussion of 2040 transportation impacts assesses the degree to which the Proposed Project would affect the transportation network in conjunction with other reasonably foreseeable projects.

5.1 FORESEEABLE NEARBY DEVELOPMENT PROJECTS AND TRANSPORTATION NETWORK CHANGES

5.1.1 Approach

Year 2040 conditions traffic volumes were estimated based on cumulative development and growth identified by the SFCTA SF-CHAMP travel demand model, using model output that represents Existing conditions as well as Year 2040 conditions. The Year 2040 traffic volumes obtained from the SFCTA travel demand model are considered the official projections of cumulative conditions in San Francisco and include the additional vehicle-trips generated by the Proposed Project as well as those generated by the backfill of the buildings at the ZSFG campus site by DPH. As discussed in Section 5.2, the SF-CHAMP model data does not include the planned backfill of all rehabilitated buildings at the ZSFG campus site. As such, the demand for those buildings was overlaid on top of the SF-CHAMP model results.

The foreseeable nearby development projects and transportation network changes included in each scenario are described below.

5.1.2 Year 2040 Conditions

The Year 2040 traffic impact analysis takes into consideration the following foreseeable development projects and transportation improvements.

5.1.2.1 Foreseeable Development Projects

Examples of reasonably foreseeable development projects that were considered in the Year 2040 analysis include the following:

- Seawall Lot 337 and Pier 48 Mixed-Use Project (Pending approval – Case No. 2013.0208E)
- Pier 70 (Pending approval – Case No. not yet assigned)

- California Pacific Medical Center Long Range Development Plan (Approved – Case No. 2005.0555E)
- Development associated with neighborhoods plans including the Eastern Neighborhoods Plan (Approved – Case No. 2004.0160E), Western SoMa Plan (Approved – Case No. 2008.0877E), Market-Octavia Plan (Approved – Case No. 2003.0347E), and Rincon Hill Plan (Approved – Case No. 2000.1081E)

5.1.2.2 Transportation Network Changes

In addition to the transportation network changes described for Near Term conditions, the following transportation network changes in the study area are incorporated into the Year 2040 analysis:

- **Muni Forward (formerly 'TEP'**) – Muni Forward is aimed at improving reliability, reducing travel times, providing more frequent service, and updating Muni bus routes and rail lines to better match current travel patterns. TEP recommendations include new routes and route realignments, more service on busy routes, and elimination or consolidation of certain routes or route segments with low ridership. Muni Forward recommendations were unanimously endorsed by the SFMTA Board of Directors in October 2008, and the EIR was certified by the San Francisco Planning Comission in March 2014. The Muni Forward Implementation Strategy anticipates that many of the improvements would be implemented sometime between Fiscal Year 2014 and Fiscal Year 2019, subject to funding sources and resource availability. A description of Muni Forward improvements adjacent to ZSFG are included in Chapter 2.
- **San Francisco Bicycle Plan** – The San Francisco Bicycle Plan aims to expand the City's bicycle network through the addition of 34 miles of Class II bike lanes, 75 miles of on-street Class III bicycle routes, improved bicycle parking, and a variety of programs to improve biycle access and safety. A description of the improvements that relate to ZSFG are included in Chapter 2.
- **Caltrain Electrification Program** - Caltrain will be implementing a Modernization Program that will electrify the railway to provide upgraded performance and allow more efficient operations and a higher capacity. The Program is scheduled to be complete by 2019. Currently Caltrain crosses 16th Street at grade at the intersection of 16th Street/Seventh Street/Mississippi Street. There are currently ten trains per hour during peak periods and the Modernization Program will allow the number of trains to increase to 12 trains per hour. Additionally, Caltrain is anticipating a "blended system" which will see California High Speed Rail trains running alongside Caltrain on the same tracks. However, the future of the High Speed Rail system is currently unknown due to legal and funding challenges. If the blended system is built, it may require a grade separation at 16th/Seventh/Mississippi Street. Electrification of Caltrain (and the associated improved travel times and frequencies) as well as the introduction of High Speed Rail may improve transit access to ZSFG.

Additional transportation projects outside of the study area include the following:

- Geary Bus Rapid Transit (BRT) Project
- Van Ness BRT Project
- Central Subway Project

- Central SoMa Plan
- Second Street Improvement Project
- Transit Center District Plan

5.2 YEAR 2040 TRAFFIC IMPACTS

Year 2040 traffic volumes were estimated based on cumulative development and growth identified by the SFCTA SF-CHAMP travel demand model, using model output that represents Existing conditions and model output for Year 2040 Cumulative conditions. The Year 2040 traffic volumes from the SF-CHAMP model include the additional vehicle-trips generated by the Proposed Project (the vehicles shifted by the closure of the B/C Lot and the expanded 23rd Street Garage) as well as background traffic growth from 2015 to 2039 in the vicinity of the ZSFG campus. However, the SF-CHAMP model data does not include the planned backfill of rehabilitated buildings at the ZSFG campus site. As such, the demand for those buildings was overlaid on top of the SF-CHAMP model results.

ZSFG plans to rehabilitate and backfill what are known as the brick buildings (168,000 gsf), Building 80 (72,000 gsf), and Building 90 (36,000 gsf). Assuming an average employee density of 276 gsf per employee, the backfill of these buildings results in 1,000 additional employees (610 at the brick buildings, 260 at Building 80, and130 at Building 90) under 2040 Cumulative conditions. The travel and parking demand associated with the backfill of these buildings has been calculated following the methodology presented in Chapter 3 (p. 41) of the ZSFG Rebuild Project Transportation Report (CHS Consulting, February 2008). The detailed calculations are presented in Appendix G.

As noted above, the Year 2040 traffic impact analysis also takes into consideration implementation of the Potrero Avenue streetscape circulation changes. It was assumed that existing vehicle access to the 23rd Street Garage would not change under Year 2040 conditions and the additional entry and exit lanes provided on 23rd Street would be open only after 6:00 PM.

The weekday PM peak hour Year 2040 traffic volumes and travel lane configuration at the study intersections are presented on **Figure 5-1.**

Table 5-1 presents the Year 2040 Plus Project intersection operating conditions for the weekday AM and PM peak hours. Under Year 2040 conditions, one of the 13 study intersections is projected to operate at LOS E or LOS F conditions (as compared to none of the 13 study intersections operating at LOS E or LOS F under Existing conditions). The Project's contribution to the Year 2040 traffic volumes at the critical movements operating poorly (i.e., at LOS E or LOS F) for the one intersection operating at LOS E or LOS F under Year 2040 conditions was calculated to determine whether the Project's contributions to the LOS E or LOS F operating conditions under Year 2040 conditions would be considered significant.

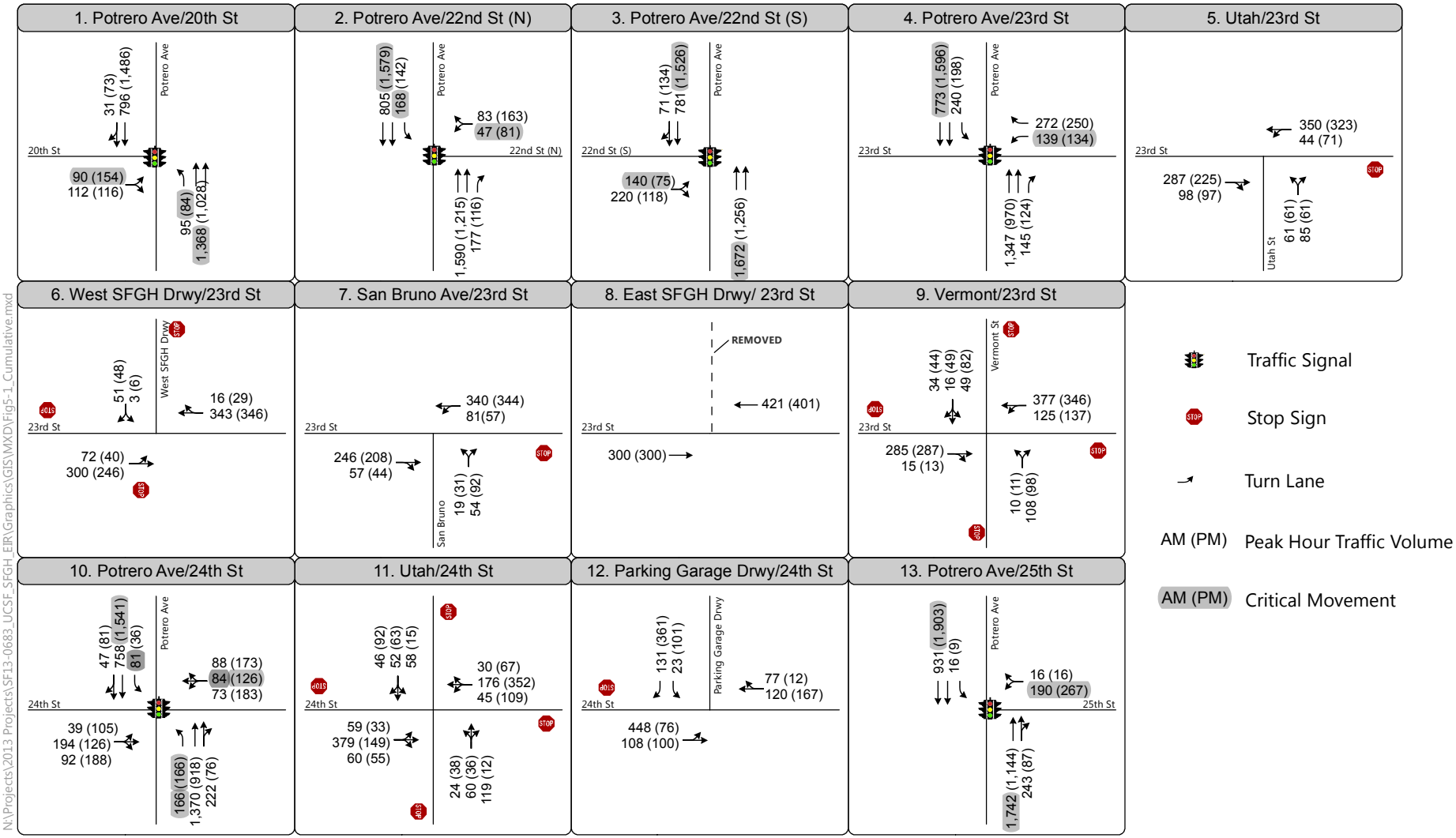


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Figure 5-1

Cumulative (2040) Intersection Turning Movement Volumes & Lane Configuration

TABLE 5-1: YEAR 2040 CONDITIONS PEAK HOUR INTERSECTION LEVEL OF SERVICE

Intersection	Traffic Control[1]	Peak Hour	Existing		Year 2040 Plus Project	
			Ave. Delay[2]	LOS[3]	Ave. Delay[2]	LOS[3]
1. Potrero Avenue / 20th Street	Signal	AM	12	B	17	B
		PM	13	B	22	C
2. Potrero Avenue / 22nd Street (North)	Signal	AM	13	B	35	C
		PM	12	B	20	B
3. Potrero Avenue / 22nd Street (South)	Signal	AM	15	B	21	C
		PM	14	B	23	C
4. Potrero Avenue / 23rd Street[4]	Signal	AM	49	D	29	C
		PM	43	D	23	C
5. Utah Street / 23rd Street	SSS	AM	12 (NB)	B	16 (NB)	C
		PM	13 (NB)	B	17 (NB)	C
6. West ZSFG Driveway / 23rd Street	AWS	AM	10 (EB)	B	12 (EB)	B
		PM	<10 (WB)	A	12 (WB)	B
7. San Bruno Avenue / 23rd Street	AWS	AM	<10 (WB)	A	13 (WB)	B
		PM	10 (WB)	B	13 (WB)	B
8. East ZSFG Driveway / 23rd Street[5]	SSS	AM	10 (SB)	B	<10	A
		PM	10 (SB)	B	<10	A
9. Vermont Street / 23rd Street	AWS	AM	12 (WB)	B	20 (WB)	C
		PM	12 (WB)	B	26 (WB)	D
10. Potrero Avenue / 24th Street	Signal	AM	22	C	52	D
		PM	47	D	**>80**	**F**
11. Utah Street / 24th Street	AWS	AM	12 (EB)	B	33 (EB)	D
		PM	11 (WB)	B	29 (WB)	D
12. Parking Garage Driveway / 24th Street	SSS	AM	<10 (SB)	A	20 (SB)	C
		PM	10 (SB)	B	13 (SB)	B
13. Potrero Avenue / 25th Street	Signal	AM	31	C	50	D
		PM	20	C	50	D

Notes: **Bold** indicates LOS E or F operations

1. AWS = All-way stop controlled; SSS = Side Street stop controlled; Signal = Signal controlled
2. Delay reported as seconds per vehicle. For signalized intersections, a combined weighted average delay for the various movements within the intersection is reported. For an unsignalized intersection, the highest average delay for an approach is reported.
3. For signalized intersections, LOS based on average intersection delay, based on the methodology in the Highway Capacity Manual, 2000. For an unsignalized intersection, LOS is based on the worst approach which is indicated in parentheses.
4. The eastbound approach to Potrero Ave/23rd Street is closed as part of TEP and Potrero Streetscape Improvements.
5. East ZSFG Driveway is removed under Plus Project Conditions

Source: Fehr & Peers, 2014.

The Potrero Avenue / 24th Street (Intersection #10) signalized intersection operates at LOS F during the PM peak period under Year 2040 conditions. The Proposed Project would add no vehicle trips to the northbound left and would remove 14 vehicle trips from the southbound through/shared right turn movement. While both of these critical movements are expected to operate at LOS F under Year 2040

Plus Project conditions, the Proposed Project's contribution would not be considered significant. The critical westbound approach operates at LOS F during the PM peak. The Project would add 120 vehicle trips to the critical westbound approach, which represents a 48 percent increase from Year 2040 conditions, and the Proposed Project's contribution would be considered significant. Therefore, the Proposed Project would have a ***significant impact*** at this intersection. Therefore, UCSF shall implement Mitigation Measure TR-1.

With implementation of Mitigation Measure TR-1, intersection operations would improve to acceptable levels (i.e. LOS D or better conditions) during the PM peak hour. Though, as UCSF cannot implement this improvement without SFMTA's assistance, this mitigation measure may be infeasible. Therefore, UCSF shall implement Mitigation Measures TR-2 and TR-3. However, Mitigation Measure TR-2 cannot be implemented without SFMTA's approval and assistance. The extent to which the Mitigation Measure TR-3 would be effective is not known (as it is dependent on the amount, mixture, and schedule of feasible measures implemented by UCSF and DPH). The Proposed Project's traffic impact at the intersection of Potrero Avenue / 24th Street would therefore still be considered ***significant and unavoidable***.

5.2.1 Variants

Cumulative traffic conditions associated with Variants would be similar to those described above for the Proposed Project. Using Near-Term results as a proxy, since Cumulative Variants results were not explicitly modeled, **Table 5-1**presents intersection levels of service and delay for the AM and PM peak hours for the Near Term Plus Project and Near Term Plus Variants. As seen in the table, the differences in traffic operating conditions between the scenarios are modest. Similar to the Near Term Plus Project scenario, the Near Term Plus Variants conditions reflects modifications to the lane geometries and signal timing plans proposed by both the Proposed Project and foreseeable (funded) infrastructure improvements for several study intersections surrounding ZSFG, as discussed above.

5.3 YEAR 2040 TRANSIT IMPACTS

This section presents a discussion of Year 2040 transit conditions for ZSFG. Transit trips generated by the Proposed Project are presented in Section 3.4 and Section 4.3 describes the estimated peak hour transit trip assignments.

5.3.1 SF Muni

As described in Section 5.1.2, Muni Forward is estimated to be fully implemented by 2040. Muni Forward will improve Muni's reliability, reduce travel times and provide frequent service. Descriptions of TEP improvements that relate to ZSFG are included in Chapter 2.

There is an anticipated increase in background Muni riders between Near Term and Year 2040 Conditions at ZSFG. Future transit improvements would increase transit capacity to ZSFG in anticipation of this background growth. While there would be a general increase in ridership that is expected through 2040, the Proposed Project or Variants would not create excess demand for public transit that would require the development or expansion of mass transit facilities, which would cause significant environmental impacts. For the above reasons, the Proposed Project or Variants, in combination with past, present and reasonably foreseeable development in San Francisco, would have ***less than significant*** Year 2040 SF Muni transit impacts.

5.3.2 Regional Transit Service

ZSFG-based UCSF staff and visitors are anticipated to continue to use BART, AC Transit, Caltrain, SamTrans, and Golden Gate Transit for regional transit service through 2040. Regional service stations are likely to remain at existing locations, and they can be accessed by other transit modes such as SF Muni and the UCSF shuttle.

As presented in Chapter 2, Caltrain is proposing to implement a Modernization Program that will electrify the railway to provide upgraded performance and allow more efficient operations and a higher capacity. It is assumed that in the cumulative transit scenario that this program has been implemented. There are currently 10 trains per hour during peak periods and the Modernization Program will allow the number of trains to increase to 12 trains per hour. Additionally, Caltrain is anticipating a "blended system" which will see California High Speed Rail trains running alongside Caltrain on the same tracks. Electrification of Caltrain (and the associated improved travel times and frequencies) as well as the introduction of High Speed Rail may improve transit access to ZSFG.

While there would be a general increase in regional transit ridership that is expected through the 2040, the Proposed Project or Variants would not create excess demand for public transit that would require the development or expansion of mass transit facilities, which would cause significant environmental impacts. For the above reasons, the Proposed Project or Variants, in combination with past, present and reasonably foreseeable development in San Francisco, would have ***less than significant*** Year 2040 regional transit service impacts.

5.3.3 UCSF Shuttle Service

UCSF shuttle service operations, as summarized in Chapter 2, will continue to serve ZSFG through 2040. The Proposed Project does not propose specific changes to shuttle stop locations or service headways, although UCSF Transportation Services regularly monitors system wide shuttle ridership and may change headways or routes based on shifting demand across all UCSF campus sites.

The *UCSF Shuttle Operations Study Final Report*[20] analyzed cumulative demand on the shuttle program. Population growth projections were made for the cumulative year and population group mode splits, by campus site, and trip rates were used to calculate the number of new daily shuttle trips created by new populations on a campus-by-campus basis. Shuttle growth projections per line were calculated based upon the proportionate increases in population at campuses served by each line. The analysis found that four lines would experience ridership growth of more than ten percent (Gold: 50 percent, Blue: 50 percent, Grey: 45 percent, and Red: 35 percent (all figures approx.)). Recommendations for increasing the capacity of these four lines to adequately address these cumulative demand increases were included in the report. These recommendations include increasing peak period shuttle capacity by introducing additional vehicles and reassigning different capacity vehicles to specific lines.

UCSF Transportation Services monitor shuttle performance through a monthly auditing process and implement operational adjustments (which may include additional service) where necessary to meet demand. Therefore, the Proposed Project or Variants would not create excess demand for transit that would require the development or expansion of mass transit facilities. Either of these findings would cause significant environmental impacts. Thus, the Proposed Project or Variants would result in a ***less-than-significant impact*** on peak hour Year 2040 UCSF shuttle trips.

5.4 YEAR 2040 PEDESTRIAN IMPACTS

Pedestrian circulation impacts are by their nature site-specific and generally do not contribute to impacts from other development projects. As indicated in Section 4.4, the Proposed Project or Variants would not result in overcrowding of sidewalks or create new potentially hazardous conditions for pedestrians under Near Term or Year 2040 conditions.

Pedestrian trips throughout the City may increase under the Year 2040 scenario due to general growth including growth at ZSFG. Existing and proposed pedestrian facilities at ZSFG are designed to facilitate safe and easy pedestrian paths of travel. Walk trips may increase between the completion of the Proposed Project or Variants and the Year 2040 conditions due to increasing effectiveness of TDM measures in reducing vehicle trips. Because transit users would walk between the transit stops and ZSFG, TDM measures such as promoting effective use of transit could over time increase the number of pedestrians accessing ZSFG from surrounding neighborhoods.

As presented in Section 2.2, UCSF Transportation Services monitors transportation conditions at all campus sites. However, UCSF does not monitor conditions to the same level of detail at ZSFG as other campus sites and would have to coordinate with the DPH, whom oversees ZSFG, to implement any changes that would affect transportation conditions at ZSFG. As the Proposed Project develops, UCSF would work with DPH staff to monitor pedestrian conditions to ensure increased pedestrian volumes

[20] Nelson\Nygaard. 2014. Shuttle Operations Study Final Report, January, 2014

due to the Proposed Project or Variants do not cause overcrowding of sidewalks under the Year 2040 Conditions. This monitoring program would be informed by the annual ZSFG Employee Transportation Survey, UCSF staff, students, and patients and visitors, campus site observations by Transportation Services staff, and ongoing coordination with SFMTA and DPH staff.

There is an anticipated increase in background automobile traffic between Near Term and Year 2040 Conditions at ZSFG, as shown in the Year 2040 traffic forecasts. This will result in an increase in automobile-pedestrian conflicts at intersections and driveways in the study area. While there would be a general increase in vehicle traffic that is expected through the future scenario, the Proposed Project, and Variants would not create substantial conflicts between pedestrians and autos, bicyclists, or transit vehicles. For the above reasons, the Proposed Project or Variants, in combination with past, present and reasonably foreseeable development in San Francisco, would have ***less than significant*** Year 2040 pedestrian impacts.

5.5 YEAR 2040 BICYCLE IMPACTS

Bicycle circulation and facility impacts by their nature are site-specific and generally do not contribute to impacts from other development projects. Bicycle trips throughout the City may increase under the Year 2040 scenario due to general growth.

As presented in Section 2.2, UCSF Transportation Services monitors transportation conditions at all campus sites. However, UCSF does not monitor conditions to the same level of detail at ZSFG as other campus sites and would have to coordinate with the DPH, whom oversees ZSFG, to implement any changes that would affect transportation conditions at ZSFG. As the Proposed Project develops, UCSF would work with DPH staff to monitor bicycle conditions and improve facilities if needed to ensure the growth due to the Proposed Project or Variants remains compatible with bicycling to prevent overcrowding of bicycle facilities (bicycle routes or bicycle parking). In addition, UCSF will monitor bicycle parking to ensure the supply accommodates future demand at ZSFG. This monitoring program would be informed by the annual ZSFG Employee Transportation Survey, UCSF staff, students, and patients and visitors, campus site observations by Transportation Services staff, and ongoing coordination with SFMTA and DPH staff.

There is an anticipated increase in background automobile traffic between Near Term and Year 2040 Conditions at ZSFG, as shown in the Year 2040 traffic forecasts. This will result in an increase in automobile-bicycle conflicts at intersections and driveways in the study area. While there would be a general increase in vehicle traffic that is expected through the future Year 2040 scenario, the Proposed Project or Variants would not create substantial conflicts between bicyclists and autos, pedestrians, or transit vehicles. For the above reasons, the Proposed Project and Variants, in combination with past, present and reasonably foreseeable development in San Francisco, would have ***less than significant*** Year 2040 bicycle impacts.

5.6 YEAR 2040 LOADING IMPACTS

Loading impacts, similar to pedestrian and bicycle impacts, are by their nature localized and site-specific. ZSFG will likely experience a moderate increase in the amount of loading activity, requiring one new dedicated loading space, due to the backfill of space vacated by staff that populate the new Research Building. ZSFG may choose to expand additional facilities, convert a surface parking space to a dedicated loading space, etc. to fill this need when it occurs. The rest of the uses that make up ZSFG are expected to generally be the same, and thus the loading needs are expected to be the same as well. Providing adequate loading facilities for the proposed Research Building as described in Section 4.6 would ensure that future changes to loading activity adjacent to ZSFG would not create potential loading conflicts under Year 2040 Conditions.

As presented in Section 2.2, UCSF Transportation Services monitors transportation conditions at all campus sites. However, UCSF does not monitor conditions to the same level of detail at ZSFG as other campus sites and would have to coordinate with the DPH, whom oversees ZSFG, to implement any changes that would affect transportation conditions at ZSFG. As the Proposed Project develops, UCSF would work with DPH staff to monitor loading conditions to ensure they are sufficient to accommodate the Proposed Project's or Variants' loading demand and do not create potentially hazardous conditions or significant delays affecting traffic, transit, bicycles, or pedestrians. This monitoring program would be informed by the annual ZSFG Employee Transportation Survey, UCSF staff, students, and patients and visitors, campus site observations by Transportation Services staff, and ongoing coordination with SFMTA and DPH staff.

There is an anticipated increase in background automobile traffic between Near Term and Year 2040 Conditions at ZSFG, as shown in the Year 2040 traffic forecasts. This will result in an increase in loading conflicts at intersections and driveways at ZSFG. While there would be a general increase in loading demand that is expected through the future Year 2040 scenario, the Proposed Project or Variants would not create potentially hazardous conditions or significant delays affecting traffic, transit, bicycles, or pedestrians, or otherwise interfere with loading access to the campus sites and adjoining areas. For the above reasons, the Proposed Project or Variants, in combination with past, present and reasonably foreseeable development in San Francisco, would have ***less than significant*** Year 2040 loading impacts.

5.7 YEAR 2040 PARKING IMPACTS

As described in Section 3.7-Parking Demand, the proposed Research Building would generate a peak parking demand of up to 72 parking spaces by 2040. Similarly, the completion of the ZSFG Rebuild Project and the backfill of all buildings at the ZSFG campus site would result in an estimated additional peak parking demand of 793 parking spaces in the long term, as indicated in **Table 5-2**. As a result, the total long-term peak parking demand at the ZSFG campus site would increase by 411 spaces.

TABLE 5-2: LONG-TERM INCREASE IN PEAK PARKING DEMAND AT ZSFG

Location	Increase in Staff over Existing [3]	Increase in Peak Parking Demand [4]
Backfill of buildings currently occupied by UCSF [1]	610	251
Backfill of Buildings 80 and 90 currently occupied by UCSF and DPH employees [2]	390	160
TOTAL	**1,000**	**411**

Notes:

1. Buildings 1, 9, 10, 20, 30, 40 and 100; approximately 168,000 gsf in total,
2. Building 80 has 72,000 gsf and Building 90 has 36,000 gsf.
3. Number of employees estimated at building density of 276 gsf per employee in accordance to SF Guidelines for general office use.
4. The parking demand associated with the backfill of all buildings has been calculated following the methodology presented in Chapter 3 (p. 41) of the SFGH Rebuild Project EIR with an 85% peak parking demand. The detailed calculations are presented in Appendix G.,

Sources: UCSF, SF DPH, Adavant Consulting, 2016.

Table 5-3 summarizes the future long-term parking supply and occupancy in the vicinity of the ZSFG campus site for the proposed Research Building and the Proposed Garage Expansion Project (307 spaces), as well as the four Variants and the On-site Alternative.

TABLE 5-3: LONG-TERM PARKING UTILIZATION BY TIME PERIOD

Location	Supply (spaces)	Parking Utilization					
		10 a.m. to Noon		Noon to 2 p.m.		6 to 8 pm.	
		Spaces	%	Spaces	%	Spaces	%
Proposed Project: 307-space Expansion Supply	**1,690[1]**	**2,284**	**135.1%**	**2,227**	**131.8%**	**922**	**54.6%**
Long-term Parking Surplus/Deficit		-594		-537		768	
Variant 1: 292-space Expansion Supply	**1,675[2]**	**2,299**	**137.3%**	**2,242**	**133.9%**	**929**	**55.5%**
Long-term Parking Surplus/Deficit		-624		-567		746	
Variant 2: 527-space Expansion Supply	**1,910[4]**	**2,284**	**119.6%**	**2,227**	**116.6%**	**922**	**48.3%**
Long-term Parking Surplus/Deficit		-374		-317		988	
Variant 3: 512-space Expansion with Retail Supply	**1,895[5]**	**2,299**	**121.3%**	**2,242**	**118.3%**	**929**	**49.0%**
Long-term Parking Surplus/Deficit		-404		-347		966	
Variant 4: No Garage Expansion Supply	**1,383[3]**	**2,284**	**165.1%**	**2,227**	**161.0%**	**922**	**66.7%**
Long-term Parking Surplus/Deficit		-901		-844		461	
On-Site Alternative: On-Site Parking Supply	**1,585[6]**	**2,284**	**144.1%**	**2,227**	**140.5%**	**922**	**58.2%**
Long-term Parking Surplus/Deficit		-699		-642		663	

Notes:

1. 1,548 (Total ZSFG Campus) – 35 (Near Term Change in Parking Supply on 22nd St) - 130 (Proposed Project at B/C Lot) + 307 (Proposed Project Garage Expansion) = 1,690 spaces.
2. 1,548 (Total ZSFG Campus) – 35 (Near Term Change in Parking Supply on 22nd St) - 130 (Proposed Project at B/C Lot) + 292 (Proposed Project Garage Expansion) = 1,675 spaces.
3. 1,548 (Total ZSFG Campus) – 35 (Near Term Change in Parking Supply on 22nd St) - 130 (Proposed Project at B/C Lot) + 527 (Proposed Project Garage Expansion) = 1,910 spaces.
4. 1,548 (Total ZSFG Campus) – 35 (Near Term Change in Parking Supply on 22nd St) - 130 (Proposed Project at B/C Lot) + 512 (Proposed Project Garage Expansion) = 1,895 spaces.
5. 1,548 (Total ZSFG Campus) – 35 (Near Term Change in Parking Supply on 22nd St) - 130 (Proposed Project at B/C Lot) = 1,383 spaces.
6. 1,548 (Total ZSFG Campus) – 35 (Near Term Change in Parking Supply on 22nd St) - 130 (Proposed Project at B/C Lot) + 202 (on-site parking to replace 130 spaces lost from the B/C lot plus parking to meet a new parking demand of 72 spaces) = 1,585 spaces.

Source: Adavant Consulting, 2016

As shown in the table, with the Proposed Project, there would be a deficit between 537 and 594 parking spaces from 10:00 AM to 2:00 PM. There would be no deficit after 6:00 PM.

With Variant 1, there would be a deficit between 567 and 624 parking spaces from 10:00 AM to 2:00 PM. There would be no deficit after 6:00 PM.

With Variant 2, there would be an overall long-term parking deficit of 317 and 374 parking spaces from 10:00 AM to 2:00 PM, and there would be no deficit after 6:00 PM.

With Variant 3, there would be an overall long-term parking deficit of 347 to 404 parking spaces between 10:00 AM and 2:00 PM, and there would be no parking deficits after 6:00 PM.

With Variant 4, there would be an overall long-term parking deficit of 844 to 901 parking spaces between 10:00 AM and 2:00 PM, and there would be no parking deficits after 6:00 PM.

With the On-Site Alternative, there would be an overall long-term parking deficit of 642 to 699 parking spaces between 10:00 AM and 2:00 PM, and there would be no parking deficits after 6:00 PM.

The neighborhoods surrounding the ZSFG are unlikely to change dramatically in the future. Improvements to the transit network as described in Chapter 2 would likely reduce parking demand adjacent to ZSFG under Year 2040 Conditions. UCSF (through its Campus Transportation Services Offices) will make efforts to educate faculty, staff, and students about transit options in order to reduce auto usage and parking demand. Thus, the parking impacts under the Proposed Project or Variants would be ***less than significant***.

5.8 YEAR 2040 CONSTRUCTION IMPACTS

Construction impacts are localized and site-specific, and would not contribute to impacts from other development projects near ZSFG. The assessment of construction activity at ZSFG may change between the completion of the Proposed Project or Variants and the Year 2040 scenario due to additional non-UCSF projects at ZSFG and the surrounding area and due to timing of implementation of all aspects of the UCSF/City projects. Year 2040 impacts of nearby construction projects should not be considered as the construction would be temporary and the project sponsor would coordinate with various City departments such as SFMTA and DPW through the TASC to develop coordinated plans

that would address construction-related issues. For the above reasons, the Proposed Project and Variants, in combination with past, present and reasonably foreseeable development in San Francisco, would have ***less than significant*** Year 2040 construction impacts.

6 SUMMARY OF TRANSPORTATION MITIGATION AND IMPROVEMENT MEASURES

This chapter presents the transportation mitigation measures that would be required to reduce the significant impacts of the Proposed Project. In some cases, no significant impact was identified; however, an improvement measure was noted that would improve conditions. These mitigation and improvement measures were developed for the Near Term plus Project and Year 2040 conditions, as appropriate.

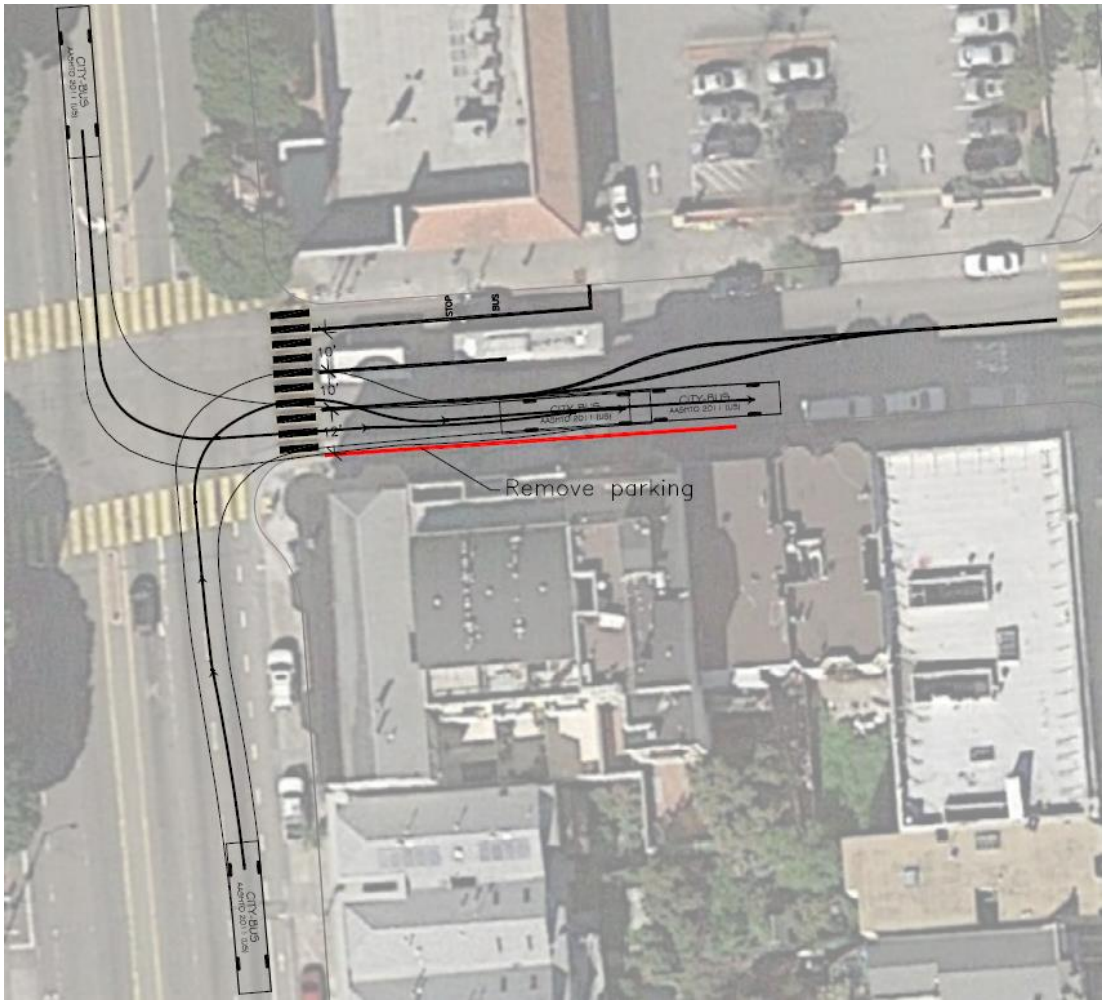
6.1 MITIGATION MEASURES

The following measures were identified to mitigate impacts caused by the Proposed Project or Variants.

6.1.1 Mitigation Measure TR-1: Restripe 24th Street at Potrero Avenue to Provide a Westbound Left-Turn Pocket

Restripe the westbound approach on 24th Street at Potrero Avenue as two lanes; a 10-foot wide left-turn pocket approximately 50 feet in length and a 10-foot wide shared through/right-turn lane pockets. This would require the removal of three to four parking spaces on the southern side of 24th Street at the intersection of Potrero Avenue and the restriping of the eastbound lane adjacent to the removed parking spaces to be 12 feet wide. This mitigation measure would not include the addition of new signal phases or other alterations due to the existing timing plan, although the SFMTA may choose to do so as part of the mitigation measure.

This mitigation measure would require that large trucks or buses making the northbound right movement would sweep into the westbound left turn lane (See Inset below). As such, the final design of this intersection should include placement of the stop bar on the westbound turn lane approximately one car length back from the current intersection to accommodate larger turning vehicles.



Mitigation Measure TR-1 applies to the following scenarios:

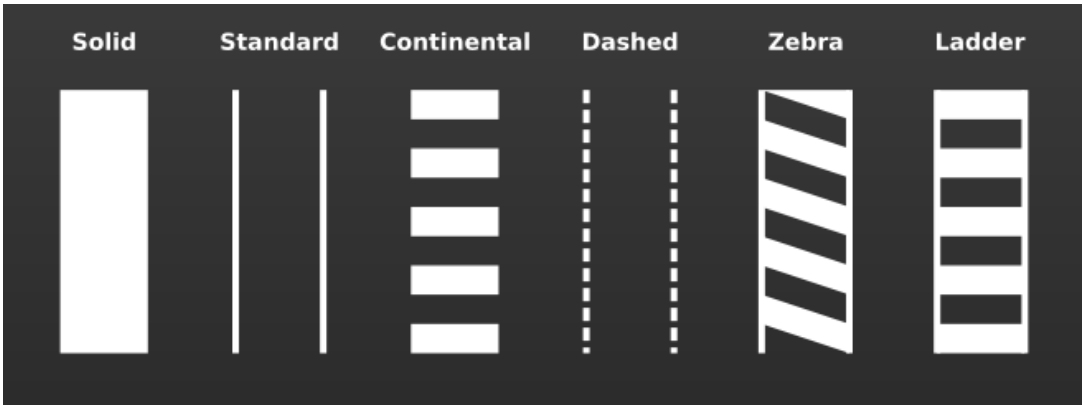
- Proposed Project (307-space garage expansion)
- Variant 1 (292-space garage expansion, retail)
- Variant 2 (527-space garage expansion)
- Variant 3 (512-space garage expansion, retail)
- Variant 4 (No garage expansion)

6.1.2 Mitigation Measure TR-2: Open 23rd Street exit of 23rd Street Garage during the PM Peak Period

Open the 23rd Street exit to the 23rd Street Garage to traffic at 3:00 PM instead of 6:00 PM. Currently, both the entrance and exit at 23rd Street are closed to vehicles from 6:00 AM to 6:00 PM. Opening the exit at 3:00 PM to coincide with a major hospital employee shift change would allow some vehicles to shift away from the 24th Street exit and thus improve the operating condition of the intersection of Potrero Avenue / 24th Street. It is not known how many people would use this exit if given the option; although there is only one exit lane, which would naturally limit the number of vehicles that can exit

during this period. This analysis assumes that not enough vehicles would use this alternative exit to reduce the intersection impact to a less than significant level. In conjunction with the earlier opening of the 23rd Street exit, which would increase the amount of traffic on 23rd Street, the pedestrian crossing that connects the 23rd Street Garage to the east side of the West ZSFG Driveway should be improved. Although SFMTA staff would need to concur on a final design, this should include evaluation of signal phasing prior to implementation, and it could include shifting the eastern edge of the crosswalk to the east by ten feet in order to double the width of the crosswalk to 20 feet, repainting the crosswalk in the continental style (see below) to be more visible, and shifting the westbound 48 Quintara/24th Street in the same location 20 feet to the east to increase the visibility of pedestrians. Other potential measures to increase pedestrian visibility and reduce vehicle-pedestrian collision risks include the following measures as shown or noted below:

- Consider converting intersection of Utah Street and 23rd Street to all-way stop controlled,
- Signalize the ZSFG driveway and associated pedestrian crossing,
- Add signage on Potrero Avenue directing vehicles to use 24th Street to reduce circling for visitors,
- Increase employee education regarding appropriate pick-up and drop-off locations to minimize any additional double-parking at the corner of 23rd Street / San Bruno Avenue, which can obscure visibility of pedestrians, and
- Coordinate with the appropriate enforcement agencies (SFMTA, SFPD) to increase pedestrian safety as well as reduce instances of double-parking.



Crosswalk Styles

Potential Pedestrian Mitigation Measures

Mitigation Measure TR-2 applies to the following scenarios:

- Proposed Project (307-space garage expansion)
- Variant 1 (292-space garage expansion, retail)
- Variant 2 (527-space garage expansion)
- Variant 3 (512-space garage expansion, retail)
- Variant 4 (No garage expansion)

6.1.3 Mitigation Measure TR-3: Implement Additional TDM Strategies to Reduce Single Occupancy Vehicle Trips

UCSF and DPH shall each pursue potential TDM measures that they can feasibly implement targeted at reducing SOV trips to and from ZSFG. UCSF and DPH staff have worked collaboratively with transportation consultants, the SFMTA, and other City departments to identify a robust list of potential TDM strategies in addition to those already in place. The implementation of this mitigation measure could improve traffic operations in the immediate vicinity of ZSFG, inccluding at Potrero Avenue / 24th Street by reducing SOV trips to and from ZSFG. Additionally, implementation of other TDM strategies not included in this list would have a similar effect of reducing SOV trips to and from ZSFG.

As outlined in Section 2.2, UCSF and DPH each already have TDM plans in place and an internal planning process with UCSF, DPH, the SFMTA, and transportation consultants yielded a list of potential TDM strategies that UCSF and DPH could pursue in addition to those already in place. A combination of these measures could potentially reduce single-occupant vehicle (SOV) trips for UCSF and DPH employees. To accomplish this goal, UCSF and DPH shall coordinate and each implement the following CEQA-related policies to the extent feasible:

- Parking Policy/Pricing
  - Adjust hourly parking rate structure to discourage all-day parking and provide spaces for patients/visitors

  - Increase Hourly and monthly parking rates to be more in line with prevailing San Francisco market rates

- Transit and Shuttle System
  - Expand UCSF and DPH Shuttle Service toCaltrain, Transbay Transit Terminal (applies to UCSF and DPH; would require coordination with SFMTA)
  - Maintain a dialogue with SFMTA regarding ZSFG's strong desire to see that the transit connection between the Mission District and the ZSFG campus remains (applies to UCSF and DPH; would require coordination with SFMTA)
  - Allow patients/visitors to ride DPH Shuttle and advertise the shuttle as a last-mile option (applies to DPH)
  - Expand additional last mile service by alternate means, including reimbursing employees for Transportation Network Company (TNC e.g. Lyft, Uber) and taxi use as a bridge from transit stations (applies to DPH; would require coordination with SFMTA as well as a joint effort from UCSF, DPH, and SFMTA to study the effective use of TNCs as a "last-mile" alternative).
  - Add Bike racks on DPH shuttles (applies to DPH)
- Commute Trip Reduction
  - Hire a TDM Program Manager (applies to DPH)
  - Expand number of car share vehicles on-site (applies to DPH)
  - Create more robust carpool matching program (applies to UCSF and DPH)
  - Create a vanpool service or coordinate with the existing UCSF vanpool (applies to DPH)
  - Provide showers and locker facilites on campus and in the new UCSF Research Building (applies to UCSF and DPH)
  - Install Bay Area Bike Share Station on campus (applies to DPH)
  - Install transportation kiosk(s) overseen by the new TDM Program Manager (applies to DPH)
  - Advertise existing pre-tax commuter accounts (applies to UCSF and DPH)
  - Promote bicycle safety along 23rd Street and Potrero Avenue to prevent conflicts with vehicles (applies to DPH)
  - Provide signage indicating the location of bicycle parking at points of access (applies to DPH)
  - Facilitate access to carshare spaces through on-site garage (applies to DPH)

Additional TDM strategies that were considered as part of the internal planning process, but rejected as infeasible or otherwise not recommended include the following:

- Providing traffic calming measures: The Department of Public Works is planning a streetscape improvement project for Potrero Avenue to coincide with their repaving schedule. The project will include traffic calming measures.
- Reimbursing employees who do not drive to work: ZSFG does not have parking spaces available for every subsidized employee. Because employees cannot expect to have a parking space due

to limited supply, ZSFG is therefore not required to offer a cash-out policy for employees who do not use a parking space. Additionally, enforcing this measure properly to curtail potential abuse would require diverting resources from the mission of ZSFG.

- Working with the SFMTA to expand Residential Area Parking Permit Zones: The residential permit process is a resident-driven process. The SFMTA has the ability to unilaterally legilsate the change, but they do not exercise this right. Rather, they wait until the neighborhood has organized support for it.

Mitigation Measure TR-3 applies to the following scenarios:

- Proposed Project (307-space garage expansion)
- Variant 1 (292-space garage expansion, retail)
- Variant 2 (527-space garage expansion)
- Variant 3 (512-space garage expansion, retail)
- Variant 4 (No garage expansion)

Mitigation Measure TR-1 would reduce the impact at Potrero Avenue / 24th Street to less than significant, but UCSF and DPH do not have the authority to implement it without SFMTA's approval and assistance, which is unknown at this time. The effectiveness of Mitigation Measure TR-2 to reduce the impact at Potrero Avenue / 24th Street to less than significant is not known given the uncertainty over the volume of vehicles choosing to exit at the norther egress, and UCSF does not have the authority to implement it without SFMTA's approval and assistance, which is unknown at this time. Further, the effectiveness of Mitigation Measure TR-3 to reduce the impact at Potrero Avenue / 24th Street to less than significant is not known, as it is dependent on the amount, mixture, and schedule of feasible measures implemented by UCSF and DPH. Even full implementation of the MitigatioN measure TR-3 with identified feasible elements would not fully eliminate the significant impact at this intersection. For the following reasons, the traffic impact at the intersection of Potrero Avenue / 24th Street due to the Proposed Project, Variant 1, Variant 2, Variant 3, and Variant 4 would therefore still be considered ***significant and unavoidable***.

The On-Site Alternative does not have any impacts and therefore does not require any mitigation measures.

6.2 IMPROVEMENT MEASURES

The following measures were identified to improve conditions surrounding the Proposed Project or Variants.

6.2.1 Improvement Measure IM-TR-1: Construction Coordination and Monitoring Measures

Traffic Control Plan for Construction – In order to reduce potential conflicts between construction activities and pedestrians, transit and autos during construction activities at ZSFG, UCSF shall require construction contractor(s) for the proposed Research Building to prepare a traffic control plan for major phases of project construction (e.g. demolition, construction, or renovation of individual buildings). UCSF and their construction contractor(s) will meet with DPH and relevant City agencies to coordinate feasible measures to reduce traffic congestion, including temporary transit stop relocations, and other

measures to reduce potential traffic and transit disruption and pedestrian circulation effects during major phases of construction of the proposed Research Building. For any work within the public right-of-way, the contractor would be required to comply with the City of San Francisco's Regulations for Working in San Francisco Streets, which establish rules and permit requirements so that construction activities can be done safely and with the least possible interference with pedestrians, bicyclists, transit, and vehicular traffic. The Parking Authority would be responsible for approving and implementing the expanded 23rd Street Garage, and therefore would be responsible for coordinating with, UCSF, DPH, and other City agencies before and during its construction.

In the event that the construction timeframes of the major phases and other development projects adjacent to the ZSFG campus site overlap, including the 23rd Street Garage expansion, UCSF and the City should coordinate with City Agencies through the Transportation Advisory Staff Committee (TASC) to minimize the severity of any disruption to adjacent land uses and transportation facilities from overlapping construction transportation impacts. UCSF and the City shall propose a construction traffic control plan that includes measures to reduce potential construction traffic conflicts, such as staggering start and end times, coordinated material drop offs, collective worker parking and transit to job site and other measures.

Reduce SOV Mode Share for Construction Workers – In order to minimize parking demand and vehicle trips associated with construction workers for the proposed Research Building, UCSF shall require the construction contractors to include in the Traffic Control Plan for Construction methods to encourage walking, bicycling, carpooling, and transit access to the campus sites by construction workers in the coordinated plan. The SFMTA would be responsible for the development of this measure before and during the construction of the 23rd Street Garage.

Project Construction Updates for Adjacent Residents and Businesses – In order to minimize construction impacts on access for nearby residences, institutions, and businesses, UCSF and the City shall provide nearby residences and adjacent businesses with regularly-updated information regarding project construction, including construction activities, peak construction vehicle activities (e.g., concrete pours), travel lane closures, and lane closures via a newsletter and/or website.

Improvement Measure IM-TR-2 applies to the following scenarios:

- Proposed Project (307-space garage expansion)
- Variant 1 (292-space garage expansion, retail)
- Variant 2 (527-space garage expansion)
- Variant 3 (512-space garage expansion, retail)
- Variant 4 (No garage expansion)
- On-Site Alternative (On-site parking)

APPENDICES

Appendix A: Approved Scope of Work

Appendix B: ZSFG TDM Plan Memorandum

Appendix C: Roadway Network Classifications (From SF General Plan)

Appendix D: Intersection Level of Service Calculations

Appendix E: Traffic Volume and Intersection Turning Movement Counts

Appendix F: Analysis Assumptions

Appendix G: Parking Counts

Appendix H: Travel Demand Calculations

Appendix I: Employee Survey Results - 2015

APPENDIX A: APPROVED SCOPE OF WORK

University of California San Francisco:
Long-Range Development Plan Environmental Impact Report

Draft Transportation Scope of Work – December 4, 2013

Task 9 – San Francisco General Hospital EIR

A standalone EIR will be prepared for projects at San Francisco General Hospital (SFGH). Similar to the other UCSF campus sites; a transportation study report will be prepared to document the transportation related issues specific to a new research building on the SFGH site, as well as the potential expansion of the parking structure owned by the City of San Francisco.

9. 1 – Confirm Project Description: The transportation consultant team will describe the development proposal, including a comparison to the existing uses at SFGH, in the Project Description section of the transportation impact study. This section will include a brief description of each of the proposed developments, including location, type of land uses proposed, the size of project by population/user type, and proposed time frame for implementation. A map and site plans provided by UCSF to illustrate vehicular and pedestrian access locations and parking/loading facilities will be prepared.

9.2 – Data Collection: New transportation data will be collected, including new intersection turning movement counts, bicycle and pedestrian counts, and on-street parking occupancy surveys. We propose to collect the following data:

Traffic – This scope of work assumes new turning movement counts will be conducted during the AM and PM peak periods at up to 12 study intersections in the vicinity of the SFGH site (see right and below).

1. Potrero/20th
2. Potrero/22nd (N)
3. Potrero/22nd (S)
4. Potrero/23rd
5. Utah/23rd
6. SB driveway (1)/23rd
7. San Bruno/23rd
8. SB driveway (2)/23rd
9. Vermont/23rd
10. Parking Garage/24th
11. Utah/24th
12. Potrero/24th
13. Potrero/25th

Pedestrian/Bicycle – Bicycle and pedestrian counts will be conducted at up to four locations in or adjacent to the SFGH site; pedestrian counts will be conducted during the midday period (2:30-4:30 PM), and bicycle counts during the AM and PM peak periods. The precise locations of the counts will be determined in consultation with UCSF and City staff. The report will address the supply of bicycle parking facilities and their typical occupancy.

Transit – The transportation team will compile local and regional public transit information on those lines providing service to the SFGH site, using already available data from the local and regional transit operators. The transit description will summarize the hours of operation, frequency of service, ridership data and destinations served by adjacent transit. Further, we will obtain and summarize UCSF shuttle ridership information provided by UCSF Transportation staff including the temporary parking shuttles during construction.

Parking – The transportation team will collect new weekday morning, afternoon and evening (10:00 AM to 2:00 PM; 6:00 to 8:00 PM) on-street parking occupancy surveys on streets approximately within ½ mile of SFGH. The team will also conduct a parking utilization survey for the same periods of off-street parking facilities available to the public in the vicinity of the SFGH site. The transportation team will request from the Municipal Transportation Agency current information about the 23rd Street Garage under its control, such as number of spaces available, rate structure, reserved spaces and hourly arrival departure information for a typical weekday based on ticket-spitter/payment data. Describe residential permit parking regulations near SFGH.

Loading –The transportation team will confirm the existing on- and off-street passenger and freight loading spaces availability with staff and as part of a field review.
Construction – The transportation team will request from UCSF construction phasing information for the proposed development.

9.3 – Document Existing Conditions: The transportation team will document existing street traffic, circulation, parking, pedestrian, bicycle, and transit conditions in the vicinity of the project site. Including:

- A base map for each study area describing the street designations, street names, number of lanes, and traffic flow directions
- Existing vehicular circulation conditions, especially relative to pedestrian and bicycle conditions
- Intersection level-of-service (LOS) conditions for the AM and PM peak hour, as determined by the 2000 Highway Capacity Manual Operations Methodology
- Figures indicating the AM and PM peak hour traffic volumes at the study intersections, including the critical lane groups
- A map and discussion of existing public transit routes and stops, including capacity utilization for lines providing access to the SFGH site
- A map and discussion of existing UCSF shuttle service, including operational activities, routes, and stops, hours of service, peak period headways, and type of vehicle shuttle
- A map and discussion of bicycle routes and proposed changes to the bicycle network
- A discussion of pedestrian facilities (including sidewalk widths) on and near the campus, with particular emphasis on pedestrian routes to transit stops
  - Overall pedestrian and bicycle conditions at SFGH
- A map and table presenting the off-street parking supply and midday, afternoon, and evening utilization conditions with ½ mile of SFGH
- A map and discussion of on-street parking conditions for midday and evening conditions

- Existing service (freight) and passenger loading operations on- and off-street will be described including the location and number of access points and loading spaces
- Description of existing TDM programs at the SFGH site
  - Mode split goals, if any
  - Mode split (baseline, based on most recent surveys of employees and visitors)
  - Parking management:
    - Information that demonstrates the various populations of employee/student users at SFGH
      - Estimate of population that needs to access the facility on a moment's notice 24/7/365
      - Estimate of population that works between 6:00 AM and 12:00 AM (general hours of regional transit) on an average day
    - Describe how the parking subsidy works now
    - Describe what prioritization is in place (if any) for granting parking permits and spaces
  - Class I bicycle parking
  - Bicycle amenities (showers, lockers)
  - Pre-tax transit benefits and transit and bicycling subsidy, if any
  - Incentive and marketing programs to support sustainable modes
  - Shuttle program overview

9.4 – Determine Travel Demand: The transportation team will estimate the total number of net new person- and vehicle-trips generated by the proposal on a typical weekday and during the weekday AM and PM peak hours for the SFGH project. Additionally, the team will determine trip distribution, modal split, and parking and loading demand.

The team will work with UCSF and City staff (including the Department of Public Health, Planning Department, Department of Public Works (DPW), and Municipal Transportation Agency) to confirm assumptions that will inform net new travel demand generated by the proposal. These assumptions relate to:

- Plans by the City to backfill space vacated by UCSF resulting from the proposed new research building
- Plans by the City to backfill space vacated due to departmental moves resulting from the new SFGH hospital
- Mix of permit and public spaces in the proposed City garage expansion
- Modal split changes (if any) due to the proposed increase in parking supply and/or changes to the current parking rates

9.5 – Transportation Impact Analysis: The transportation team will identify potential transportation impacts associated with changes at the SFGH site (inclusive of changes to the SFMTA-operated 23rd Street parking), including impacts on the study intersections, plus impacts on transit, pedestrian and bicycle circulation. Potential impacts associated with changes in parking supply and demand, as well as passenger and freight loading supply and demand conditions will also be identified. The methodology used will be consistent with UCSF criteria for identifying significant impacts. Transportation impacts will be evaluated under the following scenarios:

- Existing conditions
- Baseline – Existing conditions plus opening of the new SFGH hospital (assumes new SFGH hospital and circulations changes complete and operational). Baseline will include changes to Potrero Avenue included in the SFMTA Transit Effectiveness Program (TEP) and Potrero Streetscape Improvements.
- Baseline plus project (2017/2018)
- Future year cumulative conditions (2040)

Traffic – Using the travel demand forecasts, the transportation team will estimate AM and PM peak hour turning movement volumes for the proposed LRDP development at the study intersections identified in task 9.2 and will perform intersection level of service analysis for the existing plus project at the study intersections using the HCM 2000 methodology. Future year 2040 (cumulative) conditions with the LRDP will also be analyzed. The evaluation of future year conditions will be based on year 2040 highway assignment data obtained from the most recent City of San Francisco travel demand forecasting model year prepared by the SFCTA, taking into account changes anticipated by the TEP and Potrero Streetscape Improvements.

Transit – The transportation team will use the forecasted increase in weekday peak hour transit trips to generally discuss transit conditions with the additional LRDP-generated transit trips. The discussion will also include a qualitative analysis of transit access walk trips from the SFGH site to transit, such as inadequate sidewalks, unsafe pedestrian crossings or other related improvements affecting adequate access to transit service.

Bicycle/Pedestrian – The transportation team will qualitatively assess pedestrian and bicycle conditions in the vicinity of SFGH as a result of the proposed project. Potential conflicts between project-generated vehicle traffic and pedestrian and bicycle circulation will be qualitatively assessed, and conflict areas will be identified. Bicycle parking will be addressed.

Parking – The transportation team will use the parking information previously collected to document how parking demand associated with the LRDP proposals might affect on-campus or off-campus parking utilization. If the analysis shows that parking demand may exceed supply, the transportation team will work with UCSF to identify potential strategies to reduce parking demand or manage on-street supply to reduce potential consequences of overflow parking.

Loading – The transportation team will use the freight and passenger loading demand calculated in Task 4 to conduct a loading supply/demand evaluation at the UCSF at SFGH site. The transportation team will qualitatively describe potential conflicts between trucks

entering and exiting proposed project driveways and pedestrian and bicycle traffic along the adjacent streets and sidewalks.

Emergency Vehicle Access – The transportation team will qualitatively assess potential impacts to emergency access that could result from the proposed project.

Construction – The transportation team will evaluate potential construction impacts that could be generated by the LRDP development proposals. Construction impact evaluation will address the duration of construction activity, possible truck routings, and estimated daily truck volumes.

9.6 – Documentation Develop and Evaluate Potential Mitigation Measures/TDM Measures and Identify Improvements: Based on the results of impact analysis, the transportation team will work with UCSF staff to identify potential measures, if necessary, to mitigate any significant transportation impacts to a non-significant level. The analysis will include an evaluation of the 23rd Street and 24th Street entrances/exits of the City parking structure, and whether operational changes are necessary. The analysis will also include an assessment of additional TDM measures that could be implemented to reduce the number of single-occupant vehicles and increase the number of carpoolers, bicyclists and transit riders on campus, including a reduction in the parking supply ratios, increased parking rates, additional transit incentives, etc. The effectiveness of the specific TDM measures will be estimated based on past experiences at the UCSF campuses, similar plans being proposed for other locations in San Francisco, and best practices at other institutional locations as reported in the literature[1]. The transportation team will also work with UCSF to identify and assess potential transportation improvements that although not necessary to mitigate transportation impacts, would facilitate and improve travel to/from the campus sites by means other than single occupant vehicles.

9.7 – Transportation Study Report: The transportation team will prepare a Draft 1 Transportation Study Report for the SFGH site, incorporating data, analysis, and conclusions from the above tasks. This report will be submitted to UCSF staff. The team will respond to one round of comments from UCSF and will submit a Draft 2 Report to UCSF for their review. The transportation team will incorporate comments and prepare a Final Transportation Impact Study report.

9.8 – Environmental Impact Report: The transportation team will coordinate with UCSF staff and Environmental Science Associates (ESA) on the preparation of the transportation section for the Administrative Draft document of the SFGH EIR to be written by ESA. We assume for budgeting purposes 24 hours for coordination and that no new technical analysis will be necessary.

After Draft EIR circulation, we will review relevant public comments with UCSF Staff and ESA on the transportation section to help provide recommended responses. We assume for budgeting purposes 10 hours for the preparation of the response to public comments and that no new technical analysis will be necessary.

[1] The travel demand calculations will include existing TDM programs only.

APPENDIX B: ZSFG TDM PLAN MEMORANDUM

FEHR PEERS

June 10, 2016

Kathy Jung, Director of Facilities and Capital Projects
San Francisco Department of Public Health
101 Grove Street, Room 323
San Francisco, CA 94102

Subject: ZSFG Transportation Demand Management Plan - DRAFT

Dear Ms. Jung:

Fehr & Peers and Adavant Consulting have evaluated the existing transportation demand management ("TDM") program at the Priscilla Chan and Mark Zuckerberg San Francisco General Hospital ("ZSFG"). Additionally, we have worked collaboratively with San Francisco Department of Public Health ("DPH") and University of California, San Francisco ("UCSF") Campus Planning staff, the San Francisco Municipal Transportation Agency ("SFMTA"), and other City departments to refine and expand the TDM program recommendations into a robust suite of potential strategies. This letter report details several proposals to strengthen the program and thereby reduce both employee drive alone trips and the associated parking demand at the ZSFG campus. Specifically, this letter documents the following:

1) A description and the effectiveness (in terms of existing mode of travel split) of the existing ZSFG TDM program;
2) A recommended suite of proposals to complement and improve the existing TDM measures; and
3) A calculation of the potential benefit to ZSFG (in terms of reduction of drive alone vehicle trips to/from ZSFG) should the suite of improvement measures be implemented.

ZSFG is the main public hospital in the City and serves as the only Level I Trauma Center for the City of San Francisco and parts of San Mateo County. ZSFG is also in a partnership with UCSF and serves as a leading academic medical and research center.

EXISTING TDM/POLICIES AND TRAVEL TO ZSFG

There are many different factors that determine how people travel to/from work, including home location, work shifts, access to transit, and travel incentives and disincentives (i.e. how convenient or costly it is to travel and park). A TDM program is a set of policies and programs that include

incentives, information, and education to encourage employees to commute to work by modes other than driving alone. The ZSFG TDM program includes DPH- and UCSF-led strategies that emphasize alternative commuting options, such as public transit, shuttle service, biking, walking, and carpooling. Note that some strategies are specific to DPH or UCSF employee populations. The following section includes summaries of the existing ZSFG TDM measures and parking policies as well as a discussion of their effect on how employees commute.

Existing ZSFG TDM Measures

DPH and UCSF each have existing TDM programs to encourage employee travel to/from ZSFG by modes other than driving alone. The key measures of the existing TDM programs are listed in **Table 1**. Additionally, due to lower demand for parking at night, SFMTA offers overnight parking at a discounted rate at the 23rd Street garage for employees, area residents, and businesses.

TABLE 1: EXISTING ZSFG TDM PLAN ELEMENTS

TDM Measure	Affected Employees	Description
Bicycle Parking	UCSF, DPH	All ZSFG Employees may use one of two secure on-site bicycle cages, which have a total of 91 Class I spaces. In addition, there are 34 bike lockers spread between three locations on the campus site, and the 23rd Street garage has 127 Class I spaces in three areas. Bicycle racks are available on Potrero Avenue between 22nd and 23rd Streets, on 22nd Street, east of Potrero Avenue, and near the main hospital entrance. There are 20 Class 2 spaces in the 23rd Street Garage. [1]
Showers	UCSF, DPH	Showers are provided, which can be used by bicyclists.
Bicycle riders guide	DPH	Routes information and bicycle parking location located on SFDPH website. **[Note to Reviewer: Did not see this information on website]**
Car Share	UCSF, DPH	There are two City CarShare and two Zipcar cars available at the 23rd Street parking garage.[1]
Commuter Benefits	UCSF, DPH	All ZSFG employees are eligible for pretax discount purchase of monthly transit passes. The program works by allowing participants to deduct up to $255 per month from their paycheck without paying payroll taxes on this income.
Emergency Ride Home Program	UCSF, DPH	In the case of an emergency, unexpected work delay, or vehicle mechanical problem (including a bicycle problem), UCSF and DPH employees may be reimbursed up to $50 for their alternative ride home, including a taxi ride, rental car, or car share vehicle. [1]
Rideshare Match	UCSF, DPH	SF Environment, Zimride, and 511 assist in matching commuters with similar daily routes to carpool to their destination
Shuttles	UCSF, DPH	*UCSF*: All UCSF and DPH employees and visitors can use the free UCSF shuttles to travel to/from all UCSF campus sites and secondary campus sites in the City. Two shuttles (Gold and Blue routes) operate from ZSFG to the UCSF Parnassus,

TABLE 1: EXISTING ZSFG TDM PLAN ELEMENTS		
TDM Measure	**Affected Employees**	**Description**
		Mt. Zion, and Mission Bay campus sites. UCSF also operates the Yellow route which provides shuttle service to the Mission Center Building and also serves the 16th Street BART station. *ZSFG*: All UCSF and DPH employees and visitors can use the free ZSFG shuttle that operates between ZSFG and the 24th St BART station during peak commute hours 5:30 AM-9:00 AM and 4:00 PM - 7:00 PM).
TDM Program Marketing	DPH	DPH participates in outreach to all employees on the campus site to raise awareness about the existing TDM program through information tables, newsletters, transportation fairs and website advertising.
Telecommuting Policy	UCSF, DPH	Eligibility to telecommute for all ZSFG employees determined by job position/requirements and Department.
Vanpool Program	UCSF	The UCSF employee vanpool program requires a minimum of seven participants per vanpool. The driver participates for free and the riders pay between $220 and $500 per month per person; monthly fares are based on the total round-trip miles driven per day.
Zimride	UCSF	UCSF-specific Zimride (ride sharing) website

Source: UCSF and DPH Staff, 2016
Notes:
1. This measure is implemented by the SFMTA or the City of San Francisco (and not UCSF or DPH).

Existing ZSFG Parking Permit Policies

Hospital employees pay to park at the ZSFG campus. All ZSFG employees are eligible for monthly parking permits. Parking permits for on-campus parking lots, the 23rd Street Garage, and designated on-street areas are issued to employees by the ZSFG Parking Office on a first come, first served basis, although the ZSFG administration may elevate the priority of some clinical staff to move faster in the waiting list.

The existing parking fee structure encourages employee parking in the garage by offering a lower rate of $100 per month rather than the on campus parking lot rate (includes designated street parking) of $120 per month. Car/vanpoolers with three or more passengers pay $74/year for designated parking, and night shift employees receive a discounted rate of $50 per month.

An average of approximately 850 employees receive a parking subsidy to the above standard monthly rates as part of an SEIU employee benefit per a collective bargaining agreement; this benefit does not extend to transit. SEIU employees pay a fee equivalent to the cost of a monthly MUNI Fast Pass plus $10 for a monthly pass, and the remainder of their monthly parking rate is covered by DPH. In fiscal year 2013/2014, parking subsidies were $14 per month per employee for

those who park at the garage and $34 per month per employee for those who are permitted to park on campus. Currently, there are 490 daytime permits and nine nighttime permits issued to ZSFG employees to park in the 23rd Street Garage, in addition to a several month waiting period for new monthly parking passes.

The cost of public parking is $1.50 per hour with a daily maximum of $12 (equivalent to 8 hours of parking) at the 23rd Street garage and $2.00 per hour with a daily maximum of $16 (also equivalent to 8 hours of parking) at the ZSFG B/C surface parking lot.

23rd Street Garage

The public parking garage on 23rd Street has 820 public parking spaces, and **Chart 1** details the hourly parking occupancy by payment type: people in the transient category are paying standard hourly rates, and people in the monthly category have monthly regular or discounted parking passes. On average, the garage is over 90 percent occupied by early morning (between 9 AM – 11 AM) and remains approximately 85 percent occupied until 5:00 PM. During the busiest period, approximately two-thirds of the vehicles in the garage belong to employees with a monthly parking pass, and one-third to motorists who are charged an hourly rate.

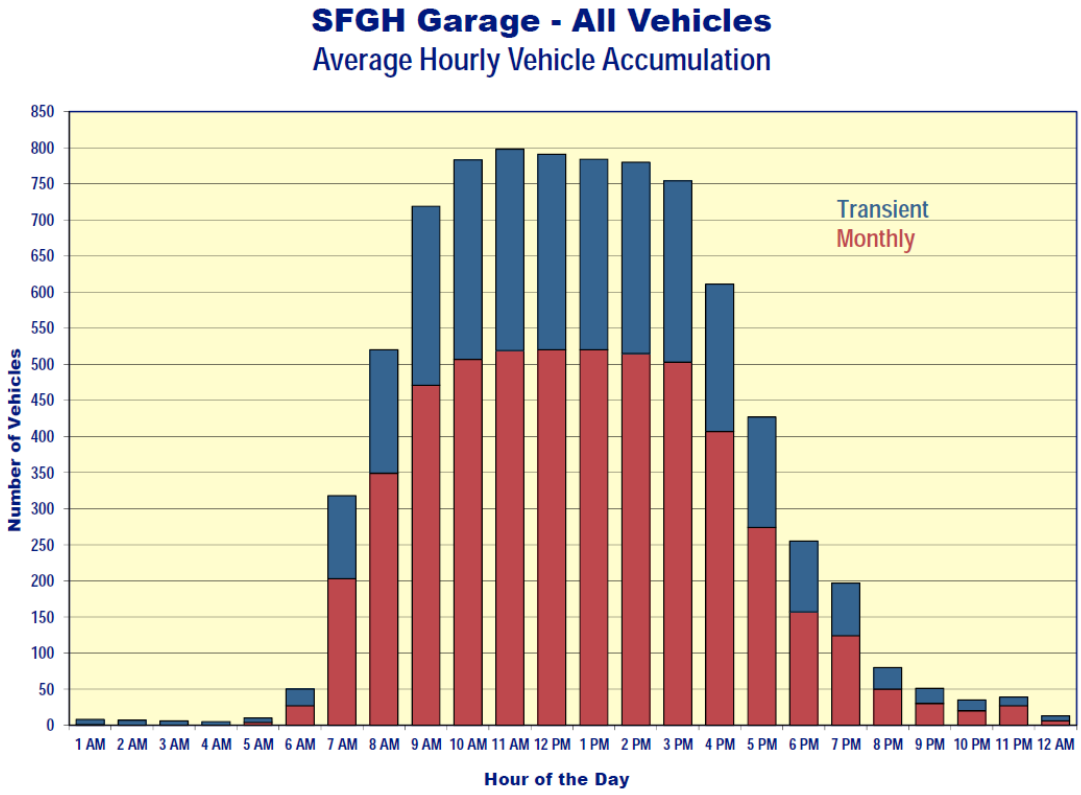


Chart 1: Hourly accumulated parked vehicles in the 23rd St Garage: Transient and Monthly
Source: Adavant Consulting, 2015.

Chart 2 provides more detail on the transient vehicles from **Chart 1** by dividing them into two categories based on their length of stay: vehicles that stay for less than seven hours are assumed to be patients or visitors, while vehicles that stay for more than seven hours are assumed to be hospital employees. Generally, patients and visitors tend to park at ZSFG for between two and three hours while employees tend to stay for eight or more hours.

Therefore, a parking pricing program that changes the hourly rate in the garage would be likely to affect the employees shown in green who park for more than seven hours and pay an hourly rate. The employees shown in red have monthly passes and would therefore be unaffected to hourly price changes. At peak occupancy, almost 90 percent of vehicles parked can be assumed to belong to hospital employees (those who have monthly passes are shown in red, and hourly parkers who stay for more than seven hours are shown in green). It is important to note that DPH is adamant that any changes to the current parking pricing plan that might be considered should be designed to have a minimal impact on patients and visitors coming to the hospital, those who are shown in blue in the chart.

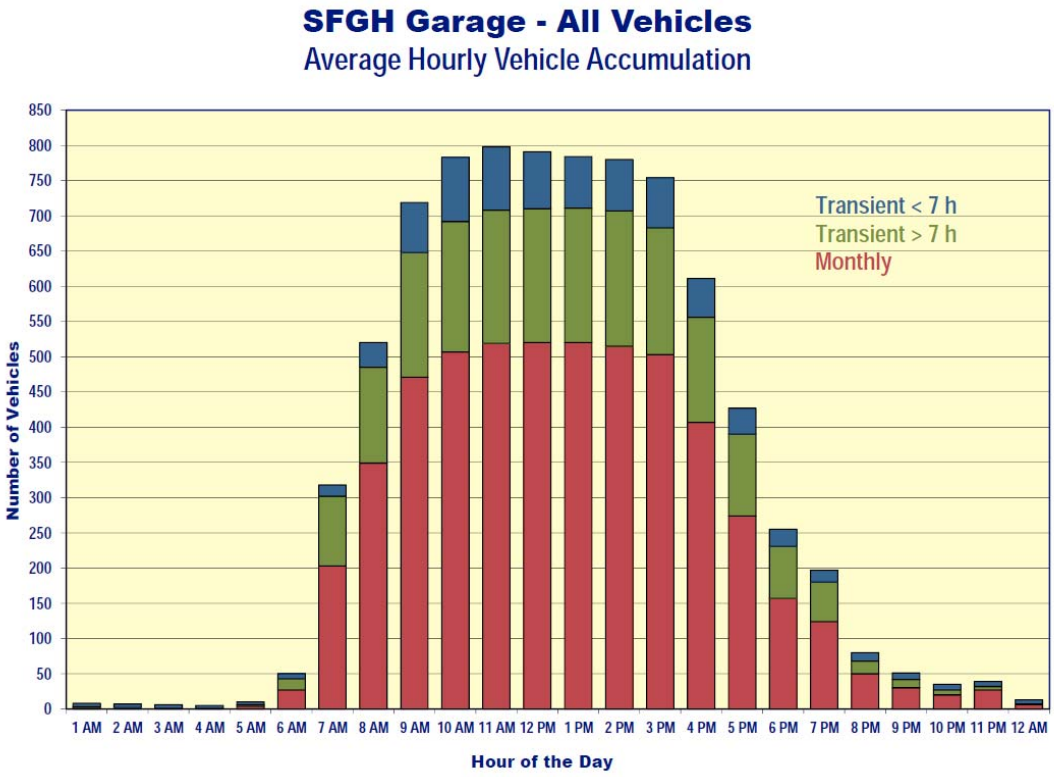
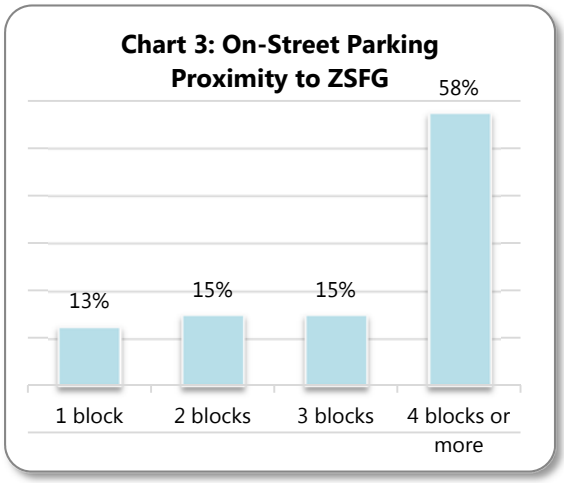


Chart 2: Hourly accumulated parked vehicles in the 23rd St Garage: Transient (patients/visitors versus employees) and Monthly
Source: Adavant Consulting, 2015.

The on-campus parking lots provide approximately 530 spaces for staff and/or City vehicles, while the 23rd Street Garage provides approximately 820 spaces for the public and staff for a total of about 1,350 off-street spaces at the ZSFG campus. Approximately 200 additional spaces are reserved for staff on the street along Vermont Street, San Bruno Avenue, and 22nd Street.[1] The parking lots and reserved on-street spaces typically reach full capacity by mid-morning and generally remain at capacity until 5:00 PM. On-street parking occupancy on campus is over 90 percent occupied from 10 AM to 2 PM and falls below 50 percent after 6 PM. On-street parking occupancy outside the ZSFG campus is approximately 60 percent overall from 10 AM to 2 PM, increasing to 80 percent at those streets adjacent to the ZSFG campus. Overall off-street parking occupancy increases to almost 80 percent in the evenings, with overall 95 percent utilization adjacent to the campus.

[1] ZSFG Transportation Impact Study, 2016, p. 51

Of the ZSFG employees who drive to work and park on the street, approximately 60 percent, park at least four blocks or more from ZSFG. **Chart 3** shows the proportion of drivers who park one, two, three, or four or more blocks from ZSFG. The high proportion of drivers parking four or more blocks away suggests employees are parking in-between the designated residential permit parking zones, as shown in **Inset 1**.



Inset 1. ZSFG (noted by the blue star) is within the 'W' parking permit zone, which prohibits ZSFG employees from parking in nearby residential neighborhoods.

Source: San Francisco General Hospital Commute Survey, 2013;
Fehr & Peers, 2013

Existing ZSFG Transportation Mode of Travel Split

ZSFG employees, who are comprised of DPH and UCSF employees, completed a transportation commute survey in 2013.[2] The results of the survey identify the transportation mode splits by population group and are shown in **Table 2**.

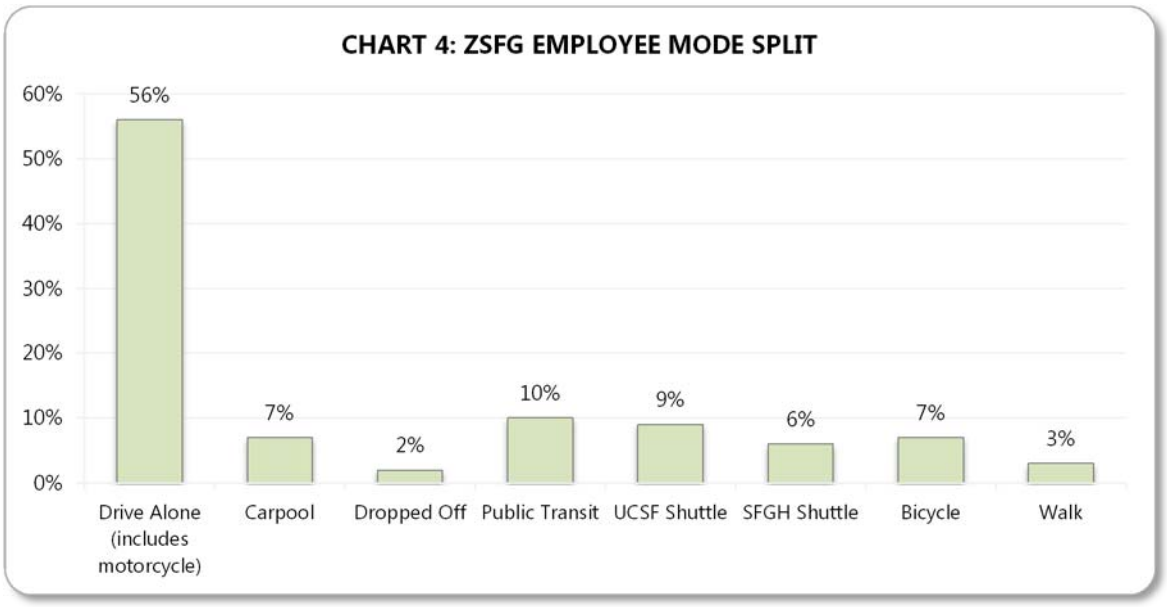
[2] The employee survey was updated in October 2015, yielding similar results.

TABLE 2: TRANSPORTATION MODE OF TRAVEL SPLIT

	Drive alone	Motor-cycle	Carpool	Dropped Off	Public Transit	Shuttle[1]	Bicycle	Walk
DPH Employees	62%	0%	8%	3%	10%	12%	3%	2%
UCSF Employees	49%	1%	6%	2%	11%	18%	10%	3%
All Employees	**55%**	**1%**	**7%**	**2%**	**10%**	**15%**	**7%**	**3%**

Notes:
1. Includes UCSF Shuttle and ZSFG Shuttle

As shown in **Table 2** and **Chart 4**, the majority (65 percent) of employees commute to ZSFG by automobile: 55 percent drive alone, 1 percent motorcycle, 7 percent carpool, and 2 percent are dropped-off. Twenty-five percent commute to ZSFG by taking public transit or the UCSF or ZSFG Shuttle. Ten percent of ZSFG commuters bicycle or walk.



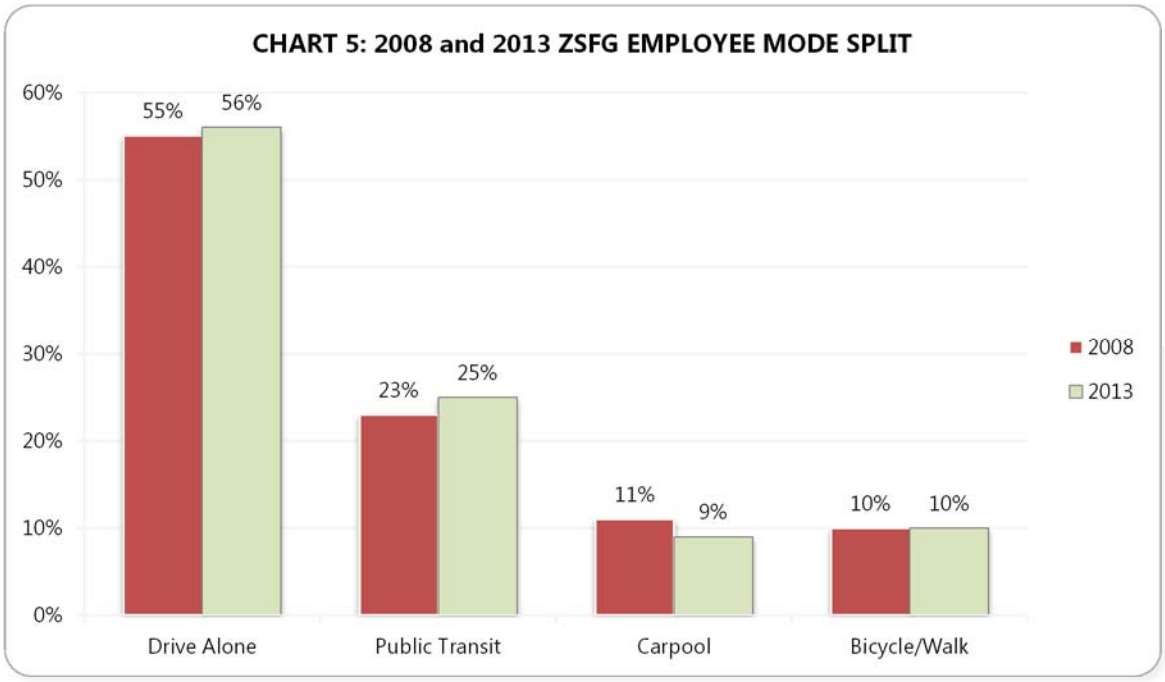
Source: San Francisco General Hospital Commute Survey, 2013; Fehr & Peers, 2013

These results are consistent with the last ZSFG employee transportation commute survey conducted in 2008 by ZSFG. **Chart 5** compares the 2008 and 2013 commute mode split. Between 2008 and 2013, there has been a slight increase in the number of employees who drive and take public transit to work. There has been a small decline in the number of employees who carpool to work. An

additional survey was completed in October 2015, and the results were similar with the exception of a very slight decrease in employees who drive alone.

For the remainder of this letter report, the mode splits in the charts have been simplified and combined into four categories:

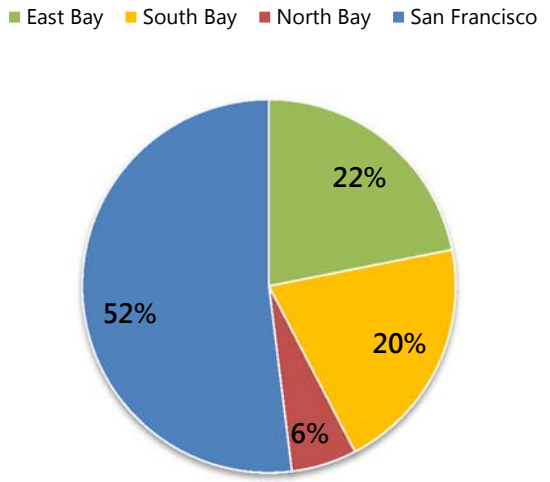
1. Drive Alone (includes motorcycle)
2. Carpool *(includes drop-off)*
3. Public Transit *(includes UCSF and ZSFG shuttles)*
4. Bicycle/Walk



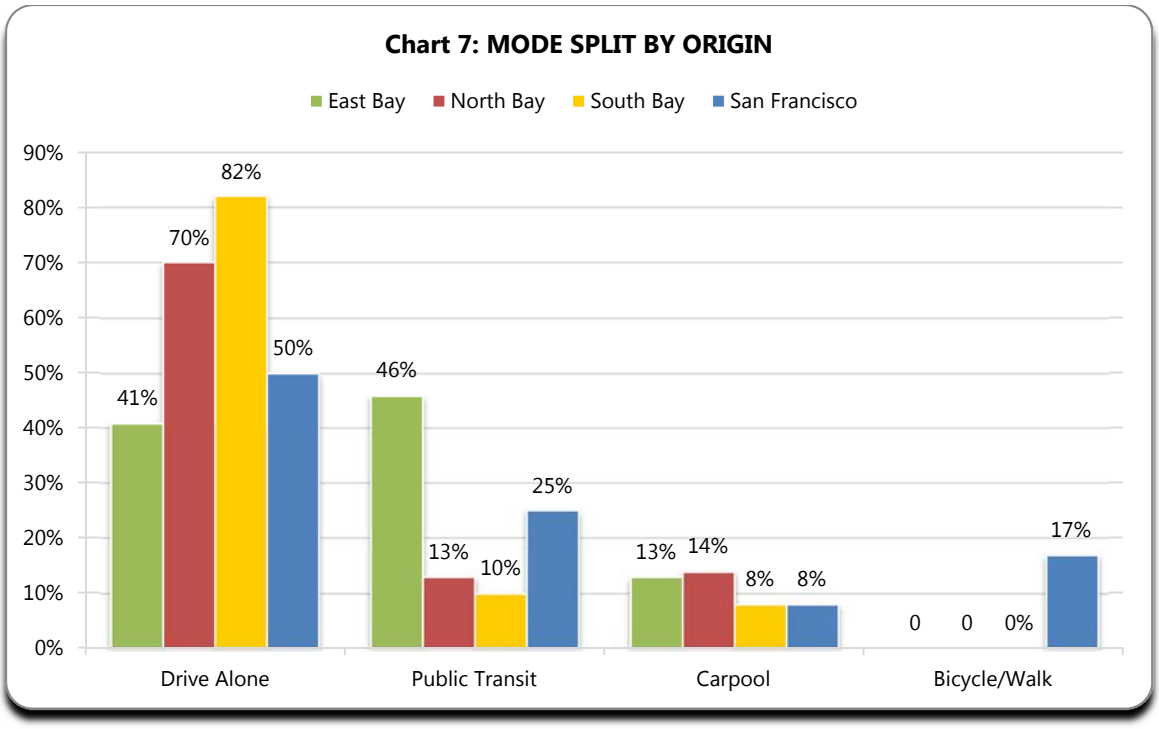
Public transit includes public transportation plus the UCSF and ZSFG shuttles.
Carpool includes employees dropped-off by other drivers.
Source: Fehr & Peers, 2013; SFGH Seismic Compliance, Hospital Replacement Program, 2008

The commute survey results also indicate a difference in mode split when summarized by population home residence. **Chart 6** shows the proportion of survey respondents from San Francisco, the South Bay, East Bay, and North Bay. The majority of respondents (52 percent) are from San Francisco, 22 percent are from the East Bay, 20 percent are from the South Bay, and 6 percent of the survey respondents are from the North Bay. Survey respondents were asked to identify the mode(s) they typically use to commute to ZSFG for work. **Chart 7** displays the mode used for the longest part of the commute. Three percent of East Bay commutes and three percent of North Bay commutes included a bicycle/walk component, most likely to/from public transit. For these regions, the bicycle/walk mode split was added to the public transit mode split.

Chart 6: PERCENT OF RESPONDENTS BY ORIGIN

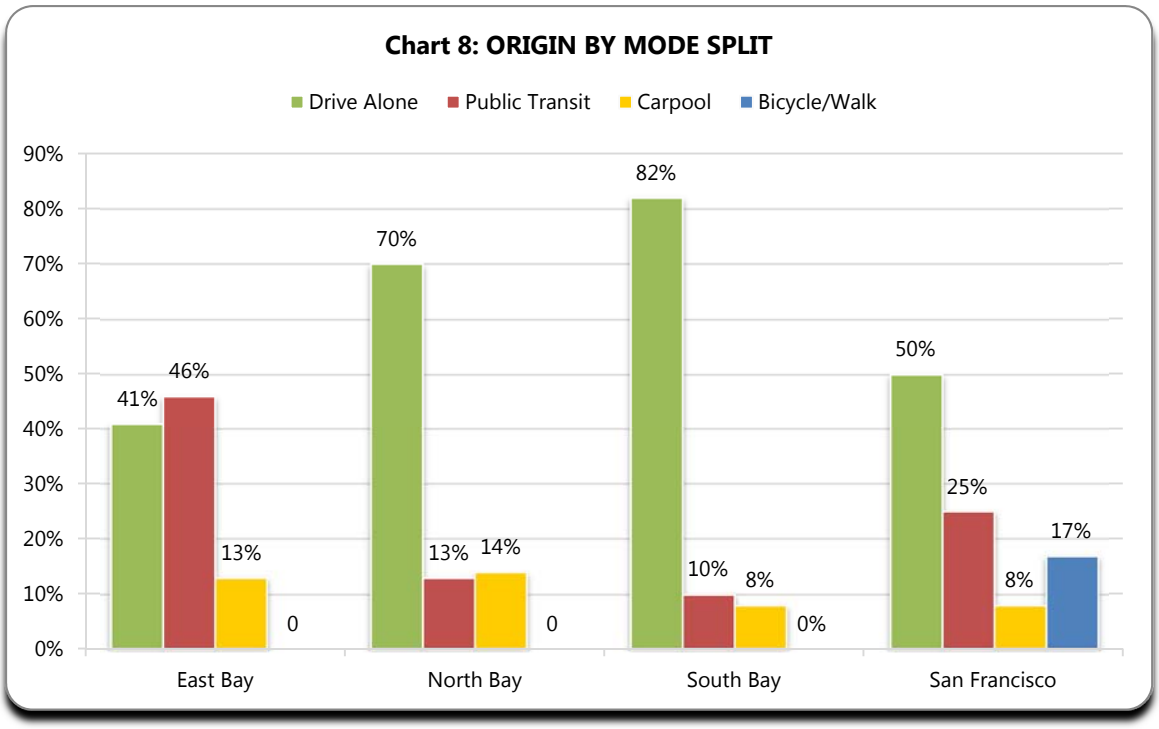


Source: San Francisco General Hospital Commute Survey, 2013; Fehr & Peers, 2013



Source: San Francisco General Hospital Commute Survey, 2013; Fehr & Peers, 2016

Chart 8 illustrates the commute origins by mode split. East Bay commuters have the lowest drive alone rates and the highest transit and shuttle usage. This matches overall commuter behavior to San Francisco as a whole as surveyed by the Planning Department. It is likely due to East Bay commuters having access to both BART and AC Transit, which can bring them to ZSFG via a transfer to the ZSFG shuttle, which is likely preferable to driving across the Bay Bridge (and paying a toll) during rush hour. San Francisco commuters have the highest bicycle and walk rates. North Bay commuters have the highest carpool rate, most likely because to use public transit, an employee would have to transfer multiple times, which takes time and increases the chance of commute delays. For example, traveling from the North Bay via Golden Gate Transit would require a transfer to BART downtown, then a second transfer to a ZSFG shuttle from the 24th St BART station. South Bay commuters have the highest drive alone rate, most likely because of the multiple roadways available into San Francisco from the south (U.S. 101, I-280, El Camino Real, SR 1, etc.), all without a toll.



Source: San Francisco General Hospital Commute Survey, 2013; Fehr & Peers, 2016

A similar commute survey was administered to employees at the UCSF Parnassus and Mission Bay campuses, which are similar to ZSFG in that they are large campuses in San Francisco where many employees are on-site throughout the day. These campuses are shown in **Figure 1**.

Chart 9 shows the difference in mode split between the three locations. ZSFG has the highest proportion of employees who drive alone to work; over fifty percent of ZSFG employees drive to work, compared to 36 percent at Parnassus and 28 percent at Mission Bay. The public transit mode split is the inverse of the drive alone population: ZSFG has the lowest public transit mode split of 25 percent, whereas Parnassus has 37 percent, and Mission Bay has 47 percent. This is likely due to the Mission Bay campus's proximity to Muni, the San Francisco Caltrain stations, and the Temporary Transbay Terminal; Parnassus's proximity to a Muni light rail line; and UCSF's robust shuttle system that connects the many campuses. ZSFG has the lowest proportion of employees who bicycle/walk, and is between Parnassus and Mission Bay in terms of the percentage of employees who carpool to work. **Table 2** shows the difference in mode split between UCSF employees DPH employees at ZSFG.

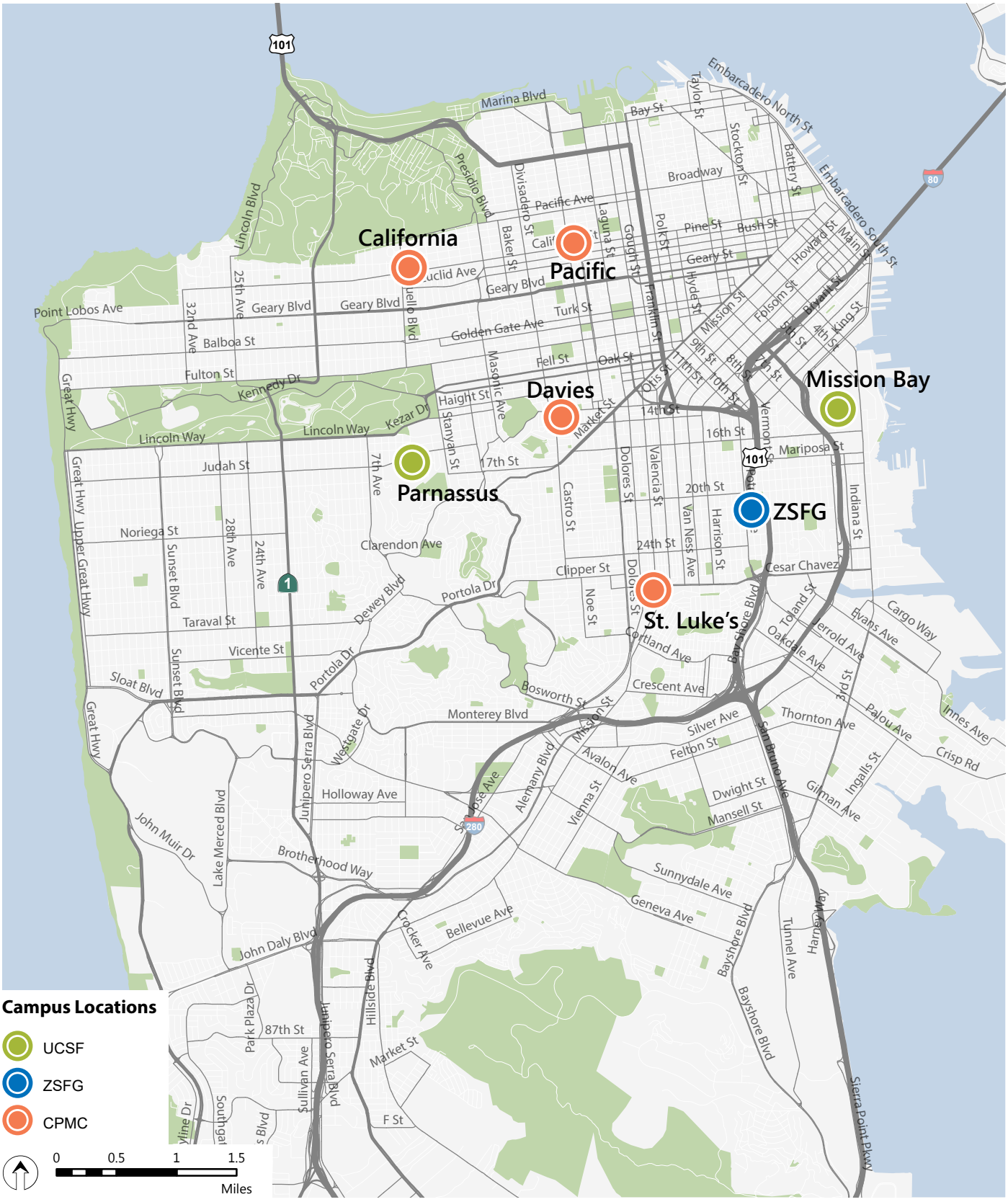


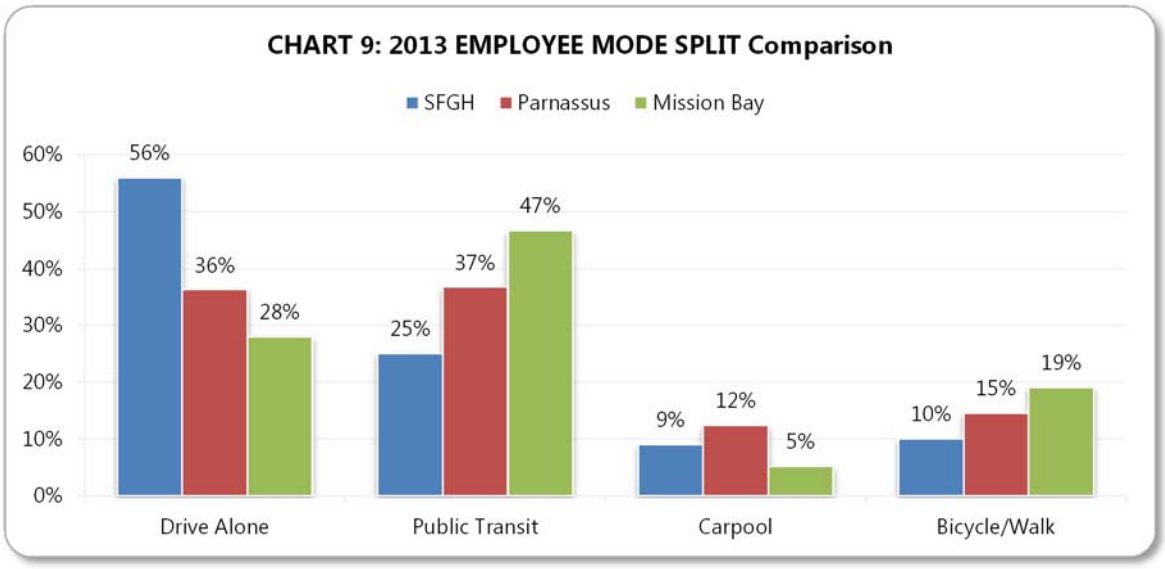
Figure 1

Campus Locations

Date: June, 2016

FEHR PEERS

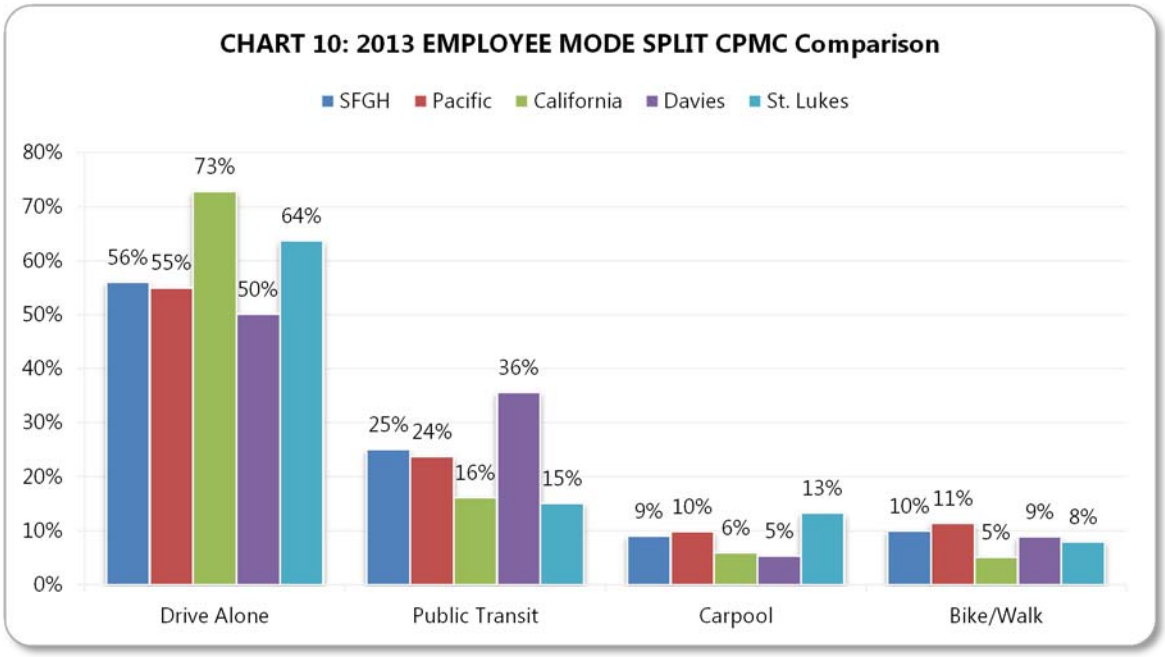
It appears that compared to the UCSF Mission Bay and Parnassus campuses, there is an opportunity for ZSFG employees to reduce their drive alone mode split and increase public transit users, carpools, bicyclists, and walkers.



Source: San Francisco General Hospital Commute Survey, 2013; Fehr & Peers, 2013

Chart 10 provides a comparison of commute mode split at ZSFG to California Pacific Medical Center (CPMC) hospitals and medical care facilities in San Francisco. Similar to ZSFG, CMPC campuses are primarily health care facilities. With the exception of the California campus for drive alone commute and the Davies campus for public transit commutes, the ZSFG mode splits track closely with the CPMC campuses.

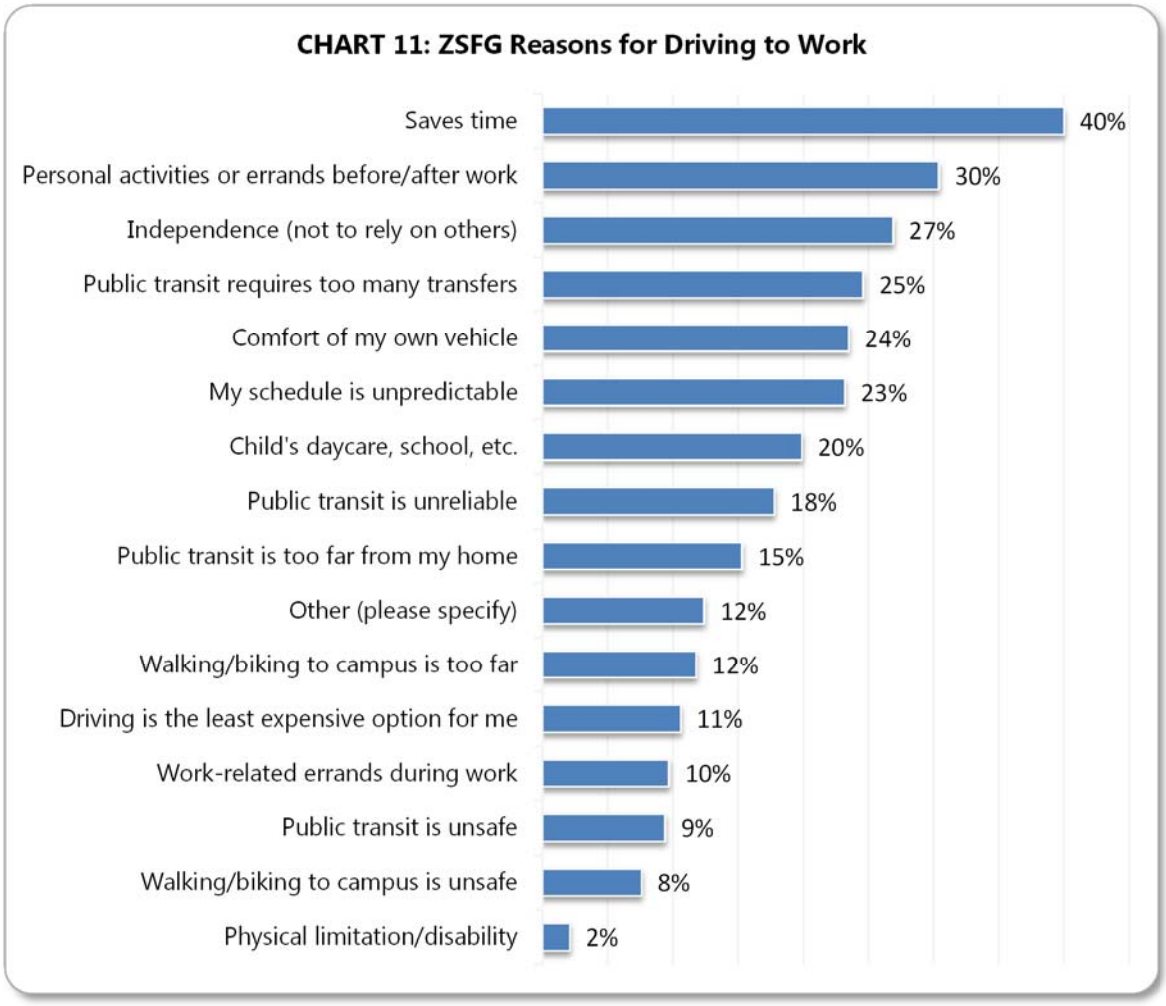
It thus could be inferred that there is something inherent to medical facilities in San Francisco that lead to a higher drive alone percentage than more traditional campus environments of academic or corporate campuses. This could be due to the fact that physicians are sometimes dispatched for appointments at out-patient facilities, and thus need the ability to get somewhere quickly; the round-the-clock nature of medical facilities where there are employee shifts at times of day when public transit is curtailed or not available or employees do not feel safe walking home or to transit; or some other phenomenon. Additionally, medical facilities may tend to have less robust TDM programs and policies that provide higher rates of parking subsidy for employees compared to other workplaces.



Source: San Francisco General Hospital Commute Survey, 2013; Fehr & Peers, 2013; CPMC Master Plan EIR, 2009

Driving to Work

To better understand why the drive alone percentage may be higher at the ZSFG campus than at other UCSF campus sites and some of the CPMC medical facilities, ZSFG survey participants were asked to identify all of the reasons why they frequently drive alone to work. The responses can be seen in **Chart 11.** The number one reason why employees drive to work is that it saves time. Approximately a third of respondents cited the ability to complete personal errands before/after work and the independence driving alone provides so as not to rely on others. Twelve percent of respondents noted "other," and many of these respondents specified that the shuttle service is not offered early enough for their early morning shifts, or that they don't have anyone to carpool with to work. Some of these reasons suggest opportunities where ZSFG can initiate measures to encourage less driving and more public transit, carpooling, and walking and biking.



Source: San Francisco General Hospital Commute Survey, 2013; Fehr & Peers, 2013

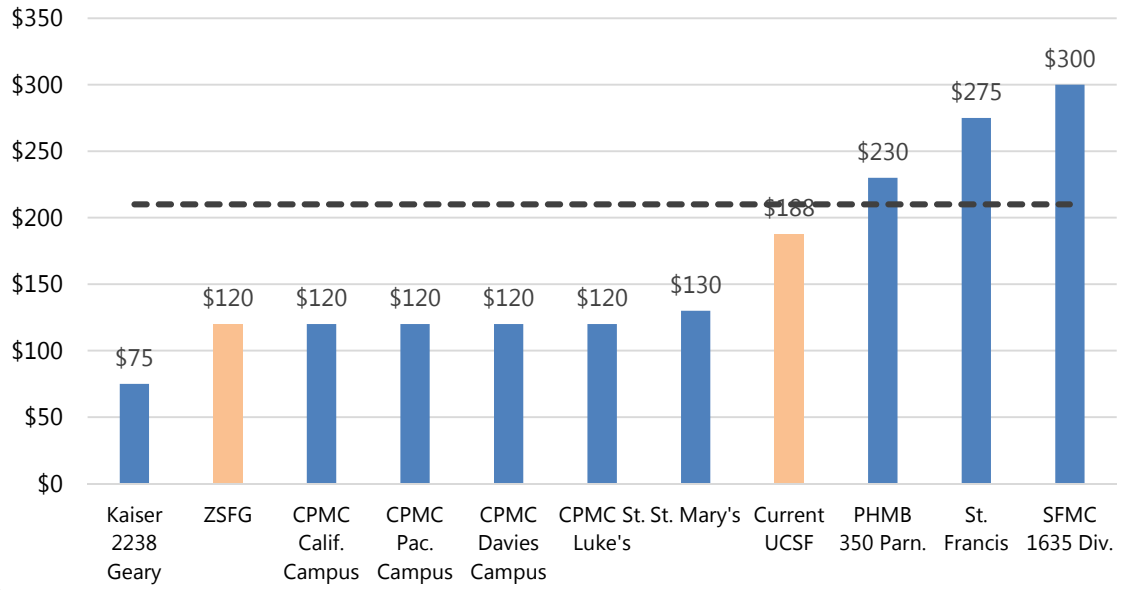
Effectiveness of Existing TDM

Evaluating the effectiveness of the existing DPH and UCSF TDM programs is challenging. The mode split is consistent with other medical locations, but ZSFG's proximity to transit and shuttle program suggests there may be opportunities to increase public transit use. Further, the effectiveness of the TDM program may be inhibited by the access to inexpensive parking on-site.

EXISTING PARKING POLICIES AND USE

Currently, the 23rd St Garage has the second lowest daily parking fee compared to a sample of other garages at medical facilities in San Francisco. Although the ZSFG monthly parking price is similar to CPMC facilities shown in **Chart 12**, it is 90 dollars less than the hospital facilities average of 210 dollars per month. (Note that the average parking is $160 per month if each CPMC facility is counted as a separate input into the average, and the figure excludes Kaiser at 2238 Geary which appears to be an outlier.) This discrepancy from the average suggests that the SFMTA (who sets the price of the monthly parking permits) is charging below market rate for monthly parking permits. Furthermore, as a proxy for what the market may bear for monthly parking, a Craigslist search in June of 2015 indicated that a private rental for an enclosed parking space in the ZSFG neighborhood is worth approximately $300.

Chart 12: Monthly Parking Prices at SF Medical Facilities



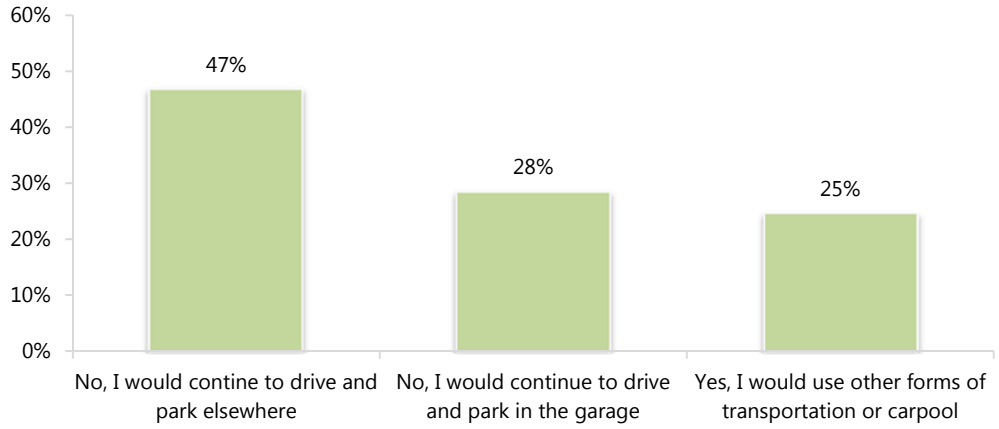
Note: The dotted line is the average rate across other San Francisco medical facilities (considering all CPMC facilities as one) excluding Kaiser at 2238 Geary. Orange indicates ZSFG or UCSF, which are not included in the average shown.
Source: Fehr & Peers, 2013

Survey respondents who drive alone to the ZSFG campus and park in the garage were asked if their mode of travel would change if the cost of the monthly permit parking were to increase by 50 percent. With the increase, the ZSFG parking permit would be 180 dollars, which is still 30 dollars below the average. The results are shown in **Chart 13**. Nearly fifty percent said they would continue to drive, but instead would park elsewhere, most likely on the street. As shown in Chart 3, employees

are willing to walk four blocks or more to find free parking.[3] Twenty-eight percent responded that they would continue to drive and park in the garage. Twenty-five percent of respondents who drive alone said they would choose another form of transportation (transit or carpool) to work if the permit cost increased by 50 percent.

As shown in **Chart 13**, 25 percent of drivers said they would use an alternative mode to commute to ZSFG if the cost of the on-campus parking permit increased to 180 dollars, which would equate to a 14 percent shift in the overall drive alone mode split from the current 56 percent of employees.[4] If half of the 14 percent carpool and the other half were to take alternate means of transportation, ZSFG would see an approximately 10 percent decrease in auto trips.[5]

Chart 13: Drive Alone Changes if Parking Permit Cost Increases 50%



Source: San Francisco General Hospital Commute Survey, 2013; Fehr & Peers, 2013

[3] Expanding the parking permit zones "I" and/or "W" (as shown in the parking map **Inset 1**) would limit this effect. However, Expanding Residential Parking Permit areas is a resident-driven process and would not be initiated by ZSFG.

[4] While not everyone who drives alone parks in the 23rd Street Garage, this figure is used as an approximation for a high-level point of comparison.

[5] (56% of employees drive alone * 25% would change mode) = 14% of total employees would change mode
Assumption: Half of the people who change mode will take alternate means (7%) while half will carpool (7%)
Reduction in vehicle trips:

7% reduction from people who take alternate modes
+3.5% reduction from people who carpool and therefore produce half the vehicle trips
=10% reduction in auto trips

It appears that maintaining a low cost for parking (compared to other medical facilities in San Francisco) increases the demand for parking and sustains a higher proportion of drive alone commuters than if the parking was priced at or close to market-rate. On the other hand, increasing the cost of parking by itself before additional TDM measures are also implemented to make other modes of travel more attractive is not recommended; introducing parking measures that are viewed as unmanageably disruptive or undesirable may undermine the ZSFG's need to attract and retain highly specialized workers. However, the low cost of parking may negate the effectiveness of those alternatives entirely. For example, employees are not likely to take advantage of a shuttle system or carpooling when parking is less expensive than its value in convenience.

If increased parking pricing is the "stick," additional TDM policies that make alternate modes more attractive would be the "carrot." These two sides of a robust TDM plan are complementary and should be carefully timed to successfully reduce vehicle trips without creating employee backlash or a negative experience for employees. All parties (i.e. leadership, management, and employees) will need to walk a fine line at first in order to transition ZSFG to a place that embraces a culture of TDM.

It should be noted that conversations regarding the pricing of parking will have to acknowledge a multi-year collective bargaining agreement negotiated by the San Francisco Department of Human Resources that is currently in place (described on page 3) that subsidizes employee monthly parking fees. Discussions to alter the current parking pricing would involve multiple parties, including DPH, SEIU, and the SFMTA.

TDM IMPROVEMENT MEASURES

This section details a list of TDM measures that is being considered (which will be implemented as feasible) by DPH to decrease drive alone trips to the ZSFG campus by encouraging more employees, visitors and patients to carpool, use public transit, or bike or walk to ZSFG. The strategies are also summarized in Attachment 1. The potential effectiveness of each measure is based on research compiled in *Quantifying Greenhouse Gas Mitigation Measures* (California Air Pollution Control Officers Association (CAPCOA), August 2010). Effectiveness is measured by the reduction in drive alone trip percentage. Local agencies often use CAPCOA to quantify the benefit of implementing TDM strategies.

The TDM measures have been grouped into categories that reflect the grouping of transportation strategies within the CAPCOA research. These groups are used to explain overlapping benefits of

related strategies to avoid double counting potential trip reductions. Some TDM measures, such as vanpool program and carpool matching, are interrelated, and the sum of their effectiveness is not additive, because both affect similar groups of people. The table presents a range of effectiveness (i.e. low to high) for these strategies based in order to account for differences in population, societal, and built factors – variables that ultimately will determine overall effectiveness.

The strategies are analyzed according to their impact on two groups of people: employees and patients/visitors. Many TDM strategies will affect both populations but may have a different impact on employees than on patients and visitors. For example, expanding ZSFG shuttle operating hours and geographical coverage will provide a last-mile connection to employees, visitors, and patients, therefore affecting both populations. With schedules based off of employee shifts, the shuttles will likely be more convenient (and therefore have a greater trip-reduction potential) for employees than for patients and visitors. Similarly, the suite of parking-related measures are specifically designed to encourage employees to use other modes of transportation and are not expected to affect visitors and patients. TDM measures are expected to be more effective reducing employee trips compared to patient and visitor trips because many of the strategies are based around commuting habits, and employees who regularly make the trip to ZSFG will be more likely to be comfortable with alternate modes of transportation in the area.

TABLE 3: POTENTIAL DPH TDM PROGRAM MEASURES AT ZSFG

CAPCOA Category	Proposed Strategy	CAPCOA Strategy[1]	Affected Population	Effectiveness: Vehicle Trips to ZSFG Campus Trip Reduction							
				Employees				Patients/Visitors			
				Individual		Group Max[2]		Individual		Group Max[2]	
				Low	High	Low	High	Low	High	Low	High
Parking Policy / Pricing	Adjust hourly parking rate structure to discourage all-day parking and provide spaces for patients/visitors[3]	Implement Market Price Public Parking[4]	Employees[5]	2.8%	5.5%	3.5%	6.8%	--[9]	--[9]	--[10]	--[10]
	Increase hourly and monthly parking rates to be more in line with prevailing SF market rates	Implement Market Price Public Parking[5]	Employees; potentially patients & visitors	0.7%	1.4%			--[9]	--[9]		
Transit System	Expand ZSFG Shuttle Service[6]	Network Expansion	Patients, visitors, employees[7]	3.1%	6.3%	4.6%[10]	9.3%[10]	0.8%[8]	1.6%[8]	2.6%[10]	3.7%[10]
	Officially allow patients/visitors to ride ZSFG Shuttle and advertise the shuttle option	Provide Local Shuttles	Patients, visitors	--[9]	--[9]			1.7%	2.8%		
	Provide additional last-mile service by alternate means, including TNC and taxi	Provide Local Shuttles (as a proxy for providing transportation by TNC)	Patients, visitors, employees	3.1%	6.3%			1.7%	2.8%		
	Add Bike racks on ZSFG shuttles[9]	--	Patients, visitors, employees[7]	--[9]	--[9]			--[9]	--[9]		

TABLE 3: POTENTIAL DPH TDM PROGRAM MEASURES AT ZSFG

CAPCOA Category	Proposed Strategy	CAPCOA Strategy[1]	Affected Population	Effectiveness: Vehicle Trips to ZSFG Campus Trip Reduction							
				Employees				Patients/Visitors			
				Individual		Group Max[2]		Individual		Group Max[2]	
				Low	High	Low	High	Low	High	Low	High
Commute Trip Reduction (CTR)	Hire a TDM Program Manager[11]	CTR Marketing	Patients, visitors, employees	0.4%	0.8%	1.8%	3.5%	0.4%	0.8%	0.4%	0.8%
	Implement carpool-only parking benefits and expand number of car share vehicles on-site	Preferential Parking Permit Program	Employees	0.6%	0.6%			--[9]	--[9]		
	Create/Participate in more robust carpool matching program	Ride-Share Program	Employees	1.1%	2.1%			--[9]	--[9]		
	Create vanpool service with benefits for potential users	Employer-Sponsored Vanpool/ Shuttle	Employees	0.7%	1.4%			--[9]	--[9]		
	Provide additional showers and locker facilities[9]	End of Trip Facilities	Employees	--[9]	--[9]			--[9]	--[9]		
	Install Bay Area Bike Share Station on campus [9]	End of Trip Facilities	Patients, visitors, employees	--[9]	--[9]			--[9]	--[9]		
	Install transportation kiosk(s) overseen by the new TDM Program Manager[9]	Implement Commute Trip Reduction Marketing	Patients, visitors, employees	--[9]	--[9]			--[9]	--[9]		
	Advertise existing pre-tax commuter accounts[9]	Implement Commute Trip Reduction Marketing	Employees	--[9]	--[9]			--[9]	--[9]		
TOTAL						**10%**	**20%**			**3%**	**5%**

TABLE 3: POTENTIAL DPH TDM PROGRAM MEASURES AT ZSFG												
CAPCOA Category	Proposed Strategy	CAPCOA Strategy[1]	Affected Population	Effectiveness: Vehicle Trips to ZSFG Campus Trip Reduction								
				Employees				Patients/Visitors				
				Individual		Group Max[2]		Individual		Group Max[2]		
				Low	High	Low	High	Low	High	Low	High	

Notes:
1. Subset of 49 transportation demand management strategies identified within the CAPCOA framework.
2. This analysis employs a maximum reduction factor for individual strategies as well as the combination of strategies. Maximum "caps" on combinations of strategies is essential to avoid double counting.
3. Effectiveness dependent upon size of facility, cost of parking, and details of the proposed parking policy (i.e. stick or carrot?).
4. This strategy is based on examples of on-street parking.
5. This strategy assumes a carefully calibrated pricing program that will affect employees but not patients and visitors.
6. DPH has requested a grant from the Transportation Fund for Clean Air managed by SFCTA to increase existing shuttle service
7. This measure would affect patients and visitors if the provision to allow patients and visitors to use the ZSFG Shuttle is implemented.
8. The trip reduction effectiveness shown here is only applicable if the strategy to allow patients/visitors to use the ZSFG Shuttle is implemented.
9. These strategies were not quantified in the CAPCOA report. This does not imply the strategy is ineffective. It only demonstrates that at the time of the report development, existing literature did not provide a proper methodology for calculating its effectiveness.
10. These percentages are not additive; expanded shuttle service and expanded last mile service would accomplish the same transportation objective, but the service characteristics of each measure are quite different.
11. This position has been filled.

Source: CAPCOA, 2010; Fehr & Peers, Adavant Consulting, 2016

The effectiveness of the individual recommended measures ranges from 0.4 percent to 5.5 percent and from 10 to 20 percent when grouped together. If the full suite of proposed TDM measures as shown in Table 3 were implemented and were as effective as possible (the "high" estimate, or 20 percent), we would expect the drive alone mode share to decrease from 55 percent to 44 percent, with a commensurate increase in the mode split of public transit, carpooling, and biking and walking. Additionally, the full suite of proposed TDM measures could provide up to a five percent reduction in drive alone trips to and from ZSFG among patients and visitors. More details on these measures and the assumptions used to evaluate their effectiveness is described below.

Parking Pricing / Policy

The parking pricing and parking policy TDM strategies, detailed below, provide a range of effectiveness (measured in expected vehicle trip reduction) from 3.5 percent to 6.8 percent for employees. These strategies are aimed at employees and should have no effect on patients and visitors travel to/from ZSFG.

Adjust hourly parking rates to discourage all-day parking and provide spaces for patients/visitors

Increasing hourly parking rates at the 23rd St Garage can provide spaces for patients and visitors by discouraging employee all-day parking. For example, parking rates that increase after three or four hours of parking and a parking validation program for patients and visitors are two pricing options that would discourage employee parking without being detrimental for patients and visitors. Additionally, discounted parking rates overnight (e.g. 7 PM to 6 AM) promotes efficient use of the parking facility during low demand hours. The garage currently offers discounted overnight rates, but this resource is not widely known by the community.

The parking rate adjustment strategy has an expected range of effectiveness for reducing vehicle trips ranging from 2.8 percent to 5.5 percent for employees (this estimate is based on examples of changes to on-street parking pricing). The pricing policy would be set up to affect employees but not patients or visitors. **Inset 2** illustrates an example parking pricing program that has several goals: to discourage long-term employee parking during the day, to maintain moderate pricing for short stays, and to shift away from monthly parking towards market-price hourly pricing. These rates could be phased in over several years, with garage rates incrementally increasing from $16 up to $20 for the daily maximum and from $120 up to $180 for a Campus 24/7 monthly pass.

Proposed Parking Pricing Update

Hourly	Existing Rates	Proposed Rates
Cumulative Cost (8 AM - 6 PM)		
0-1 hr	$1.50	$2.00
1-2 hr	$3.00	$4.00
2-3 hr	$4.50	$7.00
3-4 hr	$6.00	$11.00
4-5 hr	$7.50	$15.00
5-6 hr	$9.00	$20.00
Daily max	$12.00	$20.00
Per hour rate (6 PM - 8 AM)		
All hours	$1.50	$1.50
Monthly	**Existing Rates**	**Proposed Rates**
Campus 24/7	$120	$180
Campus Night	$50	$70
Garage 24/7	$100	$160
Garage Night	$50	$65
Garage Carpool/share	$60	$90

Inset 2: Example parking pricing rates.
Note: This parking pricing program is an example and has not been agreed to by the DPH or SFMTA. Establishing new rates will be a collective discussion involving the SFMTA, DPH, and the SEIU (parking provisions are included in the current collective bargaining agreement) as part of the SF*park* program.
Source for existing rates: San Francisco Municipal Transportation Agency, May 2015.

Increase hourly and monthly parking rates to be more in line with prevailing SF market rates

Increasing both hourly and monthly parking rates above their current rate closer to demand-based rates in the San Francisco area would encourage travel by other modes for some employees, and it would increase the likelihood of there being available spaces for people who need to drive to ZSFG. This strategy has an expected effectiveness ranging from 0.7 percent to 1.4 percent for employees and is expected to have a minimal effect on patients and visitors (this estimate is based on examples of changes to on-street parking pricing). These effectiveness ranges rest on the assumption that drivers may change their behavior due to the increase in parking rates.

The survey responses from ZSFG employees who park in the 23rd Street Garage (detailed on page 17) support this assumption. The calculated reduction of approximately 10 percent derived from the survey is not a strictly apples-to-apples comparison to the empirical CAPCOA data for two key reasons; self-reported mode shift away from driving alone tends to be higher than empirical findings, and the current collective bargaining agreements in place (described on page 3) include a parking subsidy. Due to this agreement, some subsidized employees who otherwise may be 'affected' by a price increase may not experience the price adjustments. Rather, DPH would incur the cost of any price increase. Therefore under the current agreement, subsidized employees' driving behavior would be unlikely to change in response to parking pricing.[6] While the CAPCOA reduction listed here are lower than the survey responses to increased parking fees discussed in the Existing Policies section of this letter, it is the only empirically-based estimate available. Because of the collective bargaining agreement listed above and the tendency to self-report a higher mode shift than what would actually occur, the effect of this policy is likely somewhere between the CAPCOA figure and the survey responses. This analysis uses the conservative CAPCOA estimate.

Transit

The transit TDM strategies, detailed below, provide a range of effectiveness (measured in expected vehicle trip reduction) from 4.6 percent to 9.3 percent for employees and from 2.6 percent to 3.7 percent for patients and visitors.

Expand ZSFG Shuttle service by increasing frequency to BART and adding service to Caltrain and the Transbay Transit Terminal

This strategy includes adding an AM shuttle run to the BART station and adding a new stop at a Caltrain station and possibly the Temporary Transbay Transit Terminal. Currently, two free shuttle systems serve ZSFG. The UCSF Shuttle travels between UCSF campuses throughout the City. Three UCSF shuttle lines serve ZSFG: the Blue, Gold, and Yellow lines. UCSF monitors the capacity utilization of its routes via monthly boarding audits, driver and rider feedback, program analysis from external consultants, stop audits, and consultation with UCSF Planning. As part of this service, UCSF has and will continue to make periodic minor operational changes to improve operations or to respond to specific community concerns.

[6] As part of the negotiations over the next collective bargaining agreement, DPH may wish to consider making parking subsidy available to those that choose to commute by non-auto modes.

The ZSFG BART shuttle, managed by DPH, runs between the ZSFG and the 24th Street BART station, and the Civic Center BART station. The AM shuttle service starts at 6 AM at the 24th Street BART station and ends at 8:50 AM, with a total of six runs to the BART station. The AM shuttle services make two runs to the Civic Center BART station: one at 7:05 AM and one at 8:15 AM. The PM schedule runs at a similar frequency beginning at ZSFG at 4:15 PM and ending at 6:45 PM at the 24th Street BART station.

DPH has requested a grant from the Transportation Fund for Clean Air managed by SFCTA to increase existing shuttle service. According to the transportation commute survey, 20 percent of employees arrive at ZSFG at 6 AM. The ZSFG BART shuttle should consider adding an early run that starts at 5:45 AM (or earlier) from the 24th Street BART station as well as increasing service frequency from current headways of between 20 and 50 minutes to preferable headways of 15 to 20 minutes. The shuttle should also consider adding new lines to other transit stations in the City, including Fourth and King, 22nd Street Caltrain, and the Temporary Transbay Transit Terminal. Caltrain provides daily commuter rail service between San Jose and San Francisco seven days a week. During peak commute hours, Caltrain operates limited-stop trains and express "baby bullet" trains. During off-peak hours, Caltrain operates local trains, which serve every stop on the line. Shuttles to the Temporary Transbay Terminal would ideally operate on 20 to 30 minute headways, and shuttles to other Caltrain stations would be timed to the Caltrain schedule. Currently 82 percent of ZSFG South Bay commuters drive alone to ZSFG. Adding shuttle service to Caltrain could encourage more South Bay commuters to take advantage of public transit by helping complete the last mile between the station and ZSFG. Similarly, a ZSFG shuttle service at the Temporary Transbay Transit Terminal, which serves AC Transit, Golden Gate Transit, and SamTrans, would help North Bay, East Bay, and South Bay commuters complete the last leg of a transit commute with direct service to ZSFG.[7] Expanding ZSFG shuttle service to regional transit connections will need to be a collaborative effort between DPH and UCSF, whom will collaborate to define the schedule, location, etc., of the expanded shuttle service. Further,, should shuttle expansion occur, DPH and UCSF should review future employee travel surveys after the services are expanded to analyze how the services are affecting mode share

[7] For employees who are South Bay, North Bay, and East Bay residents, the parking pricing and policy measures described in the previous section are likely to augment the effect of expanded shuttle service, particularly for South Bay, North Bay, and East Bay residents who reported that they would change mode of travel if the price of parking were to increase by 50 percent.

for employees in these regions and to inform adjustments to shuttle schedules and future investments.

Note: DPH received a small grant to implement adding the earlier run to the 24th Street BART station outlined above. The remaining shuttle service expansions would require additional fundi ng.

The expanded shuttle service described above has an expected effectiveness ranging from 3.1 percent to 6.3 percent for employees. If the strategy to allow patients and visitors to ride the shuttle described below is enacted, the shuttle expansion has an expected effectiveness ranging from 0.8 percent to 1.6 percent for patients and visitors.

Officially allow all employees as well as patients and visitors to ride the ZSFG Shuttle

In practice, all employees, patients, and visitors can ride the ZSFG shuttle. However, making official and advertising a policy allowing patients and visitors to ride the ZSFG Shuttle between BART (and potentially Caltrain or the Transbay Transit Terminal) stops and ZSFG could encourage more patients and visitors to travel by transit by helping complete the last mile between the station and UCSF. Effectiveness of this strategy to reduce vehicle trips would also require advertising the shuttle availability, schedule, and pick-up locations to patients and visitors. This strategy has an expected effectiveness ranging from 1.7 percent to 2.8 percent for patients and visitors and would not affect employees.

Provide additional last-mile service by alternate means

Expanded ZSFG Shuttle would provide last-mile service to many passengers, but employees, patients, and visitors who need a connection outside of shuttle hours or from locations that are not part of the shuttle network would require an alternate service. ZSFG can consider installing a taxi stand on-site. Additionally, ZSFG can investigate a contract with taxis and/or transportation network companies (TNCs) including Uber, Lyft, etc. to provide on-demand, last-mile connection services. For example, a contract could provide subsidized rides for employee, patient, or visitor trips between transit services and ZSFG as well as for shared commute rides. Additionally, taxis or TNCs may choose to provide a discount rate in exchange for assured additional business through a validation or voucher system and/or advertising through the TDM Program Manager (discussed below). This strategy has an expected effectiveness ranging from 3.1 percent to 6.3 percent for employees and from 1.7 percent to 2.8 percent for patients and visitors.

Add bike racks to ZSFG Shuttles

Some commuters who take transit to ZSFG travel by bicycle on one leg of their trip. Installing bike racks on ZSFG Shuttles as an amenity will enable these passengers to utilize the shuttle to shorten or simplify their trip. Because this strategy has not been quantified by CAPCOA, the effectiveness for reducing vehicle trips is unknown at this time. It would be expected to affect patients, visitors, and employees.

Commute Trip Reduction (CTR)

The Commute Trip Reduction (CTR) TDM strategies, detailed below, provide a range of effectiveness (measured in expected vehicle trip reduction) from 1.8 percent to 3.5 percent for employees and from 0.4 percent to 0.8 percent for patients and visitors.

Hire a TDM Program Manager

Information sharing and marketing are important strategies for reducing vehicle trips. A TDM program is most successful when employees are informed of their commuting options. DPH has been increasing outreach to all ZSFG employees on campus in the following ways:

- An information booth is available in the ZSFG cafeteria during peak times to advertise TDM program options to staff and to promote the TDM survey.
- ZSFG participates in Spring and Fall ZSFG wellness festivals with an information booth to promote the TDM program.
- TDM programs were recently added to the ZSFG website to advertise and increase employee awareness and use of alternative modes of transportation and parking options.
- TDM information is regularly incorporated in the staff Rebuild e-newletter, the Rebuild Report, Facts from the Director's Office, and the staff newsletter, the Holler.

A TDM Program Manager can provide specific expertise and focused attention to the programs with the highest interest among employees, patients, and visitors, as well as serving as a resource for travel and commute concerns. Additionally, they can implement expanded TDM program marketing to ensure that the strategies implemented are as effective as possible. Typical tasks of a

TDM Program Manager include providing information on transportation options and benefits, facilitating the carpool formation process, organizing bike trips and bicycling events, selling transit passes, providing patients and visitors with information regarding shuttle services and transit information.

A more robust marketing program run by a TDM Program Manager could include a new employee orientation, event promotions, targeted messaging, communications campaigns, and publications. Contests and events, such as Walk to Work Day and Bike to Work Day, can educate employees about alternative transportation options, encourage them to try new modes, and foster a culture of alternative mode use. For example, Walk San Francisco traditionally hosts Walk to Work day each April. Similarly, May is National Bike to Work Month, and the San Francisco Bicycle Coalition traditionally hosts a Bike to Work Day. A TDM Program Manager at ZSFG can leverage these opportunities to host a walking or bicycling contest, pass out free maps, or just encourage employees to walk and ride.

A TDM Program Manager has recently been hired. While the position is currently a one-year contract, DPH is committed to funding the position long-term and is looking to convert it to a permanent DPH full-time employee. The expected effectiveness of a TDM Program Manager ranges from 0.4 percent to 0.8 percent for employees, patients, and visitors.

Implement carpool-only parking benefits and expand the number of existing car share vehicles on-site

Providing discounted and/or preferential parking locations (e.g. ground-level, near key access points, etc.) for carpool-only vehicles can incentivize employees to carpool rather than drive alone. This strategy is effective when paired with a robust carpool matching program (below) and increased hourly and monthly parking rates at the 23rd St Garage (above). Additionally, increasing the number of car share vehicle on-site can reduce single-occupancy vehicle trips to ZSFG. DPH is committed to working with the SFMTA to establish a mechanism for ensuring that carpool spaces are only used

by vehicles that carpool every day. These strategies have an expected effectiveness of 0.6 percent for employees and are not expected to affect patients or visitors.

Create a more robust carpool matching program

Ride-sharing can be casual and formed between friends and colleagues, or it can be part of a formal employer program. A carpool program is when an employer assists employees in matching with other commuters who live close to each other. DPH can leverage the recently announced partnership between the Metropolitan Transportation Commission (MTC) and Lyft to launch a new carpooling service enabled by the Lyft platform to make carpooling easier and attractive for mainstream daily use. In addition to ride-matching assistance, DPH can also provide preferential carpool parking and discounted parking permits. Because carpooling and vanpooling may be the most effective for employees living in the North Bay and the South Bay, DPH will look into focusing on residents of these areas in the rollout of this strategy. This strategy has an expected effectiveness ranging from 1.1 percent to 2.1 percent for employees and is not expected to affect patients or visitors.

Create a vanpool program

A vanpool program usually serves as employees' commute to and from work (compared to a shuttle, which provides service to nearby transit). For an employer-sponsored vanpool, DPH would purchase or lease vans for employee use or coordinate with UCSF's existing Vanpool. Vanpool programs often include a subsidy for the program costs, and the driver usually is allowed personal use of the van. Rider charges are usually according to vehicle and operating cost. Because carpooling and vanpooling may be the most effective for employees living in the North Bay and the South Bay, DPH will look into focusing on residents of these areas in the rollout of this strategy. This strategy has an expected effectiveness ranging from 0.7 percent to 1.4 percent for employees and is not expected to affect patients or visitors.

Provide additional showers and locker facilities

Walking and bicycling do not have to be strenuous activities. However, some commuters may walk or ride far distances or on hilly terrain, such that they want to freshen up and/or change into a new

set of clothes before starting their work day. Showers are currently provided, but providing lockers and additional shower facilities for people who walk or bike as an amenity can make bicycling a more practical means of commuting to work. Because this strategy has not been quantified by CAPCOA, the effectiveness for reducing vehicle trips is unknown at this time. It is expected to affect employees but not patients or visitors.

Bike Share Station

As the Bay Area Bike Share program expands, DPH should invest having a Bike Share station installed at ZSFG. Various factors are considered when selecting bike station sites, including job density, transit connections, proximity to bikeways, and the support of station neighbors. As such, ZSFG would be an opportune location for a location. Anyone can recommend a new bike share location on or near the campus at the following website: http://suggest.bayareabikeshare.com/

Currently, 30 percent of employees use their personal car to travel to off-campus locations during the day. Bikes are ideal for trips under two miles, and a local bike share station can encourage employees to use a bike for lunch trips and local errands. Because this strategy has not been quantified by CAPCOA, the effectiveness for reducing vehicle trips is unknown at this time. It is expected to affect patients, visitors, and employees.

Transportation kiosk(s) overseen by the new TDM Program Manager

One or more transportation kiosks set up and managed by the TDM Program Manager can provide valuable real-time information and services of travel alternatives to/from the ZSFG campus. For example, a transportation kiosk could include the following types of information and products:

- Inclusive Transitscreen signage for Muni transit options (and a TDM Program Manager can work with BART and Caltrain to explore similar implementation for regional transit information)

- A "How to use Public Transportation to/from ZSFG" guide aimed at patients and employees (to be updated as needed and distributed regularly as part of a new employee package and patient/visitor forms)
- Muni Passes/Clipper Cards for sale

This information should also be highlighted on the ZSFG website and shared with patients as part of their appointment reminders. Because this strategy has not been quantified by CAPCOA, the effectiveness for reducing vehicle trips is unknown at this time. It is expected to affect patients, visitors, and employees.

Advertise existing pre-tax commuter accounts

Informing employees of the pre-tax commuter benefits for which they are already qualified can encourage more people to set up commuter accounts and take transit. This effort could be managed by the TDM Program Manager. Because this strategy has not been quantified by CAPCOA, the effectiveness for reducing vehicle trips is unknown at this time. It is expected to affect employees only.

Measures Excluded from Analysis

There are also three measures that were considered but ultimately not included in the analysis due to existing barriers. These measures are described in **Table 4**.

TABLE 4: TDM MEASURES CONSIDERED BUT NOT INCLUDED

	Proposed Strategy	CAPCOA Strategy[1]	Drive alone Trip Reduction		Reason for Exclusion
			Low	High	
Site Enhancements	Provide Traffic Calming Measures	Traffic Calming	0.3%	0.8%	The Department of Public Works is planning a streetscape improvement project for Potrero Avenue to coincide with their repaving schedule. The project will include traffic calming measures.
Commute Trip Reduction	Reimburse Employees Who Do Not Drive to Work	Employee Parking Cash-Out	0.4%	1.2%	ZSFG does not have parking spaces available for every subsidized employee. Because employees cannot expect to have a parking space due to limited supply, ZSFG is therefore not required to offer a cash-out policy for employees who do not use a parking space. Additionally, enforcing this measure properly to curtail potential abuse would require diverting resources from the mission of ZSFG.
Parking Policy/ Pricing	Work with the SFMTA to expand Residential Area Parking Permit Zones	Require Residential Area Parking Permits	2.8%[1]	5.5%[1]	The residential permit process is a resident-driven process. The SFMTA has the ability to unilaterally legislate the change, but they do not exercise this right. Rather, they wait until the neighborhood has organized support for it.

Note:

1. Effectiveness applies to employees and is dependent upon the implementation of revision of 23rd St Garage hourly and monthly parking rates.

Source: CAPCOA, 2010; Fehr & Peers, 2013

RELATIVE COST

Table 5 summarizes the relative effectiveness and costs related to each of the proposed strategies. The strategies with the highest costs include expanding shuttle service and providing shower and locker facilities. However, the DPH has requested a grant from the Transportation Fund for Clean

Air managed by SFCTA to increase existing shuttle service, and ZSFG can explore other potential grants and sources to fund other strategies. A TDM Program Manager could spearhead this effort.

TABLE 5: SUMMARY OF TDM ENHANCEMENT COSTS AND EFFECTIVENESS

EFFECTIVENESS[1]	LOW	MEDIUM	HIGH
HIGH	• Parking: Adjust hourly parking rates to discourage all-day parking	• Transit: Allow patients/visitors to ride ZSFG shuttle[2] • Transit: Last-mile service via taxi, TNC[3]	• Transit: Expand ZSFG Shuttle
MEDIUM	• Parking: Increase hourly and monthly parking rates	• CTR: Create more robust carpool matching program • CTR: Create vanpool service with benefits	
LOW		• CTR: Hire a TDM Program Manager • CTR: Carpool-only benefits, car share vehicles	
UNKNOWN/ AMENITY	• CTR: Advertise existing pre-tax commuter accounts	• Transit: Add bike racks on ZSFG Shuttles • CTR: Install Bay Area Bike Share station on campus • CTR: Transportation kiosk overseen by TDM Program Manager	• CTR: Provide showers and locker facilities
		COST	

Notes:

1. Effectiveness according to maximum expected effectiveness for employees or patients/visitors.
2. A Medium cost is assumed if the existing shuttle schedule cannot accommodate all patient and visitor demand and some additional service is required.
3. A Medium cost is assumed if the TNC/taxi contract includes a subsidy.

Some strategies, such as increasing monthly and hourly garage parking pricing, have lower monetary costs but will require political capital due to an existing collective bargaining agreement that subsidizes parking (discussed on page 3). Additionally, such measures may face backlash from employees and the local neighborhood. Strategies with high costs, either fiscal or political, should

be weighed against their potential effectiveness to reduce vehicle trips and employee parking demand.

CONCLUSION

Implementation of the proposed TDM enhancements could strengthen the existing DPH TDM program and reduce the number of drive alone trips. A strengthened TDM program could have numerous added benefits, including positive health impacts associated with active transportation, environmental benefits, reduced congestion, and a reduced need for additional parking. The strategies within this suite of improvement measures complement one another to increase the number of people taking transit and/or the ZSFG shuttle, walking, bicycling, and carpooling to ZSFG. The entire suite of TDM strategies, if implemented fully, could reduce employee vehicle trips by a range of 10 percent to 20 percent and patient/visitor vehicle trips by a range of three percent to five percent. This calculation is excluding several strategies that are expected to reduce vehicle trips, but whose effectiveness has not yet been quantified. Additionally, although this calculation is comprised of measures that can be considered for developing a more robust TDM program for ZSFG, it is a financially unconstrained exercise. The next steps would require DPH determining the feasibility of each measure for ZSFG, which would include the financial realities and priorities of DPH's stewardship of ZSFG. DPH will work with the SFMTA in the selection and implementation of these measures.

A key element in realizing the effectiveness of the TDM program is to implement the parking policy and pricing strategies, which may require more political capital than financial capital: in the absence of investing substantially in other TDM measures to reduce single-occupancy vehicles, such as transit use, carpooling, or vanpooling, etc., substantial progress in reducing the drive alone commute percentage may remain out of reach as long as the 23rd St Garage provides inexpensive, all-day parking and subsidized monthly parking passes.

We hope that you have found the information in this letter helpful. If you have any questions, feel free to call me at 415.348.0300.

Sincerely,

FEHR & PEERS

Eric Womeldorff, PE

Principal

SF13-0683

Attachments:

1. ZSFG TDM Strategies Table
2. Parking Demand Distributed by Patients and Staff
3. ZSFG Parking Supply and Demand

Attachment 1: Potential DPH TDM Program Measures at ZSFG												
CAPCOA Category	**Proposed Strategy**	**CAPCOA Strategy[1]**	**Affected Population**	**Effectiveness: Vehicle Trips to ZSFG Campus Trip Reduction**								**Order of Magnitude Cost**
				Employees				**Patients/Visitors**				
				Individual		**Group Max[2]**		**Individual**		**Group Max[2]**		
				Low	**High**	**Low**	**High**	**Low**	**High**	**Low**	**High**	
Parking Policy / Pricing	Increase hourly ZSFG garage parking rates that are not detrimental to patients and visitors (e.g., parking rates rise after 3 or 4 hours, patients/visitors can obtain parking validation, etc); explore implementation of discounted hourly parking rates in the evening (e.g. 7 PM to 6 AM)[3]	Implement Market Price Public Parking[4]	Employees[5]	2.8%	5.5%	3.5%	6.8%	--[9]	--[9]	--[9]	--[9]	Low
	Increase hourly and monthly parking rates to be more in line with prevailing SF market rates	Implement Market Price Public Parking[5]	Employees; potentially patients & visitors	0.7%	1.4%			--[9]	--[9]			Low
Transit System	Expand ZSFG Shuttle Service (i.e. expand service hours to 24th St BART, add new service to Caltrain 4th/King and Transbay Transit Terminal) [6]	Network Expansion	Patients, visitors, employees[7]	3.1%	6.3%	4.6%[10`]	9.3%[10]	0.8%[8]	1.6%[8]	2.6%[10]	3.7%[10]	High
	Officially allow patients/visitors to also ride ZSFG Shuttle as well as advertise this fact.	Provide Local Shuttles	Patients, visitors	--[9]	--[9]			1.7%	2.8%			Medium[12]
	Provide additional last mile service by alternate means (e.g. investigate contract with taxis, TNC (Uber, Lyft, etc.))	Provide Local Shuttles (as a proxy for providing transportation by TNC)	Patients, visitors, employees	3.1%	6.3%			1.7%	2.8%			Medium[13]
	Add Bike racks on ZSFG shuttles[9]	--	Patients, visitors, employees[7]	--[9]	--[9]			--[9]	--[9]			Medium
Commute Trip Reduction (CTR)	Expand TDM Program Marketing: Hire a TDM Program Manager[11]	CTR Marketing	Patients, visitors, employees	0.4%	0.8%	1.8%	3.5%	0.4%	0.8%	0.4%	0.8%	Medium
	Implement carpool-only parking benefits (e.g. assured space, at desired location, etc) and expanded number of existing carshare vehicles (four currently) on-site	Preferential Parking Permit Program	Employees	0.6%	0.6%			--[9]	--[9]			Low to Medium
	Create more robust carpool matching program in conjunction with expansion of residential permit parking area, implementation of carpool benefits, and hourly parking rates revisions	Ride-Share Program	Employees	1.1%	2.1%			--[9]	--[9]			Low to Medium
	Create vanpool service (vehicles with 6 to 10 people) with associated benefits for potential users (assured space, discounted rate, desirable parking location)	Employer-Sponsored Vanpool/ Shuttle	Employees	0.7%	1.4%			--[9]	--[9]			Medium
	Provide showers and locker facilities[9]	End of Trip Facilities	Employees	--[9]	--[9]			--[9]	--[9]			Medium to High
	Install Bay Area Bike Share Station on campus [9]	End of Trip Facilities	Patients, visitors, employees	--[9]	--[9]			--[9]	--[9]			Low to Medium
	Install transportation kiosk(s) overseen by the new TDM Program Manager to include inclusive Transitscreen signage in building lobbies; coordination with BART to explore similar implementation; "How to use Public Transporttaion to/from ZSFG" guide aimed at patients and employees; Muni Passes/Clipper Cards available in ZSFG gift shops[9]	Implement Commute Trip Reduction Marketing	Patients, visitors, employees	--[9]	--[9]			--[9]	--[9]			Medium
	Advertise existing pre-tax commuter accounts[9]	Implement Commute Trip Reduction Marketing	Employees	--[9]	--[9]			--[9]	--[9]			Low
TOTAL						**10%**	**20%**			**3%**	**5%**	

Notes:
1. Subset of 49 transportation demand management strategies identified within the CAPCOA framework.
2. This analysis employs a maximum reduction factor for individual strategies as well as the combination of strategies. Maximum "caps" on combinations of strategies is essential to avoid double counting.
3. Effectiveness dependent upon size of facility, cost of parking, and details of the proposed parking policy (i.e. stick or carrot?).
4. This strategy is based on examples of on-street parking.
5. This strategy assumes a carefully calibrated pricing program that will affect employees but not patients and visitors.
6. DPH has requested a grant from the Transportation Fund for Clean Air managed by SFCTA to increase existing shuttle service
7. This measure would affect patients and visitors if the provision to allow patients and visitors to use the ZSFG Shuttle is implemented.
8. The trip reduction effectiveness shown here is only applicable if the strategy to allow patients/visitors to use the ZSFG Shuttle is implemented.
9. These strategies were not quantified in the CAPCOA report. This does not imply the strategy is ineffective. It only demonstrates that at the time of the report development, existing literature did not provide a proper methodology for calculating its effectiveness.
10. This total is not additive; expanded shuttle service and expanded last mile service would accomplish the same transportation need, but the service characteristics are quite different.
11. This position has been filled.
12. A Medium cost is assumed if the existing shuttle schedule cannot accommodate all patient and visitor demand and some additional service is required.
13. A Medium cost is assumed if the TNC/taxi contract includes a subsidy.

Source: CAPCOA, 2010; Fehr & Peers, Adavant Consulting, 2016

Attachment 2: Parking Demand Distributed by Patients and Staff

REPLACE LOST SPACES	Patients/ Visitors	Staff	Total	Patients/ Visitors	Staff	Total	Comments
B/C Lot	130	0	130				Site for new UC Research Lab
22nd St	0	55	55				Elimated due to emergency vehicle traffic
Off Site Parking	0	75	75				Operated by General Contractor during construction of new hospital
	130	**130**	**260**	**22.93%**	**22.93%**	**45.86%**	
NEW DEMAND							
New Hospital	103	16	119				
STD Clinic	40	26	66				
Chronic Dialysis	30	3	33				
Public Health Lab	0	17	17				
UC Research Building	4	68	72				
	177	**130**	**307**	**31.22%**	**22.93%**	**54.14%**	
TOTAL SPACES NEEDED	**307**	**260**	**567**	**54.14%**	**45.86%**	**100.00%**	

NOTE:

Majority of spaces, 54.14%, are for patients and visitors.

48.86% of spaces are for staff.

45.86% of the spaces are to replace spaces being lost due to construction at the campus.

Attachment 3: SFGH Parking Supply and Demand

SFGH Changes in Peak Parking Demand pre- and post-2020

		Staff, Patients and Visitors	Increase TDM to serve augment in population	Expand TDM further to reduce employee auto trips by 10%
Displaced B/C parking lot due to UCSF project on B/C lot (2016)			110 spaces	110 spaces
Displace additional parking adjacent to B/C lot (2016)			20 spaces	20 spaces
SFGH Campus Rebuild by 2020				
STD relocated to Building 5		62 staff	26 spaces [c]	24 spaces
Public Health Lab relocated from 101 Grove to Building 5		41 staff	17 spaces [c]	16 spaces
Increased staff in the new acute care hospital at Building 25		196 staff	16 spaces [b]	16 spaces
Dialysis: increase in staff to accommodate 17 new chairs		8 staff	3 spaces [c]	3 spaces
Total staff due to campus rebuild by 2020		**307 staff**	**62 spaces**	**59 spaces**
Additional patients visits to Bldg 25		32 daily patients [a]	16 spaces [a]	16 spaces
Additional patients visits to STD	18,900 annual patients	80 daily patients	40 spaces [b]	40 spaces
additional patients visits to dialysis	15,000 annual patients	60 daily patients	30 spaces [b]	30 spaces
Total additional patients		**172 daily patients**	**86 spaces**	**86 spaces**
Additional visitors to SFGH		**154 daily visitors [a]**	**87 spaces [a]**	**87 spaces**
Closure of temporary remote parking at 2000 Marin St			75 spaces [d]	68 spaces
Loss of parking on 22nd St due to re-route of ambulance			55 spaces	55 spaces
Additional parking demand at UCSF Research Building project				
Employees		108 staff	68 spaces	62 spaces
Visitors		41 visitors	4 spaces	4 spaces
Total		**149 staff+visitors**	**72 spaces**	**66 spaces**
Total additional peak parking demand by 2020			**567 spaces**	**551 spaces**
Backfill of brick buildings at SFGH campus currently occupied by UCSF [e]		610 staff [f]	251 spaces [c]	226 spaces
Backfill of Buildings 80 and 90 currently occupied by UCSF and DPH employees [g]		390 staff [f]	160 spaces [c]	144 spaces
Total additional peak parking demand post-2020			**978 spaces**	**921 spaces**
				6% overall reduction

[a] Based on the SFGH Rebuild EIR.
[b] Calculated using SFGH Rebuild EIR employee and visitor parking ratios.
[c] Calculated using SFGH Rebuild EIR modal split and vehicle occupancy ratios, with an 85% peak parking demand.
[d] Existing employee peak parking utilization at remote lot.
[e] Buildings 1, 9, 10, 20, 30, 40 and 100; approximately 168,000 gsf in total.
[f] Estimated at building density of 276 gsf per employee per SF Guidelines for general office use.
[g] Building 80 has 72,000 gsf and Building 90 has 36,000 gsf.

APPENDIX C: ROADWAY NETWORK CLASSIFICATIONS (FROM SF GENERAL PLAN)

Roadway Classifications

The San Francisco Planning Department has developed a street hierarchy system for the City and County of San Francisco, in which the function and design of each street are consistent with the character and use of adjacent land. The major classifications in the Vehicle Circulation Plan of the San Francisco *General Plan* are:

- **Freeways:** Limited access, very high capacity facilities; primary function is to carry intercity traffic; they may, as a result of route location, also serve the secondary function of providing for travel between distant sections in the city.
- **Major Arterials:** Cross-town thoroughfares whose primary function is to link districts within the city and to distribute traffic from and to the freeways; these are routes generally of citywide significance; of varying capacity depending on the travel demand for the specific direction and adjacent land uses.
- **Transit Conflict Streets:** Streets with a primary transit function which are not classified as major arterials but experience significant conflicts with automobile traffic.
- **Secondary Arterials:** Primarily intra-district routes of varying capacity serving as collectors for the major thoroughfares; in some cases supplemental to the major arterial system.
- **Recreational Streets:** A special category of street whose major function is to provide for slow pleasure drives and cyclist and pedestrian use; more highly valued for recreational use than for traffic movement. The order of priority for these streets should be to accommodate: 1) pedestrians, hiking trails or wilderness routes, as appropriate; 2) cyclists; 3) equestrians; 4) automobile scenic driving. This should be slow and consistent with the topography and nature of the area.
- **Collector Streets:** Relatively low-capacity streets serving local distribution functions primarily in large, low-density areas, connecting to major and secondary arterials.
- **Local Streets:** All other streets intended for access to abutting residential and other land uses, rather than for through traffic; generally of lowest capacity.

In addition to the San Francisco Planning Department's roadway classifications, the freeways, major arterials, and transit conflict streets are included in the Congestion Management Program (CMP) Network and Metropolitan Transportation System (MTS) Network (see below).

Transit Preferential Streets

The Transit Preferential Street network classification system takes into consideration all transportation functions, and identifies the major transit routes where general traffic should be routed away from. There are two classifications of transit preferential streets: Primary Transit Streets, which are either transit-oriented or transit-important; and Secondary Transit Streets.

- **Primary Transit Street – Transit-Oriented:** Not major arterials, with either high transit ridership, a high frequency of service, or surface rail. Along these streets, the emphasis should be on moving transit vehicles, and impacts on automobile traffic should be of secondary concern.

- **Primary Transit Street – Transit-Important:** Major arterials, with either high transit ridership, high frequency of service, or surface rail. Along these streets, the goal is to improve the balance between modes of transportation, and the emphasis should be on moving people and goods, rather than on moving vehicles.
- **Secondary Transit Street:** Medium transit ridership and low-to-medium frequency of service, or medium frequency of service and low-to-medium transit ridership, or connects two or more major destinations.

In general, it is City policy that transit preferential treatments should be concentrated on the most important transit streets, and the treatments applied should respond to all transportation needs of the street. For example, on streets that are major arterials for transit and not for automobile traffic, treatments should emphasize transit priority; on streets that are major arterials for both transit and automobiles, treatments should emphasize a balance between the modes. It is also City policy that automobile facility features (such as driveways and loading docks) should be reduced, relocated or prohibited on transit preferential streets in order to avoid traffic conflicts and automobile congestion.

Citywide Pedestrian Network

The Citywide Pedestrian Network is a classification of streets throughout the City used to identify streets devoted to or primarily oriented to pedestrian use. The main classifications are:

- **Citywide Pedestrian Network Street:** An inter-neighborhood connection with "citywide significance" includes both exclusive pedestrian and pedestrian-oriented vehicular streets. These streets include the Bay, Ridge, and Coast trails, are used by commuters, tourists, general public and recreaters, and connect major institutions with transit facilities.
- **Neighborhood Network Street:** A neighborhood commercial, residential or transit street that serves pedestrians from the general vicinity. Some streets may be part of the Citywide network, but are generally oriented towards neighborhood-serving uses. Types include exclusive pedestrian and pedestrian-oriented vehicular streets. As part of the Neighborhood Network Street network, streets are classified as **Neighborhood Commercial Streets**, which are streets that are predominately commercial use with parking and loading conflicts, or **Neighborhood Network Connection Streets**, which are intra-neighborhood connection streets that connect neighborhood destinations.

In general, it is City policy that sufficient pedestrian movement space should be provided to minimize pedestrian congestion, sidewalks should be widened where intensive commercial, recreational or institutional activity is present, and efforts should be made to ensure convenient and safe pedestrian crossings at intersections.

Congestion Management Program (CMP) Network

The CMP Network is the network of freeways, state highways, major arterials and transit conflict streets (see Roadway Classifications, above) established in accordance with state Congestion Management legislation. As part of the CMP, the San Francisco County Transportation Authority is required to determine the level of service (LOS) for the CMP Network streets every two years. The LOS is based on the average travel speed for each

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The Citywide Pedestrian Network is a classification of streets throughout the City used to identify streets devoted to or primarily oriented to pedestrian use. The main classifications are:

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roadway segment during both the AM and PM peak periods. The level of service standard is LOS E, except for roadway segments that operated at LOS F in 1991 (when the first study was performed). The CMP requires development of "Deficiency Plans" for any CMP-designated roadway that operate at LOS F. These plans include an analysis of the causes of the deficiency, a list of improvements that would have to be made to prevent the deficiency from occurring (including cost estimates), a list of improvements proposed as part of the plan, and an action plan for implementation of the improvements (including an implementation schedule).

Metropolitan Transportation System (MTS) Network

The MTS Network is defined by Metropolitan Transportation Commission (MTC) as part of its Regional Transportation Plan. The MTS is a regional network of roadways, transit corridors and transfer points, identified by the MTC on the basis of specific criteria. The criteria identified facilities that provide relief to congested corridors, improve connectivity, accommodate travel demand and serve a regional transportation function. The State highways and major thoroughfares designated in San Francisco's CMP roadway network are all included in the regional MTS network. There are a few instances in which the local CMP network is not identical to the MTS network due to differences in the criteria used to define each network.

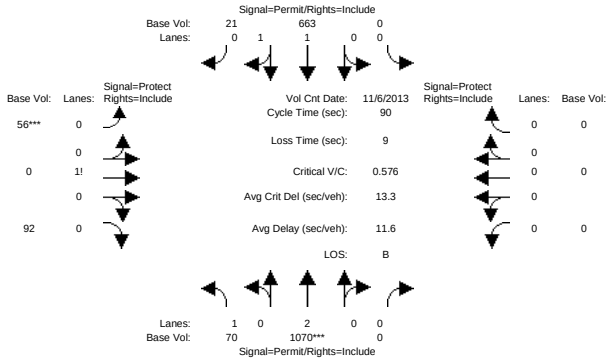
APPENDIX D: INTERSECTION LEVEL OF SERVICE CALCULATIONS

Existing

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Operations (Base Volume Alternative)
Existing AM

Intersection #1: Potrero Ave/20th St



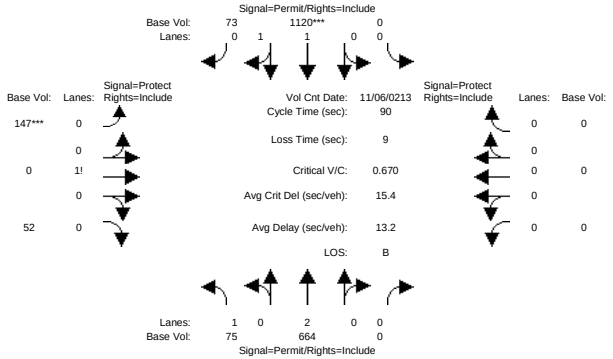
Street Name:	Potrero Ave						20th St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	56	56	56	56	56	56	25	25	25	0	0	0
Y+R:	4.5	4.5	4.5	4.5	4.5	4.5	5.0	5.0	5.0	4.0	4.0	4.0
Volume Module: >> Count Date: 6 Nov 2013 << 7-9AM												
Base Vol:	70	1070	0	0	663	21	56	0	92	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	70	1070	0	0	663	21	56	0	92	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	74	1126	0	0	698	22	59	0	97	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	74	1126	0	0	698	22	59	0	97	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	74	1126	0	0	698	22	59	0	97	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.29	0.75	1.00	1.00	0.75	0.75	0.67	1.00	0.65	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	0.00	1.94	0.06	0.37	0.00	0.63	0.00	0.00	0.00
Final Sat.:	547	2858	0	0	2756	87	475	0	780	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.13	0.39	0.00	0.00	0.25	0.25	0.12	0.00	0.12	0.00	0.00	0.00
Crit Moves:		****					****					
Green/Cycle:	0.62	0.62	0.00	0.00	0.62	0.62	0.28	0.00	0.28	0.00	0.00	0.00
Volume/Cap:	0.22	0.63	0.00	0.00	0.41	0.41	0.45	0.00	0.45	0.00	0.00	0.00
Delay/Veh:	7.7	11.4	0.0	0.0	8.8	8.8	27.7	0.0	27.7	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	7.7	11.4	0.0	0.0	8.8	8.8	27.7	0.0	27.7	0.0	0.0	0.0
LOS by Move:	A	B	A	A	A	A	C	A	C	A	A	A
HCM2kAvgQ:	1	11	0	0	5	5	4	0	4	0	0	0

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Operations (Base Volume Alternative)
Existing PM

Intersection #1: Potrero Ave/20th St



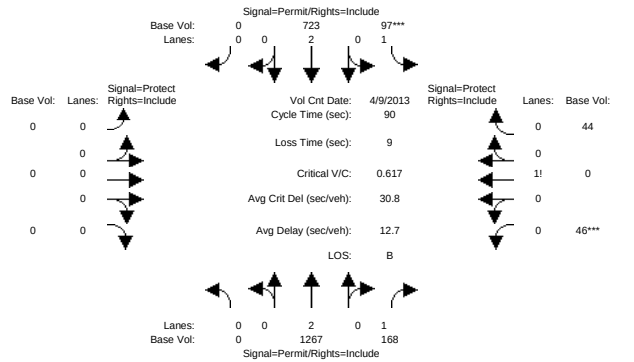
Street Name:	Potrero Ave						20th St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	56	56	56	56	56	56	25	25	25	0	0	0
Y+R:	4.5	4.5	4.5	4.5	4.5	4.5	5.0	5.0	5.0	4.0	4.0	4.0
Volume Module: >> Count Date: 6 Nov 213 << 4-6PM												
Base Vol:	75	664	0	0	1120	73	147	0	52	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	75	664	0	0	1120	73	147	0	52	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	79	699	0	0	1179	77	155	0	55	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	79	699	0	0	1179	77	155	0	55	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	79	699	0	0	1179	77	155	0	55	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.14	0.75	1.00	1.00	0.75	0.74	0.69	1.00	0.69	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	0.00	1.88	0.12	0.74	0.00	0.26	0.00	0.00	0.00
Final Sat.:	262	2858	0	0	2658	173	972	0	344	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.30	0.24	0.00	0.00	0.44	0.44	0.16	0.00	0.16	0.00	0.00	0.00
Crit Moves:					****		****					
Green/Cycle:	0.62	0.62	0.00	0.00	0.62	0.62	0.28	0.00	0.28	0.00	0.00	0.00
Volume/Cap:	0.48	0.39	0.00	0.00	0.71	0.71	0.57	0.00	0.57	0.00	0.00	0.00
Delay/Veh:	11.5	8.6	0.0	0.0	12.9	12.9	30.1	0.0	30.1	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	11.5	8.6	0.0	0.0	12.9	12.9	30.1	0.0	30.1	0.0	0.0	0.0
LOS by Move:	B	A	A	A	B	B	C	A	C	A	A	A
HCM2kAvgQ:	2	5	0	0	14	14	6	0	6	0	0	0

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Operations (Base Volume Alternative)
Existing AM

Intersection #2: Potrero Ave/22nd St (N)




```
Street Name:          Potrero Ave                    22nd St (N)
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    56   56   56    56   56   56     0    0    0     25   25   25
Y+R:          4.5  4.5  4.5   4.5  4.5  4.5    4.0  4.0  4.0    5.0  5.0  5.0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 9 Apr 2013 << 7-9AM
Base Vol:      0 1267  168    97  723    0      0    0    0     46    0   44
Growth Adj:  1.00 1.00 1.00  1.00 1.00 1.00   1.00 1.00 1.00   1.00 1.00 1.00
Initial Bse:   0 1267  168    97  723    0      0    0    0     46    0   44
User Adj:    1.00 1.00 1.00  1.00 1.00 1.00   1.00 1.00 1.00   1.00 1.00 1.00
PHF Adj:     0.93 0.93 0.93  0.93 0.93 0.93   0.93 0.93 0.93   0.93 0.93 0.93
PHF Volume:    0 1362  181   104  777    0      0    0    0     49    0   47
Reduct Vol:    0    0    0     0    0    0      0    0    0      0    0    0
Reduced Vol:   0 1362  181   104  777    0      0    0    0     49    0   47
PCE Adj:     1.00 1.00 1.00  1.00 1.00 1.00   1.00 1.00 1.00   1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00  1.00 1.00 1.00   1.00 1.00 1.00   1.00 1.00 1.00
FinalVolume:   0 1362  181   104  777    0      0    0    0     49    0   47
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900  1900 1900 1900   1900 1900 1900   1900 1900 1900
Adjustment:  1.00 0.81 0.58  0.11 0.76 1.00   1.00 1.00 1.00   0.68 1.00 0.65
Lanes:       0.00 2.00 1.00  1.00 2.00 0.00   0.00 0.00 0.00   0.50 0.00 0.50
Final Sat.:     0 3079 1098   218 2887    0      0    0    0    645    0  617
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.44 0.16  0.48 0.27 0.00   0.00 0.00 0.00   0.08 0.00 0.08
Crit Moves:                  ****                              ****
Green/Cycle: 0.00 0.62 0.62  0.62 0.62 0.00   0.00 0.00 0.00   0.28 0.00 0.28
Volume/Cap:  0.00 0.71 0.26  0.77 0.43 0.00   0.00 0.00 0.00   0.28 0.00 0.28
Delay/Veh:    0.0 12.8  7.9  35.3  9.0  0.0    0.0  0.0  0.0   25.9  0.0 25.9
User DelAdj: 1.00 1.00 1.00  1.00 1.00 1.00   1.00 1.00 1.00   1.00 1.00 1.00
AdjDel/Veh:   0.0 12.8  7.9  35.3  9.0  0.0    0.0  0.0  0.0   25.9  0.0 25.9
LOS by Move:    A    B    A    D    A    A      A    A    A      C    A    C
HCM2kAvgQ:      0   13    2    4    6    0      0    0    0      2    0    2
Note: Queue reported is the number of cars per lane.
```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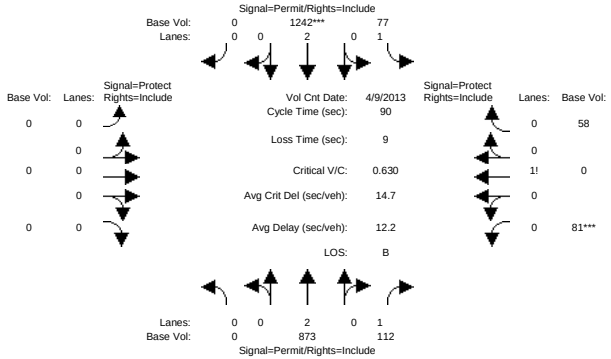
Level Of Service Computation Report
2000 HCM Operations (Base Volume Alternative)
Existing PM

Intersection #2: Potrero Ave/22nd St (N)

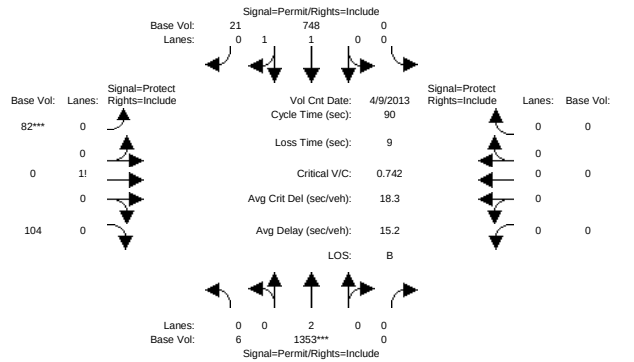



```
Street Name:          Potrero Ave                    22nd St (N)
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    56   56   56    56   56   56     0    0    0     25   25   25
Y+R:          4.5  4.5  4.5   4.5  4.5  4.5    4.0  4.0  4.0    5.0  5.0  5.0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 9 Apr 2013 << 4-6PM
Base Vol:      0  873  112    77 1242    0      0    0    0     81    0   58
Growth Adj:  1.00 1.00 1.00  1.00 1.00 1.00   1.00 1.00 1.00   1.00 1.00 1.00
Initial Bse:   0  873  112    77 1242    0      0    0    0     81    0   58
User Adj:    1.00 1.00 1.00  1.00 1.00 1.00   1.00 1.00 1.00   1.00 1.00 1.00
PHF Adj:     0.95 0.95 0.95  0.95 0.95 0.95   0.95 0.95 0.95   0.95 0.95 0.95
PHF Volume:    0  919  118    81 1307    0      0    0    0     85    0   61
Reduct Vol:    0    0    0     0    0    0      0    0    0      0    0    0
Reduced Vol:   0  919  118    81 1307    0      0    0    0     85    0   61
PCE Adj:     1.00 1.00 1.00  1.00 1.00 1.00   1.00 1.00 1.00   1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00  1.00 1.00 1.00   1.00 1.00 1.00   1.00 1.00 1.00
FinalVolume:   0  919  118    81 1307    0      0    0    0     85    0   61
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900  1900 1900 1900   1900 1900 1900   1900 1900 1900
Adjustment:  1.00 0.81 0.59  0.23 0.76 1.00   1.00 1.00 1.00   0.68 1.00 0.66
Lanes:       0.00 2.00 1.00  1.00 2.00 0.00   0.00 0.00 0.00   0.57 0.00 0.43
Final Sat.:     0 3079 1126   429 2887    0      0    0    0    746    0  534
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.30 0.10  0.19 0.45 0.00   0.00 0.00 0.00   0.11 0.00 0.11
Crit Moves:                  ****                              ****
Green/Cycle: 0.00 0.62 0.62  0.62 0.62 0.00   0.00 0.00 0.00   0.28 0.00 0.28
Volume/Cap:  0.00 0.48 0.17  0.30 0.73 0.00   0.00 0.00 0.00   0.41 0.00 0.41
Delay/Veh:    0.0  9.3  7.3   8.6 13.3  0.0    0.0  0.0  0.0   27.3  0.0 27.3
User DelAdj: 1.00 1.00 1.00  1.00 1.00 1.00   1.00 1.00 1.00   1.00 1.00 1.00
AdjDel/Veh:   0.0  9.3  7.3   8.6 13.3  0.0    0.0  0.0  0.0   27.3  0.0 27.3
LOS by Move:    A    A    A    A    B    A      A    A    A      C    A    C
HCM2kAvgQ:      0    7    1    1   14    0      0    0    0      4    0    4
Note: Queue reported is the number of cars per lane.
```

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Operations (Base Volume Alternative)
Existing AM

Intersection #3: Potrero Ave/22nd St (S)




```
Street Name:          Potrero Ave                    22nd St (S)
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    56   56   56    56   56   56    25   25   25     0    0    0
Y+R:          4.5  4.5  4.5   4.5  4.5  4.5   5.0  5.0  5.0    4.0  4.0  4.0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 9 Apr 2013 << 7-9AM
Base Vol:       6 1353     0     0  748    21    82    0   104     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    6 1353     0     0  748    21    82    0   104     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.96 0.96  0.96  0.96 0.96  0.96  0.96 0.96  0.96  0.96 0.96  0.96
PHF Volume:     6 1409     0     0  779    22    85    0   108     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    6 1409     0     0  779    22    85    0   108     0    0     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    6 1409     0     0  779    22    85    0   108     0    0     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.72 0.72  1.00  1.00 0.75  0.75  0.68 1.00  0.66  1.00 1.00  1.00
Lanes:       0.01 1.99  0.00  0.00 1.95  0.05  0.44 0.00  0.56  0.00 0.00  0.00
Final Sat.:    12 2736     0     0 2768    78   560    0   710     0    0     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.52 0.52  0.00  0.00 0.28  0.28  0.15 0.00  0.15  0.00 0.00  0.00
Crit Moves:       ****                       ****
Green/Cycle: 0.62 0.62  0.00  0.00 0.62  0.62  0.28 0.00  0.28  0.00 0.00  0.00
Volume/Cap:  0.83 0.83  0.00  0.00 0.45  0.45  0.55 0.00  0.55  0.00 0.00  0.00
Delay/Veh:   16.8 16.8   0.0   0.0  9.1   9.1  29.5  0.0  29.5   0.0  0.0   0.0
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  16.8 16.8   0.0   0.0  9.1   9.1  29.5  0.0  29.5   0.0  0.0   0.0
LOS by Move:    B    B     A     A    A     A     C    A     C     A    A     A
HCM2kAvgQ:     15   15     0     0    6     6     5    0     5     0    0     0
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
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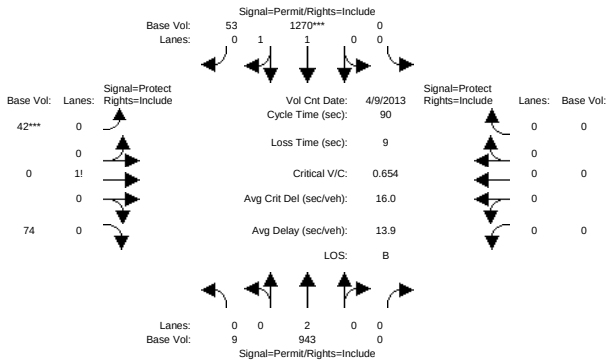
Level Of Service Computation Report
2000 HCM Operations (Base Volume Alternative)
Existing PM

Intersection #3: Potrero Ave/22nd St (S)




```
Street Name:          Potrero Ave                    22nd St (S)
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    56   56   56    56   56   56    25   25   25     0    0    0
Y+R:          4.5  4.5  4.5   4.5  4.5  4.5   5.0  5.0  5.0    4.0  4.0  4.0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 9 Apr 2013 <<
Base Vol:       9  943     0     0 1270    53    42    0    74     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    9  943     0     0 1270    53    42    0    74     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.95 0.95  0.95  0.95 0.95  0.95  0.95 0.95  0.95  0.95 0.95  0.95
PHF Volume:     9  993     0     0 1337    56    44    0    78     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    9  993     0     0 1337    56    44    0    78     0    0     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    9  993     0     0 1337    56    44    0    78     0    0     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.71 0.71  1.00  1.00 0.75  0.75  0.67 1.00  0.65  1.00 1.00  1.00
Lanes:       0.02 1.98  0.00  0.00 1.92  0.08  0.35 0.00  0.65  0.00 0.00  0.00
Final Sat.:    26 2688     0     0 2726   114   451    0   795     0    0     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.37 0.37  0.00  0.00 0.49  0.49  0.10 0.00  0.10  0.00 0.00  0.00
Crit Moves:                       ****        ****
Green/Cycle: 0.62 0.62  0.00  0.00 0.62  0.62  0.28 0.00  0.28  0.00 0.00  0.00
Volume/Cap:  0.59 0.59  0.00  0.00 0.79  0.79  0.35 0.00  0.35  0.00 0.00  0.00
Delay/Veh:   10.8 10.8   0.0   0.0 15.0  15.0  26.6  0.0  26.6   0.0  0.0   0.0
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  10.8 10.8   0.0   0.0 15.0  15.0  26.6  0.0  26.6   0.0  0.0   0.0
LOS by Move:    B    B     A     A    B     B     C    A     C     A    A     A
HCM2kAvgQ:      8    8     0     0   15    15     3    0     3     0    0     0
Note: Queue reported is the number of cars per lane.
```

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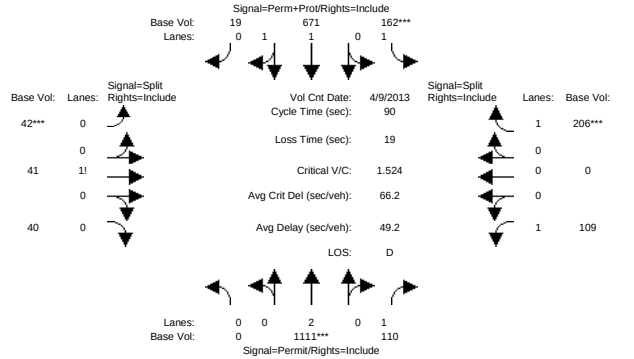
Level Of Service Computation Report
2000 HCM Operations (Base Volume Alternative)
Existing AM

Intersection #4: Potrero Ave/23rd St



Street Name:	Potrero Ave						23rd St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	0	33	33	7	45	45	10	10	10	16	16	16
Y+R:	4.0	4.0	4.0	5.0	4.0	4.0	11.0	11.0	11.0	4.0	4.0	4.0
Volume Module: >> Count Date: 9 Apr 2013 << 7-9AM												
Base Vol:	0	1111	110	162	671	19	42	41	40	109	0	206
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1111	110	162	671	19	42	41	40	109	0	206
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	0	1195	118	174	722	20	45	44	43	117	0	222
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1195	118	174	722	20	45	44	43	117	0	222
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1195	118	174	722	20	45	44	43	117	0	222
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.81	0.51	0.22	0.75	0.75	0.70	0.70	0.68	0.81	1.00	0.57
Lanes:	0.00	2.00	1.00	1.00	1.94	0.06	0.34	0.33	0.33	1.00	0.00	1.00
Final Sat.:	0	3079	963	415	2768	78	451	441	430	1539	0	1088
Capacity Analysis Module:												
Vol/Sat:	0.00	0.39	0.12	0.42	0.26	0.26	0.10	0.10	0.10	0.08	0.00	0.20
Crit Moves:		****		****			****					****
Green/Cycle:	0.00	0.37	0.37	0.48	0.48	0.48	0.11	0.11	0.11	0.20	0.00	0.20
Volume/Cap:	0.00	1.04	0.33	0.52	0.54	0.54	0.90	0.90	0.90	0.39	0.00	1.04
Delay/Veh:	0.0	65.6	20.7	1.5	16.8	16.8	85.5	85.5	85.5	32.3	0.0	108.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	65.6	20.7	1.5	16.8	16.8	85.5	85.5	85.5	32.3	0.0	108.6
LOS by Move:	A	E	C	A	B	B	F	F	F	C	A	F
HCM2kAvgQ:	0	22	2	3	7	7	7	7	6	3	0	11

Note: Queue reported is the number of cars per lane.

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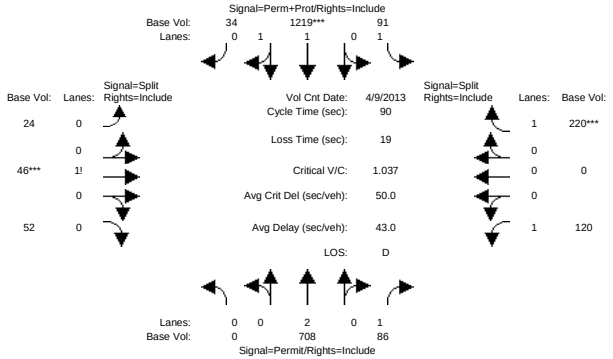
Level Of Service Computation Report
2000 HCM Operations (Base Volume Alternative)
Existing PM

Intersection #4: Potrero Ave/23rd St



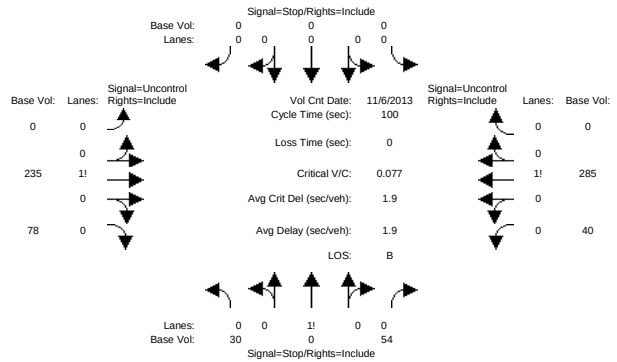
Street Name:	Potrero Ave						23rd St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	0	23	23	17	45	45	10	10	10	16	16	16
Y+R:	4.0	4.0	4.0	5.0	4.0	4.0	11.0	11.0	11.0	4.0	4.0	4.0
Volume Module: >> Count Date: 9 Apr 2013 << 4-6PM												
Base Vol:	0	708	86	91	1219	34	24	46	52	120	0	220
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	708	86	91	1219	34	24	46	52	120	0	220
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	0	730	89	94	1257	35	25	47	54	124	0	227
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	730	89	94	1257	35	25	47	54	124	0	227
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	730	89	94	1257	35	25	47	54	124	0	227
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.81	0.51	0.25	0.75	0.75	0.70	0.70	0.67	0.81	1.00	0.58
Lanes:	0.00	2.00	1.00	1.00	1.95	0.05	0.19	0.37	0.44	1.00	0.00	1.00
Final Sat.:	0	3079	973	484	2769	77	257	492	556	1539	0	1097
Capacity Analysis Module:												
Vol/Sat:	0.00	0.24	0.09	0.19	0.45	0.45	0.10	0.10	0.10	0.08	0.00	0.21
Crit Moves:					****			****				****
Green/Cycle:	0.00	0.29	0.29	0.50	0.50	0.50	0.11	0.11	0.11	0.18	0.00	0.18
Volume/Cap:	0.00	0.82	0.32	0.18	0.91	0.91	0.87	0.87	0.87	0.45	0.00	1.16
Delay/Veh:	0.0	36.3	25.8	0.2	29.4	29.4	78.2	78.2	78.2	34.3	0.0	152.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	36.3	25.8	0.2	29.4	29.4	78.2	78.2	78.2	34.3	0.0	152.2
LOS by Move:	A	D	C	A	C	C	E	E	E	C	A	F
HCM2kAvgQ:	0	11	2	1	18	18	6	6	6	4	0	13

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Unsignalized (Base Volume Alternative)
Existing AM

Intersection #5: Utah St/23rd St

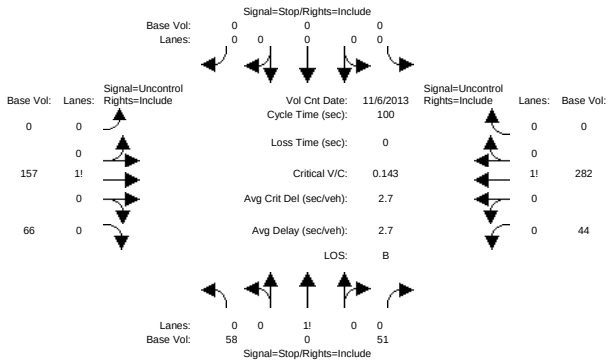



```
Street Name:            Utah St                         23rd St
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 6 Nov 2013 << 7-9AM
Base Vol:      30    0    54     0    0     0     0  235    78    40  285     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   30    0    54     0    0     0     0  235    78    40  285     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.95 0.95  0.95  0.95 0.95  0.95  0.95 0.95  0.95  0.95 0.95  0.95
PHF Volume:    32    0    57     0    0     0     0  247    82    42  300     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   32    0    57     0    0     0     0  247    82    42  300     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.4  6.5   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  673  673   288  xxxx xxxx xxxxx  xxxx xxxx xxxxx   329 xxxx xxxxx
Potent Cap.:  424  379   755  xxxx xxxx xxxxx  xxxx xxxx xxxxx  1241 xxxx xxxxx
Move Cap.:    413  366   755  xxxx xxxx xxxxx  xxxx xxxx xxxxx  1241 xxxx xxxxx
Volume/Cap:  0.08 0.00  0.08  xxxx xxxx  xxxx  xxxx xxxx  xxxx  0.03 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.1 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.0 xxxx xxxxx
LOS by Move:     *    *     *     *    *     *     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  583 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.5 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   0.1 xxxx xxxxx
Shrd ConDel:xxxxx 12.3 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.0 xxxx xxxxx
Shared LOS:      *    B     *     *    *     *     *    *     *     A    *     *
ApproachDel:      12.3           xxxxxx           xxxxxx           xxxxxx
ApproachLOS:         B                *                *                *
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Unsignalized (Base Volume Alternative)
Existing PM

Intersection #5: Utah St/23rd St

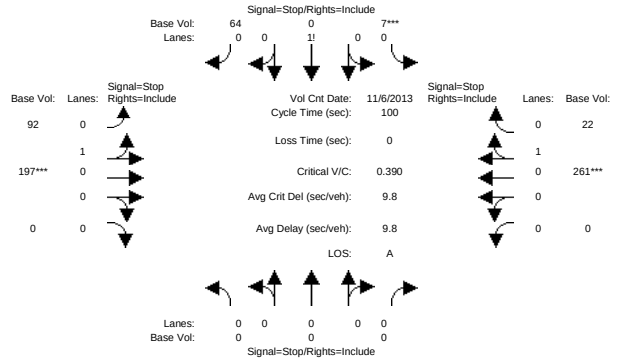



```
Street Name:            Utah St                         23rd St
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 6 Nov 2013 << 4-6PM
Base Vol:      58    0    51     0    0     0     0  157    66    44  282     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   58    0    51     0    0     0     0  157    66    44  282     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.91 0.91  0.91  0.91 0.91  0.91  0.91 0.91  0.91  0.91 0.91  0.91
PHF Volume:    64    0    56     0    0     0     0  173    73    48  310     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   64    0    56     0    0     0     0  173    73    48  310     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.4  6.5   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  615  615   209  xxxx xxxx xxxxx  xxxx xxxx xxxxx   245 xxxx xxxxx
Potent Cap.:  458  409   837  xxxx xxxx xxxxx  xxxx xxxx xxxxx  1333 xxxx xxxxx
Move Cap.:    445  394   837  xxxx xxxx xxxxx  xxxx xxxx xxxxx  1333 xxxx xxxxx
Volume/Cap:  0.14 0.00  0.07  xxxx xxxx  xxxx  xxxx xxxx  xxxx  0.04 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.1 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.8 xxxx xxxxx
LOS by Move:     *    *     *     *    *     *     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  569 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.8 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   0.1 xxxx xxxxx
Shrd ConDel:xxxxx 13.0 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.8 xxxx xxxxx
Shared LOS:      *    B     *     *    *     *     *    *     *     A    *     *
ApproachDel:      13.0           xxxxxx           xxxxxx           xxxxxx
ApproachLOS:         B                *                *                *
Note: Queue reported is the number of cars per lane.
```

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM 4-Way Stop (Base Volume Alternative)
Existing AM

Intersection #6: West Driveway/23rd St



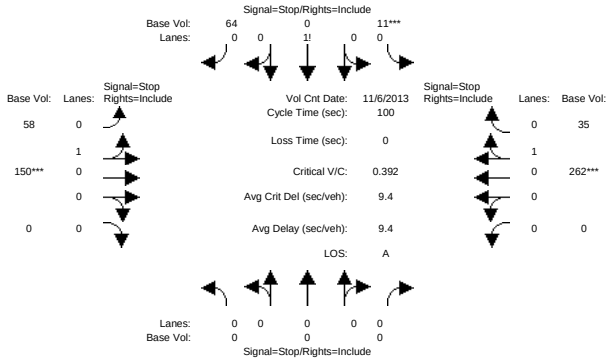
Street Name:	West Driveway						23rd St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 6 Nov 2013 << 7-9AM												
Base Vol:	0	0	0	7	0	64	92	197	0	0	261	22
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	7	0	64	92	197	0	0	261	22
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	0	0	0	8	0	69	99	212	0	0	281	24
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	8	0	69	99	212	0	0	281	24
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	8	0	69	99	212	0	0	281	24
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.10	0.00	0.90	0.32	0.68	0.00	0.00	0.92	0.08
Final Sat.:	0	0	0	69	0	634	253	542	0	0	749	63
Capacity Analysis Module:												
Vol/Sat:	xxxx	xxxx	xxxx	0.11	xxxx	0.11	0.39	0.39	xxxx	xxxx	0.37	0.37
Crit Moves:				****				****			****	
Delay/Veh:	0.0	0.0	0.0	8.1	0.0	8.1	10.2	10.2	0.0	0.0	9.9	9.9
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	8.1	0.0	8.1	10.2	10.2	0.0	0.0	9.9	9.9
LOS by Move:	*	*	*	A	*	A	B	B	*	*	A	A
ApproachDel:	xxxxxx			8.1			10.2			9.9		
Delay Adj:	xxxxx			1.00			1.00			1.00		
ApprAdjDel:	xxxxxx			8.1			10.2			9.9		
LOS by Appr:	*			A			B			A		
AllWayAvgQ:	0.0	0.0	0.0	0.1	0.1	0.1	0.6	0.6	0.6	0.6	0.6	0.6

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM 4-Way Stop (Base Volume Alternative)
Existing PM

Intersection #6: West Driveway/23rd St



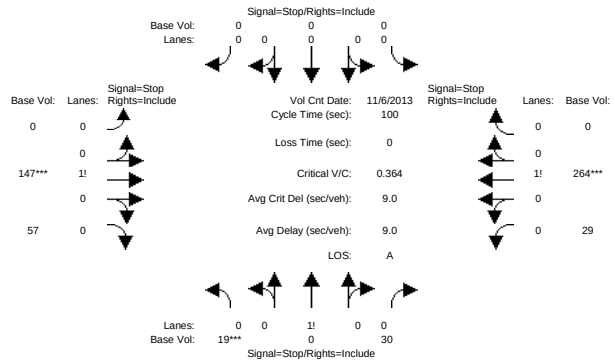
Street Name:	West Driveway						23rd St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 6 Nov 2013 << 4-6PM												
Base Vol:	0	0	0	11	0	64	58	150	0	0	262	35
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	11	0	64	58	150	0	0	262	35
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
PHF Volume:	0	0	0	12	0	70	64	165	0	0	288	38
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	12	0	70	64	165	0	0	288	38
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	12	0	70	64	165	0	0	288	38
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.15	0.00	0.85	0.28	0.72	0.00	0.00	0.88	0.12
Final Sat.:	0	0	0	106	0	616	220	568	0	0	734	98
Capacity Analysis Module:												
Vol/Sat:	xxxx	xxxx	xxxx	0.11	xxxx	0.11	0.29	0.29	xxxx	xxxx	0.39	0.39
Crit Moves:				****				****			****	
Delay/Veh:	0.0	0.0	0.0	8.1	0.0	8.1	9.2	9.2	0.0	0.0	9.9	9.9
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	8.1	0.0	8.1	9.2	9.2	0.0	0.0	9.9	9.9
LOS by Move:	*	*	*	A	*	A	A	A	*	*	A	A
ApproachDel:	xxxxxx			8.1			9.2			9.9		
Delay Adj:	xxxxx			1.00			1.00			1.00		
ApprAdjDel:	xxxxxx			8.1			9.2			9.9		
LOS by Appr:	*			A			A			A		
AllWayAvgQ:	0.0	0.0	0.0	0.1	0.1	0.1	0.4	0.4	0.4	0.6	0.6	0.6

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM 4-Way Stop (Base Volume Alternative)
Existing AM

Intersection #7: San Bruno Ave/23rd St

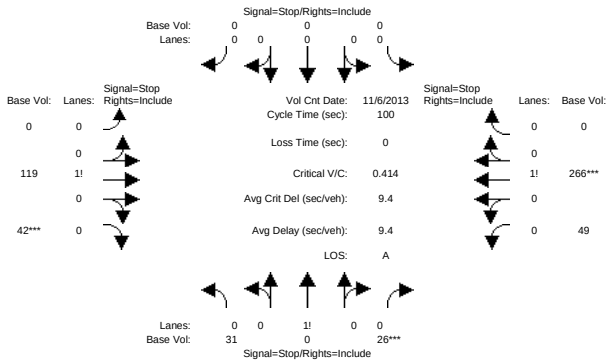



```
Street Name:          San Bruno Ave                    23rd St
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 6 Nov 2013 << 7-9AM
Base Vol:      19     0    30     0     0     0     0   147    57    29   264     0
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   19     0    30     0     0     0     0   147    57    29   264     0
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     0.96  0.96  0.96  0.96  0.96  0.96  0.96  0.96  0.96  0.96  0.96  0.96
PHF Volume:    20     0    31     0     0     0     0   153    59    30   275     0
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   20     0    31     0     0     0     0   153    59    30   275     0
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   20     0    31     0     0     0     0   153    59    30   275     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.39  0.00  0.61  0.00  0.00  0.00  0.00  0.72  0.28  0.10  0.90  0.00
Final Sat.:   275     0   435     0     0     0     0   614   238    83   755     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.07  xxxx  0.07  xxxx  xxxx  xxxx  xxxx  0.25  0.25  0.36  0.36  xxxx
Crit Moves:  ****                                  ****              ****
Delay/Veh:    8.0   0.0   8.0   0.0   0.0   0.0   0.0   8.5   8.5   9.6   9.6   0.0
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   8.0   0.0   8.0   0.0   0.0   0.0   0.0   8.5   8.5   9.6   9.6   0.0
LOS by Move:    A     *     A     *     *     *     *     A     A     A     A     *
ApproachDel:          8.0           xxxxxx              8.5                 9.6
Delay Adj:           1.00            xxxxx             1.00                1.00
ApprAdjDel:           8.0           xxxxxx              8.5                 9.6
LOS by Appr:            A                *                 A                   A
AllWayAvgQ:   0.1   0.1   0.1   0.0   0.0   0.0   0.3   0.3   0.3   0.5   0.5   0.5
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM 4-Way Stop (Base Volume Alternative)
Existing PM

Intersection #7: San Bruno Ave/23rd St

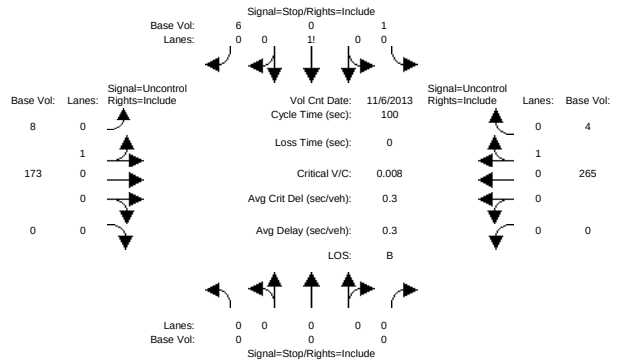



```
Street Name:          San Bruno Ave                    23rd St
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 6 Nov 2013 << 4-6PM
Base Vol:      31     0    26     0     0     0     0   119    42    49   266     0
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   31     0    26     0     0     0     0   119    42    49   266     0
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     0.91  0.91  0.91  0.91  0.91  0.91  0.91  0.91  0.91  0.91  0.91  0.91
PHF Volume:    34     0    29     0     0     0     0   131    46    54   292     0
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   34     0    29     0     0     0     0   131    46    54   292     0
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   34     0    29     0     0     0     0   131    46    54   292     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.54  0.00  0.46  0.00  0.00  0.00  0.00  0.74  0.26  0.16  0.84  0.00
Final Sat.:   375     0   315     0     0     0     0   614   217   130   705     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.09  xxxx  0.09  xxxx  xxxx  xxxx  xxxx  0.21  0.21  0.41  0.41  xxxx
Crit Moves:             ****                                ****        ****
Delay/Veh:    8.2   0.0   8.2   0.0   0.0   0.0   0.0   8.3   8.3  10.2  10.2   0.0
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   8.2   0.0   8.2   0.0   0.0   0.0   0.0   8.3   8.3  10.2  10.2   0.0
LOS by Move:    A     *     A     *     *     *     *     A     A     B     B     *
ApproachDel:          8.2           xxxxxx              8.3                10.2
Delay Adj:           1.00            xxxxx             1.00                1.00
ApprAdjDel:           8.2           xxxxxx              8.3                10.2
LOS by Appr:            A                *                 A                   B
AllWayAvgQ:   0.1   0.1   0.1   0.0   0.0   0.0   0.3   0.3   0.3   0.7   0.7   0.7
Note: Queue reported is the number of cars per lane.
```

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Unsignalized (Base Volume Alternative)
Existing AM

Intersection #8: East Driveway/23rd St

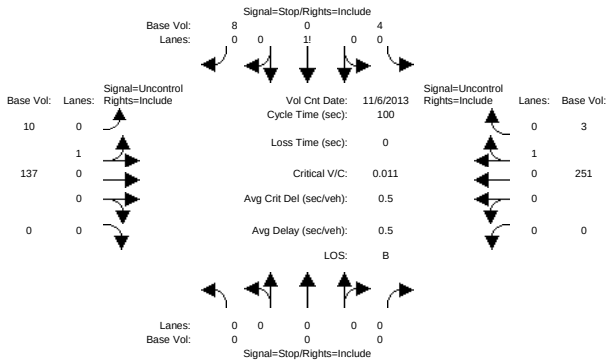



```
Street Name:          East Driveway                    23rd St
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 6 Nov 2013 << 7-9AM
Base Vol:       0     0     0     1     0     6     8   173     0     0   265     4
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    0     0     0     1     0     6     8   173     0     0   265     4
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     0.94  0.94  0.94  0.94  0.94  0.94  0.94  0.94  0.94  0.94  0.94  0.94
PHF Volume:     0     0     0     1     0     6     9   184     0     0   282     4
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
FinalVolume:    0     0     0     1     0     6     9   184     0     0   282     4
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4   6.5   6.2   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5   4.0   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   485   485   284   286 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   545   485   760  1288 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   542   482   760  1288 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.00  0.00  0.01  0.01 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.0 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.8 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *     *     *     *     *     *     A     *     *     *     *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  718 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  0.0 xxxxx   0.0 xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 10.1 xxxxx   7.8 xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *     *     *     *     B     *     A     *     *     *     *     *
ApproachDel:    xxxxxx            10.1           xxxxxx           xxxxxx
ApproachLOS:         *              B              *                *
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Unsignalized (Base Volume Alternative)
Existing PM

Intersection #8: East Driveway/23rd St

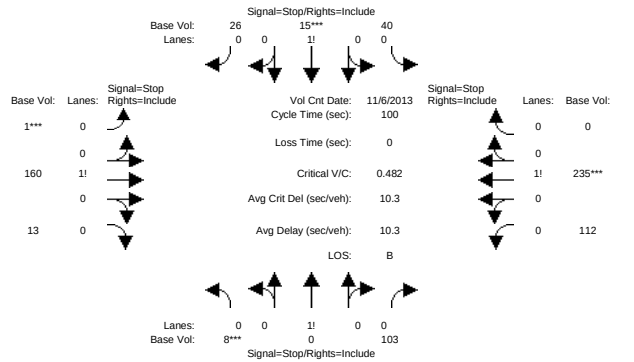



```
Street Name:          East Driveway                    23rd St
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 6 Nov 2013 << 4-6PM
Base Vol:       0     0     0     4     0     8    10   137     0     0   251     3
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    0     0     0     4     0     8    10   137     0     0   251     3
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     0.92  0.92  0.92  0.92  0.92  0.92  0.92  0.92  0.92  0.92  0.92  0.92
PHF Volume:     0     0     0     4     0     9    11   149     0     0   273     3
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
FinalVolume:    0     0     0     4     0     9    11   149     0     0   273     3
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4   6.5   6.2   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5   4.0   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   445   445   274   276 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   574   511   769  1299 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   571   506   769  1299 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.01  0.00  0.01  0.01 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.0 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.8 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *     *     *     *     *     *     A     *     *     *     *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  689 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  0.1 xxxxx   0.0 xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 10.3 xxxxx   7.8 xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *     *     *     *     B     *     A     *     *     *     *     *
ApproachDel:    xxxxxx            10.3           xxxxxx           xxxxxx
ApproachLOS:         *              B              *                *
Note: Queue reported is the number of cars per lane.
```

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM 4-Way Stop (Base Volume Alternative)
Existing AM

Intersection #9: Vermont St/23rd St

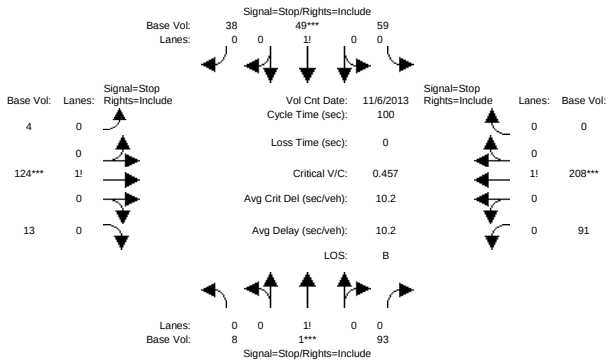



```
Street Name:            Vermont St                        23rd St
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 6 Nov 2013 << 7-9AM
Base Vol:       8     0   103    40    15    26     1   160    13   112   235     0
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    8     0   103    40    15    26     1   160    13   112   235     0
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     0.96  0.96  0.96  0.96  0.96  0.96  0.96  0.96  0.96  0.96  0.96  0.96
PHF Volume:     8     0   107    42    16    27     1   167    14   117   245     0
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:    8     0   107    42    16    27     1   167    14   117   245     0
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:    8     0   107    42    16    27     1   167    14   117   245     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.07  0.00  0.93  0.49  0.19  0.32  0.01  0.92  0.07  0.32  0.68  0.00
Final Sat.:    50     0   641   310   116   201     4   664    54   242   508     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.17  xxxx  0.17  0.13  0.13  0.13  0.25  0.25  0.25  0.48  0.48  xxxx
Crit Moves:  ****            ****        ****                    ****
Delay/Veh:    8.6   0.0   8.6   8.9   8.9   8.9   9.3   9.3   9.3  11.7  11.7   0.0
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   8.6   0.0   8.6   8.9   8.9   8.9   9.3   9.3   9.3  11.7  11.7   0.0
LOS by Move:    A     *     A     A     A     A     A     A     A     B     B     *
ApproachDel:        8.6             8.9             9.3            11.7
Delay Adj:         1.00            1.00            1.00            1.00
ApprAdjDel:         8.6             8.9             9.3            11.7
LOS by Appr:          A               A               A               B
AllWayAvgQ:   0.2   0.2   0.2   0.1   0.1   0.1   0.3   0.3   0.3   0.8   0.8   0.8
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM 4-Way Stop (Base Volume Alternative)
Existing PM

Intersection #9: Vermont St/23rd St

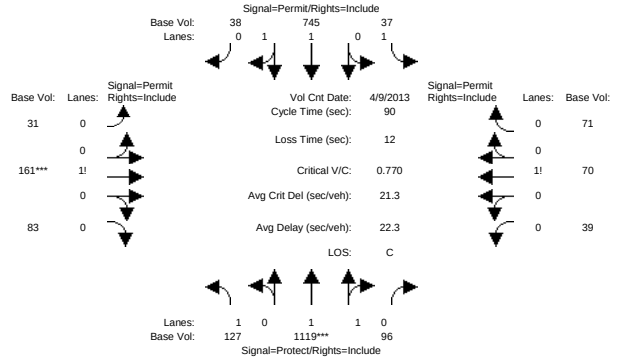



```
Street Name:            Vermont St                        23rd St
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 6 Nov 2013 << 4-6PM
Base Vol:       8     1    93    59    49    38     4   124    13    91   208     0
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    8     1    93    59    49    38     4   124    13    91   208     0
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     0.91  0.91  0.91  0.91  0.91  0.91  0.91  0.91  0.91  0.91  0.91  0.91
PHF Volume:     9     1   102    65    54    42     4   136    14   100   229     0
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:    9     1   102    65    54    42     4   136    14   100   229     0
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:    9     1   102    65    54    42     4   136    14   100   229     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.08  0.01  0.91  0.40  0.34  0.26  0.03  0.88  0.09  0.30  0.70  0.00
Final Sat.:    54     7   625   263   218   169    19   604    63   219   500     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.16  0.16  0.16  0.25  0.25  0.25  0.23  0.23  0.23  0.46  0.46  xxxx
Crit Moves:       ****            ****              ****                    ****
Delay/Veh:    8.6   8.6   8.6   9.6   9.6   9.6   9.3   9.3   9.3  11.6  11.6   0.0
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   8.6   8.6   8.6   9.6   9.6   9.6   9.3   9.3   9.3  11.6  11.6   0.0
LOS by Move:    A     A     A     A     A     A     A     A     A     B     B     *
ApproachDel:        8.6             9.6             9.3            11.6
Delay Adj:         1.00            1.00            1.00            1.00
ApprAdjDel:         8.6             9.6             9.3            11.6
LOS by Appr:          A               A               A               B
AllWayAvgQ:   0.2   0.2   0.2   0.3   0.3   0.3   0.3   0.3   0.3   0.7   0.7   0.7
Note: Queue reported is the number of cars per lane.
```

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Operations (Base Volume Alternative)
Existing AM

Intersection #10: Potrero Ave/24th St



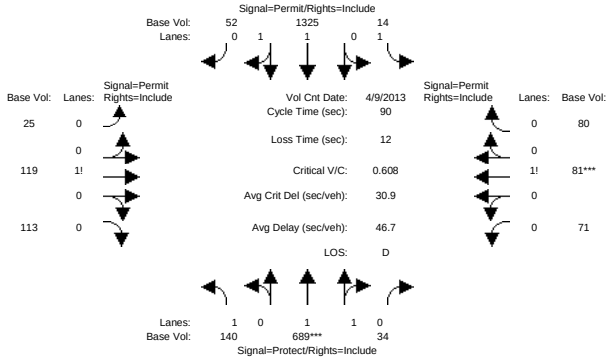
Street Name:	Potrero Ave						24th St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	55	55	44	44	44	23	23	23	23	23	23
Y+R:	4.0	7.0	7.0	7.0	7.0	7.0	5.0	5.0	5.0	5.0	5.0	5.0
Volume Module: >> Count Date: 9 Apr 2013 << 7-9AM												
Base Vol:	127	1119	96	37	745	38	31	161	83	39	70	71
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	127	1119	96	37	745	38	31	161	83	39	70	71
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	131	1154	99	38	768	39	32	166	86	40	72	73
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	131	1154	99	38	768	39	32	166	86	40	72	73
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	131	1154	99	38	768	39	32	166	86	40	72	73
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.81	0.74	0.74	0.13	0.75	0.74	0.67	0.68	0.65	0.57	0.58	0.56
Lanes:	1.00	1.84	0.16	1.00	1.90	0.10	0.11	0.58	0.31	0.22	0.38	0.40
Final Sat.:	1539	2599	223	241	2698	138	143	742	382	235	422	428
Capacity Analysis Module:												
Vol/Sat:	0.09	0.44	0.44	0.16	0.28	0.28	0.22	0.22	0.22	0.17	0.17	0.17
Crit Moves:		****						****				
Green/Cycle:	0.12	0.61	0.61	0.49	0.49	0.49	0.26	0.26	0.26	0.26	0.26	0.26
Volume/Cap:	0.70	0.73	0.73	0.32	0.58	0.58	0.88	0.88	0.88	0.67	0.67	0.67
Delay/Veh:	48.7	13.8	13.8	15.6	17.1	17.1	54.5	54.5	54.5	36.2	36.2	36.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	48.7	13.8	13.8	15.6	17.1	17.1	54.5	54.5	54.5	36.2	36.2	36.2
LOS by Move:	D	B	B	B	B	B	D	D	D	D	D	D
HCM2kAvgQ:	3	12	12	1	8	8	11	11	10	6	6	6

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Operations (Base Volume Alternative)
Existing PM

Intersection #10: Potrero Ave/24th St



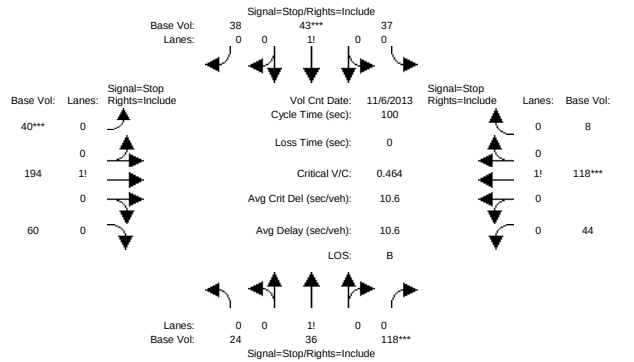
Street Name:	Potrero Ave						24th St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	55	55	44	44	44	23	23	23	23	23	23
Y+R:	4.0	7.0	7.0	7.0	7.0	7.0	5.0	5.0	5.0	5.0	5.0	5.0
Volume Module: >> Count Date: 9 Apr 2013 << 4-6PM												
Base Vol:	140	689	34	14	1325	52	25	119	113	71	81	80
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	140	689	34	14	1325	52	25	119	113	71	81	80
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
PHF Volume:	146	718	35	15	1380	54	26	124	118	74	84	83
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	146	718	35	15	1380	54	26	124	118	74	84	83
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	146	718	35	15	1380	54	26	124	118	74	84	83
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.81	0.75	0.74	0.26	0.75	0.74	0.67	0.67	0.62	0.48	0.50	0.48
Lanes:	1.00	1.91	0.09	1.00	1.92	0.08	0.09	0.45	0.46	0.31	0.34	0.35
Final Sat.:	1539	2703	133	503	2732	107	120	571	542	283	323	319
Capacity Analysis Module:												
Vol/Sat:	0.09	0.27	0.27	0.03	0.51	0.51	0.22	0.22	0.22	0.26	0.26	0.26
Crit Moves:		****									****	
Green/Cycle:	0.12	0.61	0.61	0.49	0.49	0.49	0.26	0.26	0.26	0.26	0.26	0.26
Volume/Cap:	0.78	0.43	0.43	0.06	1.03	1.03	0.85	0.85	0.85	1.02	1.02	1.02
Delay/Veh:	56.4	9.4	9.4	12.2	56.2	56.2	51.0	51.0	51.0	97.6	97.6	97.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	56.4	9.4	9.4	12.2	56.2	56.2	51.0	51.0	51.0	97.6	97.6	97.6
LOS by Move:	E	A	A	B	E	E	D	D	D	F	F	F
HCM2kAvgQ:	4	6	6	0	25	24	10	10	10	12	12	12

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM 4-Way Stop (Base Volume Alternative)
Existing AM

Intersection #11: Utah St/24th St



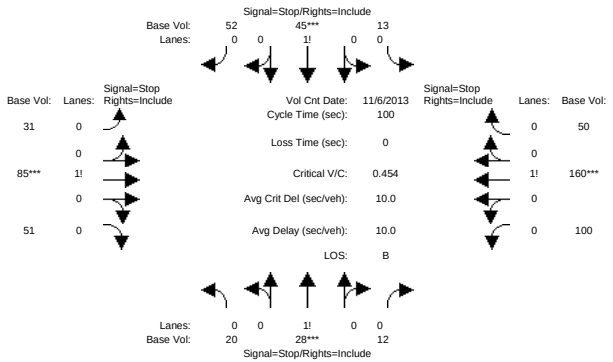
Street Name:	Utah St						24th St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 6 Nov 2013 << 7-9AM												
Base Vol:	24	36	118	37	43	38	40	194	60	44	118	8
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	24	36	118	37	43	38	40	194	60	44	118	8
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	27	40	131	41	48	42	44	216	67	49	131	9
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	27	40	131	41	48	42	44	216	67	49	131	9
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	27	40	131	41	48	42	44	216	67	49	131	9
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.13	0.20	0.67	0.31	0.37	0.32	0.14	0.66	0.20	0.26	0.69	0.05
Final Sat.:	90	134	441	193	224	198	96	464	144	169	452	31
Capacity Analysis Module:												
Vol/Sat:	0.30	0.30	0.30	0.21	0.21	0.21	0.46	0.46	0.46	0.29	0.29	0.29
Crit Moves:			****		****		****				****	
Delay/Veh:	9.8	9.8	9.8	9.6	9.6	9.6	11.7	11.7	11.7	10.1	10.1	10.1
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	9.8	9.8	9.8	9.6	9.6	9.6	11.7	11.7	11.7	10.1	10.1	10.1
LOS by Move:	A	A	A	A	A	A	B	B	B	B	B	B
ApproachDel:		9.8			9.6			11.7			10.1	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		9.8			9.6			11.7			10.1	
LOS by Appr:		A			A			B			B	
AllWayAvgQ:	0.3	0.3	0.3	0.2	0.2	0.2	0.8	0.8	0.8	0.3	0.3	0.3

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM 4-Way Stop (Base Volume Alternative)
Existing PM

Intersection #11: Utah St/24th St



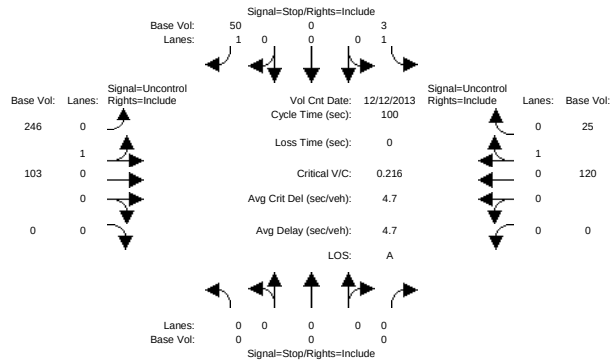
Street Name:	Utah St						24th St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 6 Nov 2013 << 4-6PM												
Base Vol:	20	28	12	13	45	52	31	85	51	100	160	50
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	20	28	12	13	45	52	31	85	51	100	160	50
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
PHF Volume:	22	31	13	15	51	58	35	96	57	112	180	56
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	22	31	13	15	51	58	35	96	57	112	180	56
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	22	31	13	15	51	58	35	96	57	112	180	56
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.33	0.47	0.20	0.12	0.41	0.47	0.19	0.51	0.30	0.32	0.52	0.16
Final Sat.:	208	291	125	79	273	316	138	378	227	247	396	124
Capacity Analysis Module:												
Vol/Sat:	0.11	0.11	0.11	0.19	0.19	0.19	0.25	0.25	0.25	0.45	0.45	0.45
Crit Moves:		****			****			****			****	
Delay/Veh:	8.8	8.8	8.8	8.9	8.9	8.9	9.1	9.1	9.1	11.1	11.1	11.1
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	8.8	8.8	8.8	8.9	8.9	8.9	9.1	9.1	9.1	11.1	11.1	11.1
LOS by Move:	A	A	A	A	A	A	A	A	A	B	B	B
ApproachDel:		8.8			8.9			9.1			11.1	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		8.8			8.9			9.1			11.1	
LOS by Appr:		A			A			A			B	
AllWayAvgQ:	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.3	0.8	0.8	0.8

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Unsignalized (Base Volume Alternative)
Existing AM

Intersection #12: Parking Garage Driveway (S)/24th St

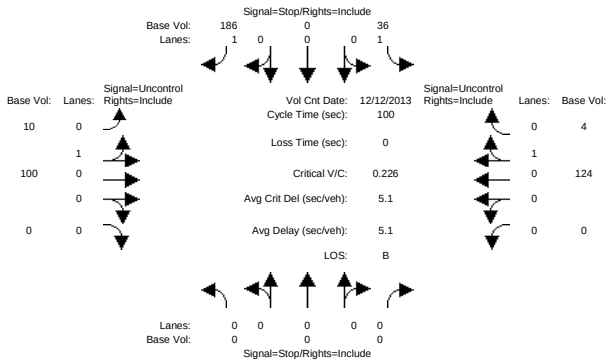



```
Street Name:   Parking Garage Driveway (S)              24th St
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 12 Dec 2013 << 7-9AM
Base Vol:       0    0     0     3    0    50   246  103     0     0  120    25
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0     3    0    50   246  103     0     0  120    25
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.81 0.81  0.81  0.81 0.81  0.81  0.81 0.81  0.81  0.81 0.81  0.81
PHF Volume:     0    0     0     4    0    62   304  127     0     0  148    31
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0     4    0    62   304  127     0     0  148    31
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4 xxxx   6.2   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5 xxxx   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   898 xxxx   164   179 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   312 xxxx   886  1409 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   250 xxxx   886  1409 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.01 xxxx  0.07  0.22 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx   0.0 xxxx   0.2   0.8 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx  19.6 xxxx   9.4   8.3 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     C    *     A     A    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   0.8 xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.3 xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     A    *     *     *    *     *
ApproachDel:    xxxxxx             9.9           xxxxxx           xxxxxx
ApproachLOS:         *               A              *                *
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Unsignalized (Base Volume Alternative)
Existing PM

Intersection #12: Parking Garage Driveway (S)/24th St

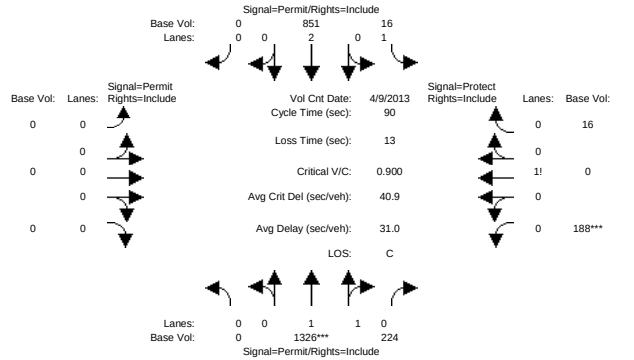



```
Street Name:   Parking Garage Driveway (S)              24th St
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 12 Dec 2013 << 4-6PM
Base Vol:       0    0     0    36    0   186    10  100     0     0  124     4
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0    36    0   186    10  100     0     0  124     4
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.90 0.90  0.90  0.90 0.90  0.90  0.90 0.90  0.90  0.90 0.90  0.90
PHF Volume:     0    0     0    40    0   207    11  111     0     0  138     4
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0    40    0   207    11  111     0     0  138     4
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4 xxxx   6.2   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5 xxxx   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   273 xxxx   140   142 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   720 xxxx   913  1453 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   716 xxxx   913  1453 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.06 xxxx  0.23  0.01 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx   0.2 xxxx   0.9   0.0 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx  10.3 xxxx  10.1   7.5 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     B    *     B     A    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   0.0 xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.5 xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     A    *     *     *    *     *
ApproachDel:    xxxxxx            10.1           xxxxxx           xxxxxx
ApproachLOS:         *               B              *                *
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Operations (Base Volume Alternative)
Existing AM

Intersection #13: Potrero Ave/25th St

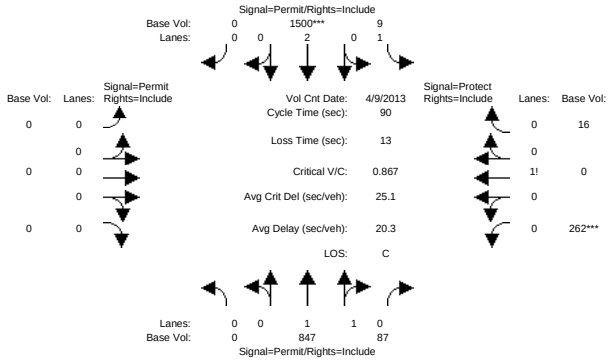



```
Street Name:          Potrero Ave                    25th St
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    54   54   54    54   54   54    23   23   23    23   23   23
Y+R:          8.0  8.0  8.0   8.0  8.0  8.0   5.0  5.0  5.0   5.0  5.0  5.0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 9 Apr 2013 << 7-9AM
Base Vol:      0 1326  224    16  851    0     0    0    0   188    0   16
Growth Adj:  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:   0 1326  224    16  851    0     0    0    0   188    0   16
User Adj:    1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:     0.92 0.92 0.92  0.92 0.92 0.92  0.92 0.92 0.92 0.92 0.92 0.92
PHF Volume:    0 1441  243    17  925    0     0    0    0   204    0   17
Reduct Vol:    0    0    0     0    0    0     0    0    0     0    0    0
Reduced Vol:   0 1441  243    17  925    0     0    0    0   204    0   17
PCE Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume:   0 1441  243    17  925    0     0    0    0   204    0   17
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:     1900 1900 1900  1900 1900 1900  1900 1900 1900 1900 1900 1900
Adjustment:  1.00 0.74 0.72  0.06 0.76 1.00  1.00 1.00 1.00 0.71 1.00 0.70
Lanes:       0.00 1.71 0.29  1.00 2.00 0.00  0.00 0.00 0.00 0.92 0.00 0.08
Final Sat.:    0 2385  403   119 2887    0     0    0    0 1235    0  105
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.60 0.60  0.15 0.32 0.00  0.00 0.00 0.00 0.17 0.00 0.17
Crit Moves:       ****                                   ****
Green/Cycle: 0.00 0.60 0.60  0.60 0.60 0.00  0.00 0.00 0.00 0.26 0.00 0.26
Volume/Cap:  0.00 1.01 1.01  0.22 0.53 0.00  0.00 0.00 0.00 0.65 0.00 0.65
Delay/Veh:    0.0 41.8 41.8   9.6 10.9  0.0   0.0  0.0  0.0 34.2  0.0 34.2
User DelAdj: 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh:   0.0 41.8 41.8   9.6 10.9  0.0   0.0  0.0  0.0 34.2  0.0 34.2
LOS by Move:    A    D    D     A    B    A     A    A    A    C    A    C
HCM2kAvgQ:      0   33   33     0    8    0     0    0    0    6    0    1
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Operations (Base Volume Alternative)
Existing PM

Intersection #13: Potrero Ave/25th St



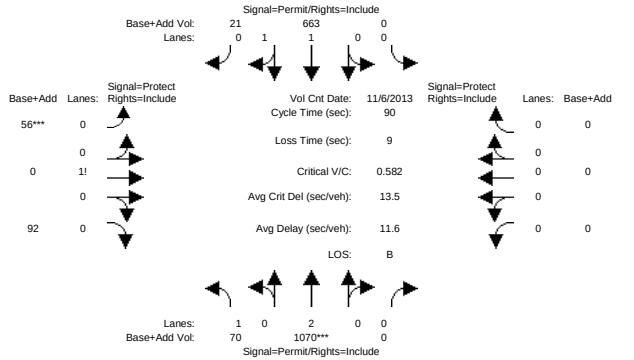

```
Street Name:          Potrero Ave                    25th St
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    54   54   54    54   54   54    23   23   23    23   23   23
Y+R:          8.0  8.0  8.0   8.0  8.0  8.0   5.0  5.0  5.0   5.0  5.0  5.0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 9 Apr 2013 << 4-6PM
Base Vol:      0  847   87     9 1500    0     0    0    0   262    0   16
Growth Adj:  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:   0  847   87     9 1500    0     0    0    0   262    0   16
User Adj:    1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:     0.98 0.98 0.98  0.98 0.98 0.98  0.98 0.98 0.98 0.98 0.98 0.98
PHF Volume:    0  864   89     9 1531    0     0    0    0   267    0   16
Reduct Vol:    0    0    0     0    0    0     0    0    0     0    0    0
Reduced Vol:   0  864   89     9 1531    0     0    0    0   267    0   16
PCE Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume:   0  864   89     9 1531    0     0    0    0   267    0   16
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:     1900 1900 1900  1900 1900 1900  1900 1900 1900 1900 1900 1900
Adjustment:  1.00 0.74 0.74  0.22 0.76 1.00  1.00 1.00 1.00 0.71 1.00 0.70
Lanes:       0.00 1.81 0.19  1.00 2.00 0.00  0.00 0.00 0.00 0.94 0.00 0.06
Final Sat.:    0 2553  262   417 2887    0     0    0    0 1266    0   77
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.34 0.34  0.02 0.53 0.00  0.00 0.00 0.00 0.21 0.00 0.21
Crit Moves:       ****                                   ****
Green/Cycle: 0.00 0.60 0.60  0.60 0.60 0.00  0.00 0.00 0.00 0.26 0.00 0.26
Volume/Cap:  0.00 0.56 0.56  0.04 0.88 0.00  0.00 0.00 0.00 0.83 0.00 0.83
Delay/Veh:    0.0 11.3 11.3   7.4 21.1  0.0   0.0  0.0  0.0 46.7  0.0 46.7
User DelAdj: 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh:   0.0 11.3 11.3   7.4 21.1  0.0   0.0  0.0  0.0 46.7  0.0 46.7
LOS by Move:    A    B    B     A    C    A     A    A    A    D    A    D
HCM2kAvgQ:      0    9    9     0   18    0     0    0    0   10    0    2
Note: Queue reported is the number of cars per lane.
```

Near Term

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Baseline AM

Intersection #1: Potrero Ave/20th St

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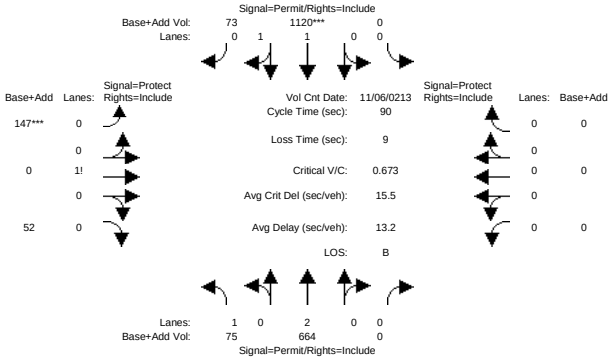
Street Name:          Potrero Ave                       20th St
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    56   56    56    56   56    56    25   25    25     0    0     0
Y+R:          4.5  4.5   4.5   4.5  4.5   4.5   5.0  5.0   5.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 6 Nov 2013 << 7-9AM
Base Vol:      70 1070     0     0  663    21    56    0    92     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   70 1070     0     0  663    21    56    0    92     0    0     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
Hospital Re:    1    6     0     0   35     0     0    0     4     0    0     0
Initial Fut:   71 1076     0     0  698    21    56    0    96     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.95 0.95  0.95  0.95 0.95  0.95  0.95 0.95  0.95  0.95 0.95  0.95
PHF Volume:    75 1133     0     0  735    22    59    0   101     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   75 1133     0     0  735    22    59    0   101     0    0     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   75 1133     0     0  735    22    59    0   101     0    0     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.27 0.75  1.00  1.00 0.75  0.75  0.67 1.00  0.65  1.00 1.00  1.00
Lanes:       1.00 2.00  0.00  0.00 1.94  0.06  0.36 0.00  0.64  0.00 0.00  0.00
Final Sat.:   522 2858     0     0 2763    83   462    0   792     0    0     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.14 0.40  0.00  0.00 0.27  0.27  0.13 0.00  0.13  0.00 0.00  0.00
Crit Moves:       ****                     ****
Green/Cycle: 0.62 0.62  0.00  0.00 0.62  0.62  0.28 0.00  0.28  0.00 0.00  0.00
Volume/Cap:  0.23 0.64  0.00  0.00 0.43  0.43  0.46 0.00  0.46  0.00 0.00  0.00
Delay/Veh:    7.9 11.4   0.0   0.0  8.9   8.9  27.9  0.0  27.9   0.0  0.0   0.0
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   7.9 11.4   0.0   0.0  8.9   8.9  27.9  0.0  27.9   0.0  0.0   0.0
LOS by Move:    A    B     A     A    A     A     C    A     C     A    A     A
HCM2kAvgQ:      1   11     0     0    6     6     4    0     4     0    0     0
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Baseline PM

Intersection #1: Potrero Ave/20th St




```
Street Name:          Potrero Ave                       20th St
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    56   56    56    56   56    56    25   25    25     0    0     0
Y+R:          4.5  4.5   4.5   4.5  4.5   4.5   5.0  5.0   5.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 6 Nov 213 << 4-6PM
Base Vol:      75  664     0     0 1120    73   147    0    52     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   75  664     0     0 1120    73   147    0    52     0    0     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    4   35     0     0    6     0     0    0     1     0    0     0
Initial Fut:   79  699     0     0 1126    73   147    0    53     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.95 0.95  0.95  0.95 0.95  0.95  0.95 0.95  0.95  0.95 0.95  0.95
PHF Volume:    83  736     0     0 1185    77   155    0    56     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   83  736     0     0 1185    77   155    0    56     0    0     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   83  736     0     0 1185    77   155    0    56     0    0     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.14 0.75  1.00  1.00 0.75  0.74  0.69 1.00  0.69  1.00 1.00  1.00
Lanes:       1.00 2.00  0.00  0.00 1.88  0.12  0.73 0.00  0.27  0.00 0.00  0.00
Final Sat.:   259 2858     0     0 2659   172   967    0   349     0    0     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.32 0.26  0.00  0.00 0.45  0.45  0.16 0.00  0.16  0.00 0.00  0.00
Crit Moves:                      ****        ****
Green/Cycle: 0.62 0.62  0.00  0.00 0.62  0.62  0.28 0.00  0.28  0.00 0.00  0.00
Volume/Cap:  0.52 0.41  0.00  0.00 0.72  0.72  0.58 0.00  0.58  0.00 0.00  0.00
Delay/Veh:   12.4  8.8   0.0   0.0 13.0  13.0  30.2  0.0  30.2   0.0  0.0   0.0
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  12.4  8.8   0.0   0.0 13.0  13.0  30.2  0.0  30.2   0.0  0.0   0.0
LOS by Move:    B    A     A     A    B     B     C    A     C     A    A     A
HCM2kAvgQ:      2    6     0     0   14    14     6    0     6     0    0     0
Note: Queue reported is the number of cars per lane.
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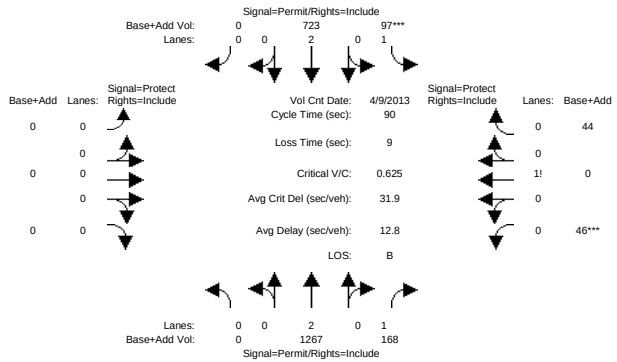
San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Baseline AM

Intersection #2: Potrero Ave/22nd St (N)



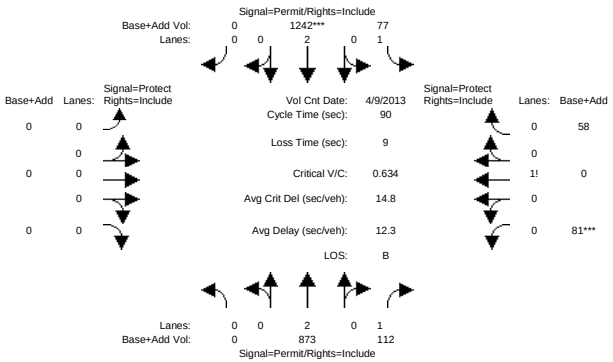
Street Name:	Potrero Ave						22nd St (N)					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	56	56	56	56	56	56	0	0	0	25	25	25
Y+R:	4.5	4.5	4.5	4.5	4.5	4.5	4.0	4.0	4.0	5.0	5.0	5.0
Volume Module: >> Count Date: 9 Apr 2013 << 7-9AM												
Base Vol:	0	1267	168	97	723	0	0	0	0	46	0	44
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1267	168	97	723	0	0	0	0	46	0	44
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Hospital Re:	0	8	0	0	43	0	0	0	0	0	0	0
Initial Fut:	0	1275	168	97	766	0	0	0	0	46	0	44
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	0	1371	181	104	824	0	0	0	0	49	0	47
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1371	181	104	824	0	0	0	0	49	0	47
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1371	181	104	824	0	0	0	0	49	0	47
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.81	0.58	0.11	0.76	1.00	1.00	1.00	1.00	0.68	1.00	0.65
Lanes:	0.00	2.00	1.00	1.00	2.00	0.00	0.00	0.00	0.00	0.50	0.00	0.50
Final Sat.:	0	3079	1098	215	2887	0	0	0	0	645	0	617
Capacity Analysis Module:												
Vol/Sat:	0.00	0.45	0.16	0.49	0.29	0.00	0.00	0.00	0.00	0.08	0.00	0.08
Crit Moves:				****						****		
Green/Cycle:	0.00	0.62	0.62	0.62	0.62	0.00	0.00	0.00	0.00	0.28	0.00	0.28
Volume/Cap:	0.00	0.72	0.26	0.78	0.46	0.00	0.00	0.00	0.00	0.28	0.00	0.28
Delay/Veh:	0.0	12.9	7.9	37.4	9.2	0.0	0.0	0.0	0.0	25.9	0.0	25.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	12.9	7.9	37.4	9.2	0.0	0.0	0.0	0.0	25.9	0.0	25.9
LOS by Move:	A	B	A	D	A	A	A	A	A	C	A	C
HCM2kAvgQ:	0	13	2	4	7	0	0	0	0	2	0	2

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Baseline PM

Intersection #2: Potrero Ave/22nd St (N)



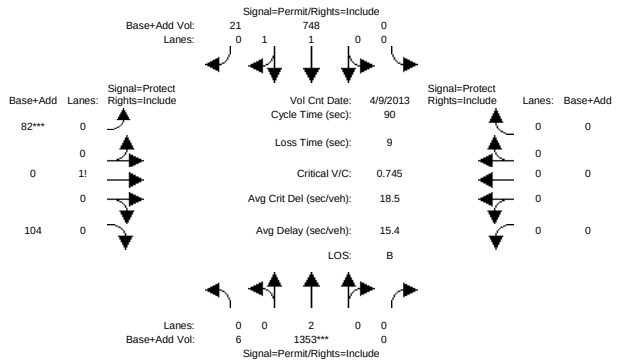
Street Name:	Potrero Ave						22nd St (N)					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	56	56	56	56	56	56	0	0	0	25	25	25
Y+R:	4.5	4.5	4.5	4.5	4.5	4.5	4.0	4.0	4.0	5.0	5.0	5.0
Volume Module: >> Count Date: 9 Apr 2013 << 4-6PM												
Base Vol:	0	873	112	77	1242	0	0	0	0	81	0	58
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	873	112	77	1242	0	0	0	0	81	0	58
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Hospital Re:	0	43	0	0	8	0	0	0	0	0	0	0
Initial Fut:	0	916	112	77	1250	0	0	0	0	81	0	58
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	964	118	81	1316	0	0	0	0	85	0	61
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	964	118	81	1316	0	0	0	0	85	0	61
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	964	118	81	1316	0	0	0	0	85	0	61
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.81	0.59	0.21	0.76	1.00	1.00	1.00	1.00	0.68	1.00	0.66
Lanes:	0.00	2.00	1.00	1.00	2.00	0.00	0.00	0.00	0.00	0.57	0.00	0.43
Final Sat.:	0	3079	1126	405	2887	0	0	0	0	746	0	534
Capacity Analysis Module:												
Vol/Sat:	0.00	0.31	0.10	0.20	0.46	0.00	0.00	0.00	0.00	0.11	0.00	0.11
Crit Moves:					****					****		
Green/Cycle:	0.00	0.62	0.62	0.62	0.62	0.00	0.00	0.00	0.00	0.28	0.00	0.28
Volume/Cap:	0.00	0.50	0.17	0.32	0.73	0.00	0.00	0.00	0.00	0.41	0.00	0.41
Delay/Veh:	0.0	9.6	7.3	8.8	13.4	0.0	0.0	0.0	0.0	27.3	0.0	27.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	9.6	7.3	8.8	13.4	0.0	0.0	0.0	0.0	27.3	0.0	27.3
LOS by Move:	A	A	A	A	B	A	A	A	A	C	A	C
HCM2kAvgQ:	0	7	1	1	15	0	0	0	0	4	0	4

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Baseline AM

Intersection #3: Potrero Ave/22nd St (S)



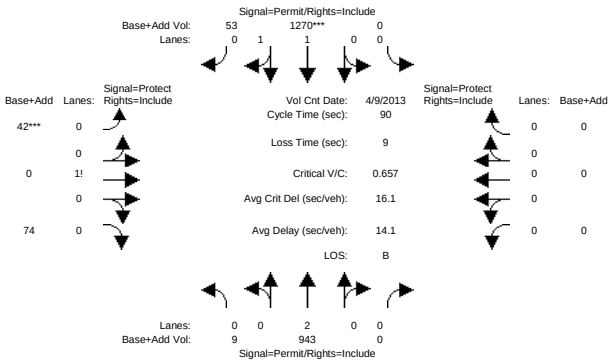
Street Name:	Potrero Ave						22nd St (S)					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	56	56	56	56	56	56	25	25	25	0	0	0
Y+R:	4.5	4.5	4.5	4.5	4.5	4.5	5.0	5.0	5.0	4.0	4.0	4.0
Volume Module: >> Count Date: 9 Apr 2013 << 7-9AM												
Base Vol:	6	1353	0	0	748	21	82	0	104	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	6	1353	0	0	748	21	82	0	104	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Hospital Re:	0	8	0	0	43	0	0	0	0	0	0	0
Initial Fut:	6	1361	0	0	791	21	82	0	104	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
PHF Volume:	6	1418	0	0	824	22	85	0	108	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	6	1418	0	0	824	22	85	0	108	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	6	1418	0	0	824	22	85	0	108	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.72	0.72	1.00	1.00	0.75	0.75	0.68	1.00	0.66	1.00	1.00	1.00
Lanes:	0.01	1.99	0.00	0.00	1.95	0.05	0.44	0.00	0.56	0.00	0.00	0.00
Final Sat.:	12	2736	0	0	2773	74	560	0	710	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.52	0.52	0.00	0.00	0.30	0.30	0.15	0.00	0.15	0.00	0.00	0.00
Crit Moves:		****					****					
Green/Cycle:	0.62	0.62	0.00	0.00	0.62	0.62	0.28	0.00	0.28	0.00	0.00	0.00
Volume/Cap:	0.83	0.83	0.00	0.00	0.48	0.48	0.55	0.00	0.55	0.00	0.00	0.00
Delay/Veh:	17.0	17.0	0.0	0.0	9.3	9.3	29.5	0.0	29.5	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	17.0	17.0	0.0	0.0	9.3	9.3	29.5	0.0	29.5	0.0	0.0	0.0
LOS by Move:	B	B	A	A	A	A	C	A	C	A	A	A
HCM2kAvgQ:	16	16	0	0	7	7	5	0	5	0	0	0

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Baseline PM

Intersection #3: Potrero Ave/22nd St (S)



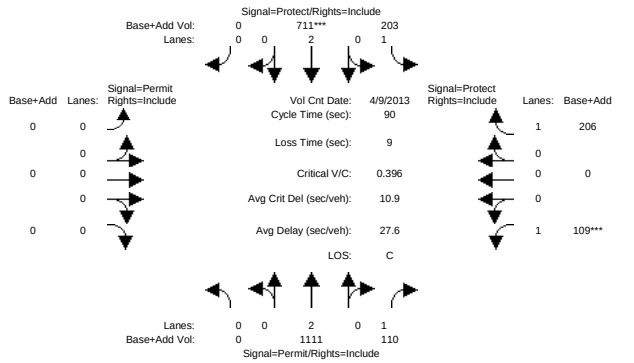
Street Name:	Potrero Ave						22nd St (S)					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	56	56	56	56	56	56	25	25	25	0	0	0
Y+R:	4.5	4.5	4.5	4.5	4.5	4.5	5.0	5.0	5.0	4.0	4.0	4.0
Volume Module: >> Count Date: 9 Apr 2013 <<												
Base Vol:	9	943	0	0	1270	53	42	0	74	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	9	943	0	0	1270	53	42	0	74	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Hospital Re:	0	43	0	0	8	0	0	0	0	0	0	0
Initial Fut:	9	986	0	0	1278	53	42	0	74	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	9	1038	0	0	1345	56	44	0	78	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	9	1038	0	0	1345	56	44	0	78	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	9	1038	0	0	1345	56	44	0	78	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.71	0.71	1.00	1.00	0.75	0.75	0.67	1.00	0.65	1.00	1.00	1.00
Lanes:	0.02	1.98	0.00	0.00	1.92	0.08	0.35	0.00	0.65	0.00	0.00	0.00
Final Sat.:	25	2689	0	0	2727	113	451	0	795	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.39	0.39	0.00	0.00	0.49	0.49	0.10	0.00	0.10	0.00	0.00	0.00
Crit Moves:					****		****					
Green/Cycle:	0.62	0.62	0.00	0.00	0.62	0.62	0.28	0.00	0.28	0.00	0.00	0.00
Volume/Cap:	0.62	0.62	0.00	0.00	0.79	0.79	0.35	0.00	0.35	0.00	0.00	0.00
Delay/Veh:	11.2	11.2	0.0	0.0	15.2	15.2	26.6	0.0	26.6	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	11.2	11.2	0.0	0.0	15.2	15.2	26.6	0.0	26.6	0.0	0.0	0.0
LOS by Move:	B	B	A	A	B	B	C	A	C	A	A	A
HCM2kAvgQ:	9	9	0	0	15	15	3	0	3	0	0	0

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Baseline AM

Intersection #4: Potrero Ave/23rd St



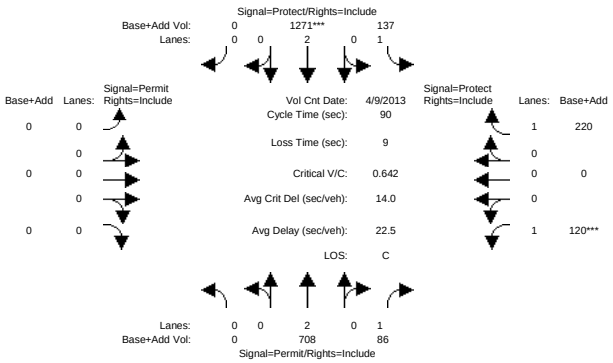
Street Name:	Potrero Ave						23rd St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	0	40	40	14	58	58	0	0	0	23	0	23
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.0	4.0	5.0
Volume Module: >> Count Date: 9 Apr 2013 << 7-9AM												
Base Vol:	0	1111	110	203	711	0	0	0	0	109	0	206
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1111	110	203	711	0	0	0	0	109	0	206
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Hospital Re:	0	0	58	43	0	0	0	0	0	18	0	8
Initial Fut:	0	1111	168	246	711	0	0	0	0	127	0	214
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	0	1195	181	265	765	0	0	0	0	137	0	230
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1195	181	265	765	0	0	0	0	137	0	230
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1195	181	265	765	0	0	0	0	137	0	230
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.81	0.53	0.81	0.75	1.00	1.00	1.00	1.00	0.81	1.00	0.57
Lanes:	0.00	2.00	1.00	1.00	2.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
Final Sat.:	0	3079	1002	1539	2858	0	0	0	0	1539	0	1091
Capacity Analysis Module:												
Vol/Sat:	0.00	0.39	0.18	0.17	0.27	0.00	0.00	0.00	0.00	0.09	0.00	0.21
Crit Moves:					****					****		
Green/Cycle:	0.00	0.47	0.47	0.18	0.64	0.00	0.00	0.00	0.00	0.26	0.00	0.26
Volume/Cap:	0.00	0.83	0.38	0.98	0.42	0.00	0.00	0.00	0.00	0.35	0.00	0.83
Delay/Veh:	0.0	24.8	16.0	86.2	7.9	0.0	0.0	0.0	0.0	27.9	0.0	49.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	24.8	16.0	86.2	7.9	0.0	0.0	0.0	0.0	27.9	0.0	49.5
LOS by Move:	A	C	B	F	A	A	A	A	A	C	A	D
HCM2kAvgQ:	0	15	3	9	5	0	0	0	0	3	0	9

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Baseline PM

Intersection #4: Potrero Ave/23rd St



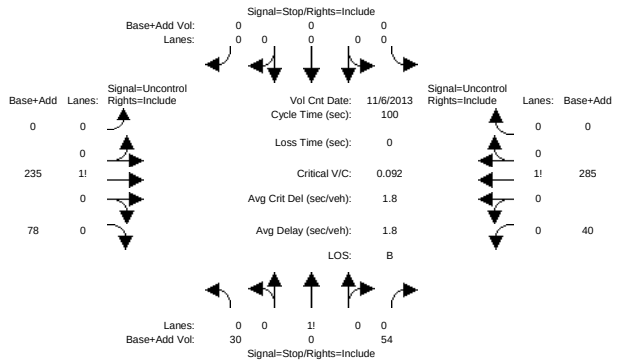
Street Name:	Potrero Ave						23rd St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	0	40	40	14	58	58	0	0	0	23	0	23
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.0	4.0	5.0
Volume Module: >> Count Date: 9 Apr 2013 << 4-6PM												
Base Vol:	0	708	86	137	1271	0	0	0	0	120	0	220
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	708	86	137	1271	0	0	0	0	120	0	220
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Hospital Re:	0	0	18	8	0	0	0	0	0	58	0	43
Initial Fut:	0	708	104	145	1271	0	0	0	0	178	0	263
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	0	730	107	149	1310	0	0	0	0	184	0	271
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	730	107	149	1310	0	0	0	0	184	0	271
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	730	107	149	1310	0	0	0	0	184	0	271
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.81	0.55	0.81	0.75	1.00	1.00	1.00	1.00	0.81	1.00	0.58
Lanes:	0.00	2.00	1.00	1.00	2.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
Final Sat.:	0	3079	1038	1539	2858	0	0	0	0	1539	0	1099
Capacity Analysis Module:												
Vol/Sat:	0.00	0.24	0.10	0.10	0.46	0.00	0.00	0.00	0.00	0.12	0.00	0.25
Crit Moves:					****					****		
Green/Cycle:	0.00	0.44	0.44	0.20	0.64	0.00	0.00	0.00	0.00	0.26	0.00	0.26
Volume/Cap:	0.00	0.53	0.23	0.49	0.71	0.00	0.00	0.00	0.00	0.47	0.00	0.97
Delay/Veh:	0.0	18.6	15.8	33.1	11.8	0.0	0.0	0.0	0.0	29.2	0.0	77.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	18.6	15.8	33.1	11.8	0.0	0.0	0.0	0.0	29.2	0.0	77.1
LOS by Move:	A	B	B	C	B	A	A	A	A	C	A	E
HCM2kAvgQ:	0	8	2	3	12	0	0	0	0	5	0	12

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Baseline AM

Intersection #5: Utah St/23rd St

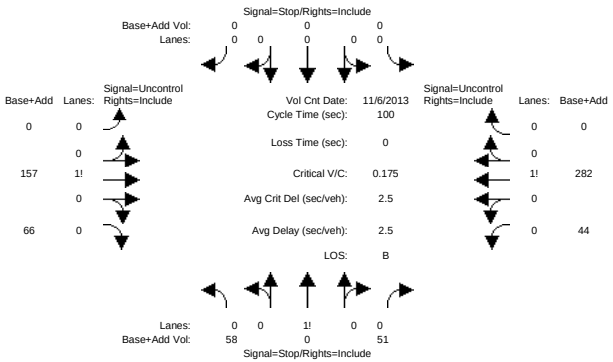



```
Street Name:            Utah St                         23rd St
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 6 Nov 2013 << 7-9AM
Base Vol:      30    0    54     0    0     0     0  235    78    40  285     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   30    0    54     0    0     0     0  235    78    40  285     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
Hospital Re:    0    0     3     0    0     0     0  101     0     1   26     0
Initial Fut:   30    0    57     0    0     0     0  336    78    41  311     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.95 0.95  0.95  0.95 0.95  0.95  0.95 0.95  0.95  0.95 0.95  0.95
PHF Volume:    32    0    60     0    0     0     0  354    82    43  327     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   32    0    60     0    0     0     0  354    82    43  327     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.4  6.5   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  808  808   395  xxxx xxxx xxxxx  xxxx xxxx xxxxx   436 xxxx xxxxx
Potent Cap.:  353  317   659  xxxx xxxx xxxxx  xxxx xxxx xxxxx  1135 xxxx xxxxx
Move Cap.:    342  305   659  xxxx xxxx xxxxx  xxxx xxxx xxxxx  1135 xxxx xxxxx
Volume/Cap:  0.09 0.00  0.09  xxxx xxxx  xxxx  xxxx xxxx  xxxx  0.04 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.1 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.3 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  500 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.7 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   0.1 xxxx xxxxx
Shrd ConDel:xxxxx 13.8 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.3 xxxx xxxxx
Shared LOS:     *    B     *     *    *     *     *    *     *     A    *     *
ApproachDel:      13.8           xxxxxx           xxxxxx           xxxxxx
ApproachLOS:         B              *                *                *
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Baseline PM

Intersection #5: Utah St/23rd St




```
Street Name:            Utah St                         23rd St
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 6 Nov 2013 << 4-6PM
Base Vol:      58    0    51     0    0     0     0  157    66    44  282     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   58    0    51     0    0     0     0  157    66    44  282     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
Hospital Re:    0    0     1     0    0     0     0   26     0     3  101     0
Initial Fut:   58    0    52     0    0     0     0  183    66    47  383     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.91 0.91  0.91  0.91 0.91  0.91  0.91 0.91  0.91  0.91 0.91  0.91
PHF Volume:    64    0    57     0    0     0     0  201    73    52  421     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   64    0    57     0    0     0     0  201    73    52  421     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.4  6.5   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  762  762   237  xxxx xxxx xxxxx  xxxx xxxx xxxxx   274 xxxx xxxxx
Potent Cap.:  376  337   807  xxxx xxxx xxxxx  xxxx xxxx xxxxx  1301 xxxx xxxxx
Move Cap.:    364  323   807  xxxx xxxx xxxxx  xxxx xxxx xxxxx  1301 xxxx xxxxx
Volume/Cap:  0.17 0.00  0.07  xxxx xxxx  xxxx  xxxx xxxx  xxxx  0.04 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.1 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.9 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  492 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  1.0 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   0.1 xxxx xxxxx
Shrd ConDel:xxxxx 14.7 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.9 xxxx xxxxx
Shared LOS:     *    B     *     *    *     *     *    *     *     A    *     *
ApproachDel:      14.7           xxxxxx           xxxxxx           xxxxxx
ApproachLOS:         B              *                *                *
Note: Queue reported is the number of cars per lane.
```

San Francisco General Hospital EIR
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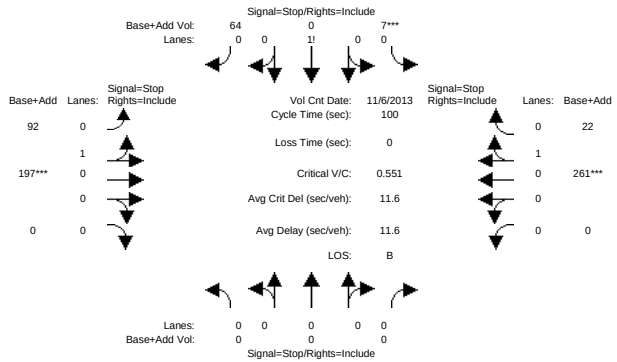
Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Baseline AM

Intersection #6: West Driveway/23rd St

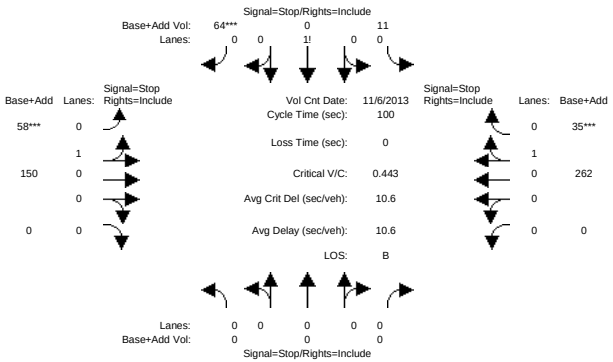



```
Street Name:          West Driveway                    23rd St
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 6 Nov 2013 << 7-9AM
Base Vol:       0     0     0     7     0    64    92   197     0     0   261    22
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    0     0     0     7     0    64    92   197     0     0   261    22
Added Vol:      0     0     0     0     0     0     0     0     0     0     0     0
Hospital Re:    0     0     0     0     0    26   104     0     0     0     0    35
Initial Fut:    0     0     0     7     0    90   196   197     0     0   261    57
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     0.93  0.93  0.93  0.93  0.93  0.93  0.93  0.93  0.93  0.93  0.93  0.93
PHF Volume:     0     0     0     8     0    97   211   212     0     0   281    61
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:    0     0     0     8     0    97   211   212     0     0   281    61
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:    0     0     0     8     0    97   211   212     0     0   281    61
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.00  0.00  0.00  0.07  0.00  0.93  0.50  0.50  0.00  0.00  0.82  0.18
Final Sat.:     0     0     0    47     0   607   382   384     0     0   640   140
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     xxxx  xxxx  xxxx  0.16  xxxx  0.16  0.55  0.55  xxxx  xxxx  0.44  0.44
Crit Moves:                      ****                  ****                ****
Delay/Veh:    0.0   0.0   0.0   8.8   0.0   8.8  13.0  13.0   0.0   0.0  10.8  10.8
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   0.0   0.0   0.0   8.8   0.0   8.8  13.0  13.0   0.0   0.0  10.8  10.8
LOS by Move:    *     *     *     A     *     A     B     B     *     *     B     B
ApproachDel:       xxxxxx             8.8              13.0             10.8
Delay Adj:          xxxxx            1.00              1.00             1.00
ApprAdjDel:        xxxxxx             8.8              13.0             10.8
LOS by Appr:            *               A                 B                B
AllWayAvgQ:   0.0   0.0   0.0   0.1   0.1   0.1   1.1   1.1   1.1   0.7   0.7   0.7
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Baseline PM

Intersection #6: West Driveway/23rd St

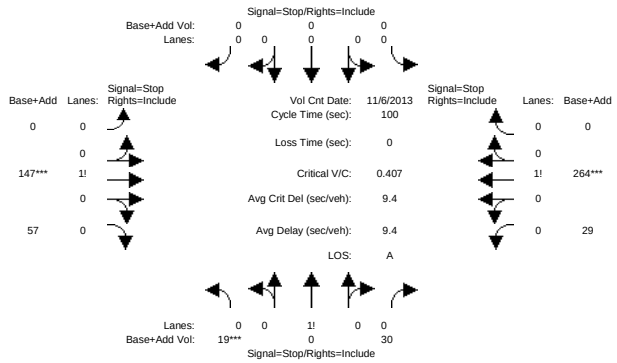



```
Street Name:          West Driveway                    23rd St
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 6 Nov 2013 << 4-6PM
Base Vol:       0     0     0    11     0    64    58   150     0     0   262    35
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    0     0     0    11     0    64    58   150     0     0   262    35
Added Vol:      0     0     0     0     0     0     0     0     0     0     0     0
Hospital Re:    0     0     0    35     0   104    26     0     0     0     0     0
Initial Fut:    0     0     0    46     0   168    84   150     0     0   262    35
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     0.91  0.91  0.91  0.91  0.91  0.91  0.91  0.91  0.91  0.91  0.91  0.91
PHF Volume:     0     0     0    51     0   185    92   165     0     0   288    38
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:    0     0     0    51     0   185    92   165     0     0   288    38
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:    0     0     0    51     0   185    92   165     0     0   288    38
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.00  0.00  0.00  0.21  0.00  0.79  0.36  0.64  0.00  0.00  0.88  0.12
Final Sat.:     0     0     0   151     0   551   252   451     0     0   651    87
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     xxxx  xxxx  xxxx  0.33  xxxx  0.33  0.37  0.37  xxxx  xxxx  0.44  0.44
Crit Moves:                            ****  ****                      ****
Delay/Veh:    0.0   0.0   0.0   9.9   0.0   9.9  10.6  10.6   0.0   0.0  11.2  11.2
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   0.0   0.0   0.0   9.9   0.0   9.9  10.6  10.6   0.0   0.0  11.2  11.2
LOS by Move:    *     *     *     A     *     A     B     B     *     *     B     B
ApproachDel:       xxxxxx             9.9              10.6             11.2
Delay Adj:          xxxxx            1.00              1.00             1.00
ApprAdjDel:        xxxxxx             9.9              10.6             11.2
LOS by Appr:            *               A                 B                B
AllWayAvgQ:   0.0   0.0   0.0   0.4   0.4   0.4   0.5   0.5   0.5   0.7   0.7   0.7
Note: Queue reported is the number of cars per lane.
```

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Baseline AM

Intersection #7: San Bruno Ave/23rd St

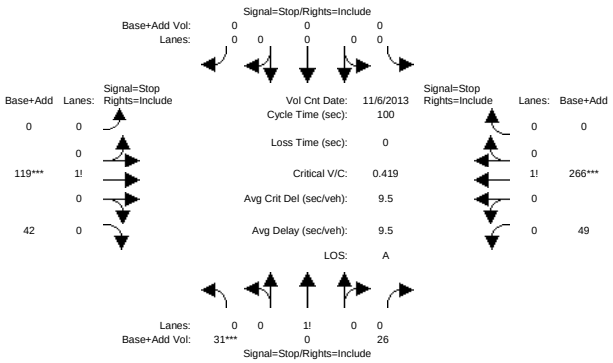



```
Street Name:          San Bruno Ave                    23rd St
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 6 Nov 2013 << 7-9AM
Base Vol:      19    0    30     0    0     0     0  147    57    29  264     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   19    0    30     0    0     0     0  147    57    29  264     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
Hospital Re:    0    0     0     0    0     0     0    0     0     0   35     0
Initial Fut:   19    0    30     0    0     0     0  147    57    29  299     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.96 0.96  0.96  0.96 0.96  0.96  0.96 0.96  0.96  0.96 0.96  0.96
PHF Volume:    20    0    31     0    0     0     0  153    59    30  311     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   20    0    31     0    0     0     0  153    59    30  311     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   20    0    31     0    0     0     0  153    59    30  311     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.39 0.00  0.61  0.00 0.00  0.00  0.00 0.72  0.28  0.09 0.91  0.00
Final Sat.:   270    0   426     0    0     0     0  608   236    74  765     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.07 xxxx  0.07  xxxx xxxx  xxxx  xxxx 0.25  0.25  0.41 0.41  xxxx
Crit Moves:  ****                              ****               ****
Delay/Veh:    8.0  0.0   8.0   0.0  0.0   0.0   0.0  8.5   8.5  10.1 10.1   0.0
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   8.0  0.0   8.0   0.0  0.0   0.0   0.0  8.5   8.5  10.1 10.1   0.0
LOS by Move:    A    *     A     *    *     *     *    A     A     B    B     *
ApproachDel:        8.0           xxxxxx              8.5              10.1
Delay Adj:         1.00            xxxxx             1.00              1.00
ApprAdjDel:         8.0           xxxxxx              8.5              10.1
LOS by Appr:          A                *                A                B
AllWayAvgQ:   0.1  0.1   0.1   0.0  0.0   0.0   0.3  0.3   0.3   0.7  0.7   0.7
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Baseline PM

Intersection #7: San Bruno Ave/23rd St

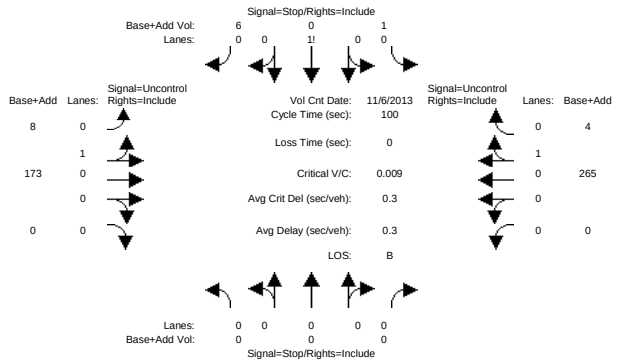



```
Street Name:          San Bruno Ave                    23rd St
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 6 Nov 2013 << 4-6PM
Base Vol:      31    0    26     0    0     0     0  119    42    49  266     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   31    0    26     0    0     0     0  119    42    49  266     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
Hospital Re:    0    0     0     0    0     0     0   35     0     0    0     0
Initial Fut:   31    0    26     0    0     0     0  154    42    49  266     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.91 0.91  0.91  0.91 0.91  0.91  0.91 0.91  0.91  0.91 0.91  0.91
PHF Volume:    34    0    29     0    0     0     0  169    46    54  292     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   34    0    29     0    0     0     0  169    46    54  292     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   34    0    29     0    0     0     0  169    46    54  292     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.54 0.00  0.46  0.00 0.00  0.00  0.00 0.79  0.21  0.16 0.84  0.00
Final Sat.:   368    0   309     0    0     0     0  650   177   129  698     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.09 xxxx  0.09  xxxx xxxx  xxxx  xxxx 0.26  0.26  0.42 0.42  xxxx
Crit Moves:  ****                              ****               ****
Delay/Veh:    8.3  0.0   8.3   0.0  0.0   0.0   0.0  8.7   8.7  10.3 10.3   0.0
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   8.3  0.0   8.3   0.0  0.0   0.0   0.0  8.7   8.7  10.3 10.3   0.0
LOS by Move:    A    *     A     *    *     *     *    A     A     B    B     *
ApproachDel:        8.3           xxxxxx              8.7              10.3
Delay Adj:         1.00            xxxxx             1.00              1.00
ApprAdjDel:         8.3           xxxxxx              8.7              10.3
LOS by Appr:          A                *                A                B
AllWayAvgQ:   0.1  0.1   0.1   0.0  0.0   0.0   0.3  0.3   0.3   0.7  0.7   0.7
Note: Queue reported is the number of cars per lane.
```

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Baseline AM

Intersection #8: East Driveway/23rd St

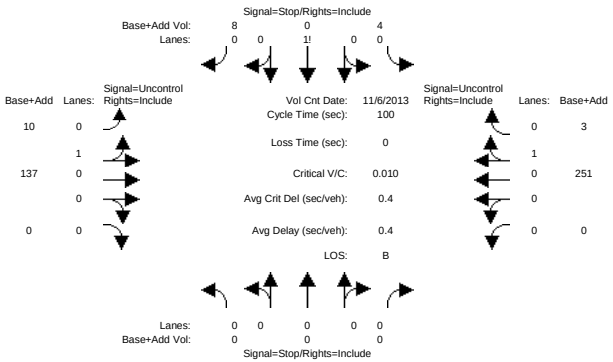



```
Street Name:          East Driveway                    23rd St
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 6 Nov 2013 << 7-9AM
Base Vol:       0    0     0     1    0     6     8  173     0     0  265     4
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0     1    0     6     8  173     0     0  265     4
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     1    0     0     2    0     0     0   35     0
Initial Fut:    0    0     0     2    0     6    10  173     0     0  300     4
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.94 0.94  0.94  0.94 0.94  0.94  0.94 0.94  0.94  0.94 0.94  0.94
PHF Volume:     0    0     0     2    0     6    11  184     0     0  319     4
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0     2    0     6    11  184     0     0  319     4
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4  6.5   6.2   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   527  527   321   323 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   515  459   724  1248 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   512  455   724  1248 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.00 0.00  0.01  0.01 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.0 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.9 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A     *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  656 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  0.0 xxxxx   0.0 xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 10.6 xxxxx   7.9 xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    B     *     A     *     *     *    *     *
ApproachDel:    xxxxxx            10.6           xxxxxx           xxxxxx
ApproachLOS:         *              B              *                *
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Baseline PM

Intersection #8: East Driveway/23rd St

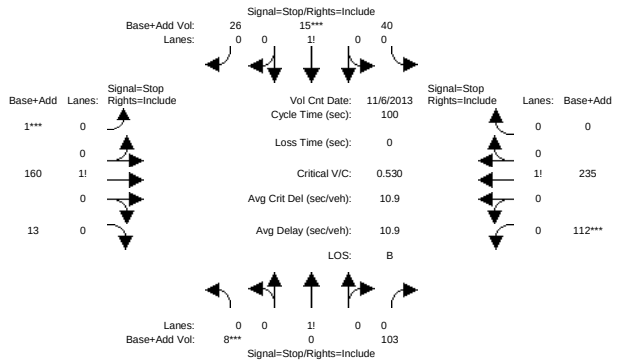



```
Street Name:          East Driveway                    23rd St
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 6 Nov 2013 << 4-6PM
Base Vol:       0    0     0     4    0     8    10  137     0     0  251     3
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0     4    0     8    10  137     0     0  251     3
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
Hospital Re:    0    0     0    -1    0    -1    -1   35     0     0    0     1
Initial Fut:    0    0     0     3    0     7     9  172     0     0  251     4
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.92 0.92  0.92  0.92 0.92  0.92  0.92 0.92  0.92  0.92 0.92  0.92
PHF Volume:     0    0     0     3    0     8    10  187     0     0  273     4
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0     3    0     8    10  187     0     0  273     4
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4  6.5   6.2   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   482  482   275   277 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   547  487   769  1297 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   544  483   769  1297 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.01 0.00  0.01  0.01 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.0 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.8 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A     *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  684 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  0.0 xxxxx   0.0 xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 10.3 xxxxx   7.8 xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    B     *     A     *     *     *    *     *
ApproachDel:    xxxxxx            10.3           xxxxxx           xxxxxx
ApproachLOS:         *              B              *                *
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Baseline AM

Intersection #9: Vermont St/23rd St

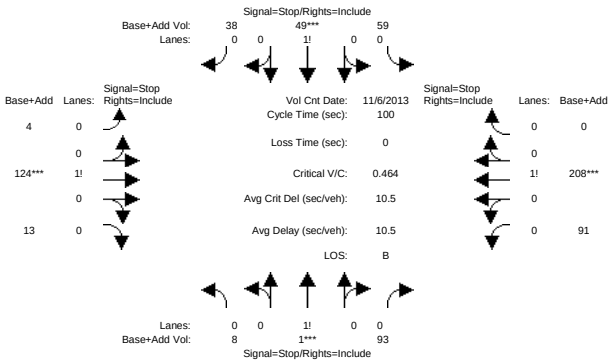



```
Street Name:            Vermont St                        23rd St
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0    0     0    0    0     0    0    0     0    0    0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 6 Nov 2013 << 7-9AM
Base Vol:       8    0  103    40   15   26     1  160   13   112  235    0
Growth Adj:  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Initial Bse:    8    0  103    40   15   26     1  160   13   112  235    0
Added Vol:      0    0    0     0    0    0     0    0    0     0    0    0
PasserByVol:    0    0    0     0    0    0     0    0    0     0   35    0
Initial Fut:    8    0  103    40   15   26     1  160   13   112  270    0
User Adj:    1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Adj:     0.96 0.96 0.96  0.96 0.96 0.96  0.96 0.96 0.96  0.96 0.96 0.96
PHF Volume:     8    0  107    42   16   27     1  167   14   117  281    0
Reduct Vol:     0    0    0     0    0    0     0    0    0     0    0    0
Reduced Vol:    8    0  107    42   16   27     1  167   14   117  281    0
PCE Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
FinalVolume:    8    0  107    42   16   27     1  167   14   117  281    0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Lanes:       0.07 0.00 0.93  0.49 0.19 0.32  0.01 0.92 0.07  0.29 0.71 0.00
Final Sat.:    49    0  626   303  114  197     4  655   53   220  531    0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.17 xxxx 0.17  0.14 0.14 0.14  0.25 0.25 0.25  0.53 0.53 xxxx
Crit Moves:  ****          ****       ****          ****
Delay/Veh:    8.7  0.0  8.7   9.0  9.0  9.0   9.4  9.4  9.4  12.6 12.6  0.0
Delay Adj:   1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
AdjDel/Veh:   8.7  0.0  8.7   9.0  9.0  9.0   9.4  9.4  9.4  12.6 12.6  0.0
LOS by Move:    A    *    A     A    A    A     A    A    A     B    B    *
ApproachDel:        8.7             9.0             9.4             12.6
Delay Adj:         1.00            1.00            1.00            1.00
ApprAdjDel:         8.7             9.0             9.4             12.6
LOS by Appr:          A               A               A               B
AllWayAvgQ:   0.2  0.2  0.2   0.1  0.1  0.1   0.3  0.3  0.3   1.0  1.0  1.0
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Baseline PM

Intersection #9: Vermont St/23rd St

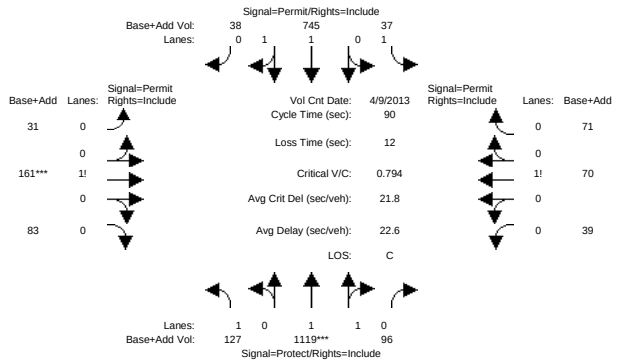



```
Street Name:            Vermont St                        23rd St
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0    0     0    0    0     0    0    0     0    0    0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 6 Nov 2013 << 4-6PM
Base Vol:       8    1   93    59   49   38     4  124   13    91  208    0
Growth Adj:  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Initial Bse:    8    1   93    59   49   38     4  124   13    91  208    0
Added Vol:      0    0    0     0    0    0     0    0    0     0    0    0
Hospital Re:    0    0    0     0    0    0     0   35    0     0    0    0
Initial Fut:    8    1   93    59   49   38     4  159   13    91  208    0
User Adj:    1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Adj:     0.91 0.91 0.91  0.91 0.91 0.91  0.91 0.91 0.91  0.91 0.91 0.91
PHF Volume:     9    1  102    65   54   42     4  175   14   100  229    0
Reduct Vol:     0    0    0     0    0    0     0    0    0     0    0    0
Reduced Vol:    9    1  102    65   54   42     4  175   14   100  229    0
PCE Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
FinalVolume:    9    1  102    65   54   42     4  175   14   100  229    0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Lanes:       0.08 0.01 0.91  0.40 0.34 0.26  0.02 0.91 0.07  0.30 0.70 0.00
Final Sat.:    52    7  607   256  213  165    16  620   51   216  493    0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.17 0.17 0.17  0.17 0.25 0.25  0.25 0.28 0.28  0.28 0.46 0.46 xxxx
Crit Moves:       ****            ****            ****            ****
Delay/Veh:    8.7  8.7  8.7   9.8  9.8  9.8   9.8  9.8  9.8  11.8 11.8  0.0
Delay Adj:   1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
AdjDel/Veh:   8.7  8.7  8.7   9.8  9.8  9.8   9.8  9.8  9.8  11.8 11.8  0.0
LOS by Move:    A    A    A     A    A    A     A    A    A     B    B    *
ApproachDel:        8.7             9.8             9.8             11.8
Delay Adj:         1.00            1.00            1.00            1.00
ApprAdjDel:         8.7             9.8             9.8             11.8
LOS by Appr:          A               A               A               B
AllWayAvgQ:   0.2  0.2  0.2   0.3  0.3  0.3   0.3  0.3  0.3   0.8  0.8  0.8
Note: Queue reported is the number of cars per lane.
```

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Baseline AM

Intersection #10: Potrero Ave/24th St

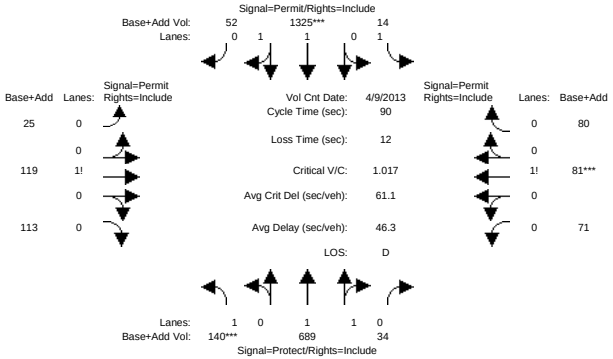



```
Street Name:          Potrero Ave                    24th St
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   55   55    44   44   44    23   23   23    23   23   23
Y+R:          4.0  7.0  7.0   7.0  7.0  7.0   5.0  5.0  5.0   5.0  5.0  5.0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 9 Apr 2013 << 7-9AM
Base Vol:     127 1119   96    37  745   38    31  161   83    39   70   71
Growth Adj:  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Initial Bse:  127 1119   96    37  745   38    31  161   83    39   70   71
Added Vol:      0    0    0     0    0    0     0    0    0     0    0    0
Hospital Re:    0   58    0     0   18    0     0    0    0     0    0    0
Initial Fut:  127 1177   96    37  763   38    31  161   83    39   70   71
User Adj:    1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Adj:     0.97 0.97 0.97  0.97 0.97 0.97  0.97 0.97 0.97  0.97 0.97 0.97
PHF Volume:   131 1213   99    38  787   39    32  166   86    40   72   73
Reduct Vol:     0    0    0     0    0    0     0    0    0     0    0    0
Reduced Vol:  131 1213   99    38  787   39    32  166   86    40   72   73
PCE Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
FinalVolume:  131 1213   99    38  787   39    32  166   86    40   72   73
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900
Adjustment:  0.81 0.74 0.74  0.11 0.75 0.74  0.67 0.68 0.65  0.57 0.58 0.56
Lanes:       1.00 1.85 0.15  1.00 1.90 0.10  0.11 0.58 0.31  0.22 0.38 0.40
Final Sat.:  1539 2612  213   216 2701  135   143  742  382   235  422  428
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.09 0.46 0.46  0.18 0.29 0.29  0.22 0.22 0.22  0.17 0.17 0.17
Crit Moves:       ****                      ****
Green/Cycle: 0.12 0.61 0.61  0.49 0.49 0.49  0.26 0.26 0.26  0.26 0.26 0.26
Volume/Cap:  0.70 0.76 0.76  0.36 0.60 0.60  0.88 0.88 0.88  0.67 0.67 0.67
Delay/Veh:   48.7 14.7 14.7  16.4 17.3 17.3  54.5 54.5 54.5  36.2 36.2 36.2
User DelAdj: 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
AdjDel/Veh:  48.7 14.7 14.7  16.4 17.3 17.3  54.5 54.5 54.5  36.2 36.2 36.2
LOS by Move:    D    B    B     B    B    B     D    D    D     D    D    D
HCM2kAvgQ:      3   13   13     1    9    8    11   11   10     6    6    6
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Baseline PM

Intersection #10: Potrero Ave/24th St

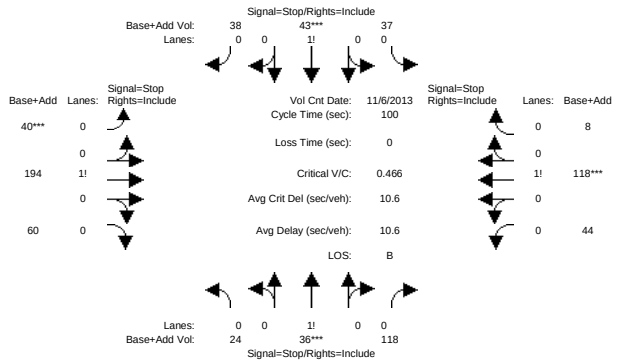



```
Street Name:          Potrero Ave                    24th St
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   55   55    44   44   44    23   23   23    23   23   23
Y+R:          4.0  7.0  7.0   7.0  7.0  7.0   5.0  5.0  5.0   5.0  5.0  5.0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 9 Apr 2013 << 4-6PM
Base Vol:     140  689   34    14 1325   52    25  119  113    71   81   80
Growth Adj:  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Initial Bse:  140  689   34    14 1325   52    25  119  113    71   81   80
Added Vol:      0    0    0     0    0    0     0    0    0     0    0    0
Hospital Re:    0   18    0     0   58    0     0    0    0     0    0    0
Initial Fut:  140  707   34    14 1383   52    25  119  113    71   81   80
User Adj:    1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Adj:     0.96 0.96 0.96  0.96 0.96 0.96  0.96 0.96 0.96  0.96 0.96 0.96
PHF Volume:   146  736   35    15 1441   54    26  124  118    74   84   83
Reduct Vol:     0    0    0     0    0    0     0    0    0     0    0    0
Reduced Vol:  146  736   35    15 1441   54    26  124  118    74   84   83
PCE Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
FinalVolume:  146  736   35    15 1441   54    26  124  118    74   84   83
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900
Adjustment:  0.81 0.75 0.74  0.25 0.75 0.74  0.67 0.67 0.62  0.48 0.50 0.48
Lanes:       1.00 1.91 0.09  1.00 1.93 0.07  0.09 0.45 0.46  0.31 0.34 0.35
Final Sat.:  1539 2707  130   472 2739  103   120  572  543   284  324  320
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.09 0.27 0.27  0.03 0.53 0.53  0.22 0.22 0.22  0.26 0.26 0.26
Crit Moves:  ****                 ****                      ****
Green/Cycle: 0.09 0.61 0.61  0.52 0.52 0.52  0.26 0.26 0.26  0.26 0.26 0.26
Volume/Cap:  1.02 0.45 0.45  0.06 1.02 1.02  0.84 0.84 0.84  1.02 1.02 1.02
Delay/Veh:  120.7  9.6  9.6  10.9 49.6 49.6  50.1 50.1 50.1  95.9 95.9 95.9
User DelAdj: 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
AdjDel/Veh: 120.7  9.6  9.6  10.9 49.6 49.6  50.1 50.1 50.1  95.9 95.9 95.9
LOS by Move:    F    A    A     B    D    D     D    D    D     F    F    F
HCM2kAvgQ:      6    6    6     0   27   26    10   10   10    12   12   12
Note: Queue reported is the number of cars per lane.
```

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Baseline AM

Intersection #11: Utah St/24th St



Street Name: Utah St 24th St

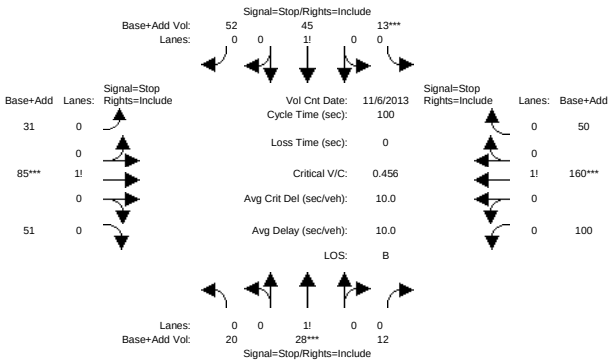
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 6 Nov 2013 << 7-9AM												
Base Vol:	24	36	118	37	43	38	40	194	60	44	118	8
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	24	36	118	37	43	38	40	194	60	44	118	8
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Hospital Re:	0	3	0	0	1	0	0	0	0	0	0	0
Initial Fut:	24	39	118	37	44	38	40	194	60	44	118	8
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	27	43	131	41	49	42	44	216	67	49	131	9
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	27	43	131	41	49	42	44	216	67	49	131	9
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	27	43	131	41	49	42	44	216	67	49	131	9
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.13	0.22	0.65	0.31	0.37	0.32	0.14	0.66	0.20	0.26	0.69	0.05
Final Sat.:	88	143	433	191	227	196	95	463	143	168	451	31
Capacity Analysis Module:												
Vol/Sat:	0.30	0.30	0.30	0.22	0.22	0.22	0.47	0.47	0.47	0.29	0.29	0.29
Crit Moves:		****			****		****				****	
Delay/Veh:	9.9	9.9	9.9	9.6	9.6	9.6	11.8	11.8	11.8	10.1	10.1	10.1
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	9.9	9.9	9.9	9.6	9.6	9.6	11.8	11.8	11.8	10.1	10.1	10.1
LOS by Move:	A	A	A	A	A	A	B	B	B	B	B	B
ApproachDel:		9.9			9.6			11.8			10.1	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		9.9			9.6			11.8			10.1	
LOS by Appr:		A			A			B			B	
AllWayAvgQ:	0.4	0.4	0.4	0.2	0.2	0.2	0.8	0.8	0.8	0.3	0.3	0.3

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Baseline PM

Intersection #11: Utah St/24th St



Street Name: Utah St 24th St

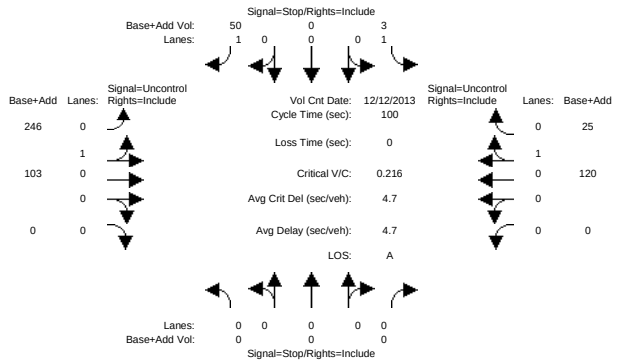
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 6 Nov 2013 << 4-6PM												
Base Vol:	20	28	12	13	45	52	31	85	51	100	160	50
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	20	28	12	13	45	52	31	85	51	100	160	50
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Hospital Re:	0	1	0	0	3	0	0	0	0	0	0	0
Initial Fut:	20	29	12	13	48	52	31	85	51	100	160	50
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
PHF Volume:	22	33	13	15	54	58	35	96	57	112	180	56
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	22	33	13	15	54	58	35	96	57	112	180	56
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	22	33	13	15	54	58	35	96	57	112	180	56
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.33	0.47	0.20	0.12	0.42	0.46	0.19	0.51	0.30	0.32	0.52	0.16
Final Sat.:	204	296	122	77	283	307	138	377	226	247	395	123
Capacity Analysis Module:												
Vol/Sat:	0.11	0.11	0.11	0.19	0.19	0.19	0.25	0.25	0.25	0.46	0.46	0.46
Crit Moves:		****			****			****			****	
Delay/Veh:	8.8	8.8	8.8	9.0	9.0	9.0	9.1	9.1	9.1	11.2	11.2	11.2
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	8.8	8.8	8.8	9.0	9.0	9.0	9.1	9.1	9.1	11.2	11.2	11.2
LOS by Move:	A	A	A	A	A	A	A	A	A	B	B	B
ApproachDel:		8.8			9.0			9.1			11.2	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		8.8			9.0			9.1			11.2	
LOS by Appr:		A			A			A			B	
AllWayAvgQ:	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.3	0.8	0.8	0.8

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Baseline AM

Intersection #12: Parking Garage Driveway (S)/24th St



Street Name: Parking Garage Driveway (S) 24th St

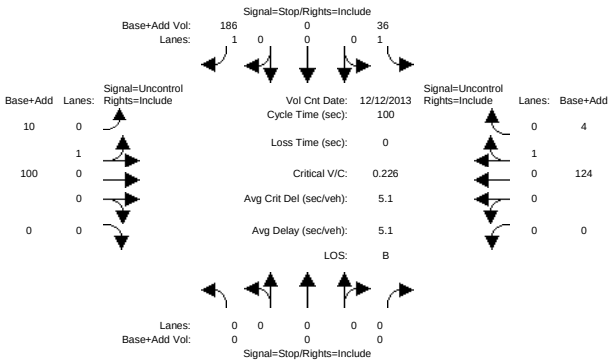
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module: >> Count Date: 12 Dec 2013 << 7-9AM												
Base Vol:	0	0	0	3	0	50	246	103	0	0	120	25
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	3	0	50	246	103	0	0	120	25
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	3	0	50	246	103	0	0	120	25
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
PHF Volume:	0	0	0	4	0	62	304	127	0	0	148	31
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	4	0	62	304	127	0	0	148	31
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	898	xxxx	164	179	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	312	xxxx	886	1409	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	250	xxxx	886	1409	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.01	xxxx	0.07	0.22	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.0	xxxx	0.2	0.8	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	19.6	xxxx	9.4	8.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	C	*	A	A	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	0.8	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	8.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	A	*	*	*	*	*
ApproachDel:	xxxxxx			9.9			xxxxxx			xxxxxx		
ApproachLOS:	*			A			*			*		

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Baseline PM

Intersection #12: Parking Garage Driveway (S)/24th St



Street Name: Parking Garage Driveway (S) 24th St

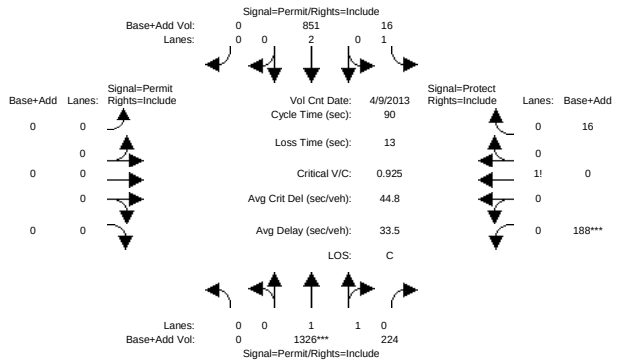
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module: >> Count Date: 12 Dec 2013 << 4-6PM												
Base Vol:	0	0	0	36	0	186	10	100	0	0	124	4
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	36	0	186	10	100	0	0	124	4
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	36	0	186	10	100	0	0	124	4
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	0	0	0	40	0	207	11	111	0	0	138	4
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	40	0	207	11	111	0	0	138	4
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	273	xxxx	140	142	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	720	xxxx	913	1453	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	716	xxxx	913	1453	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.06	xxxx	0.23	0.01	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.2	xxxx	0.9	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	10.3	xxxx	10.1	7.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	B	*	B	A	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	A	*	*	*	*	*
ApproachDel:	xxxxxx			10.1			xxxxxx			xxxxxx		
ApproachLOS:	*			B			*			*		

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Baseline AM

Intersection #13: Potrero Ave/25th St



Street Name: Potrero Ave 25th St

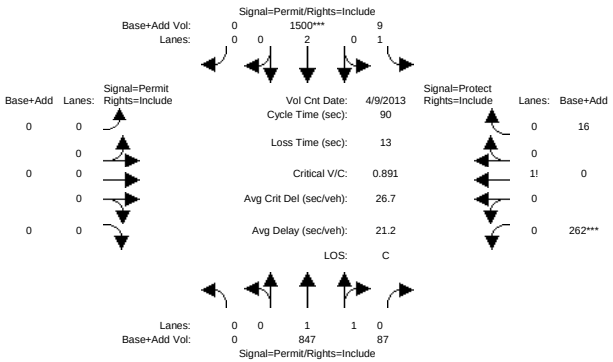
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	55	55	55	55	55	55	0	0	0	22	22	22
Y+R:	8.0	8.0	8.0	8.0	8.0	8.0	4.0	4.0	4.0	5.0	5.0	5.0
Volume Module: >> Count Date: 9 Apr 2013 << 7-9AM												
Base Vol:	0	1326	224	16	851	0	0	0	0	188	0	16
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1326	224	16	851	0	0	0	0	188	0	16
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	58	0	0	18	0	0	0	0	0	0	0
Initial Fut:	0	1384	224	16	869	0	0	0	0	188	0	16
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	0	1504	243	17	945	0	0	0	0	204	0	17
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1504	243	17	945	0	0	0	0	204	0	17
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1504	243	17	945	0	0	0	0	204	0	17
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.74	0.72	0.06	0.76	1.00	1.00	1.00	1.00	0.71	1.00	0.70
Lanes:	0.00	1.72	0.28	1.00	2.00	0.00	0.00	0.00	0.00	0.92	0.00	0.08
Final Sat.:	0	2402	389	118	2887	0	0	0	0	1235	0	105
Capacity Analysis Module:												
Vol/Sat:	0.00	0.63	0.63	0.15	0.33	0.00	0.00	0.00	0.00	0.17	0.00	0.17
Crit Moves:		****								****		
Green/Cycle:	0.00	0.61	0.61	0.61	0.61	0.00	0.00	0.00	0.00	0.24	0.00	0.24
Volume/Cap:	0.00	1.02	1.02	0.22	0.54	0.00	0.00	0.00	0.00	0.68	0.00	0.68
Delay/Veh:	0.0	45.8	45.8	9.2	10.4	0.0	0.0	0.0	0.0	36.4	0.0	36.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	45.8	45.8	9.2	10.4	0.0	0.0	0.0	0.0	36.4	0.0	36.4
LOS by Move:	A	D	D	A	B	A	A	A	A	D	A	D
HCM2kAvgQ:	0	35	35	0	8	0	0	0	0	6	0	1

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Baseline PM

Intersection #13: Potrero Ave/25th St



Street Name: Potrero Ave 25th St

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	55	55	55	55	55	55	0	0	0	22	22	22
Y+R:	8.0	8.0	8.0	8.0	8.0	8.0	4.0	4.0	4.0	5.0	5.0	5.0
Volume Module: >> Count Date: 9 Apr 2013 << 4-6PM												
Base Vol:	0	847	87	9	1500	0	0	0	0	262	0	16
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	847	87	9	1500	0	0	0	0	262	0	16
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Hospital Re:	0	18	0	0	58	0	0	0	0	0	0	0
Initial Fut:	0	865	87	9	1558	0	0	0	0	262	0	16
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
PHF Volume:	0	883	89	9	1590	0	0	0	0	267	0	16
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	883	89	9	1590	0	0	0	0	267	0	16
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	883	89	9	1590	0	0	0	0	267	0	16
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.74	0.74	0.22	0.76	1.00	1.00	1.00	1.00	0.71	1.00	0.70
Lanes:	0.00	1.82	0.18	1.00	2.00	0.00	0.00	0.00	0.00	0.94	0.00	0.06
Final Sat.:	0	2559	257	410	2887	0	0	0	0	1266	0	77
Capacity Analysis Module:												
Vol/Sat:	0.00	0.34	0.34	0.02	0.55	0.00	0.00	0.00	0.00	0.21	0.00	0.21
Crit Moves:					****					****		
Green/Cycle:	0.00	0.61	0.61	0.61	0.61	0.00	0.00	0.00	0.00	0.24	0.00	0.24
Volume/Cap:	0.00	0.56	0.56	0.04	0.90	0.00	0.00	0.00	0.00	0.86	0.00	0.86
Delay/Veh:	0.0	10.8	10.8	7.0	22.0	0.0	0.0	0.0	0.0	53.0	0.0	53.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	10.8	10.8	7.0	22.0	0.0	0.0	0.0	0.0	53.0	0.0	53.0
LOS by Move:	A	B	B	A	C	A	A	A	A	D	A	D
HCM2kAvgQ:	0	9	9	0	19	0	0	0	0	10	0	2

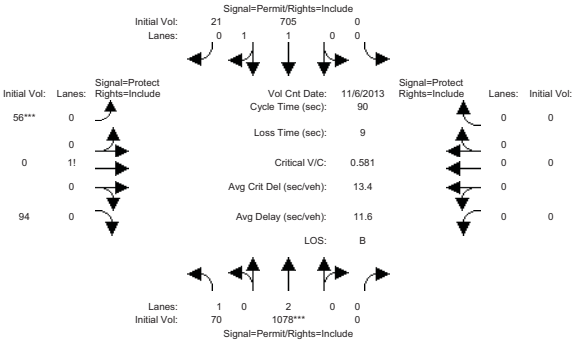
Note: Queue reported is the number of cars per lane.

Near Term Plus Project (307-space Garage Expansion)

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Baseline Plus Project (307-space) AM

Intersection #1: Potrero Ave/20th St



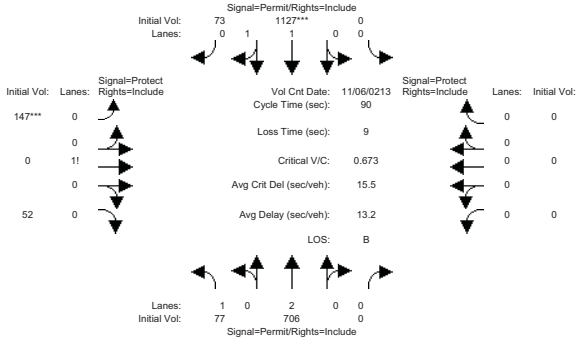
Street Name:	Potrero Ave						20th St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	56	56	56	56	56	56	25	25	25	0	0	0
Y+R:	4.5	4.5	4.5	4.5	4.5	4.5	5.0	5.0	5.0	4.0	4.0	4.0
Volume Module: >> Count Date: 6 Nov 2013 << 7-9AM												
Base Vol:	70	1070	0	0	663	21	56	0	92	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	70	1070	0	0	663	21	56	0	92	0	0	0
Added Vol:	0	5	0	0	25	0	0	0	1	0	0	0
Hospital Re:	0	3	0	0	17	0	0	0	1	0	0	0
Initial Fut:	70	1078	0	0	705	21	56	0	94	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	74	1135	0	0	742	22	59	0	99	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	74	1135	0	0	742	22	59	0	99	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	74	1135	0	0	742	22	59	0	99	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.27	0.75	1.00	1.00	0.75	0.75	0.67	1.00	0.65	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	0.00	1.94	0.06	0.37	0.00	0.63	0.00	0.00	0.00
Final Sat.:	517	2858	0	0	2764	82	468	0	786	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.14	0.40	0.00	0.00	0.27	0.27	0.13	0.00	0.13	0.00	0.00	0.00
Crit Moves:		****					****					
Green/Cycle:	0.62	0.62	0.00	0.00	0.62	0.62	0.28	0.00	0.28	0.00	0.00	0.00
Volume/Cap:	0.23	0.64	0.00	0.00	0.43	0.43	0.45	0.00	0.45	0.00	0.00	0.00
Delay/Veh:	7.9	11.4	0.0	0.0	8.9	8.9	27.8	0.0	27.8	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	7.9	11.4	0.0	0.0	8.9	8.9	27.8	0.0	27.8	0.0	0.0	0.0
LOS by Move:	A	B	A	A	A	A	C	A	C	A	A	A
HCM2kAvgQ:	1	11	0	0	6	6	4	0	4	0	0	0

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Baseline Plus Project (307-space) PM

Intersection #1: Potrero Ave/20th St



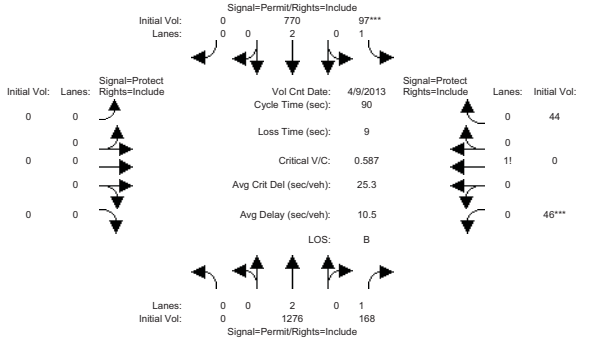
Street Name:	Potrero Ave						20th St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	56	56	56	56	56	56	25	25	25	0	0	0
Y+R:	4.5	4.5	4.5	4.5	4.5	4.5	5.0	5.0	5.0	4.0	4.0	4.0
Volume Module: >> Count Date: 6 Nov 213 << 4-6PM												
Base Vol:	75	664	0	0	1120	73	147	0	52	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	75	664	0	0	1120	73	147	0	52	0	0	0
Added Vol:	1	25	0	0	4	0	0	0	0	0	0	0
PasserByVol:	1	17	0	0	3	0	0	0	0	0	0	0
Initial Fut:	77	706	0	0	1127	73	147	0	52	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	81	743	0	0	1186	77	155	0	55	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	81	743	0	0	1186	77	155	0	55	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	81	743	0	0	1186	77	155	0	55	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.14	0.75	1.00	1.00	0.75	0.74	0.69	1.00	0.69	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	0.00	1.88	0.12	0.74	0.00	0.26	0.00	0.00	0.00
Final Sat.:	259	2858	0	0	2659	172	972	0	344	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.31	0.26	0.00	0.00	0.45	0.45	0.16	0.00	0.16	0.00	0.00	0.00
Crit Moves:					****		****					
Green/Cycle:	0.62	0.62	0.00	0.00	0.62	0.62	0.28	0.00	0.28	0.00	0.00	0.00
Volume/Cap:	0.50	0.42	0.00	0.00	0.72	0.72	0.57	0.00	0.57	0.00	0.00	0.00
Delay/Veh:	11.9	8.8	0.0	0.0	13.0	13.0	30.1	0.0	30.1	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	11.9	8.8	0.0	0.0	13.0	13.0	30.1	0.0	30.1	0.0	0.0	0.0
LOS by Move:	B	A	A	A	B	B	C	A	C	A	A	A
HCM2kAvgQ:	2	6	0	0	14	14	6	0	6	0	0	0

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Baseline Plus Project (307-space) AM

Intersection #2: Potrero Ave/22nd St (N)



Street Name:	Potrero Ave						22nd St (N)					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	59	59	59	59	59	59	0	0	0	22	22	22
Y+R:	4.5	4.5	4.5	4.5	4.5	4.5	4.0	4.0	4.0	5.0	5.0	5.0
Volume Module: >> Count Date: 9 Apr 2013 << 7-9AM												
Base Vol:	0	1267	168	97	723	0	0	0	0	46	0	44
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1267	168	97	723	0	0	0	0	46	0	44
Added Vol:	0	6	0	0	29	0	0	0	0	0	0	0
Hospital Re:	0	3	0	0	18	0	0	0	0	0	0	0
Initial Fut:	0	1276	168	97	770	0	0	0	0	46	0	44
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	0	1372	181	104	828	0	0	0	0	49	0	47
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1372	181	104	828	0	0	0	0	49	0	47
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1372	181	104	828	0	0	0	0	49	0	47
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.81	0.58	0.12	0.76	1.00	1.00	1.00	1.00	0.68	1.00	0.65
Lanes:	0.00	2.00	1.00	1.00	2.00	0.00	0.00	0.00	0.00	0.50	0.00	0.50
Final Sat.:	0	3079	1101	231	2887	0	0	0	0	644	0	616
Capacity Analysis Module:												
Vol/Sat:	0.00	0.45	0.16	0.45	0.29	0.00	0.00	0.00	0.00	0.08	0.00	0.08
Crit Moves:				****						****		
Green/Cycle:	0.00	0.66	0.66	0.66	0.66	0.00	0.00	0.00	0.00	0.24	0.00	0.24
Volume/Cap:	0.00	0.68	0.25	0.69	0.44	0.00	0.00	0.00	0.00	0.31	0.00	0.31
Delay/Veh:	0.0	10.6	6.6	22.4	7.6	0.0	0.0	0.0	0.0	28.4	0.0	28.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	10.6	6.6	22.4	7.6	0.0	0.0	0.0	0.0	28.4	0.0	28.4
LOS by Move:	A	B	A	C	A	A	A	A	A	C	A	C
HCM2kAvgQ:	0	12	2	3	6	0	0	0	0	2	0	2

Note: Queue reported is the number of cars per lane.

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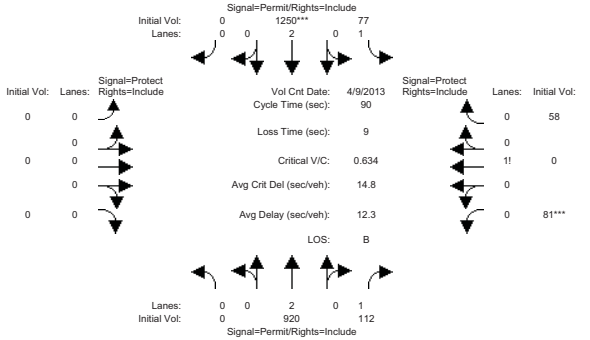
Baseline Plus Project (307-space) PM

Intersection #2: Potrero Ave/22nd St (N)



Street Name:	Potrero Ave						22nd St (N)					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	56	56	56	56	56	56	0	0	0	25	25	25
Y+R:	4.5	4.5	4.5	4.5	4.5	4.5	4.0	4.0	4.0	5.0	5.0	5.0
Volume Module: >> Count Date: 9 Apr 2013 << 4-6PM												
Base Vol:	0	873	112	77	1242	0	0	0	0	81	0	58
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	873	112	77	1242	0	0	0	0	81	0	58
Added Vol:	0	29	0	0	5	0	0	0	0	0	0	0
Hospital Re:	0	18	0	0	3	0	0	0	0	0	0	0
Initial Fut:	0	920	112	77	1250	0	0	0	0	81	0	58
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	968	118	81	1316	0	0	0	0	85	0	61
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	968	118	81	1316	0	0	0	0	85	0	61
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	968	118	81	1316	0	0	0	0	85	0	61
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.81	0.59	0.21	0.76	1.00	1.00	1.00	1.00	0.68	1.00	0.66
Lanes:	0.00	2.00	1.00	1.00	2.00	0.00	0.00	0.00	0.00	0.57	0.00	0.43
Final Sat.:	0	3079	1126	403	2887	0	0	0	0	746	0	534
Capacity Analysis Module:												
Vol/Sat:	0.00	0.31	0.10	0.20	0.46	0.00	0.00	0.00	0.00	0.11	0.00	0.11
Crit Moves:					****					****		
Green/Cycle:	0.00	0.62	0.62	0.62	0.62	0.00	0.00	0.00	0.00	0.28	0.00	0.28
Volume/Cap:	0.00	0.51	0.17	0.32	0.73	0.00	0.00	0.00	0.00	0.41	0.00	0.41
Delay/Veh:	0.0	9.6	7.3	8.8	13.4	0.0	0.0	0.0	0.0	27.3	0.0	27.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	9.6	7.3	8.8	13.4	0.0	0.0	0.0	0.0	27.3	0.0	27.3
LOS by Move:	A	A	A	A	B	A	A	A	A	C	A	C
HCM2kAvgQ:	0	8	1	1	15	0	0	0	0	4	0	4

Note: Queue reported is the number of cars per lane.

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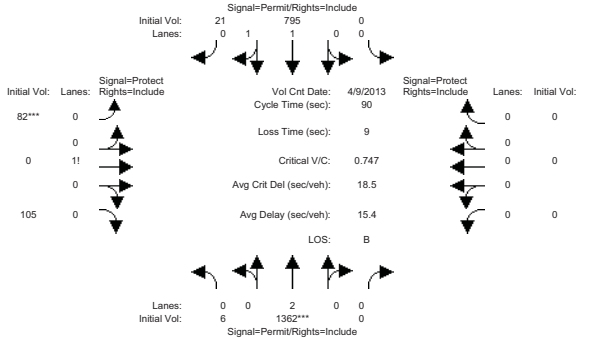
Intersection #3: Potrero Ave/22nd St (S)



Street Name:	Potrero Ave						22nd St (S)					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	56	56	56	56	56	56	25	25	25	0	0	0
Y+R:	4.5	4.5	4.5	4.5	4.5	4.5	5.0	5.0	5.0	4.0	4.0	4.0
Volume Module: >> Count Date: 9 Apr 2013 << 7-9AM												
Base Vol:	6	1353	0	0	748	21	82	0	104	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	6	1353	0	0	748	21	82	0	104	0	0	0
Added Vol:	0	6	0	0	29	0	0	0	1	0	0	0
Hospital Re:	0	3	0	0	18	0	0	0	0	0	0	0
Initial Fut:	6	1362	0	0	795	21	82	0	105	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
PHF Volume:	6	1419	0	0	828	22	85	0	109	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	6	1419	0	0	828	22	85	0	109	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	6	1419	0	0	828	22	85	0	109	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.72	0.72	1.00	1.00	0.75	0.75	0.68	1.00	0.66	1.00	1.00	1.00
Lanes:	0.01	1.99	0.00	0.00	1.95	0.05	0.43	0.00	0.57	0.00	0.00	0.00
Final Sat.:	12	2736	0	0	2773	73	557	0	713	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.52	0.52	0.00	0.00	0.30	0.30	0.15	0.00	0.15	0.00	0.00	0.00
Crit Moves:		****					****					
Green/Cycle:	0.62	0.62	0.00	0.00	0.62	0.62	0.28	0.00	0.28	0.00	0.00	0.00
Volume/Cap:	0.83	0.83	0.00	0.00	0.48	0.48	0.55	0.00	0.55	0.00	0.00	0.00
Delay/Veh:	17.0	17.0	0.0	0.0	9.4	9.4	29.6	0.0	29.6	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	17.0	17.0	0.0	0.0	9.4	9.4	29.6	0.0	29.6	0.0	0.0	0.0
LOS by Move:	B	B	A	A	A	A	C	A	C	A	A	A
HCM2kAvgQ:	16	16	0	0	7	7	5	0	5	0	0	0

Note: Queue reported is the number of cars per lane.

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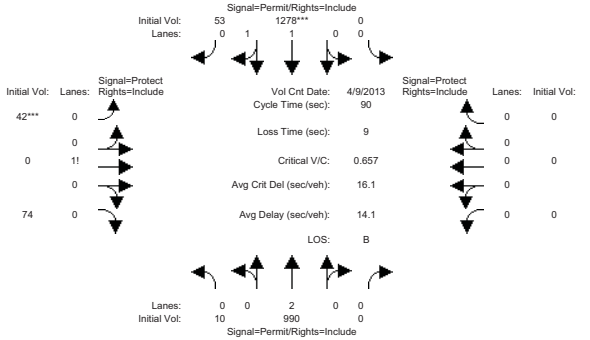
Intersection #3: Potrero Ave/22nd St (S)



Street Name:	Potrero Ave						22nd St (S)					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	56	56	56	56	56	56	25	25	25	0	0	0
Y+R:	4.5	4.5	4.5	4.5	4.5	4.5	5.0	5.0	5.0	4.0	4.0	4.0
Volume Module: >> Count Date: 9 Apr 2013 <<												
Base Vol:	9	943	0	0	1270	53	42	0	74	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	9	943	0	0	1270	53	42	0	74	0	0	0
Added Vol:	1	29	0	0	5	0	0	0	0	0	0	0
Hospital Re:	0	18	0	0	3	0	0	0	0	0	0	0
Initial Fut:	10	990	0	0	1278	53	42	0	74	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	11	1042	0	0	1345	56	44	0	78	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	11	1042	0	0	1345	56	44	0	78	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	11	1042	0	0	1345	56	44	0	78	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.71	0.71	1.00	1.00	0.75	0.75	0.67	1.00	0.65	1.00	1.00	1.00
Lanes:	0.02	1.98	0.00	0.00	1.92	0.08	0.35	0.00	0.65	0.00	0.00	0.00
Final Sat.:	27	2683	0	0	2727	113	451	0	795	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.39	0.39	0.00	0.00	0.49	0.49	0.10	0.00	0.10	0.00	0.00	0.00
Crit Moves:					****		****					
Green/Cycle:	0.62	0.62	0.00	0.00	0.62	0.62	0.28	0.00	0.28	0.00	0.00	0.00
Volume/Cap:	0.62	0.62	0.00	0.00	0.79	0.79	0.35	0.00	0.35	0.00	0.00	0.00
Delay/Veh:	11.2	11.2	0.0	0.0	15.2	15.2	26.6	0.0	26.6	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	11.2	11.2	0.0	0.0	15.2	15.2	26.6	0.0	26.6	0.0	0.0	0.0
LOS by Move:	B	B	A	A	B	B	C	A	C	A	A	A
HCM2kAvgQ:	9	9	0	0	15	15	3	0	3	0	0	0

Note: Queue reported is the number of cars per lane.

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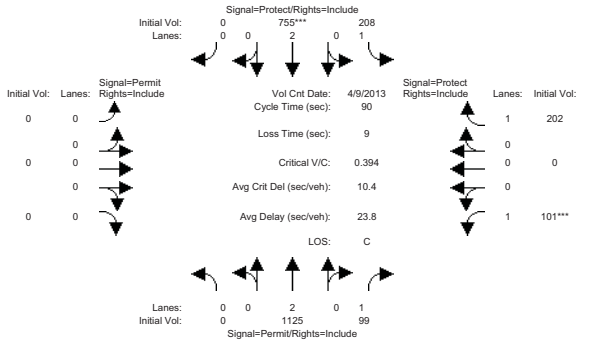
Intersection #4: Potrero Ave/23rd St



Street Name:	Potrero Ave						23rd St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	0	40	40	14	58	58	0	0	0	23	0	23
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.0	4.0	5.0
Volume Module: >> Count Date: 9 Apr 2013 << 7-9AM												
Base Vol:	0	1111	110	203	711	0	0	0	0	109	0	206
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1111	110	203	711	0	0	0	0	109	0	206
Added Vol:	0	12	-21	-2	33	0	0	0	0	-11	0	-5
Hospital Re:	0	2	10	7	11	0	0	0	0	3	0	1
Initial Fut:	0	1125	99	208	755	0	0	0	0	101	0	202
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	0	1210	106	224	812	0	0	0	0	109	0	217
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1210	106	224	812	0	0	0	0	109	0	217
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1210	106	224	812	0	0	0	0	109	0	217
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.81	0.53	0.81	0.75	1.00	1.00	1.00	1.00	0.81	1.00	0.57
Lanes:	0.00	2.00	1.00	1.00	2.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
Final Sat.:	0	3079	1003	1539	2858	0	0	0	0	1539	0	1091
Capacity Analysis Module:												
Vol/Sat:	0.00	0.39	0.11	0.15	0.28	0.00	0.00	0.00	0.00	0.07	0.00	0.20
Crit Moves:					****					****		
Green/Cycle:	0.00	0.47	0.47	0.17	0.64	0.00	0.00	0.00	0.00	0.26	0.00	0.26
Volume/Cap:	0.00	0.83	0.22	0.85	0.44	0.00	0.00	0.00	0.00	0.28	0.00	0.78
Delay/Veh:	0.0	24.8	14.2	57.9	8.1	0.0	0.0	0.0	0.0	27.2	0.0	44.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	24.8	14.2	57.9	8.1	0.0	0.0	0.0	0.0	27.2	0.0	44.2
LOS by Move:	A	C	B	E	A	A	A	A	A	C	A	D
HCM2kAvgQ:	0	15	2	7	6	0	0	0	0	3	0	8

Note: Queue reported is the number of cars per lane.

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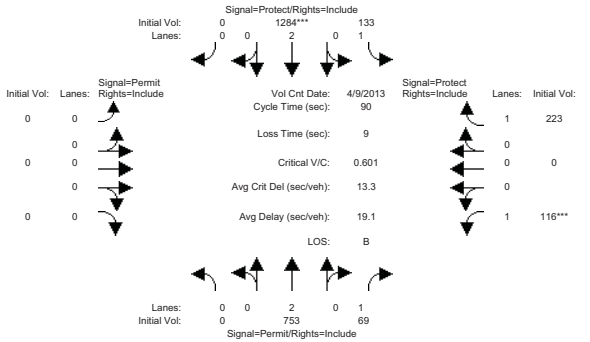
Intersection #4: Potrero Ave/23rd St



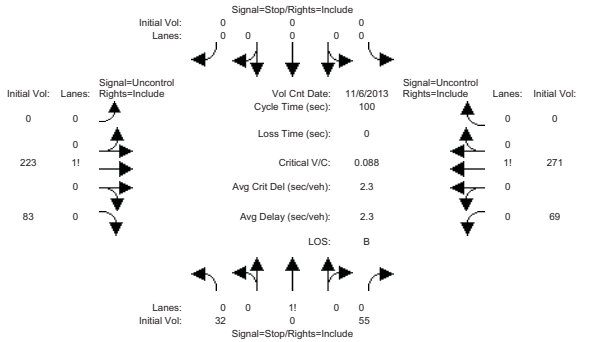
Street Name:	Potrero Ave						23rd St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	0	40	40	14	58	58	0	0	0	23	0	23
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.0	4.0	5.0
Volume Module: >> Count Date: 9 Apr 2013 << 4-6PM												
Base Vol:	0	708	86	137	1271	0	0	0	0	120	0	220
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	708	86	137	1271	0	0	0	0	120	0	220
Added Vol:	0	34	-20	-5	11	0	0	0	0	-14	0	-4
Hospital Re:	0	11	3	1	2	0	0	0	0	10	0	7
Initial Fut:	0	753	69	133	1284	0	0	0	0	116	0	223
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	0	776	71	137	1324	0	0	0	0	120	0	230
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	776	71	137	1324	0	0	0	0	120	0	230
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	776	71	137	1324	0	0	0	0	120	0	230
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.81	0.55	0.81	0.75	1.00	1.00	1.00	1.00	0.81	1.00	0.58
Lanes:	0.00	2.00	1.00	1.00	2.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
Final Sat.:	0	3079	1038	1539	2858	0	0	0	0	1539	0	1099
Capacity Analysis Module:												
Vol/Sat:	0.00	0.25	0.07	0.09	0.46	0.00	0.00	0.00	0.00	0.08	0.00	0.21
Crit Moves:					****					****		
Green/Cycle:	0.00	0.44	0.44	0.20	0.64	0.00	0.00	0.00	0.00	0.26	0.00	0.26
Volume/Cap:	0.00	0.57	0.15	0.45	0.72	0.00	0.00	0.00	0.00	0.30	0.00	0.82
Delay/Veh:	0.0	19.1	15.1	32.6	12.0	0.0	0.0	0.0	0.0	27.5	0.0	48.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	19.1	15.1	32.6	12.0	0.0	0.0	0.0	0.0	27.5	0.0	48.5
LOS by Move:	A	B	B	C	B	A	A	A	A	C	A	D
HCM2kAvgQ:	0	8	1	3	12	0	0	0	0	3	0	8

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Baseline Plus Project (307-space) AM

Intersection #5: Utah St/23rd St

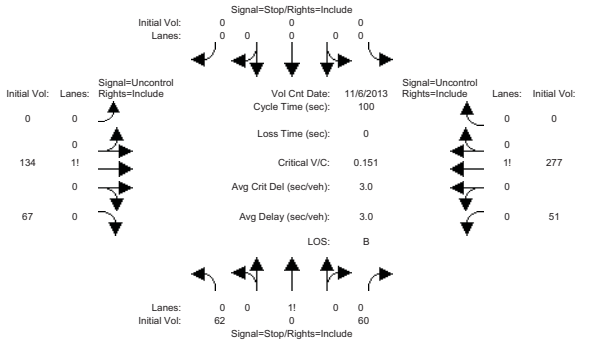



```
Street Name:              Utah St                         23rd St
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|--------------||--------------||--------------||--------------|
Volume Module: >> Count Date: 6 Nov 2013 << 7-9AM
Base Vol:      30    0    54     0    0    0      0  235    78    40  285     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00 1.00   1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   30    0    54     0    0    0      0  235    78    40  285     0
Added Vol:      2    0     1     0    0    0      0  -29     5     3  -18     0
Hospital Re:    0    0     0     0    0    0      0   17     0    26    4     0
Initial Fut:   32    0    55     0    0    0      0  223    83    69  271     0
User Adj:    1.00 1.00  1.00  1.00 1.00 1.00   1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.95 0.95  0.95  0.95 0.95 0.95   0.95 0.95  0.95  0.95 0.95  0.95
PHF Volume:    34    0    58     0    0    0      0  235    87    73  285     0
Reduct Vol:     0    0     0     0    0    0      0    0     0     0    0     0
FinalVolume:   34    0    58     0    0    0      0  235    87    73  285     0
------------|--------------||--------------||--------------||--------------|
Critical Gap Module:
Critical Gp:  6.4  6.5   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|--------------||--------------||--------------||--------------|
Capacity Module:
Cnflict Vol:  709  709   278  xxxx xxxx xxxxx  xxxx xxxx xxxxx   322 xxxx xxxxx
Potent Cap.:  404  362   765  xxxx xxxx xxxxx  xxxx xxxx xxxxx  1249 xxxx xxxxx
Move Cap.:    385  340   765  xxxx xxxx xxxxx  xxxx xxxx xxxxx  1249 xxxx xxxxx
Volume/Cap:  0.09 0.00  0.08  xxxx xxxx  xxxx  xxxx xxxx  xxxx  0.06 xxxx  xxxx
------------|--------------||--------------||--------------||--------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.2 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.1 xxxx xxxxx
LOS by Move:    *    *     *     *    *    *      *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  561 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.6 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   0.2 xxxx xxxxx
Shrd ConDel:xxxxx 12.7 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.1 xxxx xxxxx
Shared LOS:     *    B     *     *    *    *      *    *     *     A    *     *
ApproachDel:       12.7           xxxxxx           xxxxxx           xxxxxx
ApproachLOS:          B                *                *                *
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Baseline Plus Project (307-space) PM

Intersection #5: Utah St/23rd St

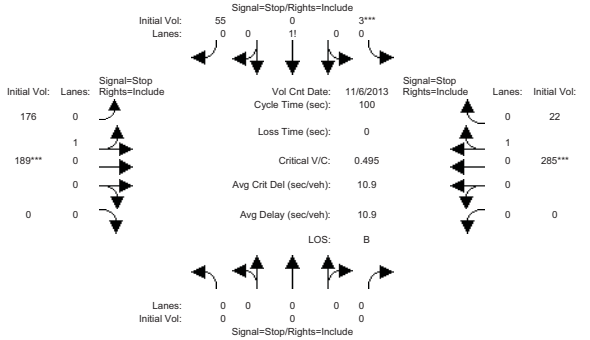



```
Street Name:              Utah St                         23rd St
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|--------------||--------------||--------------||--------------|
Volume Module: >> Count Date: 6 Nov 2013 << 4-6PM
Base Vol:      58    0    51     0    0    0      0  157    66    44  282     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00 1.00   1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   58    0    51     0    0    0      0  157    66    44  282     0
Added Vol:      4    0     3     0    0    0      0  -27     1     0  -22     0
Hospital Re:    0    0     6     0    0    0      0    4     0     7   17     0
Initial Fut:   62    0    60     0    0    0      0  134    67    51  277     0
User Adj:    1.00 1.00  1.00  1.00 1.00 1.00   1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.91 0.91  0.91  0.91 0.91 0.91   0.91 0.91  0.91  0.91 0.91  0.91
PHF Volume:    68    0    66     0    0    0      0  147    74    56  304     0
Reduct Vol:     0    0     0     0    0    0      0    0     0     0    0     0
FinalVolume:   68    0    66     0    0    0      0  147    74    56  304     0
------------|--------------||--------------||--------------||--------------|
Critical Gap Module:
Critical Gp:  6.4  6.5   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|--------------||--------------||--------------||--------------|
Capacity Module:
Cnflict Vol:  601  601   184  xxxx xxxx xxxxx  xxxx xxxx xxxxx   221 xxxx xxxxx
Potent Cap.:  467  417   863  xxxx xxxx xxxxx  xxxx xxxx xxxxx  1360 xxxx xxxxx
Move Cap.:    452  399   863  xxxx xxxx xxxxx  xxxx xxxx xxxxx  1360 xxxx xxxxx
Volume/Cap:  0.15 0.00  0.08  xxxx xxxx  xxxx  xxxx xxxx  xxxx  0.04 xxxx  xxxx
------------|--------------||--------------||--------------||--------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.1 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.8 xxxx xxxxx
LOS by Move:    *    *     *     *    *    *      *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  590 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.9 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   0.1 xxxx xxxxx
Shrd ConDel:xxxxx 12.9 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.8 xxxx xxxxx
Shared LOS:     *    B     *     *    *    *      *    *     *     A    *     *
ApproachDel:       12.9           xxxxxx           xxxxxx           xxxxxx
ApproachLOS:          B                *                *                *
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Baseline Plus Project (307-space) AM

Intersection #6: West Driveway/23rd St



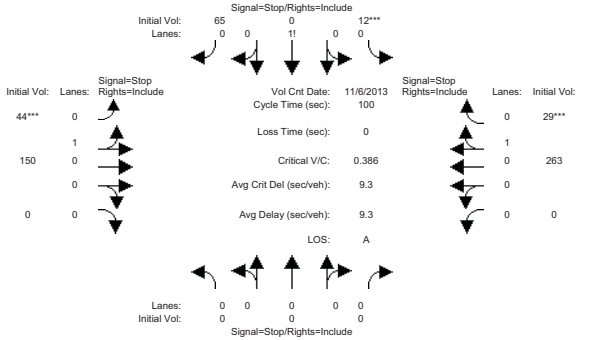
Street Name:	West Driveway						23rd St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 6 Nov 2013 << 7-9AM												
Base Vol:	0	0	0	7	0	64	92	197	0	0	261	22
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	7	0	64	92	197	0	0	261	22
Added Vol:	0	0	0	-4	0	-13	-20	-8	0	0	-2	-6
Hospital Re:	0	0	0	0	0	4	104	0	0	0	26	6
Initial Fut:	0	0	0	3	0	55	176	189	0	0	285	22
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	0	0	0	3	0	59	189	203	0	0	306	24
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	3	0	59	189	203	0	0	306	24
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	3	0	59	189	203	0	0	306	24
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.05	0.00	0.95	0.48	0.52	0.00	0.00	0.93	0.07
Final Sat.:	0	0	0	35	0	634	382	410	0	0	745	57
Capacity Analysis Module:												
Vol/Sat:	xxxx	xxxx	xxxx	0.09	xxxx	0.09	0.50	0.50	xxxx	xxxx	0.41	0.41
Crit Moves:				****				****			****	
Delay/Veh:	0.0	0.0	0.0	8.2	0.0	8.2	11.7	11.7	0.0	0.0	10.4	10.4
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	8.2	0.0	8.2	11.7	11.7	0.0	0.0	10.4	10.4
LOS by Move:	*	*	*	A	*	A	B	B	*	*	B	B
ApproachDel:	xxxxxx			8.2			11.7			10.4		
Delay Adj:	xxxxx			1.00			1.00			1.00		
ApprAdjDel:	xxxxxx			8.2			11.7			10.4		
LOS by Appr:	*			A			B			B		
AllWayAvgQ:	0.0	0.0	0.0	0.1	0.1	0.1	0.9	0.9	0.9	0.7	0.7	0.7

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Baseline Plus Project (307-space) PM

Intersection #6: West Driveway/23rd St



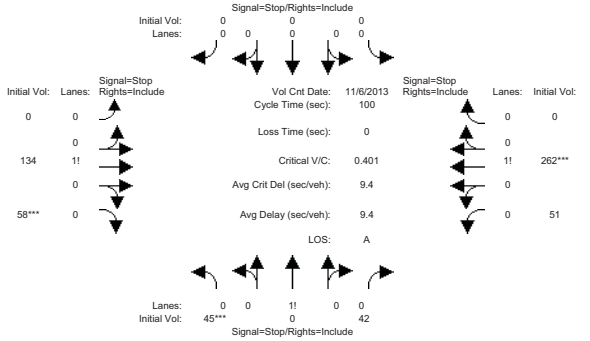
Street Name:	West Driveway						23rd St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 6 Nov 2013 << 4-6PM												
Base Vol:	0	0	0	11	0	64	58	150	0	0	262	35
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	11	0	64	58	150	0	0	262	35
Added Vol:	0	0	0	-5	0	-16	-18	-6	0	0	-6	-6
Hospital Re:	0	0	0	6	0	17	4	6	0	0	7	0
Initial Fut:	0	0	0	12	0	65	44	150	0	0	263	29
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
PHF Volume:	0	0	0	13	0	71	48	165	0	0	289	32
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	13	0	71	48	165	0	0	289	32
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	13	0	71	48	165	0	0	289	32
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.16	0.00	0.84	0.23	0.77	0.00	0.00	0.90	0.10
Final Sat.:	0	0	0	114	0	616	179	611	0	0	749	83
Capacity Analysis Module:												
Vol/Sat:	xxxx	xxxx	xxxx	0.12	xxxx	0.12	0.27	0.27	xxxx	xxxx	0.39	0.39
Crit Moves:				****			****					****
Delay/Veh:	0.0	0.0	0.0	8.0	0.0	8.0	9.0	9.0	0.0	0.0	9.8	9.8
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	8.0	0.0	8.0	9.0	9.0	0.0	0.0	9.8	9.8
LOS by Move:	*	*	*	A	*	A	A	A	*	*	A	A
ApproachDel:	xxxxxx			8.0			9.0			9.8		
Delay Adj:	xxxxx			1.00			1.00			1.00		
ApprAdjDel:	xxxxxx			8.0			9.0			9.8		
LOS by Appr:	*			A			A			A		
AllWayAvgQ:	0.0	0.0	0.0	0.1	0.1	0.1	0.3	0.3	0.3	0.6	0.6	0.6

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Baseline Plus Project (307-space) AM

Intersection #7: San Bruno Ave/23rd St

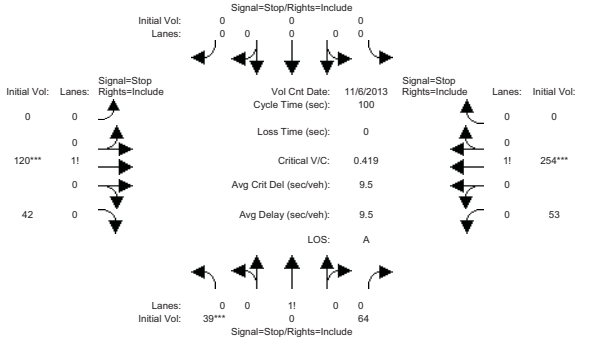



```
Street Name:            San Bruno Ave                    23rd St
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0      0     0     0      0     0     0      0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 6 Nov 2013 << 7-9AM
Base Vol:      19     0    30      0     0     0      0   147    57     29   264     0
Growth Adj:  1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00
Initial Bse:   19     0    30      0     0     0      0   147    57     29   264     0
Added Vol:      0     0    12      0     0     0      0   -13     1     13    -8     0
Hospital Re:   26     0     0      0     0     0      0     0     0      9     6     0
Initial Fut:   45     0    42      0     0     0      0   134    58     51   262     0
User Adj:    1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00
PHF Adj:     0.96  0.96  0.96   0.96  0.96  0.96   0.96  0.96  0.96   0.96  0.96  0.96
PHF Volume:    47     0    44      0     0     0      0   140    60     53   273     0
Reduct Vol:     0     0     0      0     0     0      0     0     0      0     0     0
Reduced Vol:   47     0    44      0     0     0      0   140    60     53   273     0
PCE Adj:     1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00
FinalVolume:   47     0    44      0     0     0      0   140    60     53   273     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00
Lanes:       0.52  0.00  0.48   0.00  0.00  0.00   0.00  0.70  0.30   0.16  0.84  0.00
Final Sat.:   359     0   335      0     0     0      0   574   248    133   681     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.13  xxxx  0.13   xxxx  xxxx  xxxx   xxxx  0.24  0.24   0.40  0.40  xxxx
Crit Moves:  ****                                          ****         ****
Delay/Veh:    8.4   0.0   8.4    0.0   0.0   0.0    0.0   8.6   8.6   10.2  10.2   0.0
Delay Adj:   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00
AdjDel/Veh:   8.4   0.0   8.4    0.0   0.0   0.0    0.0   8.6   8.6   10.2  10.2   0.0
LOS by Move:    A     *     A      *     *     *      *     A     A      B     B     *
ApproachDel:          8.4            xxxxxx               8.6            10.2
Delay Adj:           1.00             xxxxx              1.00            1.00
ApprAdjDel:           8.4            xxxxxx               8.6            10.2
LOS by Appr:            A                 *                 A               B
AllWayAvgQ:   0.1   0.1   0.1    0.0   0.0   0.0    0.3   0.3   0.3    0.6   0.6   0.6
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Baseline Plus Project (307-space) PM

Intersection #7: San Bruno Ave/23rd St

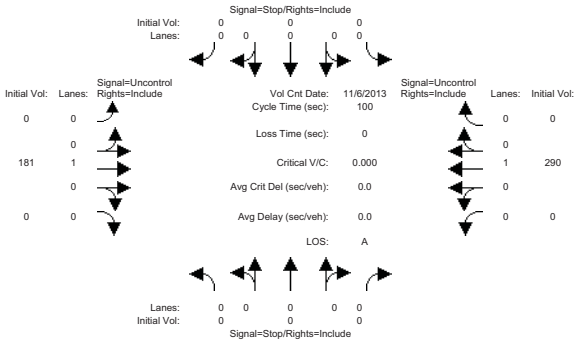



```
Street Name:            San Bruno Ave                    23rd St
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0      0     0     0      0     0     0      0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 6 Nov 2013 << 4-6PM
Base Vol:      31     0    26      0     0     0      0   119    42     49   266     0
Growth Adj:  1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00
Initial Bse:   31     0    26      0     0     0      0   119    42     49   266     0
Added Vol:      1     0    35      0     0     0      0   -11     0      4   -12     0
Hospital Re:    7     0     3      0     0     0      0    12     0      0     0     0
Initial Fut:   39     0    64      0     0     0      0   120    42     53   254     0
User Adj:    1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00
PHF Adj:     0.91  0.91  0.91   0.91  0.91  0.91   0.91  0.91  0.91   0.91  0.91  0.91
PHF Volume:    43     0    70      0     0     0      0   132    46     58   279     0
Reduct Vol:     0     0     0      0     0     0      0     0     0      0     0     0
Reduced Vol:   43     0    70      0     0     0      0   132    46     58   279     0
PCE Adj:     1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00
FinalVolume:   43     0    70      0     0     0      0   132    46     58   279     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00
Lanes:       0.38  0.00  0.62   0.00  0.00  0.00   0.00  0.74  0.26   0.17  0.83  0.00
Final Sat.:   269     0   442      0     0     0      0   593   208    139   667     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.16  xxxx  0.16   xxxx  xxxx  xxxx   xxxx  0.22  0.22   0.42  0.42  xxxx
Crit Moves:  ****                                          ****         ****
Delay/Veh:    8.5   0.0   8.5    0.0   0.0   0.0    0.0   8.6   8.6   10.4  10.4   0.0
Delay Adj:   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00
AdjDel/Veh:   8.5   0.0   8.5    0.0   0.0   0.0    0.0   8.6   8.6   10.4  10.4   0.0
LOS by Move:    A     *     A      *     *     *      *     A     A      B     B     *
ApproachDel:          8.5            xxxxxx               8.6            10.4
Delay Adj:           1.00             xxxxx              1.00            1.00
ApprAdjDel:           8.5            xxxxxx               8.6            10.4
LOS by Appr:            A                 *                 A               B
AllWayAvgQ:   0.2   0.2   0.2    0.0   0.0   0.0    0.3   0.3   0.3    0.7   0.7   0.7
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Baseline Plus Project (307-space) AM

Intersection #8: East Driveway/23rd St

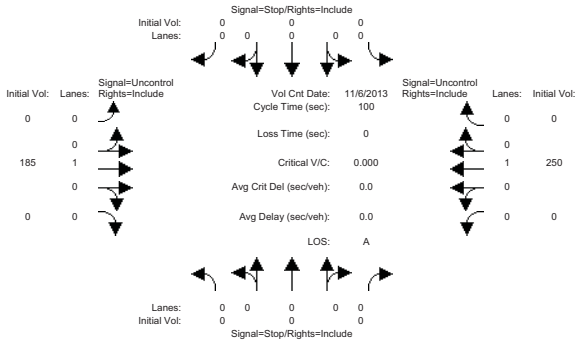



```
Street Name:            East Driveway                    23rd St
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|--------------||--------------||--------------||--------------|
Volume Module: >> Count Date: 6 Nov 2013 << 7-9AM
Base Vol:       0     0     0     1     0     6     8   173     0     0   265     4
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    0     0     0     1     0     6     8   173     0     0   265     4
Added Vol:      0     0     0    -2     0    -6   -10     8     0     0    10    -4
PasserByVol:    0     0     0     1     0     0     2     0     0     0    15     0
Initial Fut:    0     0     0     0     0     0     0   181     0     0   290     0
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     0.94  0.94  0.94  0.94  0.94  0.94  0.94  0.94  0.94  0.94  0.94  0.94
PHF Volume:     0     0     0     0     0     0     0   193     0     0   309     0
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
FinalVolume:    0     0     0     0     0     0     0   193     0     0   309     0
------------|--------------||--------------||--------------||--------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|--------------||--------------||--------------||--------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  xxxx
------------|--------------||--------------||--------------||--------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *     *     *     *     *     *     *     *     *     *     *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   0.0 xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.2 xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *     *     *     *     *     *     A     *     *     *     *     *
ApproachDel:    xxxxxx            xxxxxx            xxxxxx            xxxxxx
ApproachLOS:         *                 *                 *                 *
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Baseline Plus Project (307-space) PM

Intersection #8: East Driveway/23rd St

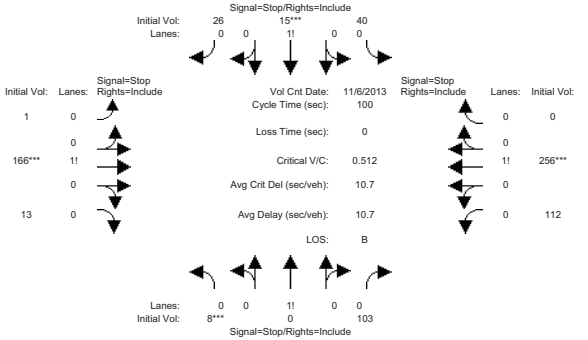



```
Street Name:            East Driveway                    23rd St
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|--------------||--------------||--------------||--------------|
Volume Module: >> Count Date: 6 Nov 2013 << 4-6PM
Base Vol:       0     0     0     4     0     8    10   137     0     0   251     3
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    0     0     0     4     0     8    10   137     0     0   251     3
Added Vol:      0     0     0    -3     0    -7    -9    33     0     0    -1    -4
Hospital Re:    0     0     0    -1     0    -1    -1    15     0     0     0     1
Initial Fut:    0     0     0     0     0     0     0   185     0     0   250     0
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     0.92  0.92  0.92  0.92  0.92  0.92  0.92  0.92  0.92  0.92  0.92  0.92
PHF Volume:     0     0     0     0     0     0     0   201     0     0   272     0
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
FinalVolume:    0     0     0     0     0     0     0   201     0     0   272     0
------------|--------------||--------------||--------------||--------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4   6.5   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5   4.0   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|--------------||--------------||--------------||--------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   473   473   272  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   554   493   772  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   554   493   772  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.00  0.00  0.00  xxxx xxxx  xxxx  xxxx xxxx  xxxx
------------|--------------||--------------||--------------||--------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *     *     *     *     *     *     *     *     *     *     *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx     0 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   0.0 xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.2 xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *     *     *     *     *     *     A     *     *     *     *     *
ApproachDel:    xxxxxx            xxxxxx            xxxxxx            xxxxxx
ApproachLOS:         *                 *                 *                 *
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Baseline Plus Project (307-space) AM

Intersection #9: Vermont St/23rd St



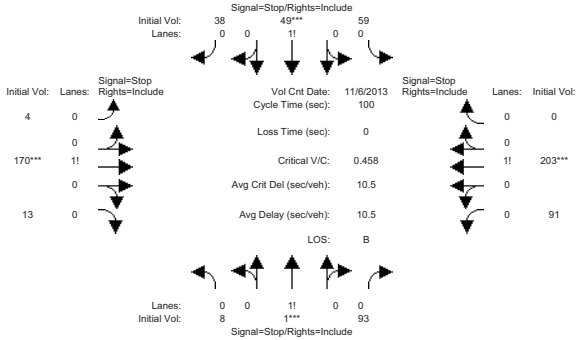
Street Name:	Vermont St						23rd St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 6 Nov 2013 << 7-9AM												
Base Vol:	8	0	103	40	15	26	1	160	13	112	235	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	8	0	103	40	15	26	1	160	13	112	235	0
Added Vol:	0	0	0	0	0	0	0	6	0	0	6	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	15	0
Initial Fut:	8	0	103	40	15	26	1	166	13	112	256	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
PHF Volume:	8	0	107	42	16	27	1	173	14	117	267	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	8	0	107	42	16	27	1	173	14	117	267	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	8	0	107	42	16	27	1	173	14	117	267	0
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.07	0.00	0.93	0.49	0.19	0.32	0.01	0.92	0.07	0.30	0.70	0.00
Final Sat.:	49	0	630	304	114	198	4	660	52	228	521	0
Capacity Analysis Module:												
Vol/Sat:	0.17	xxxx	0.17	0.14	0.14	0.14	0.26	0.26	0.26	0.51	0.51	xxxx
Crit Moves:	****				****			****			****	
Delay/Veh:	8.7	0.0	8.7	9.0	9.0	9.0	9.4	9.4	9.4	12.2	12.2	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	8.7	0.0	8.7	9.0	9.0	9.0	9.4	9.4	9.4	12.2	12.2	0.0
LOS by Move:	A	*	A	A	A	A	A	A	A	B	B	*
ApproachDel:	8.7			9.0			9.4			12.2		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	8.7			9.0			9.4			12.2		
LOS by Appr:	A			A			A			B		
AllWayAvgQ:	0.2	0.2	0.2	0.1	0.1	0.1	0.3	0.3	0.3	1.0	1.0	1.0

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Baseline Plus Project (307-space) PM

Intersection #9: Vermont St/23rd St



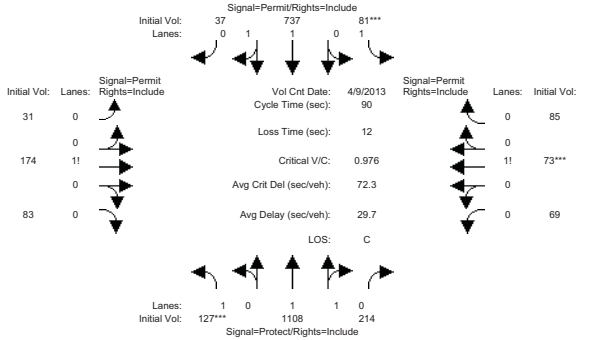
Street Name:	Vermont St						23rd St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 6 Nov 2013 << 4-6PM												
Base Vol:	8	1	93	59	49	38	4	124	13	91	208	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	8	1	93	59	49	38	4	124	13	91	208	0
Added Vol:	0	0	0	0	0	0	0	31	0	0	-5	0
Hospital Re:	0	0	0	0	0	0	0	15	0	0	0	0
Initial Fut:	8	1	93	59	49	38	4	170	13	91	203	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
PHF Volume:	9	1	102	65	54	42	4	187	14	100	223	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	9	1	102	65	54	42	4	187	14	100	223	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	9	1	102	65	54	42	4	187	14	100	223	0
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.08	0.01	0.91	0.40	0.34	0.26	0.02	0.91	0.07	0.31	0.69	0.00
Final Sat.:	52	6	604	255	212	164	15	624	48	218	487	0
Capacity Analysis Module:												
Vol/Sat:	0.17	0.17	0.17	0.25	0.25	0.25	0.30	0.30	0.30	0.46	0.46	xxxx
Crit Moves:		****			****			****			****	
Delay/Veh:	8.7	8.7	8.7	9.8	9.8	9.8	9.9	9.9	9.9	11.7	11.7	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	8.7	8.7	8.7	9.8	9.8	9.8	9.9	9.9	9.9	11.7	11.7	0.0
LOS by Move:	A	A	A	A	A	A	A	A	A	B	B	*
ApproachDel:	8.7			9.8			9.9			11.7		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	8.7			9.8			9.9			11.7		
LOS by Appr:	A			A			A			B		
AllWayAvgQ:	0.2	0.2	0.2	0.3	0.3	0.3	0.4	0.4	0.4	0.7	0.7	0.7

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Baseline Plus Project (307-space) AM

Intersection #10: Potrero Ave/24th St



Street Name: Potrero Ave 24th St

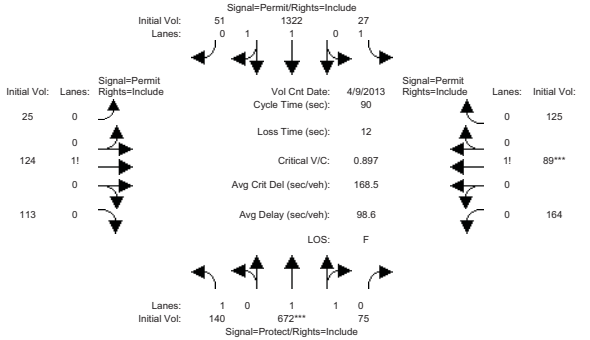
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	53	53	42	42	42	25	25	25	25	25	25
Y+R:	4.0	7.0	7.0	7.0	7.0	7.0	5.0	5.0	5.0	5.0	5.0	5.0
Volume Module: >> Count Date: 9 Apr 2013 << 7-9AM												
Base Vol:	127	1119	96	37	745	38	31	161	83	39	70	71
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	127	1119	96	37	745	38	31	161	83	39	70	71
Added Vol:	0	-21	103	33	-11	-1	0	13	0	25	3	12
Hospital Re:	0	10	15	11	3	0	0	0	0	5	0	2
Initial Fut:	127	1108	214	81	737	37	31	174	83	69	73	85
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	131	1142	221	84	760	38	32	179	86	71	75	88
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	131	1142	221	84	760	38	32	179	86	71	75	88
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	131	1142	221	84	760	38	32	179	86	71	75	88
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.81	0.73	0.72	0.09	0.75	0.73	0.68	0.68	0.65	0.49	0.50	0.48
Lanes:	1.00	1.67	0.33	1.00	1.90	0.10	0.11	0.59	0.30	0.30	0.32	0.38
Final Sat.:	1539	2331	450	163	2700	136	138	774	369	284	301	350
Capacity Analysis Module:												
Vol/Sat:	0.09	0.49	0.49	0.51	0.28	0.28	0.23	0.23	0.23	0.25	0.25	0.25
Crit Moves:	****			****							****	
Green/Cycle:	0.12	0.59	0.59	0.47	0.47	0.47	0.28	0.28	0.28	0.28	0.28	0.28
Volume/Cap:	0.70	0.83	0.83	1.04	0.60	0.60	0.83	0.83	0.83	0.90	0.90	0.90
Delay/Veh:	48.7	18.7	18.7	137.1	18.6	18.6	46.1	46.1	46.1	62.4	62.4	62.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	48.7	18.7	18.7	137.1	18.6	18.6	46.1	46.1	46.1	62.4	62.4	62.4
LOS by Move:	D	B	B	F	B	B	D	D	D	E	E	E
HCM2kAvgQ:	3	15	15	4	9	8	10	11	10	10	10	10

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Baseline Plus Project (307-space) PM

Intersection #10: Potrero Ave/24th St



Street Name: Potrero Ave 24th St

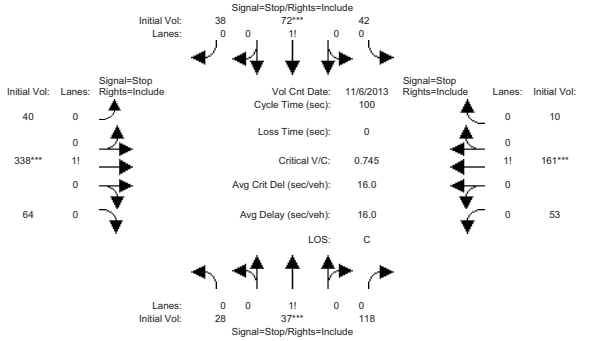
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	55	55	44	44	44	23	23	23	23	23	23
Y+R:	4.0	7.0	7.0	7.0	7.0	7.0	5.0	5.0	5.0	5.0	5.0	5.0
Volume Module: >> Count Date: 9 Apr 2013 << 4-6PM												
Base Vol:	140	689	34	14	1325	52	25	119	113	71	81	80
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	140	689	34	14	1325	52	25	119	113	71	81	80
Added Vol:	0	-20	36	11	-13	-1	0	5	0	78	8	34
Hospital Re:	0	3	5	2	10	0	0	0	0	15	0	11
Initial Fut:	140	672	75	27	1322	51	25	124	113	164	89	125
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
PHF Volume:	146	700	78	28	1377	53	26	129	118	171	93	130
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	146	700	78	28	1377	53	26	129	118	171	93	130
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	146	700	78	28	1377	53	26	129	118	171	93	130
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.81	0.74	0.73	0.26	0.75	0.74	0.65	0.66	0.61	0.41	0.42	0.41
Lanes:	1.00	1.80	0.20	1.00	1.92	0.08	0.09	0.46	0.45	0.44	0.23	0.33
Final Sat.:	1539	2528	282	487	2734	105	115	571	521	341	185	260
Capacity Analysis Module:												
Vol/Sat:	0.09	0.28	0.28	0.06	0.50	0.50	0.23	0.23	0.23	0.50	0.50	0.50
Crit Moves:		****									****	
Green/Cycle:	0.12	0.61	0.61	0.49	0.49	0.49	0.26	0.26	0.26	0.26	0.26	0.26
Volume/Cap:	0.78	0.45	0.45	0.12	1.03	1.03	0.88	0.88	0.88	1.96	1.96	1.96
Delay/Veh:	56.4	9.6	9.6	12.7	55.3	55.3	56.9	56.9	56.9	482.4	482	482.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	56.4	9.6	9.6	12.7	55.3	55.3	56.9	56.9	56.9	482.4	482	482.4
LOS by Move:	E	A	A	B	E	E	E	E	E	F	F	F
HCM2kAvgQ:	4	6	6	0	26	26	11	11	10	35	37	36

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Baseline Plus Project (307-space) AM

Intersection #11: Utah St/24th St

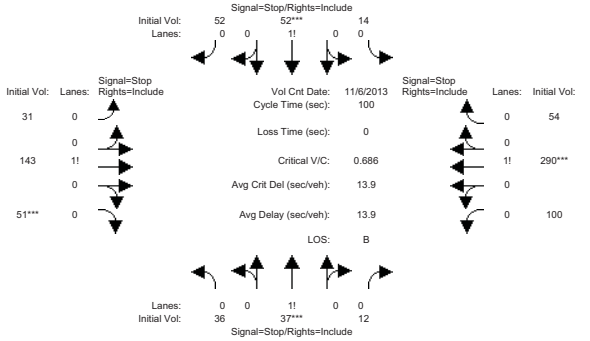



```
Street Name:                Utah St                         24th St
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|--------------||--------------||--------------||--------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|--------------||--------------||--------------||--------------|
Volume Module: >> Count Date: 6 Nov 2013 << 7-9AM
Base Vol:      24    36   118    37    43    38    40   194    60    44   118     8
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   24    36   118    37    43    38    40   194    60    44   118     8
Added Vol:      1     1     0     5     3     0     0   144     4     0    39     2
Hospital Re:    3     0     0     0    26     0     0     0     0     9     4     0
Initial Fut:   28    37   118    42    72    38    40   338    64    53   161    10
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     0.90  0.90  0.90  0.90  0.90  0.90  0.90  0.90  0.90  0.90  0.90  0.90
PHF Volume:    31    41   131    47    80    42    44   376    71    59   179    11
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   31    41   131    47    80    42    44   376    71    59   179    11
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   31    41   131    47    80    42    44   376    71    59   179    11
------------|--------------||--------------||--------------||--------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.15  0.20  0.65  0.28  0.47  0.25  0.09  0.77  0.14  0.24  0.72  0.04
Final Sat.:    85   112   358   144   247   130    60   504    95   138   419    26
------------|--------------||--------------||--------------||--------------|
Capacity Analysis Module:
Vol/Sat:     0.37  0.37  0.37  0.32  0.32  0.32  0.74  0.74  0.74  0.43  0.43  0.43
Crit Moves:        ****              ****              ****              ****
Delay/Veh:   11.6  11.6  11.6  11.6  11.6  11.6  21.1  21.1  21.1  12.5  12.5  12.5
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  11.6  11.6  11.6  11.6  11.6  11.6  21.1  21.1  21.1  12.5  12.5  12.5
LOS by Move:    B     B     B     B     B     B     C     C     C     B     B     B
ApproachDel:         11.6              11.6              21.1              12.5
Delay Adj:           1.00              1.00              1.00              1.00
ApprAdjDel:          11.6              11.6              21.1              12.5
LOS by Appr:            B                 B                 C                 B
AllWayAvgQ:  0.4   0.4   0.4   0.4   0.4   0.4   2.3   2.3   2.3   0.6   0.6   0.6
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Baseline Plus Project (307-space) PM

Intersection #11: Utah St/24th St

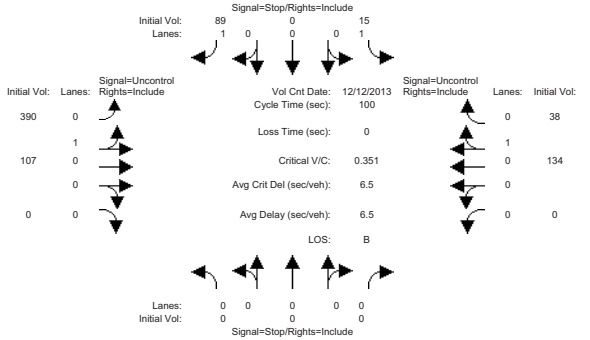



```
Street Name:                Utah St                         24th St
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|--------------||--------------||--------------||--------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|--------------||--------------||--------------||--------------|
Volume Module: >> Count Date: 6 Nov 2013 << 4-6PM
Base Vol:      20    28    12    13    45    52    31    85    51   100   160    50
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   20    28    12    13    45    52    31    85    51   100   160    50
Added Vol:      5     3     0     1     0     0     0    51     0     0   115     4
Hospital Re:   11     6     0     0     7     0     0     7     0     0    15     0
Initial Fut:   36    37    12    14    52    52    31   143    51   100   290    54
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     0.89  0.89  0.89  0.89  0.89  0.89  0.89  0.89  0.89  0.89  0.89  0.89
PHF Volume:    40    42    13    16    58    58    35   161    57   112   326    61
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   40    42    13    16    58    58    35   161    57   112   326    61
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   40    42    13    16    58    58    35   161    57   112   326    61
------------|--------------||--------------||--------------||--------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.42  0.44  0.14  0.12  0.44  0.44  0.14  0.63  0.23  0.23  0.65  0.12
Final Sat.:   228   235    76    68   253   253    93   431   154   164   475    88
------------|--------------||--------------||--------------||--------------|
Capacity Analysis Module:
Vol/Sat:     0.18  0.18  0.18  0.23  0.23  0.23  0.37  0.37  0.37  0.69  0.69  0.69
Crit Moves:        ****              ****              ****              ****
Delay/Veh:   10.0  10.0  10.0  10.0  10.0  10.0  10.8  10.8  10.8  17.2  17.2  17.2
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  10.0  10.0  10.0  10.0  10.0  10.0  10.8  10.8  10.8  17.2  17.2  17.2
LOS by Move:    A     A     A     B     B     B     B     B     B     C     C     C
ApproachDel:         10.0              10.0              10.8              17.2
Delay Adj:           1.00              1.00              1.00              1.00
ApprAdjDel:          10.0              10.0              10.8              17.2
LOS by Appr:            A                 B                 B                 C
AllWayAvgQ:  0.2   0.2   0.2   0.2   0.2   0.2   0.5   0.5   0.5   1.9   1.9   1.9
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Baseline Plus Project (307-space) AM

Intersection #12: Parking Garage Driveway (S)/24th St

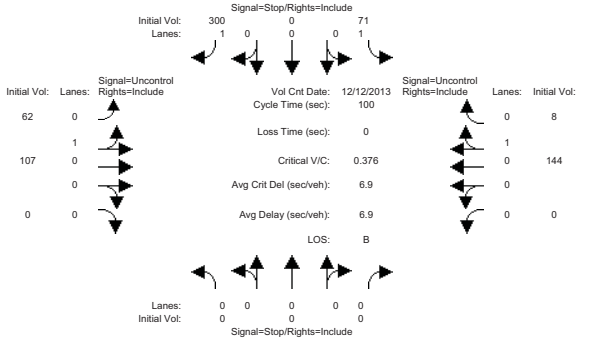



```
Street Name:   Parking Garage Driveway (S)              24th St
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|--------------||--------------||--------------||--------------|
Volume Module: >> Count Date: 12 Dec 2013 << 7-9AM
Base Vol:       0     0     0     3     0    50   246   103     0     0   120    25
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    0     0     0     3     0    50   246   103     0     0   120    25
Added Vol:      0     0     0    12     0    39   144     4     0     0     1    13
PasserByVol:    0     0     0     0     0     0     0     0     0     0    13     0
Initial Fut:    0     0     0    15     0    89   390   107     0     0   134    38
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     0.81  0.81  0.81  0.81  0.81  0.81  0.81  0.81  0.81  0.81  0.81  0.81
PHF Volume:     0     0     0    19     0   110   481   132     0     0   165    47
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
FinalVolume:    0     0     0    19     0   110   481   132     0     0   165    47
------------|--------------||--------------||--------------||--------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4 xxxx   6.2   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5 xxxx   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|--------------||--------------||--------------||--------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  1284 xxxx   189   212 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   184 xxxx   858  1370 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   114 xxxx   858  1370 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.16 xxxx  0.13  0.35 xxxx  xxxx  xxxx xxxx  xxxx
------------|--------------||--------------||--------------||--------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx   0.6 xxxx   0.4   1.6 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx  42.4 xxxx   9.8   9.0 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *     *     *     E     *     A     A     *     *     *     *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   1.6 xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   9.0 xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *     *     *     *     *     *     A     *     *     *     *     *
ApproachDel:    xxxxxx             14.5             xxxxxx             xxxxxx
ApproachLOS:         *                B                *                *
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Baseline Plus Project (307-space) PM

Intersection #12: Parking Garage Driveway (S)/24th St

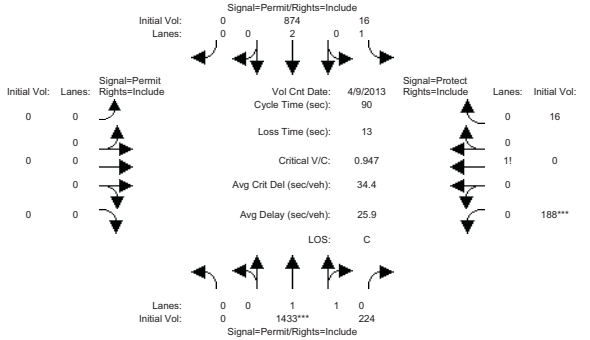



```
Street Name:   Parking Garage Driveway (S)              24th St
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|--------------||--------------||--------------||--------------|
Volume Module: >> Count Date: 12 Dec 2013 << 4-6PM
Base Vol:       0     0     0    36     0   186    10   100     0     0   124     4
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    0     0     0    36     0   186    10   100     0     0   124     4
Added Vol:      0     0     0    35     0   114    52     0     0     0     5     4
Hospital Re:    0     0     0     0     0     0     0     7     0     0    15     0
Initial Fut:    0     0     0    71     0   300    62   107     0     0   144     8
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     0.90  0.90  0.90  0.90  0.90  0.90  0.90  0.90  0.90  0.90  0.90  0.90
PHF Volume:     0     0     0    79     0   333    69   119     0     0   160     9
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
FinalVolume:    0     0     0    79     0   333    69   119     0     0   160     9
------------|--------------||--------------||--------------||--------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4 xxxx   6.2   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5 xxxx   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|--------------||--------------||--------------||--------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   421 xxxx   164   169 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   593 xxxx   885  1421 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   570 xxxx   885  1421 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.14 xxxx  0.38  0.05 xxxx  xxxx  xxxx xxxx  xxxx
------------|--------------||--------------||--------------||--------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx   0.5 xxxx   1.8   0.2 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx  12.3 xxxx  11.5   7.7 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *     *     *     B     *     B     A     *     *     *     *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   0.2 xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.7 xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *     *     *     *     *     *     A     *     *     *     *     *
ApproachDel:    xxxxxx             11.7             xxxxxx             xxxxxx
ApproachLOS:         *                B                *                *
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Baseline Plus Project (307-space) AM

Intersection #13: Potrero Ave/25th St



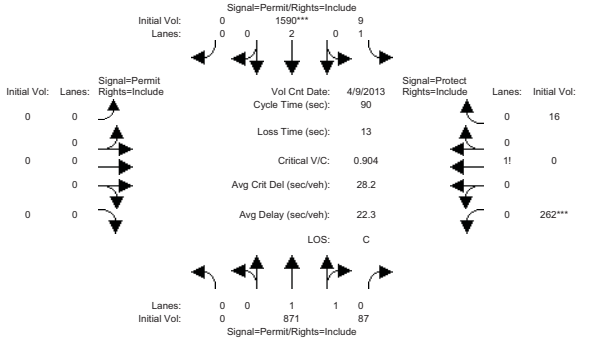
Street Name:	Potrero Ave						25th St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	59	59	59	59	59	59	0	0	0	18	18	18
Y+R:	8.0	8.0	8.0	8.0	8.0	8.0	4.0	4.0	4.0	5.0	5.0	5.0
Volume Module: >> Count Date: 9 Apr 2013 << 7-9AM												
Base Vol:	0	1326	224	16	851	0	0	0	0	188	0	16
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1326	224	16	851	0	0	0	0	188	0	16
Added Vol:	0	82	0	0	15	0	0	0	0	0	0	0
PasserByVol:	0	25	0	0	8	0	0	0	0	0	0	0
Initial Fut:	0	1433	224	16	874	0	0	0	0	188	0	16
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	0	1558	243	17	950	0	0	0	0	204	0	17
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1558	243	17	950	0	0	0	0	204	0	17
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1558	243	17	950	0	0	0	0	204	0	17
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.74	0.73	0.06	0.76	1.00	1.00	1.00	1.00	0.71	1.00	0.70
Lanes:	0.00	1.73	0.27	1.00	2.00	0.00	0.00	0.00	0.00	0.92	0.00	0.08
Final Sat.:	0	2417	378	110	2887	0	0	0	0	1235	0	105
Capacity Analysis Module:												
Vol/Sat:	0.00	0.64	0.64	0.16	0.33	0.00	0.00	0.00	0.00	0.17	0.00	0.17
Crit Moves:		****								****		
Green/Cycle:	0.00	0.66	0.66	0.66	0.66	0.00	0.00	0.00	0.00	0.20	0.00	0.20
Volume/Cap:	0.00	0.98	0.98	0.22	0.50	0.00	0.00	0.00	0.00	0.83	0.00	0.83
Delay/Veh:	0.0	32.1	32.1	7.6	8.2	0.0	0.0	0.0	0.0	53.2	0.0	53.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	32.1	32.1	7.6	8.2	0.0	0.0	0.0	0.0	53.2	0.0	53.2
LOS by Move:	A	C	C	A	A	A	A	A	A	D	A	D
HCM2kAvgQ:	0	33	33	0	7	0	0	0	0	8	0	2

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Baseline Plus Project (307-space) PM

Intersection #13: Potrero Ave/25th St



Street Name:	Potrero Ave						25th St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	55	55	55	55	55	55	0	0	0	22	22	22
Y+R:	8.0	8.0	8.0	8.0	8.0	8.0	4.0	4.0	4.0	5.0	5.0	5.0
Volume Module: >> Count Date: 9 Apr 2013 << 4-6PM												
Base Vol:	0	847	87	9	1500	0	0	0	0	262	0	16
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	847	87	9	1500	0	0	0	0	262	0	16
Added Vol:	0	16	0	0	65	0	0	0	0	0	0	0
Hospital Re:	0	8	0	0	25	0	0	0	0	0	0	0
Initial Fut:	0	871	87	9	1590	0	0	0	0	262	0	16
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
PHF Volume:	0	889	89	9	1622	0	0	0	0	267	0	16
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	889	89	9	1622	0	0	0	0	267	0	16
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	889	89	9	1622	0	0	0	0	267	0	16
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.74	0.74	0.21	0.76	1.00	1.00	1.00	1.00	0.71	1.00	0.70
Lanes:	0.00	1.82	0.18	1.00	2.00	0.00	0.00	0.00	0.00	0.94	0.00	0.06
Final Sat.:	0	2560	256	406	2887	0	0	0	0	1266	0	77
Capacity Analysis Module:												
Vol/Sat:	0.00	0.35	0.35	0.02	0.56	0.00	0.00	0.00	0.00	0.21	0.00	0.21
Crit Moves:					****					****		
Green/Cycle:	0.00	0.61	0.61	0.61	0.61	0.00	0.00	0.00	0.00	0.24	0.00	0.24
Volume/Cap:	0.00	0.57	0.57	0.04	0.92	0.00	0.00	0.00	0.00	0.86	0.00	0.86
Delay/Veh:	0.0	10.9	10.9	7.0	23.8	0.0	0.0	0.0	0.0	53.0	0.0	53.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	10.9	10.9	7.0	23.8	0.0	0.0	0.0	0.0	53.0	0.0	53.0
LOS by Move:	A	B	B	A	C	A	A	A	A	D	A	D
HCM2kAvgQ:	0	9	9	0	20	0	0	0	0	10	0	2

Note: Queue reported is the number of cars per lane.

Near Term Plus Variant 1 (292-space Garage Expansion, 5,000 sf retail, and Access Redesign)

In previous drafts, Variant 1 was called Sub-Variant 0.

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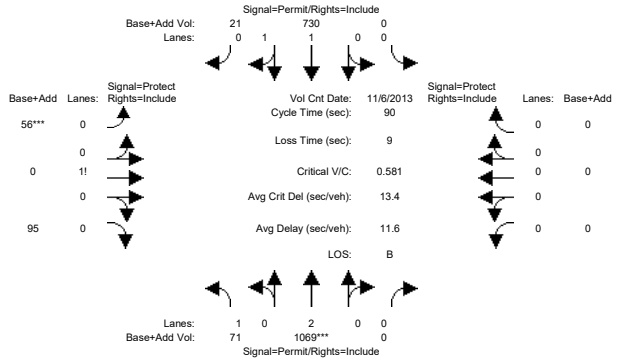
Baseline Plus Project (Sub-Variant 0) AM

Intersection #1: Potrero Ave/20th St



Street Name:	Potrero Ave						20th St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	56	56	56	56	56	56	25	25	25	0	0	0
Y+R:	4.5	4.5	4.5	4.5	4.5	4.5	5.0	5.0	5.0	4.0	4.0	4.0
Volume Module: >> Count Date: 6 Nov 2013 << 7-9AM												
Base Vol:	70	1070	0	0	663	21	56	0	92	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	70	1070	0	0	663	21	56	0	92	0	0	0
Added Vol:	1	-1	0	0	67	0	0	0	3	0	0	0
Hospital Re:	0	3	0	0	17	0	0	0	1	0	0	0
Initial Fut:	71	1072	0	0	747	21	56	0	96	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	75	1128	0	0	786	22	59	0	101	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	75	1128	0	0	786	22	59	0	101	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	75	1128	0	0	786	22	59	0	101	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.26	0.75	1.00	1.00	0.75	0.75	0.67	1.00	0.65	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	0.00	1.95	0.05	0.36	0.00	0.64	0.00	0.00	0.00
Final Sat.:	490	2858	0	0	2768	78	462	0	792	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.15	0.39	0.00	0.00	0.28	0.28	0.13	0.00	0.13	0.00	0.00	0.00
Crit Moves:		****					****					
Green/Cycle:	0.62	0.62	0.00	0.00	0.62	0.62	0.28	0.00	0.28	0.00	0.00	0.00
Volume/Cap:	0.25	0.63	0.00	0.00	0.46	0.46	0.46	0.00	0.46	0.00	0.00	0.00
Delay/Veh:	8.0	11.4	0.0	0.0	9.2	9.2	27.9	0.0	27.9	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	8.0	11.4	0.0	0.0	9.2	9.2	27.9	0.0	27.9	0.0	0.0	0.0
LOS by Move:	A	B	A	A	A	A	C	A	C	A	A	A
HCM2kAvgQ:	1	11	0	0	6	6	4	0	4	0	0	0

Note: Queue reported is the number of cars per lane.

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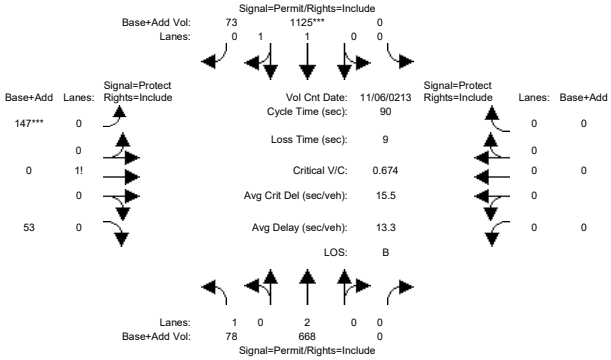
Intersection #1: Potrero Ave/20th St



Street Name:	Potrero Ave						20th St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	56	56	56	56	56	56	25	25	25	0	0	0
Y+R:	4.5	4.5	4.5	4.5	4.5	4.5	5.0	5.0	5.0	4.0	4.0	4.0
Volume Module: >> Count Date: 6 Nov 213 << 4-6PM												
Base Vol:	75	664	0	0	1120	73	147	0	52	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	75	664	0	0	1120	73	147	0	52	0	0	0
Added Vol:	3	4	0	0	5	0	0	0	1	0	0	0
PasserByVol:	1	17	0	0	3	0	0	0	0	0	0	0
Initial Fut:	79	685	0	0	1128	73	147	0	53	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	83	721	0	0	1187	77	155	0	56	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	83	721	0	0	1187	77	155	0	56	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	83	721	0	0	1187	77	155	0	56	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.14	0.75	1.00	1.00	0.75	0.74	0.69	1.00	0.69	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	0.00	1.88	0.12	0.73	0.00	0.27	0.00	0.00	0.00
Final Sat.:	257	2858	0	0	2659	172	967	0	349	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.32	0.25	0.00	0.00	0.45	0.45	0.16	0.00	0.16	0.00	0.00	0.00
Crit Moves:					****		****					
Green/Cycle:	0.62	0.62	0.00	0.00	0.62	0.62	0.28	0.00	0.28	0.00	0.00	0.00
Volume/Cap:	0.52	0.41	0.00	0.00	0.72	0.72	0.58	0.00	0.58	0.00	0.00	0.00
Delay/Veh:	12.5	8.7	0.0	0.0	13.1	13.1	30.2	0.0	30.2	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	12.5	8.7	0.0	0.0	13.1	13.1	30.2	0.0	30.2	0.0	0.0	0.0
LOS by Move:	B	A	A	A	B	B	C	A	C	A	A	A
HCM2kAvgQ:	2	5	0	0	14	14	6	0	6	0	0	0

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
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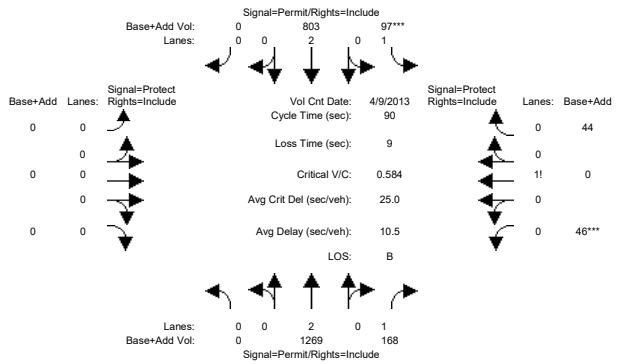
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Baseline Plus Project (Sub-Variant 0) AM

Intersection #2: Potrero Ave/22nd St (N)



Street Name: Potrero Ave 22nd St (N)

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	59	59	59	59	59	59	0	0	0	22	22	22
Y+R:	4.5	4.5	4.5	4.5	4.5	4.5	4.0	4.0	4.0	5.0	5.0	5.0
Volume Module: >> Count Date: 9 Apr 2013 << 7-9AM												
Base Vol:	0	1267	168	97	723	0	0	0	0	46	0	44
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1267	168	97	723	0	0	0	0	46	0	44
Added Vol:	0	2	0	0	80	0	0	0	0	0	0	0
Hospital Re:	0	3	0	0	18	0	0	0	0	0	0	0
Initial Fut:	0	1272	168	97	821	0	0	0	0	46	0	44
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	0	1368	181	104	883	0	0	0	0	49	0	47
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1368	181	104	883	0	0	0	0	49	0	47
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1368	181	104	883	0	0	0	0	49	0	47
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.81	0.58	0.12	0.76	1.00	1.00	1.00	1.00	0.68	1.00	0.65
Lanes:	0.00	2.00	1.00	1.00	2.00	0.00	0.00	0.00	0.00	0.50	0.00	0.50
Final Sat.:	0	3079	1101	233	2887	0	0	0	0	644	0	616
Capacity Analysis Module:												
Vol/Sat:	0.00	0.44	0.16	0.45	0.31	0.00	0.00	0.00	0.00	0.08	0.00	0.08
Crit Moves:				****						****		
Green/Cycle:	0.00	0.66	0.66	0.66	0.66	0.00	0.00	0.00	0.00	0.24	0.00	0.24
Volume/Cap:	0.00	0.68	0.25	0.68	0.47	0.00	0.00	0.00	0.00	0.31	0.00	0.31
Delay/Veh:	0.0	10.5	6.6	21.8	7.9	0.0	0.0	0.0	0.0	28.4	0.0	28.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	10.5	6.6	21.8	7.9	0.0	0.0	0.0	0.0	28.4	0.0	28.4
LOS by Move:	A	B	A	C	A	A	A	A	A	C	A	C
HCM2kAvgQ:	0	12	2	3	7	0	0	0	0	2	0	2

Note: Queue reported is the number of cars per lane.

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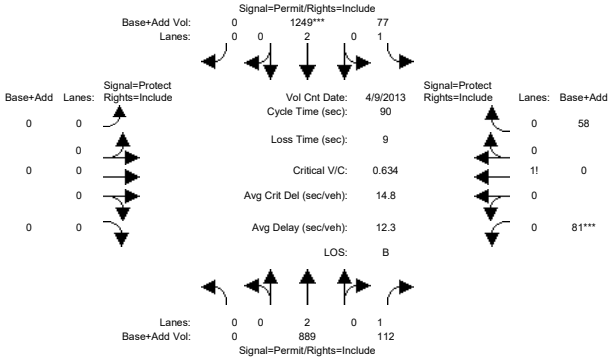
Baseline Plus Project (Sub-Variant 0) PM

Intersection #2: Potrero Ave/22nd St (N)



Street Name: Potrero Ave 22nd St (N)

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	56	56	56	56	56	56	0	0	0	25	25	25
Y+R:	4.5	4.5	4.5	4.5	4.5	4.5	4.0	4.0	4.0	5.0	5.0	5.0
Volume Module: >> Count Date: 9 Apr 2013 << 4-6PM												
Base Vol:	0	873	112	77	1242	0	0	0	0	81	0	58
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	873	112	77	1242	0	0	0	0	81	0	58
Added Vol:	0	16	0	0	7	0	0	0	0	0	0	0
Hospital Re:	0	18	0	0	3	0	0	0	0	0	0	0
Initial Fut:	0	907	112	77	1252	0	0	0	0	81	0	58
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	955	118	81	1318	0	0	0	0	85	0	61
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	955	118	81	1318	0	0	0	0	85	0	61
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	955	118	81	1318	0	0	0	0	85	0	61
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.81	0.59	0.22	0.76	1.00	1.00	1.00	1.00	0.68	1.00	0.66
Lanes:	0.00	2.00	1.00	1.00	2.00	0.00	0.00	0.00	0.00	0.57	0.00	0.43
Final Sat.:	0	3079	1126	411	2887	0	0	0	0	746	0	534
Capacity Analysis Module:												
Vol/Sat:	0.00	0.31	0.10	0.20	0.46	0.00	0.00	0.00	0.00	0.11	0.00	0.11
Crit Moves:					****					****		
Green/Cycle:	0.00	0.62	0.62	0.62	0.62	0.00	0.00	0.00	0.00	0.28	0.00	0.28
Volume/Cap:	0.00	0.50	0.17	0.32	0.73	0.00	0.00	0.00	0.00	0.41	0.00	0.41
Delay/Veh:	0.0	9.5	7.3	8.7	13.4	0.0	0.0	0.0	0.0	27.3	0.0	27.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	9.5	7.3	8.7	13.4	0.0	0.0	0.0	0.0	27.3	0.0	27.3
LOS by Move:	A	A	A	A	B	A	A	A	A	C	A	C
HCM2kAvgQ:	0	7	1	1	15	0	0	0	0	4	0	4

Note: Queue reported is the number of cars per lane.

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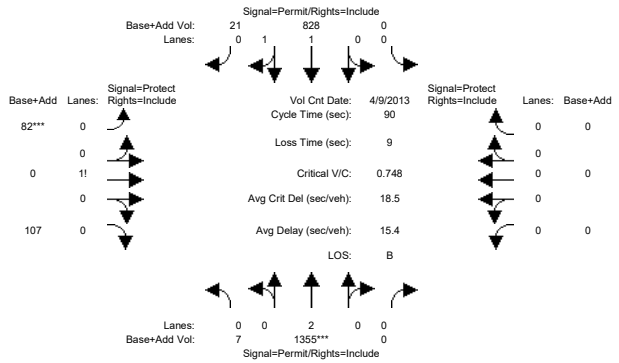
2000 HCM Operations (Future Volume Alternative)
Baseline Plus Project (Sub-Variant 0) AM

Intersection #3: Potrero Ave/22nd St (S)



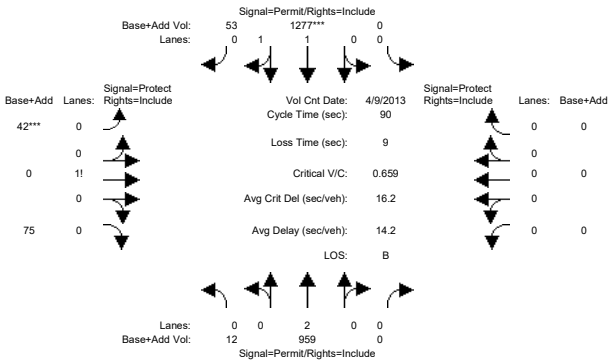
Street Name:	Potrero Ave						22nd St (S)					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	56	56	56	56	56	56	25	25	25	0	0	0
Y+R:	4.5	4.5	4.5	4.5	4.5	4.5	5.0	5.0	5.0	4.0	4.0	4.0
Volume Module: >> Count Date: 9 Apr 2013 << 7-9AM												
Base Vol:	6	1353	0	0	748	21	82	0	104	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	6	1353	0	0	748	21	82	0	104	0	0	0
Added Vol:	1	2	0	0	80	0	0	0	3	0	0	0
Hospital Re:	0	3	0	0	18	0	0	0	0	0	0	0
Initial Fut:	7	1358	0	0	846	21	82	0	107	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
PHF Volume:	7	1415	0	0	881	22	85	0	111	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	7	1415	0	0	881	22	85	0	111	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	7	1415	0	0	881	22	85	0	111	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.72	0.72	1.00	1.00	0.75	0.75	0.68	1.00	0.66	1.00	1.00	1.00
Lanes:	0.01	1.99	0.00	0.00	1.95	0.05	0.43	0.00	0.57	0.00	0.00	0.00
Final Sat.:	14	2731	0	0	2777	69	551	0	719	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.52	0.52	0.00	0.00	0.32	0.32	0.16	0.00	0.16	0.00	0.00	0.00
Crit Moves:		****					****					
Green/Cycle:	0.62	0.62	0.00	0.00	0.62	0.62	0.28	0.00	0.28	0.00	0.00	0.00
Volume/Cap:	0.83	0.83	0.00	0.00	0.51	0.51	0.56	0.00	0.56	0.00	0.00	0.00
Delay/Veh:	17.0	17.0	0.0	0.0	9.7	9.7	29.8	0.0	29.8	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	17.0	17.0	0.0	0.0	9.7	9.7	29.8	0.0	29.8	0.0	0.0	0.0
LOS by Move:	B	B	A	A	A	A	C	A	C	A	A	A
HCM2kAvgQ:	16	16	0	0	7	7	5	0	5	0	0	0

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Baseline Plus Project (Sub-Variant 0) PM

Intersection #3: Potrero Ave/22nd St (S)



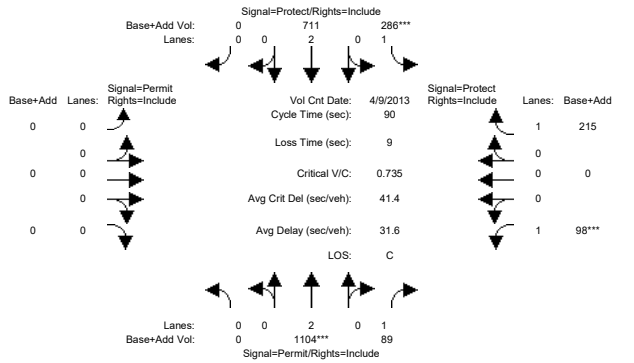
Street Name:	Potrero Ave						22nd St (S)					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	56	56	56	56	56	56	25	25	25	0	0	0
Y+R:	4.5	4.5	4.5	4.5	4.5	4.5	5.0	5.0	5.0	4.0	4.0	4.0
Volume Module: >> Count Date: 9 Apr 2013 <<												
Base Vol:	9	943	0	0	1270	53	42	0	74	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	9	943	0	0	1270	53	42	0	74	0	0	0
Added Vol:	3	16	0	0	7	0	0	0	1	0	0	0
Hospital Re:	0	18	0	0	3	0	0	0	0	0	0	0
Initial Fut:	12	977	0	0	1280	53	42	0	75	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	13	1028	0	0	1347	56	44	0	79	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	13	1028	0	0	1347	56	44	0	79	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	13	1028	0	0	1347	56	44	0	79	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.71	0.71	1.00	1.00	0.75	0.75	0.67	1.00	0.65	1.00	1.00	1.00
Lanes:	0.02	1.98	0.00	0.00	1.92	0.08	0.35	0.00	0.65	0.00	0.00	0.00
Final Sat.:	33	2649	0	0	2727	113	447	0	797	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.39	0.39	0.00	0.00	0.49	0.49	0.10	0.00	0.10	0.00	0.00	0.00
Crit Moves:					****		****					
Green/Cycle:	0.62	0.62	0.00	0.00	0.62	0.62	0.28	0.00	0.28	0.00	0.00	0.00
Volume/Cap:	0.62	0.62	0.00	0.00	0.79	0.79	0.36	0.00	0.36	0.00	0.00	0.00
Delay/Veh:	11.2	11.2	0.0	0.0	15.3	15.3	26.7	0.0	26.7	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	11.2	11.2	0.0	0.0	15.3	15.3	26.7	0.0	26.7	0.0	0.0	0.0
LOS by Move:	B	B	A	A	B	B	C	A	C	A	A	A
HCM2kAvgQ:	9	9	0	0	15	15	3	0	3	0	0	0

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Baseline Plus Project (Sub-Variant 0) AM

Intersection #4: Potrero Ave/23rd St



Street Name: Potrero Ave 23rd St

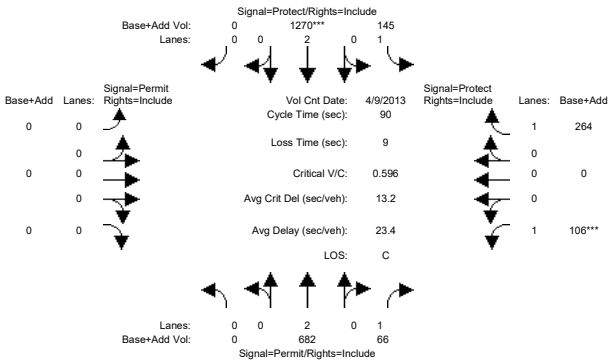
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	40	40	14	58	58	0	0	0	23	0	23
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.0	4.0	5.0
Volume Module: >> Count Date: 9 Apr 2013 << 7-9AM												
Base Vol:	0	1111	110	203	711	0	0	0	0	109	0	206
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1111	110	203	711	0	0	0	0	109	0	206
Added Vol:	0	-7	-21	83	0	0	0	0	0	-11	0	9
Hospital Re:	0	2	10	7	11	0	0	0	0	3	0	1
Initial Fut:	0	1106	99	293	722	0	0	0	0	101	0	216
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	0	1189	106	315	776	0	0	0	0	109	0	232
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1189	106	315	776	0	0	0	0	109	0	232
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1189	106	315	776	0	0	0	0	109	0	232
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.81	0.52	0.81	0.75	1.00	1.00	1.00	1.00	0.81	1.00	0.57
Lanes:	0.00	2.00	1.00	1.00	2.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
Final Sat.:	0	3079	994	1539	2858	0	0	0	0	1539	0	1091
Capacity Analysis Module:												
Vol/Sat:	0.00	0.39	0.11	0.20	0.27	0.00	0.00	0.00	0.00	0.07	0.00	0.21
Crit Moves:		****		****						****		
Green/Cycle:	0.00	0.44	0.44	0.20	0.64	0.00	0.00	0.00	0.00	0.26	0.00	0.26
Volume/Cap:	0.00	0.87	0.24	1.02	0.42	0.00	0.00	0.00	0.00	0.28	0.00	0.83
Delay/Veh:	0.0	28.9	15.8	93.4	8.0	0.0	0.0	0.0	0.0	27.2	0.0	50.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	28.9	15.8	93.4	8.0	0.0	0.0	0.0	0.0	27.2	0.0	50.6
LOS by Move:	A	C	B	F	A	A	A	A	A	C	A	D
HCM2kAvgQ:	0	16	2	12	5	0	0	0	0	3	0	9

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Baseline Plus Project (Sub-Variant 0) PM

Intersection #4: Potrero Ave/23rd St



Street Name: Potrero Ave 23rd St

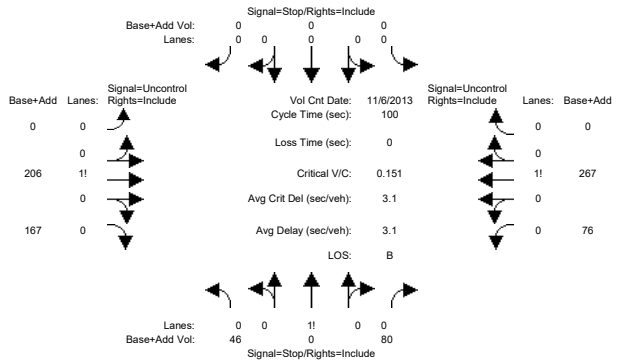
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	40	40	14	58	58	0	0	0	23	0	23
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.0	4.0	5.0
Volume Module: >> Count Date: 9 Apr 2013 << 4-6PM												
Base Vol:	0	708	86	137	1271	0	0	0	0	120	0	220
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	708	86	137	1271	0	0	0	0	120	0	220
Added Vol:	0	-26	-20	8	-1	0	0	0	0	-14	0	44
Hospital Re:	0	11	3	1	2	0	0	0	0	10	0	7
Initial Fut:	0	693	69	146	1272	0	0	0	0	116	0	271
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	0	714	71	151	1311	0	0	0	0	120	0	279
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	714	71	151	1311	0	0	0	0	120	0	279
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	714	71	151	1311	0	0	0	0	120	0	279
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.81	0.55	0.81	0.75	1.00	1.00	1.00	1.00	0.81	1.00	0.58
Lanes:	0.00	2.00	1.00	1.00	2.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
Final Sat.:	0	3079	1038	1539	2858	0	0	0	0	1539	0	1099
Capacity Analysis Module:												
Vol/Sat:	0.00	0.23	0.07	0.10	0.46	0.00	0.00	0.00	0.00	0.08	0.00	0.25
Crit Moves:					****					****		
Green/Cycle:	0.00	0.44	0.44	0.20	0.64	0.00	0.00	0.00	0.00	0.26	0.00	0.26
Volume/Cap:	0.00	0.52	0.15	0.49	0.71	0.00	0.00	0.00	0.00	0.30	0.00	0.99
Delay/Veh:	0.0	18.5	15.1	33.1	11.8	0.0	0.0	0.0	0.0	27.5	0.0	85.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	18.5	15.1	33.1	11.8	0.0	0.0	0.0	0.0	27.5	0.0	85.5
LOS by Move:	A	B	B	C	B	A	A	A	A	C	A	F
HCM2kAvgQ:	0	7	1	4	12	0	0	0	0	3	0	13

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Baseline Plus Project (Sub-Variant 0) AM

Intersection #5: Utah St/23rd St



Street Name: Utah St 23rd St

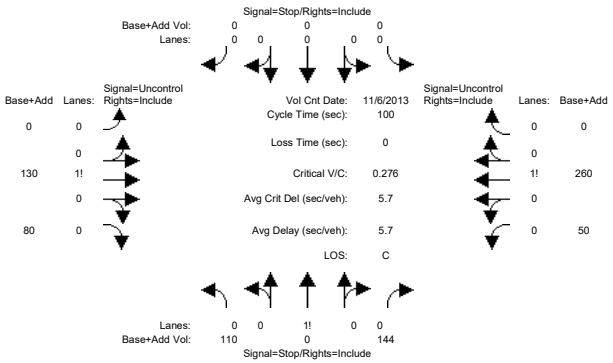
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module: >> Count Date: 6 Nov 2013 << 7-9AM												
Base Vol:	30	0	54	0	0	0	235	78	40	285	0	
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	30	0	54	0	0	0	235	78	40	285	0	
Added Vol:	16	0	26	0	0	0	-29	89	36	-18	0	
Hospital Re:	0	0	0	0	0	0	17	0	26	4	0	
Initial Fut:	46	0	80	0	0	0	223	167	102	271	0	
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	48	0	84	0	0	0	235	176	107	285	0	
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	
FinalVolume:	48	0	84	0	0	0	235	176	107	285	0	
Critical Gap Module:												
Critical Gp:	6.4	6.5	6.2	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	823	823	323	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	411	xxxx	xxxxx
Potent Cap.:	346	311	723	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	1159	xxxx	xxxxx
Move Cap.:	320	280	723	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	1159	xxxx	xxxxx
Volume/Cap:	0.15	0.00	0.12	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.09	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.3	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	8.4	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	*	*	*	A	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	495	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	1.1	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	0.3	xxxx	xxxxx
Shrd ConDel:	xxxxx	14.9	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	8.4	xxxx	xxxxx
Shared LOS:	*	B	*	*	*	*	*	*	*	A	*	*
ApproachDel:		14.9			xxxxxx			xxxxxx			xxxxxx	
ApproachLOS:		B			*			*			*	

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Baseline Plus Project (Sub-Variant 0) PM

Intersection #5: Utah St/23rd St



Street Name: Utah St 23rd St

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module: >> Count Date: 6 Nov 2013 << 4-6PM												
Base Vol:	58	0	51	0	0	0	157	66	44	282	0	
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	58	0	51	0	0	0	157	66	44	282	0	
Added Vol:	52	0	93	0	0	0	-27	14	6	-22	0	
Hospital Re:	0	0	6	0	0	0	4	0	7	17	0	
Initial Fut:	110	0	150	0	0	0	134	80	57	277	0	
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
PHF Volume:	121	0	165	0	0	0	147	88	63	304	0	
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	
FinalVolume:	121	0	165	0	0	0	147	88	63	304	0	
Critical Gap Module:												
Critical Gp:	6.4	6.5	6.2	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	621	621	191	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	235	xxxx	xxxxx
Potent Cap.:	454	406	856	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	1344	xxxx	xxxxx
Move Cap.:	438	386	856	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	1344	xxxx	xxxxx
Volume/Cap:	0.28	0.00	0.19	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.05	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.1	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.8	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	*	*	*	A	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	609	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	2.5	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	0.1	xxxx	xxxxx
Shrd ConDel:	xxxxx	16.0	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.8	xxxx	xxxxx
Shared LOS:	*	C	*	*	*	*	*	*	*	A	*	*
ApproachDel:		16.0			xxxxxx			xxxxxx			xxxxxx	
ApproachLOS:		C			*			*			*	

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
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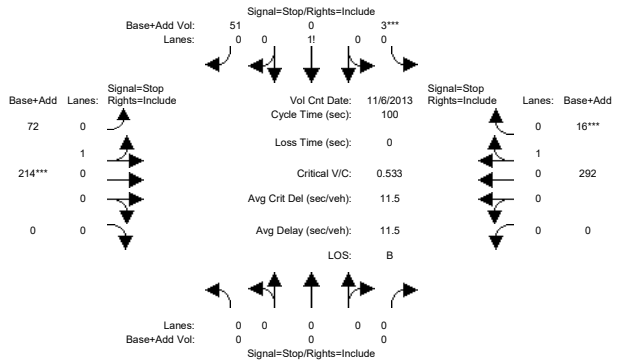
Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Baseline Plus Project (Sub-Variant 0) AM

Intersection #6: West Driveway/23rd St

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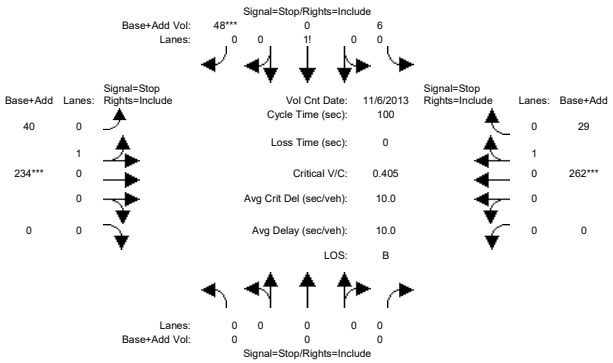
Street Name:          West Driveway                    23rd St
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 6 Nov 2013 << 7-9AM
Base Vol:       0     0     0     7     0    64    92   197     0     0   261    22
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    0     0     0     7     0    64    92   197     0     0   261    22
Added Vol:      0     0     0    -4     0   -13   -20    17     0     0    31    -6
Hospital Re:    0     0     0     0     0     4   104     0     0     0    26     6
Initial Fut:    0     0     0     3     0    55   176   214     0     0   318    22
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     0.93  0.93  0.93  0.93  0.93  0.93  0.93  0.93  0.93  0.93  0.93  0.93
PHF Volume:     0     0     0     3     0    59   189   230     0     0   342    24
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:    0     0     0     3     0    59   189   230     0     0   342    24
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:    0     0     0     3     0    59   189   230     0     0   342    24
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.00  0.00  0.00  0.05  0.00  0.95  0.45  0.55  0.00  0.00  0.94  0.06
Final Sat.:     0     0     0    34     0   616   355   432     0     0   744    51
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     xxxx  xxxx  xxxx  0.10  xxxx  0.10  0.53  0.53  xxxx  xxxx  0.46  0.46
Crit Moves:                      ****                  ****                  ****
Delay/Veh:    0.0   0.0   0.0   8.4   0.0   8.4  12.4  12.4   0.0   0.0  11.1  11.1
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   0.0   0.0   0.0   8.4   0.0   8.4  12.4  12.4   0.0   0.0  11.1  11.1
LOS by Move:    *     *     *     A     *     A     B     B     *     *     B     B
ApproachDel:       xxxxxx             8.4              12.4             11.1
Delay Adj:          xxxxx             1.00             1.00             1.00
ApprAdjDel:        xxxxxx             8.4              12.4             11.1
LOS by Appr:            *               A                B                B
AllWayAvgQ:   0.0   0.0   0.0   0.1   0.1   0.1   1.1   1.1   1.1   0.8   0.8   0.8
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Baseline Plus Project (Sub-Variant 0) PM

Intersection #6: West Driveway/23rd St

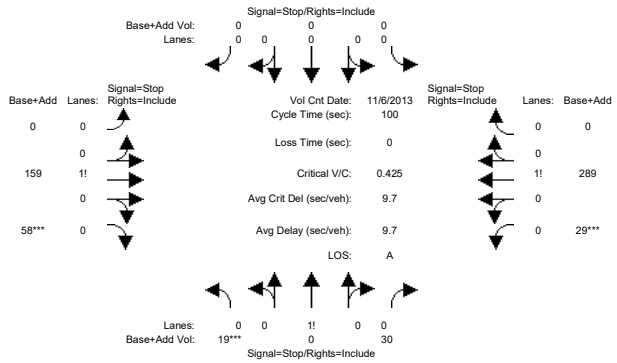



```
Street Name:          West Driveway                    23rd St
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 6 Nov 2013 << 4-6PM
Base Vol:       0     0     0    11     0    64    58   150     0     0   262    35
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    0     0     0    11     0    64    58   150     0     0   262    35
Added Vol:      0     0     0    -5     0   -16   -18    84     0     0     0    -6
Hospital Re:    0     0     0     6     0    17     4     6     0     0     7     0
Initial Fut:    0     0     0    12     0    65    44   240     0     0   269    29
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     0.91  0.91  0.91  0.91  0.91  0.91  0.91  0.91  0.91  0.91  0.91  0.91
PHF Volume:     0     0     0    13     0    71    48   264     0     0   296    32
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:    0     0     0    13     0    71    48   264     0     0   296    32
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:    0     0     0    13     0    71    48   264     0     0   296    32
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.00  0.00  0.00  0.16  0.00  0.84  0.15  0.85  0.00  0.00  0.90  0.10
Final Sat.:     0     0     0   107     0   582   123   668     0     0   730    79
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     xxxx  xxxx  xxxx  0.12  xxxx  0.12  0.39  0.39  xxxx  xxxx  0.40  0.40
Crit Moves:                      ****        ****                  ****
Delay/Veh:    0.0   0.0   0.0   8.3   0.0   8.3  10.3  10.3   0.0   0.0  10.2  10.2
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   0.0   0.0   0.0   8.3   0.0   8.3  10.3  10.3   0.0   0.0  10.2  10.2
LOS by Move:    *     *     *     A     *     A     B     B     *     *     B     B
ApproachDel:       xxxxxx             8.3              10.3             10.2
Delay Adj:          xxxxx             1.00             1.00             1.00
ApprAdjDel:        xxxxxx             8.3              10.3             10.2
LOS by Appr:            *               A                B                B
AllWayAvgQ:   0.0   0.0   0.0   0.1   0.1   0.1   0.6   0.6   0.6   0.6   0.6   0.6
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Baseline Plus Project (Sub-Variant 0) AM

Intersection #7: San Bruno Ave/23rd St

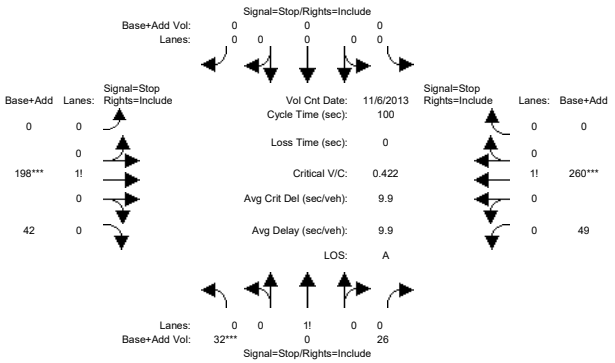



```
Street Name:          San Bruno Ave                    23rd St
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0    0     0    0    0     0    0    0     0    0    0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 6 Nov 2013 << 7-9AM
Base Vol:      19    0   30     0    0    0     0  147   57    29  264    0
Growth Adj:  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Initial Bse:   19    0   30     0    0    0     0  147   57    29  264    0
Added Vol:      0    0    0     0    0    0     0   12    1     0   25    0
Hospital Re:   26    0    0     0    0    0     0    0    0     9    6    0
Initial Fut:   45    0   30     0    0    0     0  159   58    38  295    0
User Adj:    1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Adj:     0.96 0.96 0.96  0.96 0.96 0.96  0.96 0.96 0.96  0.96 0.96 0.96
PHF Volume:    47    0   31     0    0    0     0  166   60    40  307    0
Reduct Vol:     0    0    0     0    0    0     0    0    0     0    0    0
Reduced Vol:   47    0   31     0    0    0     0  166   60    40  307    0
PCE Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
FinalVolume:   47    0   31     0    0    0     0  166   60    40  307    0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Lanes:       0.60 0.00 0.40  0.00 0.00 0.00  0.00 0.73 0.27  0.11 0.89 0.00
Final Sat.:   401    0  267     0    0    0     0  602  220    93  723    0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.12 xxxx 0.12  xxxx xxxx xxxx  xxxx 0.28 0.28  0.43 0.43 xxxx
Crit Moves:  ****                             ****  ****
Delay/Veh:    8.5  0.0  8.5   0.0  0.0  0.0   0.0  8.9  8.9  10.4 10.4  0.0
Delay Adj:   1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
AdjDel/Veh:   8.5  0.0  8.5   0.0  0.0  0.0   0.0  8.9  8.9  10.4 10.4  0.0
LOS by Move:    A    *    A     *    *    *     *    A    A     B    B    *
ApproachDel:        8.5          xxxxxx             8.9            10.4
Delay Adj:         1.00           xxxxx             1.00            1.00
ApprAdjDel:         8.5          xxxxxx             8.9            10.4
LOS by Appr:          A               *               A               B
AllWayAvgQ:   0.1  0.1  0.1   0.0  0.0  0.0   0.4  0.4  0.4   0.7  0.7  0.7
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Baseline Plus Project (Sub-Variant 0) PM

Intersection #7: San Bruno Ave/23rd St

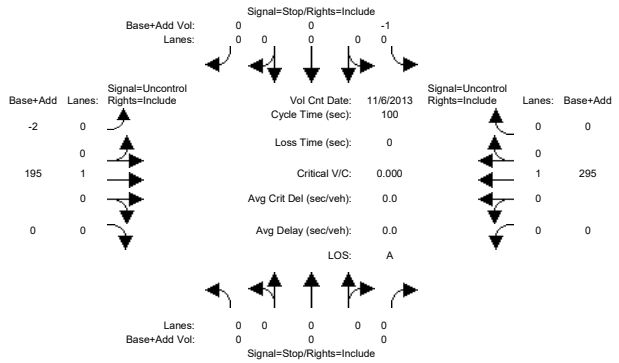



```
Street Name:          San Bruno Ave                    23rd St
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0    0    0     0    0    0     0    0    0     0    0    0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 6 Nov 2013 << 4-6PM
Base Vol:      31    0   26     0    0    0     0  119   42    49  266    0
Growth Adj:  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Initial Bse:   31    0   26     0    0    0     0  119   42    49  266    0
Added Vol:      1    0    0     0    0    0     0   79    0     0   -6    0
Hospital Re:    7    0    3     0    0    0     0   12    0     0    0    0
Initial Fut:   39    0   29     0    0    0     0  210   42    49  260    0
User Adj:    1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Adj:     0.91 0.91 0.91  0.91 0.91 0.91  0.91 0.91 0.91  0.91 0.91 0.91
PHF Volume:    43    0   32     0    0    0     0  231   46    54  286    0
Reduct Vol:     0    0    0     0    0    0     0    0    0     0    0    0
Reduced Vol:   43    0   32     0    0    0     0  231   46    54  286    0
PCE Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
FinalVolume:   43    0   32     0    0    0     0  231   46    54  286    0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Lanes:       0.57 0.00 0.43  0.00 0.00 0.00  0.00 0.83 0.17  0.16 0.84 0.00
Final Sat.:   376    0  279     0    0    0     0  678  136   128  678    0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.11 xxxx 0.11  xxxx xxxx xxxx  xxxx 0.34 0.34  0.42 0.42 xxxx
Crit Moves:  ****                             ****            ****
Delay/Veh:    8.6  0.0  8.6   0.0  0.0  0.0   0.0  9.5  9.5  10.5 10.5  0.0
Delay Adj:   1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
AdjDel/Veh:   8.6  0.0  8.6   0.0  0.0  0.0   0.0  9.5  9.5  10.5 10.5  0.0
LOS by Move:    A    *    A     *    *    *     *    A    A     B    B    *
ApproachDel:        8.6          xxxxxx             9.5            10.5
Delay Adj:         1.00           xxxxx             1.00            1.00
ApprAdjDel:         8.6          xxxxxx             9.5            10.5
LOS by Appr:          A               *               A               B
AllWayAvgQ:   0.1  0.1  0.1   0.0  0.0  0.0   0.5  0.5  0.5   0.7  0.7  0.7
Note: Queue reported is the number of cars per lane.
```

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Baseline Plus Project (Sub-Variant 0) AM

Intersection #8: East Driveway/23rd St

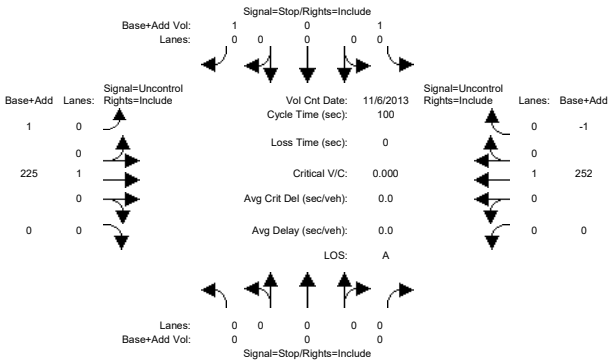



```
Street Name:          East Driveway                    23rd St
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 6 Nov 2013 << 7-9AM
Base Vol:       0    0     0     1    0     6     8  173     0     0  265     4
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0     1    0     6     8  173     0     0  265     4
Added Vol:      0    0     0    -2    0    -6   -10   22     0     0   30    -4
PasserByVol:    0    0     0     1    0     0     2    0     0     0   15     0
Initial Fut:    0    0     0     0    0     0     0  195     0     0  310     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.94 0.94  0.94  0.94 0.94  0.94  0.94 0.94  0.94  0.94 0.94  0.94
PHF Volume:     0    0     0     0    0     0     0  207     0     0  330     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0     0    0     0     0  207     0     0  330     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   0.0 xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.2 xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     A    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx           xxxxxx           xxxxxx
ApproachLOS:         *                *                *                *
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Baseline Plus Project (Sub-Variant 0) PM

Intersection #8: East Driveway/23rd St

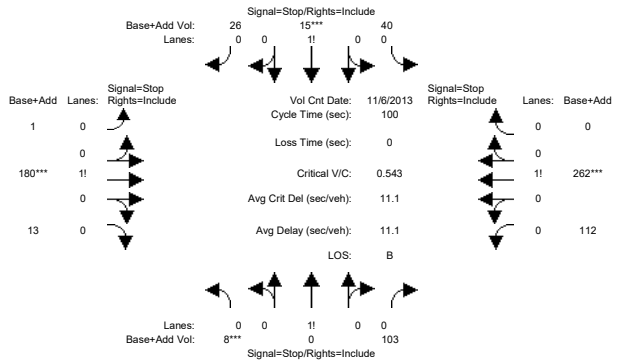



```
Street Name:          East Driveway                    23rd St
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 6 Nov 2013 << 4-6PM
Base Vol:       0    0     0     4    0     8    10  137     0     0  251     3
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0     4    0     8    10  137     0     0  251     3
Added Vol:      0    0     0    -3    0    -7    -9   88     0     0    1    -4
Hospital Re:    0    0     0    -1    0    -1    -1   15     0     0    0     1
Initial Fut:    0    0     0     0    0     0     0  240     0     0  252     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.92 0.92  0.92  0.92 0.92  0.92  0.92 0.92  0.92  0.92 0.92  0.92
PHF Volume:     0    0     0     0    0     0     0  261     0     0  274     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0     0    0     0     0  261     0     0  274     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   535  535   274  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   510  455   770  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   510  455   770  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.00 0.00  0.00  xxxx xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx    0 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   0.0 xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.2 xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     A    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx           xxxxxx           xxxxxx
ApproachLOS:         *                *                *                *
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Baseline Plus Project (Sub-Variant 0) AM

Intersection #9: Vermont St/23rd St



Street Name: Vermont St 23rd St

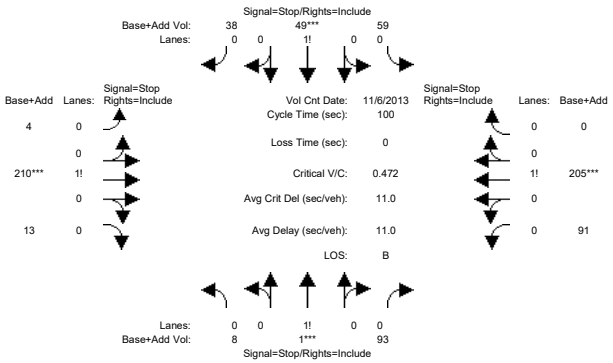
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 6 Nov 2013 << 7-9AM												
Base Vol:	8	0	103	40	15	26	1	160	13	112	235	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	8	0	103	40	15	26	1	160	13	112	235	0
Added Vol:	0	0	0	0	0	0	0	20	0	0	27	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	15	0
Initial Fut:	8	0	103	40	15	26	1	180	13	112	277	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
PHF Volume:	8	0	107	42	16	27	1	188	14	117	289	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	8	0	107	42	16	27	1	188	14	117	289	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	8	0	107	42	16	27	1	188	14	117	289	0
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.07	0.00	0.93	0.49	0.19	0.32	0.01	0.93	0.06	0.29	0.71	0.00
Final Sat.:	48	0	615	298	112	193	4	658	48	215	531	0
Capacity Analysis Module:												
Vol/Sat:	0.17	xxxx	0.17	0.14	0.14	0.14	0.28	0.28	0.28	0.54	0.54	xxxx
Crit Moves:	****				****			****			****	
Delay/Veh:	8.8	0.0	8.8	9.1	9.1	9.1	9.6	9.6	9.6	12.9	12.9	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	8.8	0.0	8.8	9.1	9.1	9.1	9.6	9.6	9.6	12.9	12.9	0.0
LOS by Move:	A	*	A	A	A	A	A	A	A	B	B	*
ApproachDel:		8.8			9.1			9.6			12.9	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		8.8			9.1			9.6			12.9	
LOS by Appr:		A			A			A			B	
AllWayAvgQ:	0.2	0.2	0.2	0.1	0.1	0.1	0.4	0.4	0.4	1.1	1.1	1.1

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Baseline Plus Project (Sub-Variant 0) PM

Intersection #9: Vermont St/23rd St



Street Name: Vermont St 23rd St

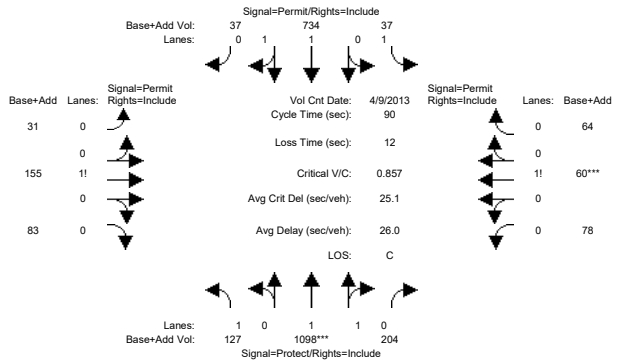
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 6 Nov 2013 << 4-6PM												
Base Vol:	8	1	93	59	49	38	4	124	13	91	208	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	8	1	93	59	49	38	4	124	13	91	208	0
Added Vol:	0	0	0	0	0	0	0	86	0	0	-3	0
Hospital Re:	0	0	0	0	0	0	0	15	0	0	0	0
Initial Fut:	8	1	93	59	49	38	4	225	13	91	205	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
PHF Volume:	9	1	102	65	54	42	4	247	14	100	225	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	9	1	102	65	54	42	4	247	14	100	225	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	9	1	102	65	54	42	4	247	14	100	225	0
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.08	0.01	0.91	0.40	0.34	0.26	0.02	0.93	0.05	0.31	0.69	0.00
Final Sat.:	50	6	577	245	204	158	11	637	37	212	478	0
Capacity Analysis Module:												
Vol/Sat:	0.18	0.18	0.18	0.26	0.26	0.26	0.39	0.39	0.39	0.47	0.47	xxxx
Crit Moves:		****			****			****			****	
Delay/Veh:	9.0	9.0	9.0	10.1	10.1	10.1	10.9	10.9	10.9	12.1	12.1	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	9.0	9.0	9.0	10.1	10.1	10.1	10.9	10.9	10.9	12.1	12.1	0.0
LOS by Move:	A	A	A	B	B	B	B	B	B	B	B	*
ApproachDel:		9.0			10.1			10.9			12.1	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		9.0			10.1			10.9			12.1	
LOS by Appr:		A			B			B			B	
AllWayAvgQ:	0.2	0.2	0.2	0.3	0.3	0.3	0.6	0.6	0.6	0.8	0.8	0.8

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Baseline Plus Project (Sub-Variant 0) AM

Intersection #10: Potrero Ave/24th St



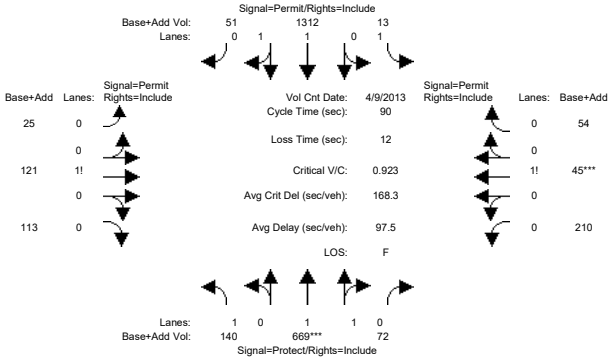
Street Name:	Potrero Ave						24th St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	53	53	42	42	42	25	25	25	25	25	25
Y+R:	4.0	7.0	7.0	7.0	7.0	7.0	5.0	5.0	5.0	5.0	5.0	5.0
Volume Module: >> Count Date: 9 Apr 2013 << 7-9AM												
Base Vol:	127	1119	96	37	745	38	31	161	83	39	70	71
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	127	1119	96	37	745	38	31	161	83	39	70	71
Added Vol:	0	-21	108	0	-11	-1	0	-6	0	39	-10	-7
Hospital Re:	0	10	15	11	3	0	0	0	0	5	0	2
Initial Fut:	127	1108	219	48	737	37	31	155	83	83	60	66
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	131	1142	226	49	760	38	32	160	86	86	62	68
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	131	1142	226	49	760	38	32	160	86	86	62	68
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	131	1142	226	49	760	38	32	160	86	86	62	68
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.81	0.73	0.72	0.09	0.75	0.73	0.67	0.67	0.64	0.45	0.46	0.45
Lanes:	1.00	1.67	0.33	1.00	1.90	0.10	0.11	0.57	0.32	0.40	0.28	0.32
Final Sat.:	1539	2320	459	176	2700	136	145	727	389	342	247	272
Capacity Analysis Module:												
Vol/Sat:	0.09	0.49	0.49	0.28	0.28	0.28	0.22	0.22	0.22	0.25	0.25	0.25
Crit Moves:		****									****	
Green/Cycle:	0.12	0.59	0.59	0.47	0.47	0.47	0.28	0.28	0.28	0.28	0.28	0.28
Volume/Cap:	0.70	0.84	0.84	0.60	0.60	0.60	0.79	0.79	0.79	0.90	0.90	0.90
Delay/Veh:	48.7	18.9	18.9	29.7	18.6	18.6	41.6	41.6	41.6	64.2	64.2	64.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	48.7	18.9	18.9	29.7	18.6	18.6	41.6	41.6	41.6	64.2	64.2	64.2
LOS by Move:	D	B	B	C	B	B	D	D	D	E	E	E
HCM2kAvgQ:	3	15	15	1	9	8	9	9	9	9	9	9

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Baseline Plus Project (Sub-Variant 0) PM

Intersection #10: Potrero Ave/24th St



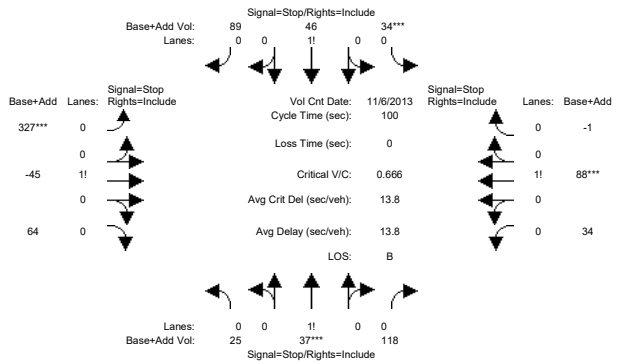
Street Name:	Potrero Ave						24th St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	55	55	44	44	44	23	23	23	23	23	23
Y+R:	4.0	7.0	7.0	7.0	7.0	7.0	5.0	5.0	5.0	5.0	5.0	5.0
Volume Module: >> Count Date: 9 Apr 2013 << 4-6PM												
Base Vol:	140	689	34	14	1325	52	25	119	113	71	81	80
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	140	689	34	14	1325	52	25	119	113	71	81	80
Added Vol:	0	-20	38	-1	-13	-1	0	2	0	139	-36	-26
Hospital Re:	0	3	5	2	10	0	0	0	0	15	0	11
Initial Fut:	140	672	77	15	1322	51	25	121	113	225	45	65
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
PHF Volume:	146	700	80	16	1377	53	26	126	118	234	47	68
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	146	700	80	16	1377	53	26	126	118	234	47	68
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	146	700	80	16	1377	53	26	126	118	234	47	68
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.81	0.74	0.73	0.26	0.75	0.74	0.66	0.67	0.62	0.35	0.37	0.36
Lanes:	1.00	1.79	0.21	1.00	1.92	0.08	0.09	0.46	0.45	0.68	0.13	0.19
Final Sat.:	1539	2521	289	486	2734	105	118	573	535	449	90	130
Capacity Analysis Module:												
Vol/Sat:	0.09	0.28	0.28	0.03	0.50	0.50	0.22	0.22	0.22	0.52	0.52	0.52
Crit Moves:		****									****	
Green/Cycle:	0.12	0.61	0.61	0.49	0.49	0.49	0.26	0.26	0.26	0.26	0.26	0.26
Volume/Cap:	0.78	0.45	0.45	0.07	1.03	1.03	0.86	0.86	0.86	2.04	2.04	2.04
Delay/Veh:	56.4	9.6	9.6	12.3	55.3	55.3	52.8	52.8	52.8	523.0	523	523.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	56.4	9.6	9.6	12.3	55.3	55.3	52.8	52.8	52.8	523.0	523	523.0
LOS by Move:	E	A	A	B	E	E	D	D	D	F	F	F
HCM2kAvgQ:	4	6	6	0	26	26	10	10	10	32	34	34

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Baseline Plus Project (Sub-Variant 0) AM

Intersection #11: Utah St/24th St



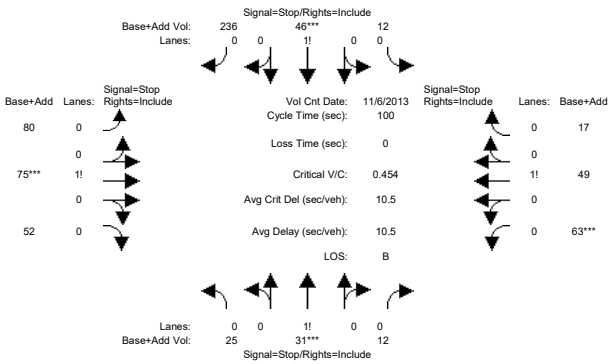
Street Name:	Utah St						24th St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 6 Nov 2013 << 7-9AM												
Base Vol:	24	36	118	37	43	38	40	194	60	44	118	8
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	24	36	118	37	43	38	40	194	60	44	118	8
Added Vol:	1	1	0	-3	3	51	287	-239	4	-10	-30	-9
Hospital Re:	3	0	0	0	26	0	0	0	0	9	4	0
Initial Fut:	28	37	118	34	72	89	327	-45	64	43	92	-1
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.00	0.90	0.90	0.90	0.00
PHF Volume:	31	41	131	38	80	99	363	0	71	48	102	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	31	41	131	38	80	99	363	0	71	48	102	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00
FinalVolume:	31	41	131	38	80	99	363	0	71	48	102	0
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.15	0.20	0.65	0.17	0.37	0.46	0.84	0.00	0.16	0.32	0.68	0.00
Final Sat.:	92	121	386	103	219	271	546	0	107	181	387	0
Capacity Analysis Module:												
Vol/Sat:	0.34	0.34	0.34	0.37	0.37	0.37	0.67	xxxx	0.67	0.26	0.26	xxxx
Crit Moves:		****			****			****			****	
Delay/Veh:	10.9	10.9	10.9	11.3	11.3	11.3	17.5	0.0	17.5	10.6	10.6	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	10.9	10.9	10.9	11.3	11.3	11.3	17.5	0.0	17.5	10.6	10.6	0.0
LOS by Move:	B	B	B	B	B	B	C	*	C	B	B	*
ApproachDel:		10.9			11.3			17.5			10.6	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		10.9			11.3			17.5			10.6	
LOS by Appr:		B			B			C			B	
AllWayAvgQ:	0.4	0.4	0.4	0.5	0.5	0.5	1.7	1.7	1.7	0.3	0.3	0.3

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Baseline Plus Project (Sub-Variant 0) PM

Intersection #11: Utah St/24th St



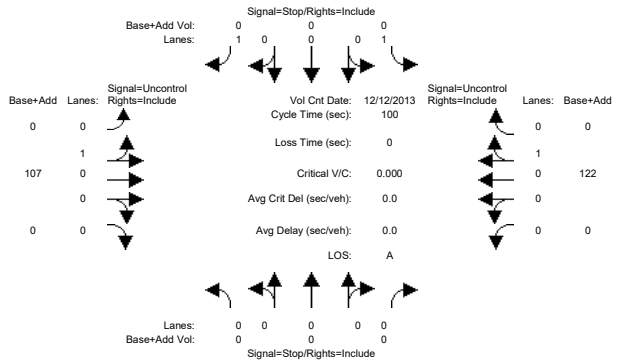
Street Name:	Utah St						24th St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 6 Nov 2013 << 4-6PM												
Base Vol:	20	28	12	13	45	52	31	85	51	100	160	50
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	20	28	12	13	45	52	31	85	51	100	160	50
Added Vol:	5	3	0	-1	1	184	49	-10	1	-37	-111	-33
Hospital Re:	11	6	0	0	7	0	0	7	0	0	15	0
Initial Fut:	36	37	12	12	53	236	80	82	52	63	64	17
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
PHF Volume:	40	42	13	13	60	265	90	92	58	71	72	19
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	40	42	13	13	60	265	90	92	58	71	72	19
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	40	42	13	13	60	265	90	92	58	71	72	19
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.42	0.44	0.14	0.04	0.18	0.78	0.37	0.39	0.24	0.44	0.44	0.12
Final Sat.:	260	267	87	30	131	583	248	255	161	276	281	75
Capacity Analysis Module:												
Vol/Sat:	0.16	0.16	0.16	0.45	0.45	0.45	0.36	0.36	0.36	0.26	0.26	0.26
Crit Moves:		****			****			****			****	
Delay/Veh:	9.2	9.2	9.2	11.0	11.0	11.0	10.7	10.7	10.7	9.9	9.9	9.9
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	9.2	9.2	9.2	11.0	11.0	11.0	10.7	10.7	10.7	9.9	9.9	9.9
LOS by Move:	A	A	A	B	B	B	B	B	B	A	A	A
ApproachDel:		9.2			11.0			10.7			9.9	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		9.2			11.0			10.7			9.9	
LOS by Appr:		A			B			B			A	
AllWayAvgQ:	0.2	0.2	0.2	0.7	0.7	0.7	0.5	0.5	0.5	0.3	0.3	0.3

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Baseline Plus Project (Sub-Variant 0) AM

Intersection #12: Parking Garage Driveway (S)/24th St

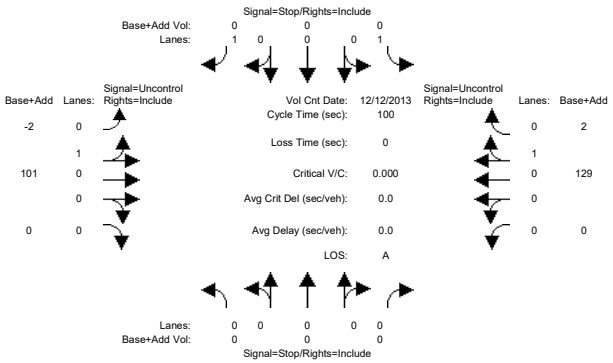



```
Street Name:   Parking Garage Driveway (S)              24th St
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 12 Dec 2013 << 7-9AM
Base Vol:       0    0     0     3    0    50   246  103     0     0  120    25
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0     3    0    50   246  103     0     0  120    25
Added Vol:      0    0     0    -3    0   -50  -246    4     0     0    2   -25
PasserByVol:    0    0     0     0    0     0     0    0     0     0   13     0
Initial Fut:    0    0     0     0    0     0     0  107     0     0  135     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.81 0.81  0.81  0.81 0.81  0.81  0.81 0.81  0.81  0.81 0.81  0.81
PHF Volume:     0    0     0     0    0     0     0  132     0     0  167     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0     0    0     0     0  132     0     0  167     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4 xxxx   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5 xxxx   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   299 xxxx   167  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   697 xxxx   883  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   697 xxxx   883  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.00 xxxx  0.00  xxxx xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx           xxxxxx           xxxxxx
ApproachLOS:         *                *                *                *
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Baseline Plus Project (Sub-Variant 0) PM

Intersection #12: Parking Garage Driveway (S)/24th St

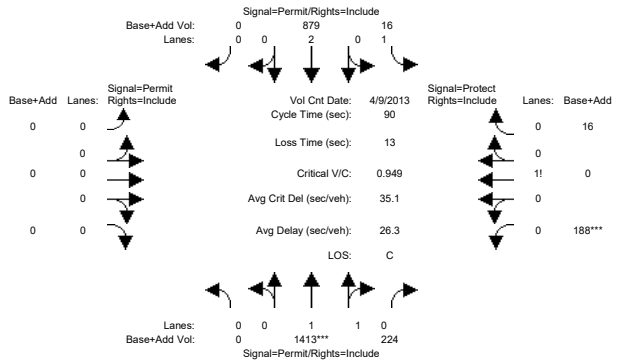



```
Street Name:   Parking Garage Driveway (S)              24th St
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 12 Dec 2013 << 4-6PM
Base Vol:       0    0     0    36    0   186    10  100     0     0  124     4
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0    36    0   186    10  100     0     0  124     4
Added Vol:      0    0     0   -36    0  -186   -12    1     0     0    5    -2
Hospital Re:    0    0     0     0    0     0     0    7     0     0   15     0
Initial Fut:    0    0     0     0    0     0    -2  108     0     0  144     2
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  0.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.90 0.90  0.90  0.90 0.90  0.90  0.00 0.90  0.90  0.90 0.90  0.90
PHF Volume:     0    0     0     0    0     0     0  120     0     0  160     2
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0     0    0     0     0  120     0     0  160     2
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4 xxxx   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5 xxxx   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   281 xxxx   161  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   713 xxxx   889  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   713 xxxx   889  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.00 xxxx  0.00  xxxx xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx           xxxxxx           xxxxxx
ApproachLOS:         *                *                *                *
Note: Queue reported is the number of cars per lane.
```

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Baseline Plus Project (Sub-Variant 0) AM

Intersection #13: Potrero Ave/25th St



Street Name: Potrero Ave 25th St

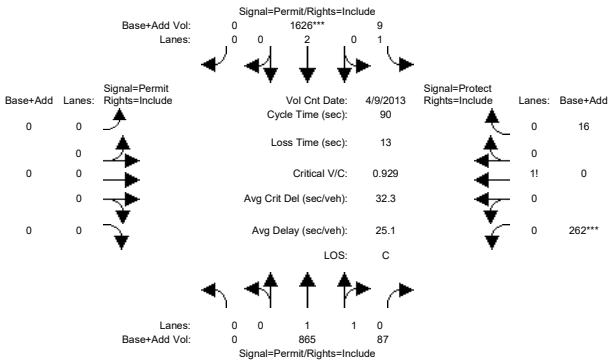
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	59	59	59	59	59	59	0	0	0	18	18	18
Y+R:	8.0	8.0	8.0	8.0	8.0	8.0	4.0	4.0	4.0	5.0	5.0	5.0
Volume Module: >> Count Date: 9 Apr 2013 << 7-9AM												
Base Vol:	0	1326	224	16	851	0	0	0	0	188	0	16
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1326	224	16	851	0	0	0	0	188	0	16
Added Vol:	0	87	0	0	28	0	0	0	0	0	0	0
PasserByVol:	0	25	0	0	8	0	0	0	0	0	0	0
Initial Fut:	0	1438	224	16	887	0	0	0	0	188	0	16
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	0	1563	243	17	964	0	0	0	0	204	0	17
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1563	243	17	964	0	0	0	0	204	0	17
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1563	243	17	964	0	0	0	0	204	0	17
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.74	0.73	0.06	0.76	1.00	1.00	1.00	1.00	0.71	1.00	0.70
Lanes:	0.00	1.73	0.27	1.00	2.00	0.00	0.00	0.00	0.00	0.92	0.00	0.08
Final Sat.:	0	2418	377	110	2887	0	0	0	0	1235	0	105
Capacity Analysis Module:												
Vol/Sat:	0.00	0.65	0.65	0.16	0.33	0.00	0.00	0.00	0.00	0.17	0.00	0.17
Crit Moves:		****								****		
Green/Cycle:	0.00	0.66	0.66	0.66	0.66	0.00	0.00	0.00	0.00	0.20	0.00	0.20
Volume/Cap:	0.00	0.99	0.99	0.22	0.51	0.00	0.00	0.00	0.00	0.83	0.00	0.83
Delay/Veh:	0.0	32.8	32.8	7.6	8.2	0.0	0.0	0.0	0.0	53.2	0.0	53.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	32.8	32.8	7.6	8.2	0.0	0.0	0.0	0.0	53.2	0.0	53.2
LOS by Move:	A	C	C	A	A	A	A	A	A	D	A	D
HCM2kAvgQ:	0	33	33	0	7	0	0	0	0	8	0	2

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Baseline Plus Project (Sub-Variant 0) PM

Intersection #13: Potrero Ave/25th St



Street Name: Potrero Ave 25th St

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	55	55	55	55	55	55	0	0	0	22	22	22
Y+R:	8.0	8.0	8.0	8.0	8.0	8.0	4.0	4.0	4.0	5.0	5.0	5.0
Volume Module: >> Count Date: 9 Apr 2013 << 4-6PM												
Base Vol:	0	847	87	9	1500	0	0	0	0	262	0	16
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	847	87	9	1500	0	0	0	0	262	0	16
Added Vol:	0	18	0	0	126	0	0	0	0	0	0	0
Hospital Re:	0	8	0	0	25	0	0	0	0	0	0	0
Initial Fut:	0	873	87	9	1651	0	0	0	0	262	0	16
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
PHF Volume:	0	891	89	9	1685	0	0	0	0	267	0	16
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	891	89	9	1685	0	0	0	0	267	0	16
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	891	89	9	1685	0	0	0	0	267	0	16
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.74	0.74	0.21	0.76	1.00	1.00	1.00	1.00	0.71	1.00	0.70
Lanes:	0.00	1.82	0.18	1.00	2.00	0.00	0.00	0.00	0.00	0.94	0.00	0.06
Final Sat.:	0	2561	255	405	2887	0	0	0	0	1266	0	77
Capacity Analysis Module:												
Vol/Sat:	0.00	0.35	0.35	0.02	0.58	0.00	0.00	0.00	0.00	0.21	0.00	0.21
Crit Moves:					****					****		
Green/Cycle:	0.00	0.61	0.61	0.61	0.61	0.00	0.00	0.00	0.00	0.24	0.00	0.24
Volume/Cap:	0.00	0.57	0.57	0.04	0.96	0.00	0.00	0.00	0.00	0.86	0.00	0.86
Delay/Veh:	0.0	10.9	10.9	7.0	28.8	0.0	0.0	0.0	0.0	53.0	0.0	53.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	10.9	10.9	7.0	28.8	0.0	0.0	0.0	0.0	53.0	0.0	53.0
LOS by Move:	A	B	B	A	C	A	A	A	A	D	A	D
HCM2kAvgQ:	0	9	9	0	22	0	0	0	0	10	0	2

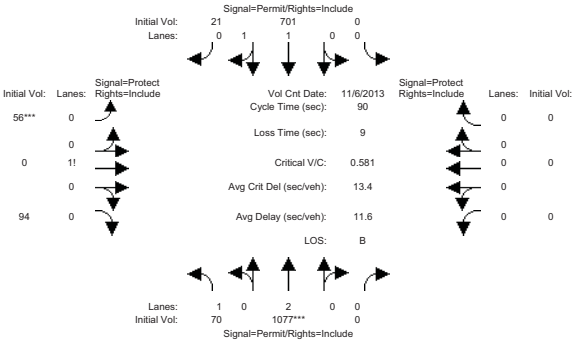
Note: Queue reported is the number of cars per lane.

Near Term Plus Variant 2 (527-space Garage Expansion)

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Baseline Plus Project (Variant 2) AM

Intersection #1: Potrero Ave/20th St



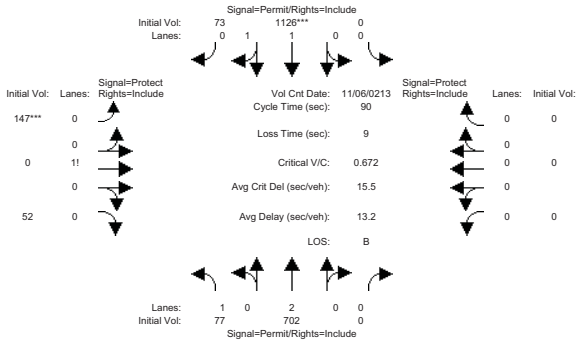
Street Name:	Potrero Ave						20th St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	56	56	56	56	56	56	25	25	25	0	0	0
Y+R:	4.5	4.5	4.5	4.5	4.5	4.5	5.0	5.0	5.0	4.0	4.0	4.0
Volume Module: >> Count Date: 6 Nov 2013 << 7-9AM												
Base Vol:	70	1070	0	0	663	21	56	0	92	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	70	1070	0	0	663	21	56	0	92	0	0	0
Added Vol:	0	6	0	0	31	0	0	0	2	0	0	0
Hospital Re:	0	1	0	0	7	0	0	0	0	0	0	0
Initial Fut:	70	1077	0	0	701	21	56	0	94	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	74	1134	0	0	738	22	59	0	99	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	74	1134	0	0	738	22	59	0	99	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	74	1134	0	0	738	22	59	0	99	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.27	0.75	1.00	1.00	0.75	0.75	0.67	1.00	0.65	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	0.00	1.94	0.06	0.37	0.00	0.63	0.00	0.00	0.00
Final Sat.:	520	2858	0	0	2763	83	468	0	786	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.14	0.40	0.00	0.00	0.27	0.27	0.13	0.00	0.13	0.00	0.00	0.00
Crit Moves:		****					****					
Green/Cycle:	0.62	0.62	0.00	0.00	0.62	0.62	0.28	0.00	0.28	0.00	0.00	0.00
Volume/Cap:	0.23	0.64	0.00	0.00	0.43	0.43	0.45	0.00	0.45	0.00	0.00	0.00
Delay/Veh:	7.8	11.4	0.0	0.0	8.9	8.9	27.8	0.0	27.8	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	7.8	11.4	0.0	0.0	8.9	8.9	27.8	0.0	27.8	0.0	0.0	0.0
LOS by Move:	A	B	A	A	A	A	C	A	C	A	A	A
HCM2kAvgQ:	1	11	0	0	6	6	4	0	4	0	0	0

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Baseline Plus Project (Variant 2) PM

Intersection #1: Potrero Ave/20th St



Street Name:	Potrero Ave						20th St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	56	56	56	56	56	56	25	25	25	0	0	0
Y+R:	4.5	4.5	4.5	4.5	4.5	4.5	5.0	5.0	5.0	4.0	4.0	4.0
Volume Module: >> Count Date: 6 Nov 213 << 4-6PM												
Base Vol:	75	664	0	0	1120	73	147	0	52	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	75	664	0	0	1120	73	147	0	52	0	0	0
Added Vol:	2	31	0	0	5	0	0	0	0	0	0	0
PasserByVol:	0	7	0	0	1	0	0	0	0	0	0	0
Initial Fut:	77	702	0	0	1126	73	147	0	52	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	81	739	0	0	1185	77	155	0	55	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	81	739	0	0	1185	77	155	0	55	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	81	739	0	0	1185	77	155	0	55	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.14	0.75	1.00	1.00	0.75	0.74	0.69	1.00	0.69	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	0.00	1.88	0.12	0.74	0.00	0.26	0.00	0.00	0.00
Final Sat.:	259	2858	0	0	2659	172	972	0	344	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.31	0.26	0.00	0.00	0.45	0.45	0.16	0.00	0.16	0.00	0.00	0.00
Crit Moves:					****		****					
Green/Cycle:	0.62	0.62	0.00	0.00	0.62	0.62	0.28	0.00	0.28	0.00	0.00	0.00
Volume/Cap:	0.50	0.42	0.00	0.00	0.72	0.72	0.57	0.00	0.57	0.00	0.00	0.00
Delay/Veh:	11.9	8.8	0.0	0.0	13.0	13.0	30.1	0.0	30.1	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	11.9	8.8	0.0	0.0	13.0	13.0	30.1	0.0	30.1	0.0	0.0	0.0
LOS by Move:	B	A	A	A	B	B	C	A	C	A	A	A
HCM2kAvgQ:	2	6	0	0	14	14	6	0	6	0	0	0

Note: Queue reported is the number of cars per lane.

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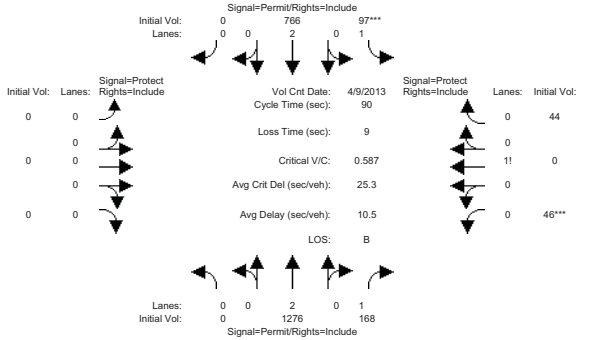
2000 HCM Operations (Future Volume Alternative)
Baseline Plus Project (Variant 2) AM

Intersection #2: Potrero Ave/22nd St (N)



Street Name:	Potrero Ave						22nd St (N)					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	59	59	59	59	59	59	0	0	0	22	22	22
Y+R:	4.5	4.5	4.5	4.5	4.5	4.5	4.0	4.0	4.0	5.0	5.0	5.0
Volume Module: >> Count Date: 9 Apr 2013 << 7-9AM												
Base Vol:	0	1267	168	97	723	0	0	0	0	46	0	44
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1267	168	97	723	0	0	0	0	46	0	44
Added Vol:	0	8	0	0	36	0	0	0	0	0	0	0
Hospital Re:	0	1	0	0	7	0	0	0	0	0	0	0
Initial Fut:	0	1276	168	97	766	0	0	0	0	46	0	44
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	0	1372	181	104	824	0	0	0	0	49	0	47
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1372	181	104	824	0	0	0	0	49	0	47
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1372	181	104	824	0	0	0	0	49	0	47
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.81	0.58	0.12	0.76	1.00	1.00	1.00	1.00	0.68	1.00	0.65
Lanes:	0.00	2.00	1.00	1.00	2.00	0.00	0.00	0.00	0.00	0.50	0.00	0.50
Final Sat.:	0	3079	1101	231	2887	0	0	0	0	644	0	616
Capacity Analysis Module:												
Vol/Sat:	0.00	0.45	0.16	0.45	0.29	0.00	0.00	0.00	0.00	0.08	0.00	0.08
Crit Moves:				****						****		
Green/Cycle:	0.00	0.66	0.66	0.66	0.66	0.00	0.00	0.00	0.00	0.24	0.00	0.24
Volume/Cap:	0.00	0.68	0.25	0.69	0.44	0.00	0.00	0.00	0.00	0.31	0.00	0.31
Delay/Veh:	0.0	10.6	6.6	22.4	7.6	0.0	0.0	0.0	0.0	28.4	0.0	28.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	10.6	6.6	22.4	7.6	0.0	0.0	0.0	0.0	28.4	0.0	28.4
LOS by Move:	A	B	A	C	A	A	A	A	A	C	A	C
HCM2kAvgQ:	0	12	2	3	6	0	0	0	0	2	0	2

Note: Queue reported is the number of cars per lane.

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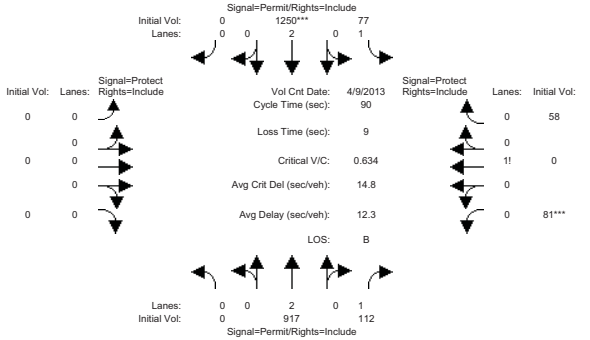
Intersection #2: Potrero Ave/22nd St (N)



Street Name:	Potrero Ave						22nd St (N)					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	56	56	56	56	56	56	0	0	0	25	25	25
Y+R:	4.5	4.5	4.5	4.5	4.5	4.5	4.0	4.0	4.0	5.0	5.0	5.0
Volume Module: >> Count Date: 9 Apr 2013 << 4-6PM												
Base Vol:	0	873	112	77	1242	0	0	0	0	81	0	58
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	873	112	77	1242	0	0	0	0	81	0	58
Added Vol:	0	37	0	0	7	0	0	0	0	0	0	0
Hospital Re:	0	7	0	0	1	0	0	0	0	0	0	0
Initial Fut:	0	917	112	77	1250	0	0	0	0	81	0	58
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	965	118	81	1316	0	0	0	0	85	0	61
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	965	118	81	1316	0	0	0	0	85	0	61
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	965	118	81	1316	0	0	0	0	85	0	61
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.81	0.59	0.21	0.76	1.00	1.00	1.00	1.00	0.68	1.00	0.66
Lanes:	0.00	2.00	1.00	1.00	2.00	0.00	0.00	0.00	0.00	0.57	0.00	0.43
Final Sat.:	0	3079	1126	405	2887	0	0	0	0	746	0	534
Capacity Analysis Module:												
Vol/Sat:	0.00	0.31	0.10	0.20	0.46	0.00	0.00	0.00	0.00	0.11	0.00	0.11
Crit Moves:					****					****		
Green/Cycle:	0.00	0.62	0.62	0.62	0.62	0.00	0.00	0.00	0.00	0.28	0.00	0.28
Volume/Cap:	0.00	0.50	0.17	0.32	0.73	0.00	0.00	0.00	0.00	0.41	0.00	0.41
Delay/Veh:	0.0	9.6	7.3	8.8	13.4	0.0	0.0	0.0	0.0	27.3	0.0	27.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	9.6	7.3	8.8	13.4	0.0	0.0	0.0	0.0	27.3	0.0	27.3
LOS by Move:	A	A	A	A	B	A	A	A	A	C	A	C
HCM2kAvgQ:	0	8	1	1	15	0	0	0	0	4	0	4

Note: Queue reported is the number of cars per lane.

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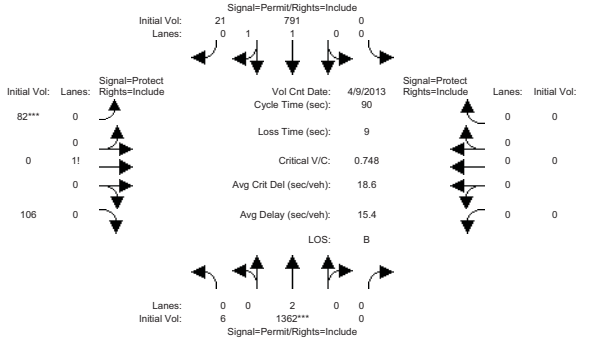
Intersection #3: Potrero Ave/22nd St (S)



Street Name:	Potrero Ave						22nd St (S)					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	56	56	56	56	56	56	25	25	25	0	0	0
Y+R:	4.5	4.5	4.5	4.5	4.5	4.5	5.0	5.0	5.0	4.0	4.0	4.0
Volume Module: >> Count Date: 9 Apr 2013 << 7-9AM												
Base Vol:	6	1353	0	0	748	21	82	0	104	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	6	1353	0	0	748	21	82	0	104	0	0	0
Added Vol:	0	8	0	0	36	0	0	0	2	0	0	0
Hospital Re:	0	1	0	0	7	0	0	0	0	0	0	0
Initial Fut:	6	1362	0	0	791	21	82	0	106	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
PHF Volume:	6	1419	0	0	824	22	85	0	110	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	6	1419	0	0	824	22	85	0	110	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	6	1419	0	0	824	22	85	0	110	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.72	0.72	1.00	1.00	0.75	0.75	0.68	1.00	0.66	1.00	1.00	1.00
Lanes:	0.01	1.99	0.00	0.00	1.95	0.05	0.43	0.00	0.57	0.00	0.00	0.00
Final Sat.:	12	2736	0	0	2773	74	554	0	716	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.52	0.52	0.00	0.00	0.30	0.30	0.15	0.00	0.15	0.00	0.00	0.00
Crit Moves:		****					****					
Green/Cycle:	0.62	0.62	0.00	0.00	0.62	0.62	0.28	0.00	0.28	0.00	0.00	0.00
Volume/Cap:	0.83	0.83	0.00	0.00	0.48	0.48	0.56	0.00	0.56	0.00	0.00	0.00
Delay/Veh:	17.0	17.0	0.0	0.0	9.3	9.3	29.7	0.0	29.7	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	17.0	17.0	0.0	0.0	9.3	9.3	29.7	0.0	29.7	0.0	0.0	0.0
LOS by Move:	B	B	A	A	A	A	C	A	C	A	A	A
HCM2kAvgQ:	16	16	0	0	7	7	5	0	5	0	0	0

Note: Queue reported is the number of cars per lane.

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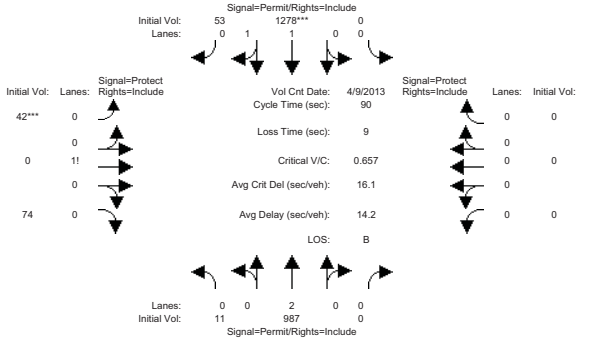
Intersection #3: Potrero Ave/22nd St (S)



Street Name:	Potrero Ave						22nd St (S)					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	56	56	56	56	56	56	25	25	25	0	0	0
Y+R:	4.5	4.5	4.5	4.5	4.5	4.5	5.0	5.0	5.0	4.0	4.0	4.0
Volume Module: >> Count Date: 9 Apr 2013 <<												
Base Vol:	9	943	0	0	1270	53	42	0	74	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	9	943	0	0	1270	53	42	0	74	0	0	0
Added Vol:	2	37	0	0	7	0	0	0	0	0	0	0
Hospital Re:	0	7	0	0	1	0	0	0	0	0	0	0
Initial Fut:	11	987	0	0	1278	53	42	0	74	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	12	1039	0	0	1345	56	44	0	78	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	12	1039	0	0	1345	56	44	0	78	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	12	1039	0	0	1345	56	44	0	78	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.71	0.71	1.00	1.00	0.75	0.75	0.67	1.00	0.65	1.00	1.00	1.00
Lanes:	0.02	1.98	0.00	0.00	1.92	0.08	0.35	0.00	0.65	0.00	0.00	0.00
Final Sat.:	30	2658	0	0	2727	113	451	0	795	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.39	0.39	0.00	0.00	0.49	0.49	0.10	0.00	0.10	0.00	0.00	0.00
Crit Moves:					****		****					
Green/Cycle:	0.62	0.62	0.00	0.00	0.62	0.62	0.28	0.00	0.28	0.00	0.00	0.00
Volume/Cap:	0.63	0.63	0.00	0.00	0.79	0.79	0.35	0.00	0.35	0.00	0.00	0.00
Delay/Veh:	11.3	11.3	0.0	0.0	15.2	15.2	26.6	0.0	26.6	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	11.3	11.3	0.0	0.0	15.2	15.2	26.6	0.0	26.6	0.0	0.0	0.0
LOS by Move:	B	B	A	A	B	B	C	A	C	A	A	A
HCM2kAvgQ:	9	9	0	0	15	15	3	0	3	0	0	0

Note: Queue reported is the number of cars per lane.

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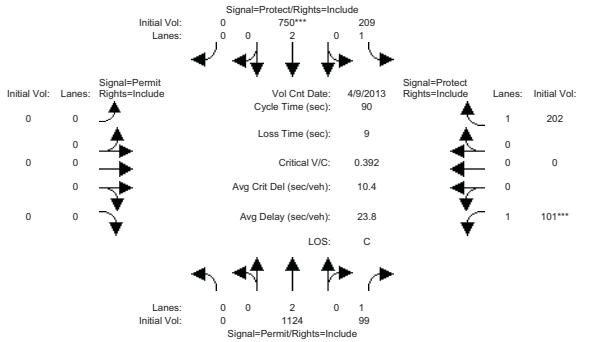
Intersection #4: Potrero Ave/23rd St



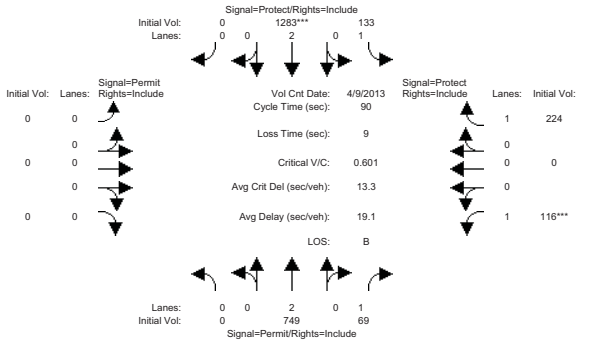
Street Name:	Potrero Ave						23rd St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	0	40	40	14	58	58	0	0	0	23	0	23
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.0	4.0	5.0
Volume Module: >> Count Date: 9 Apr 2013 << 7-9AM												
Base Vol:	0	1111	110	203	711	0	0	0	0	109	0	206
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1111	110	203	711	0	0	0	0	109	0	206
Added Vol:	0	13	-21	-1	39	0	0	0	0	-11	0	-5
Hospital Re:	0	0	10	7	0	0	0	0	0	3	0	1
Initial Fut:	0	1124	99	209	750	0	0	0	0	101	0	202
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	0	1209	106	225	806	0	0	0	0	109	0	217
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1209	106	225	806	0	0	0	0	109	0	217
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1209	106	225	806	0	0	0	0	109	0	217
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.81	0.53	0.81	0.75	1.00	1.00	1.00	1.00	0.81	1.00	0.57
Lanes:	0.00	2.00	1.00	1.00	2.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
Final Sat.:	0	3079	1004	1539	2858	0	0	0	0	1539	0	1091
Capacity Analysis Module:												
Vol/Sat:	0.00	0.39	0.11	0.15	0.28	0.00	0.00	0.00	0.00	0.07	0.00	0.20
Crit Moves:					****					****		
Green/Cycle:	0.00	0.47	0.47	0.17	0.64	0.00	0.00	0.00	0.00	0.26	0.00	0.26
Volume/Cap:	0.00	0.83	0.22	0.86	0.44	0.00	0.00	0.00	0.00	0.28	0.00	0.78
Delay/Veh:	0.0	24.6	14.2	59.5	8.1	0.0	0.0	0.0	0.0	27.2	0.0	44.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	24.6	14.2	59.5	8.1	0.0	0.0	0.0	0.0	27.2	0.0	44.2
LOS by Move:	A	C	B	E	A	A	A	A	A	C	A	D
HCM2kAvgQ:	0	15	2	7	6	0	0	0	0	3	0	8

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Baseline Plus Project (Variant 2) PM

Intersection #4: Potrero Ave/23rd St



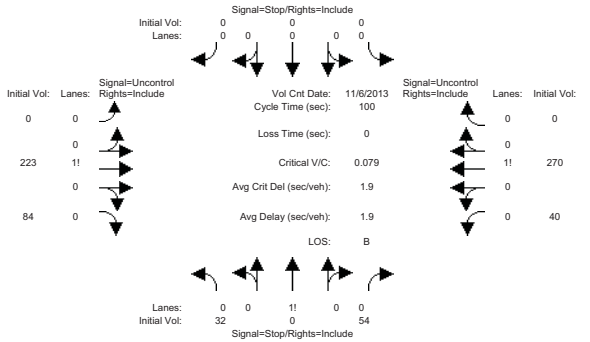
Street Name:	Potrero Ave						23rd St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	0	40	40	14	58	58	0	0	0	23	0	23
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.0	4.0	5.0
Volume Module: >> Count Date: 9 Apr 2013 << 4-6PM												
Base Vol:	0	708	86	137	1271	0	0	0	0	120	0	220
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	708	86	137	1271	0	0	0	0	120	0	220
Added Vol:	0	41	-20	-5	12	0	0	0	0	-14	0	-3
Hospital Re:	0	0	3	1	0	0	0	0	0	10	0	7
Initial Fut:	0	749	69	133	1283	0	0	0	0	116	0	224
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	0	772	71	137	1323	0	0	0	0	120	0	231
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	772	71	137	1323	0	0	0	0	120	0	231
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	772	71	137	1323	0	0	0	0	120	0	231
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.81	0.55	0.81	0.75	1.00	1.00	1.00	1.00	0.81	1.00	0.58
Lanes:	0.00	2.00	1.00	1.00	2.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
Final Sat.:	0	3079	1038	1539	2858	0	0	0	0	1539	0	1099
Capacity Analysis Module:												
Vol/Sat:	0.00	0.25	0.07	0.09	0.46	0.00	0.00	0.00	0.00	0.08	0.00	0.21
Crit Moves:					****					****		
Green/Cycle:	0.00	0.44	0.44	0.20	0.64	0.00	0.00	0.00	0.00	0.26	0.00	0.26
Volume/Cap:	0.00	0.56	0.15	0.45	0.72	0.00	0.00	0.00	0.00	0.30	0.00	0.82
Delay/Veh:	0.0	19.1	15.1	32.6	12.0	0.0	0.0	0.0	0.0	27.5	0.0	49.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	19.1	15.1	32.6	12.0	0.0	0.0	0.0	0.0	27.5	0.0	49.0
LOS by Move:	A	B	B	C	B	A	A	A	A	C	A	D
HCM2kAvgQ:	0	8	1	3	12	0	0	0	0	3	0	9

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Baseline Plus Project (Variant 2) AM

Intersection #5: Utah St/23rd St



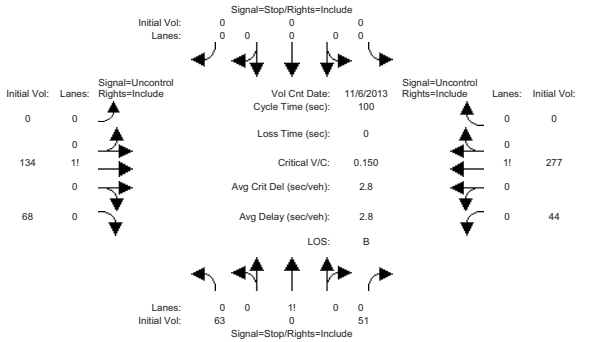
Street Name:	Utah St						23rd St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Volume Module: >> Count Date: 6 Nov 2013 << 7-9AM												
Base Vol:	30	0	54	0	0	0	0	235	78	40	285	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	30	0	54	0	0	0	0	235	78	40	285	0
Added Vol:	2	0	0	0	0	0	0	-29	6	0	-19	0
Hospital Re:	0	0	0	0	0	0	0	17	0	0	4	0
Initial Fut:	32	0	54	0	0	0	0	223	84	40	270	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	34	0	57	0	0	0	0	235	88	42	284	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	34	0	57	0	0	0	0	235	88	42	284	0
Critical Gap Module:												
Critical Gp:	6.4	6.5	6.2	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	647	647	279	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	323	xxxx	xxxxx
Potent Cap.:	438	392	765	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	1248	xxxx	xxxxx
Move Cap.:	427	379	765	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	1248	xxxx	xxxxx
Volume/Cap:	0.08	0.00	0.07	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.03	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.1	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	8.0	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	*	*	*	A	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	591	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	0.5	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	0.1	xxxx	xxxxx
Shrd ConDel:	xxxxx	12.2	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	8.0	xxxx	xxxxx
Shared LOS:	*	B	*	*	*	*	*	*	*	A	*	*
ApproachDel:		12.2		xxxxxx			xxxxxx			xxxxxx		
ApproachLOS:		B		*			*			*		

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Baseline Plus Project (Variant 2) PM

Intersection #5: Utah St/23rd St



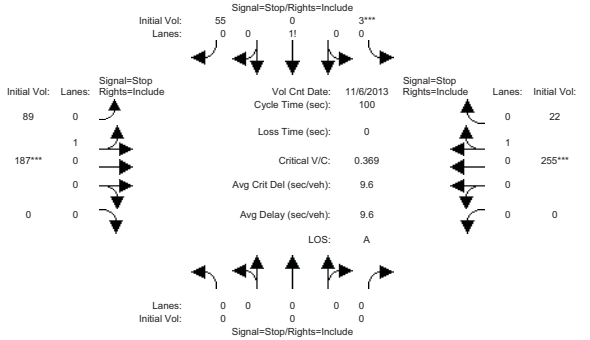
Street Name:	Utah St						23rd St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Volume Module: >> Count Date: 6 Nov 2013 << 4-6PM												
Base Vol:	58	0	51	0	0	0	0	157	66	44	282	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	58	0	51	0	0	0	0	157	66	44	282	0
Added Vol:	5	0	0	0	0	0	0	-27	2	0	-22	0
Hospital Re:	0	0	0	0	0	0	0	4	0	0	17	0
Initial Fut:	63	0	51	0	0	0	0	134	68	44	277	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
PHF Volume:	69	0	56	0	0	0	0	147	75	48	304	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	69	0	56	0	0	0	0	147	75	48	304	0
Critical Gap Module:												
Critical Gp:	6.4	6.5	6.2	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	586	586	185	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	222	xxxx	xxxxx
Potent Cap.:	476	425	863	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	1359	xxxx	xxxxx
Move Cap.:	463	410	863	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	1359	xxxx	xxxxx
Volume/Cap:	0.15	0.00	0.06	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.04	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.1	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.7	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	*	*	*	A	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	584	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	0.8	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	0.1	xxxx	xxxxx
Shrd ConDel:	xxxxx	12.8	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.7	xxxx	xxxxx
Shared LOS:	*	B	*	*	*	*	*	*	*	A	*	*
ApproachDel:		12.8		xxxxxx			xxxxxx			xxxxxx		
ApproachLOS:		B		*			*			*		

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Baseline Plus Project (Variant 2) AM

Intersection #6: West Driveway/23rd St

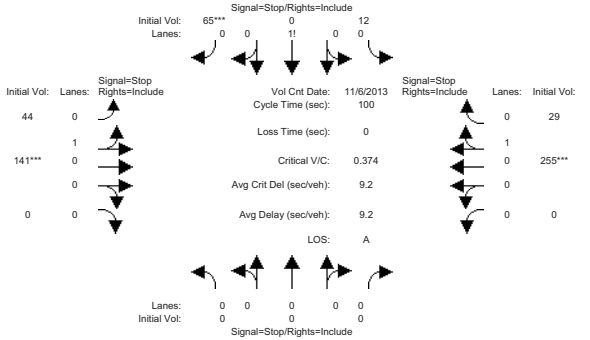



```
Street Name:            West Driveway                    23rd St
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0      0     0     0      0     0     0      0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 6 Nov 2013 << 7-9AM
Base Vol:       0     0     0      7     0    64     92   197     0      0   261    22
Growth Adj:  1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00
Initial Bse:    0     0     0      7     0    64     92   197     0      0   261    22
Added Vol:      0     0     0     -4     0   -13    -20   -10     0      0    -6    -6
Hospital Re:    0     0     0      0     0     4     17     0     0      0     0     6
Initial Fut:    0     0     0      3     0    55     89   187     0      0   255    22
User Adj:    1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00
PHF Adj:     0.93  0.93  0.93   0.93  0.93  0.93   0.93  0.93  0.93   0.93  0.93  0.93
PHF Volume:     0     0     0      3     0    59     96   201     0      0   274    24
Reduct Vol:     0     0     0      0     0     0      0     0     0      0     0     0
Reduced Vol:    0     0     0      3     0    59     96   201     0      0   274    24
PCE Adj:     1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00
FinalVolume:    0     0     0      3     0    59     96   201     0      0   274    24
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00
Lanes:       0.00  0.00  0.00   0.05  0.00  0.95   0.32  0.68  0.00   0.00  0.92  0.08
Final Sat.:     0     0     0     37     0   679    260   545     0      0   758    65
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     xxxx  xxxx  xxxx   0.09  xxxx  0.09   0.37  0.37  xxxx   xxxx  0.36  0.36
Crit Moves:                     ****                     ****                ****
Delay/Veh:    0.0   0.0   0.0    7.9   0.0   7.9    9.9   9.9   0.0    0.0   9.6   9.6
Delay Adj:   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00
AdjDel/Veh:   0.0   0.0   0.0    7.9   0.0   7.9    9.9   9.9   0.0    0.0   9.6   9.6
LOS by Move:    *     *     *      A     *     A      A     A     *      *     A     A
ApproachDel:    xxxxxx             7.9              9.9              9.6
Delay Adj:       xxxxx            1.00             1.00             1.00
ApprAdjDel:     xxxxxx             7.9              9.9              9.6
LOS by Appr:         *               A                A                A
AllWayAvgQ:   0.0   0.0   0.0    0.1   0.1   0.6    0.6   0.6   0.5    0.5   0.5
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Baseline Plus Project (Variant 2) PM

Intersection #6: West Driveway/23rd St

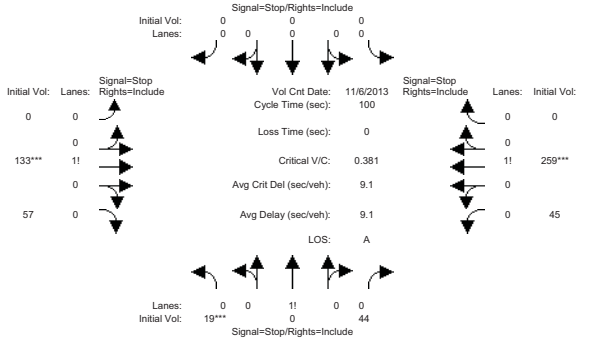



```
Street Name:            West Driveway                    23rd St
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0      0     0     0      0     0     0      0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 6 Nov 2013 << 4-6PM
Base Vol:       0     0     0     11     0    64     58   150     0      0   262    35
Growth Adj:  1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00
Initial Bse:    0     0     0     11     0    64     58   150     0      0   262    35
Added Vol:      0     0     0     -5     0   -16    -18    -9     0      0    -7    -6
Hospital Re:    0     0     0      6     0    17      4     0     0      0     0     0
Initial Fut:    0     0     0     12     0    65     44   141     0      0   255    29
User Adj:    1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00
PHF Adj:     0.91  0.91  0.91   0.91  0.91  0.91   0.91  0.91  0.91   0.91  0.91  0.91
PHF Volume:     0     0     0     13     0    71     48   155     0      0   280    32
Reduct Vol:     0     0     0      0     0     0      0     0     0      0     0     0
Reduced Vol:    0     0     0     13     0    71     48   155     0      0   280    32
PCE Adj:     1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00
FinalVolume:    0     0     0     13     0    71     48   155     0      0   280    32
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00
Lanes:       0.00  0.00  0.00   0.16  0.00  0.84   0.24  0.76  0.00   0.00  0.90  0.10
Final Sat.:     0     0     0    115     0   622    188   603     0      0   749    85
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     xxxx  xxxx  xxxx   0.11  xxxx  0.11   0.26  0.26  xxxx   xxxx  0.37  0.37
Crit Moves:                     ****                     ****                ****
Delay/Veh:    0.0   0.0   0.0    8.0   0.0   8.0    8.9   8.9   0.0    0.0   9.7   9.7
Delay Adj:   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00
AdjDel/Veh:   0.0   0.0   0.0    8.0   0.0   8.0    8.9   8.9   0.0    0.0   9.7   9.7
LOS by Move:    *     *     *      A     *     A      A     A     *      *     A     A
ApproachDel:    xxxxxx             8.0              8.9              9.7
Delay Adj:       xxxxx            1.00             1.00             1.00
ApprAdjDel:     xxxxxx             8.0              8.9              9.7
LOS by Appr:         *               A                A                A
AllWayAvgQ:   0.0   0.0   0.0    0.1   0.1   0.1    0.3   0.3   0.3    0.6   0.6   0.6
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Baseline Plus Project (Variant 2) AM

Intersection #7: San Bruno Ave/23rd St

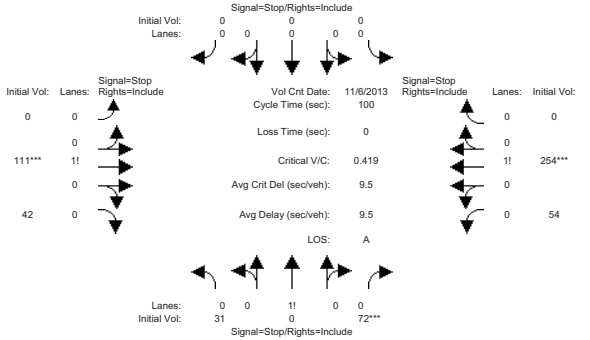



```
Street Name:            San Bruno Ave                    23rd St
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0      0     0     0      0     0     0      0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 6 Nov 2013 << 7-9AM
Base Vol:      19     0    30      0     0     0      0   147    57     29   264     0
Growth Adj:  1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00
Initial Bse:   19     0    30      0     0     0      0   147    57     29   264     0
Added Vol:      0     0    14      0     0     0      0   -14     0     16   -11     0
Hospital Re:    0     0     0      0     0     0      0     0     0      0     6     0
Initial Fut:   19     0    44      0     0     0      0   133    57     45   259     0
User Adj:    1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00
PHF Adj:     0.96  0.96  0.96   0.96  0.96  0.96   0.96  0.96  0.96   0.96  0.96  0.96
PHF Volume:    20     0    46      0     0     0      0   139    59     47   270     0
Reduct Vol:     0     0     0      0     0     0      0     0     0      0     0     0
Reduced Vol:   20     0    46      0     0     0      0   139    59     47   270     0
PCE Adj:     1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00
FinalVolume:   20     0    46      0     0     0      0   139    59     47   270     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00
Lanes:       0.30  0.01  0.69   0.00  0.00  0.00   0.00  0.70  0.30   0.15  0.85  0.00
Final Sat.:   218     0   504      0     0     0      0   590   253    123   708     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.09  0.00  0.09   xxxx  xxxx  xxxx   xxxx  0.23  0.23   0.38  0.38  xxxx
Crit Moves:  ****                                    ****                 ****
Delay/Veh:    8.0   8.0   8.0    0.0   0.0   0.0    0.0   8.4   8.4    9.8   9.8   0.0
Delay Adj:   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00
AdjDel/Veh:   8.0   8.0   8.0    0.0   0.0   0.0    0.0   8.4   8.4    9.8   9.8   0.0
LOS by Move:    A     A     A      *     *     *      *     A     A      A     A     *
ApproachDel:          8.0            xxxxxx               8.4                9.8
Delay Adj:           1.00             xxxxx              1.00                1.00
ApprAdjDel:           8.0            xxxxxx               8.4                9.8
LOS by Appr:            A                 *                 A                  A
AllWayAvgQ:   0.1   0.1   0.1    0.0   0.0   0.0    0.3   0.3   0.3    0.6   0.6   0.6
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Baseline Plus Project (Variant 2) PM

Intersection #7: San Bruno Ave/23rd St

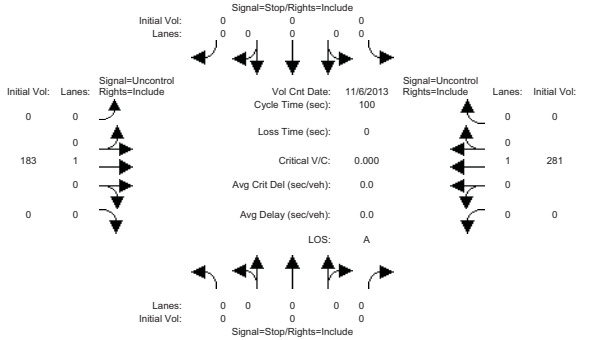



```
Street Name:            San Bruno Ave                    23rd St
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0      0     0     0      0     0     0      0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 6 Nov 2013 << 4-6PM
Base Vol:      31     0    26      0     0     0      0   119    42     49   266     0
Growth Adj:  1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00
Initial Bse:   31     0    26      0     0     0      0   119    42     49   266     0
Added Vol:      0     0    46      0     0     0      0   -14     0      5   -12     0
Hospital Re:    0     0     0      0     0     0      0     6     0      0     0     0
Initial Fut:   31     0    72      0     0     0      0   111    42     54   254     0
User Adj:    1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00
PHF Adj:     0.91  0.91  0.91   0.91  0.91  0.91   0.91  0.91  0.91   0.91  0.91  0.91
PHF Volume:    34     0    79      0     0     0      0   122    46     59   279     0
Reduct Vol:     0     0     0      0     0     0      0     0     0      0     0     0
Reduced Vol:   34     0    79      0     0     0      0   122    46     59   279     0
PCE Adj:     1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00
FinalVolume:   34     0    79      0     0     0      0   122    46     59   279     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00
Lanes:       0.30  0.00  0.70   0.00  0.00  0.00   0.00  0.73  0.27   0.18  0.82  0.00
Final Sat.:   218     0   506      0     0     0      0   582   220    142   667     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.16  xxxx  0.16   xxxx  xxxx  xxxx   xxxx  0.21  0.21   0.42  0.42  xxxx
Crit Moves:          ****                                 ****                 ****
Delay/Veh:    8.4   0.0   8.4    0.0   0.0   0.0    0.0   8.4   8.4   10.4  10.4   0.0
Delay Adj:   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00
AdjDel/Veh:   8.4   0.0   8.4    0.0   0.0   0.0    0.0   8.4   8.4   10.4  10.4   0.0
LOS by Move:    A     *     A      *     *     *      *     A     A      B     B     *
ApproachDel:          8.4            xxxxxx               8.4               10.4
Delay Adj:           1.00             xxxxx              1.00                1.00
ApprAdjDel:           8.4            xxxxxx               8.4               10.4
LOS by Appr:            A                 *                 A                  B
AllWayAvgQ:   0.2   0.2   0.2    0.0   0.0   0.0    0.2   0.2   0.2    0.7   0.7   0.7
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Baseline Plus Project (Variant 2) AM

Intersection #8: East Driveway/23rd St

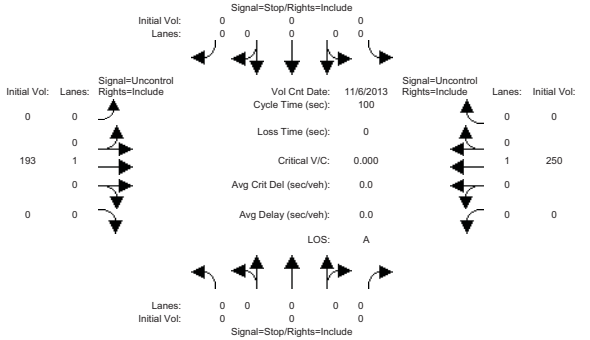



```
Street Name:          East Driveway                    23rd St
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|--------------||--------------||--------------||--------------|
Volume Module: >> Count Date: 6 Nov 2013 << 7-9AM
Base Vol:       0     0     0     1     0     6     8   173     0     0   265     4
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    0     0     0     1     0     6     8   173     0     0   265     4
Added Vol:      0     0     0    -2     0    -6   -10    10     0     0    10    -4
PasserByVol:    0     0     0     1     0     0     2     0     0     0     6     0
Initial Fut:    0     0     0     0     0     0     0   183     0     0   281     0
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     0.94  0.94  0.94  0.94  0.94  0.94  0.94  0.94  0.94  0.94  0.94  0.94
PHF Volume:     0     0     0     0     0     0     0   195     0     0   299     0
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
FinalVolume:    0     0     0     0     0     0     0   195     0     0   299     0
------------|--------------||--------------||--------------||--------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|--------------||--------------||--------------||--------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  xxxx
------------|--------------||--------------||--------------||--------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *     *     *     *     *     *     *     *     *     *     *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   0.0 xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.2 xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *     *     *     *     *     *     A     *     *     *     *     *
ApproachDel:    xxxxxx            xxxxxx            xxxxxx            xxxxxx
ApproachLOS:         *                 *                 *                 *
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Baseline Plus Project (Variant 2) PM

Intersection #8: East Driveway/23rd St

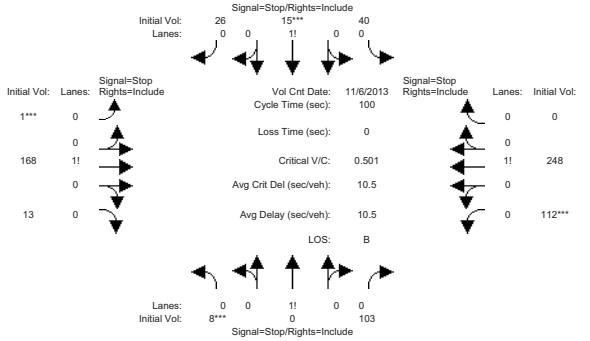



```
Street Name:          East Driveway                    23rd St
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|--------------||--------------||--------------||--------------|
Volume Module: >> Count Date: 6 Nov 2013 << 4-6PM
Base Vol:       0     0     0     4     0     8    10   137     0     0   251     3
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    0     0     0     4     0     8    10   137     0     0   251     3
Added Vol:      0     0     0    -3     0    -7    -9    41     0     0    -1    -4
Hospital Re:    0     0     0    -1     0    -1    -1    15     0     0     0     1
Initial Fut:    0     0     0     0     0     0     0   193     0     0   250     0
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     0.92  0.92  0.92  0.92  0.92  0.92  0.92  0.92  0.92  0.92  0.92  0.92
PHF Volume:     0     0     0     0     0     0     0   210     0     0   272     0
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
FinalVolume:    0     0     0     0     0     0     0   210     0     0   272     0
------------|--------------||--------------||--------------||--------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4   6.5   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5   4.0   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|--------------||--------------||--------------||--------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   482   482   272  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   547   487   772  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   547   487   772  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.00  0.00  0.00  xxxx xxxx  xxxx  xxxx xxxx  xxxx
------------|--------------||--------------||--------------||--------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *     *     *     *     *     *     *     *     *     *     *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx     0 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   0.0 xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.2 xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *     *     *     *     *     *     A     *     *     *     *     *
ApproachDel:    xxxxxx            xxxxxx            xxxxxx            xxxxxx
ApproachLOS:         *                 *                 *                 *
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Baseline Plus Project (Variant 2) AM

Intersection #9: Vermont St/23rd St



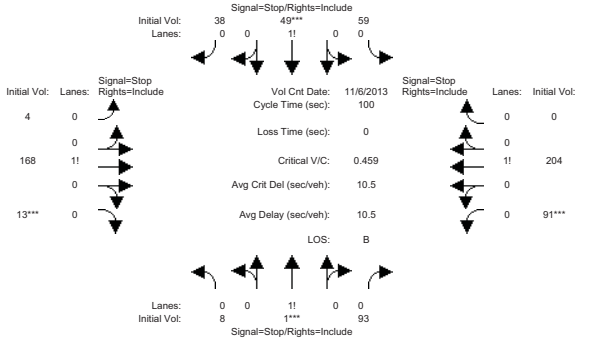
Street Name:	Vermont St						23rd St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 6 Nov 2013 << 7-9AM												
Base Vol:	8	0	103	40	15	26	1	160	13	112	235	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	8	0	103	40	15	26	1	160	13	112	235	0
Added Vol:	0	0	0	0	0	0	0	8	0	0	7	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	6	0
Initial Fut:	8	0	103	40	15	26	1	168	13	112	248	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
PHF Volume:	8	0	107	42	16	27	1	175	14	117	258	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	8	0	107	42	16	27	1	175	14	117	258	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	8	0	107	42	16	27	1	175	14	117	258	0
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.07	0.00	0.93	0.49	0.19	0.32	0.01	0.92	0.07	0.31	0.69	0.00
Final Sat.:	49	0	632	306	115	199	4	662	51	233	516	0
Capacity Analysis Module:												
Vol/Sat:	0.17	xxxx	0.17	0.14	0.14	0.14	0.26	0.26	0.26	0.50	0.50	xxxx
Crit Moves:	****				****		****			****		
Delay/Veh:	8.6	0.0	8.6	9.0	9.0	9.0	9.4	9.4	9.4	12.1	12.1	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	8.6	0.0	8.6	9.0	9.0	9.0	9.4	9.4	9.4	12.1	12.1	0.0
LOS by Move:	A	*	A	A	A	A	A	A	A	B	B	*
ApproachDel:	8.6			9.0			9.4			12.1		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	8.6			9.0			9.4			12.1		
LOS by Appr:	A			A			A			B		
AllWayAvgQ:	0.2	0.2	0.2	0.1	0.1	0.1	0.3	0.3	0.3	0.9	0.9	0.9

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Baseline Plus Project (Variant 2) PM

Intersection #9: Vermont St/23rd St



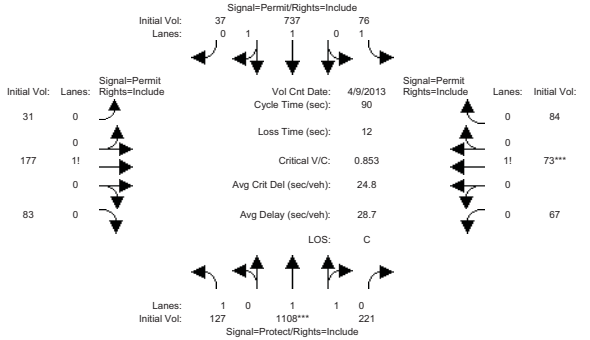
Street Name:	Vermont St						23rd St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 6 Nov 2013 << 4-6PM												
Base Vol:	8	1	93	59	49	38	4	124	13	91	208	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	8	1	93	59	49	38	4	124	13	91	208	0
Added Vol:	0	0	0	0	0	0	0	38	0	0	-4	0
Hospital Re:	0	0	0	0	0	0	0	6	0	0	0	0
Initial Fut:	8	1	93	59	49	38	4	168	13	91	204	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
PHF Volume:	9	1	102	65	54	42	4	185	14	100	224	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	9	1	102	65	54	42	4	185	14	100	224	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	9	1	102	65	54	42	4	185	14	100	224	0
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.08	0.01	0.91	0.40	0.34	0.26	0.02	0.91	0.07	0.31	0.69	0.00
Final Sat.:	52	7	606	255	212	164	15	623	48	218	488	0
Capacity Analysis Module:												
Vol/Sat:	0.17	0.17	0.17	0.25	0.25	0.25	0.30	0.30	0.30	0.46	0.46	xxxx
Crit Moves:		****			****				****	****		
Delay/Veh:	8.7	8.7	8.7	9.8	9.8	9.8	9.9	9.9	9.9	11.7	11.7	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	8.7	8.7	8.7	9.8	9.8	9.8	9.9	9.9	9.9	11.7	11.7	0.0
LOS by Move:	A	A	A	A	A	A	A	A	A	B	B	*
ApproachDel:	8.7			9.8			9.9			11.7		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	8.7			9.8			9.9			11.7		
LOS by Appr:	A			A			A			B		
AllWayAvgQ:	0.2	0.2	0.2	0.3	0.3	0.3	0.4	0.4	0.4	0.8	0.8	0.8

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Baseline Plus Project (Variant 2) AM

Intersection #10: Potrero Ave/24th St

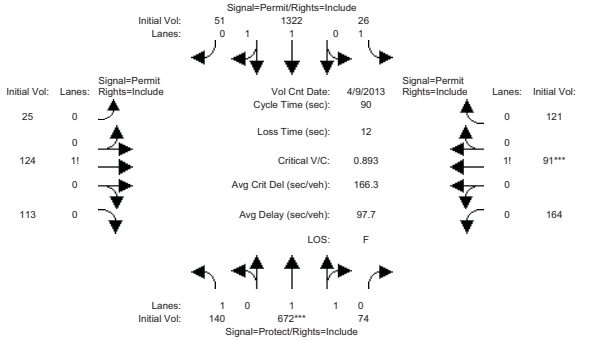



```
Street Name:            Potrero Ave                  24th St
Approach:       North Bound     South Bound     East Bound      West Bound
Movement:     L  -  T  -  R     L  -  T  -  R     L  -  T  -  R     L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   53   53     42   42   42     25   25   25     25   25   25
Y+R:          4.0  7.0  7.0    7.0  7.0  7.0    5.0  5.0  5.0    5.0  5.0  5.0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 9 Apr 2013 << 7-9AM
Base Vol:     127 1119   96     37  745   38     31  161   83     39   70   71
Growth Adj:  1.00 1.00 1.00   1.00 1.00 1.00   1.00 1.00 1.00   1.00 1.00 1.00
Initial Bse:  127 1119   96     37  745   38     31  161   83     39   70   71
Added Vol:      0  -21  125     39  -11   -1      0   16    0     28    3   13
Hospital Re:    0   10    0      0    3    0      0    0    0      0    0    0
Initial Fut:  127 1108  221     76  737   37     31  177   83     67   73   84
User Adj:    1.00 1.00 1.00   1.00 1.00 1.00   1.00 1.00 1.00   1.00 1.00 1.00
PHF Adj:     0.97 0.97 0.97   0.97 0.97 0.97   0.97 0.97 0.97   0.97 0.97 0.97
PHF Volume:   131 1142  228     78  760   38     32  182   86     69   75   87
Reduct Vol:     0    0    0      0    0    0      0    0    0      0    0    0
Reduced Vol:  131 1142  228     78  760   38     32  182   86     69   75   87
PCE Adj:     1.00 1.00 1.00   1.00 1.00 1.00   1.00 1.00 1.00   1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00   1.00 1.00 1.00   1.00 1.00 1.00   1.00 1.00 1.00
FinalVolume:  131 1142  228     78  760   38     32  182   86     69   75   87
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900   1900 1900 1900   1900 1900 1900   1900 1900 1900
Adjustment:  0.81 0.73 0.72   0.09 0.75 0.73   0.68 0.68 0.65   0.49 0.50 0.49
Lanes:       1.00 1.66 0.34   1.00 1.90 0.10   0.11 0.60 0.29   0.30 0.32 0.38
Final Sat.:  1539 2316  462    176 2700  136    136  776  364    281  306  352
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.09 0.49 0.49   0.44 0.28 0.28   0.24 0.24 0.24   0.25 0.25 0.25
Crit Moves:       ****                                          ****
Green/Cycle: 0.12 0.59 0.59   0.47 0.47 0.47   0.28 0.28 0.28   0.28 0.28 0.28
Volume/Cap:  0.70 0.84 0.84   0.95 0.60 0.60   0.85 0.85 0.85   0.88 0.88 0.88
Delay/Veh:   48.7 19.0 19.0 106.2 18.6 18.6   47.7 47.7 47.7   59.2 59.2 59.2
User DelAdj: 1.00 1.00 1.00   1.00 1.00 1.00   1.00 1.00 1.00   1.00 1.00 1.00
AdjDel/Veh:  48.7 19.0 19.0 106.2 18.6 18.6   47.7 47.7 47.7   59.2 59.2 59.2
LOS by Move:    D    B    B     F    B    B     D    D    D     E    E    E
HCM2kAvgQ:      3   15   15     3    9    8    11   11   10     9    9    9
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Baseline Plus Project (Variant 2) PM

Intersection #10: Potrero Ave/24th St

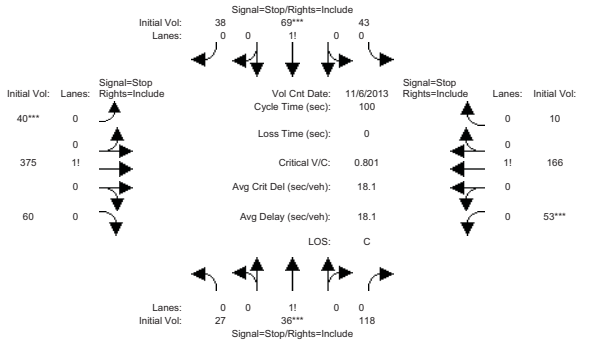



```
Street Name:            Potrero Ave                  24th St
Approach:       North Bound     South Bound     East Bound      West Bound
Movement:     L  -  T  -  R     L  -  T  -  R     L  -  T  -  R     L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   55   55     44   44   44     23   23   23     23   23   23
Y+R:          4.0  7.0  7.0    7.0  7.0  7.0    5.0  5.0  5.0    5.0  5.0  5.0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 9 Apr 2013 << 4-6PM
Base Vol:     140  689   34     14 1325   52     25  119  113     71   81   80
Growth Adj:  1.00 1.00 1.00   1.00 1.00 1.00   1.00 1.00 1.00   1.00 1.00 1.00
Initial Bse:  140  689   34     14 1325   52     25  119  113     71   81   80
Added Vol:      0  -20   40     12  -13   -1      0    5    0     93   10   41
Hospital Re:    0    3    0      0   10    0      0    0    0      0    0    0
Initial Fut:  140  672   74     26 1322   51     25  124  113    164   91  121
User Adj:    1.00 1.00 1.00   1.00 1.00 1.00   1.00 1.00 1.00   1.00 1.00 1.00
PHF Adj:     0.96 0.96 0.96   0.96 0.96 0.96   0.96 0.96 0.96   0.96 0.96 0.96
PHF Volume:   146  700   77     27 1377   53     26  129  118    171   95  126
Reduct Vol:     0    0    0      0    0    0      0    0    0      0    0    0
Reduced Vol:  146  700   77     27 1377   53     26  129  118    171   95  126
PCE Adj:     1.00 1.00 1.00   1.00 1.00 1.00   1.00 1.00 1.00   1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00   1.00 1.00 1.00   1.00 1.00 1.00   1.00 1.00 1.00
FinalVolume:  146  700   77     27 1377   53     26  129  118    171   95  126
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900   1900 1900 1900   1900 1900 1900   1900 1900 1900
Adjustment:  0.81 0.74 0.73   0.26 0.75 0.74   0.65 0.66 0.61   0.41 0.42 0.41
Lanes:       1.00 1.80 0.20   1.00 1.92 0.08   0.09 0.46 0.45   0.44 0.24 0.32
Final Sat.:  1539 2532  279    487 2734  105    115  571  521    343  190  253
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.09 0.28 0.28   0.06 0.50 0.50   0.23 0.23 0.23   0.50 0.50 0.50
Crit Moves:       ****                                          ****
Green/Cycle: 0.12 0.61 0.61   0.49 0.49 0.49   0.26 0.26 0.26   0.26 0.26 0.26
Volume/Cap:  0.78 0.45 0.45   0.11 1.03 1.03   0.88 0.88 0.88   1.95 1.95 1.95
Delay/Veh:   56.4  9.6  9.6  12.7 55.3 55.3   56.9 56.9 56.9 477.2  477 477.2
User DelAdj: 1.00 1.00 1.00   1.00 1.00 1.00   1.00 1.00 1.00   1.00 1.00 1.00
AdjDel/Veh:  56.4  9.6  9.6  12.7 55.3 55.3   56.9 56.9 56.9 477.2  477 477.2
LOS by Move:    E    A    A     B    E    E     E    E    E     F    F    F
HCM2kAvgQ:      4    6    6     0   26   26    11   11   10    35   36   35
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Baseline Plus Project (Variant 2) AM

Intersection #11: Utah St/24th St



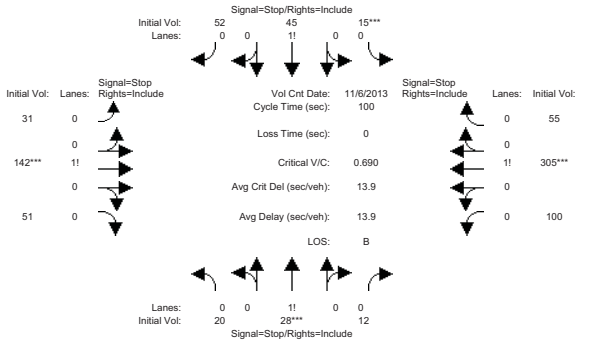
Street Name:	Utah St						24th St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 6 Nov 2013 << 7-9AM												
Base Vol:	24	36	118	37	43	38	40	194	60	44	118	8
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	24	36	118	37	43	38	40	194	60	44	118	8
Added Vol:	0	0	0	6	0	0	0	181	0	0	44	2
Hospital Re:	3	0	0	0	26	0	0	0	0	9	4	0
Initial Fut:	27	36	118	43	69	38	40	375	60	53	166	10
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	30	40	131	48	77	42	44	417	67	59	184	11
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	30	40	131	48	77	42	44	417	67	59	184	11
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	30	40	131	48	77	42	44	417	67	59	184	11
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.15	0.20	0.65	0.29	0.46	0.25	0.08	0.79	0.13	0.23	0.73	0.04
Final Sat.:	81	108	354	147	236	130	55	520	83	133	418	25
Capacity Analysis Module:												
Vol/Sat:	0.37	0.37	0.37	0.33	0.33	0.33	0.80	0.80	0.80	0.44	0.44	0.44
Crit Moves:		****			****		****			****		
Delay/Veh:	11.8	11.8	11.8	11.8	11.8	11.8	25.0	25.0	25.0	12.9	12.9	12.9
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	11.8	11.8	11.8	11.8	11.8	11.8	25.0	25.0	25.0	12.9	12.9	12.9
LOS by Move:	B	B	B	B	B	B	D	D	D	B	B	B
ApproachDel:	11.8			11.8			25.0			12.9		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	11.8			11.8			25.0			12.9		
LOS by Appr:	B			B			D			B		
AllWayAvgQ:	0.4	0.4	0.4	0.4	0.4	0.4	3.1	3.1	3.1	0.6	0.6	0.6

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Baseline Plus Project (Variant 2) PM

Intersection #11: Utah St/24th St



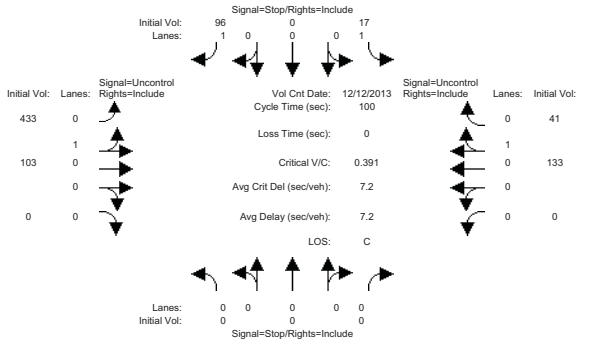
Street Name:	Utah St						24th St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 6 Nov 2013 << 4-6PM												
Base Vol:	20	28	12	13	45	52	31	85	51	100	160	50
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	20	28	12	13	45	52	31	85	51	100	160	50
Added Vol:	0	0	0	2	0	0	0	57	0	0	145	5
Hospital Re:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	20	28	12	15	45	52	31	142	51	100	305	55
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
PHF Volume:	22	31	13	17	51	58	35	160	57	112	343	62
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	22	31	13	17	51	58	35	160	57	112	343	62
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	22	31	13	17	51	58	35	160	57	112	343	62
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.33	0.47	0.20	0.13	0.40	0.47	0.14	0.63	0.23	0.22	0.66	0.12
Final Sat.:	180	252	108	78	234	271	96	442	159	163	496	89
Capacity Analysis Module:												
Vol/Sat:	0.12	0.12	0.12	0.22	0.22	0.22	0.36	0.36	0.36	0.69	0.69	0.69
Crit Moves:		****			****			****			****	
Delay/Veh:	9.5	9.5	9.5	9.8	9.8	9.8	10.5	10.5	10.5	17.1	17.1	17.1
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	9.5	9.5	9.5	9.8	9.8	9.8	10.5	10.5	10.5	17.1	17.1	17.1
LOS by Move:	A	A	A	A	A	A	B	B	B	C	C	C
ApproachDel:	9.5			9.8			10.5			17.1		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	9.5			9.8			10.5			17.1		
LOS by Appr:	A			A			B			C		
AllWayAvgQ:	0.1	0.1	0.1	0.2	0.2	0.2	0.5	0.5	0.5	1.9	1.9	1.9

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Baseline Plus Project (Variant 2) AM

Intersection #12: Parking Garage Driveway (S)/24th St

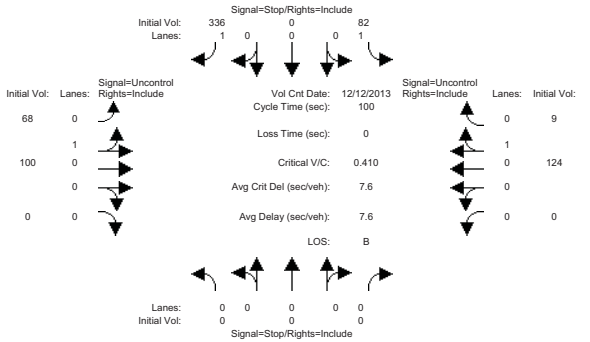



```
Street Name:   Parking Garage Driveway (S)              24th St
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|--------------||--------------||--------------||--------------|
Volume Module: >> Count Date: 12 Dec 2013 << 7-9AM
Base Vol:       0     0     0     3     0    50   246   103     0     0   120    25
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    0     0     0     3     0    50   246   103     0     0   120    25
Added Vol:      0     0     0    14     0    46   187     0     0     0     0    16
PasserByVol:    0     0     0     0     0     0     0     0     0     0    13     0
Initial Fut:    0     0     0    17     0    96   433   103     0     0   133    41
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     0.81  0.81  0.81  0.81  0.81  0.81  0.81  0.81  0.81  0.81  0.81  0.81
PHF Volume:     0     0     0    21     0   119   535   127     0     0   164    51
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
FinalVolume:    0     0     0    21     0   119   535   127     0     0   164    51
------------|--------------||--------------||--------------||--------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4 xxxx   6.2   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5 xxxx   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|--------------||--------------||--------------||--------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  1386 xxxx   190   215 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   159 xxxx   857  1367 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx    89 xxxx   857  1367 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.24 xxxx  0.14  0.39 xxxx  xxxx  xxxx xxxx  xxxx
------------|--------------||--------------||--------------||--------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx   0.8 xxxx   0.5   1.9 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx  57.4 xxxx   9.9   9.3 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *     *     *     F     *     A     A     *     *     *     *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   1.9 xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   9.3 xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *     *     *     *     *     *     A     *     *     *     *     *
ApproachDel:    xxxxxx             17.0            xxxxxx            xxxxxx
ApproachLOS:         *                C                 *                 *
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Baseline Plus Project (Variant 2) PM

Intersection #12: Parking Garage Driveway (S)/24th St

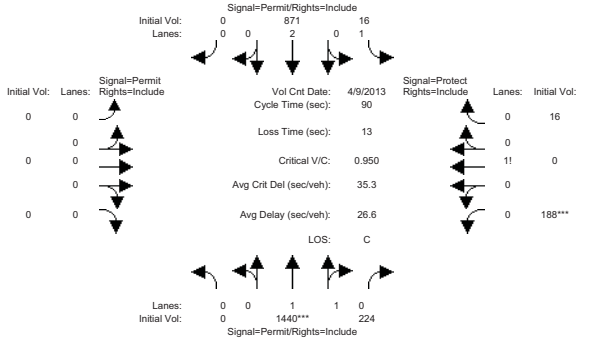



```
Street Name:   Parking Garage Driveway (S)              24th St
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|--------------||--------------||--------------||--------------|
Volume Module: >> Count Date: 12 Dec 2013 << 4-6PM
Base Vol:       0     0     0    36     0   186    10   100     0     0   124     4
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    0     0     0    36     0   186    10   100     0     0   124     4
Added Vol:      0     0     0    46     0   150    58     0     0     0     0     5
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:    0     0     0    82     0   336    68   100     0     0   124     9
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     0.90  0.90  0.90  0.90  0.90  0.90  0.90  0.90  0.90  0.90  0.90  0.90
PHF Volume:     0     0     0    91     0   373    76   111     0     0   138    10
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
FinalVolume:    0     0     0    91     0   373    76   111     0     0   138    10
------------|--------------||--------------||--------------||--------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4 xxxx   6.2   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5 xxxx   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|--------------||--------------||--------------||--------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   405 xxxx   143   148 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   606 xxxx   910  1446 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   580 xxxx   910  1446 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.16 xxxx  0.41  0.05 xxxx  xxxx  xxxx xxxx  xxxx
------------|--------------||--------------||--------------||--------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx   0.6 xxxx   2.0   0.2 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx  12.4 xxxx  11.7   7.6 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *     *     *     B     *     B     A     *     *     *     *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   0.2 xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.6 xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *     *     *     *     *     *     A     *     *     *     *     *
ApproachDel:    xxxxxx             11.8            xxxxxx            xxxxxx
ApproachLOS:         *                B                 *                 *
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Baseline Plus Project (Variant 2) AM

Intersection #13: Potrero Ave/25th St



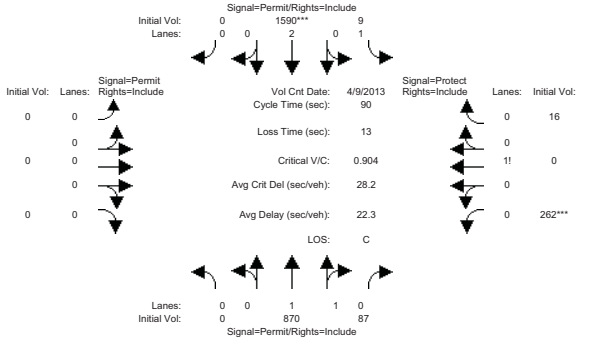
Street Name:	Potrero Ave						25th St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	59	59	59	59	59	59	0	0	0	18	18	18
Y+R:	8.0	8.0	8.0	8.0	8.0	8.0	4.0	4.0	4.0	5.0	5.0	5.0
Volume Module: >> Count Date: 9 Apr 2013 << 7-9AM												
Base Vol:	0	1326	224	16	851	0	0	0	0	188	0	16
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1326	224	16	851	0	0	0	0	188	0	16
Added Vol:	0	104	0	0	17	0	0	0	0	0	0	0
PasserByVol:	0	10	0	0	3	0	0	0	0	0	0	0
Initial Fut:	0	1440	224	16	871	0	0	0	0	188	0	16
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	0	1565	243	17	947	0	0	0	0	204	0	17
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1565	243	17	947	0	0	0	0	204	0	17
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1565	243	17	947	0	0	0	0	204	0	17
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.74	0.73	0.06	0.76	1.00	1.00	1.00	1.00	0.71	1.00	0.70
Lanes:	0.00	1.73	0.27	1.00	2.00	0.00	0.00	0.00	0.00	0.92	0.00	0.08
Final Sat.:	0	2418	376	110	2887	0	0	0	0	1235	0	105
Capacity Analysis Module:												
Vol/Sat:	0.00	0.65	0.65	0.16	0.33	0.00	0.00	0.00	0.00	0.17	0.00	0.17
Crit Moves:		****								****		
Green/Cycle:	0.00	0.66	0.66	0.66	0.66	0.00	0.00	0.00	0.00	0.20	0.00	0.20
Volume/Cap:	0.00	0.99	0.99	0.22	0.50	0.00	0.00	0.00	0.00	0.83	0.00	0.83
Delay/Veh:	0.0	33.1	33.1	7.6	8.2	0.0	0.0	0.0	0.0	53.2	0.0	53.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	33.1	33.1	7.6	8.2	0.0	0.0	0.0	0.0	53.2	0.0	53.2
LOS by Move:	A	C	C	A	A	A	A	A	A	D	A	D
HCM2kAvgQ:	0	33	33	0	7	0	0	0	0	8	0	2

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Baseline Plus Project (Variant 2) PM

Intersection #13: Potrero Ave/25th St



Street Name:	Potrero Ave						25th St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	55	55	55	55	55	55	0	0	0	22	22	22
Y+R:	8.0	8.0	8.0	8.0	8.0	8.0	4.0	4.0	4.0	5.0	5.0	5.0
Volume Module: >> Count Date: 9 Apr 2013 << 4-6PM												
Base Vol:	0	847	87	9	1500	0	0	0	0	262	0	16
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	847	87	9	1500	0	0	0	0	262	0	16
Added Vol:	0	20	0	0	80	0	0	0	0	0	0	0
Hospital Re:	0	3	0	0	10	0	0	0	0	0	0	0
Initial Fut:	0	870	87	9	1590	0	0	0	0	262	0	16
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
PHF Volume:	0	888	89	9	1622	0	0	0	0	267	0	16
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	888	89	9	1622	0	0	0	0	267	0	16
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	888	89	9	1622	0	0	0	0	267	0	16
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.74	0.74	0.21	0.76	1.00	1.00	1.00	1.00	0.71	1.00	0.70
Lanes:	0.00	1.82	0.18	1.00	2.00	0.00	0.00	0.00	0.00	0.94	0.00	0.06
Final Sat.:	0	2560	256	406	2887	0	0	0	0	1266	0	77
Capacity Analysis Module:												
Vol/Sat:	0.00	0.35	0.35	0.02	0.56	0.00	0.00	0.00	0.00	0.21	0.00	0.21
Crit Moves:					****					****		
Green/Cycle:	0.00	0.61	0.61	0.61	0.61	0.00	0.00	0.00	0.00	0.24	0.00	0.24
Volume/Cap:	0.00	0.57	0.57	0.04	0.92	0.00	0.00	0.00	0.00	0.86	0.00	0.86
Delay/Veh:	0.0	10.9	10.9	7.0	23.8	0.0	0.0	0.0	0.0	53.0	0.0	53.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	10.9	10.9	7.0	23.8	0.0	0.0	0.0	0.0	53.0	0.0	53.0
LOS by Move:	A	B	B	A	C	A	A	A	A	D	A	D
HCM2kAvgQ:	0	9	9	0	20	0	0	0	0	10	0	2

Note: Queue reported is the number of cars per lane.

Near Term Plus Variant 3 (512-space Garage Expansion, 5,000 sf retail, and Access Redesign)

In previous drafts, Variant 3 was called Sub-Variant 2.

San Francisco General Hospital EIR
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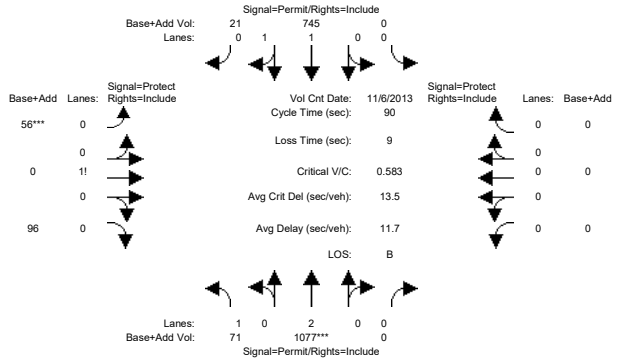
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Baseline Plus Project (Sub-Variant 2) AM

Intersection #1: Potrero Ave/20th St



Street Name:	Potrero Ave						20th St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	56	56	56	56	56	56	25	25	25	0	0	0
Y+R:	4.5	4.5	4.5	4.5	4.5	4.5	5.0	5.0	5.0	4.0	4.0	4.0
Volume Module: >> Count Date: 6 Nov 2013 << 7-9AM												
Base Vol:	70	1070	0	0	663	21	56	0	92	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	70	1070	0	0	663	21	56	0	92	0	0	0
Added Vol:	1	7	0	0	82	0	0	0	4	0	0	0
Hospital Re:	0	1	0	0	7	0	0	0	0	0	0	0
Initial Fut:	71	1078	0	0	752	21	56	0	96	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	75	1135	0	0	792	22	59	0	101	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	75	1135	0	0	792	22	59	0	101	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	75	1135	0	0	792	22	59	0	101	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.26	0.75	1.00	1.00	0.75	0.75	0.67	1.00	0.65	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	0.00	1.95	0.05	0.36	0.00	0.64	0.00	0.00	0.00
Final Sat.:	487	2858	0	0	2769	77	462	0	792	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.15	0.40	0.00	0.00	0.29	0.29	0.13	0.00	0.13	0.00	0.00	0.00
Crit Moves:		****					****					
Green/Cycle:	0.62	0.62	0.00	0.00	0.62	0.62	0.28	0.00	0.28	0.00	0.00	0.00
Volume/Cap:	0.25	0.64	0.00	0.00	0.46	0.46	0.46	0.00	0.46	0.00	0.00	0.00
Delay/Veh:	8.0	11.4	0.0	0.0	9.2	9.2	27.9	0.0	27.9	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	8.0	11.4	0.0	0.0	9.2	9.2	27.9	0.0	27.9	0.0	0.0	0.0
LOS by Move:	A	B	A	A	A	A	C	A	C	A	A	A
HCM2kAvgQ:	1	11	0	0	7	6	4	0	4	0	0	0

Note: Queue reported is the number of cars per lane.

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SF13-0683

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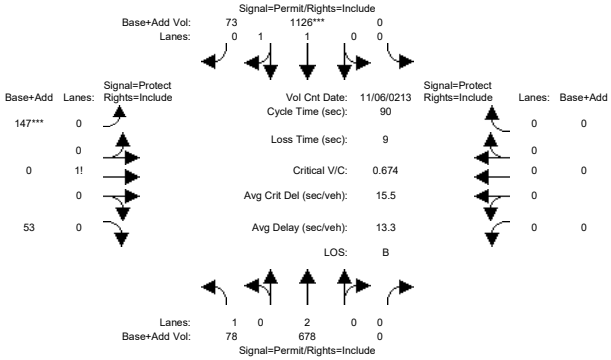
2000 HCM Operations (Future Volume Alternative)
Baseline Plus Project (Sub-Variant 2) PM

Intersection #1: Potrero Ave/20th St



Street Name:	Potrero Ave						20th St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	56	56	56	56	56	56	25	25	25	0	0	0
Y+R:	4.5	4.5	4.5	4.5	4.5	4.5	5.0	5.0	5.0	4.0	4.0	4.0
Volume Module: >> Count Date: 6 Nov 213 << 4-6PM												
Base Vol:	75	664	0	0	1120	73	147	0	52	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	75	664	0	0	1120	73	147	0	52	0	0	0
Added Vol:	3	14	0	0	6	0	0	0	1	0	0	0
PasserByVol:	1	17	0	0	3	0	0	0	0	0	0	0
Initial Fut:	79	695	0	0	1129	73	147	0	53	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	83	732	0	0	1188	77	155	0	56	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	83	732	0	0	1188	77	155	0	56	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	83	732	0	0	1188	77	155	0	56	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.14	0.75	1.00	1.00	0.75	0.74	0.69	1.00	0.69	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	0.00	1.88	0.12	0.73	0.00	0.27	0.00	0.00	0.00
Final Sat.:	257	2858	0	0	2659	172	967	0	349	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.32	0.26	0.00	0.00	0.45	0.45	0.16	0.00	0.16	0.00	0.00	0.00
Crit Moves:					****		****					
Green/Cycle:	0.62	0.62	0.00	0.00	0.62	0.62	0.28	0.00	0.28	0.00	0.00	0.00
Volume/Cap:	0.52	0.41	0.00	0.00	0.72	0.72	0.58	0.00	0.58	0.00	0.00	0.00
Delay/Veh:	12.5	8.8	0.0	0.0	13.1	13.1	30.2	0.0	30.2	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	12.5	8.8	0.0	0.0	13.1	13.1	30.2	0.0	30.2	0.0	0.0	0.0
LOS by Move:	B	A	A	A	B	B	C	A	C	A	A	A
HCM2kAvgQ:	2	6	0	0	14	14	6	0	6	0	0	0

Note: Queue reported is the number of cars per lane.

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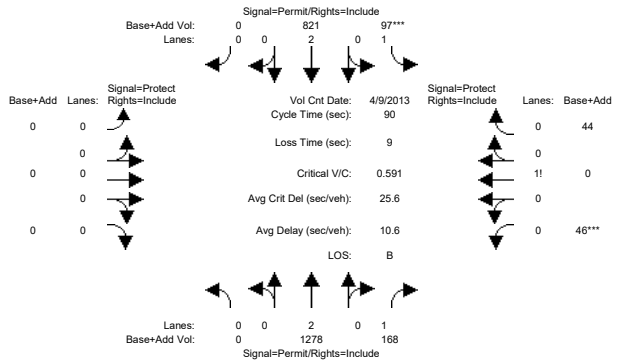
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Baseline Plus Project (Sub-Variant 2) AM

Intersection #2: Potrero Ave/22nd St (N)



Street Name:	Potrero Ave						22nd St (N)					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	59	59	59	59	59	59	0	0	0	22	22	22
Y+R:	4.5	4.5	4.5	4.5	4.5	4.5	4.0	4.0	4.0	5.0	5.0	5.0
Volume Module: >> Count Date: 9 Apr 2013 << 7-9AM												
Base Vol:	0	1267	168	97	723	0	0	0	0	46	0	44
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1267	168	97	723	0	0	0	0	46	0	44
Added Vol:	0	11	0	0	98	0	0	0	0	0	0	0
Hospital Re:	0	1	0	0	7	0	0	0	0	0	0	0
Initial Fut:	0	1279	168	97	828	0	0	0	0	46	0	44
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	0	1375	181	104	890	0	0	0	0	49	0	47
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1375	181	104	890	0	0	0	0	49	0	47
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1375	181	104	890	0	0	0	0	49	0	47
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.81	0.58	0.12	0.76	1.00	1.00	1.00	1.00	0.68	1.00	0.65
Lanes:	0.00	2.00	1.00	1.00	2.00	0.00	0.00	0.00	0.00	0.50	0.00	0.50
Final Sat.:	0	3079	1101	229	2887	0	0	0	0	644	0	616
Capacity Analysis Module:												
Vol/Sat:	0.00	0.45	0.16	0.45	0.31	0.00	0.00	0.00	0.00	0.08	0.00	0.08
Crit Moves:				****						****		
Green/Cycle:	0.00	0.66	0.66	0.66	0.66	0.00	0.00	0.00	0.00	0.24	0.00	0.24
Volume/Cap:	0.00	0.68	0.25	0.69	0.47	0.00	0.00	0.00	0.00	0.31	0.00	0.31
Delay/Veh:	0.0	10.6	6.6	22.9	7.9	0.0	0.0	0.0	0.0	28.4	0.0	28.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	10.6	6.6	22.9	7.9	0.0	0.0	0.0	0.0	28.4	0.0	28.4
LOS by Move:	A	B	A	C	A	A	A	A	A	C	A	C
HCM2kAvgQ:	0	12	2	3	7	0	0	0	0	2	0	2

Note: Queue reported is the number of cars per lane.

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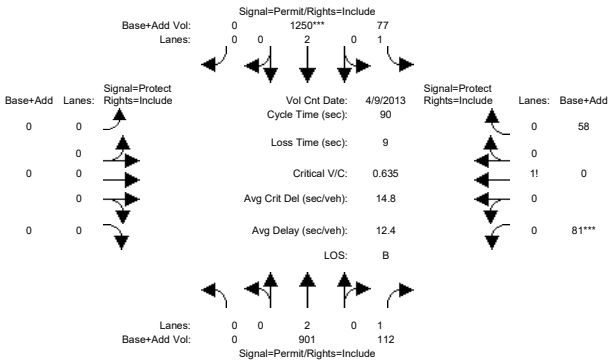
Baseline Plus Project (Sub-Variant 2) PM

Intersection #2: Potrero Ave/22nd St (N)



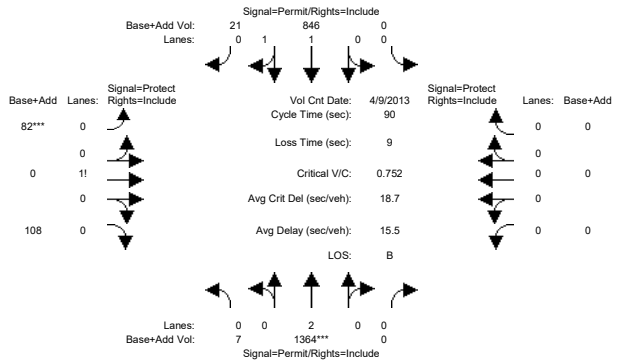
Street Name:	Potrero Ave						22nd St (N)					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	56	56	56	56	56	56	0	0	0	25	25	25
Y+R:	4.5	4.5	4.5	4.5	4.5	4.5	4.0	4.0	4.0	5.0	5.0	5.0
Volume Module: >> Count Date: 9 Apr 2013 << 4-6PM												
Base Vol:	0	873	112	77	1242	0	0	0	0	81	0	58
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	873	112	77	1242	0	0	0	0	81	0	58
Added Vol:	0	28	0	0	8	0	0	0	0	0	0	0
Hospital Re:	0	18	0	0	3	0	0	0	0	0	0	0
Initial Fut:	0	919	112	77	1253	0	0	0	0	81	0	58
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	967	118	81	1319	0	0	0	0	85	0	61
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	967	118	81	1319	0	0	0	0	85	0	61
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	967	118	81	1319	0	0	0	0	85	0	61
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.81	0.59	0.21	0.76	1.00	1.00	1.00	1.00	0.68	1.00	0.66
Lanes:	0.00	2.00	1.00	1.00	2.00	0.00	0.00	0.00	0.00	0.57	0.00	0.43
Final Sat.:	0	3079	1126	403	2887	0	0	0	0	746	0	534
Capacity Analysis Module:												
Vol/Sat:	0.00	0.31	0.10	0.20	0.46	0.00	0.00	0.00	0.00	0.11	0.00	0.11
Crit Moves:					****					****		
Green/Cycle:	0.00	0.62	0.62	0.62	0.62	0.00	0.00	0.00	0.00	0.28	0.00	0.28
Volume/Cap:	0.00	0.50	0.17	0.32	0.73	0.00	0.00	0.00	0.00	0.41	0.00	0.41
Delay/Veh:	0.0	9.6	7.3	8.8	13.4	0.0	0.0	0.0	0.0	27.3	0.0	27.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	9.6	7.3	8.8	13.4	0.0	0.0	0.0	0.0	27.3	0.0	27.3
LOS by Move:	A	A	A	A	B	A	A	A	A	C	A	C
HCM2kAvgQ:	0	8	1	1	15	0	0	0	0	4	0	4

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Baseline Plus Project (Sub-Variant 2) AM

Intersection #3: Potrero Ave/22nd St (S)



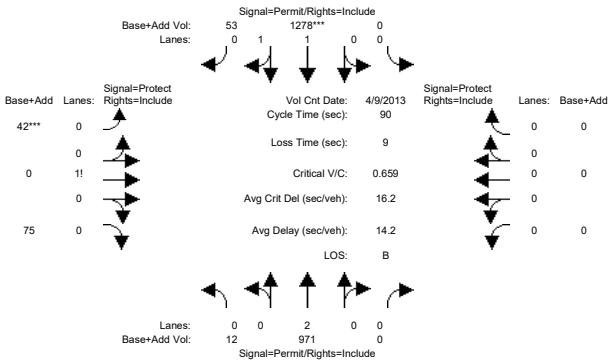
Street Name:	Potrero Ave						22nd St (S)					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	56	56	56	56	56	56	25	25	25	0	0	0
Y+R:	4.5	4.5	4.5	4.5	4.5	4.5	5.0	5.0	5.0	4.0	4.0	4.0
Volume Module: >> Count Date: 9 Apr 2013 << 7-9AM												
Base Vol:	6	1353	0	0	748	21	82	0	104	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	6	1353	0	0	748	21	82	0	104	0	0	0
Added Vol:	1	11	0	0	98	0	0	0	4	0	0	0
Hospital Re:	0	1	0	0	7	0	0	0	0	0	0	0
Initial Fut:	7	1365	0	0	853	21	82	0	108	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
PHF Volume:	7	1422	0	0	889	22	85	0	113	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	7	1422	0	0	889	22	85	0	113	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	7	1422	0	0	889	22	85	0	113	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.72	0.72	1.00	1.00	0.75	0.75	0.67	1.00	0.66	1.00	1.00	1.00
Lanes:	0.01	1.99	0.00	0.00	1.95	0.05	0.43	0.00	0.57	0.00	0.00	0.00
Final Sat.:	14	2731	0	0	2778	68	547	0	721	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.52	0.52	0.00	0.00	0.32	0.32	0.16	0.00	0.16	0.00	0.00	0.00
Crit Moves:		****					****					
Green/Cycle:	0.62	0.62	0.00	0.00	0.62	0.62	0.28	0.00	0.28	0.00	0.00	0.00
Volume/Cap:	0.84	0.84	0.00	0.00	0.51	0.51	0.56	0.00	0.56	0.00	0.00	0.00
Delay/Veh:	17.2	17.2	0.0	0.0	9.7	9.7	29.9	0.0	29.9	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	17.2	17.2	0.0	0.0	9.7	9.7	29.9	0.0	29.9	0.0	0.0	0.0
LOS by Move:	B	B	A	A	A	A	C	A	C	A	A	A
HCM2kAvgQ:	16	16	0	0	7	7	5	0	5	0	0	0

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Baseline Plus Project (Sub-Variant 2) PM

Intersection #3: Potrero Ave/22nd St (S)



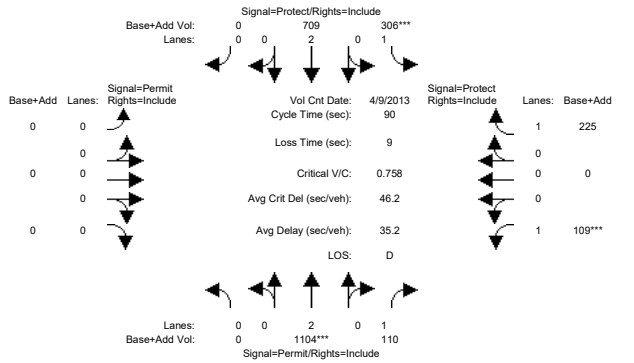
Street Name:	Potrero Ave						22nd St (S)					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	56	56	56	56	56	56	25	25	25	0	0	0
Y+R:	4.5	4.5	4.5	4.5	4.5	4.5	5.0	5.0	5.0	4.0	4.0	4.0
Volume Module: >> Count Date: 9 Apr 2013 <<												
Base Vol:	9	943	0	0	1270	53	42	0	74	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	9	943	0	0	1270	53	42	0	74	0	0	0
Added Vol:	3	28	0	0	8	0	0	0	1	0	0	0
Hospital Re:	0	18	0	0	3	0	0	0	0	0	0	0
Initial Fut:	12	989	0	0	1281	53	42	0	75	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	13	1041	0	0	1348	56	44	0	79	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	13	1041	0	0	1348	56	44	0	79	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	13	1041	0	0	1348	56	44	0	79	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.71	0.71	1.00	1.00	0.75	0.75	0.67	1.00	0.65	1.00	1.00	1.00
Lanes:	0.02	1.98	0.00	0.00	1.92	0.08	0.35	0.00	0.65	0.00	0.00	0.00
Final Sat.:	32	2649	0	0	2727	113	447	0	797	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.39	0.39	0.00	0.00	0.49	0.49	0.10	0.00	0.10	0.00	0.00	0.00
Crit Moves:					****		****					
Green/Cycle:	0.62	0.62	0.00	0.00	0.62	0.62	0.28	0.00	0.28	0.00	0.00	0.00
Volume/Cap:	0.63	0.63	0.00	0.00	0.79	0.79	0.36	0.00	0.36	0.00	0.00	0.00
Delay/Veh:	11.4	11.4	0.0	0.0	15.3	15.3	26.7	0.0	26.7	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	11.4	11.4	0.0	0.0	15.3	15.3	26.7	0.0	26.7	0.0	0.0	0.0
LOS by Move:	B	B	A	A	B	B	C	A	C	A	A	A
HCM2kAvgQ:	10	10	0	0	15	15	3	0	3	0	0	0

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Baseline Plus Project (Sub-Variant 2) AM

Intersection #4: Potrero Ave/23rd St



Street Name: Potrero Ave 23rd St

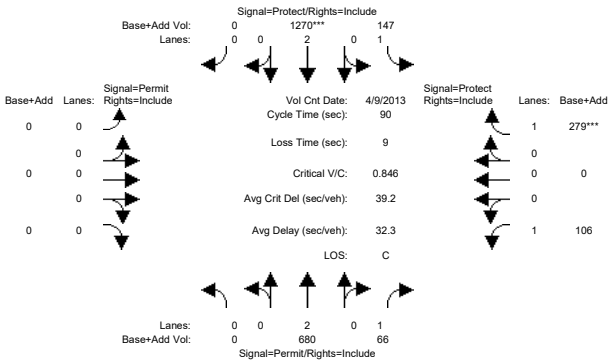
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	40	40	14	58	58	0	0	0	23	0	23
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.0	4.0	5.0
Volume Module: >> Count Date: 9 Apr 2013 << 7-9AM												
Base Vol:	0	1111	110	203	711	0	0	0	0	109	0	206
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1111	110	203	711	0	0	0	0	109	0	206
Added Vol:	0	-7	0	103	-2	0	0	0	0	0	0	19
Hospital Re:	0	0	10	7	0	0	0	0	0	3	0	1
Initial Fut:	0	1104	120	313	709	0	0	0	0	112	0	226
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	0	1187	129	337	762	0	0	0	0	120	0	243
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1187	129	337	762	0	0	0	0	120	0	243
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1187	129	337	762	0	0	0	0	120	0	243
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.81	0.52	0.81	0.75	1.00	1.00	1.00	1.00	0.81	1.00	0.57
Lanes:	0.00	2.00	1.00	1.00	2.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
Final Sat.:	0	3079	994	1539	2858	0	0	0	0	1539	0	1091
Capacity Analysis Module:												
Vol/Sat:	0.00	0.39	0.13	0.22	0.27	0.00	0.00	0.00	0.00	0.08	0.00	0.22
Crit Moves:		****		****						****		
Green/Cycle:	0.00	0.44	0.44	0.20	0.64	0.00	0.00	0.00	0.00	0.26	0.00	0.26
Volume/Cap:	0.00	0.87	0.29	1.09	0.41	0.00	0.00	0.00	0.00	0.31	0.00	0.87
Delay/Veh:	0.0	28.8	16.3	114.5	7.9	0.0	0.0	0.0	0.0	27.5	0.0	56.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	28.8	16.3	114.5	7.9	0.0	0.0	0.0	0.0	27.5	0.0	56.6
LOS by Move:	A	C	B	F	A	A	A	A	A	C	A	E
HCM2kAvgQ:	0	15	2	14	5	0	0	0	0	3	0	10

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Baseline Plus Project (Sub-Variant 2) PM

Intersection #4: Potrero Ave/23rd St



Street Name: Potrero Ave 23rd St

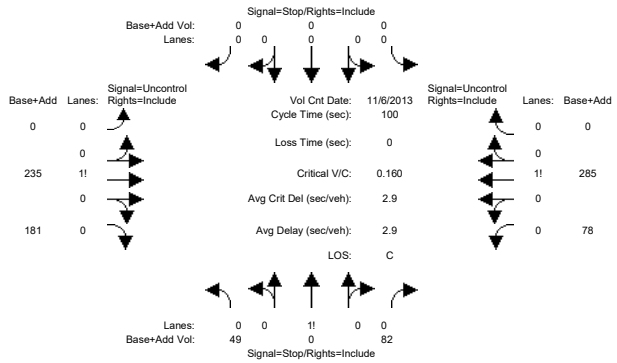
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	40	40	14	58	58	0	0	0	23	0	23
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.0	4.0	5.0
Volume Module: >> Count Date: 9 Apr 2013 << 4-6PM												
Base Vol:	0	708	86	137	1271	0	0	0	0	120	0	220
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	708	86	137	1271	0	0	0	0	120	0	220
Added Vol:	0	-28	-20	10	-1	0	0	0	0	-14	0	59
Hospital Re:	0	-26	3	1	2	0	0	0	0	20	0	44
Initial Fut:	0	654	69	148	1272	0	0	0	0	126	0	323
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	0	674	71	153	1311	0	0	0	0	130	0	333
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	674	71	153	1311	0	0	0	0	130	0	333
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	674	71	153	1311	0	0	0	0	130	0	333
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.81	0.55	0.81	0.75	1.00	1.00	1.00	1.00	0.81	1.00	0.58
Lanes:	0.00	2.00	1.00	1.00	2.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
Final Sat.:	0	3079	1038	1539	2858	0	0	0	0	1539	0	1099
Capacity Analysis Module:												
Vol/Sat:	0.00	0.22	0.07	0.10	0.46	0.00	0.00	0.00	0.00	0.08	0.00	0.30
Crit Moves:					****							****
Green/Cycle:	0.00	0.44	0.44	0.20	0.64	0.00	0.00	0.00	0.00	0.26	0.00	0.26
Volume/Cap:	0.00	0.49	0.15	0.50	0.71	0.00	0.00	0.00	0.00	0.33	0.00	1.19
Delay/Veh:	0.0	18.1	15.1	33.2	11.8	0.0	0.0	0.0	0.0	27.7	0.0	147.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	18.1	15.1	33.2	11.8	0.0	0.0	0.0	0.0	27.7	0.0	147.0
LOS by Move:	A	B	B	C	B	A	A	A	A	C	A	F
HCM2kAvgQ:	0	7	1	4	12	0	0	0	0	3	0	19

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Baseline Plus Project (Sub-Variant 2) AM

Intersection #5: Utah St/23rd St

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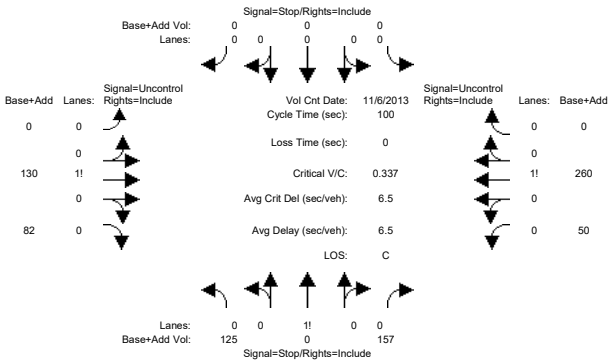
Street Name:            Utah St                         23rd St
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 6 Nov 2013 << 7-9AM
Base Vol:      30    0    54     0    0     0     0  235    78    40  285     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   30    0    54     0    0     0     0  235    78    40  285     0
Added Vol:     19    0    28     0    0     0     0    0   103    38    0     0
Hospital Re:    0    0     0     0    0     0     0   17     0     0    4     0
Initial Fut:   49    0    82     0    0     0     0  252   181    78  289     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.95 0.95  0.95  0.95 0.95  0.95  0.95 0.95  0.95  0.95 0.95  0.95
PHF Volume:    52    0    86     0    0     0     0  265   191    82  304     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   52    0    86     0    0     0     0  265   191    82  304     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.4  6.5   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  829  829   361  xxxx xxxx xxxxx  xxxx xxxx xxxxx   456 xxxx xxxxx
Potent Cap.:  343  308   689  xxxx xxxx xxxxx  xxxx xxxx xxxxx  1116 xxxx xxxxx
Move Cap.:    323  285   689  xxxx xxxx xxxxx  xxxx xxxx xxxxx  1116 xxxx xxxxx
Volume/Cap:  0.16 0.00  0.13  xxxx xxxx  xxxx  xxxx xxxx  xxxx  0.07 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.2 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.5 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  484 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  1.2 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   0.2 xxxx xxxxx
Shrd ConDel:xxxxx 15.4 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.5 xxxx xxxxx
Shared LOS:     *    C     *     *    *     *     *    *     *     A    *     *
ApproachDel:      15.4           xxxxxx           xxxxxx           xxxxxx
ApproachLOS:         C                *                *                *
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Baseline Plus Project (Sub-Variant 2) PM

Intersection #5: Utah St/23rd St

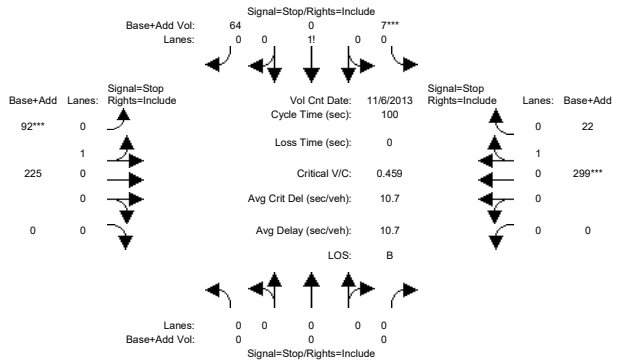



```
Street Name:            Utah St                         23rd St
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 6 Nov 2013 << 4-6PM
Base Vol:      58    0    51     0    0     0     0  157    66    44  282     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   58    0    51     0    0     0     0  157    66    44  282     0
Added Vol:     67    0   106     0    0     0     0  -27    16     6  -22     0
Hospital Re:    0    0     6     0    0     0     0    4     0     7   64     0
Initial Fut:  125    0   163     0    0     0     0  134    82    57  324     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.91 0.91  0.91  0.91 0.91  0.91  0.91 0.91  0.91  0.91 0.91  0.91
PHF Volume:   137    0   179     0    0     0     0  147    90    63  356     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  137    0   179     0    0     0     0  147    90    63  356     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.4  6.5   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  674  674   192  xxxx xxxx xxxxx  xxxx xxxx xxxxx   237 xxxx xxxxx
Potent Cap.:  423  379   854  xxxx xxxx xxxxx  xxxx xxxx xxxxx  1342 xxxx xxxxx
Move Cap.:    408  361   854  xxxx xxxx xxxxx  xxxx xxxx xxxxx  1342 xxxx xxxxx
Volume/Cap:  0.34 0.00  0.21  xxxx xxxx  xxxx  xxxx xxxx  xxxx  0.05 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.1 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.8 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  579 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  3.3 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   0.1 xxxx xxxxx
Shrd ConDel:xxxxx 18.5 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.8 xxxx xxxxx
Shared LOS:     *    C     *     *    *     *     *    *     *     A    *     *
ApproachDel:      18.5           xxxxxx           xxxxxx           xxxxxx
ApproachLOS:         C                *                *                *
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Baseline Plus Project (Sub-Variant 2) AM

Intersection #6: West Driveway/23rd St

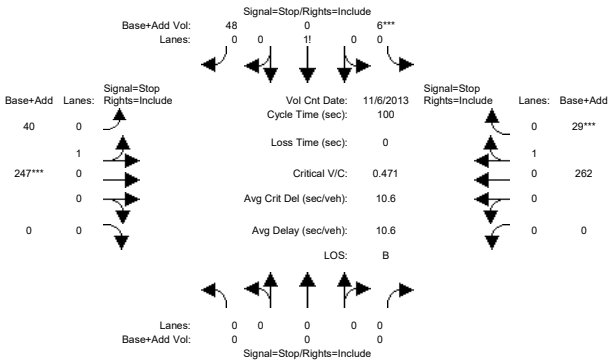



```
Street Name:          West Driveway                    23rd St
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 6 Nov 2013 << 7-9AM
Base Vol:       0     0     0     7     0    64    92   197     0     0   261    22
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    0     0     0     7     0    64    92   197     0     0   261    22
Added Vol:      0     0     0     0     0     0     0    28     0     0    38     0
Hospital Re:    0     0     0     0     0     4    17     0     0     0     0     6
Initial Fut:    0     0     0     7     0    68   109   225     0     0   299    28
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     0.93  0.93  0.93  0.93  0.93  0.93  0.93  0.93  0.93  0.93  0.93  0.93
PHF Volume:     0     0     0     8     0    73   117   242     0     0   322    30
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:    0     0     0     8     0    73   117   242     0     0   322    30
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:    0     0     0     8     0    73   117   242     0     0   322    30
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.00  0.00  0.00  0.09  0.00  0.91  0.33  0.67  0.00  0.00  0.91  0.09
Final Sat.:     0     0     0    62     0   607   255   527     0     0   731    69
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     xxxx  xxxx  xxxx  0.12  xxxx  0.12  0.46  0.46  xxxx  xxxx  0.44  0.44
Crit Moves:                     ****              ****                    ****
Delay/Veh:    0.0   0.0   0.0   8.4   0.0   8.4  11.2  11.2   0.0   0.0  10.7  10.7
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   0.0   0.0   0.0   8.4   0.0   8.4  11.2  11.2   0.0   0.0  10.7  10.7
LOS by Move:    *     *     *     A     *     A     B     B     *     *     B     B
ApproachDel:       xxxxxx             8.4              11.2             10.7
Delay Adj:          xxxxx             1.00             1.00             1.00
ApprAdjDel:        xxxxxx             8.4              11.2             10.7
LOS by Appr:            *               A                B                B
AllWayAvgQ:   0.0   0.0   0.0   0.1   0.1   0.1   0.8   0.8   0.8   0.7   0.7   0.7
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Baseline Plus Project (Sub-Variant 2) PM

Intersection #6: West Driveway/23rd St

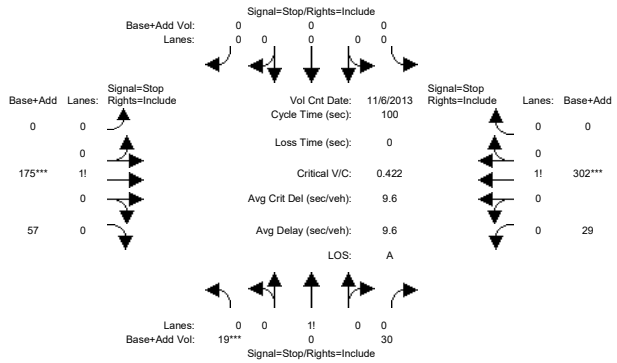



```
Street Name:          West Driveway                    23rd St
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 6 Nov 2013 << 4-6PM
Base Vol:       0     0     0    11     0    64    58   150     0     0   262    35
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    0     0     0    11     0    64    58   150     0     0   262    35
Added Vol:      0     0     0    -5     0   -16   -18    97     0     0     0    -6
Hospital Re:    0     0     0     6     0    17     4     6     0     0    54     0
Initial Fut:    0     0     0    12     0    65    44   253     0     0   316    29
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     0.91  0.91  0.91  0.91  0.91  0.91  0.91  0.91  0.91  0.91  0.91  0.91
PHF Volume:     0     0     0    13     0    71    48   278     0     0   347    32
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:    0     0     0    13     0    71    48   278     0     0   347    32
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:    0     0     0    13     0    71    48   278     0     0   347    32
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.00  0.00  0.00  0.16  0.00  0.84  0.15  0.85  0.00  0.00  0.92  0.08
Final Sat.:     0     0     0   104     0   563   116   665     0     0   737    68
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     xxxx  xxxx  xxxx  0.13  xxxx  0.13  0.42  0.42  xxxx  xxxx  0.47  0.47
Crit Moves:                     ****                    ****                    ****
Delay/Veh:    0.0   0.0   0.0   8.5   0.0   8.5  10.6  10.6   0.0   0.0  11.1  11.1
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   0.0   0.0   0.0   8.5   0.0   8.5  10.6  10.6   0.0   0.0  11.1  11.1
LOS by Move:    *     *     *     A     *     A     B     B     *     *     B     B
ApproachDel:       xxxxxx             8.5              10.6             11.1
Delay Adj:          xxxxx             1.00             1.00             1.00
ApprAdjDel:        xxxxxx             8.5              10.6             11.1
LOS by Appr:            *               A                B                B
AllWayAvgQ:   0.0   0.0   0.0   0.1   0.1   0.1   0.7   0.7   0.7   0.8   0.8   0.8
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Baseline Plus Project (Sub-Variant 2) AM

Intersection #7: San Bruno Ave/23rd St

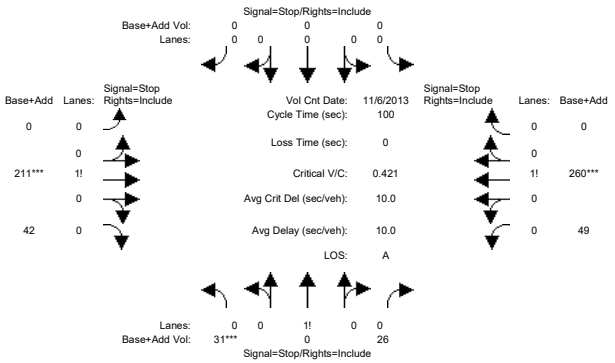



```
Street Name:          San Bruno Ave                    23rd St
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 6 Nov 2013 << 7-9AM
Base Vol:      19     0    30     0     0     0     0   147    57    29   264     0
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   19     0    30     0     0     0     0   147    57    29   264     0
Added Vol:      0     0     0     0     0     0     0    28     0     0    38     0
Hospital Re:    0     0     0     0     0     0     0     0     0     0     6     0
Initial Fut:   19     0    30     0     0     0     0   175    57    29   308     0
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     0.96  0.96  0.96  0.96  0.96  0.96  0.96  0.96  0.96  0.96  0.96  0.96
PHF Volume:    20     0    31     0     0     0     0   182    59    30   321     0
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   20     0    31     0     0     0     0   182    59    30   321     0
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   20     0    31     0     0     0     0   182    59    30   321     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.39  0.00  0.61  0.00  0.00  0.00  0.00  0.75  0.25  0.09  0.91  0.00
Final Sat.:   265     0   418     0     0     0     0   631   206    72   760     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.07  xxxx  0.07  xxxx  xxxx  xxxx  xxxx  0.29  0.29  0.42  0.42  xxxx
Crit Moves:  ****                                  ****                  ****
Delay/Veh:    8.1   0.0   8.1   0.0   0.0   0.0   0.0   8.9   8.9  10.3  10.3   0.0
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   8.1   0.0   8.1   0.0   0.0   0.0   0.0   8.9   8.9  10.3  10.3   0.0
LOS by Move:    A     *     A     *     *     *     *     A     A     B     B     *
ApproachDel:          8.1           xxxxxx              8.9              10.3
Delay Adj:           1.00            xxxxx             1.00              1.00
ApprAdjDel:           8.1           xxxxxx              8.9              10.3
LOS by Appr:            A                *                A                B
AllWayAvgQ:   0.1   0.1   0.1   0.0   0.0   0.0   0.4   0.4   0.4   0.7   0.7   0.7
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Baseline Plus Project (Sub-Variant 2) PM

Intersection #7: San Bruno Ave/23rd St

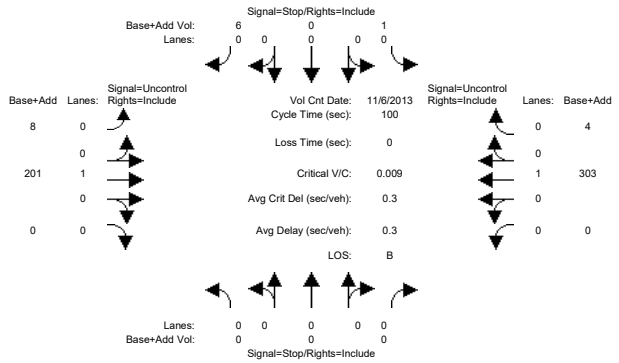



```
Street Name:          San Bruno Ave                    23rd St
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 6 Nov 2013 << 4-6PM
Base Vol:      31     0    26     0     0     0     0   119    42    49   266     0
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   31     0    26     0     0     0     0   119    42    49   266     0
Added Vol:      0     0     0     0     0     0     0    92     0     0    -6     0
Hospital Re:    7     0    -6     0     0     0     0    21     0     0     0     0
Initial Fut:   38     0    20     0     0     0     0   232    42    49   260     0
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     0.91  0.91  0.91  0.91  0.91  0.91  0.91  0.91  0.91  0.91  0.91  0.91
PHF Volume:    42     0    22     0     0     0     0   255    46    54   286     0
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   42     0    22     0     0     0     0   255    46    54   286     0
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   42     0    22     0     0     0     0   255    46    54   286     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.66  0.00  0.34  0.00  0.00  0.00  0.00  0.85  0.15  0.16  0.84  0.00
Final Sat.:   420     0   221     0     0     0     0   694   126   128   678     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.10  xxxx  0.10  xxxx  xxxx  xxxx  xxxx  0.37  0.37  0.42  0.42  xxxx
Crit Moves:  ****                                  ****                  ****
Delay/Veh:    8.6   0.0   8.6   0.0   0.0   0.0   0.0   9.7   9.7  10.5  10.5   0.0
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   8.6   0.0   8.6   0.0   0.0   0.0   0.0   9.7   9.7  10.5  10.5   0.0
LOS by Move:    A     *     A     *     *     *     *     A     A     B     B     *
ApproachDel:          8.6           xxxxxx              9.7              10.5
Delay Adj:           1.00            xxxxx             1.00              1.00
ApprAdjDel:           8.6           xxxxxx              9.7              10.5
LOS by Appr:            A                *                A                B
AllWayAvgQ:   0.1   0.1   0.1   0.0   0.0   0.0   0.6   0.6   0.6   0.7   0.7   0.7
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Baseline Plus Project (Sub-Variant 2) AM

Intersection #8: East Driveway/23rd St

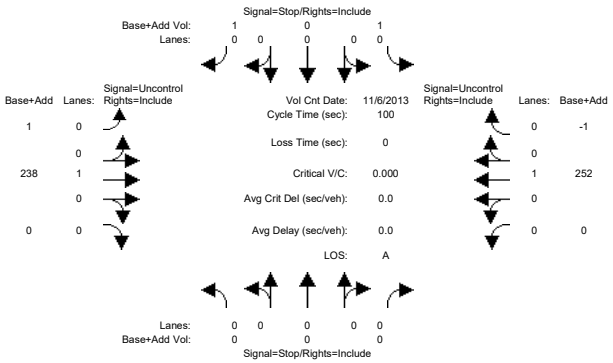



```
Street Name:          East Driveway                    23rd St
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 6 Nov 2013 << 7-9AM
Base Vol:       0    0     0     1    0     6     8  173     0     0  265     4
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0     1    0     6     8  173     0     0  265     4
Added Vol:      0    0     0     0    0     0     0   28     0     0   38     0
PasserByVol:    0    0     0     1    0     0     2    0     0     0    6     0
Initial Fut:    0    0     0     2    0     6    10  201     0     0  309     4
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.94 0.94  0.94  0.94 0.94  0.94  0.94 0.94  0.94  0.94 0.94  0.94
PHF Volume:     0    0     0     2    0     6    11  214     0     0  329     4
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0     2    0     6    11  214     0     0  329     4
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4  6.5   6.2   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   566  566   331   333 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   489  436   715  1238 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   486  433   715  1238 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.00 0.00  0.01  0.01 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.0 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.9 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A     *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  640 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  0.0 xxxxx   0.0 xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 10.7 xxxxx   7.9 xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    B     *     A     *     *     *    *     *
ApproachDel:    xxxxxx            10.7           xxxxxx           xxxxxx
ApproachLOS:         *              B              *                *
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Baseline Plus Project (Sub-Variant 2) PM

Intersection #8: East Driveway/23rd St

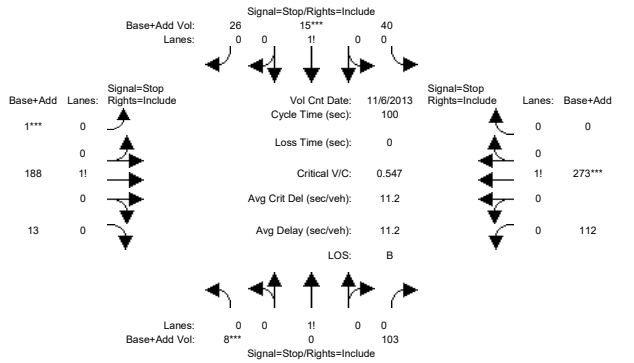



```
Street Name:          East Driveway                    23rd St
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 6 Nov 2013 << 4-6PM
Base Vol:       0    0     0     4    0     8    10  137     0     0  251     3
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0     4    0     8    10  137     0     0  251     3
Added Vol:      0    0     0    -3    0    -7    -9  101     0     0    1    -4
Hospital Re:    0    0     0    -1    0    -1    -1   15     0     0    0     1
Initial Fut:    0    0     0     0    0     0     0  253     0     0  252     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.92 0.92  0.92  0.92 0.92  0.92  0.92 0.92  0.92  0.92 0.92  0.92
PHF Volume:     0    0     0     0    0     0     0  275     0     0  274     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0     0    0     0     0  275     0     0  274     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4  6.5   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   549  549   274  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   500  446   770  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   500  446   770  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.00 0.00  0.00  xxxx xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *     *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx    0 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   0.0 xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.2 xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     A     *     *     *    *     *
ApproachDel:    xxxxxx            xxxxxx           xxxxxx           xxxxxx
ApproachLOS:         *              *                *                *
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Baseline Plus Project (Sub-Variant 2) AM

Intersection #9: Vermont St/23rd St



Street Name: Vermont St 23rd St

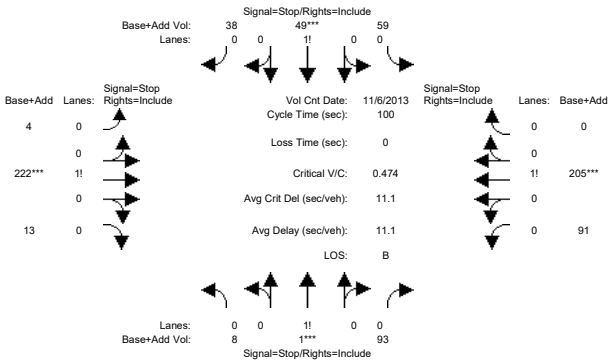
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 6 Nov 2013 << 7-9AM												
Base Vol:	8	0	103	40	15	26	1	160	13	112	235	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	8	0	103	40	15	26	1	160	13	112	235	0
Added Vol:	0	0	0	0	0	0	0	28	0	0	38	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	6	0
Initial Fut:	8	0	103	40	15	26	1	188	13	112	279	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
PHF Volume:	8	0	107	42	16	27	1	196	14	117	291	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	8	0	107	42	16	27	1	196	14	117	291	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	8	0	107	42	16	27	1	196	14	117	291	0
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.07	0.00	0.93	0.49	0.19	0.32	0.01	0.93	0.06	0.29	0.71	0.00
Final Sat.:	47	0	611	296	111	192	4	660	46	213	531	0
Capacity Analysis Module:												
Vol/Sat:	0.18	xxxx	0.18	0.14	0.14	0.14	0.30	0.30	0.30	0.55	0.55	xxxx
Crit Moves:	****				****		****				****	
Delay/Veh:	8.8	0.0	8.8	9.2	9.2	9.2	9.8	9.8	9.8	13.0	13.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	8.8	0.0	8.8	9.2	9.2	9.2	9.8	9.8	9.8	13.0	13.0	0.0
LOS by Move:	A	*	A	A	A	A	A	A	A	B	B	*
ApproachDel:	8.8			9.2			9.8			13.0		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	8.8			9.2			9.8			13.0		
LOS by Appr:	A			A			A			B		
AllWayAvgQ:	0.2	0.2	0.2	0.1	0.1	0.1	0.4	0.4	0.4	1.1	1.1	1.1

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Baseline Plus Project (Sub-Variant 2) PM

Intersection #9: Vermont St/23rd St



Street Name: Vermont St 23rd St

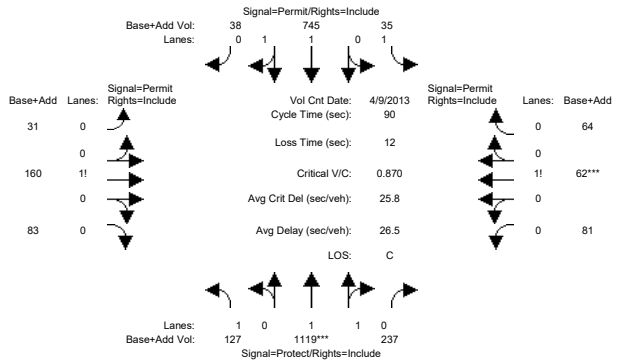
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 6 Nov 2013 << 4-6PM												
Base Vol:	8	1	93	59	49	38	4	124	13	91	208	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	8	1	93	59	49	38	4	124	13	91	208	0
Added Vol:	0	0	0	0	0	0	0	98	0	0	-3	0
Hospital Re:	0	0	0	0	0	0	0	15	0	0	0	0
Initial Fut:	8	1	93	59	49	38	4	237	13	91	205	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
PHF Volume:	9	1	102	65	54	42	4	260	14	100	225	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	9	1	102	65	54	42	4	260	14	100	225	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	9	1	102	65	54	42	4	260	14	100	225	0
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.08	0.01	0.91	0.40	0.34	0.26	0.02	0.93	0.05	0.31	0.69	0.00
Final Sat.:	49	6	572	244	202	157	11	639	35	211	476	0
Capacity Analysis Module:												
Vol/Sat:	0.18	0.18	0.18	0.27	0.27	0.27	0.41	0.41	0.41	0.47	0.47	xxxx
Crit Moves:		****			****			****			****	
Delay/Veh:	9.0	9.0	9.0	10.2	10.2	10.2	11.2	11.2	11.2	12.2	12.2	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	9.0	9.0	9.0	10.2	10.2	10.2	11.2	11.2	11.2	12.2	12.2	0.0
LOS by Move:	A	A	A	B	B	B	B	B	B	B	B	*
ApproachDel:	9.0			10.2			11.2			12.2		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	9.0			10.2			11.2			12.2		
LOS by Appr:	A			B			B			B		
AllWayAvgQ:	0.2	0.2	0.2	0.3	0.3	0.3	0.6	0.6	0.6	0.8	0.8	0.8

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Baseline Plus Project (Sub-Variant 2) AM

Intersection #10: Potrero Ave/24th St



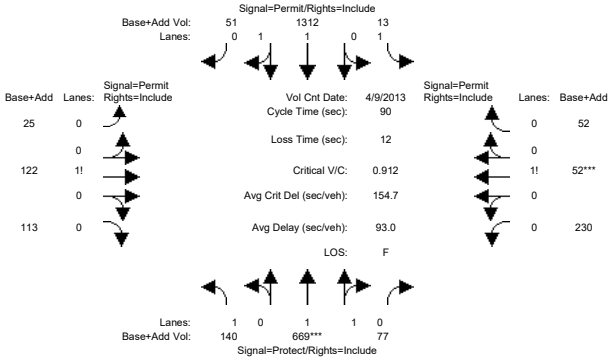
Street Name:	Potrero Ave						24th St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	53	53	42	42	42	25	25	25	25	25	25
Y+R:	4.0	7.0	7.0	7.0	7.0	7.0	5.0	5.0	5.0	5.0	5.0	5.0
Volume Module: >> Count Date: 9 Apr 2013 << 7-9AM												
Base Vol:	127	1119	96	37	745	38	31	161	83	39	70	71
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	127	1119	96	37	745	38	31	161	83	39	70	71
Added Vol:	0	0	141	-2	0	0	0	-1	0	42	-8	-7
Hospital Re:	0	10	0	0	3	0	0	0	0	0	0	0
Initial Fut:	127	1129	237	35	748	38	31	160	83	81	62	64
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	131	1164	244	36	771	39	32	165	86	84	64	66
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	131	1164	244	36	771	39	32	165	86	84	64	66
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	131	1164	244	36	771	39	32	165	86	84	64	66
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.81	0.73	0.72	0.08	0.75	0.73	0.67	0.68	0.65	0.45	0.46	0.45
Lanes:	1.00	1.65	0.35	1.00	1.90	0.10	0.11	0.58	0.31	0.40	0.29	0.31
Final Sat.:	1539	2293	481	160	2698	137	143	739	383	338	259	267
Capacity Analysis Module:												
Vol/Sat:	0.09	0.51	0.51	0.23	0.29	0.29	0.22	0.22	0.22	0.25	0.25	0.25
Crit Moves:		****									****	
Green/Cycle:	0.12	0.59	0.59	0.47	0.47	0.47	0.28	0.28	0.28	0.28	0.28	0.28
Volume/Cap:	0.70	0.86	0.86	0.45	0.61	0.61	0.80	0.80	0.80	0.89	0.89	0.89
Delay/Veh:	48.7	20.4	20.4	20.2	18.8	18.8	42.8	42.8	42.8	61.7	61.7	61.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	48.7	20.4	20.4	20.2	18.8	18.8	42.8	42.8	42.8	61.7	61.7	61.7
LOS by Move:	D	C	C	C	B	B	D	D	D	E	E	E
HCM2kAvgQ:	3	16	16	1	9	9	10	10	9	9	9	9

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Baseline Plus Project (Sub-Variant 2) PM

Intersection #10: Potrero Ave/24th St



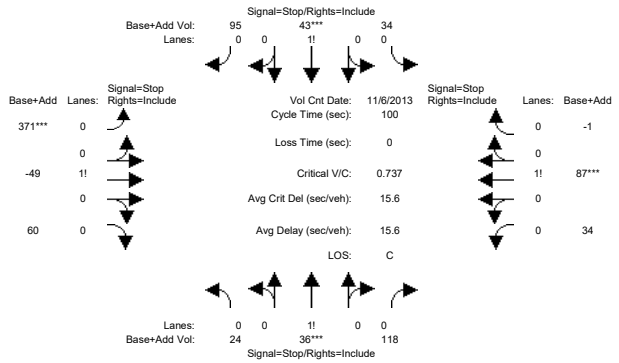
Street Name:	Potrero Ave						24th St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	55	55	44	44	44	23	23	23	23	23	23
Y+R:	4.0	7.0	7.0	7.0	7.0	7.0	5.0	5.0	5.0	5.0	5.0	5.0
Volume Module: >> Count Date: 9 Apr 2013 << 4-6PM												
Base Vol:	140	689	34	14	1325	52	25	119	113	71	81	80
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	140	689	34	14	1325	52	25	119	113	71	81	80
Added Vol:	0	-20	43	-1	-13	-1	0	3	0	159	-29	-28
Hospital Re:	0	3	5	2	20	0	0	0	0	5	0	-26
Initial Fut:	140	672	82	15	1332	51	25	122	113	235	52	26
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
PHF Volume:	146	700	85	16	1388	53	26	127	118	245	54	27
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	146	700	85	16	1388	53	26	127	118	245	54	27
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	146	700	85	16	1388	53	26	127	118	245	54	27
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.81	0.74	0.73	0.25	0.75	0.74	0.67	0.67	0.62	0.33	0.35	0.35
Lanes:	1.00	1.78	0.22	1.00	1.93	0.07	0.09	0.46	0.45	0.76	0.16	0.08
Final Sat.:	1539	2502	305	483	2735	105	118	578	535	479	106	53
Capacity Analysis Module:												
Vol/Sat:	0.09	0.28	0.28	0.03	0.51	0.51	0.22	0.22	0.22	0.51	0.51	0.51
Crit Moves:		****									****	
Green/Cycle:	0.12	0.61	0.61	0.49	0.49	0.49	0.26	0.26	0.26	0.26	0.26	0.26
Volume/Cap:	0.78	0.46	0.46	0.07	1.04	1.04	0.86	0.86	0.86	2.00	2.00	2.00
Delay/Veh:	56.4	9.6	9.6	12.3	57.6	57.6	52.6	52.6	52.6	504.1	504	504.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	56.4	9.6	9.6	12.3	57.6	57.6	52.6	52.6	52.6	504.1	504	504.1
LOS by Move:	E	A	A	B	E	E	D	D	D	F	F	F
HCM2kAvgQ:	4	6	6	0	27	26	10	10	10	30	32	32

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Baseline Plus Project (Sub-Variant 2) AM

Intersection #11: Utah St/24th St

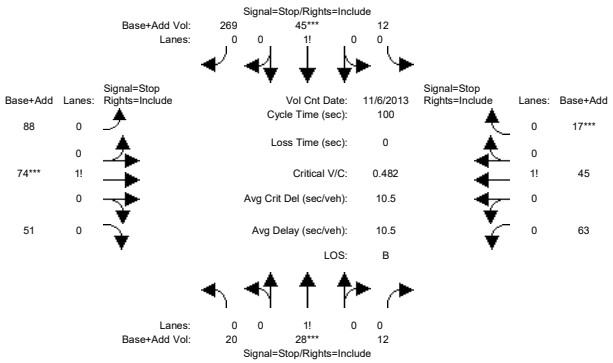



```
Street Name:            Utah St                         24th St
Approach:       North Bound     South Bound     East Bound      West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 6 Nov 2013 << 7-9AM
Base Vol:      24    36   118    37    43    38    40   194    60    44   118     8
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   24    36   118    37    43    38    40   194    60    44   118     8
Added Vol:      0     0     0    -3     0    57   331  -243     0   -10   -31    -9
Hospital Re:    3     0     0     0    26     0     0     0     0     9     4     0
Initial Fut:   27    36   118    34    69    95   371   -49    60    43    91    -1
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  0.00  1.00  1.00  1.00  0.00
PHF Adj:     0.90  0.90  0.90  0.90  0.90  0.90  0.90  0.00  0.90  0.90  0.90  0.00
PHF Volume:    30    40   131    38    77   106   412     0    67    48   101     0
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   30    40   131    38    77   106   412     0    67    48   101     0
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  0.00  1.00  1.00  1.00  0.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  0.00  1.00  1.00  1.00  0.00
FinalVolume:   30    40   131    38    77   106   412     0    67    48   101     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.15  0.20  0.65  0.17  0.35  0.48  0.86  0.01  0.13  0.32  0.68  0.00
Final Sat.:    86   115   378    99   201   277   559     0    90   178   377     0
-----------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.35  0.35  0.35  0.38  0.38  0.38  0.74  0.00  0.74  0.27  0.27  xxxx
Crit Moves:       ****              ****        ****              ****
Delay/Veh:   11.2  11.2  11.2  11.7  11.7  11.7  20.9  20.9  20.9  10.8  10.8   0.0
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  11.2  11.2  11.2  11.7  11.7  11.7  20.9  20.9  20.9  10.8  10.8   0.0
LOS by Move:    B     B     B     B     B     B     C     C     C     B     B     *
ApproachDel:       11.2              11.7              20.9              10.8
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:        11.2              11.7              20.9              10.8
LOS by Appr:          B                 B                 C                 B
AllWayAvgQ:   0.4  0.4   0.4   0.5   0.5   0.5   2.3   2.3   2.3   0.3   0.3   0.3
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Baseline Plus Project (Sub-Variant 2) PM

Intersection #11: Utah St/24th St

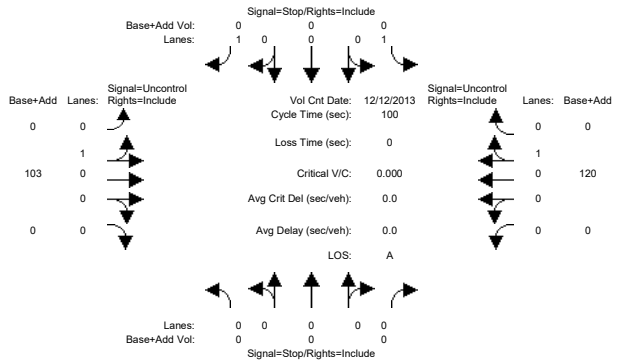



```
Street Name:            Utah St                         24th St
Approach:       North Bound     South Bound     East Bound      West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 6 Nov 2013 << 4-6PM
Base Vol:      20    28    12    13    45    52    31    85    51   100   160    50
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   20    28    12    13    45    52    31    85    51   100   160    50
Added Vol:      0     0     0    -1     0   217    57   -11     0   -37  -115   -33
Hospital Re:   11     6     0     0     7     0     0     7     0     0   -32     0
Initial Fut:   31    34    12    12    52   269    88    81    51    63    13    17
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     0.89  0.89  0.89  0.89  0.89  0.89  0.89  0.89  0.89  0.89  0.89  0.89
PHF Volume:    35    38    13    13    58   302    99    91    57    71    15    19
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   35    38    13    13    58   302    99    91    57    71    15    19
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   35    38    13    13    58   302    99    91    57    71    15    19
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.40  0.44  0.16  0.03  0.16  0.81  0.40  0.37  0.23  0.68  0.14  0.18
Final Sat.:   254   279    99    28   121   627   268   247   155   419    86   113
-----------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.14  0.14  0.14  0.48  0.48  0.48  0.37  0.37  0.37  0.17  0.17  0.17
Crit Moves:       ****              ****              ****                    ****
Delay/Veh:    9.0   9.0   9.0  11.2  11.2  11.2  10.7  10.7  10.7   9.3   9.3   9.3
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   9.0   9.0   9.0  11.2  11.2  11.2  10.7  10.7  10.7   9.3   9.3   9.3
LOS by Move:    A     A     A     B     B     B     B     B     B     A     A     A
ApproachDel:        9.0              11.2              10.7               9.3
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:         9.0              11.2              10.7               9.3
LOS by Appr:          A                 B                 B                 A
AllWayAvgQ:   0.1  0.1   0.1   0.8   0.8   0.8   0.5   0.5   0.5   0.2   0.2   0.2
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Baseline Plus Project (Sub-Variant 2) AM

Intersection #12: Parking Garage Driveway (S)/24th St

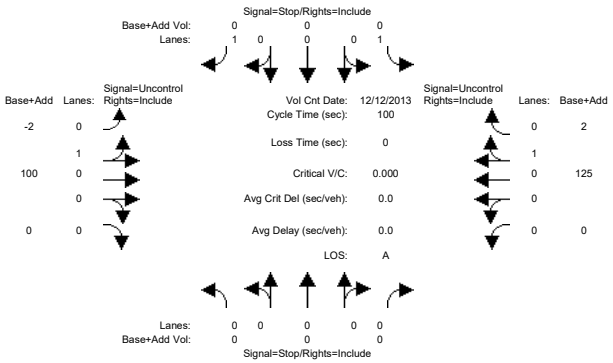



```
Street Name:   Parking Garage Driveway (S)              24th St
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 12 Dec 2013 << 7-9AM
Base Vol:       0    0     0     3    0    50   246  103     0     0  120    25
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0     3    0    50   246  103     0     0  120    25
Added Vol:      0    0     0    -3    0   -50  -246    0     0     0    0   -25
PasserByVol:    0    0     0     0    0     0     0    0     0     0   13     0
Initial Fut:    0    0     0     0    0     0     0  103     0     0  133     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.81 0.81  0.81  0.81 0.81  0.81  0.81 0.81  0.81  0.81 0.81  0.81
PHF Volume:     0    0     0     0    0     0     0  127     0     0  164     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0     0    0     0     0  127     0     0  164     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4 xxxx   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5 xxxx   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   291 xxxx   164  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   704 xxxx   886  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   704 xxxx   886  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.00 xxxx  0.00  xxxx xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx           xxxxxx           xxxxxx
ApproachLOS:         *                *                *                *
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Baseline Plus Project (Sub-Variant 2) PM

Intersection #12: Parking Garage Driveway (S)/24th St

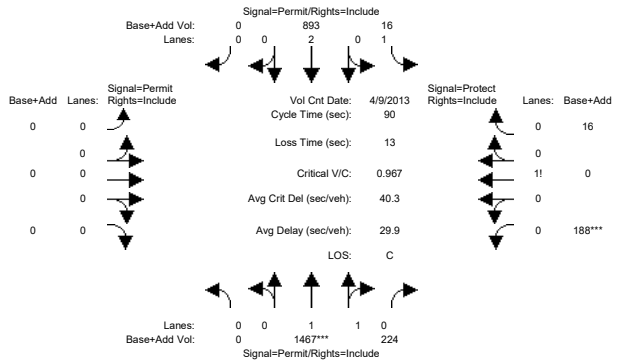



```
Street Name:   Parking Garage Driveway (S)              24th St
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 12 Dec 2013 << 4-6PM
Base Vol:       0    0     0    36    0   186    10  100     0     0  124     4
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0    36    0   186    10  100     0     0  124     4
Added Vol:      0    0     0   -36    0  -186   -12    0     0     0    1    -2
Hospital Re:    0    0     0     0    0     0     0    7     0     0   15     0
Initial Fut:    0    0     0     0    0     0    -2  107     0     0  140     2
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  0.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.90 0.90  0.90  0.90 0.90  0.90  0.00 0.90  0.90  0.90 0.90  0.90
PHF Volume:     0    0     0     0    0     0     0  119     0     0  156     2
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0     0    0     0     0  119     0     0  156     2
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4 xxxx   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5 xxxx   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   276 xxxx   157  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   718 xxxx   894  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   718 xxxx   894  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.00 xxxx  0.00  xxxx xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx           xxxxxx           xxxxxx
ApproachLOS:         *                *                *                *
Note: Queue reported is the number of cars per lane.
```

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Baseline Plus Project (Sub-Variant 2) AM

Intersection #13: Potrero Ave/25th St



Street Name: Potrero Ave 25th St

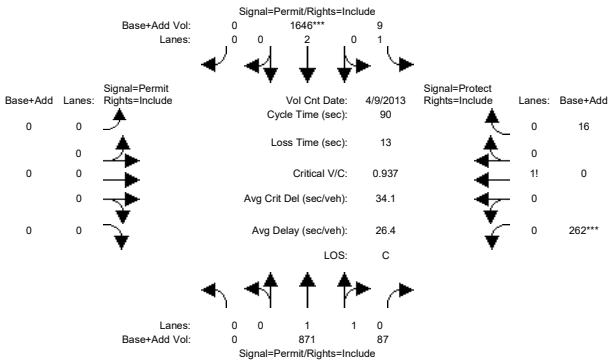
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	59	59	59	59	59	59	0	0	0	18	18	18
Y+R:	8.0	8.0	8.0	8.0	8.0	8.0	4.0	4.0	4.0	5.0	5.0	5.0
Volume Module: >> Count Date: 9 Apr 2013 << 7-9AM												
Base Vol:	0	1326	224	16	851	0	0	0	0	188	0	16
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1326	224	16	851	0	0	0	0	188	0	16
Added Vol:	0	141	0	0	42	0	0	0	0	0	0	0
PasserByVol:	0	10	0	0	3	0	0	0	0	0	0	0
Initial Fut:	0	1477	224	16	896	0	0	0	0	188	0	16
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	0	1605	243	17	974	0	0	0	0	204	0	17
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1605	243	17	974	0	0	0	0	204	0	17
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1605	243	17	974	0	0	0	0	204	0	17
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.74	0.73	0.06	0.76	1.00	1.00	1.00	1.00	0.71	1.00	0.70
Lanes:	0.00	1.73	0.27	1.00	2.00	0.00	0.00	0.00	0.00	0.92	0.00	0.08
Final Sat.:	0	2427	368	110	2887	0	0	0	0	1235	0	105
Capacity Analysis Module:												
Vol/Sat:	0.00	0.66	0.66	0.16	0.34	0.00	0.00	0.00	0.00	0.17	0.00	0.17
Crit Moves:		****								****		
Green/Cycle:	0.00	0.66	0.66	0.66	0.66	0.00	0.00	0.00	0.00	0.20	0.00	0.20
Volume/Cap:	0.00	1.01	1.01	0.22	0.51	0.00	0.00	0.00	0.00	0.83	0.00	0.83
Delay/Veh:	0.0	38.8	38.8	7.6	8.3	0.0	0.0	0.0	0.0	53.2	0.0	53.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	38.8	38.8	7.6	8.3	0.0	0.0	0.0	0.0	53.2	0.0	53.2
LOS by Move:	A	D	D	A	A	A	A	A	A	D	A	D
HCM2kAvgQ:	0	36	36	0	7	0	0	0	0	8	0	2

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Baseline Plus Project (Sub-Variant 2) PM

Intersection #13: Potrero Ave/25th St



Street Name: Potrero Ave 25th St

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	55	55	55	55	55	55	0	0	0	22	22	22
Y+R:	8.0	8.0	8.0	8.0	8.0	8.0	4.0	4.0	4.0	5.0	5.0	5.0
Volume Module: >> Count Date: 9 Apr 2013 << 4-6PM												
Base Vol:	0	847	87	9	1500	0	0	0	0	262	0	16
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	847	87	9	1500	0	0	0	0	262	0	16
Added Vol:	0	24	0	0	146	0	0	0	0	0	0	0
Hospital Re:	0	8	0	0	25	0	0	0	0	0	0	0
Initial Fut:	0	879	87	9	1671	0	0	0	0	262	0	16
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
PHF Volume:	0	897	89	9	1705	0	0	0	0	267	0	16
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	897	89	9	1705	0	0	0	0	267	0	16
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	897	89	9	1705	0	0	0	0	267	0	16
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.74	0.74	0.21	0.76	1.00	1.00	1.00	1.00	0.71	1.00	0.70
Lanes:	0.00	1.82	0.18	1.00	2.00	0.00	0.00	0.00	0.00	0.94	0.00	0.06
Final Sat.:	0	2565	254	402	2887	0	0	0	0	1266	0	77
Capacity Analysis Module:												
Vol/Sat:	0.00	0.35	0.35	0.02	0.59	0.00	0.00	0.00	0.00	0.21	0.00	0.21
Crit Moves:					****					****		
Green/Cycle:	0.00	0.61	0.61	0.61	0.61	0.00	0.00	0.00	0.00	0.24	0.00	0.24
Volume/Cap:	0.00	0.57	0.57	0.04	0.97	0.00	0.00	0.00	0.00	0.86	0.00	0.86
Delay/Veh:	0.0	10.9	10.9	7.0	31.0	0.0	0.0	0.0	0.0	53.0	0.0	53.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	10.9	10.9	7.0	31.0	0.0	0.0	0.0	0.0	53.0	0.0	53.0
LOS by Move:	A	B	B	A	C	A	A	A	A	D	A	D
HCM2kAvgQ:	0	9	9	0	23	0	0	0	0	10	0	2

Note: Queue reported is the number of cars per lane.

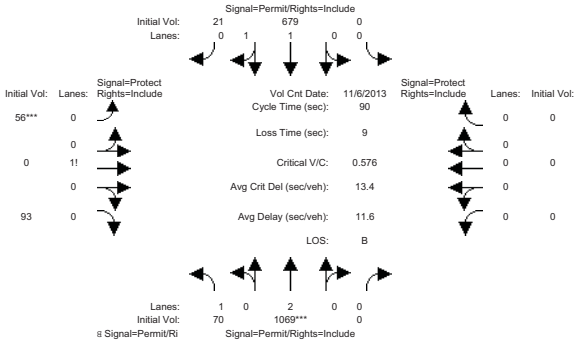
Near Term Plus Variant 4 (No Garage Expansion)

In previous drafts, Variant 4 was called Variant 1.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Baseline Plus Project (Variant 1) AM

Intersection #1: Potrero Ave/20th St



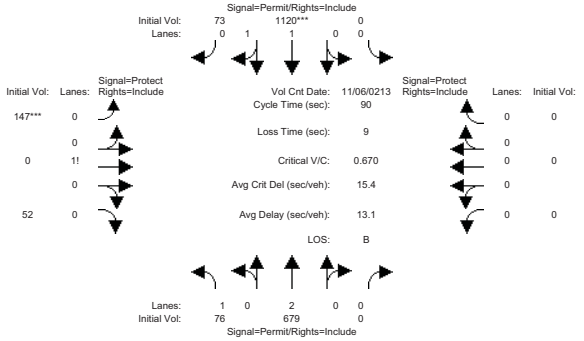
Street Name:	Potrero Ave						20th St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	56	56	56	56	56	56	25	25	25	0	0	0
Y+R:	4.5	4.5	4.5	4.5	4.5	4.5	5.0	5.0	5.0	4.0	4.0	4.0
Volume Module: >> Count Date: 6 Nov 2013 << 7-9AM												
Base Vol:	70	1070	0	0	663	21	56	0	92	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	70	1070	0	0	663	21	56	0	92	0	0	0
Added Vol:	0	-4	0	0	-1	0	0	0	0	0	0	0
Hospital Re:	0	3	0	0	17	0	0	0	1	0	0	0
Initial Fut:	70	1069	0	0	679	21	56	0	93	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	74	1125	0	0	715	22	59	0	98	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	74	1125	0	0	715	22	59	0	98	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	74	1125	0	0	715	22	59	0	98	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.28	0.75	1.00	1.00	0.75	0.75	0.67	1.00	0.66	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	0.00	1.94	0.06	0.37	0.00	0.63	0.00	0.00	0.00
Final Sat.:	535	2858	0	0	2761	85	472	0	784	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.14	0.39	0.00	0.00	0.26	0.26	0.12	0.00	0.12	0.00	0.00	0.00
Crit Moves:		****					****					
Green/Cycle:	0.62	0.62	0.00	0.00	0.62	0.62	0.28	0.00	0.28	0.00	0.00	0.00
Volume/Cap:	0.22	0.63	0.00	0.00	0.42	0.42	0.45	0.00	0.45	0.00	0.00	0.00
Delay/Veh:	7.8	11.3	0.0	0.0	8.8	8.8	27.7	0.0	27.7	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	7.8	11.3	0.0	0.0	8.8	8.8	27.7	0.0	27.7	0.0	0.0	0.0
LOS by Move:	A	B	A	A	A	A	C	A	C	A	A	A
HCM2kAvgQ:	1	11	0	0	6	6	4	0	4	0	0	0

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Baseline Plus Project (Variant 1) PM

Intersection #1: Potrero Ave/20th St



Street Name:	Potrero Ave						20th St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	56	56	56	56	56	56	25	25	25	0	0	0
Y+R:	4.5	4.5	4.5	4.5	4.5	4.5	5.0	5.0	5.0	4.0	4.0	4.0
Volume Module: >> Count Date: 6 Nov 213 << 4-6PM												
Base Vol:	75	664	0	0	1120	73	147	0	52	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	75	664	0	0	1120	73	147	0	52	0	0	0
Added Vol:	0	-2	0	0	-3	0	0	0	0	0	0	0
PasserByVol:	1	17	0	0	3	0	0	0	0	0	0	0
Initial Fut:	76	679	0	0	1120	73	147	0	52	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	80	715	0	0	1179	77	155	0	55	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	80	715	0	0	1179	77	155	0	55	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	80	715	0	0	1179	77	155	0	55	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.14	0.75	1.00	1.00	0.75	0.74	0.69	1.00	0.69	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	0.00	1.88	0.12	0.74	0.00	0.26	0.00	0.00	0.00
Final Sat.:	262	2858	0	0	2658	173	972	0	344	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.31	0.25	0.00	0.00	0.44	0.44	0.16	0.00	0.16	0.00	0.00	0.00
Crit Moves:					****		****					
Green/Cycle:	0.62	0.62	0.00	0.00	0.62	0.62	0.28	0.00	0.28	0.00	0.00	0.00
Volume/Cap:	0.49	0.40	0.00	0.00	0.71	0.71	0.57	0.00	0.57	0.00	0.00	0.00
Delay/Veh:	11.6	8.7	0.0	0.0	12.9	12.9	30.1	0.0	30.1	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	11.6	8.7	0.0	0.0	12.9	12.9	30.1	0.0	30.1	0.0	0.0	0.0
LOS by Move:	B	A	A	A	B	B	C	A	C	A	A	A
HCM2kAvgQ:	2	5	0	0	14	14	6	0	6	0	0	0

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
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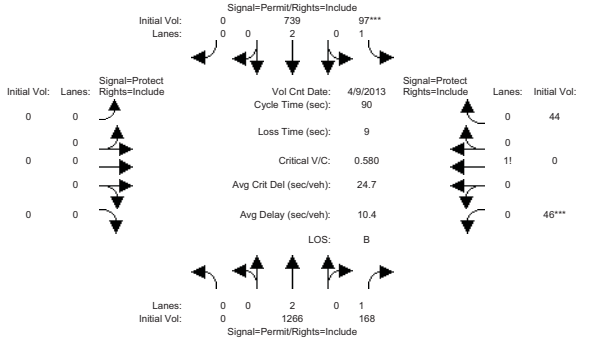
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Baseline Plus Project (Variant 1) AM

Intersection #2: Potrero Ave/22nd St (N)



Street Name:	Potrero Ave						22nd St (N)					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	59	59	59	59	59	59	0	0	0	22	22	22
Y+R:	4.5	4.5	4.5	4.5	4.5	4.5	4.0	4.0	4.0	5.0	5.0	5.0
Volume Module: >> Count Date: 9 Apr 2013 << 7-9AM												
Base Vol:	0	1267	168	97	723	0	0	0	0	46	0	44
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1267	168	97	723	0	0	0	0	46	0	44
Added Vol:	0	-4	0	0	-2	0	0	0	0	0	0	0
Hospital Re:	0	3	0	0	18	0	0	0	0	0	0	0
Initial Fut:	0	1266	168	97	739	0	0	0	0	46	0	44
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	0	1361	181	104	795	0	0	0	0	49	0	47
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1361	181	104	795	0	0	0	0	49	0	47
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1361	181	104	795	0	0	0	0	49	0	47
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.81	0.58	0.12	0.76	1.00	1.00	1.00	1.00	0.68	1.00	0.65
Lanes:	0.00	2.00	1.00	1.00	2.00	0.00	0.00	0.00	0.00	0.50	0.00	0.50
Final Sat.:	0	3079	1101	234	2887	0	0	0	0	644	0	616
Capacity Analysis Module:												
Vol/Sat:	0.00	0.44	0.16	0.45	0.28	0.00	0.00	0.00	0.00	0.08	0.00	0.08
Crit Moves:				****						****		
Green/Cycle:	0.00	0.66	0.66	0.66	0.66	0.00	0.00	0.00	0.00	0.24	0.00	0.24
Volume/Cap:	0.00	0.67	0.25	0.68	0.42	0.00	0.00	0.00	0.00	0.31	0.00	0.31
Delay/Veh:	0.0	10.5	6.6	21.3	7.5	0.0	0.0	0.0	0.0	28.4	0.0	28.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	10.5	6.6	21.3	7.5	0.0	0.0	0.0	0.0	28.4	0.0	28.4
LOS by Move:	A	B	A	C	A	A	A	A	A	C	A	C
HCM2kAvgQ:	0	12	2	3	6	0	0	0	0	2	0	2

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
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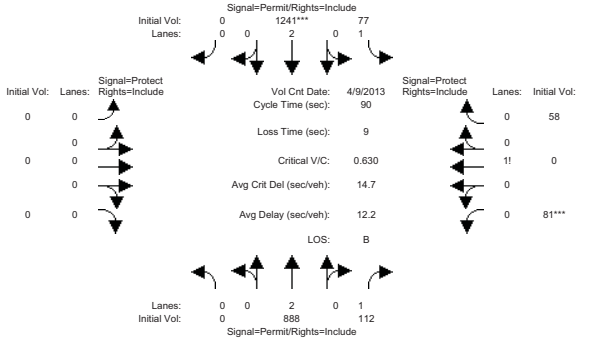
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Baseline Plus Project (Variant 1) PM

Intersection #2: Potrero Ave/22nd St (N)



Street Name:	Potrero Ave						22nd St (N)					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	56	56	56	56	56	56	0	0	0	25	25	25
Y+R:	4.5	4.5	4.5	4.5	4.5	4.5	4.0	4.0	4.0	5.0	5.0	5.0
Volume Module: >> Count Date: 9 Apr 2013 << 4-6PM												
Base Vol:	0	873	112	77	1242	0	0	0	0	81	0	58
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	873	112	77	1242	0	0	0	0	81	0	58
Added Vol:	0	-3	0	0	-4	0	0	0	0	0	0	0
Hospital Re:	0	18	0	0	3	0	0	0	0	0	0	0
Initial Fut:	0	888	112	77	1241	0	0	0	0	81	0	58
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	935	118	81	1306	0	0	0	0	85	0	61
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	935	118	81	1306	0	0	0	0	85	0	61
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	935	118	81	1306	0	0	0	0	85	0	61
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.81	0.59	0.22	0.76	1.00	1.00	1.00	1.00	0.68	1.00	0.66
Lanes:	0.00	2.00	1.00	1.00	2.00	0.00	0.00	0.00	0.00	0.57	0.00	0.43
Final Sat.:	0	3079	1126	421	2887	0	0	0	0	746	0	534
Capacity Analysis Module:												
Vol/Sat:	0.00	0.30	0.10	0.19	0.45	0.00	0.00	0.00	0.00	0.11	0.00	0.11
Crit Moves:					****					****		
Green/Cycle:	0.00	0.62	0.62	0.62	0.62	0.00	0.00	0.00	0.00	0.28	0.00	0.28
Volume/Cap:	0.00	0.49	0.17	0.31	0.73	0.00	0.00	0.00	0.00	0.41	0.00	0.41
Delay/Veh:	0.0	9.4	7.3	8.6	13.3	0.0	0.0	0.0	0.0	27.3	0.0	27.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	9.4	7.3	8.6	13.3	0.0	0.0	0.0	0.0	27.3	0.0	27.3
LOS by Move:	A	A	A	A	B	A	A	A	A	C	A	C
HCM2kAvgQ:	0	7	1	1	14	0	0	0	0	4	0	4

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
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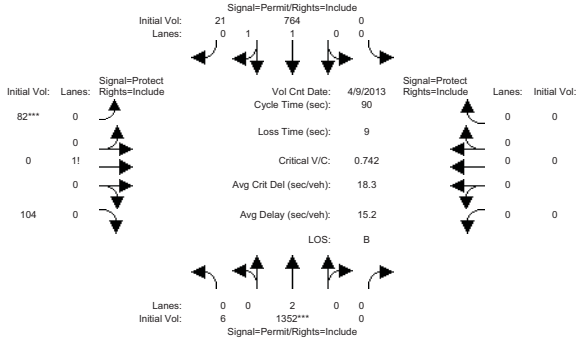
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Baseline Plus Project (Variant 1) AM

Intersection #3: Potrero Ave/22nd St (S)



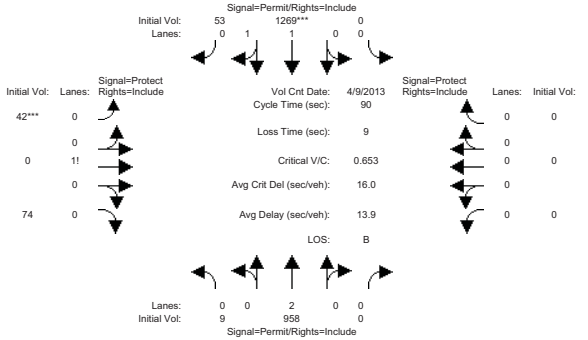
Street Name:	Potrero Ave						22nd St (S)					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	56	56	56	56	56	56	25	25	25	0	0	0
Y+R:	4.5	4.5	4.5	4.5	4.5	4.5	5.0	5.0	5.0	4.0	4.0	4.0
Volume Module: >> Count Date: 9 Apr 2013 << 7-9AM												
Base Vol:	6	1353	0	0	748	21	82	0	104	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	6	1353	0	0	748	21	82	0	104	0	0	0
Added Vol:	0	-4	0	0	-2	0	0	0	0	0	0	0
Hospital Re:	0	3	0	0	18	0	0	0	0	0	0	0
Initial Fut:	6	1352	0	0	764	21	82	0	104	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
PHF Volume:	6	1408	0	0	796	22	85	0	108	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	6	1408	0	0	796	22	85	0	108	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	6	1408	0	0	796	22	85	0	108	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.72	0.72	1.00	1.00	0.75	0.75	0.68	1.00	0.66	1.00	1.00	1.00
Lanes:	0.01	1.99	0.00	0.00	1.95	0.05	0.44	0.00	0.56	0.00	0.00	0.00
Final Sat.:	12	2736	0	0	2770	76	560	0	710	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.51	0.51	0.00	0.00	0.29	0.29	0.15	0.00	0.15	0.00	0.00	0.00
Crit Moves:		****					****					
Green/Cycle:	0.62	0.62	0.00	0.00	0.62	0.62	0.28	0.00	0.28	0.00	0.00	0.00
Volume/Cap:	0.83	0.83	0.00	0.00	0.46	0.46	0.55	0.00	0.55	0.00	0.00	0.00
Delay/Veh:	16.7	16.7	0.0	0.0	9.2	9.2	29.5	0.0	29.5	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	16.7	16.7	0.0	0.0	9.2	9.2	29.5	0.0	29.5	0.0	0.0	0.0
LOS by Move:	B	B	A	A	A	A	C	A	C	A	A	A
HCM2kAvgQ:	16	16	0	0	6	6	5	0	5	0	0	0

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Baseline Plus Project (Variant 1) PM

Intersection #3: Potrero Ave/22nd St (S)



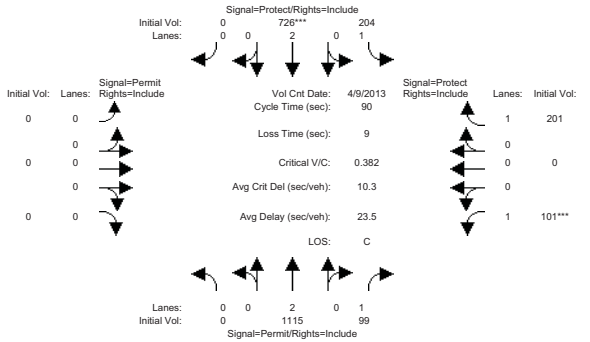
Street Name:	Potrero Ave						22nd St (S)					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	56	56	56	56	56	56	25	25	25	0	0	0
Y+R:	4.5	4.5	4.5	4.5	4.5	4.5	5.0	5.0	5.0	4.0	4.0	4.0
Volume Module: >> Count Date: 9 Apr 2013 <<												
Base Vol:	9	943	0	0	1270	53	42	0	74	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	9	943	0	0	1270	53	42	0	74	0	0	0
Added Vol:	0	-3	0	0	-4	0	0	0	0	0	0	0
Hospital Re:	0	18	0	0	3	0	0	0	0	0	0	0
Initial Fut:	9	958	0	0	1269	53	42	0	74	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	9	1008	0	0	1336	56	44	0	78	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	9	1008	0	0	1336	56	44	0	78	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	9	1008	0	0	1336	56	44	0	78	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.71	0.71	1.00	1.00	0.75	0.75	0.67	1.00	0.65	1.00	1.00	1.00
Lanes:	0.02	1.98	0.00	0.00	1.92	0.08	0.35	0.00	0.65	0.00	0.00	0.00
Final Sat.:	25	2688	0	0	2726	114	451	0	795	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.38	0.38	0.00	0.00	0.49	0.49	0.10	0.00	0.10	0.00	0.00	0.00
Crit Moves:					****		****					
Green/Cycle:	0.62	0.62	0.00	0.00	0.62	0.62	0.28	0.00	0.28	0.00	0.00	0.00
Volume/Cap:	0.60	0.60	0.00	0.00	0.79	0.79	0.35	0.00	0.35	0.00	0.00	0.00
Delay/Veh:	10.9	10.9	0.0	0.0	15.0	15.0	26.6	0.0	26.6	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	10.9	10.9	0.0	0.0	15.0	15.0	26.6	0.0	26.6	0.0	0.0	0.0
LOS by Move:	B	B	A	A	B	B	C	A	C	A	A	A
HCM2kAvgQ:	9	9	0	0	15	15	3	0	3	0	0	0

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Baseline Plus Project (Variant 1) AM

Intersection #4: Potrero Ave/23rd St



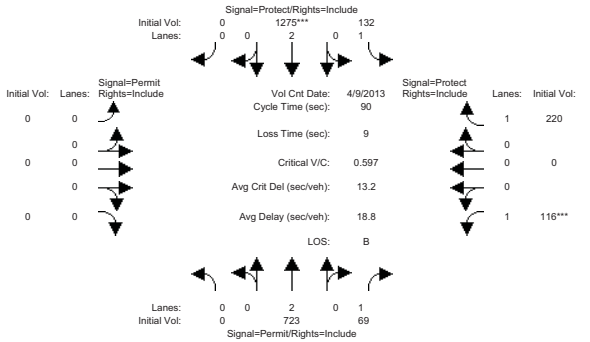
Street Name:	Potrero Ave						23rd St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	0	40	40	14	58	58	0	0	0	23	0	23
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.0	4.0	5.0
Volume Module: >> Count Date: 9 Apr 2013 << 7-9AM												
Base Vol:	0	1111	110	203	711	0	0	0	0	109	0	206
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1111	110	203	711	0	0	0	0	109	0	206
Added Vol:	0	2	-21	-6	4	0	0	0	0	-11	0	-6
Hospital Re:	0	2	10	7	11	0	0	0	0	3	0	1
Initial Fut:	0	1115	99	204	726	0	0	0	0	101	0	201
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	0	1199	106	219	781	0	0	0	0	109	0	216
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1199	106	219	781	0	0	0	0	109	0	216
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1199	106	219	781	0	0	0	0	109	0	216
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.81	0.53	0.81	0.75	1.00	1.00	1.00	1.00	0.81	1.00	0.57
Lanes:	0.00	2.00	1.00	1.00	2.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
Final Sat.:	0	3079	1005	1539	2858	0	0	0	0	1539	0	1091
Capacity Analysis Module:												
Vol/Sat:	0.00	0.39	0.11	0.14	0.27	0.00	0.00	0.00	0.00	0.07	0.00	0.20
Crit Moves:					****					****		
Green/Cycle:	0.00	0.48	0.48	0.17	0.64	0.00	0.00	0.00	0.00	0.26	0.00	0.26
Volume/Cap:	0.00	0.81	0.22	0.86	0.42	0.00	0.00	0.00	0.00	0.28	0.00	0.78
Delay/Veh:	0.0	23.7	13.9	60.1	8.0	0.0	0.0	0.0	0.0	27.2	0.0	43.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	23.7	13.9	60.1	8.0	0.0	0.0	0.0	0.0	27.2	0.0	43.9
LOS by Move:	A	C	B	E	A	A	A	A	A	C	A	D
HCM2kAvgQ:	0	15	2	7	5	0	0	0	0	3	0	8

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Baseline Plus Project (Variant 1) PM

Intersection #4: Potrero Ave/23rd St



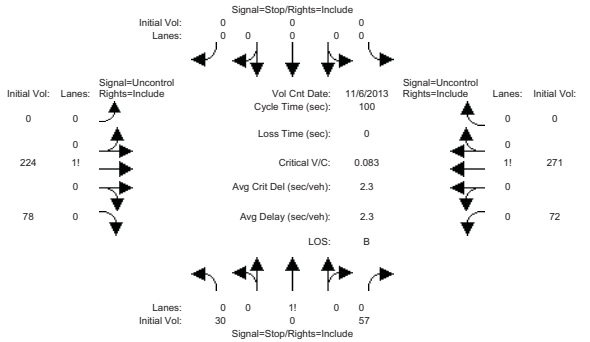
Street Name:	Potrero Ave						23rd St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	0	40	40	14	58	58	0	0	0	23	0	23
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.0	4.0	5.0
Volume Module: >> Count Date: 9 Apr 2013 << 4-6PM												
Base Vol:	0	708	86	137	1271	0	0	0	0	120	0	220
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	708	86	137	1271	0	0	0	0	120	0	220
Added Vol:	0	4	-20	-6	2	0	0	0	0	-14	0	-7
Hospital Re:	0	11	3	1	2	0	0	0	0	10	0	7
Initial Fut:	0	723	69	132	1275	0	0	0	0	116	0	220
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	0	745	71	136	1314	0	0	0	0	120	0	227
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	745	71	136	1314	0	0	0	0	120	0	227
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	745	71	136	1314	0	0	0	0	120	0	227
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.81	0.55	0.81	0.75	1.00	1.00	1.00	1.00	0.81	1.00	0.58
Lanes:	0.00	2.00	1.00	1.00	2.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
Final Sat.:	0	3079	1038	1539	2858	0	0	0	0	1539	0	1099
Capacity Analysis Module:												
Vol/Sat:	0.00	0.24	0.07	0.09	0.46	0.00	0.00	0.00	0.00	0.08	0.00	0.21
Crit Moves:					****					****		
Green/Cycle:	0.00	0.44	0.44	0.20	0.64	0.00	0.00	0.00	0.00	0.26	0.00	0.26
Volume/Cap:	0.00	0.54	0.15	0.44	0.71	0.00	0.00	0.00	0.00	0.30	0.00	0.81
Delay/Veh:	0.0	18.8	15.1	32.6	11.9	0.0	0.0	0.0	0.0	27.5	0.0	47.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	18.8	15.1	32.6	11.9	0.0	0.0	0.0	0.0	27.5	0.0	47.1
LOS by Move:	A	B	B	C	B	A	A	A	A	C	A	D
HCM2kAvgQ:	0	8	1	3	12	0	0	0	0	3	0	8

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Baseline Plus Project (Variant 1) AM

Intersection #5: Utah St/23rd St




```
Street Name:              Utah St                         23rd St
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 6 Nov 2013 << 7-9AM
Base Vol:      30    0    54     0    0    0      0  235    78    40  285     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00 1.00   1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   30    0    54     0    0    0      0  235    78    40  285     0
Added Vol:      0    0     3     0    0    0      0  -28     0     6  -18     0
Hospital Re:    0    0     0     0    0    0      0   17     0    26    4     0
Initial Fut:   30    0    57     0    0    0      0  224    78    72  271     0
User Adj:    1.00 1.00  1.00  1.00 1.00 1.00   1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.95 0.95  0.95  0.95 0.95 0.95   0.95 0.95  0.95  0.95 0.95  0.95
PHF Volume:    32    0    60     0    0    0      0  236    82    76  285     0
Reduct Vol:     0    0     0     0    0    0      0    0     0     0    0     0
FinalVolume:   32    0    60     0    0    0      0  236    82    76  285     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.4  6.5   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  714  714   277  xxxx xxxx xxxxx  xxxx xxxx xxxxx   318 xxxx xxxxx
Potent Cap.:  401  359   767  xxxx xxxx xxxxx  xxxx xxxx xxxxx  1254 xxxx xxxxx
Move Cap.:    382  337   767  xxxx xxxx xxxxx  xxxx xxxx xxxxx  1254 xxxx xxxxx
Volume/Cap:  0.08 0.00  0.08  xxxx xxxx  xxxx  xxxx xxxx  xxxx  0.06 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.2 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.1 xxxx xxxxx
LOS by Move:    *    *     *     *    *    *      *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  569 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.6 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   0.2 xxxx xxxxx
Shrd ConDel:xxxxx 12.5 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.1 xxxx xxxxx
Shared LOS:     *    B     *     *    *    *      *    *     *     A    *     *
ApproachDel:       12.5           xxxxxx           xxxxxx           xxxxxx
ApproachLOS:         B                *                *                *
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
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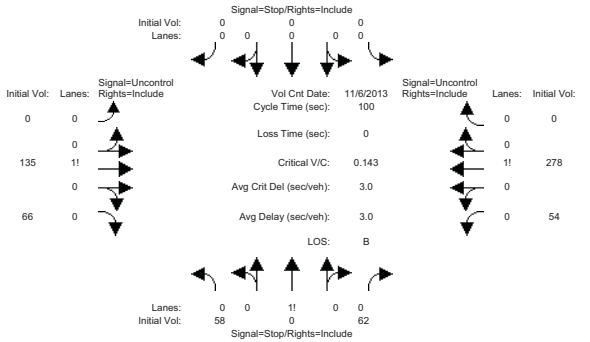
Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Baseline Plus Project (Variant 1) PM

Intersection #5: Utah St/23rd St




```
Street Name:              Utah St                         23rd St
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 6 Nov 2013 << 4-6PM
Base Vol:      58    0    51     0    0    0      0  157    66    44  282     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00 1.00   1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   58    0    51     0    0    0      0  157    66    44  282     0
Added Vol:      0    0     5     0    0    0      0  -26     0     3  -21     0
Hospital Re:    0    0     6     0    0    0      0    4     0     7   17     0
Initial Fut:   58    0    62     0    0    0      0  135    66    54  278     0
User Adj:    1.00 1.00  1.00  1.00 1.00 1.00   1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.91 0.91  0.91  0.91 0.91 0.91   0.91 0.91  0.91  0.91 0.91  0.91
PHF Volume:    64    0    68     0    0    0      0  148    73    59  305     0
Reduct Vol:     0    0     0     0    0    0      0    0     0     0    0     0
FinalVolume:   64    0    68     0    0    0      0  148    73    59  305     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.4  6.5   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  609  609   185  xxxx xxxx xxxxx  xxxx xxxx xxxxx   221 xxxx xxxxx
Potent Cap.:  462  413   863  xxxx xxxx xxxxx  xxxx xxxx xxxxx  1360 xxxx xxxxx
Move Cap.:    446  394   863  xxxx xxxx xxxxx  xxxx xxxx xxxxx  1360 xxxx xxxxx
Volume/Cap:  0.14 0.00  0.08  xxxx xxxx  xxxx  xxxx xxxx  xxxx  0.04 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.1 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.8 xxxx xxxxx
LOS by Move:    *    *     *     *    *    *      *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  594 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.8 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   0.1 xxxx xxxxx
Shrd ConDel:xxxxx 12.8 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.8 xxxx xxxxx
Shared LOS:     *    B     *     *    *    *      *    *     *     A    *     *
ApproachDel:       12.8           xxxxxx           xxxxxx           xxxxxx
ApproachLOS:         B                *                *                *
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
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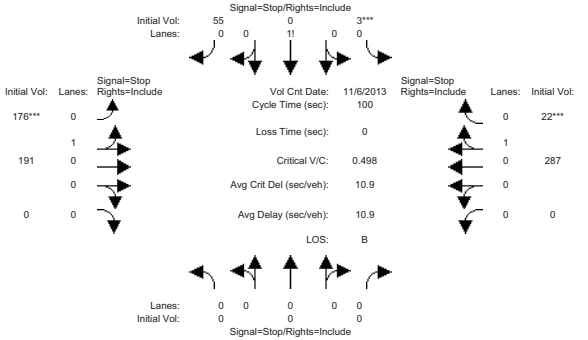
Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Baseline Plus Project (Variant 1) AM

Intersection #6: West Driveway/23rd St

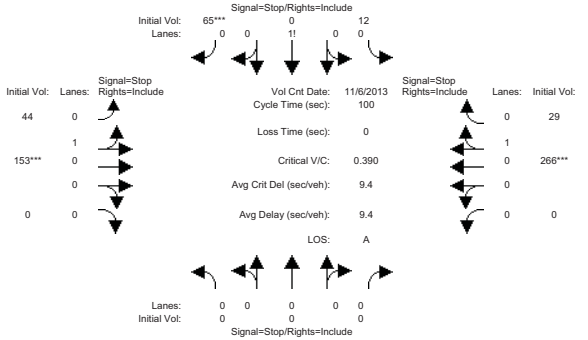



```
Street Name:            West Driveway                    23rd St
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0      0     0     0      0     0     0      0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 6 Nov 2013 << 7-9AM
Base Vol:       0     0     0      7     0    64     92   197     0      0   261    22
Growth Adj:  1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00
Initial Bse:    0     0     0      7     0    64     92   197     0      0   261    22
Added Vol:      0     0     0     -4     0   -13    -20    -6     0      0     0    -6
Hospital Re:    0     0     0      0     0     4    104     0     0      0    26     6
Initial Fut:    0     0     0      3     0    55    176   191     0      0   287    22
User Adj:    1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00
PHF Adj:     0.93  0.93  0.93   0.93  0.93  0.93   0.93  0.93  0.93   0.93  0.93  0.93
PHF Volume:     0     0     0      3     0    59    189   205     0      0   309    24
Reduct Vol:     0     0     0      0     0     0      0     0     0      0     0     0
Reduced Vol:    0     0     0      3     0    59    189   205     0      0   309    24
PCE Adj:     1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00
FinalVolume:    0     0     0      3     0    59    189   205     0      0   309    24
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00
Lanes:       0.00  0.00  0.00   0.05  0.00  0.95   0.48  0.52  0.00   0.00  0.93  0.07
Final Sat.:     0     0     0     35     0   633    380   412     0      0   745    57
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     xxxx  xxxx  xxxx   0.09  xxxx  0.09   0.50  0.50  xxxx   xxxx  0.41  0.41
Crit Moves:                     ****                 ****                     ****
Delay/Veh:    0.0   0.0   0.0    8.3   0.0   8.3   11.7  11.7   0.0    0.0  10.4  10.4
Delay Adj:   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00
AdjDel/Veh:   0.0   0.0   0.0    8.3   0.0   8.3   11.7  11.7   0.0    0.0  10.4  10.4
LOS by Move:    *     *     *      A     *     A      B     B     *      *     B     B
ApproachDel:       xxxxxx             8.3              11.7             10.4
Delay Adj:          xxxxx             1.00             1.00             1.00
ApprAdjDel:        xxxxxx             8.3              11.7             10.4
LOS by Appr:            *               A                B                B
AllWayAvgQ:   0.0   0.0   0.0    0.1   0.1   0.1    0.9   0.9   0.9    0.7   0.7   0.7
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Baseline Plus Project (Variant 1) PM

Intersection #6: West Driveway/23rd St

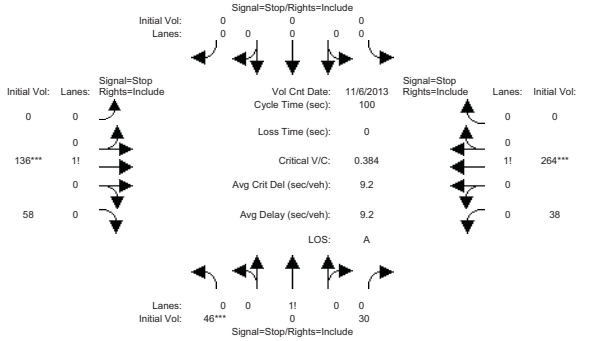



```
Street Name:            West Driveway                    23rd St
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0      0     0     0      0     0     0      0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 6 Nov 2013 << 4-6PM
Base Vol:       0     0     0     11     0    64     58   150     0      0   262    35
Growth Adj:  1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00
Initial Bse:    0     0     0     11     0    64     58   150     0      0   262    35
Added Vol:      0     0     0     -5     0   -16    -18    -3     0      0    -3    -6
Hospital Re:    0     0     0      6     0    17      4     6     0      0     7     0
Initial Fut:    0     0     0     12     0    65     44   153     0      0   266    29
User Adj:    1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00
PHF Adj:     0.91  0.91  0.91   0.91  0.91  0.91   0.91  0.91  0.91   0.91  0.91  0.91
PHF Volume:     0     0     0     13     0    71     48   168     0      0   292    32
Reduct Vol:     0     0     0      0     0     0      0     0     0      0     0     0
Reduced Vol:    0     0     0     13     0    71     48   168     0      0   292    32
PCE Adj:     1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00
FinalVolume:    0     0     0     13     0    71     48   168     0      0   292    32
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00
Lanes:       0.00  0.00  0.00   0.16  0.00  0.84   0.22  0.78  0.00   0.00  0.90  0.10
Final Sat.:     0     0     0    113     0   613    176   613     0      0   749    82
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     xxxx  xxxx  xxxx   0.12  xxxx  0.12   0.27  0.27  xxxx   xxxx  0.39  0.39
Crit Moves:                     ****                 ****                     ****
Delay/Veh:    0.0   0.0   0.0    8.1   0.0   8.1    9.1   9.1   0.0    0.0   9.9   9.9
Delay Adj:   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00
AdjDel/Veh:   0.0   0.0   0.0    8.1   0.0   8.1    9.1   9.1   0.0    0.0   9.9   9.9
LOS by Move:    *     *     *      A     *     A      A     A     *      *     A     A
ApproachDel:       xxxxxx             8.1              9.1              9.9
Delay Adj:          xxxxx             1.00             1.00             1.00
ApprAdjDel:        xxxxxx             8.1              9.1              9.9
LOS by Appr:            *               A                A                A
AllWayAvgQ:   0.0   0.0   0.0    0.1   0.1   0.1    0.4   0.4   0.4    0.6   0.6   0.6
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Baseline Plus Project (Variant 1) AM

Intersection #7: San Bruno Ave/23rd St

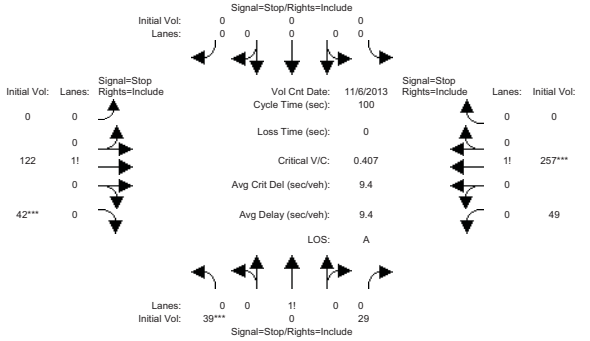



```
Street Name:          San Bruno Ave                    23rd St
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 6 Nov 2013 << 7-9AM
Base Vol:      19     0    30     0     0     0     0   147    57    29   264     0
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   19     0    30     0     0     0     0   147    57    29   264     0
Added Vol:      1     0     0     0     0     0     0   -11     1     0    -6     0
Hospital Re:   26     0     0     0     0     0     0     0     0     9     6     0
Initial Fut:   46     0    30     0     0     0     0   136    58    38   264     0
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     0.96  0.96  0.96  0.96  0.96  0.96  0.96  0.96  0.96  0.96  0.96  0.96
PHF Volume:    48     0    31     0     0     0     0   142    60    40   275     0
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   48     0    31     0     0     0     0   142    60    40   275     0
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   48     0    31     0     0     0     0   142    60    40   275     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.60  0.01  0.39  0.00  0.00  0.00  0.00  0.70  0.30  0.13  0.87  0.00
Final Sat.:   416     0   271     0     0     0     0   583   249   103   717     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.12  0.00  0.12  xxxx  xxxx  xxxx  xxxx  0.24  0.24  0.38  0.38  xxxx
Crit Moves:  ****                                    ****                ****
Delay/Veh:    8.4   8.4   8.4   0.0   0.0   0.0   0.0   8.5   8.5   9.9   9.9   0.0
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   8.4   8.4   8.4   0.0   0.0   0.0   0.0   8.5   8.5   9.9   9.9   0.0
LOS by Move:    A     A     A     *     *     *     *     A     A     A     A     *
ApproachDel:          8.4           xxxxxx              8.5                 9.9
Delay Adj:           1.00            xxxxx             1.00                1.00
ApprAdjDel:           8.4           xxxxxx              8.5                 9.9
LOS by Appr:            A                *                 A                   A
AllWayAvgQ:   0.1   0.1   0.1   0.0   0.0   0.0   0.3   0.3   0.3   0.6   0.6   0.6
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Baseline Plus Project (Variant 1) PM

Intersection #7: San Bruno Ave/23rd St

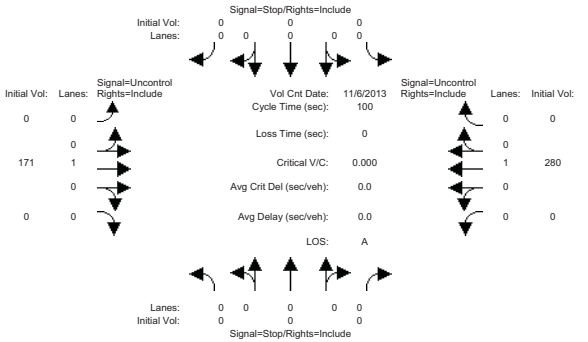



```
Street Name:          San Bruno Ave                    23rd St
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 6 Nov 2013 << 4-6PM
Base Vol:      31     0    26     0     0     0     0   119    42    49   266     0
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   31     0    26     0     0     0     0   119    42    49   266     0
Added Vol:      1     0     0     0     0     0     0    -9     0     0    -9     0
Hospital Re:    7     0     3     0     0     0     0    12     0     0     0     0
Initial Fut:   39     0    29     0     0     0     0   122    42    49   257     0
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     0.91  0.91  0.91  0.91  0.91  0.91  0.91  0.91  0.91  0.91  0.91  0.91
PHF Volume:    43     0    32     0     0     0     0   134    46    54   282     0
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   43     0    32     0     0     0     0   134    46    54   282     0
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   43     0    32     0     0     0     0   134    46    54   282     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.57  0.00  0.43  0.00  0.00  0.00  0.00  0.74  0.26  0.16  0.84  0.00
Final Sat.:   396     0   294     0     0     0     0   613   211   132   695     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.11  xxxx  0.11  xxxx  xxxx  xxxx  xxxx  0.22  0.22  0.41  0.41  xxxx
Crit Moves:  ****                                    ****                ****
Delay/Veh:    8.3   0.0   8.3   0.0   0.0   0.0   0.0   8.4   8.4  10.1  10.1   0.0
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   8.3   0.0   8.3   0.0   0.0   0.0   0.0   8.4   8.4  10.1  10.1   0.0
LOS by Move:    A     *     A     *     *     *     *     A     A     B     B     *
ApproachDel:          8.3           xxxxxx              8.4                10.1
Delay Adj:           1.00            xxxxx             1.00                1.00
ApprAdjDel:           8.3           xxxxxx              8.4                10.1
LOS by Appr:            A                *                 A                   B
AllWayAvgQ:   0.1   0.1   0.1   0.0   0.0   0.0   0.3   0.3   0.3   0.7   0.7   0.7
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Baseline Plus Project (Variant 1) AM

Intersection #8: East Driveway/23rd St

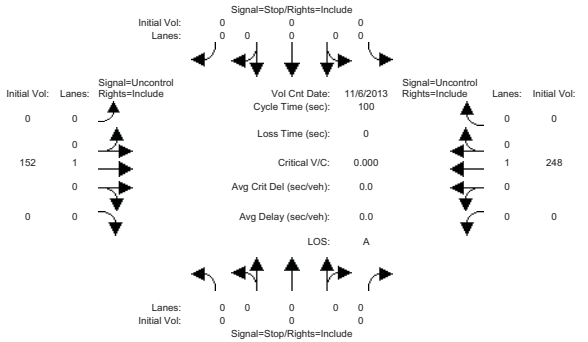



```
Street Name:          East Driveway                    23rd St
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|--------------||--------------||--------------||--------------|
Volume Module: >> Count Date: 6 Nov 2013 << 7-9AM
Base Vol:       0     0     0     1     0     6     8   173     0     0   265     4
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    0     0     0     1     0     6     8   173     0     0   265     4
Added Vol:      0     0     0    -2     0    -6   -10    -2     0     0     0    -4
PasserByVol:    0     0     0     1     0     0     2     0     0     0    15     0
Initial Fut:    0     0     0     0     0     0     0   171     0     0   280     0
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     0.94  0.94  0.94  0.94  0.94  0.94  0.94  0.94  0.94  0.94  0.94  0.94
PHF Volume:     0     0     0     0     0     0     0   182     0     0   298     0
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
FinalVolume:    0     0     0     0     0     0     0   182     0     0   298     0
------------|--------------||--------------||--------------||--------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|--------------||--------------||--------------||--------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  xxxx
------------|--------------||--------------||--------------||--------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *     *     *     *     *     *     *     *     *     *     *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   0.0 xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.2 xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *     *     *     *     *     *     A     *     *     *     *     *
ApproachDel:    xxxxxx            xxxxxx            xxxxxx            xxxxxx
ApproachLOS:         *                 *                 *                 *
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Baseline Plus Project (Variant 1) PM

Intersection #8: East Driveway/23rd St

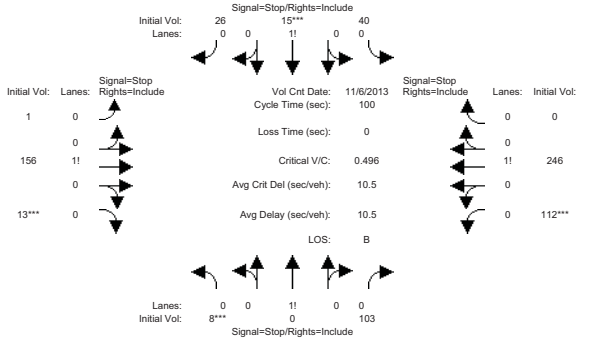



```
Street Name:          East Driveway                    23rd St
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|--------------||--------------||--------------||--------------|
Volume Module: >> Count Date: 6 Nov 2013 << 4-6PM
Base Vol:       0     0     0     4     0     8    10   137     0     0   251     3
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    0     0     0     4     0     8    10   137     0     0   251     3
Added Vol:      0     0     0    -3     0    -7    -9     0     0     0    -3    -4
Hospital Re:    0     0     0    -1     0    -1    -1    15     0     0     0     1
Initial Fut:    0     0     0     0     0     0     0   152     0     0   248     0
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     0.92  0.92  0.92  0.92  0.92  0.92  0.92  0.92  0.92  0.92  0.92  0.92
PHF Volume:     0     0     0     0     0     0     0   165     0     0   270     0
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
FinalVolume:    0     0     0     0     0     0     0   165     0     0   270     0
------------|--------------||--------------||--------------||--------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4   6.5   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5   4.0   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|--------------||--------------||--------------||--------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   435   435   270  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   582   518   774  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   582   518   774  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.00  0.00  0.00  xxxx xxxx  xxxx  xxxx xxxx  xxxx
------------|--------------||--------------||--------------||--------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *     *     *     *     *     *     *     *     *     *     *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx     0 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   0.0 xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.2 xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *     *     *     *     *     *     A     *     *     *     *     *
ApproachDel:    xxxxxx            xxxxxx            xxxxxx            xxxxxx
ApproachLOS:         *                 *                 *                 *
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Baseline Plus Project (Variant 1) AM

Intersection #9: Vermont St/23rd St

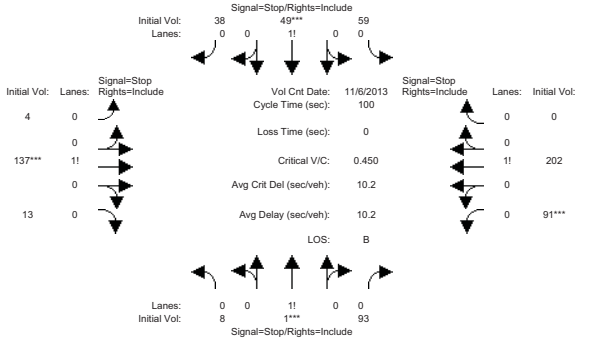



```
Street Name:            Vermont St                  23rd St
Approach:       North Bound     South Bound     East Bound      West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 6 Nov 2013 << 7-9AM
Base Vol:       8     0   103    40    15    26     1   160    13   112   235     0
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    8     0   103    40    15    26     1   160    13   112   235     0
Added Vol:      0     0     0     0     0     0     0    -4     0     0    -4     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0    15     0
Initial Fut:    8     0   103    40    15    26     1   156    13   112   246     0
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     0.96  0.96  0.96  0.96  0.96  0.96  0.96  0.96  0.96  0.96  0.96  0.96
PHF Volume:     8     0   107    42    16    27     1   163    14   117   256     0
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:    8     0   107    42    16    27     1   163    14   117   256     0
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:    8     0   107    42    16    27     1   163    14   117   256     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.07  0.00  0.93  0.49  0.19  0.32  0.01  0.92  0.07  0.31  0.69  0.00
Final Sat.:    50     0   637   309   116   201     4   659    55   235   516     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.17  xxxx  0.17  0.14  0.14  0.14  0.25  0.25  0.25  0.50  0.50  xxxx
Crit Moves:  ****                ****                      ****  ****
Delay/Veh:    8.6   0.0   8.6   8.9   8.9   8.9   9.2   9.2   9.2  12.0  12.0   0.0
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   8.6   0.0   8.6   8.9   8.9   8.9   9.2   9.2   9.2  12.0  12.0   0.0
LOS by Move:    A     *     A     A     A     A     A     A     A     B     B     *
ApproachDel:          8.6               8.9               9.2              12.0
Delay Adj:           1.00              1.00              1.00              1.00
ApprAdjDel:           8.6               8.9               9.2              12.0
LOS by Appr:            A                 A                 A                 B
AllWayAvgQ:   0.2   0.2   0.2   0.1   0.1   0.1   0.3   0.3   0.3   0.9   0.9   0.9
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Baseline Plus Project (Variant 1) PM

Intersection #9: Vermont St/23rd St

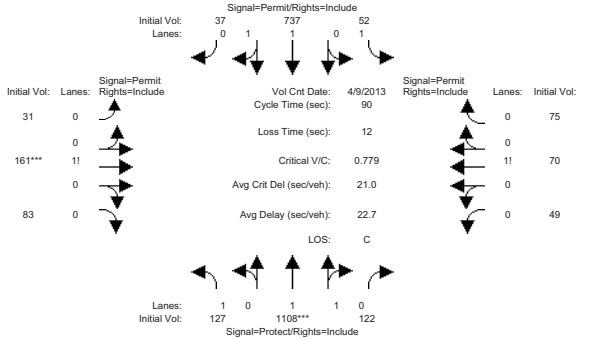



```
Street Name:            Vermont St                  23rd St
Approach:       North Bound     South Bound     East Bound      West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 6 Nov 2013 << 4-6PM
Base Vol:       8     1    93    59    49    38     4   124    13    91   208     0
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    8     1    93    59    49    38     4   124    13    91   208     0
Added Vol:      0     0     0     0     0     0     0    -2     0     0    -6     0
Hospital Re:    0     0     0     0     0     0     0    15     0     0     0     0
Initial Fut:    8     1    93    59    49    38     4   137    13    91   202     0
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     0.91  0.91  0.91  0.91  0.91  0.91  0.91  0.91  0.91  0.91  0.91  0.91
PHF Volume:     9     1   102    65    54    42     4   151    14   100   222     0
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:    9     1   102    65    54    42     4   151    14   100   222     0
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:    9     1   102    65    54    42     4   151    14   100   222     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.08  0.01  0.91  0.40  0.34  0.26  0.03  0.89  0.08  0.31  0.69  0.00
Final Sat.:    53     7   621   262   217   169    18   612    58   222   493     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.16  0.16  0.16  0.25  0.25  0.25  0.25  0.25  0.25  0.45  0.45  xxxx
Crit Moves:       ****              ****              ****              ****
Delay/Veh:    8.6   8.6   8.6   9.7   9.7   9.7   9.4   9.4   9.4  11.5  11.5   0.0
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   8.6   8.6   8.6   9.7   9.7   9.7   9.4   9.4   9.4  11.5  11.5   0.0
LOS by Move:    A     A     A     A     A     A     A     A     A     B     B     *
ApproachDel:          8.6               9.7               9.4              11.5
Delay Adj:           1.00              1.00              1.00              1.00
ApprAdjDel:           8.6               9.7               9.4              11.5
LOS by Appr:            A                 A                 A                 B
AllWayAvgQ:   0.2   0.2   0.2   0.3   0.3   0.3   0.3   0.3   0.3   0.7   0.7   0.7
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Baseline Plus Project (Variant 1) AM

Intersection #10: Potrero Ave/24th St



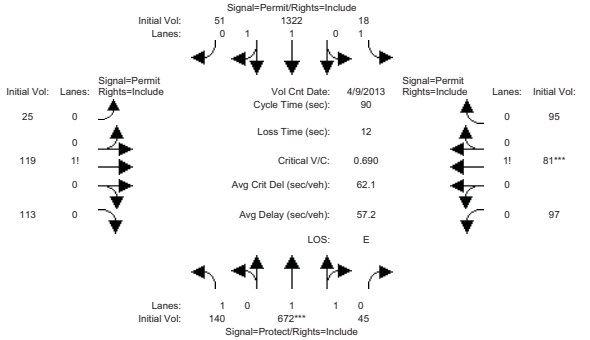
Street Name:	Potrero Ave						24th St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	53	53	42	42	42	25	25	25	25	25	25
Y+R:	4.0	7.0	7.0	7.0	7.0	7.0	5.0	5.0	5.0	5.0	5.0	5.0
Volume Module: >> Count Date: 9 Apr 2013 << 7-9AM												
Base Vol:	127	1119	96	37	745	38	31	161	83	39	70	71
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	127	1119	96	37	745	38	31	161	83	39	70	71
Added Vol:	0	-21	11	4	-11	-1	0	0	0	5	0	2
Hospital Re:	0	10	15	11	3	0	0	0	0	5	0	2
Initial Fut:	127	1108	122	52	737	37	31	161	83	49	70	75
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	131	1142	126	54	760	38	32	166	86	51	72	77
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	131	1142	126	54	760	38	32	166	86	51	72	77
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	131	1142	126	54	760	38	32	166	86	51	72	77
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.81	0.74	0.73	0.12	0.75	0.73	0.67	0.68	0.65	0.56	0.57	0.55
Lanes:	1.00	1.80	0.20	1.00	1.90	0.10	0.11	0.58	0.31	0.25	0.35	0.40
Final Sat.:	1539	2533	279	219	2700	136	143	742	382	267	381	408
Capacity Analysis Module:												
Vol/Sat:	0.09	0.45	0.45	0.24	0.28	0.28	0.22	0.22	0.22	0.19	0.19	0.19
Crit Moves:		****						****				
Green/Cycle:	0.12	0.59	0.59	0.47	0.47	0.47	0.28	0.28	0.28	0.28	0.28	0.28
Volume/Cap:	0.70	0.77	0.77	0.52	0.60	0.60	0.81	0.81	0.81	0.68	0.68	0.68
Delay/Veh:	48.7	16.1	16.1	21.9	18.6	18.6	43.0	43.0	43.0	35.4	35.4	35.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	48.7	16.1	16.1	21.9	18.6	18.6	43.0	43.0	43.0	35.4	35.4	35.4
LOS by Move:	D	B	B	C	B	B	D	D	D	D	D	D
HCM2kAvgQ:	3	13	13	1	9	8	10	10	9	6	6	6

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Baseline Plus Project (Variant 1) PM

Intersection #10: Potrero Ave/24th St



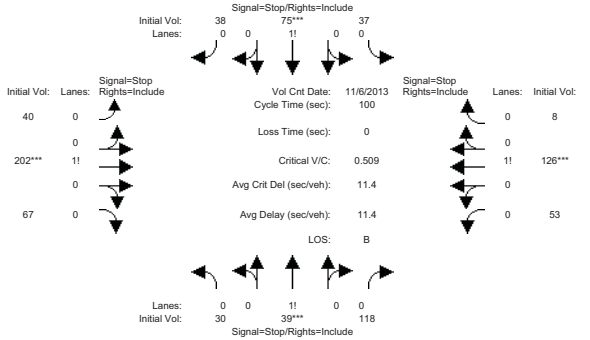
Street Name:	Potrero Ave						24th St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	55	55	44	44	44	23	23	23	23	23	23
Y+R:	4.0	7.0	7.0	7.0	7.0	7.0	5.0	5.0	5.0	5.0	5.0	5.0
Volume Module: >> Count Date: 9 Apr 2013 << 4-6PM												
Base Vol:	140	689	34	14	1325	52	25	119	113	71	81	80
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	140	689	34	14	1325	52	25	119	113	71	81	80
Added Vol:	0	-20	6	2	-13	-1	0	0	0	11	0	4
Hospital Re:	0	3	5	2	10	0	0	0	0	15	0	11
Initial Fut:	140	672	45	18	1322	51	25	119	113	97	81	95
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
PHF Volume:	146	700	47	19	1377	53	26	124	118	101	84	99
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	146	700	47	19	1377	53	26	124	118	101	84	99
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	146	700	47	19	1377	53	26	124	118	101	84	99
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.81	0.75	0.74	0.27	0.75	0.74	0.66	0.67	0.62	0.44	0.46	0.45
Lanes:	1.00	1.87	0.13	1.00	1.92	0.08	0.09	0.45	0.46	0.36	0.29	0.35
Final Sat.:	1539	2653	178	508	2734	105	119	567	538	303	253	296
Capacity Analysis Module:												
Vol/Sat:	0.09	0.26	0.26	0.04	0.50	0.50	0.22	0.22	0.22	0.33	0.33	0.33
Crit Moves:		****									****	
Green/Cycle:	0.12	0.61	0.61	0.49	0.49	0.49	0.26	0.26	0.26	0.26	0.26	0.26
Volume/Cap:	0.78	0.43	0.43	0.08	1.03	1.03	0.86	0.86	0.86	1.31	1.31	1.31
Delay/Veh:	56.4	9.4	9.4	12.3	55.3	55.3	52.0	52.0	52.0	200.4	200	200.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	56.4	9.4	9.4	12.3	55.3	55.3	52.0	52.0	52.0	200.4	200	200.4
LOS by Move:	E	A	A	B	E	E	D	D	D	F	F	F
HCM2kAvgQ:	4	6	6	0	26	26	10	10	10	18	19	18

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Baseline Plus Project (Variant 1) AM

Intersection #11: Utah St/24th St



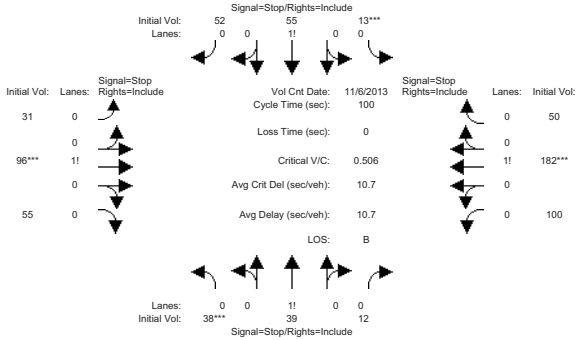
Street Name:	Utah St						24th St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 6 Nov 2013 << 7-9AM												
Base Vol:	24	36	118	37	43	38	40	194	60	44	118	8
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	24	36	118	37	43	38	40	194	60	44	118	8
Added Vol:	3	3	0	0	6	0	0	8	7	0	4	0
Hospital Re:	3	0	0	0	26	0	0	0	0	9	4	0
Initial Fut:	30	39	118	37	75	38	40	202	67	53	126	8
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	33	43	131	41	83	42	44	224	74	59	140	9
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	33	43	131	41	83	42	44	224	74	59	140	9
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	33	43	131	41	83	42	44	224	74	59	140	9
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.16	0.21	0.63	0.25	0.50	0.25	0.13	0.65	0.22	0.28	0.68	0.04
Final Sat.:	101	132	399	146	297	150	87	441	146	176	419	27
Capacity Analysis Module:												
Vol/Sat:	0.33	0.33	0.33	0.28	0.28	0.28	0.51	0.51	0.51	0.33	0.33	0.33
Crit Moves:		****			****			****			****	
Delay/Veh:	10.4	10.4	10.4	10.4	10.4	10.4	12.8	12.8	12.8	10.8	10.8	10.8
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	10.4	10.4	10.4	10.4	10.4	10.4	12.8	12.8	12.8	10.8	10.8	10.8
LOS by Move:	B	B	B	B	B	B	B	B	B	B	B	B
ApproachDel:	10.4			10.4			12.8			10.8		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	10.4			10.4			12.8			10.8		
LOS by Appr:	B			B			B			B		
AllWayAvgQ:	0.4	0.4	0.4	0.3	0.3	0.3	0.9	0.9	0.9	0.4	0.4	0.4

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Baseline Plus Project (Variant 1) PM

Intersection #11: Utah St/24th St



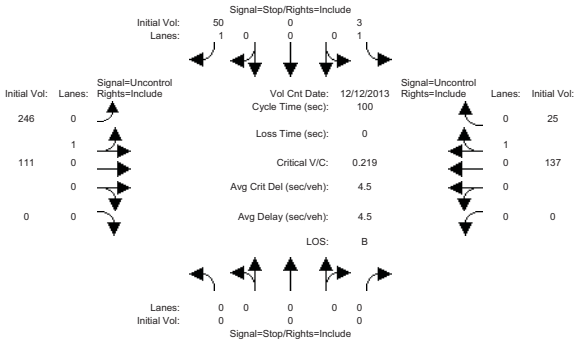
Street Name:	Utah St						24th St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 6 Nov 2013 << 4-6PM												
Base Vol:	20	28	12	13	45	52	31	85	51	100	160	50
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	20	28	12	13	45	52	31	85	51	100	160	50
Added Vol:	7	5	0	0	3	0	0	4	4	0	7	0
Hospital Re:	11	6	0	0	7	0	0	7	0	0	15	0
Initial Fut:	38	39	12	13	55	52	31	96	55	100	182	50
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
PHF Volume:	43	44	13	15	62	58	35	108	62	112	204	56
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	43	44	13	15	62	58	35	108	62	112	204	56
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	43	44	13	15	62	58	35	108	62	112	204	56
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.43	0.44	0.13	0.11	0.46	0.43	0.17	0.53	0.30	0.30	0.55	0.15
Final Sat.:	255	262	81	69	291	275	121	374	214	222	404	111
Capacity Analysis Module:												
Vol/Sat:	0.17	0.17	0.17	0.21	0.21	0.21	0.29	0.29	0.29	0.51	0.51	0.51
Crit Moves:	****			****				****			****	
Delay/Veh:	9.4	9.4	9.4	9.4	9.4	9.4	9.6	9.6	9.6	12.2	12.2	12.2
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	9.4	9.4	9.4	9.4	9.4	9.4	9.6	9.6	9.6	12.2	12.2	12.2
LOS by Move:	A	A	A	A	A	A	A	A	A	B	B	B
ApproachDel:	9.4			9.4			9.6			12.2		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	9.4			9.4			9.6			12.2		
LOS by Appr:	A			A			A			B		
AllWayAvgQ:	0.2	0.2	0.2	0.2	0.2	0.2	0.4	0.4	0.4	0.9	0.9	0.9

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Baseline Plus Project (Variant 1) AM

Intersection #12: Parking Garage Driveway (S)/24th St

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Street Name:   Parking Garage Driveway (S)              24th St
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|--------------||--------------||--------------||--------------|
Volume Module: >> Count Date: 12 Dec 2013 << 7-9AM
Base Vol:       0     0     0     3     0    50   246   103     0     0   120    25
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    0     0     0     3     0    50   246   103     0     0   120    25
Added Vol:      0     0     0     0     0     0     0     8     0     0     4     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0    13     0
Initial Fut:    0     0     0     3     0    50   246   111     0     0   137    25
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     0.81  0.81  0.81  0.81  0.81  0.81  0.81  0.81  0.81  0.81  0.81  0.81
PHF Volume:     0     0     0     4     0    62   304   137     0     0   169    31
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
FinalVolume:    0     0     0     4     0    62   304   137     0     0   169    31
------------|--------------||--------------||--------------||--------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4 xxxx   6.2   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5 xxxx   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|--------------||--------------||--------------||--------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   929 xxxx   185   200 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   300 xxxx   863  1384 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   238 xxxx   863  1384 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.02 xxxx  0.07  0.22 xxxx  xxxx  xxxx xxxx  xxxx
------------|--------------||--------------||--------------||--------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx   0.0 xxxx   0.2   0.8 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx  20.3 xxxx   9.5   8.3 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *     *     *     C     *     A     A     *     *     *     *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   0.8 xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.3 xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *     *     *     *     *     *     A     *     *     *     *     *
ApproachDel:    xxxxxx            10.1            xxxxxx            xxxxxx
ApproachLOS:         *               B                 *                 *
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
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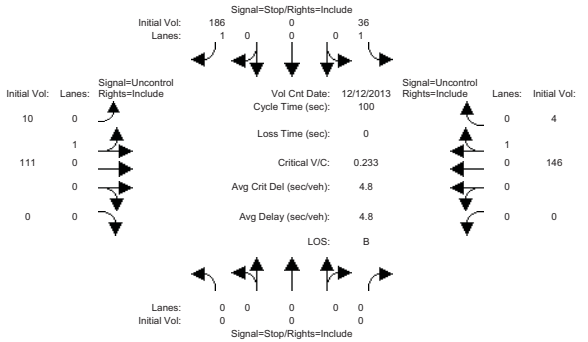
Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Baseline Plus Project (Variant 1) PM

Intersection #12: Parking Garage Driveway (S)/24th St

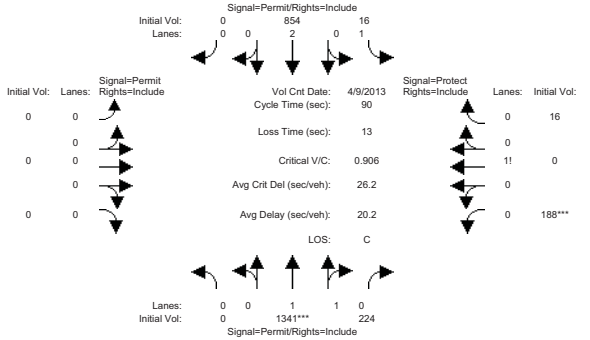



```
Street Name:   Parking Garage Driveway (S)              24th St
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|--------------||--------------||--------------||--------------|
Volume Module: >> Count Date: 12 Dec 2013 << 4-6PM
Base Vol:       0     0     0    36     0   186    10   100     0     0   124     4
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    0     0     0    36     0   186    10   100     0     0   124     4
Added Vol:      0     0     0     0     0     0     0     4     0     0     7     0
Hospital Re:    0     0     0     0     0     0     0     7     0     0    15     0
Initial Fut:    0     0     0    36     0   186    10   111     0     0   146     4
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     0.90  0.90  0.90  0.90  0.90  0.90  0.90  0.90  0.90  0.90  0.90  0.90
PHF Volume:     0     0     0    40     0   207    11   123     0     0   162     4
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
FinalVolume:    0     0     0    40     0   207    11   123     0     0   162     4
------------|--------------||--------------||--------------||--------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4 xxxx   6.2   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5 xxxx   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|--------------||--------------||--------------||--------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   310 xxxx   164   167 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   687 xxxx   885  1424 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   682 xxxx   885  1424 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.06 xxxx  0.23  0.01 xxxx  xxxx  xxxx xxxx  xxxx
------------|--------------||--------------||--------------||--------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx   0.2 xxxx   0.9   0.0 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx  10.6 xxxx  10.3   7.5 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *     *     *     B     *     B     A     *     *     *     *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   0.0 xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.5 xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *     *     *     *     *     *     A     *     *     *     *     *
ApproachDel:    xxxxxx            10.3            xxxxxx            xxxxxx
ApproachLOS:         *               B                 *                 *
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Baseline Plus Project (Variant 1) AM

Intersection #13: Potrero Ave/25th St



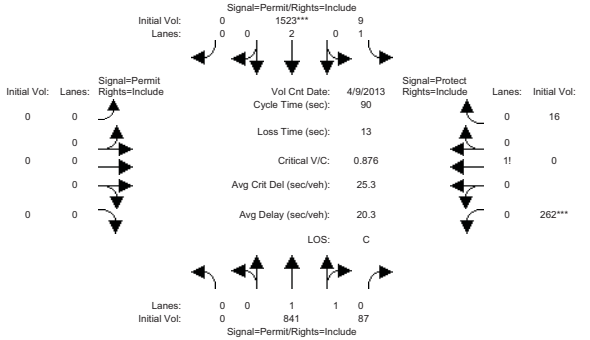
Street Name:	Potrero Ave						25th St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	59	59	59	59	59	59	0	0	0	18	18	18
Y+R:	8.0	8.0	8.0	8.0	8.0	8.0	4.0	4.0	4.0	5.0	5.0	5.0
Volume Module: >> Count Date: 9 Apr 2013 << 7-9AM												
Base Vol:	0	1326	224	16	851	0	0	0	0	188	0	16
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1326	224	16	851	0	0	0	0	188	0	16
Added Vol:	0	-10	0	0	-5	0	0	0	0	0	0	0
PasserByVol:	0	25	0	0	8	0	0	0	0	0	0	0
Initial Fut:	0	1341	224	16	854	0	0	0	0	188	0	16
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	0	1458	243	17	928	0	0	0	0	204	0	17
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1458	243	17	928	0	0	0	0	204	0	17
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1458	243	17	928	0	0	0	0	204	0	17
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.74	0.72	0.07	0.76	1.00	1.00	1.00	1.00	0.71	1.00	0.70
Lanes:	0.00	1.71	0.29	1.00	2.00	0.00	0.00	0.00	0.00	0.92	0.00	0.08
Final Sat.:	0	2392	399	134	2887	0	0	0	0	1235	0	105
Capacity Analysis Module:												
Vol/Sat:	0.00	0.61	0.61	0.13	0.32	0.00	0.00	0.00	0.00	0.17	0.00	0.17
Crit Moves:		****								****		
Green/Cycle:	0.00	0.66	0.66	0.66	0.66	0.00	0.00	0.00	0.00	0.20	0.00	0.20
Volume/Cap:	0.00	0.93	0.93	0.20	0.49	0.00	0.00	0.00	0.00	0.83	0.00	0.83
Delay/Veh:	0.0	22.7	22.7	7.3	8.1	0.0	0.0	0.0	0.0	53.2	0.0	53.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	22.7	22.7	7.3	8.1	0.0	0.0	0.0	0.0	53.2	0.0	53.2
LOS by Move:	A	C	C	A	A	A	A	A	A	D	A	D
HCM2kAvgQ:	0	27	27	0	7	0	0	0	0	8	0	2

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Baseline Plus Project (Variant 1) PM

Intersection #13: Potrero Ave/25th St



Street Name:	Potrero Ave						25th St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	55	55	55	55	55	55	0	0	0	22	22	22
Y+R:	8.0	8.0	8.0	8.0	8.0	8.0	4.0	4.0	4.0	5.0	5.0	5.0
Volume Module: >> Count Date: 9 Apr 2013 << 4-6PM												
Base Vol:	0	847	87	9	1500	0	0	0	0	262	0	16
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	847	87	9	1500	0	0	0	0	262	0	16
Added Vol:	0	-14	0	0	-2	0	0	0	0	0	0	0
Hospital Re:	0	8	0	0	25	0	0	0	0	0	0	0
Initial Fut:	0	841	87	9	1523	0	0	0	0	262	0	16
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
PHF Volume:	0	858	89	9	1554	0	0	0	0	267	0	16
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	858	89	9	1554	0	0	0	0	267	0	16
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	858	89	9	1554	0	0	0	0	267	0	16
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.74	0.74	0.22	0.76	1.00	1.00	1.00	1.00	0.71	1.00	0.70
Lanes:	0.00	1.81	0.19	1.00	2.00	0.00	0.00	0.00	0.00	0.94	0.00	0.06
Final Sat.:	0	2552	264	425	2887	0	0	0	0	1266	0	77
Capacity Analysis Module:												
Vol/Sat:	0.00	0.34	0.34	0.02	0.54	0.00	0.00	0.00	0.00	0.21	0.00	0.21
Crit Moves:					****					****		
Green/Cycle:	0.00	0.61	0.61	0.61	0.61	0.00	0.00	0.00	0.00	0.24	0.00	0.24
Volume/Cap:	0.00	0.55	0.55	0.04	0.88	0.00	0.00	0.00	0.00	0.86	0.00	0.86
Delay/Veh:	0.0	10.6	10.6	7.0	20.3	0.0	0.0	0.0	0.0	53.0	0.0	53.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	10.6	10.6	7.0	20.3	0.0	0.0	0.0	0.0	53.0	0.0	53.0
LOS by Move:	A	B	B	A	C	A	A	A	A	D	A	D
HCM2kAvgQ:	0	9	8	0	18	0	0	0	0	10	0	2

Note: Queue reported is the number of cars per lane.

Near Term Plus On-Site Alternative (On-Site Parking, No Garage Expansion)

In previous drafts, On-Site Alternative was called Variant 3.

San Francisco General Hospital EIR
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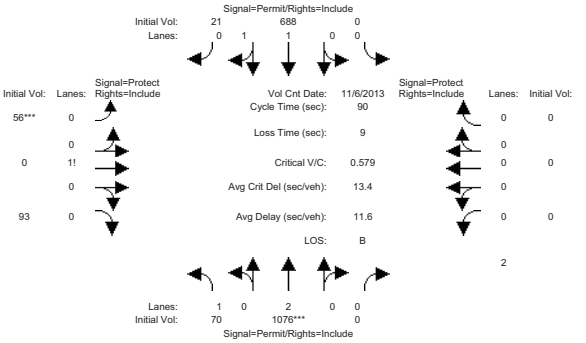
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Baseline Plus Project (Variant 3) AM

Intersection #1: Potrero Ave/20th St



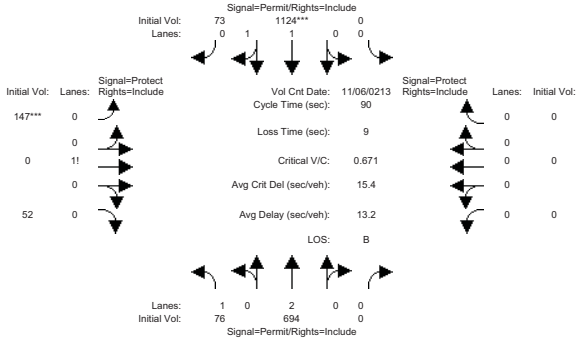
Street Name:	Potrero Ave						20th St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	56	56	56	56	56	56	25	25	25	0	0	0
Y+R:	4.5	4.5	4.5	4.5	4.5	4.5	5.0	5.0	5.0	4.0	4.0	4.0
Volume Module: >> Count Date: 6 Nov 2013 << 7-9AM												
Base Vol:	70	1070	0	0	663	21	56	0	92	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	70	1070	0	0	663	21	56	0	92	0	0	0
Added Vol:	0	3	0	0	8	0	0	0	0	0	0	0
Hospital Re:	0	3	0	0	17	0	0	0	1	0	0	0
Initial Fut:	70	1076	0	0	688	21	56	0	93	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	74	1133	0	0	724	22	59	0	98	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	74	1133	0	0	724	22	59	0	98	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	74	1133	0	0	724	22	59	0	98	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.28	0.75	1.00	1.00	0.75	0.75	0.67	1.00	0.66	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	0.00	1.94	0.06	0.37	0.00	0.63	0.00	0.00	0.00
Final Sat.:	530	2858	0	0	2762	84	472	0	784	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.14	0.40	0.00	0.00	0.26	0.26	0.12	0.00	0.12	0.00	0.00	0.00
Crit Moves:		****					****					
Green/Cycle:	0.62	0.62	0.00	0.00	0.62	0.62	0.28	0.00	0.28	0.00	0.00	0.00
Volume/Cap:	0.22	0.64	0.00	0.00	0.42	0.42	0.45	0.00	0.45	0.00	0.00	0.00
Delay/Veh:	7.8	11.4	0.0	0.0	8.9	8.9	27.7	0.0	27.7	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	7.8	11.4	0.0	0.0	8.9	8.9	27.7	0.0	27.7	0.0	0.0	0.0
LOS by Move:	A	B	A	A	A	A	C	A	C	A	A	A
HCM2kAvgQ:	1	11	0	0	6	6	4	0	4	0	0	0

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Baseline Plus Project (Variant 3) PM

Intersection #1: Potrero Ave/20th St



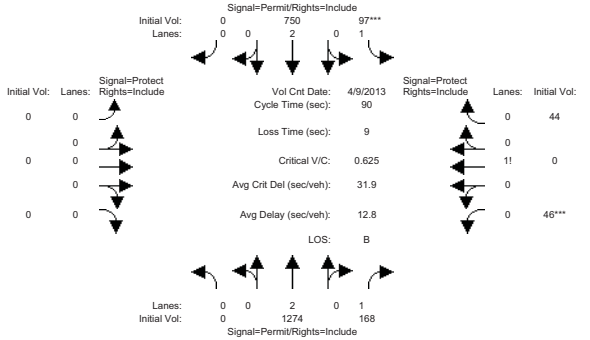
Street Name:	Potrero Ave						20th St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	56	56	56	56	56	56	25	25	25	0	0	0
Y+R:	4.5	4.5	4.5	4.5	4.5	4.5	5.0	5.0	5.0	4.0	4.0	4.0
Volume Module: >> Count Date: 6 Nov 213 << 4-6PM												
Base Vol:	75	664	0	0	1120	73	147	0	52	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	75	664	0	0	1120	73	147	0	52	0	0	0
Added Vol:	0	13	0	0	1	0	0	0	0	0	0	0
PasserByVol:	1	17	0	0	3	0	0	0	0	0	0	0
Initial Fut:	76	694	0	0	1124	73	147	0	52	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	80	731	0	0	1183	77	155	0	55	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	80	731	0	0	1183	77	155	0	55	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	80	731	0	0	1183	77	155	0	55	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.14	0.75	1.00	1.00	0.75	0.74	0.69	1.00	0.69	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	0.00	1.88	0.12	0.74	0.00	0.26	0.00	0.00	0.00
Final Sat.:	260	2858	0	0	2659	173	972	0	344	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.31	0.26	0.00	0.00	0.45	0.45	0.16	0.00	0.16	0.00	0.00	0.00
Crit Moves:					****		****					
Green/Cycle:	0.62	0.62	0.00	0.00	0.62	0.62	0.28	0.00	0.28	0.00	0.00	0.00
Volume/Cap:	0.49	0.41	0.00	0.00	0.72	0.72	0.57	0.00	0.57	0.00	0.00	0.00
Delay/Veh:	11.6	8.8	0.0	0.0	13.0	13.0	30.1	0.0	30.1	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	11.6	8.8	0.0	0.0	13.0	13.0	30.1	0.0	30.1	0.0	0.0	0.0
LOS by Move:	B	A	A	A	B	B	C	A	C	A	A	A
HCM2kAvgQ:	2	6	0	0	14	14	6	0	6	0	0	0

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Baseline Plus Project (Variant 3) AM

Intersection #2: Potrero Ave/22nd St (N)



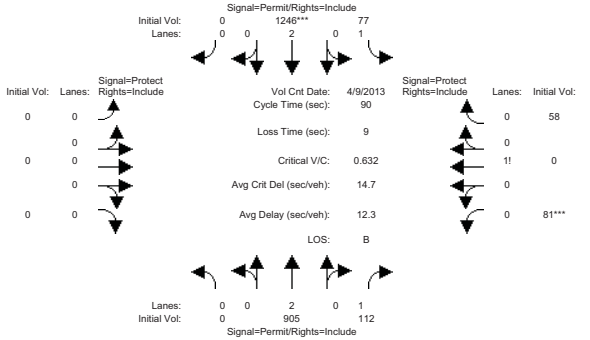
Street Name:	Potrero Ave						22nd St (N)					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	56	56	56	56	56	56	0	0	0	25	25	25
Y+R:	4.5	4.5	4.5	4.5	4.5	4.5	4.0	4.0	4.0	5.0	5.0	5.0
Volume Module: >> Count Date: 9 Apr 2013 << 7-9AM												
Base Vol:	0	1267	168	97	723	0	0	0	0	46	0	44
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1267	168	97	723	0	0	0	0	46	0	44
Added Vol:	0	4	0	0	9	0	0	0	0	0	0	0
Hospital Re:	0	3	0	0	18	0	0	0	0	0	0	0
Initial Fut:	0	1274	168	97	750	0	0	0	0	46	0	44
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	0	1370	181	104	806	0	0	0	0	49	0	47
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1370	181	104	806	0	0	0	0	49	0	47
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1370	181	104	806	0	0	0	0	49	0	47
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.81	0.58	0.11	0.76	1.00	1.00	1.00	1.00	0.68	1.00	0.65
Lanes:	0.00	2.00	1.00	1.00	2.00	0.00	0.00	0.00	0.00	0.50	0.00	0.50
Final Sat.:	0	3079	1098	215	2887	0	0	0	0	645	0	617
Capacity Analysis Module:												
Vol/Sat:	0.00	0.44	0.16	0.49	0.28	0.00	0.00	0.00	0.00	0.08	0.00	0.08
Crit Moves:				****						****		
Green/Cycle:	0.00	0.62	0.62	0.62	0.62	0.00	0.00	0.00	0.00	0.28	0.00	0.28
Volume/Cap:	0.00	0.72	0.26	0.78	0.45	0.00	0.00	0.00	0.00	0.28	0.00	0.28
Delay/Veh:	0.0	12.9	7.9	37.4	9.1	0.0	0.0	0.0	0.0	25.9	0.0	25.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	12.9	7.9	37.4	9.1	0.0	0.0	0.0	0.0	25.9	0.0	25.9
LOS by Move:	A	B	A	D	A	A	A	A	A	C	A	C
HCM2kAvgQ:	0	13	2	4	6	0	0	0	0	2	0	2

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Baseline Plus Project (Variant 3) PM

Intersection #2: Potrero Ave/22nd St (N)



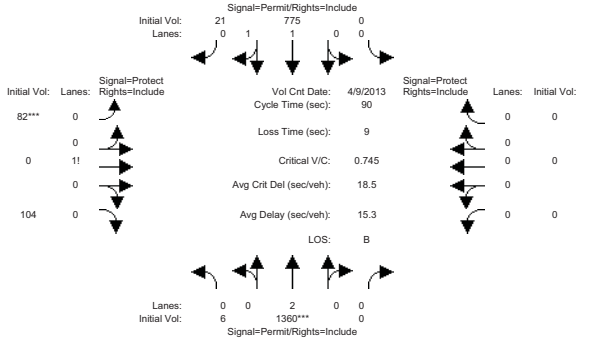
Street Name:	Potrero Ave						22nd St (N)					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	56	56	56	56	56	56	0	0	0	25	25	25
Y+R:	4.5	4.5	4.5	4.5	4.5	4.5	4.0	4.0	4.0	5.0	5.0	5.0
Volume Module: >> Count Date: 9 Apr 2013 << 4-6PM												
Base Vol:	0	873	112	77	1242	0	0	0	0	81	0	58
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	873	112	77	1242	0	0	0	0	81	0	58
Added Vol:	0	14	0	0	1	0	0	0	0	0	0	0
Hospital Re:	0	18	0	0	3	0	0	0	0	0	0	0
Initial Fut:	0	905	112	77	1246	0	0	0	0	81	0	58
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	953	118	81	1312	0	0	0	0	85	0	61
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	953	118	81	1312	0	0	0	0	85	0	61
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	953	118	81	1312	0	0	0	0	85	0	61
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.81	0.59	0.22	0.76	1.00	1.00	1.00	1.00	0.68	1.00	0.66
Lanes:	0.00	2.00	1.00	1.00	2.00	0.00	0.00	0.00	0.00	0.57	0.00	0.43
Final Sat.:	0	3079	1126	413	2887	0	0	0	0	746	0	534
Capacity Analysis Module:												
Vol/Sat:	0.00	0.31	0.10	0.20	0.45	0.00	0.00	0.00	0.00	0.11	0.00	0.11
Crit Moves:					****					****		
Green/Cycle:	0.00	0.62	0.62	0.62	0.62	0.00	0.00	0.00	0.00	0.28	0.00	0.28
Volume/Cap:	0.00	0.50	0.17	0.32	0.73	0.00	0.00	0.00	0.00	0.41	0.00	0.41
Delay/Veh:	0.0	9.5	7.3	8.7	13.3	0.0	0.0	0.0	0.0	27.3	0.0	27.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	9.5	7.3	8.7	13.3	0.0	0.0	0.0	0.0	27.3	0.0	27.3
LOS by Move:	A	A	A	A	B	A	A	A	A	C	A	C
HCM2kAvgQ:	0	7	1	1	14	0	0	0	0	4	0	4

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Baseline Plus Project (Variant 3) AM

Intersection #3: Potrero Ave/22nd St (S)



Street Name:	Potrero Ave						22nd St (S)					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	56	56	56	56	56	56	25	25	25	0	0	0
Y+R:	4.5	4.5	4.5	4.5	4.5	4.5	5.0	5.0	5.0	4.0	4.0	4.0
Volume Module: >> Count Date: 9 Apr 2013 << 7-9AM												
Base Vol:	6	1353	0	0	748	21	82	0	104	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	6	1353	0	0	748	21	82	0	104	0	0	0
Added Vol:	0	4	0	0	9	0	0	0	0	0	0	0
Hospital Re:	0	3	0	0	18	0	0	0	0	0	0	0
Initial Fut:	6	1360	0	0	775	21	82	0	104	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
PHF Volume:	6	1417	0	0	807	22	85	0	108	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	6	1417	0	0	807	22	85	0	108	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	6	1417	0	0	807	22	85	0	108	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.72	0.72	1.00	1.00	0.75	0.75	0.68	1.00	0.66	1.00	1.00	1.00
Lanes:	0.01	1.99	0.00	0.00	1.95	0.05	0.44	0.00	0.56	0.00	0.00	0.00
Final Sat.:	12	2736	0	0	2771	75	560	0	710	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.52	0.52	0.00	0.00	0.29	0.29	0.15	0.00	0.15	0.00	0.00	0.00
Crit Moves:		****					****					
Green/Cycle:	0.62	0.62	0.00	0.00	0.62	0.62	0.28	0.00	0.28	0.00	0.00	0.00
Volume/Cap:	0.83	0.83	0.00	0.00	0.47	0.47	0.55	0.00	0.55	0.00	0.00	0.00
Delay/Veh:	17.0	17.0	0.0	0.0	9.3	9.3	29.5	0.0	29.5	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	17.0	17.0	0.0	0.0	9.3	9.3	29.5	0.0	29.5	0.0	0.0	0.0
LOS by Move:	B	B	A	A	A	A	C	A	C	A	A	A
HCM2kAvgQ:	16	16	0	0	6	6	5	0	5	0	0	0

Note: Queue reported is the number of cars per lane.

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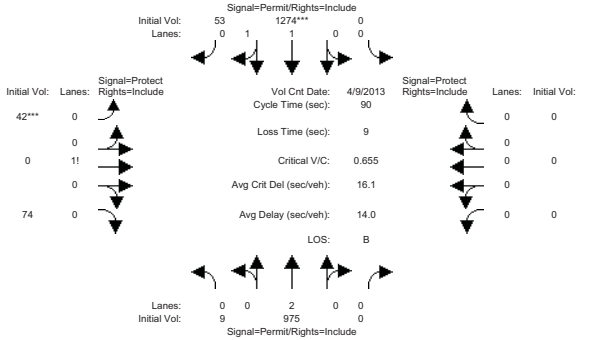
SF13-0683

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Baseline Plus Project (Variant 3) PM

Intersection #3: Potrero Ave/22nd St (S)



Street Name:	Potrero Ave						22nd St (S)					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	56	56	56	56	56	56	25	25	25	0	0	0
Y+R:	4.5	4.5	4.5	4.5	4.5	4.5	5.0	5.0	5.0	4.0	4.0	4.0
Volume Module: >> Count Date: 9 Apr 2013 <<												
Base Vol:	9	943	0	0	1270	53	42	0	74	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	9	943	0	0	1270	53	42	0	74	0	0	0
Added Vol:	0	14	0	0	1	0	0	0	0	0	0	0
Hospital Re:	0	18	0	0	3	0	0	0	0	0	0	0
Initial Fut:	9	975	0	0	1274	53	42	0	74	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	9	1026	0	0	1341	56	44	0	78	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	9	1026	0	0	1341	56	44	0	78	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	9	1026	0	0	1341	56	44	0	78	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.71	0.71	1.00	1.00	0.75	0.75	0.67	1.00	0.65	1.00	1.00	1.00
Lanes:	0.02	1.98	0.00	0.00	1.92	0.08	0.35	0.00	0.65	0.00	0.00	0.00
Final Sat.:	25	2689	0	0	2727	113	451	0	795	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.38	0.38	0.00	0.00	0.49	0.49	0.10	0.00	0.10	0.00	0.00	0.00
Crit Moves:					****		****					
Green/Cycle:	0.62	0.62	0.00	0.00	0.62	0.62	0.28	0.00	0.28	0.00	0.00	0.00
Volume/Cap:	0.61	0.61	0.00	0.00	0.79	0.79	0.35	0.00	0.35	0.00	0.00	0.00
Delay/Veh:	11.1	11.1	0.0	0.0	15.1	15.1	26.6	0.0	26.6	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	11.1	11.1	0.0	0.0	15.1	15.1	26.6	0.0	26.6	0.0	0.0	0.0
LOS by Move:	B	B	A	A	B	B	C	A	C	A	A	A
HCM2kAvgQ:	9	9	0	0	15	15	3	0	3	0	0	0

Note: Queue reported is the number of cars per lane.

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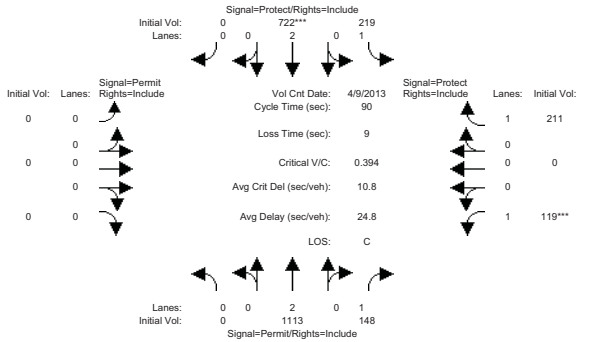
SF13-0683

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Baseline Plus Project (Variant 3) AM

Intersection #4: Potrero Ave/23rd St



Street Name:	Potrero Ave						23rd St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	0	40	40	14	58	58	0	0	0	23	0	23
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.0	4.0	5.0
Volume Module: >> Count Date: 9 Apr 2013 << 7-9AM												
Base Vol:	0	1111	110	203	711	0	0	0	0	109	0	206
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1111	110	203	711	0	0	0	0	109	0	206
Added Vol:	0	0	28	9	0	0	0	0	0	7	0	4
Hospital Re:	0	2	10	7	11	0	0	0	0	3	0	1
Initial Fut:	0	1113	148	219	722	0	0	0	0	119	0	211
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	0	1197	159	235	776	0	0	0	0	128	0	227
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1197	159	235	776	0	0	0	0	128	0	227
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1197	159	235	776	0	0	0	0	128	0	227
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.81	0.53	0.81	0.75	1.00	1.00	1.00	1.00	0.81	1.00	0.57
Lanes:	0.00	2.00	1.00	1.00	2.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
Final Sat.:	0	3079	1003	1539	2858	0	0	0	0	1539	0	1091
Capacity Analysis Module:												
Vol/Sat:	0.00	0.39	0.16	0.15	0.27	0.00	0.00	0.00	0.00	0.08	0.00	0.21
Crit Moves:					****					****		
Green/Cycle:	0.00	0.47	0.47	0.17	0.64	0.00	0.00	0.00	0.00	0.26	0.00	0.26
Volume/Cap:	0.00	0.83	0.34	0.88	0.42	0.00	0.00	0.00	0.00	0.33	0.00	0.81
Delay/Veh:	0.0	24.7	15.4	62.9	8.0	0.0	0.0	0.0	0.0	27.7	0.0	48.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	24.7	15.4	62.9	8.0	0.0	0.0	0.0	0.0	27.7	0.0	48.0
LOS by Move:	A	C	B	E	A	A	A	A	A	C	A	D
HCM2kAvgQ:	0	15	3	7	5	0	0	0	0	3	0	8

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
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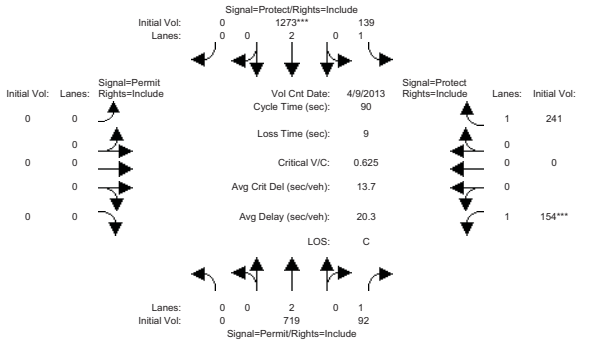
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Baseline Plus Project (Variant 3) PM

Intersection #4: Potrero Ave/23rd St



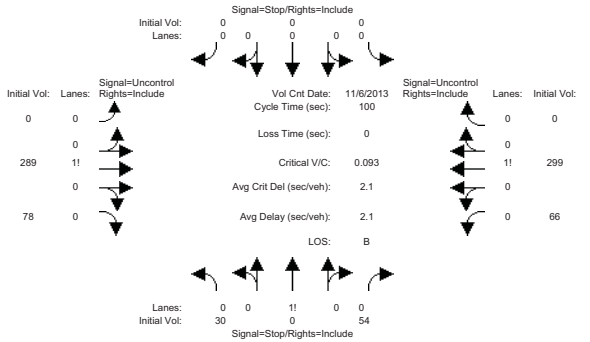
Street Name:	Potrero Ave						23rd St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	0	40	40	14	58	58	0	0	0	23	0	23
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.0	4.0	5.0
Volume Module: >> Count Date: 9 Apr 2013 << 4-6PM												
Base Vol:	0	708	86	137	1271	0	0	0	0	120	0	220
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	708	86	137	1271	0	0	0	0	120	0	220
Added Vol:	0	0	3	1	0	0	0	0	0	24	0	14
Hospital Re:	0	11	3	1	2	0	0	0	0	10	0	7
Initial Fut:	0	719	92	139	1273	0	0	0	0	154	0	241
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	0	741	95	143	1312	0	0	0	0	159	0	248
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	741	95	143	1312	0	0	0	0	159	0	248
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	741	95	143	1312	0	0	0	0	159	0	248
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.81	0.55	0.81	0.75	1.00	1.00	1.00	1.00	0.81	1.00	0.58
Lanes:	0.00	2.00	1.00	1.00	2.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
Final Sat.:	0	3079	1038	1539	2858	0	0	0	0	1539	0	1099
Capacity Analysis Module:												
Vol/Sat:	0.00	0.24	0.09	0.09	0.46	0.00	0.00	0.00	0.00	0.10	0.00	0.23
Crit Moves:					****					****		
Green/Cycle:	0.00	0.44	0.44	0.20	0.64	0.00	0.00	0.00	0.00	0.26	0.00	0.26
Volume/Cap:	0.00	0.54	0.21	0.47	0.71	0.00	0.00	0.00	0.00	0.40	0.00	0.88
Delay/Veh:	0.0	18.7	15.5	32.9	11.9	0.0	0.0	0.0	0.0	28.5	0.0	58.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	18.7	15.5	32.9	11.9	0.0	0.0	0.0	0.0	28.5	0.0	58.7
LOS by Move:	A	B	B	C	B	A	A	A	A	C	A	E
HCM2kAvgQ:	0	8	2	3	12	0	0	0	0	4	0	10

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Baseline Plus Project (Variant 3) AM

Intersection #5: Utah St/23rd St

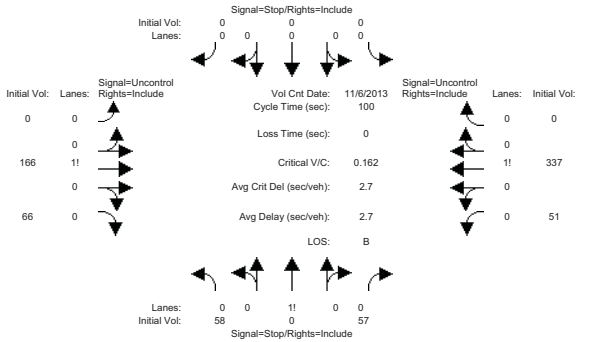



```
Street Name:              Utah St                         23rd St
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|--------------||--------------||--------------||--------------|
Volume Module: >> Count Date: 6 Nov 2013 << 7-9AM
Base Vol:      30    0    54     0    0    0      0  235    78    40  285     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00 1.00   1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   30    0    54     0    0    0      0  235    78    40  285     0
Added Vol:      0    0     0     0    0    0      0   37     0     0   10     0
Hospital Re:    0    0     0     0    0    0      0   17     0    26    4     0
Initial Fut:   30    0    54     0    0    0      0  289    78    66  299     0
User Adj:    1.00 1.00  1.00  1.00 1.00 1.00   1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.95 0.95  0.95  0.95 0.95 0.95   0.95 0.95  0.95  0.95 0.95  0.95
PHF Volume:    32    0    57     0    0    0      0  304    82    69  315     0
Reduct Vol:     0    0     0     0    0    0      0    0     0     0    0     0
FinalVolume:   32    0    57     0    0    0      0  304    82    69  315     0
------------|--------------||--------------||--------------||--------------|
Critical Gap Module:
Critical Gp:  6.4  6.5   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|--------------||--------------||--------------||--------------|
Capacity Module:
Cnflict Vol:  799  799   345  xxxx xxxx xxxxx  xxxx xxxx xxxxx   386 xxxx xxxxx
Potent Cap.:  357  321   702  xxxx xxxx xxxxx  xxxx xxxx xxxxx  1183 xxxx xxxxx
Move Cap.:    341  301   702  xxxx xxxx xxxxx  xxxx xxxx xxxxx  1183 xxxx xxxxx
Volume/Cap:  0.09 0.00  0.08  xxxx xxxx  xxxx  xxxx xxxx  xxxx  0.06 xxxx  xxxx
------------|--------------||--------------||--------------||--------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.2 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.2 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  509 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.6 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   0.2 xxxx xxxxx
Shrd ConDel:xxxxx 13.5 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.2 xxxx xxxxx
Shared LOS:     *    B     *     *    *     *     *    *     *     A    *     *
ApproachDel:       13.5           xxxxxx           xxxxxx           xxxxxx
ApproachLOS:          B                *                *                *
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Baseline Plus Project (Variant 3) PM

Intersection #5: Utah St/23rd St

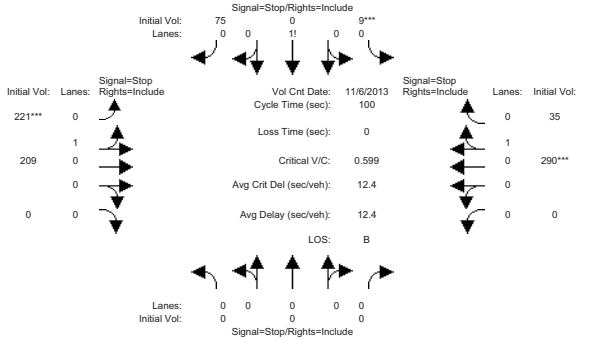



```
Street Name:              Utah St                         23rd St
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|--------------||--------------||--------------||--------------|
Volume Module: >> Count Date: 6 Nov 2013 << 4-6PM
Base Vol:      58    0    51     0    0    0      0  157    66    44  282     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00 1.00   1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   58    0    51     0    0    0      0  157    66    44  282     0
Added Vol:      0    0     0     0    0    0      0    5     0     0   38     0
Hospital Re:    0    0     6     0    0    0      0    4     0     7   17     0
Initial Fut:   58    0    57     0    0    0      0  166    66    51  337     0
User Adj:    1.00 1.00  1.00  1.00 1.00 1.00   1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.91 0.91  0.91  0.91 0.91 0.91   0.91 0.91  0.91  0.91 0.91  0.91
PHF Volume:    64    0    63     0    0    0      0  182    73    56  370     0
Reduct Vol:     0    0     0     0    0    0      0    0     0     0    0     0
FinalVolume:   64    0    63     0    0    0      0  182    73    56  370     0
------------|--------------||--------------||--------------||--------------|
Critical Gap Module:
Critical Gp:  6.4  6.5   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|--------------||--------------||--------------||--------------|
Capacity Module:
Cnflict Vol:  701  701   219  xxxx xxxx xxxxx  xxxx xxxx xxxxx   255 xxxx xxxxx
Potent Cap.:  408  365   826  xxxx xxxx xxxxx  xxxx xxxx xxxxx  1322 xxxx xxxxx
Move Cap.:    394  349   826  xxxx xxxx xxxxx  xxxx xxxx xxxxx  1322 xxxx xxxxx
Volume/Cap:  0.16 0.00  0.08  xxxx xxxx  xxxx  xxxx xxxx  xxxx  0.04 xxxx  xxxx
------------|--------------||--------------||--------------||--------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.1 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.8 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  532 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.9 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   0.1 xxxx xxxxx
Shrd ConDel:xxxxx 13.9 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.8 xxxx xxxxx
Shared LOS:     *    B     *     *    *     *     *    *     *     A    *     *
ApproachDel:       13.9           xxxxxx           xxxxxx           xxxxxx
ApproachLOS:          B                *                *                *
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Baseline Plus Project (Variant 3) AM

Intersection #6: West Driveway/23rd St

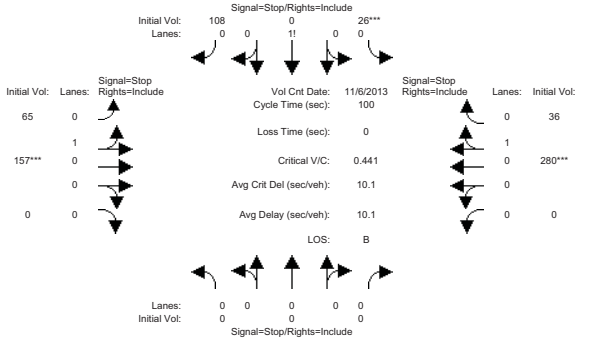



```
Street Name:            West Driveway                    23rd St
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0      0     0     0      0     0     0      0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 6 Nov 2013 << 7-9AM
Base Vol:       0     0     0      7     0    64     92   197     0      0   261    22
Growth Adj:  1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00
Initial Bse:    0     0     0      7     0    64     92   197     0      0   261    22
Added Vol:      0     0     0      2     0     7     25    12     0      0     3     7
Hospital Re:    0     0     0      0     0     4    104     0     0      0    26     6
Initial Fut:    0     0     0      9     0    75    221   209     0      0   290    35
User Adj:    1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00
PHF Adj:     0.93  0.93  0.93   0.93  0.93  0.93   0.93  0.93  0.93   0.93  0.93  0.93
PHF Volume:     0     0     0     10     0    81    238   225     0      0   312    38
Reduct Vol:     0     0     0      0     0     0      0     0     0      0     0     0
Reduced Vol:    0     0     0     10     0    81    238   225     0      0   312    38
PCE Adj:     1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00
FinalVolume:    0     0     0     10     0    81    238   225     0      0   312    38
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00
Lanes:       0.00  0.00  0.00   0.11  0.00  0.89   0.51  0.49  0.00   0.00  0.89  0.11
Final Sat.:     0     0     0     68     0   568    397   375     0      0   690    83
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     xxxx  xxxx  xxxx   0.14  xxxx  0.14   0.60  0.60  xxxx   xxxx  0.45  0.45
Crit Moves:                     ****              ****                    ****
Delay/Veh:    0.0   0.0   0.0    8.8   0.0   8.8   14.0  14.0   0.0    0.0  11.1  11.1
Delay Adj:   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00
AdjDel/Veh:   0.0   0.0   0.0    8.8   0.0   8.8   14.0  14.0   0.0    0.0  11.1  11.1
LOS by Move:    *     *     *      A     *     A      B     B     *      *     B     B
ApproachDel:    xxxxxx             8.8              14.0              11.1
Delay Adj:       xxxxx             1.00             1.00              1.00
ApprAdjDel:     xxxxxx             8.8              14.0              11.1
LOS by Appr:         *               A                B                 B
AllWayAvgQ:   0.0   0.0   0.0    0.1   0.1   0.1    1.4   1.4   1.4    0.8   0.8   0.8
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Baseline Plus Project (Variant 3) PM

Intersection #6: West Driveway/23rd St

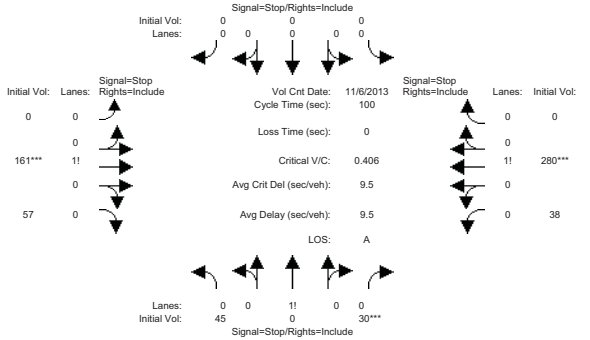



```
Street Name:            West Driveway                    23rd St
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0      0     0     0      0     0     0      0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 6 Nov 2013 << 4-6PM
Base Vol:       0     0     0     11     0    64     58   150     0      0   262    35
Growth Adj:  1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00
Initial Bse:    0     0     0     11     0    64     58   150     0      0   262    35
Added Vol:      0     0     0      9     0    27      3     1     0      0    11     1
Hospital Re:    0     0     0      6     0    17      4     6     0      0     7     0
Initial Fut:    0     0     0     26     0   108     65   157     0      0   280    36
User Adj:    1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00
PHF Adj:     0.91  0.91  0.91   0.91  0.91  0.91   0.91  0.91  0.91   0.91  0.91  0.91
PHF Volume:     0     0     0     29     0   119     71   173     0      0   308    40
Reduct Vol:     0     0     0      0     0     0      0     0     0      0     0     0
Reduced Vol:    0     0     0     29     0   119     71   173     0      0   308    40
PCE Adj:     1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00
FinalVolume:    0     0     0     29     0   119     71   173     0      0   308    40
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00
Lanes:       0.00  0.00  0.00   0.19  0.00  0.81   0.29  0.71  0.00   0.00  0.89  0.11
Final Sat.:     0     0     0    136     0   566    219   528     0      0   698    90
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     xxxx  xxxx  xxxx   0.21  xxxx  0.21   0.33  0.33  xxxx   xxxx  0.44  0.44
Crit Moves:                     ****              ****                    ****
Delay/Veh:    0.0   0.0   0.0    8.8   0.0   8.8    9.8   9.8   0.0    0.0  10.8  10.8
Delay Adj:   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00
AdjDel/Veh:   0.0   0.0   0.0    8.8   0.0   8.8    9.8   9.8   0.0    0.0  10.8  10.8
LOS by Move:    *     *     *      A     *     A      A     A     *      *     B     B
ApproachDel:    xxxxxx             8.8               9.8              10.8
Delay Adj:       xxxxx             1.00              1.00             1.00
ApprAdjDel:     xxxxxx             8.8               9.8              10.8
LOS by Appr:         *               A                 A                B
AllWayAvgQ:   0.0   0.0   0.0    0.2   0.2   0.2    0.4   0.4   0.4    0.7   0.7   0.7
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Baseline Plus Project (Variant 3) AM

Intersection #7: San Bruno Ave/23rd St

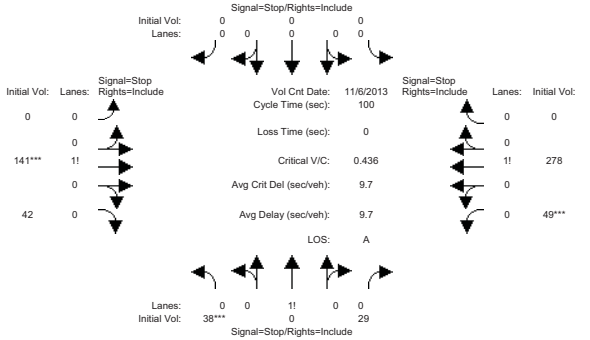



```
Street Name:            San Bruno Ave                  23rd St
Approach:       North Bound     South Bound     East Bound      West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 6 Nov 2013 << 7-9AM
Base Vol:      19     0    30     0     0     0     0   147    57    29   264     0
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   19     0    30     0     0     0     0   147    57    29   264     0
Added Vol:      0     0     0     0     0     0     0    14     0     0    10     0
Hospital Re:   26     0     0     0     0     0     0     0     0     9     6     0
Initial Fut:   45     0    30     0     0     0     0   161    57    38   280     0
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     0.96  0.96  0.96  0.96  0.96  0.96  0.96  0.96  0.96  0.96  0.96  0.96
PHF Volume:    47     0    31     0     0     0     0   168    59    40   292     0
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   47     0    31     0     0     0     0   168    59    40   292     0
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   47     0    31     0     0     0     0   168    59    40   292     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.60  0.00  0.40  0.00  0.00  0.00  0.00  0.74  0.26  0.12  0.88  0.00
Final Sat.:   404     0   269     0     0     0     0   609   215    97   718     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.12  xxxx  0.12  xxxx  xxxx  xxxx  xxxx  0.28  0.28  0.41  0.41  xxxx
Crit Moves:             ****                          ****                ****
Delay/Veh:    8.5   0.0   8.5   0.0   0.0   0.0   0.0   8.8   8.8  10.2  10.2   0.0
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   8.5   0.0   8.5   0.0   0.0   0.0   0.0   8.8   8.8  10.2  10.2   0.0
LOS by Move:    A     *     A     *     *     *     *     A     A     B     B     *
ApproachDel:          8.5           xxxxxx              8.8              10.2
Delay Adj:           1.00            xxxxx             1.00              1.00
ApprAdjDel:           8.5           xxxxxx              8.8              10.2
LOS by Appr:            A                *                A                B
AllWayAvgQ:   0.1   0.1   0.1   0.0   0.0   0.0   0.4   0.4   0.4   0.6   0.6   0.6
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Baseline Plus Project (Variant 3) PM

Intersection #7: San Bruno Ave/23rd St

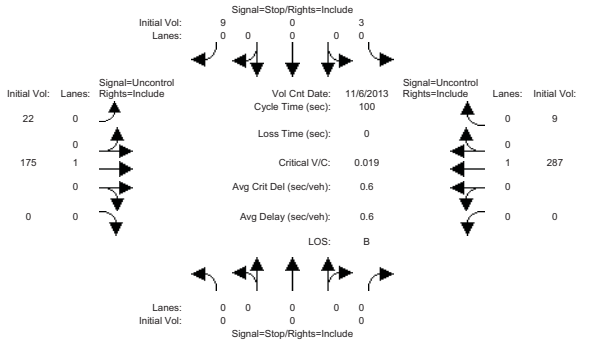



```
Street Name:            San Bruno Ave                  23rd St
Approach:       North Bound     South Bound     East Bound      West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 6 Nov 2013 << 4-6PM
Base Vol:      31     0    26     0     0     0     0   119    42    49   266     0
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   31     0    26     0     0     0     0   119    42    49   266     0
Added Vol:      0     0     0     0     0     0     0    10     0     0    12     0
Hospital Re:    7     0     3     0     0     0     0    12     0     0     0     0
Initial Fut:   38     0    29     0     0     0     0   141    42    49   278     0
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     0.91  0.91  0.91  0.91  0.91  0.91  0.91  0.91  0.91  0.91  0.91  0.91
PHF Volume:    42     0    32     0     0     0     0   155    46    54   305     0
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   42     0    32     0     0     0     0   155    46    54   305     0
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   42     0    32     0     0     0     0   155    46    54   305     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.57  0.00  0.43  0.00  0.00  0.00  0.00  0.77  0.23  0.15  0.85  0.00
Final Sat.:   383     0   292     0     0     0     0   630   188   123   700     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.11  xxxx  0.11  xxxx  xxxx  xxxx  xxxx  0.25  0.25  0.44  0.44  xxxx
Crit Moves:  ****                                 ****                ****
Delay/Veh:    8.4   0.0   8.4   0.0   0.0   0.0   0.0   8.7   8.7  10.5  10.5   0.0
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   8.4   0.0   8.4   0.0   0.0   0.0   0.0   8.7   8.7  10.5  10.5   0.0
LOS by Move:    A     *     A     *     *     *     *     A     A     B     B     *
ApproachDel:          8.4           xxxxxx              8.7              10.5
Delay Adj:           1.00            xxxxx             1.00              1.00
ApprAdjDel:           8.4           xxxxxx              8.7              10.5
LOS by Appr:            A                *                A                B
AllWayAvgQ:   0.1   0.1   0.1   0.0   0.0   0.0   0.3   0.3   0.3   0.7   0.7   0.7
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Baseline Plus Project (Variant 3) AM

Intersection #8: East Driveway/23rd St

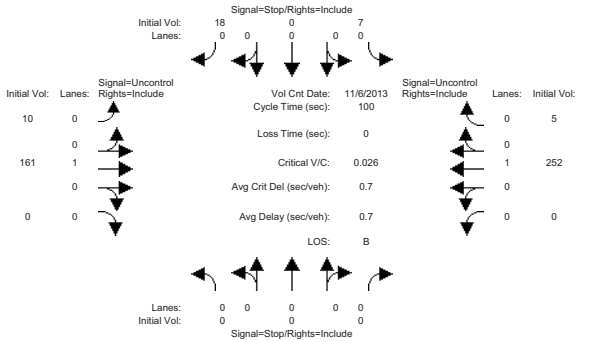



```
Street Name:          East Driveway                    23rd St
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|--------------||--------------||--------------||--------------|
Volume Module: >> Count Date: 6 Nov 2013 << 7-9AM
Base Vol:       0     0     0     1     0     6     8   173     0     0   265     4
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    0     0     0     1     0     6     8   173     0     0   265     4
Added Vol:      0     0     0     1     0     3    12     2     0     0     7     5
PasserByVol:    0     0     0     1     0     0     2     0     0     0    15     0
Initial Fut:    0     0     0     3     0     9    22   175     0     0   287     9
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     0.94  0.94  0.94  0.94  0.94  0.94  0.94  0.94  0.94  0.94  0.94  0.94
PHF Volume:     0     0     0     3     0    10    23   186     0     0   305    10
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
FinalVolume:    0     0     0     3     0    10    23   186     0     0   305    10
------------|--------------||--------------||--------------||--------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4   6.5   6.2   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5   4.0   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|--------------||--------------||--------------||--------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   543   543   310   315 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   504   450   735  1257 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   497   441   735  1257 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.01  0.00  0.01  0.02 xxxx  xxxx  xxxx xxxx  xxxx
------------|--------------||--------------||--------------||--------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.1 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.9 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *     *     *     *     *     *     A     *     *     *     *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  656 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  0.1 xxxxx   0.1 xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 10.6 xxxxx   7.9 xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *     *     *     *     B     *     A     *     *     *     *     *
ApproachDel:    xxxxxx             10.6           xxxxxx           xxxxxx
ApproachLOS:         *                B                *                *
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Baseline Plus Project (Variant 3) PM

Intersection #8: East Driveway/23rd St

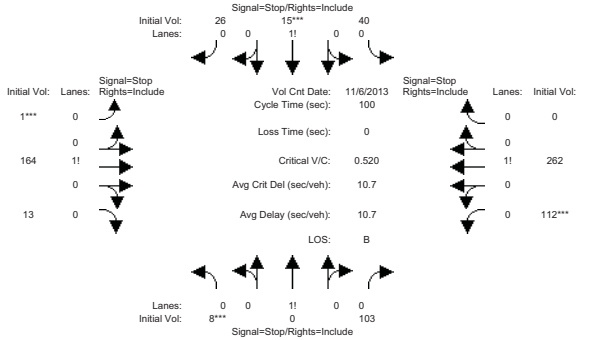



```
Street Name:          East Driveway                    23rd St
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|--------------||--------------||--------------||--------------|
Volume Module: >> Count Date: 6 Nov 2013 << 4-6PM
Base Vol:       0     0     0     4     0     8    10   137     0     0   251     3
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    0     0     0     4     0     8    10   137     0     0   251     3
Added Vol:      0     0     0     4     0    11     1     9     0     0     1     1
Hospital Re:    0     0     0    -1     0    -1    -1    15     0     0     0     1
Initial Fut:    0     0     0     7     0    18    10   161     0     0   252     5
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     0.92  0.92  0.92  0.92  0.92  0.92  0.92  0.92  0.92  0.92  0.92  0.92
PHF Volume:     0     0     0     8     0    20    11   175     0     0   274     5
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
FinalVolume:    0     0     0     8     0    20    11   175     0     0   274     5
------------|--------------||--------------||--------------||--------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4   6.5   6.2   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5   4.0   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|--------------||--------------||--------------||--------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   473   473   277   279 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   553   492   767  1295 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   550   488   767  1295 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.01  0.00  0.03  0.01 xxxx  xxxx  xxxx xxxx  xxxx
------------|--------------||--------------||--------------||--------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.0 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.8 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *     *     *     *     *     *     A     *     *     *     *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  691 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  0.1 xxxxx   0.0 xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 10.4 xxxxx   7.8 xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *     *     *     *     B     *     A     *     *     *     *     *
ApproachDel:    xxxxxx             10.4           xxxxxx           xxxxxx
ApproachLOS:         *                B                *                *
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Baseline Plus Project (Variant 3) AM

Intersection #9: Vermont St/23rd St

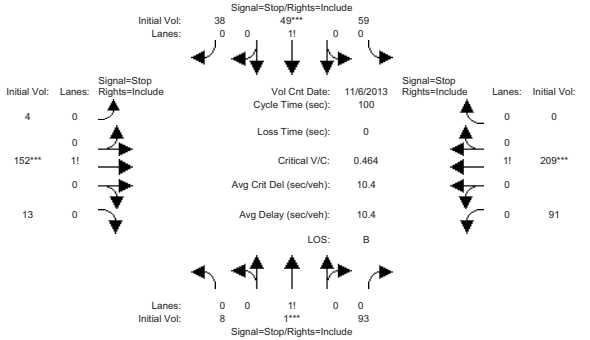



```
Street Name:            Vermont St                  23rd St
Approach:       North Bound     South Bound     East Bound      West Bound
Movement:     L  -  T  -  R     L  -  T  -  R     L  -  T  -  R     L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 6 Nov 2013 << 7-9AM
Base Vol:       8     0   103    40    15    26     1   160    13   112   235     0
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    8     0   103    40    15    26     1   160    13   112   235     0
Added Vol:      0     0     0     0     0     0     0     4     0     0    12     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0    15     0
Initial Fut:    8     0   103    40    15    26     1   164    13   112   262     0
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     0.96  0.96  0.96  0.96  0.96  0.96  0.96  0.96  0.96  0.96  0.96  0.96
PHF Volume:     8     0   107    42    16    27     1   171    14   117   273     0
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:    8     0   107    42    16    27     1   171    14   117   273     0
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:    8     0   107    42    16    27     1   171    14   117   273     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.07  0.00  0.93  0.49  0.19  0.32  0.01  0.92  0.07  0.30  0.70  0.00
Final Sat.:    49     0   627   304   114   197     4   658    52   225   525     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.17  xxxx  0.17  0.14  0.14  0.14  0.26  0.26  0.26  0.52  0.52  xxxx
Crit Moves:  ****           ****        ****        ****
Delay/Veh:    8.7   0.0   8.7   9.0   9.0   9.0   9.4   9.4   9.4  12.4  12.4   0.0
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   8.7   0.0   8.7   9.0   9.0   9.0   9.4   9.4   9.4  12.4  12.4   0.0
LOS by Move:    A     *     A     A     A     A     A     A     A     B     B     *
ApproachDel:          8.7               9.0               9.4              12.4
Delay Adj:           1.00              1.00              1.00              1.00
ApprAdjDel:           8.7               9.0               9.4              12.4
LOS by Appr:            A                 A                 A                 B
AllWayAvgQ:   0.2   0.2   0.2   0.1   0.1   0.1   0.3   0.3   0.3   1.0   1.0   1.0
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Baseline Plus Project (Variant 3) PM

Intersection #9: Vermont St/23rd St

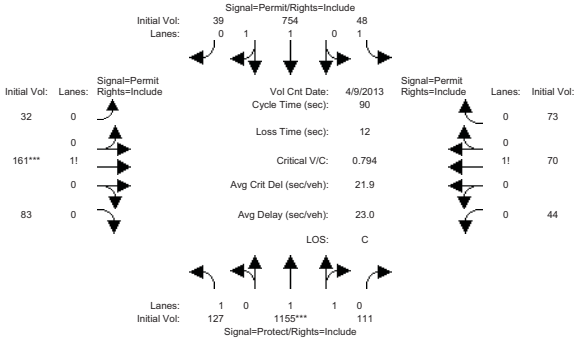



```
Street Name:            Vermont St                  23rd St
Approach:       North Bound     South Bound     East Bound      West Bound
Movement:     L  -  T  -  R     L  -  T  -  R     L  -  T  -  R     L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 6 Nov 2013 << 4-6PM
Base Vol:       8     1    93    59    49    38     4   124    13    91   208     0
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    8     1    93    59    49    38     4   124    13    91   208     0
Added Vol:      0     0     0     0     0     0     0    13     0     0     1     0
Hospital Re:    0     0     0     0     0     0     0    15     0     0     0     0
Initial Fut:    8     1    93    59    49    38     4   152    13    91   209     0
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     0.91  0.91  0.91  0.91  0.91  0.91  0.91  0.91  0.91  0.91  0.91  0.91
PHF Volume:     9     1   102    65    54    42     4   167    14   100   230     0
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:    9     1   102    65    54    42     4   167    14   100   230     0
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:    9     1   102    65    54    42     4   167    14   100   230     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.08  0.01  0.91  0.40  0.34  0.26  0.02  0.90  0.08  0.30  0.70  0.00
Final Sat.:    53     7   611   258   214   166    16   617    53   215   495     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.17  0.17  0.17  0.25  0.25  0.25  0.27  0.27  0.27  0.46  0.46  xxxx
Crit Moves:        ****              ****              ****              ****
Delay/Veh:    8.7   8.7   8.7   9.8   9.8   9.8   9.7   9.7   9.7  11.8  11.8   0.0
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   8.7   8.7   8.7   9.8   9.8   9.8   9.7   9.7   9.7  11.8  11.8   0.0
LOS by Move:    A     A     A     A     A     A     A     A     A     B     B     *
ApproachDel:          8.7               9.8               9.7              11.8
Delay Adj:           1.00              1.00              1.00              1.00
ApprAdjDel:           8.7               9.8               9.7              11.8
LOS by Appr:            A                 A                 A                 B
AllWayAvgQ:   0.2   0.2   0.2   0.3   0.3   0.3   0.3   0.3   0.3   0.8   0.8   0.8
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Baseline Plus Project (Variant 3) AM

Intersection #10: Potrero Ave/24th St



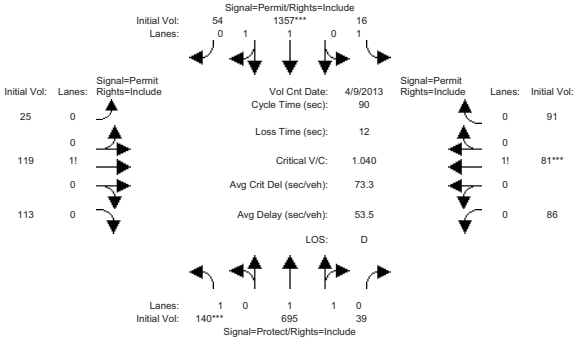
Street Name:	Potrero Ave						24th St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	55	55	44	44	44	23	23	23	23	23	23
Y+R:	4.0	7.0	7.0	7.0	7.0	7.0	5.0	5.0	5.0	5.0	5.0	5.0
Volume Module: >> Count Date: 9 Apr 2013 << 7-9AM												
Base Vol:	127	1119	96	37	745	38	31	161	83	39	70	71
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	127	1119	96	37	745	38	31	161	83	39	70	71
Added Vol:	0	26	0	0	6	1	1	0	0	0	0	0
Hospital Re:	0	10	15	11	3	0	0	0	0	5	0	2
Initial Fut:	127	1155	111	48	754	39	32	161	83	44	70	73
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	131	1191	114	49	777	40	33	166	86	45	72	75
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	131	1191	114	49	777	40	33	166	86	45	72	75
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	131	1191	114	49	777	40	33	166	86	45	72	75
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.81	0.74	0.74	0.11	0.75	0.74	0.67	0.68	0.65	0.55	0.56	0.54
Lanes:	1.00	1.82	0.18	1.00	1.90	0.10	0.11	0.58	0.31	0.23	0.37	0.40
Final Sat.:	1539	2571	247	218	2696	139	147	738	381	247	393	410
Capacity Analysis Module:												
Vol/Sat:	0.09	0.46	0.46	0.23	0.29	0.29	0.22	0.22	0.22	0.18	0.18	0.18
Crit Moves:		****						****				
Green/Cycle:	0.12	0.61	0.61	0.49	0.49	0.49	0.26	0.26	0.26	0.26	0.26	0.26
Volume/Cap:	0.70	0.76	0.76	0.47	0.59	0.59	0.88	0.88	0.88	0.72	0.72	0.72
Delay/Veh:	48.7	14.7	14.7	18.4	17.2	17.2	55.2	55.2	55.2	39.5	39.5	39.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	48.7	14.7	14.7	18.4	17.2	17.2	55.2	55.2	55.2	39.5	39.5	39.5
LOS by Move:	D	B	B	B	B	B	E	E	E	D	D	D
HCM2kAvgQ:	3	13	13	1	8	8	11	11	11	6	7	6

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Baseline Plus Project (Variant 3) PM

Intersection #10: Potrero Ave/24th St



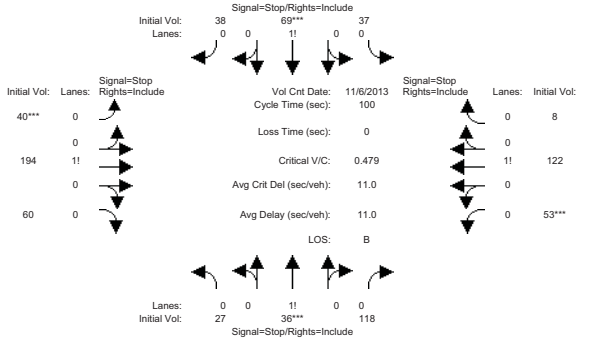
Street Name:	Potrero Ave						24th St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	55	55	44	44	44	23	23	23	23	23	23
Y+R:	4.0	7.0	7.0	7.0	7.0	7.0	5.0	5.0	5.0	5.0	5.0	5.0
Volume Module: >> Count Date: 9 Apr 2013 << 4-6PM												
Base Vol:	140	689	34	14	1325	52	25	119	113	71	81	80
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	140	689	34	14	1325	52	25	119	113	71	81	80
Added Vol:	0	3	0	0	22	2	0	0	0	0	0	0
Hospital Re:	0	3	5	2	10	0	0	0	0	15	0	11
Initial Fut:	140	695	39	16	1357	54	25	119	113	86	81	91
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
PHF Volume:	146	724	41	17	1414	56	26	124	118	90	84	95
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	146	724	41	17	1414	56	26	124	118	90	84	95
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	146	724	41	17	1414	56	26	124	118	90	84	95
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.81	0.75	0.74	0.24	0.75	0.74	0.67	0.67	0.63	0.49	0.50	0.49
Lanes:	1.00	1.89	0.11	1.00	1.92	0.08	0.09	0.45	0.46	0.34	0.31	0.35
Final Sat.:	1539	2683	151	460	2731	109	120	574	545	310	292	328
Capacity Analysis Module:												
Vol/Sat:	0.09	0.27	0.27	0.04	0.52	0.52	0.22	0.22	0.22	0.29	0.29	0.29
Crit Moves:	****				****						****	
Green/Cycle:	0.09	0.58	0.58	0.49	0.49	0.49	0.29	0.29	0.29	0.29	0.29	0.29
Volume/Cap:	1.08	0.47	0.47	0.07	1.06	1.06	0.75	0.75	0.75	1.00	1.00	1.00
Delay/Veh:	139.9	11.2	11.2	12.3	64.4	64.4	37.3	37.3	37.3	86.0	86.0	86.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	139.9	11.2	11.2	12.3	64.4	64.4	37.3	37.3	37.3	86.0	86.0	86.0
LOS by Move:	F	B	B	B	E	E	D	D	D	F	F	F
HCM2kAvgQ:	6	6	6	0	29	28	9	9	8	12	13	12

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Baseline Plus Project (Variant 3) AM

Intersection #11: Utah St/24th St

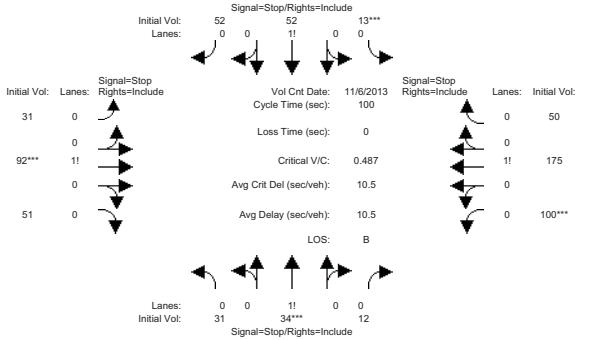



```
Street Name:              Utah St                        24th St
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|--------------||--------------||--------------||--------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|--------------||--------------||--------------||--------------|
Volume Module: >> Count Date: 6 Nov 2013 << 7-9AM
Base Vol:      24    36   118    37    43    38    40   194    60    44   118     8
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   24    36   118    37    43    38    40   194    60    44   118     8
Added Vol:      0     0     0     0     0     0     0     0     0     0     0     0
Hospital Re:    3     0     0     0    26     0     0     0     0     9     4     0
Initial Fut:   27    36   118    37    69    38    40   194    60    53   122     8
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     0.90  0.90  0.90  0.90  0.90  0.90  0.90  0.90  0.90  0.90  0.90  0.90
PHF Volume:    30    40   131    41    77    42    44   216    67    59   136     9
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   30    40   131    41    77    42    44   216    67    59   136     9
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   30    40   131    41    77    42    44   216    67    59   136     9
------------|--------------||--------------||--------------||--------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.15  0.20  0.65  0.26  0.48  0.26  0.14  0.66  0.20  0.29  0.67  0.04
Final Sat.:    96   128   421   155   290   160    93   450   139   183   422    28
------------|--------------||--------------||--------------||--------------|
Capacity Analysis Module:
Vol/Sat:     0.31  0.31  0.31  0.26  0.26  0.26  0.48  0.48  0.48  0.32  0.32  0.32
Crit Moves:        ****        ****        ****        ****
Delay/Veh:   10.1  10.1  10.1  10.1  10.1  10.1  12.2  12.2  12.2  10.6  10.6  10.6
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  10.1  10.1  10.1  10.1  10.1  10.1  12.2  12.2  12.2  10.6  10.6  10.6
LOS by Move:    B     B     B     B     B     B     B     B     B     B     B     B
ApproachDel:         10.1              10.1              12.2              10.6
Delay Adj:           1.00              1.00              1.00              1.00
ApprAdjDel:          10.1              10.1              12.2              10.6
LOS by Appr:            B                 B                 B                 B
AllWayAvgQ:   0.4   0.4   0.4   0.3   0.3   0.3   0.8   0.8   0.8   0.4   0.4   0.4
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Baseline Plus Project (Variant 3) PM

Intersection #11: Utah St/24th St

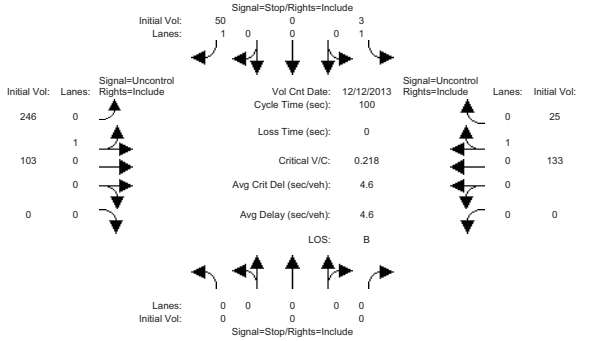



```
Street Name:              Utah St                        24th St
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|--------------||--------------||--------------||--------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|--------------||--------------||--------------||--------------|
Volume Module: >> Count Date: 6 Nov 2013 << 4-6PM
Base Vol:      20    28    12    13    45    52    31    85    51   100   160    50
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   20    28    12    13    45    52    31    85    51   100   160    50
Added Vol:      0     0     0     0     0     0     0     0     0     0     0     0
Hospital Re:   11     6     0     0     7     0     0     7     0     0    15     0
Initial Fut:   31    34    12    13    52    52    31    92    51   100   175    50
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     0.89  0.89  0.89  0.89  0.89  0.89  0.89  0.89  0.89  0.89  0.89  0.89
PHF Volume:    35    38    13    15    58    58    35   103    57   112   197    56
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   35    38    13    15    58    58    35   103    57   112   197    56
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   35    38    13    15    58    58    35   103    57   112   197    56
------------|--------------||--------------||--------------||--------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.40  0.44  0.16  0.11  0.45  0.44  0.18  0.53  0.29  0.31  0.54  0.15
Final Sat.:   244   268    95    72   288   288   129   381   211   231   404   115
------------|--------------||--------------||--------------||--------------|
Capacity Analysis Module:
Vol/Sat:     0.14  0.14  0.14  0.20  0.20  0.20  0.27  0.27  0.27  0.49  0.49  0.49
Crit Moves:        ****        ****              ****        ****
Delay/Veh:    9.1   9.1   9.1   9.2   9.2   9.2   9.4   9.4   9.4  11.8  11.8  11.8
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   9.1   9.1   9.1   9.2   9.2   9.2   9.4   9.4   9.4  11.8  11.8  11.8
LOS by Move:    A     A     A     A     A     A     A     A     A     B     B     B
ApproachDel:          9.1               9.2               9.4              11.8
Delay Adj:           1.00              1.00              1.00              1.00
ApprAdjDel:           9.1               9.2               9.4              11.8
LOS by Appr:            A                 A                 A                 B
AllWayAvgQ:   0.1   0.1   0.1   0.2   0.2   0.2   0.3   0.3   0.3   0.9   0.9   0.9
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Baseline Plus Project (Variant 3) AM

Intersection #12: Parking Garage Driveway (S)/24th St

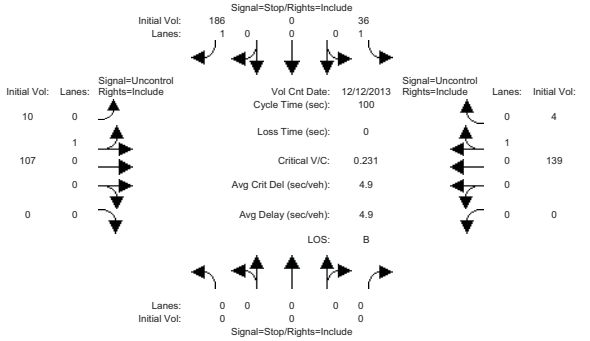



```
Street Name:   Parking Garage Driveway (S)              24th St
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|--------------||--------------||--------------||--------------|
Volume Module: >> Count Date: 12 Dec 2013 << 7-9AM
Base Vol:       0     0     0     3     0    50   246   103     0     0   120    25
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    0     0     0     3     0    50   246   103     0     0   120    25
Added Vol:      0     0     0     0     0     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0    13     0
Initial Fut:    0     0     0     3     0    50   246   103     0     0   133    25
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     0.81  0.81  0.81  0.81  0.81  0.81  0.81  0.81  0.81  0.81  0.81  0.81
PHF Volume:     0     0     0     4     0    62   304   127     0     0   164    31
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
FinalVolume:    0     0     0     4     0    62   304   127     0     0   164    31
------------|--------------||--------------||--------------||--------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4 xxxx   6.2   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5 xxxx   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|--------------||--------------||--------------||--------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   914 xxxx   180   195 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   306 xxxx   868  1390 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   244 xxxx   868  1390 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.02 xxxx  0.07  0.22 xxxx  xxxx  xxxx xxxx  xxxx
------------|--------------||--------------||--------------||--------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx   0.0 xxxx   0.2   0.8 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx  20.0 xxxx   9.5   8.3 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *     *     *     C     *     A     A     *     *     *     *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   0.8 xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.3 xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *     *     *     *     *     *     A     *     *     *     *     *
ApproachDel:    xxxxxx            10.1            xxxxxx            xxxxxx
ApproachLOS:         *               B                 *                 *
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Baseline Plus Project (Variant 3) PM

Intersection #12: Parking Garage Driveway (S)/24th St

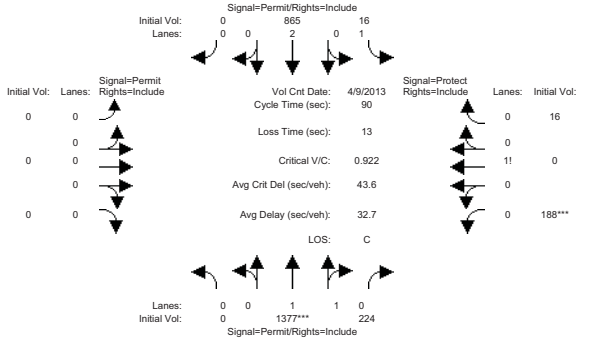



```
Street Name:   Parking Garage Driveway (S)              24th St
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|--------------||--------------||--------------||--------------|
Volume Module: >> Count Date: 12 Dec 2013 << 4-6PM
Base Vol:       0     0     0    36     0   186    10   100     0     0   124     4
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    0     0     0    36     0   186    10   100     0     0   124     4
Added Vol:      0     0     0     0     0     0     0     0     0     0     0     0
Hospital Re:    0     0     0     0     0     0     0     7     0     0    15     0
Initial Fut:    0     0     0    36     0   186    10   107     0     0   139     4
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     0.90  0.90  0.90  0.90  0.90  0.90  0.90  0.90  0.90  0.90  0.90  0.90
PHF Volume:     0     0     0    40     0   207    11   119     0     0   154     4
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
FinalVolume:    0     0     0    40     0   207    11   119     0     0   154     4
------------|--------------||--------------||--------------||--------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4 xxxx   6.2   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5 xxxx   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|--------------||--------------||--------------||--------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   298 xxxx   157   159 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   698 xxxx   894  1433 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   694 xxxx   894  1433 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.06 xxxx  0.23  0.01 xxxx  xxxx  xxxx xxxx  xxxx
------------|--------------||--------------||--------------||--------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx   0.2 xxxx   0.9   0.0 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx  10.5 xxxx  10.2   7.5 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *     *     *     B     *     B     A     *     *     *     *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   0.0 xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.5 xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *     *     *     *     *     *     A     *     *     *     *     *
ApproachDel:    xxxxxx            10.3            xxxxxx            xxxxxx
ApproachLOS:         *               B                 *                 *
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Baseline Plus Project (Variant 3) AM

Intersection #13: Potrero Ave/25th St



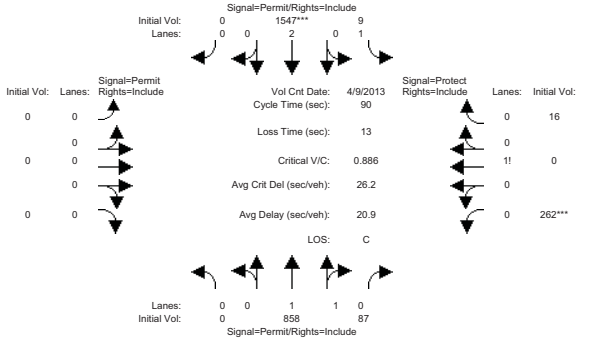
Street Name:	Potrero Ave						25th St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	55	55	55	55	55	55	0	0	0	22	22	22
Y+R:	8.0	8.0	8.0	8.0	8.0	8.0	4.0	4.0	4.0	5.0	5.0	5.0
Volume Module: >> Count Date: 9 Apr 2013 << 7-9AM												
Base Vol:	0	1326	224	16	851	0	0	0	0	188	0	16
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1326	224	16	851	0	0	0	0	188	0	16
Added Vol:	0	26	0	0	6	0	0	0	0	0	0	0
PasserByVol:	0	25	0	0	8	0	0	0	0	0	0	0
Initial Fut:	0	1377	224	16	865	0	0	0	0	188	0	16
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	0	1497	243	17	940	0	0	0	0	204	0	17
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1497	243	17	940	0	0	0	0	204	0	17
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1497	243	17	940	0	0	0	0	204	0	17
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.74	0.72	0.06	0.76	1.00	1.00	1.00	1.00	0.71	1.00	0.70
Lanes:	0.00	1.72	0.28	1.00	2.00	0.00	0.00	0.00	0.00	0.92	0.00	0.08
Final Sat.:	0	2400	390	118	2887	0	0	0	0	1235	0	105
Capacity Analysis Module:												
Vol/Sat:	0.00	0.62	0.62	0.15	0.33	0.00	0.00	0.00	0.00	0.17	0.00	0.17
Crit Moves:		****								****		
Green/Cycle:	0.00	0.61	0.61	0.61	0.61	0.00	0.00	0.00	0.00	0.24	0.00	0.24
Volume/Cap:	0.00	1.02	1.02	0.22	0.53	0.00	0.00	0.00	0.00	0.68	0.00	0.68
Delay/Veh:	0.0	44.6	44.6	9.2	10.4	0.0	0.0	0.0	0.0	36.4	0.0	36.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	44.6	44.6	9.2	10.4	0.0	0.0	0.0	0.0	36.4	0.0	36.4
LOS by Move:	A	D	D	A	B	A	A	A	A	D	A	D
HCM2kAvgQ:	0	35	34	0	8	0	0	0	0	6	0	1

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Baseline Plus Project (Variant 3) PM

Intersection #13: Potrero Ave/25th St



Street Name:	Potrero Ave						25th St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	55	55	55	55	55	55	0	0	0	22	22	22
Y+R:	8.0	8.0	8.0	8.0	8.0	8.0	4.0	4.0	4.0	5.0	5.0	5.0
Volume Module: >> Count Date: 9 Apr 2013 << 4-6PM												
Base Vol:	0	847	87	9	1500	0	0	0	0	262	0	16
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	847	87	9	1500	0	0	0	0	262	0	16
Added Vol:	0	3	0	0	22	0	0	0	0	0	0	0
Hospital Re:	0	8	0	0	25	0	0	0	0	0	0	0
Initial Fut:	0	858	87	9	1547	0	0	0	0	262	0	16
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
PHF Volume:	0	876	89	9	1579	0	0	0	0	267	0	16
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	876	89	9	1579	0	0	0	0	267	0	16
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	876	89	9	1579	0	0	0	0	267	0	16
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.74	0.74	0.22	0.76	1.00	1.00	1.00	1.00	0.71	1.00	0.70
Lanes:	0.00	1.81	0.19	1.00	2.00	0.00	0.00	0.00	0.00	0.94	0.00	0.06
Final Sat.:	0	2557	259	414	2887	0	0	0	0	1266	0	77
Capacity Analysis Module:												
Vol/Sat:	0.00	0.34	0.34	0.02	0.55	0.00	0.00	0.00	0.00	0.21	0.00	0.21
Crit Moves:					****					****		
Green/Cycle:	0.00	0.61	0.61	0.61	0.61	0.00	0.00	0.00	0.00	0.24	0.00	0.24
Volume/Cap:	0.00	0.56	0.56	0.04	0.89	0.00	0.00	0.00	0.00	0.86	0.00	0.86
Delay/Veh:	0.0	10.8	10.8	7.0	21.4	0.0	0.0	0.0	0.0	53.0	0.0	53.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	10.8	10.8	7.0	21.4	0.0	0.0	0.0	0.0	53.0	0.0	53.0
LOS by Move:	A	B	B	A	C	A	A	A	A	D	A	D
HCM2kAvgQ:	0	9	9	0	18	0	0	0	0	10	0	2

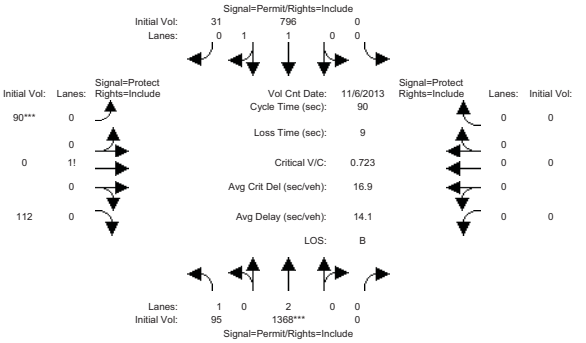
Note: Queue reported is the number of cars per lane.

Year 2040 Plus Project (307-space Garage Expansion)

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Future Year 2040 AM

Intersection #1: Potrero Ave/20th St



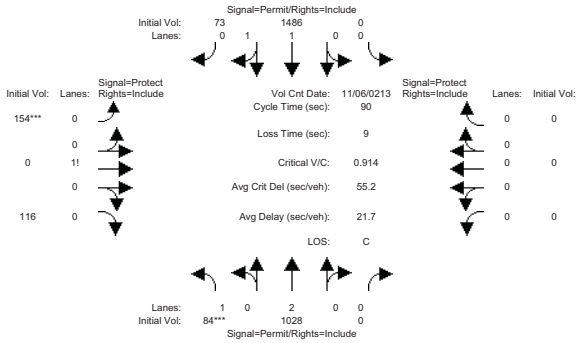
Street Name:	Potrero Ave						20th St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	56	56	56	56	56	56	25	25	25	0	0	0
Y+R:	4.5	4.5	4.5	4.5	4.5	4.5	5.0	5.0	5.0	4.0	4.0	4.0
Volume Module: >> Count Date: 6 Nov 2013 << 7-9AM												
Base Vol:	95	1368	0	0	796	31	90	0	112	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	95	1368	0	0	796	31	90	0	112	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	95	1368	0	0	796	31	90	0	112	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
PHF Volume:	97	1396	0	0	812	32	92	0	114	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	97	1396	0	0	812	32	92	0	114	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	97	1396	0	0	812	32	92	0	114	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.25	0.75	1.00	1.00	0.75	0.75	0.68	1.00	0.66	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	0.00	1.92	0.08	0.44	0.00	0.56	0.00	0.00	0.00
Final Sat.:	470	2858	0	0	2734	106	565	0	703	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.21	0.49	0.00	0.00	0.30	0.30	0.16	0.00	0.16	0.00	0.00	0.00
Crit Moves:		****					****					
Green/Cycle:	0.62	0.62	0.00	0.00	0.62	0.62	0.28	0.00	0.28	0.00	0.00	0.00
Volume/Cap:	0.33	0.79	0.00	0.00	0.48	0.48	0.59	0.00	0.59	0.00	0.00	0.00
Delay/Veh:	8.8	14.9	0.0	0.0	9.3	9.3	30.6	0.0	30.6	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	8.8	14.9	0.0	0.0	9.3	9.3	30.6	0.0	30.6	0.0	0.0	0.0
LOS by Move:	A	B	A	A	A	A	C	A	C	A	A	A
HCM2kAvgQ:	2	17	0	0	7	7	6	0	6	0	0	0

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Future Year 2040 PM

Intersection #1: Potrero Ave/20th St



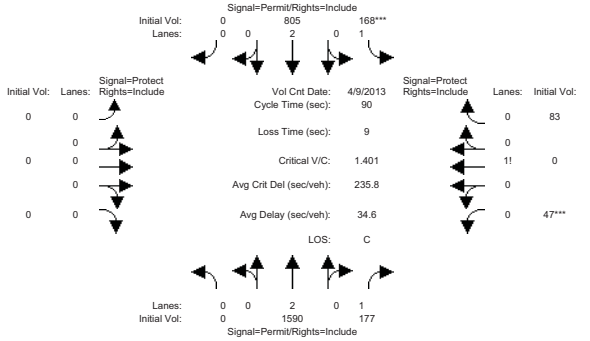
Street Name:	Potrero Ave						20th St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	56	56	56	56	56	56	25	25	25	0	0	0
Y+R:	4.5	4.5	4.5	4.5	4.5	4.5	5.0	5.0	5.0	4.0	4.0	4.0
Volume Module: >> Count Date: 6 Nov 213 << 4-6PM												
Base Vol:	84	1028	0	0	1486	73	154	0	116	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	84	1028	0	0	1486	73	154	0	116	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	84	1028	0	0	1486	73	154	0	116	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
PHF Volume:	86	1049	0	0	1516	74	157	0	118	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	86	1049	0	0	1516	74	157	0	118	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	86	1049	0	0	1516	74	157	0	118	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.07	0.75	1.00	1.00	0.75	0.75	0.68	1.00	0.67	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	0.00	1.91	0.09	0.57	0.00	0.43	0.00	0.00	0.00
Final Sat.:	141	2858	0	0	2704	133	735	0	554	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.61	0.37	0.00	0.00	0.56	0.56	0.21	0.00	0.21	0.00	0.00	0.00
Crit Moves:	****						****					
Green/Cycle:	0.62	0.62	0.00	0.00	0.62	0.62	0.28	0.00	0.28	0.00	0.00	0.00
Volume/Cap:	0.98	0.59	0.00	0.00	0.90	0.90	0.77	0.00	0.77	0.00	0.00	0.00
Delay/Veh:	105.2	10.7	0.0	0.0	21.4	21.4	39.6	0.0	39.6	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	105.2	10.7	0.0	0.0	21.4	21.4	39.6	0.0	39.6	0.0	0.0	0.0
LOS by Move:	F	B	A	A	C	C	D	A	D	A	A	A
HCM2kAvgQ:	5	10	0	0	24	24	9	0	9	0	0	0

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Future Year 2040 AM

Intersection #2: Potrero Ave/22nd St (N)



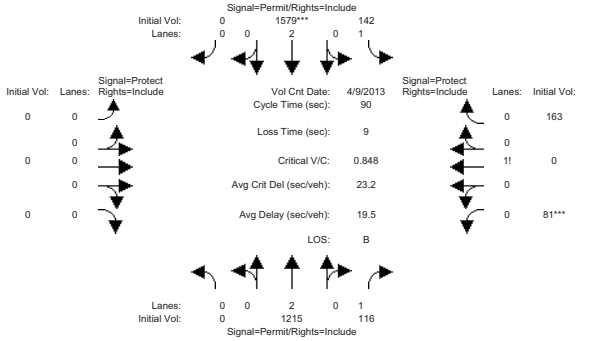
Street Name:	Potrero Ave						22nd St (N)					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	59	59	59	59	59	59	0	0	0	22	22	22
Y+R:	4.5	4.5	4.5	4.5	4.5	4.5	4.0	4.0	4.0	5.0	5.0	5.0
Volume Module: >> Count Date: 9 Apr 2013 << 7-9AM												
Base Vol:	0	1590	177	168	805	0	0	0	0	47	0	83
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1590	177	168	805	0	0	0	0	47	0	83
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1590	177	168	805	0	0	0	0	47	0	83
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
PHF Volume:	0	1622	181	171	821	0	0	0	0	48	0	85
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1622	181	171	821	0	0	0	0	48	0	85
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1622	181	171	821	0	0	0	0	48	0	85
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.81	0.58	0.08	0.76	1.00	1.00	1.00	1.00	0.67	1.00	0.63
Lanes:	0.00	2.00	1.00	1.00	2.00	0.00	0.00	0.00	0.00	0.35	0.00	0.65
Final Sat.:	0	3079	1101	149	2887	0	0	0	0	441	0	778
Capacity Analysis Module:												
Vol/Sat:	0.00	0.53	0.16	1.15	0.28	0.00	0.00	0.00	0.00	0.11	0.00	0.11
Crit Moves:				****						****		
Green/Cycle:	0.00	0.66	0.66	0.66	0.66	0.00	0.00	0.00	0.00	0.24	0.00	0.24
Volume/Cap:	0.00	0.80	0.25	1.76	0.43	0.00	0.00	0.00	0.00	0.45	0.00	0.45
Delay/Veh:	0.0	13.7	6.6	395.1	7.6	0.0	0.0	0.0	0.0	29.9	0.0	29.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	13.7	6.6	395.1	7.6	0.0	0.0	0.0	0.0	29.9	0.0	29.9
LOS by Move:	A	B	A	F	A	A	A	A	A	C	A	C
HCM2kAvgQ:	0	16	2	15	6	0	0	0	0	4	0	4

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Future Year 2040 PM

Intersection #2: Potrero Ave/22nd St (N)



Street Name:	Potrero Ave						22nd St (N)					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	56	56	56	56	56	56	0	0	0	25	25	25
Y+R:	4.5	4.5	4.5	4.5	4.5	4.5	4.0	4.0	4.0	5.0	5.0	5.0
Volume Module: >> Count Date: 9 Apr 2013 << 4-6PM												
Base Vol:	0	1215	116	142	1579	0	0	0	0	81	0	163
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1215	116	142	1579	0	0	0	0	81	0	163
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1215	116	142	1579	0	0	0	0	81	0	163
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
PHF Volume:	0	1240	118	145	1611	0	0	0	0	83	0	166
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1240	118	145	1611	0	0	0	0	83	0	166
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1240	118	145	1611	0	0	0	0	83	0	166
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.81	0.59	0.14	0.76	1.00	1.00	1.00	1.00	0.67	1.00	0.63
Lanes:	0.00	2.00	1.00	1.00	2.00	0.00	0.00	0.00	0.00	0.32	0.00	0.68
Final Sat.:	0	3079	1126	268	2887	0	0	0	0	404	0	812
Capacity Analysis Module:												
Vol/Sat:	0.00	0.40	0.11	0.54	0.56	0.00	0.00	0.00	0.00	0.20	0.00	0.20
Crit Moves:					****					****		
Green/Cycle:	0.00	0.62	0.62	0.62	0.62	0.00	0.00	0.00	0.00	0.28	0.00	0.28
Volume/Cap:	0.00	0.65	0.17	0.87	0.90	0.00	0.00	0.00	0.00	0.74	0.00	0.74
Delay/Veh:	0.0	11.5	7.3	49.1	20.9	0.0	0.0	0.0	0.0	37.8	0.0	37.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	11.5	7.3	49.1	20.9	0.0	0.0	0.0	0.0	37.8	0.0	37.8
LOS by Move:	A	B	A	D	C	A	A	A	A	D	A	D
HCM2kAvgQ:	0	11	1	6	24	0	0	0	0	8	0	8

Note: Queue reported is the number of cars per lane.

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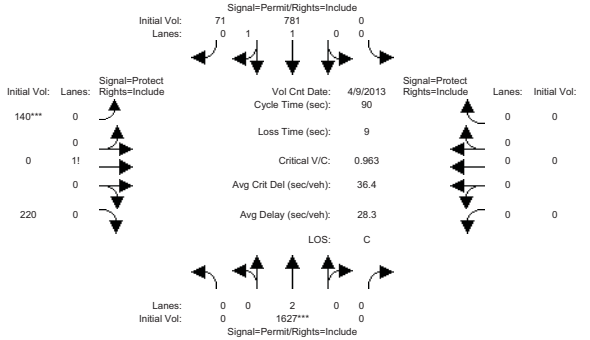
Future Year 2040 AM

Intersection #3: Potrero Ave/22nd St (S)



Street Name:	Potrero Ave						22nd St (S)					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	56	56	56	56	56	56	25	25	25	0	0	0
Y+R:	4.5	4.5	4.5	4.5	4.5	4.5	5.0	5.0	5.0	4.0	4.0	4.0
Volume Module: >> Count Date: 9 Apr 2013 << 7-9AM												
Base Vol:	0	1627	0	0	781	71	140	0	220	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1627	0	0	781	71	140	0	220	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1627	0	0	781	71	140	0	220	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
PHF Volume:	0	1660	0	0	797	72	143	0	224	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1660	0	0	797	72	143	0	224	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1660	0	0	797	72	143	0	224	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.76	1.00	1.00	0.74	0.74	0.67	1.00	0.66	1.00	1.00	1.00
Lanes:	0.00	2.00	0.00	0.00	1.83	0.17	0.38	0.00	0.62	0.00	0.00	0.00
Final Sat.:	0	2887	0	0	2587	235	491	0	771	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.58	0.00	0.00	0.31	0.31	0.29	0.00	0.29	0.00	0.00	0.00
Crit Moves:		****					****					
Green/Cycle:	0.00	0.62	0.00	0.00	0.62	0.62	0.28	0.00	0.28	0.00	0.00	0.00
Volume/Cap:	0.00	0.92	0.00	0.00	0.50	0.50	1.05	0.00	1.05	0.00	0.00	0.00
Delay/Veh:	0.0	23.7	0.0	0.0	9.5	9.5	93.8	0.0	93.8	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	23.7	0.0	0.0	9.5	9.5	93.8	0.0	93.8	0.0	0.0	0.0
LOS by Move:	A	C	A	A	A	A	F	A	F	A	A	A
HCM2kAvgQ:	0	21	0	0	7	7	17	0	17	0	0	0

Note: Queue reported is the number of cars per lane.

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2000 HCM Operations (Future Volume Alternative)
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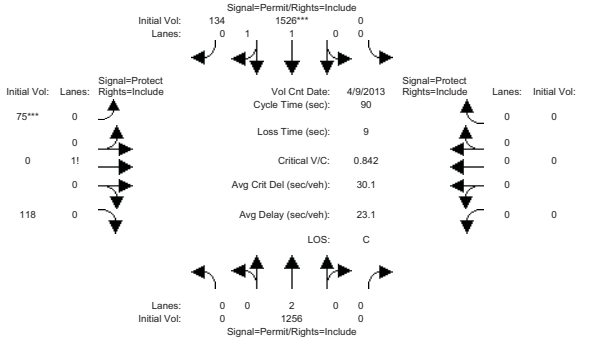
Intersection #3: Potrero Ave/22nd St (S)



Street Name:	Potrero Ave						22nd St (S)					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	56	56	56	56	56	56	25	25	25	0	0	0
Y+R:	4.5	4.5	4.5	4.5	4.5	4.5	5.0	5.0	5.0	4.0	4.0	4.0
Volume Module: >> Count Date: 9 Apr 2013 <<												
Base Vol:	0	1256	0	0	1526	134	75	0	118	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1256	0	0	1526	134	75	0	118	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1256	0	0	1526	134	75	0	118	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
PHF Volume:	0	1282	0	0	1557	137	77	0	120	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1282	0	0	1557	137	77	0	120	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1282	0	0	1557	137	77	0	120	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.76	1.00	1.00	0.74	0.74	0.67	1.00	0.65	1.00	1.00	1.00
Lanes:	0.00	2.00	0.00	0.00	1.84	0.16	0.38	0.00	0.62	0.00	0.00	0.00
Final Sat.:	0	2887	0	0	2595	228	486	0	765	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.44	0.00	0.00	0.60	0.60	0.16	0.00	0.16	0.00	0.00	0.00
Crit Moves:					****		****					
Green/Cycle:	0.00	0.62	0.00	0.00	0.62	0.62	0.28	0.00	0.28	0.00	0.00	0.00
Volume/Cap:	0.00	0.71	0.00	0.00	0.96	0.96	0.57	0.00	0.57	0.00	0.00	0.00
Delay/Veh:	0.0	12.9	0.0	0.0	30.1	30.1	30.0	0.0	30.0	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	12.9	0.0	0.0	30.1	30.1	30.0	0.0	30.0	0.0	0.0	0.0
LOS by Move:	A	B	A	A	C	C	C	A	C	A	A	A
HCM2kAvgQ:	0	12	0	0	24	24	6	0	5	0	0	0

Note: Queue reported is the number of cars per lane.

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2000 HCM Operations (Future Volume Alternative)
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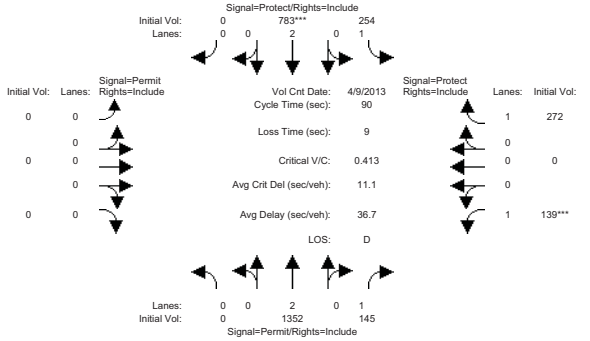
Intersection #4: Potrero Ave/23rd St



Street Name:	Potrero Ave						23rd St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	40	40	14	58	58	0	0	0	23	0	23
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.0	4.0	5.0
Volume Module: >> Count Date: 9 Apr 2013 << 7-9AM												
Base Vol:	0	1352	145	254	783	0	0	0	0	139	0	272
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1352	145	254	783	0	0	0	0	139	0	272
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1352	145	254	783	0	0	0	0	139	0	272
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
PHF Volume:	0	1380	148	259	799	0	0	0	0	142	0	278
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1380	148	259	799	0	0	0	0	142	0	278
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1380	148	259	799	0	0	0	0	142	0	278
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.81	0.53	0.81	0.75	1.00	1.00	1.00	1.00	0.81	1.00	0.57
Lanes:	0.00	2.00	1.00	1.00	2.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
Final Sat.:	0	3079	1009	1539	2858	0	0	0	0	1539	0	1091
Capacity Analysis Module:												
Vol/Sat:	0.00	0.45	0.15	0.17	0.28	0.00	0.00	0.00	0.00	0.09	0.00	0.25
Crit Moves:					****					****		
Green/Cycle:	0.00	0.49	0.49	0.15	0.64	0.00	0.00	0.00	0.00	0.26	0.00	0.26
Volume/Cap:	0.00	0.91	0.30	1.10	0.43	0.00	0.00	0.00	0.00	0.36	0.00	1.00
Delay/Veh:	0.0	29.6	14.0	127.5	8.1	0.0	0.0	0.0	0.0	28.0	0.0	86.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	29.6	14.0	127.5	8.1	0.0	0.0	0.0	0.0	28.0	0.0	86.1
LOS by Move:	A	C	B	F	A	A	A	A	A	C	A	F
HCM2kAvgQ:	0	17	2	11	6	0	0	0	0	3	0	13

Note: Queue reported is the number of cars per lane.

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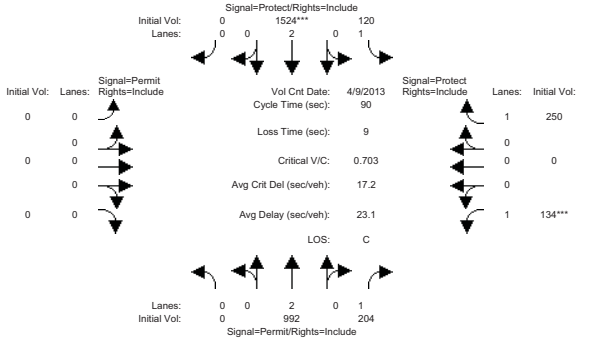
2000 HCM Operations (Future Volume Alternative)
Future Year 2040 PM

Intersection #4: Potrero Ave/23rd St



Street Name:	Potrero Ave						23rd St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	40	40	14	58	58	0	0	0	23	0	23
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.0	4.0	5.0
Volume Module: >> Count Date: 9 Apr 2013 << 4-6PM												
Base Vol:	0	992	204	120	1524	0	0	0	0	134	0	250
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	992	204	120	1524	0	0	0	0	134	0	250
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	992	204	120	1524	0	0	0	0	134	0	250
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
PHF Volume:	0	1012	208	122	1555	0	0	0	0	137	0	255
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1012	208	122	1555	0	0	0	0	137	0	255
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1012	208	122	1555	0	0	0	0	137	0	255
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.81	0.55	0.81	0.75	1.00	1.00	1.00	1.00	0.81	1.00	0.58
Lanes:	0.00	2.00	1.00	1.00	2.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
Final Sat.:	0	3079	1038	1539	2858	0	0	0	0	1539	0	1099
Capacity Analysis Module:												
Vol/Sat:	0.00	0.33	0.20	0.08	0.54	0.00	0.00	0.00	0.00	0.09	0.00	0.23
Crit Moves:					****					****		
Green/Cycle:	0.00	0.44	0.44	0.20	0.64	0.00	0.00	0.00	0.00	0.26	0.00	0.26
Volume/Cap:	0.00	0.74	0.45	0.40	0.84	0.00	0.00	0.00	0.00	0.35	0.00	0.91
Delay/Veh:	0.0	22.9	18.1	32.1	16.3	0.0	0.0	0.0	0.0	27.9	0.0	63.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	22.9	18.1	32.1	16.3	0.0	0.0	0.0	0.0	27.9	0.0	63.4
LOS by Move:	A	C	B	C	B	A	A	A	A	C	A	E
HCM2kAvgQ:	0	12	4	3	17	0	0	0	0	3	0	10

Note: Queue reported is the number of cars per lane.

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2000 HCM Unsignalized (Future Volume Alternative)
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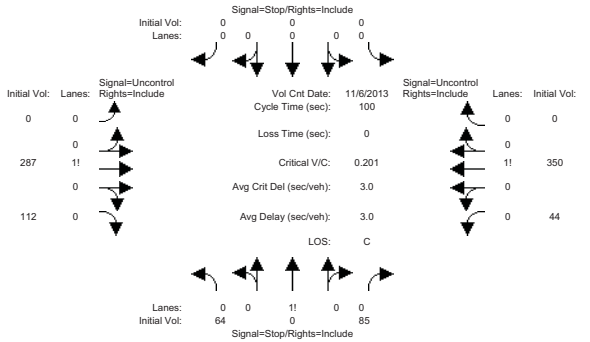
Intersection #5: Utah St/23rd St




```
Street Name:              Utah St                         23rd St
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 6 Nov 2013 << 7-9AM
Base Vol:      64    0    85     0    0    0      0  287   112    44  350     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00 1.00   1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   64    0    85     0    0    0      0  287   112    44  350     0
Added Vol:      0    0     0     0    0    0      0    0     0     0    0     0
PasserByVol:    0    0     0     0    0    0      0    0     0     0    0     0
Initial Fut:   64    0    85     0    0    0      0  287   112    44  350     0
User Adj:    1.00 1.00  1.00  1.00 1.00 1.00   1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.95 0.95  0.95  0.95 0.95 0.95   0.95 0.95  0.95  0.95 0.95  0.95
PHF Volume:    67    0    89     0    0    0      0  302   118    46  368     0
Reduct Vol:     0    0     0     0    0    0      0    0     0     0    0     0
FinalVolume:   67    0    89     0    0    0      0  302   118    46  368     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.4  6.5   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  822  822   361  xxxx xxxx xxxxx  xxxx xxxx xxxxx   420 xxxx xxxxx
Potent Cap.:  346  311   688  xxxx xxxx xxxxx  xxxx xxxx xxxxx  1150 xxxx xxxxx
Move Cap.:    335  298   688  xxxx xxxx xxxxx  xxxx xxxx xxxxx  1150 xxxx xxxxx
Volume/Cap:  0.20 0.00  0.13  xxxx xxxx  xxxx  xxxx xxxx  xxxx  0.04 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.1 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.3 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  474 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  1.4 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   0.1 xxxx xxxxx
Shrd ConDel:xxxxx 16.3 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.3 xxxx xxxxx
Shared LOS:     *    C     *     *    *     *     *    *     *     A    *     *
ApproachDel:       16.3           xxxxxx           xxxxxx           xxxxxx
ApproachLOS:          C                *                *                *
Note: Queue reported is the number of cars per lane.
```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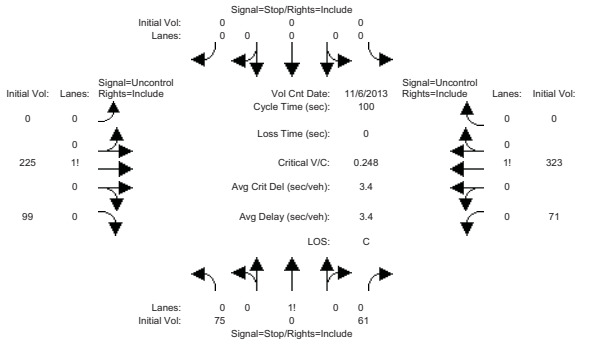
Intersection #5: Utah St/23rd St

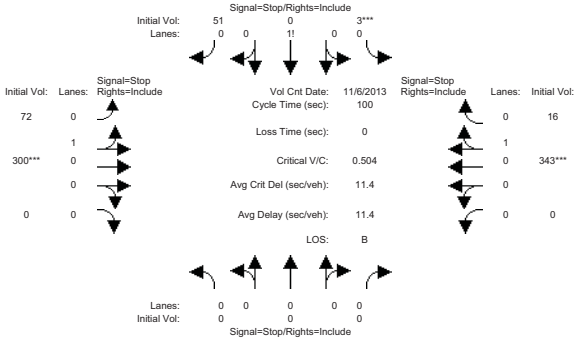



```
Street Name:              Utah St                         23rd St
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 6 Nov 2013 << 4-6PM
Base Vol:      75    0    61     0    0    0      0  225    99    71  323     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00 1.00   1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   75    0    61     0    0    0      0  225    99    71  323     0
Added Vol:      0    0     0     0    0    0      0    0     0     0    0     0
PasserByVol:    0    0     0     0    0    0      0    0     0     0    0     0
Initial Fut:   75    0    61     0    0    0      0  225    99    71  323     0
User Adj:    1.00 1.00  1.00  1.00 1.00 1.00   1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.91 0.91  0.91  0.91 0.91 0.91   0.91 0.91  0.91  0.91 0.91  0.91
PHF Volume:    82    0    67     0    0    0      0  247   109    78  355     0
Reduct Vol:     0    0     0     0    0    0      0    0     0     0    0     0
FinalVolume:   82    0    67     0    0    0      0  247   109    78  355     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.4  6.5   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  813  813   302  xxxx xxxx xxxxx  xxxx xxxx xxxxx   356 xxxx xxxxx
Potent Cap.:  351  315   743  xxxx xxxx xxxxx  xxxx xxxx xxxxx  1214 xxxx xxxxx
Move Cap.:    333  294   743  xxxx xxxx xxxxx  xxxx xxxx xxxxx  1214 xxxx xxxxx
Volume/Cap:  0.25 0.00  0.09  xxxx xxxx  xxxx  xxxx xxxx  xxxx  0.06 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.2 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.2 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx  442 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  1.5 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   0.2 xxxx xxxxx
Shrd ConDel:xxxxx 17.2 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.2 xxxx xxxxx
Shared LOS:     *    C     *     *    *     *     *    *     *     A    *     *
ApproachDel:       17.2           xxxxxx           xxxxxx           xxxxxx
ApproachLOS:          C                *                *                *
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Future Year 2040 AM

Intersection #6: West Driveway/23rd St



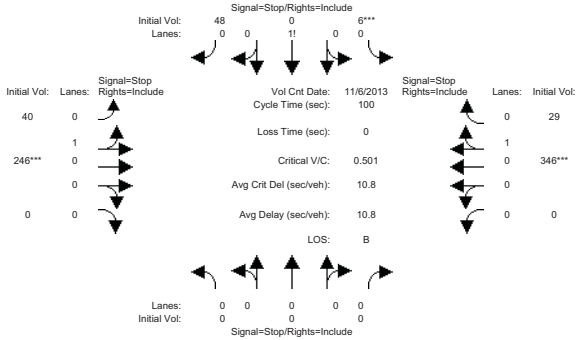
Street Name:	West Driveway						23rd St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 6 Nov 2013 << 7-9AM												
Base Vol:	0	0	0	3	0	51	72	300	0	0	343	16
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	3	0	51	72	300	0	0	343	16
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	3	0	51	72	300	0	0	343	16
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	0	0	0	3	0	55	77	323	0	0	369	17
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	3	0	55	77	323	0	0	369	17
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	3	0	55	77	323	0	0	369	17
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.06	0.00	0.94	0.19	0.81	0.00	0.00	0.96	0.04
Final Sat.:	0	0	0	36	0	614	154	640	0	0	766	36
Capacity Analysis Module:												
Vol/Sat:	xxxx	xxxx	xxxx	0.09	xxxx	0.09	0.50	0.50	xxxx	xxxx	0.48	0.48
Crit Moves:				****				****			****	
Delay/Veh:	0.0	0.0	0.0	8.3	0.0	8.3	11.8	11.8	0.0	0.0	11.4	11.4
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	8.3	0.0	8.3	11.8	11.8	0.0	0.0	11.4	11.4
LOS by Move:	*	*	*	A	*	A	B	B	*	*	B	B
ApproachDel:	xxxxxx			8.3			11.8			11.4		
Delay Adj:	xxxxx			1.00			1.00			1.00		
ApprAdjDel:	xxxxxx			8.3			11.8			11.4		
LOS by Appr:	*			A			B			B		
AllWayAvgQ:	0.0	0.0	0.0	0.1	0.1	0.1	1.0	1.0	1.0	0.9	0.9	0.9

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Future Year 2040 PM

Intersection #6: West Driveway/23rd St



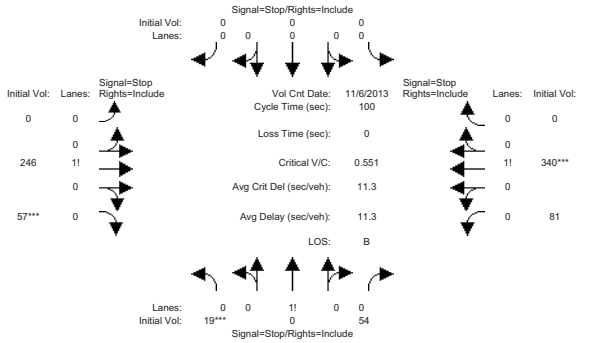
Street Name:	West Driveway						23rd St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 6 Nov 2013 << 4-6PM												
Base Vol:	0	0	0	6	0	48	40	246	0	0	346	29
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	6	0	48	40	246	0	0	346	29
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	6	0	48	40	246	0	0	346	29
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
PHF Volume:	0	0	0	7	0	53	44	270	0	0	380	32
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	7	0	53	44	270	0	0	380	32
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	7	0	53	44	270	0	0	380	32
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.11	0.00	0.89	0.14	0.86	0.00	0.00	0.92	0.08
Final Sat.:	0	0	0	74	0	591	110	679	0	0	758	64
Capacity Analysis Module:												
Vol/Sat:	xxxx	xxxx	xxxx	0.09	xxxx	0.09	0.40	0.40	xxxx	xxxx	0.50	0.50
Crit Moves:				****				****			****	
Delay/Veh:	0.0	0.0	0.0	8.3	0.0	8.3	10.3	10.3	0.0	0.0	11.5	11.5
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	8.3	0.0	8.3	10.3	10.3	0.0	0.0	11.5	11.5
LOS by Move:	*	*	*	A	*	A	B	B	*	*	B	B
ApproachDel:	xxxxxx			8.3			10.3			11.5		
Delay Adj:	xxxxx			1.00			1.00			1.00		
ApprAdjDel:	xxxxxx			8.3			10.3			11.5		
LOS by Appr:	*			A			B			B		
AllWayAvgQ:	0.0	0.0	0.0	0.1	0.1	0.1	0.6	0.6	0.6	0.9	0.9	0.9

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Future Year 2040 AM

Intersection #7: San Bruno Ave/23rd St

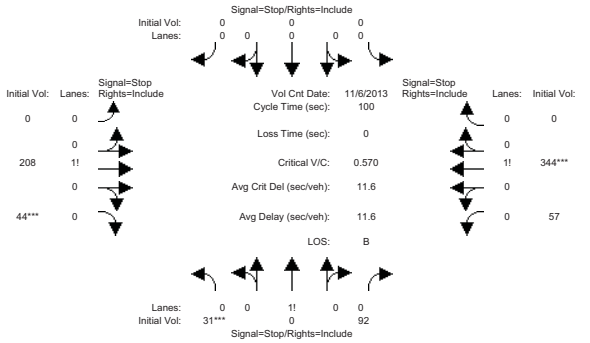



```
Street Name:          San Bruno Ave                    23rd St
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 6 Nov 2013 << 7-9AM
Base Vol:      19     0    54     0     0     0     0   246    57    81   340     0
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   19     0    54     0     0     0     0   246    57    81   340     0
Added Vol:      0     0     0     0     0     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   19     0    54     0     0     0     0   246    57    81   340     0
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     0.96  0.96  0.96  0.96  0.96  0.96  0.96  0.96  0.96  0.96  0.96  0.96
PHF Volume:    20     0    56     0     0     0     0   256    59    84   354     0
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   20     0    56     0     0     0     0   256    59    84   354     0
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   20     0    56     0     0     0     0   256    59    84   354     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.26  0.00  0.74  0.00  0.00  0.00  0.00  0.81  0.19  0.19  0.81  0.00
Final Sat.:   167     0   475     0     0     0     0   646   150   153   643     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.12  xxxx  0.12  xxxx  xxxx  xxxx  xxxx  0.40  0.40  0.55  0.55  xxxx
Crit Moves:  ****                                          ****        ****
Delay/Veh:    8.6   0.0   8.6   0.0   0.0   0.0   0.0  10.2  10.2  12.6  12.6   0.0
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   8.6   0.0   8.6   0.0   0.0   0.0   0.0  10.2  10.2  12.6  12.6   0.0
LOS by Move:    A     *     A     *     *     *     *     B     B     B     B     *
ApproachDel:          8.6           xxxxxx              10.2              12.6
Delay Adj:           1.00            xxxxx              1.00              1.00
ApprAdjDel:           8.6           xxxxxx              10.2              12.6
LOS by Appr:            A                *                 B                 B
AllWayAvgQ:   0.1   0.1   0.1   0.0   0.0   0.0   0.6   0.6   0.6   1.1   1.1   1.1
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Future Year 2040 PM

Intersection #7: San Bruno Ave/23rd St

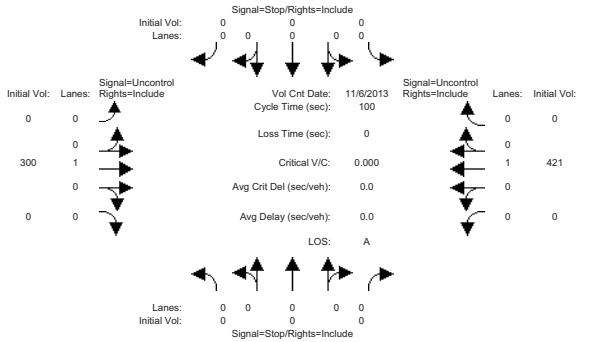



```
Street Name:          San Bruno Ave                    23rd St
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 6 Nov 2013 << 4-6PM
Base Vol:      31     0    92     0     0     0     0   208    44    57   344     0
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   31     0    92     0     0     0     0   208    44    57   344     0
Added Vol:      0     0     0     0     0     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   31     0    92     0     0     0     0   208    44    57   344     0
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     0.91  0.91  0.91  0.91  0.91  0.91  0.91  0.91  0.91  0.91  0.91  0.91
PHF Volume:    34     0   101     0     0     0     0   229    48    63   378     0
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   34     0   101     0     0     0     0   229    48    63   378     0
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   34     0   101     0     0     0     0   229    48    63   378     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.25  0.00  0.75  0.00  0.00  0.00  0.00  0.83  0.17  0.14  0.86  0.00
Final Sat.:   165     0   488     0     0     0     0   625   132   110   663     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.21  xxxx  0.21  xxxx  xxxx  xxxx  xxxx  0.37  0.37  0.57  0.57  xxxx
Crit Moves:  ****                                          ****        ****
Delay/Veh:    9.2   0.0   9.2   0.0   0.0   0.0   0.0  10.1  10.1  13.3  13.3   0.0
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   9.2   0.0   9.2   0.0   0.0   0.0   0.0  10.1  10.1  13.3  13.3   0.0
LOS by Move:    A     *     A     *     *     *     *     B     B     B     B     *
ApproachDel:          9.2           xxxxxx              10.1              13.3
Delay Adj:           1.00            xxxxx              1.00              1.00
ApprAdjDel:           9.2           xxxxxx              10.1              13.3
LOS by Appr:            A                *                 B                 B
AllWayAvgQ:   0.2   0.2   0.2   0.0   0.0   0.0   0.5   0.5   0.5   1.2   1.2   1.2
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Future Year 2040 AM

Intersection #8: East Driveway/23rd St

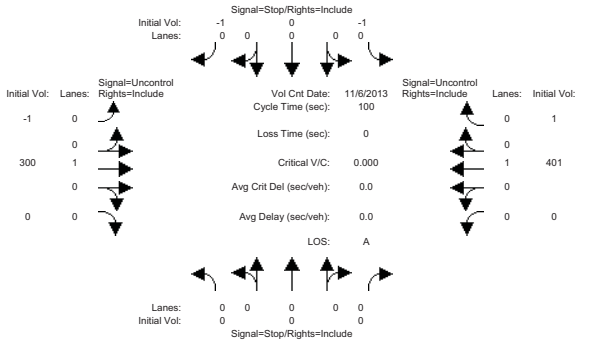



```
Street Name:          East Driveway                    23rd St
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 6 Nov 2013 << 7-9AM
Base Vol:       0     0     0      0     0     0      0   300     0      0   421     0
Growth Adj:  1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00
Initial Bse:    0     0     0      0     0     0      0   300     0      0   421     0
Added Vol:      0     0     0      0     0     0      0     0     0      0     0     0
PasserByVol:    0     0     0      0     0     0      0     0     0      0     0     0
Initial Fut:    0     0     0      0     0     0      0   300     0      0   421     0
User Adj:    1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00
PHF Adj:     0.94  0.94  0.94   0.94  0.94  0.94   0.94  0.94  0.94   0.94  0.94  0.94
PHF Volume:     0     0     0      0     0     0      0   319     0      0   448     0
Reduct Vol:     0     0     0      0     0     0      0     0     0      0     0     0
FinalVolume:    0     0     0      0     0     0      0   319     0      0   448     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *     *     *      *     *     *      *     *     *      *     *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *     *     *      *     *     *      *     *     *      *     *     *
ApproachDel:    xxxxxx            xxxxxx            xxxxxx            xxxxxx
ApproachLOS:         *                 *                 *                 *
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Future Year 2040 PM

Intersection #8: East Driveway/23rd St

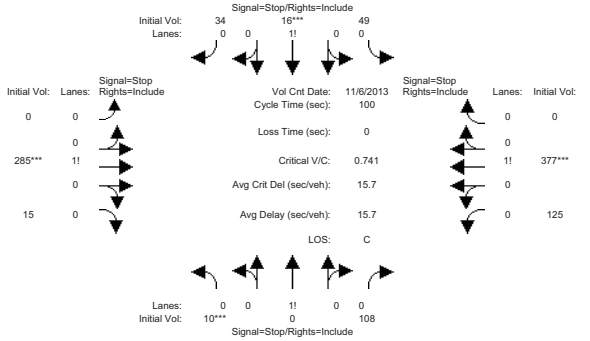



```
Street Name:          East Driveway                    23rd St
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 6 Nov 2013 << 4-6PM
Base Vol:       0     0     0      0     0     0      0   300     0      0   401     0
Growth Adj:  1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00
Initial Bse:    0     0     0      0     0     0      0   300     0      0   401     0
Added Vol:      0     0     0      0     0     0      0     0     0      0     0     0
PasserByVol:    0     0     0     -1     0    -1     -1     0     0      0     0     1
Initial Fut:    0     0     0     -1     0    -1     -1   300     0      0   401     1
User Adj:    1.00  1.00  1.00   0.00  1.00  0.00   0.00  1.00  1.00   1.00  1.00  1.00
PHF Adj:     0.92  0.92  0.92   0.00  0.92  0.00   0.00  0.92  0.92   0.92  0.92  0.92
PHF Volume:     0     0     0      0     0     0      0   326     0      0   436     1
Reduct Vol:     0     0     0      0     0     0      0     0     0      0     0     0
FinalVolume:    0     0     0      0     0     0      0   326     0      0   436     1
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *     *     *      *     *     *      *     *     *      *     *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   0.0 xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.2 xxxx xxxxx
Shared LOS:     *     *     *      *     *     *      A     *     *      *     *     *
ApproachDel:    xxxxxx            xxxxxx            xxxxxx            xxxxxx
ApproachLOS:         *                 *                 *                 *
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Future Year 2040 AM

Intersection #9: Vermont St/23rd St

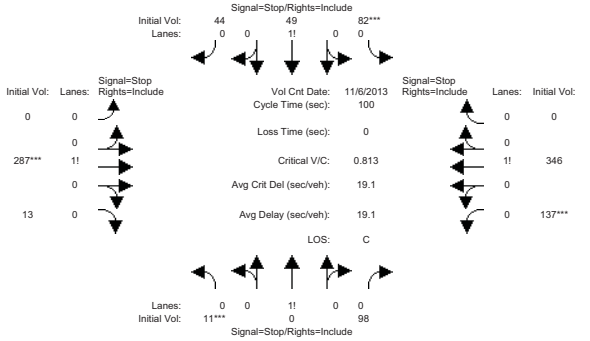



```
Street Name:            Vermont St                  23rd St
Approach:       North Bound     South Bound     East Bound      West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 6 Nov 2013 << 7-9AM
Base Vol:      10     0   108    49    16    34     0   285    15   125   377     0
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   10     0   108    49    16    34     0   285    15   125   377     0
Added Vol:      0     0     0     0     0     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   10     0   108    49    16    34     0   285    15   125   377     0
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     0.96  0.96  0.96  0.96  0.96  0.96  0.96  0.96  0.96  0.96  0.96  0.96
PHF Volume:    10     0   113    51    17    35     0   297    16   130   393     0
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   10     0   113    51    17    35     0   297    16   130   393     0
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   10     0   113    51    17    35     0   297    16   130   393     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.08  0.00  0.92  0.50  0.16  0.34  0.00  0.95  0.05  0.25  0.75  0.00
Final Sat.:    48     0   519   261    85   181     0   632    33   176   530     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.22  xxxx  0.22  0.20  0.20  0.20  xxxx  0.47  0.47  0.74  0.74  xxxx
Crit Moves:  ****                ****                ****                ****
Delay/Veh:    9.8   0.0   9.8  10.2  10.2  10.2   0.0  12.4  12.4  20.2  20.2   0.0
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   9.8   0.0   9.8  10.2  10.2  10.2   0.0  12.4  12.4  20.2  20.2   0.0
LOS by Move:    A     *     A     B     B     B     *     B     B     C     C     *
ApproachDel:          9.8             10.2             12.4             20.2
Delay Adj:           1.00             1.00             1.00             1.00
ApprAdjDel:           9.8             10.2             12.4             20.2
LOS by Appr:            A                B                B                C
AllWayAvgQ:   0.2   0.2   0.2   0.2   0.2   0.2   0.8   0.8   0.8   2.4   2.4   2.4
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Future Year 2040 PM

Intersection #9: Vermont St/23rd St

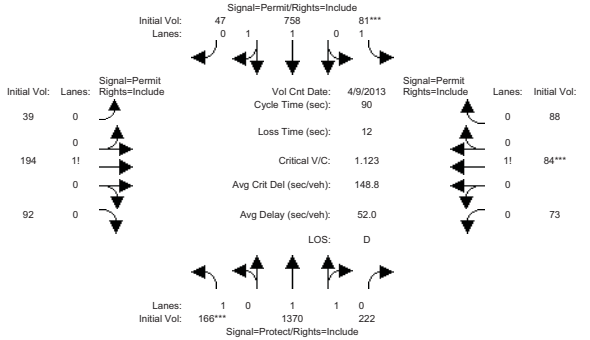



```
Street Name:            Vermont St                  23rd St
Approach:       North Bound     South Bound     East Bound      West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 6 Nov 2013 << 4-6PM
Base Vol:      11     0    98    82    49    44     0   287    13   137   346     0
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   11     0    98    82    49    44     0   287    13   137   346     0
Added Vol:      0     0     0     0     0     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   11     0    98    82    49    44     0   287    13   137   346     0
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     0.91  0.91  0.91  0.91  0.91  0.91  0.91  0.91  0.91  0.91  0.91  0.91
PHF Volume:    12     0   108    90    54    48     0   315    14   151   380     0
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   12     0   108    90    54    48     0   315    14   151   380     0
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   12     0   108    90    54    48     0   315    14   151   380     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.10  0.00  0.90  0.47  0.28  0.25  0.00  0.96  0.04  0.28  0.72  0.00
Final Sat.:    53     0   469   243   145   130     0   583    26   185   468     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.23  xxxx  0.23  0.37  0.37  0.37  xxxx  0.54  0.54  0.81  0.81  xxxx
Crit Moves:  ****                ****                ****                ****
Delay/Veh:   10.5   0.0  10.5  12.4  12.4  12.4   0.0  14.4  14.4  26.4  26.4   0.0
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  10.5   0.0  10.5  12.4  12.4  12.4   0.0  14.4  14.4  26.4  26.4   0.0
LOS by Move:    B     *     B     B     B     B     *     B     B     D     D     *
ApproachDel:         10.5             12.4             14.4             26.4
Delay Adj:           1.00             1.00             1.00             1.00
ApprAdjDel:          10.5             12.4             14.4             26.4
LOS by Appr:            B                B                B                D
AllWayAvgQ:   0.2   0.2   0.2   0.5   0.5   0.5   1.0   1.0   1.0   3.3   3.3   3.3
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Future Year 2040 AM

Intersection #10: Potrero Ave/24th St



Street Name: Potrero Ave 24th St

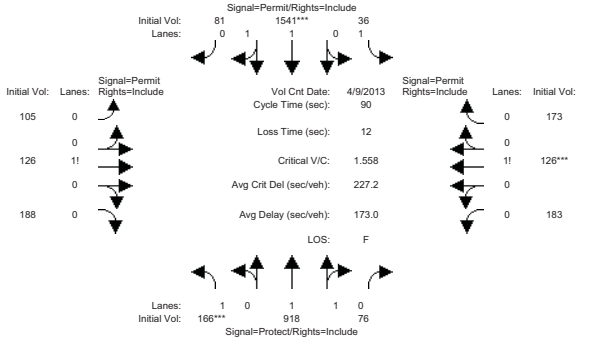
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	53	53	42	42	42	25	25	25	25	25	25
Y+R:	4.0	7.0	7.0	7.0	7.0	7.0	5.0	5.0	5.0	5.0	5.0	5.0
Volume Module: >> Count Date: 9 Apr 2013 << 7-9AM												
Base Vol:	166	1370	222	81	758	47	39	194	92	73	84	88
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	166	1370	222	81	758	47	39	194	92	73	84	88
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	166	1370	222	81	758	47	39	194	92	73	84	88
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
PHF Volume:	169	1398	227	83	773	48	40	198	94	74	86	90
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	169	1398	227	83	773	48	40	198	94	74	86	90
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	169	1398	227	83	773	48	40	198	94	74	86	90
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.81	0.74	0.73	0.07	0.75	0.73	0.67	0.67	0.64	0.47	0.48	0.46
Lanes:	1.00	1.72	0.28	1.00	1.88	0.12	0.12	0.59	0.29	0.30	0.34	0.36
Final Sat.:	1539	2403	389	142	2664	165	151	753	357	266	306	321
Capacity Analysis Module:												
Vol/Sat:	0.11	0.58	0.58	0.58	0.29	0.29	0.26	0.26	0.26	0.28	0.28	0.28
Crit Moves:	****			****							****	
Green/Cycle:	0.08	0.59	0.59	0.51	0.51	0.51	0.28	0.28	0.28	0.28	0.28	0.28
Volume/Cap:	1.35	0.99	0.99	1.03	0.57	0.57	0.95	0.95	0.95	1.01	1.01	1.01
Delay/Veh:	241.5	37.5	37.5	132.2	16.0	16.0	66.2	66.2	66.2	91.4	91.4	91.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	241.5	37.5	37.5	132.2	16.0	16.0	66.2	66.2	66.2	91.4	91.4	91.4
LOS by Move:	F	D	D	F	B	B	E	E	E	F	F	F
HCM2kAvgQ:	10	23	23	3	8	8	14	14	13	12	12	12

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Future Year 2040 PM

Intersection #10: Potrero Ave/24th St



Street Name: Potrero Ave 24th St

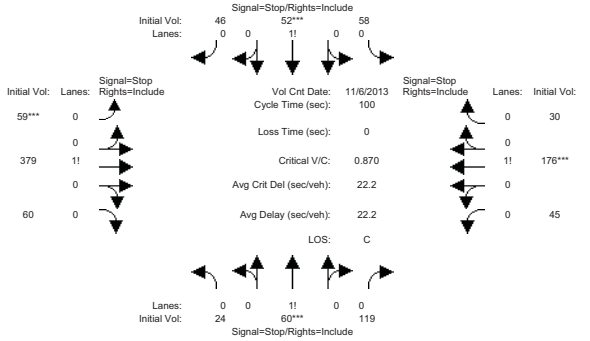
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	55	55	44	44	44	23	23	23	23	23	23
Y+R:	4.0	7.0	7.0	7.0	7.0	7.0	5.0	5.0	5.0	5.0	5.0	5.0
Volume Module: >> Count Date: 9 Apr 2013 << 4-6PM												
Base Vol:	166	918	76	36	1541	81	105	126	188	183	126	173
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	166	918	76	36	1541	81	105	126	188	183	126	173
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	166	918	76	36	1541	81	105	126	188	183	126	173
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
PHF Volume:	169	937	78	37	1572	83	107	129	192	187	129	177
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	169	937	78	37	1572	83	107	129	192	187	129	177
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	169	937	78	37	1572	83	107	129	192	187	129	177
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.81	0.74	0.74	0.17	0.75	0.73	0.52	0.52	0.49	0.39	0.40	0.39
Lanes:	1.00	1.85	0.15	1.00	1.90	0.10	0.24	0.29	0.47	0.38	0.26	0.36
Final Sat.:	1539	2608	216	318	2694	142	240	287	429	284	196	269
Capacity Analysis Module:												
Vol/Sat:	0.11	0.36	0.36	0.12	0.58	0.58	0.45	0.45	0.45	0.66	0.66	0.66
Crit Moves:	****			****							****	
Green/Cycle:	0.08	0.57	0.57	0.49	0.49	0.49	0.30	0.30	0.30	0.30	0.30	0.30
Volume/Cap:	1.41	0.63	0.63	0.24	1.19	1.19	1.49	1.49	1.49	2.19	2.19	2.19
Delay/Veh:	269.8	14.0	14.0	14.1	118	117.7	270.1	270	270.1	581.1	581	581.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	269.8	14.0	14.0	14.1	118	117.7	270.1	270	270.1	581.1	581	581.1
LOS by Move:	F	B	B	B	F	F	F	F	F	F	F	F
HCM2kAvgQ:	11	10	10	1	41	40	32	32	30	47	48	47

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Future Year 2040 AM

Intersection #11: Utah St/24th St

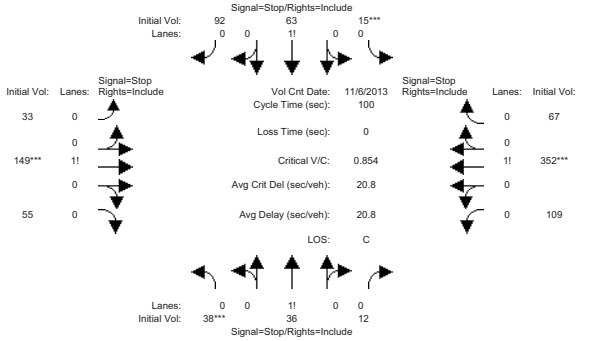



```
Street Name:              Utah St                        24th St
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|--------------||--------------||--------------||--------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|--------------||--------------||--------------||--------------|
Volume Module: >> Count Date: 6 Nov 2013 << 7-9AM
Base Vol:      24    60   119    58    52    46    59   379    60    45   176    30
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   24    60   119    58    52    46    59   379    60    45   176    30
Added Vol:      0     0     0     0     0     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   24    60   119    58    52    46    59   379    60    45   176    30
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     0.90  0.90  0.90  0.90  0.90  0.90  0.90  0.90  0.90  0.90  0.90  0.90
PHF Volume:    27    67   132    64    58    51    66   421    67    50   196    33
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   27    67   132    64    58    51    66   421    67    50   196    33
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   27    67   132    64    58    51    66   421    67    50   196    33
------------|--------------||--------------||--------------||--------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.12  0.29  0.59  0.38  0.33  0.29  0.12  0.76  0.12  0.18  0.70  0.12
Final Sat.:    63   157   312   185   166   147    75   484    77   100   390    66
------------|--------------||--------------||--------------||--------------|
Capacity Analysis Module:
Vol/Sat:     0.42  0.42  0.42  0.35  0.35  0.35  0.87  0.87  0.87  0.50  0.50  0.50
Crit Moves:       ****        ****        ****                    ****
Delay/Veh:   13.1  13.1  13.1  12.5  12.5  12.5  33.0  33.0  33.0  14.2  14.2  14.2
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  13.1  13.1  13.1  12.5  12.5  12.5  33.0  33.0  33.0  14.2  14.2  14.2
LOS by Move:    B     B     B     B     B     B     D     D     D     B     B     B
ApproachDel:       13.1              12.5              33.0              14.2
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:        13.1              12.5              33.0              14.2
LOS by Appr:          B                 B                 D                 B
AllWayAvgQ:    0.6   0.6   0.6   0.4   0.4   0.4   4.3   4.3   4.3   0.8   0.8   0.8
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Future Year 2040 PM

Intersection #11: Utah St/24th St

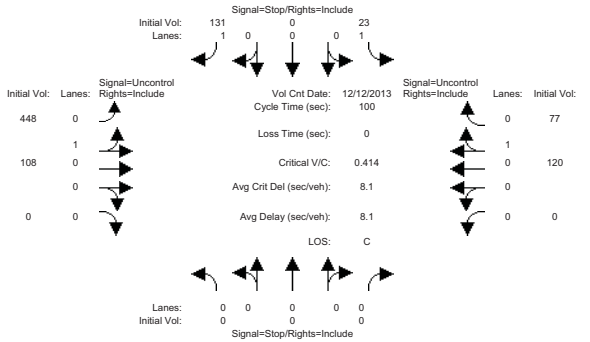



```
Street Name:              Utah St                        24th St
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|--------------||--------------||--------------||--------------|
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
------------|--------------||--------------||--------------||--------------|
Volume Module: >> Count Date: 6 Nov 2013 << 4-6PM
Base Vol:      38    36    12    15    63    92    33   149    55   109   352    67
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   38    36    12    15    63    92    33   149    55   109   352    67
Added Vol:      0     0     0     0     0     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   38    36    12    15    63    92    33   149    55   109   352    67
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     0.89  0.89  0.89  0.89  0.89  0.89  0.89  0.89  0.89  0.89  0.89  0.89
PHF Volume:    43    40    13    17    71   103    37   167    62   122   396    75
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   43    40    13    17    71   103    37   167    62   122   396    75
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   43    40    13    17    71   103    37   167    62   122   396    75
------------|--------------||--------------||--------------||--------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.44  0.42  0.14  0.09  0.37  0.54  0.14  0.63  0.23  0.20  0.67  0.13
Final Sat.:   224   212    71    50   208   304    86   390   144   143   463    88
------------|--------------||--------------||--------------||--------------|
Capacity Analysis Module:
Vol/Sat:     0.19  0.19  0.19  0.34  0.34  0.34  0.43  0.43  0.43  0.85  0.85  0.85
Crit Moves:  ****              ****                    ****                    ****
Delay/Veh:   10.7  10.7  10.7  11.6  11.6  11.6  12.2  12.2  12.2  29.4  29.4  29.4
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  10.7  10.7  10.7  11.6  11.6  11.6  12.2  12.2  12.2  29.4  29.4  29.4
LOS by Move:    B     B     B     B     B     B     B     B     B     D     D     D
ApproachDel:       10.7              11.6              12.2              29.4
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:        10.7              11.6              12.2              29.4
LOS by Appr:          B                 B                 B                 D
AllWayAvgQ:    0.2   0.2   0.2   0.4   0.4   0.4   0.6   0.6   0.6   4.1   4.1   4.1
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Future Year 2040 AM

Intersection #12: Parking Garage Driveway (S)/24th St

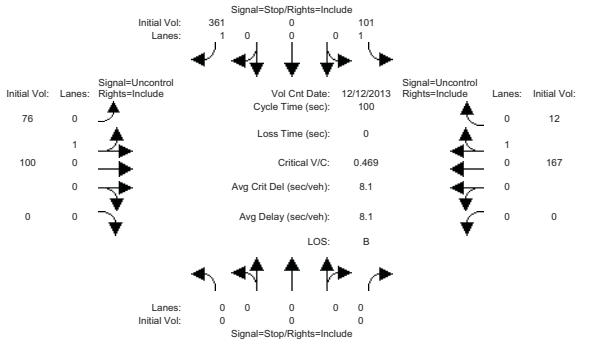



```
Street Name:   Parking Garage Driveway (S)              24th St
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|--------------||--------------||--------------||--------------|
Volume Module: >> Count Date: 12 Dec 2013 << 7-9AM
Base Vol:       0     0     0    23     0   131   448   108     0     0   120    77
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    0     0     0    23     0   131   448   108     0     0   120    77
Added Vol:      0     0     0     0     0     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:    0     0     0    23     0   131   448   108     0     0   120    77
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     0.81  0.81  0.81  0.81  0.81  0.81  0.81  0.81  0.81  0.81  0.81  0.81
PHF Volume:     0     0     0    28     0   162   553   133     0     0   148    95
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
FinalVolume:    0     0     0    28     0   162   553   133     0     0   148    95
------------|--------------||--------------||--------------||--------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4 xxxx   6.2   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5 xxxx   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|--------------||--------------||--------------||--------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  1435 xxxx   196   243 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   149 xxxx   851  1335 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx    78 xxxx   851  1335 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.36 xxxx  0.19  0.41 xxxx  xxxx  xxxx xxxx  xxxx
------------|--------------||--------------||--------------||--------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx   1.4 xxxx   0.7   2.1 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx  75.7 xxxx  10.2   9.6 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *     *     *     F     *     B     A     *     *     *     *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   2.1 xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   9.6 xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *     *     *     *     *     *     A     *     *     *     *     *
ApproachDel:    xxxxxx            20.0            xxxxxx            xxxxxx
ApproachLOS:         *               C                 *                 *
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Future Year 2040 PM

Intersection #12: Parking Garage Driveway (S)/24th St

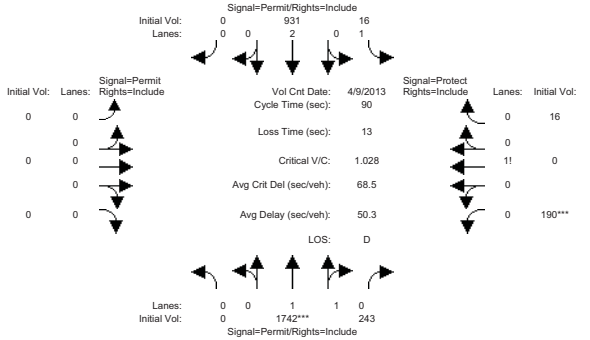



```
Street Name:   Parking Garage Driveway (S)              24th St
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|--------------||--------------||--------------||--------------|
Volume Module: >> Count Date: 12 Dec 2013 << 4-6PM
Base Vol:       0     0     0   101     0   361    76   100     0     0   167    12
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    0     0     0   101     0   361    76   100     0     0   167    12
Added Vol:      0     0     0     0     0     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:    0     0     0   101     0   361    76   100     0     0   167    12
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     0.90  0.90  0.90  0.90  0.90  0.90  0.90  0.90  0.90  0.90  0.90  0.90
PHF Volume:     0     0     0   112     0   401    84   111     0     0   186    13
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
FinalVolume:    0     0     0   112     0   401    84   111     0     0   186    13
------------|--------------||--------------||--------------||--------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4 xxxx   6.2   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5 xxxx   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|--------------||--------------||--------------||--------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   472 xxxx   192   199 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   554 xxxx   855  1386 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   527 xxxx   855  1386 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.21 xxxx  0.47  0.06 xxxx  xxxx  xxxx xxxx  xxxx
------------|--------------||--------------||--------------||--------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx   0.8 xxxx   2.5   0.2 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx  13.7 xxxx  12.9   7.8 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *     *     *     B     *     B     A     *     *     *     *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   0.2 xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.8 xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *     *     *     *     *     *     A     *     *     *     *     *
ApproachDel:    xxxxxx            13.1            xxxxxx            xxxxxx
ApproachLOS:         *               B                 *                 *
Note: Queue reported is the number of cars per lane.
```


San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Future Year 2040 AM

Intersection #13: Potrero Ave/25th St



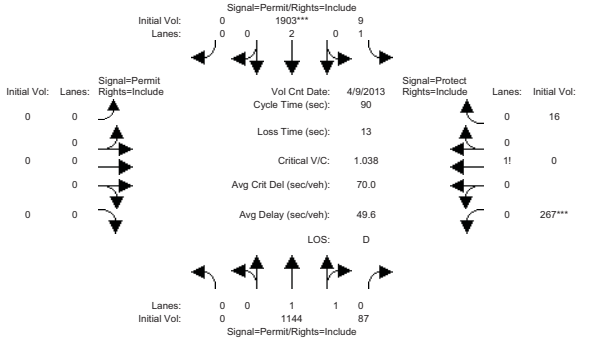
Street Name:	Potrero Ave						25th St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	59	59	59	59	59	59	0	0	0	18	18	18
Y+R:	8.0	8.0	8.0	8.0	8.0	8.0	4.0	4.0	4.0	5.0	5.0	5.0
Volume Module: >> Count Date: 9 Apr 2013 << 7-9AM												
Base Vol:	0	1742	243	16	931	0	0	0	0	190	0	16
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1742	243	16	931	0	0	0	0	190	0	16
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1742	243	16	931	0	0	0	0	190	0	16
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
PHF Volume:	0	1778	248	16	950	0	0	0	0	194	0	16
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1778	248	16	950	0	0	0	0	194	0	16
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1778	248	16	950	0	0	0	0	194	0	16
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.74	0.73	0.06	0.76	1.00	1.00	1.00	1.00	0.71	1.00	0.70
Lanes:	0.00	1.75	0.25	1.00	2.00	0.00	0.00	0.00	0.00	0.92	0.00	0.08
Final Sat.:	0	2458	343	110	2887	0	0	0	0	1236	0	104
Capacity Analysis Module:												
Vol/Sat:	0.00	0.72	0.72	0.15	0.33	0.00	0.00	0.00	0.00	0.16	0.00	0.16
Crit Moves:		****								****		
Green/Cycle:	0.00	0.66	0.66	0.66	0.66	0.00	0.00	0.00	0.00	0.20	0.00	0.20
Volume/Cap:	0.00	1.10	1.10	0.20	0.50	0.00	0.00	0.00	0.00	0.78	0.00	0.78
Delay/Veh:	0.0	70.6	70.6	7.4	8.2	0.0	0.0	0.0	0.0	48.2	0.0	48.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	70.6	70.6	7.4	8.2	0.0	0.0	0.0	0.0	48.2	0.0	48.2
LOS by Move:	A	E	E	A	A	A	A	A	A	D	A	D
HCM2kAvgQ:	0	46	45	0	7	0	0	0	0	7	0	2

Note: Queue reported is the number of cars per lane.

San Francisco General Hospital EIR
SF13-0683

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Future Year 2040 PM

Intersection #13: Potrero Ave/25th St



Street Name:	Potrero Ave						25th St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	55	55	55	55	55	55	0	0	0	22	22	22
Y+R:	8.0	8.0	8.0	8.0	8.0	8.0	4.0	4.0	4.0	5.0	5.0	5.0
Volume Module: >> Count Date: 9 Apr 2013 << 4-6PM												
Base Vol:	0	1144	87	9	1903	0	0	0	0	267	0	16
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1144	87	9	1903	0	0	0	0	267	0	16
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1144	87	9	1903	0	0	0	0	267	0	16
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
PHF Volume:	0	1167	89	9	1942	0	0	0	0	272	0	16
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1167	89	9	1942	0	0	0	0	272	0	16
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1167	89	9	1942	0	0	0	0	272	0	16
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.74	0.74	0.14	0.76	1.00	1.00	1.00	1.00	0.71	1.00	0.70
Lanes:	0.00	1.86	0.14	1.00	2.00	0.00	0.00	0.00	0.00	0.94	0.00	0.06
Final Sat.:	0	2625	200	267	2887	0	0	0	0	1267	0	76
Capacity Analysis Module:												
Vol/Sat:	0.00	0.44	0.44	0.03	0.67	0.00	0.00	0.00	0.00	0.22	0.00	0.22
Crit Moves:					****					****		
Green/Cycle:	0.00	0.61	0.61	0.61	0.61	0.00	0.00	0.00	0.00	0.24	0.00	0.24
Volume/Cap:	0.00	0.73	0.73	0.06	1.10	0.00	0.00	0.00	0.00	0.88	0.00	0.88
Delay/Veh:	0.0	13.8	13.8	7.2	72.1	0.0	0.0	0.0	0.0	55.5	0.0	55.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	13.8	13.8	7.2	72.1	0.0	0.0	0.0	0.0	55.5	0.0	55.5
LOS by Move:	A	B	B	A	E	A	A	A	A	E	A	E
HCM2kAvgQ:	0	14	14	0	38	0	0	0	0	11	0	2

Note: Queue reported is the number of cars per lane.

APPENDIX E: TRAFFIC VOLUME AND INTERSECTION TURNING MOVEMENT COUNTS

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: Potrero Ave -- 20th St

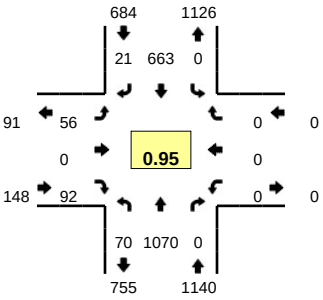
CITY/STATE: San Francisco, CA

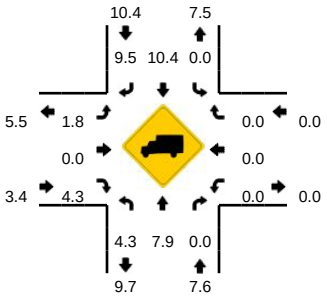
QC JOB #: 11368701

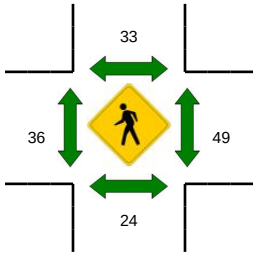
DATE: Wed, Nov 06 2013

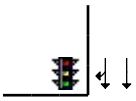
Peak-Hour: 8:00 AM -- 9:00 AM

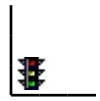
Peak 15-Min: 8:30 AM -- 8:45 AM

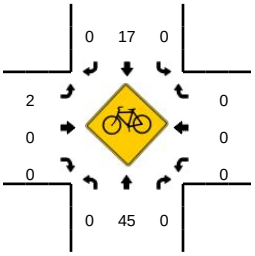


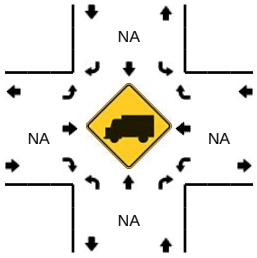


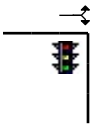


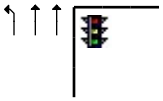


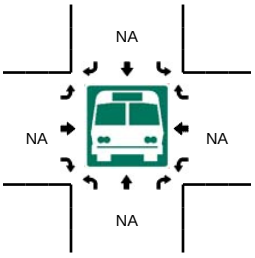












5-Min Count Period Beginning At	Potrero Ave (Northbound)				Potrero Ave (Southbound)				20th St (Eastbound)				20th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	9	41	0	0	0	48	0	0	0	0	4	0	0	0	0	0	102	
7:05 AM	6	43	0	0	0	52	0	0	1	0	5	0	0	0	0	0	107	
7:10 AM	4	43	0	0	0	44	2	0	2	0	7	0	0	0	0	0	102	
7:15 AM	4	56	0	0	0	64	1	0	1	0	5	0	0	0	0	0	131	
7:20 AM	7	96	0	0	0	56	2	0	1	0	5	0	0	0	0	0	167	
7:25 AM	9	38	0	0	0	55	4	0	2	0	2	0	0	0	0	0	110	
7:30 AM	6	66	0	0	0	61	3	0	1	0	4	0	0	0	0	0	141	
7:35 AM	9	72	0	0	0	52	1	0	2	0	5	0	0	0	0	0	141	
7:40 AM	3	55	0	0	0	73	1	0	5	0	7	0	0	0	0	0	144	
7:45 AM	10	83	0	0	0	66	4	0	2	0	9	0	0	0	0	0	174	
7:50 AM	9	72	0	0	0	58	3	0	3	0	5	0	0	0	0	0	150	
7:55 AM	6	78	0	0	0	48	3	0	3	0	9	0	0	0	0	0	147	1616
8:00 AM	3	77	0	0	0	60	1	0	9	0	9	0	0	0	0	0	159	1673
8:05 AM	11	103	0	0	0	57	3	0	3	0	9	0	0	0	0	0	186	1752
8:10 AM	5	67	0	0	0	50	3	0	4	0	0	0	0	0	0	0	129	1779
8:15 AM	3	95	0	0	0	51	2	0	4	0	9	0	0	0	0	0	164	1812
8:20 AM	8	93	0	0	0	51	0	0	3	0	8	0	0	0	0	0	163	1808
8:25 AM	7	74	0	0	0	50	1	0	7	0	9	0	0	0	0	0	148	1846
8:30 AM	5	80	0	0	0	64	3	0	6	0	10	0	0	0	0	0	168	1873
8:35 AM	4	103	0	0	0	53	1	0	3	0	11	0	0	0	0	0	175	1907
8:40 AM	4	103	0	0	0	54	2	0	5	0	7	0	0	0	0	0	175	1938
8:45 AM	6	85	0	0	0	63	3	0	3	0	6	0	0	0	0	0	166	1930
8:50 AM	6	91	0	0	0	50	2	0	2	0	5	0	0	0	0	0	156	1936
8:55 AM	8	99	0	0	0	60	0	0	7	0	9	0	0	0	0	0	183	1972

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	52	1144	0	0	0	684	24	0	56	0	112	0	0	0	0	0	2072
Heavy Trucks	4	108	0		0	60	4		0	0	4		0	0	0		180
Pedestrians		28				24				16				36			104
Bicycles	0	18	0		0	2	0		0	0	0		0	0	0		20
Railroad																	
Stopped Buses																	

Comments: AM and PM Peds and Bikes

Report generated on 11/21/2013 3:30 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: Potrero Ave -- 20th St

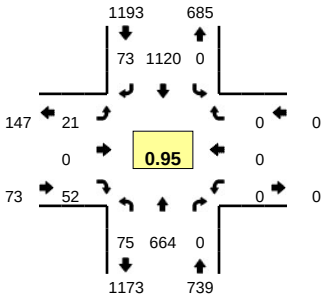
CITY/STATE: San Francisco, CA

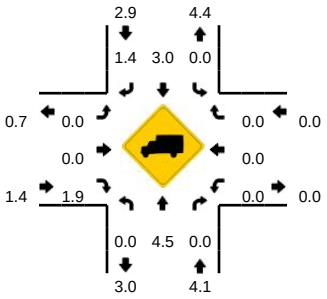
QC JOB #: 11368702

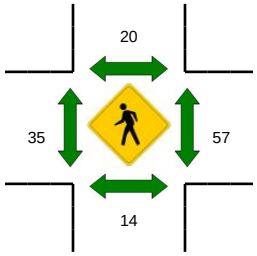
DATE: Wed, Nov 06 2013

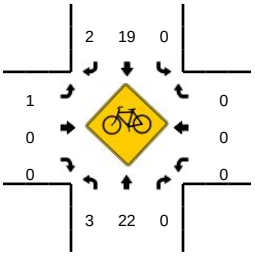
Peak-Hour: 4:35 PM -- 5:35 PM

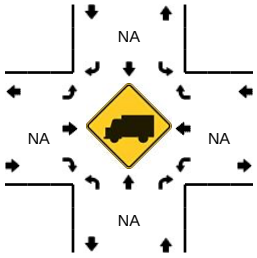
Peak 15-Min: 5:05 PM -- 5:20 PM

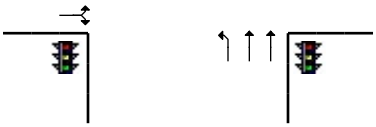


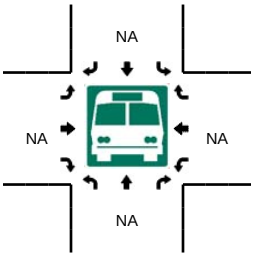












5-Min Count Period Beginning At	Potrero Ave (Northbound)				Potrero Ave (Southbound)				20th St (Eastbound)				20th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	9	66	0	0	0	82	4	0	4	0	9	0	0	0	0	0	174	
4:05 PM	4	50	0	0	0	89	1	0	4	0	10	0	0	0	0	0	158	
4:10 PM	4	72	0	0	0	98	3	0	1	0	7	0	0	0	0	0	185	
4:15 PM	9	76	0	0	0	98	1	0	1	0	6	0	0	0	0	0	191	
4:20 PM	3	62	0	0	0	73	2	0	2	0	8	0	0	0	0	0	150	
4:25 PM	7	51	0	0	0	78	1	0	1	0	4	0	0	0	0	0	142	
4:30 PM	7	55	0	1	0	97	3	0	1	0	7	0	0	0	0	0	171	
4:35 PM	2	60	0	0	0	90	1	0	1	0	4	0	0	0	0	0	158	
4:40 PM	3	65	0	0	0	105	2	0	2	0	4	0	0	0	0	0	181	
4:45 PM	8	48	0	0	0	100	4	0	4	0	5	0	0	0	0	0	169	
4:50 PM	4	54	0	0	0	83	1	0	0	0	1	0	0	0	0	0	143	
4:55 PM	5	49	0	1	0	96	1	0	2	0	5	0	0	0	0	0	159	1981
5:00 PM	7	50	0	0	0	105	3	0	0	0	2	0	0	0	0	0	167	1974
5:05 PM	5	50	0	0	0	103	5	0	3	0	6	0	0	0	0	0	172	1988
5:10 PM	9	63	0	0	0	92	10	0	1	0	6	0	0	0	0	0	181	1984
5:15 PM	7	61	0	0	0	88	12	0	3	0	5	0	0	0	0	0	176	1969
5:20 PM	10	51	0	0	0	74	8	0	0	0	6	0	0	0	0	0	149	1968
5:25 PM	9	57	0	0	0	91	11	0	2	0	3	0	0	0	0	0	173	1999
5:30 PM	5	56	0	0	0	93	15	0	3	0	5	0	0	0	0	0	177	2005
5:35 PM	4	62	0	0	0	72	7	0	2	0	3	0	0	0	0	0	150	1997
5:40 PM	7	59	0	0	0	94	15	0	0	0	4	0	0	0	0	0	179	1995
5:45 PM	3	44	0	0	0	68	15	0	0	0	3	0	0	0	0	0	133	1959
5:50 PM	1	50	0	2	0	57	9	0	3	0	3	0	0	0	0	0	125	1941
5:55 PM	4	54	0	0	0	96	12	0	1	0	6	0	0	0	0	0	173	1955

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	84	696	0	0	0	1132	108	0	28	0	68	0	0	0	0	0	2116
Heavy Trucks	0	32	0		0	28	0		0	0	0		0	0	0		60
Pedestrians		16				24				52				68			160
Bicycles	0	4	0		0	4	0		0	0	0		0	0	0		8
Railroad																	
Stopped Buses																	

Comments: AM and PM Peds and Bikes

Report generated on 11/21/2013 3:30 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: Potrero Ave -- 22nd St (North)

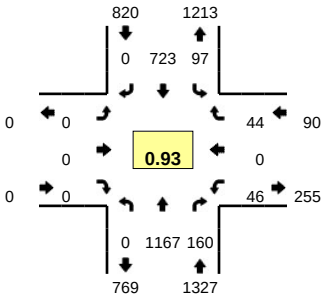
CITY/STATE: San Francisco, CA

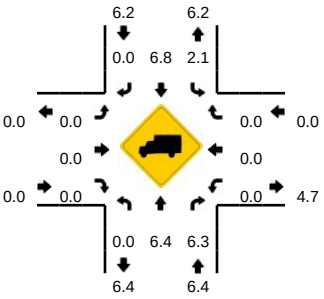
QC JOB #: 10934010

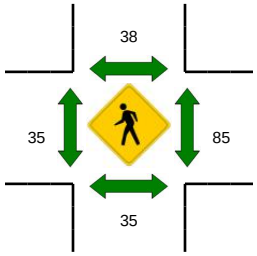
DATE: Tue, Apr 09 2013

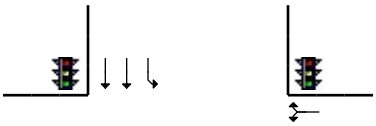
Peak-Hour: 7:45 AM -- 8:45 AM

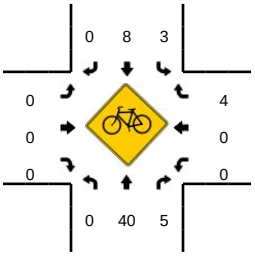
Peak 15-Min: 8:30 AM -- 8:45 AM

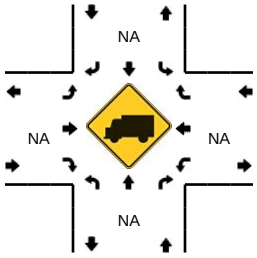


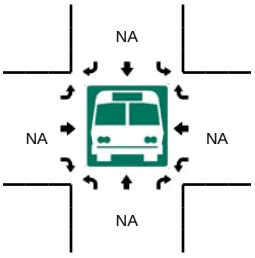












15-Min Count Period Beginning At	Potrero Ave (Northbound)				Potrero Ave (Southbound)				22nd St (North) (Eastbound)				22nd St (North) (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	124	31	0	15	118	0	1	0	0	0	0	11	0	11	0	311	
7:15 AM	0	224	30	0	19	152	0	1	0	0	0	0	14	0	8	0	448	
7:30 AM	0	255	42	0	17	164	0	0	0	0	0	0	12	0	11	0	501	
7:45 AM	0	277	44	0	25	160	0	0	0	0	0	0	17	0	13	0	536	1796
8:00 AM	0	294	31	0	20	171	0	0	0	0	0	0	9	0	8	0	533	2018
8:15 AM	0	293	48	0	22	176	0	1	0	0	0	0	12	0	13	0	565	2135
8:30 AM	0	303	37	0	28	216	0	1	0	0	0	0	8	0	10	0	603	2237
8:45 AM	0	267	29	0	19	171	0	0	0	0	0	0	9	0	11	0	506	2207

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	1212	148	0	112	864	0	4	0	0	0	0	32	0	40	0	2412
Heavy Trucks	0	56	4		0	52	0		0	0	0		0	0	0		112
Pedestrians		52				32				28				112			224
Bicycles	0	16	0		1	2	0		0	0	0		0	0	2		21
Railroad Stopped Buses																	

Comments:

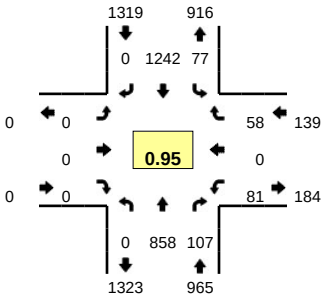
Report generated on 4/18/2013 11:42 AM

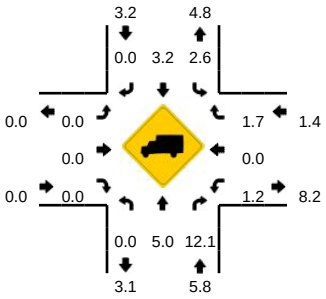
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

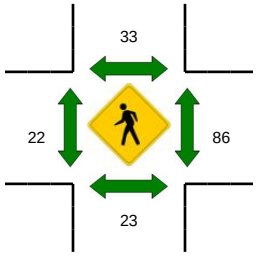
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

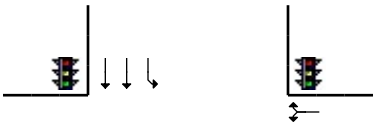
LOCATION: Potrero Ave -- 22nd St (North) | **QC JOB #:** 10934002
CITY/STATE: San Francisco, CA | **DATE:** Tue, Apr 09 2013

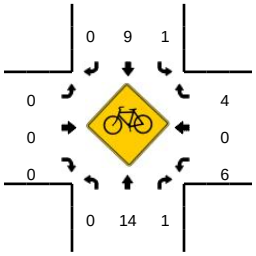
Peak-Hour: 4:00 PM -- 5:00 PM
Peak 15-Min: 4:15 PM -- 4:30 PM

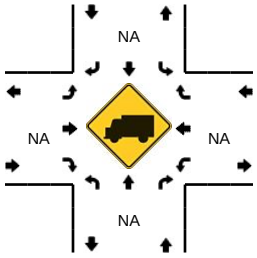


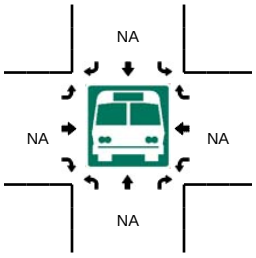












15-Min Count Period Beginning At	Potrero Ave (Northbound)				Potrero Ave (Southbound)				22nd St (North) (Eastbound)				22nd St (North) (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	223	27	0	25	288	0	0	0	0	0	0	25	0	22	0	610	
4:15 PM	0	218	24	0	18	351	0	0	0	0	0	0	14	0	12	0	637	
4:30 PM	0	233	22	0	15	304	0	0	0	0	0	0	23	0	14	0	611	
4:45 PM	0	184	34	0	19	299	0	0	0	0	0	0	19	0	10	0	565	2423
5:00 PM	0	186	21	0	19	333	0	0	0	0	0	0	29	0	15	0	603	2416
5:15 PM	0	190	12	0	22	285	0	0	0	0	0	0	20	0	20	0	549	2328
5:30 PM	0	181	14	0	24	244	0	0	0	0	0	0	13	0	9	0	485	2202
5:45 PM	0	167	12	0	13	280	0	0	0	0	0	0	9	0	6	0	487	2124

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	872	96	0	72	1404	0	0	0	0	0	0	56	0	48	0	2548
Heavy Trucks	0	64	16		0	52	0		0	0	0		0	0	0		132
Pedestrians		12				36				16				80			144
Bicycles	0	4	0		0	2	0		0	0	0		2	0	2		10
Railroad																	
Stopped Buses																	

Comments:

Report generated on 4/18/2013 11:42 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

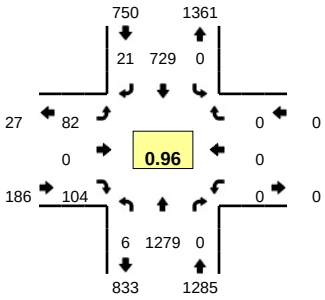
LOCATION: Potrero Ave -- 22nd St (South)

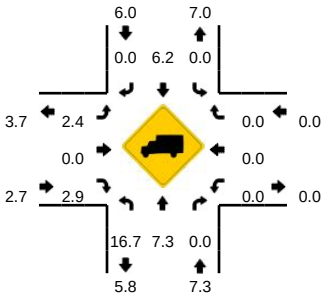
QC JOB #: 10934011

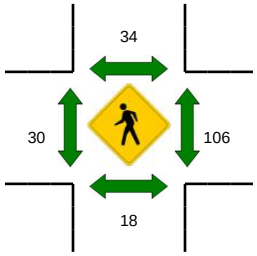
CITY/STATE: San Francisco, CA

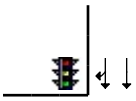
DATE: Tue, Apr 09 2013

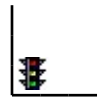
Peak-Hour: 7:45 AM -- 8:45 AM
Peak 15-Min: 8:30 AM -- 8:45 AM

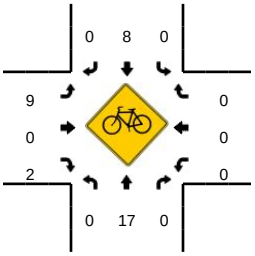


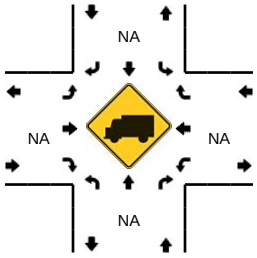


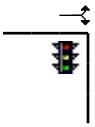


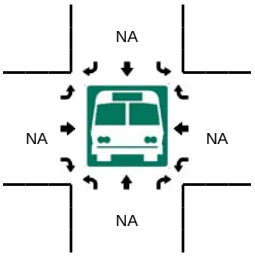












15-Min Count Period Beginning At	Potrero Ave (Northbound)				Potrero Ave (Southbound)				22nd St (Southbound)				22nd St (Southbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	4	149	0	0	0	132	3	0	2	0	13	0	0	0	0	0	303	
7:15 AM	1	235	0	0	0	158	7	0	11	0	11	0	0	0	0	1	424	
7:30 AM	0	288	0	0	0	176	5	0	14	0	20	0	0	0	0	0	503	
7:45 AM	3	315	0	0	0	167	6	0	24	0	39	0	0	0	0	0	554	1784
8:00 AM	1	310	0	0	0	175	1	0	20	0	19	0	0	0	0	0	526	2007
8:15 AM	1	324	0	0	0	179	8	0	25	0	26	0	0	0	0	0	563	2146
8:30 AM	1	330	0	0	0	208	6	0	13	0	20	0	0	0	0	0	578	2221
8:45 AM	1	275	0	0	0	191	4	0	13	0	22	0	0	0	0	0	506	2173

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	4	1320	0	0	0	832	24	0	52	0	80	0	0	0	0	0	2312
Heavy Trucks	0	68	0		0	44	0		0	0	4		0	0	0		116
Pedestrians		8				56				44				148			256
Bicycles	0	3	0		0	1	0		4	0	0		0	0	0		8
Railroad																	
Stopped Buses																	

Comments:

Report generated on 4/18/2013 11:42 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

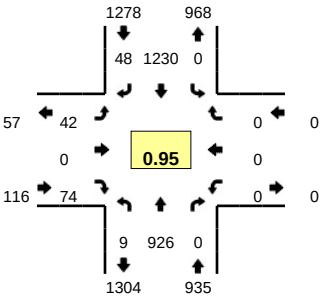
Type of peak hour being reported: Intersection Peak

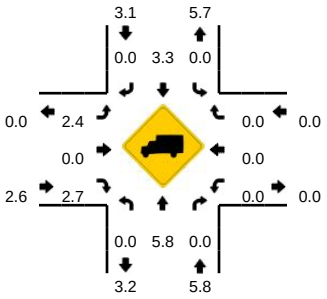
Method for determining peak hour: Total Entering Volume

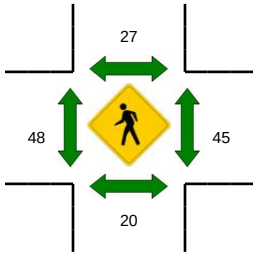
LOCATION: Potrero Ave -- 22nd St (South)
CITY/STATE: San Francisco, CA

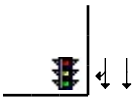
QC JOB #: 10934003
DATE: Tue, Apr 09 2013

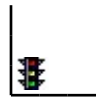
Peak-Hour: 4:00 PM -- 5:00 PM
Peak 15-Min: 4:30 PM -- 4:45 PM

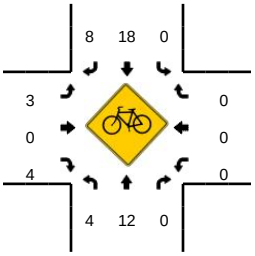


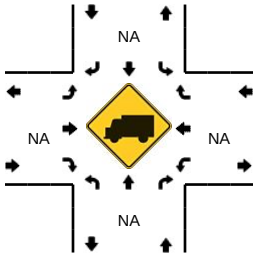


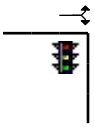


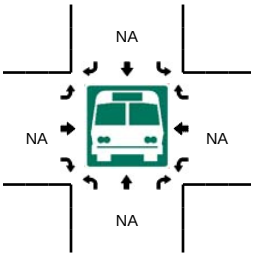












15-Min Count Period Beginning At	Potrero Ave (Northbound)				Potrero Ave (Southbound)				22nd St (Southbound) (Eastbound)				22nd St (Southbound) (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	3	242	0	0	0	306	11	0	9	0	22	0	0	0	0	0	593	
4:15 PM	3	231	0	0	0	299	10	0	11	0	17	0	0	0	0	0	571	
4:30 PM	1	249	0	0	0	322	11	0	10	0	19	0	0	0	0	0	612	
4:45 PM	2	204	0	0	0	303	16	0	12	0	16	0	0	0	0	0	553	2329
5:00 PM	1	200	0	0	0	333	13	0	10	0	24	0	0	0	0	0	581	2317
5:15 PM	3	195	0	0	0	284	28	0	6	0	19	0	0	0	0	0	535	2281
5:30 PM	0	183	0	0	0	274	12	0	10	0	21	0	0	0	0	0	500	2169
5:45 PM	0	172	0	0	0	271	11	0	9	0	18	0	0	0	0	0	481	2097

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	4	996	0	0	0	1288	44	0	40	0	76	0	0	0	0	0	2448
Heavy Trucks	0	48	0		0	32	0		0	0	4		0	0	0		84
Pedestrians		32				4				32				48			116
Bicycles	1	5	0		0	5	2		0	0	1		0	0	0		14
Railroad																	
Stopped Buses																	

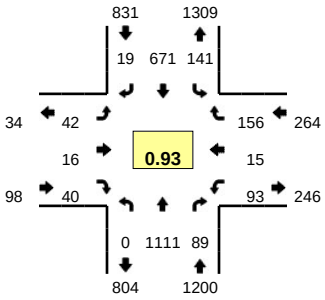
Comments:

Report generated on 4/18/2013 11:42 AM

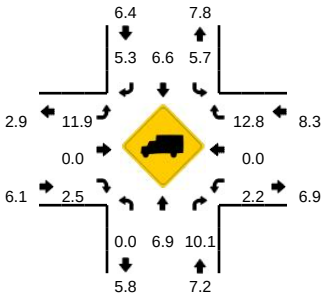
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

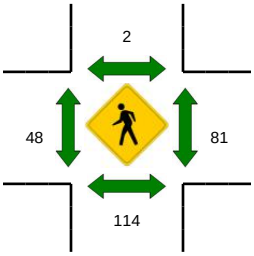
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

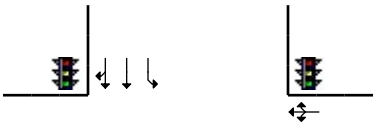
LOCATION: Potrero Ave -- 23rd St | **QC JOB #:** 10934012
CITY/STATE: San Francisco, CA | **DATE:** Tue, Apr 09 2013

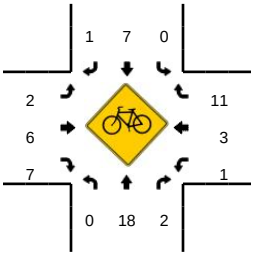


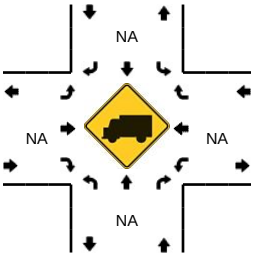
Peak-Hour: 7:45 AM -- 8:45 AM
Peak 15-Min: 8:30 AM -- 8:45 AM

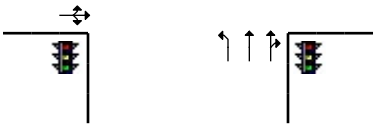


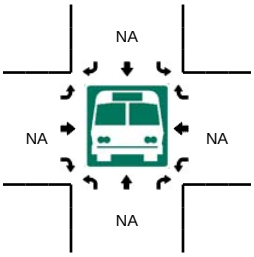












15-Min Count Period Beginning At	Potrero Ave (Northbound)				Potrero Ave (Southbound)				23rd St (Eastbound)				23rd St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	139	24	0	28	112	3	0	3	1	2	0	23	0	20	0	355	
7:15 AM	0	204	18	0	23	142	1	0	3	5	5	0	19	0	38	0	458	
7:30 AM	0	246	21	0	31	162	2	1	7	10	9	0	22	0	32	0	543	
7:45 AM	0	286	20	0	33	168	4	0	12	16	10	0	21	0	36	0	606	1962
8:00 AM	0	257	23	0	41	149	4	0	7	0	15	0	25	2	42	0	565	2172
8:15 AM	0	267	19	0	33	168	7	0	12	0	4	0	25	4	43	0	582	2296
8:30 AM	0	301	27	0	34	186	4	0	11	0	11	0	22	9	35	0	640	2393
8:45 AM	0	222	27	0	25	178	8	0	11	0	9	0	24	5	33	0	542	2329

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	1204	108	0	136	744	16	0	44	0	44	0	88	36	140	0	2560
Heavy Trucks	0	84	16		12	40	0		0	0	0		8	0	8		168
Pedestrians		104				0				52				76			232
Bicycles	0	6	0		0	1	0		1	0	1		0	1	5		15
Railroad																	
Stopped Buses																	

Comments:

Report generated on 4/18/2013 11:42 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

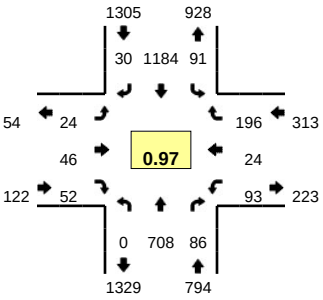
Type of peak hour being reported: Intersection Peak

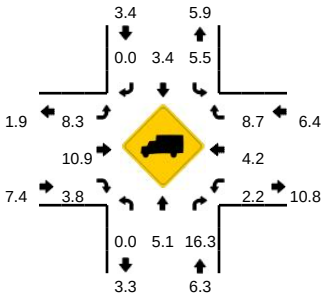
Method for determining peak hour: Total Entering Volume

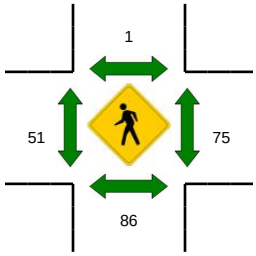
LOCATION: Potrero Ave -- 23rd St
CITY/STATE: San Francisco, CA

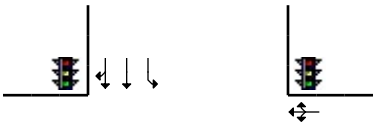
QC JOB #: 10934004
DATE: Tue, Apr 09 2013

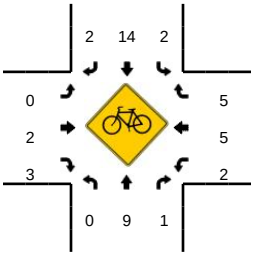
Peak-Hour: 4:00 PM -- 5:00 PM
Peak 15-Min: 4:30 PM -- 4:45 PM

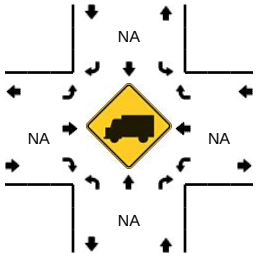


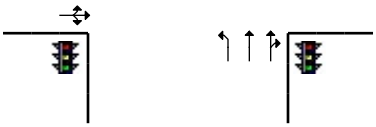


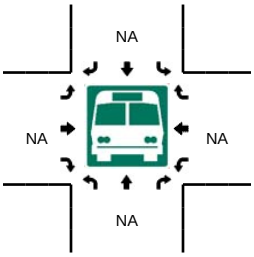












15-Min Count Period Beginning At	Potrero Ave (Northbound)				Potrero Ave (Southbound)				23rd St (Eastbound)				23rd St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	187	26	0	26	287	5	0	6	11	19	0	23	5	52	0	647	
4:15 PM	0	160	16	0	21	302	2	0	6	10	9	0	19	5	60	0	610	
4:30 PM	0	203	15	0	22	306	13	0	5	10	16	0	21	5	39	0	655	
4:45 PM	0	158	29	0	22	289	10	0	7	15	8	0	30	9	45	0	622	2534
5:00 PM	0	141	20	0	18	317	11	0	7	11	6	0	27	3	54	0	615	2502
5:15 PM	0	144	14	0	23	266	9	0	7	13	15	0	32	10	46	0	579	2471
5:30 PM	1	146	30	0	26	265	7	0	5	15	7	0	24	8	41	0	575	2391
5:45 PM	0	135	18	0	24	263	10	0	10	9	9	0	20	12	27	0	537	2306

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	812	60	0	88	1224	52	0	20	40	64	0	84	20	156	0	2620
Heavy Trucks	0	24	12		8	36	0		4	4	0		4	0	16		108
Pedestrians		84				4				24				108			220
Bicycles	0	3	0		1	4	0		0	0	1		0	0	2		11
Railroad Stopped Buses																	

Comments:

Report generated on 4/18/2013 11:42 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

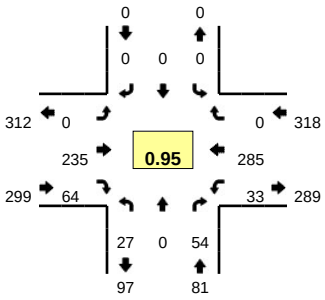
Type of peak hour being reported: Intersection Peak

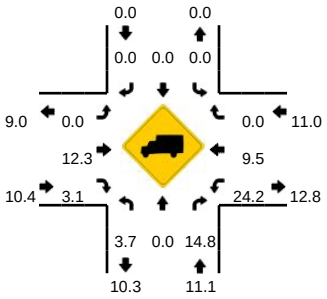
Method for determining peak hour: Total Entering Volume

LOCATION: Utah St -- 23rd St
CITY/STATE: San Francisco, CA

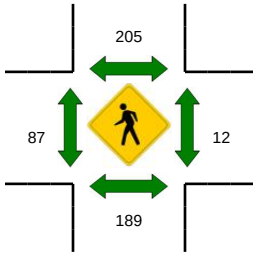
QC JOB #: 11368703
DATE: Wed, Nov 06 2013

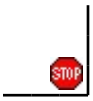
Peak-Hour: 7:55 AM -- 8:55 AM
Peak 15-Min: 8:00 AM -- 8:15 AM

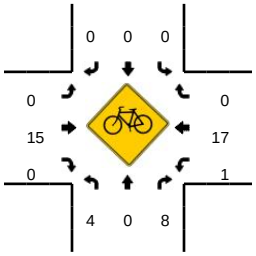


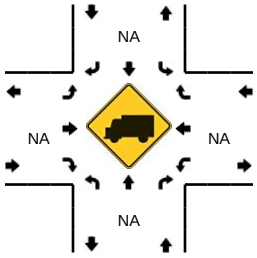


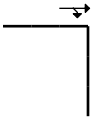
Quality Counts
TRANSPORTATION DATA COLLECTION SERVICES

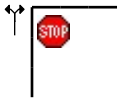


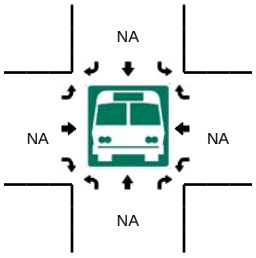












5-Min Count Period Beginning At	Utah St (Northbound)				Utah St (Southbound)				23rd St (Eastbound)				23rd St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	2	0	8	1	0	0	0	0	0	21	4	0	4	21	0	0	61	
7:05 AM	2	0	2	0	0	0	0	0	0	4	5	0	1	9	0	0	23	
7:10 AM	1	0	2	0	0	0	0	0	0	13	6	0	1	21	0	0	44	
7:15 AM	1	0	1	0	0	0	0	0	0	15	3	0	1	21	0	0	42	
7:20 AM	1	0	2	0	0	0	0	0	0	14	12	0	1	16	0	1	47	
7:25 AM	3	0	4	0	0	0	0	0	0	16	4	0	3	20	0	0	50	
7:30 AM	5	0	1	0	0	0	0	0	0	9	7	0	3	18	0	0	43	
7:35 AM	1	0	3	0	0	0	0	0	0	15	10	0	3	22	0	0	54	
7:40 AM	1	0	5	0	0	0	0	0	0	15	5	0	0	18	0	0	44	
7:45 AM	2	0	3	0	0	0	0	0	0	17	9	0	2	20	0	0	53	
7:50 AM	2	0	1	0	0	0	0	0	0	15	7	0	1	20	0	0	46	
7:55 AM	2	0	6	0	0	0	0	0	0	20	4	0	3	19	0	0	54	561
8:00 AM	2	0	5	0	0	0	0	0	0	22	9	0	2	23	0	0	63	563
8:05 AM	3	0	6	0	0	0	0	0	0	19	7	0	3	25	0	0	63	603
8:10 AM	3	0	2	0	0	0	0	0	0	21	5	0	2	24	0	0	57	616
8:15 AM	5	0	4	0	0	0	0	0	0	19	3	0	3	19	0	0	53	627
8:20 AM	1	0	4	0	0	0	0	0	0	19	7	0	3	30	0	0	64	644
8:25 AM	2	0	3	0	0	0	0	0	0	18	4	0	2	14	0	0	43	637
8:30 AM	2	0	4	0	0	0	0	0	0	21	2	0	3	31	0	0	63	657
8:35 AM	1	0	8	0	0	0	0	0	0	26	3	0	4	26	0	0	68	671
8:40 AM	2	0	0	0	0	0	0	0	0	15	9	0	2	22	0	0	50	677
8:45 AM	1	0	5	0	0	0	0	0	0	13	5	0	4	30	0	0	58	682
8:50 AM	3	0	7	0	0	0	0	0	0	22	6	0	2	22	0	0	62	698
8:55 AM	2	0	4	0	0	0	0	0	0	12	11	0	3	13	0	0	45	689

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	32	0	52	0	0	0	0	0	0	248	84	0	28	288	0	0	732
Heavy Trucks	0	0	4		0	0	0		0	32	0		8	16	0		60
Pedestrians		144				212				96				16			468
Bicycles	3	0	3		0	0	0		0	4	0		0	4	0		14
Railroad																	
Stopped Buses																	

Comments: AM and PM Ped

Report generated on 11/21/2013 3:30 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

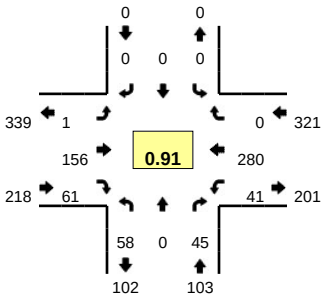
Type of peak hour being reported: Intersection Peak

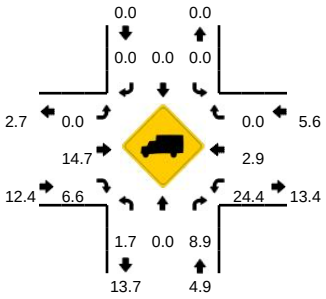
Method for determining peak hour: Total Entering Volume

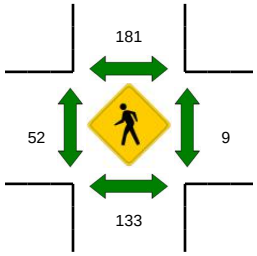
LOCATION: Utah St -- 23rd St
CITY/STATE: San Francisco, CA

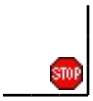
QC JOB #: 11368704
DATE: Wed, Nov 06 2013

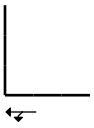
Peak-Hour: 4:35 PM -- 5:35 PM
Peak 15-Min: 4:55 PM -- 5:10 PM

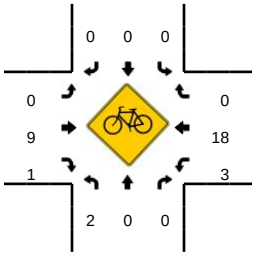


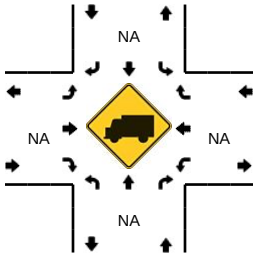


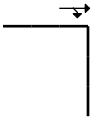


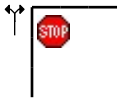


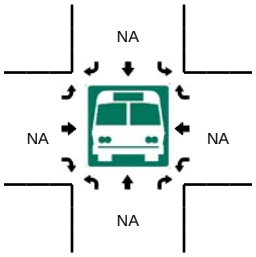












5-Min Count Period Beginning At	Utah St (Northbound)				Utah St (Southbound)				23rd St (Eastbound)				23rd St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	2	0	9	0	0	0	0	0	0	13	6	0	6	24	0	0	60	
4:05 PM	2	0	0	0	0	0	0	0	0	15	2	0	6	24	0	0	49	
4:10 PM	2	0	7	0	0	0	0	0	0	13	3	0	2	23	0	0	50	
4:15 PM	5	0	4	0	0	0	0	0	0	11	5	0	2	16	0	0	43	
4:20 PM	5	0	4	0	0	0	0	0	0	16	5	0	1	25	0	0	56	
4:25 PM	0	0	4	0	0	0	0	0	0	15	3	0	3	21	0	0	46	
4:30 PM	3	0	1	0	0	0	0	0	0	8	6	0	4	22	0	0	44	
4:35 PM	4	0	4	0	0	0	0	0	0	14	6	0	4	28	0	0	60	
4:40 PM	10	0	4	0	0	0	0	0	0	17	4	0	5	17	0	0	57	
4:45 PM	7	0	4	0	0	0	0	0	0	13	7	0	4	23	0	0	58	
4:50 PM	3	0	2	0	0	0	0	0	0	10	6	0	4	19	0	0	44	
4:55 PM	5	0	4	0	0	0	0	0	0	15	6	0	2	27	0	0	59	626
5:00 PM	0	0	3	0	0	0	0	0	0	13	10	1	8	24	0	0	59	625
5:05 PM	8	0	4	0	0	0	0	0	0	11	1	0	3	32	0	0	59	635
5:10 PM	5	0	2	0	0	0	0	0	0	12	3	0	2	20	0	0	44	629
5:15 PM	4	0	3	0	0	0	0	0	0	11	8	0	2	21	0	0	49	635
5:20 PM	5	0	4	0	0	0	0	0	0	11	2	0	2	26	0	0	50	629
5:25 PM	3	0	8	0	0	0	0	0	0	14	7	0	2	23	0	0	57	640
5:30 PM	4	0	3	0	0	0	0	0	0	15	1	0	3	20	0	0	46	642
5:35 PM	5	0	1	0	0	0	0	0	0	15	4	0	2	24	0	0	51	633
5:40 PM	4	0	2	0	0	0	0	0	0	5	2	0	2	17	0	0	32	608
5:45 PM	2	0	3	0	0	0	0	0	0	10	4	0	5	12	0	0	36	586
5:50 PM	2	0	2	0	0	0	0	0	0	10	8	0	2	23	0	0	47	589
5:55 PM	5	0	6	0	0	0	0	0	0	14	6	0	2	16	0	0	49	579

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	52	0	44	0	0	0	0	0	0	156	68	4	52	332	0	0	708
Heavy Trucks	0	0	4		0	0	0		0	28	0		4	0	0		36
Pedestrians		144				216				64				8			432
Bicycles	1	0	0		0	0	0		0	9	0		0	5	0		15
Railroad																	
Stopped Buses																	

Comments: AM and PM Ped

Report generated on 11/21/2013 3:30 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: SB Dwy (Utah St) -- 23rd St

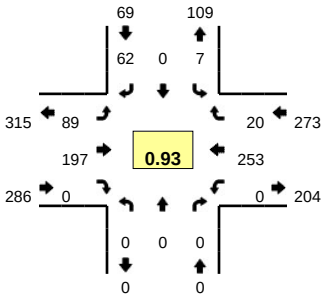
CITY/STATE: San Francisco, CA

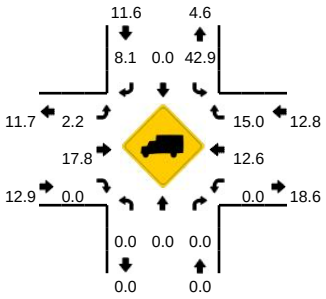
QC JOB #: 11368705

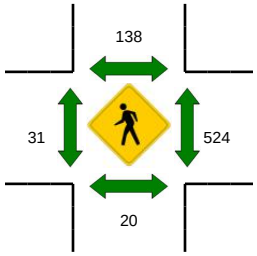
DATE: Wed, Nov 06 2013

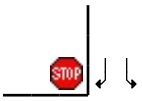
Peak-Hour: 7:55 AM -- 8:55 AM

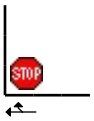
Peak 15-Min: 8:30 AM -- 8:45 AM

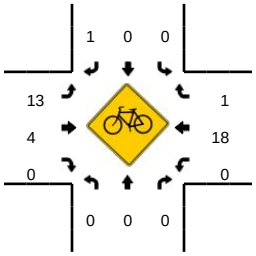


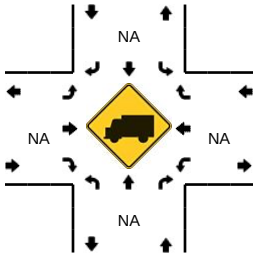


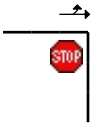


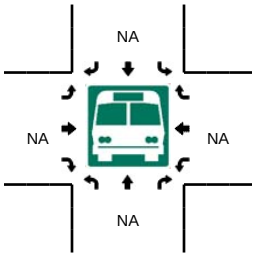












5-Min Count Period Beginning At	SB Dwy (Utah St) (Northbound)				SB Dwy (Utah St) (Southbound)				23rd St (Eastbound)				23rd St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	0	0	0	0	10	0	17	9	0	1	0	15	0	0	52	
7:05 AM	0	0	0	0	1	0	2	0	4	3	0	0	0	8	2	0	20	
7:10 AM	0	0	0	0	1	0	4	0	7	7	0	0	0	19	1	0	39	
7:15 AM	0	0	0	0	0	0	4	0	5	12	0	1	0	16	0	0	38	
7:20 AM	0	0	0	0	1	0	5	0	8	11	0	0	0	14	1	0	40	
7:25 AM	0	0	0	0	0	0	6	0	9	12	0	0	0	17	2	0	46	
7:30 AM	0	0	0	0	1	0	2	0	4	5	0	0	0	18	1	0	31	
7:35 AM	0	0	0	0	2	0	7	0	7	11	0	0	0	19	1	0	47	
7:40 AM	0	0	0	0	1	0	3	0	7	13	0	0	0	14	0	0	38	
7:45 AM	0	0	0	0	1	0	5	0	6	13	0	0	0	17	2	0	44	
7:50 AM	0	0	0	0	1	0	1	0	5	9	0	0	0	21	1	0	38	
7:55 AM	0	0	0	0	0	0	4	0	9	18	0	0	0	18	1	0	50	483
8:00 AM	0	0	0	0	0	0	10	0	8	20	0	0	0	14	2	0	54	485
8:05 AM	0	0	0	0	1	0	8	0	5	21	0	0	0	21	1	0	57	522
8:10 AM	0	0	0	0	1	0	1	0	5	18	0	0	0	25	1	0	51	534
8:15 AM	0	0	0	0	0	0	4	0	8	12	0	0	0	19	0	0	43	539
8:20 AM	0	0	0	0	2	0	6	0	9	13	0	0	0	26	2	0	58	557
8:25 AM	0	0	0	0	0	0	2	0	5	15	0	0	0	15	3	0	40	551
8:30 AM	0	0	0	0	1	0	9	0	10	16	0	0	0	26	1	0	63	583
8:35 AM	0	0	0	0	0	0	6	0	13	21	0	0	0	21	4	0	65	601
8:40 AM	0	0	0	0	0	0	2	0	2	15	0	0	0	20	2	0	41	604
8:45 AM	0	0	0	0	1	0	4	0	6	12	0	0	0	30	2	0	55	615
8:50 AM	0	0	0	0	1	0	6	0	9	16	0	0	0	18	1	0	51	628
8:55 AM	0	0	0	0	1	0	2	0	4	10	0	0	0	14	2	0	33	611

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	0	0	0	4	0	68	0	100	208	0	0	0	268	28	0	676
Heavy Trucks	0	0	0		4	0	8		4	36	0		0	40	0		92
Pedestrians		24				168				44				416			652
Bicycles	0	0	0		0	0	1		3	0	0		0	7	0		11
Railroad																	
Stopped Buses																	

Comments: AM and PM Ped

Report generated on 11/21/2013 3:30 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: SB Dwy (Utah St) -- 23rd St

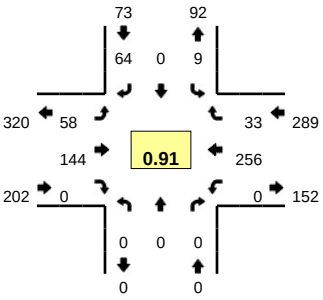
CITY/STATE: San Francisco, CA

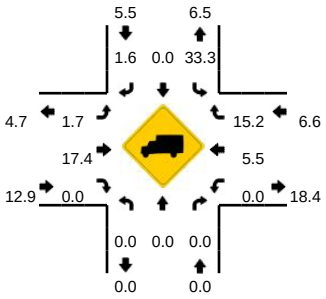
QC JOB #: 11368706

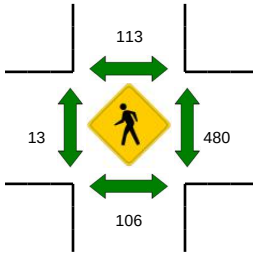
DATE: Wed, Nov 06 2013

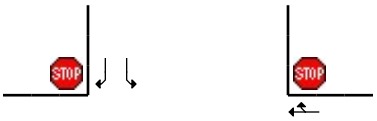
Peak-Hour: 4:40 PM -- 5:40 PM

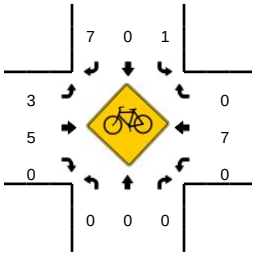
Peak 15-Min: 4:55 PM -- 5:10 PM

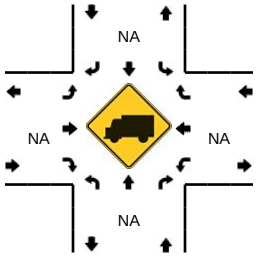


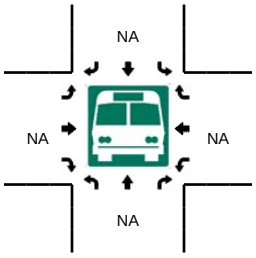












5-Min Count Period Beginning At	SB Dwy (Utah St) (Northbound)				SB Dwy (Utah St) (Southbound)				23rd St (Eastbound)				23rd St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0	0	1	0	8	0	11	11	0	0	0	22	2	0	55	
4:05 PM	0	0	0	0	1	0	8	0	6	7	0	0	0	21	3	0	46	
4:10 PM	0	0	0	0	2	0	3	0	7	15	0	0	0	21	1	0	49	
4:15 PM	0	0	0	0	0	0	4	0	3	11	0	0	0	15	0	0	33	
4:20 PM	0	0	0	0	0	0	8	0	5	14	0	0	0	17	2	0	46	
4:25 PM	0	0	0	0	0	0	6	0	8	10	0	0	0	19	4	0	47	
4:30 PM	0	0	0	0	2	0	6	0	0	10	0	0	0	20	0	0	38	
4:35 PM	0	0	0	0	0	0	3	0	4	11	0	0	0	28	3	0	49	
4:40 PM	0	0	0	0	0	0	7	0	8	15	0	0	0	17	4	0	51	
4:45 PM	0	0	0	0	0	0	7	0	7	12	0	0	0	18	2	0	46	
4:50 PM	0	0	0	0	1	0	4	0	2	6	0	0	0	17	3	0	33	
4:55 PM	0	0	0	0	1	0	6	0	4	12	0	0	0	24	4	0	51	544
5:00 PM	0	0	0	0	0	0	10	0	7	13	0	0	0	22	2	0	54	543
5:05 PM	0	0	0	0	0	0	5	0	3	8	0	0	0	32	2	0	50	547
5:10 PM	0	0	0	0	2	0	3	1	4	11	0	0	0	22	2	0	45	543
5:15 PM	0	0	0	0	2	0	3	0	5	7	0	0	0	17	3	0	37	547
5:20 PM	0	0	0	0	0	0	3	0	2	14	0	0	0	25	2	0	46	547
5:25 PM	0	0	0	0	0	0	3	0	6	16	0	0	0	25	4	0	54	554
5:30 PM	0	0	0	0	1	0	4	0	5	12	0	0	0	17	2	0	41	557
5:35 PM	0	0	0	0	1	0	9	0	5	18	0	0	0	20	3	0	56	564
5:40 PM	0	0	0	0	0	0	2	0	3	3	0	0	0	15	0	0	23	536
5:45 PM	0	0	0	0	0	0	4	0	1	13	0	0	0	15	2	0	35	525
5:50 PM	0	0	0	0	1	0	2	0	1	8	0	0	0	22	2	0	36	528
5:55 PM	0	0	0	0	1	0	5	0	8	12	0	1	0	13	0	0	40	517

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	0	0	0	4	0	84	0	56	132	0	0	0	312	32	0	620
Heavy Trucks	0	0	0		0	0	0		4	28	0		0	4	8		44
Pedestrians		160				132				20				608			920
Bicycles	0	0	0		0	0	0		3	5	0		0	1	0		9
Railroad																	
Stopped Buses																	

Comments: AM and PM Ped

Report generated on 11/21/2013 3:30 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: San Bruno Ave -- 23rd St

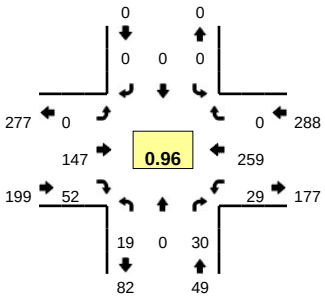
CITY/STATE: san Francisco, CA

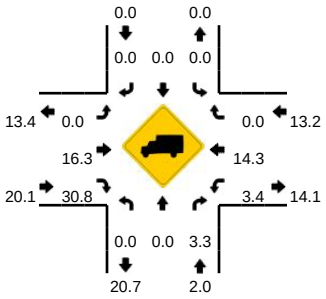
QC JOB #: 11368707

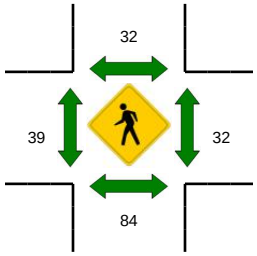
DATE: Wed, Nov 06 2013

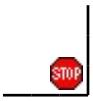
Peak-Hour: 8:00 AM -- 9:00 AM

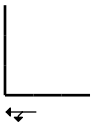
Peak 15-Min: 8:30 AM -- 8:45 AM

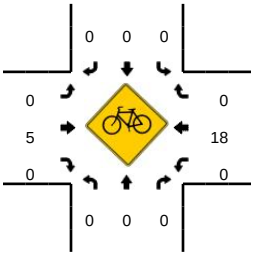


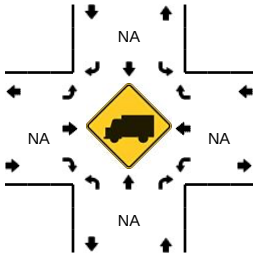


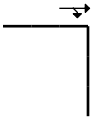


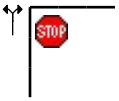


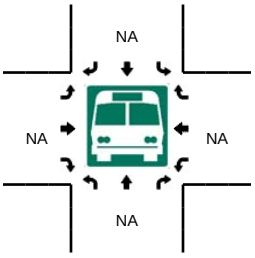












5-Min Count Period Beginning At	San Bruno Ave (Northbound)				San Bruno Ave (Southbound)				23rd St (Eastbound)				23rd St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	1	0	2	1	0	0	0	0	0	6	4	0	0	16	0	0	30	
7:05 AM	0	0	0	1	0	0	0	0	0	3	1	0	2	11	0	0	18	
7:10 AM	1	0	1	0	0	0	0	0	0	3	4	0	1	17	0	0	27	
7:15 AM	1	0	0	0	0	0	0	0	0	6	6	0	2	17	0	0	32	
7:20 AM	1	0	2	0	0	0	0	0	0	10	1	0	0	14	0	0	28	
7:25 AM	0	0	2	0	0	0	0	0	0	10	2	0	3	19	0	0	36	
7:30 AM	3	0	1	0	0	0	0	0	0	5	0	0	3	16	0	0	28	
7:35 AM	0	0	2	0	0	0	0	0	0	10	4	0	3	18	0	0	37	
7:40 AM	3	0	2	0	0	0	0	0	0	10	5	0	1	14	0	0	35	
7:45 AM	2	0	0	0	0	0	0	0	0	7	6	0	3	16	0	0	34	
7:50 AM	4	0	2	0	0	0	0	0	0	10	0	0	1	19	0	0	36	
7:55 AM	2	0	3	0	0	0	0	0	0	13	4	0	2	15	0	0	39	380
8:00 AM	4	0	2	0	0	0	0	0	0	14	6	0	0	14	0	0	40	390
8:05 AM	1	0	3	0	0	0	0	0	0	15	7	0	1	22	0	0	49	421
8:10 AM	3	0	2	0	0	0	0	0	0	15	4	0	0	23	0	0	47	441
8:15 AM	1	0	3	1	0	0	0	0	0	7	5	0	2	22	0	0	41	450
8:20 AM	2	0	3	0	0	0	0	0	0	12	4	0	6	24	0	0	51	473
8:25 AM	0	0	2	0	0	0	0	0	0	13	2	0	1	19	0	0	37	474
8:30 AM	1	0	2	0	0	0	0	0	0	14	4	0	5	23	0	0	49	495
8:35 AM	1	0	0	0	0	0	0	0	0	15	4	0	2	28	0	0	50	508
8:40 AM	0	0	3	0	0	0	0	0	0	11	4	0	4	19	0	0	41	514
8:45 AM	2	0	2	0	0	0	0	0	0	10	3	0	1	30	0	0	48	528
8:50 AM	0	0	6	0	0	0	0	0	0	14	3	0	2	18	0	0	43	535
8:55 AM	3	0	2	0	0	0	0	0	0	7	6	0	5	17	0	0	40	536

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	8	0	20	0	0	0	0	0	0	160	48	0	44	280	0	0	560
Heavy Trucks	0	0	0		0	0	0		0	20	20		4	40	0		84
Pedestrians		92				28				36				16			172
Bicycles	0	0	0		0	0	0		0	0	0		0	6	0		6
Railroad																	
Stopped Buses																	

Comments: AM and PM Ped

Report generated on 11/21/2013 3:30 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: San Bruno Ave -- 23rd St

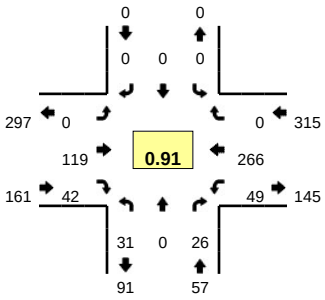
CITY/STATE: san Francisco, CA

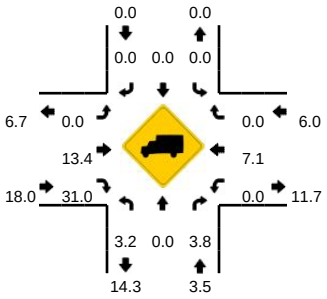
QC JOB #: 11368708

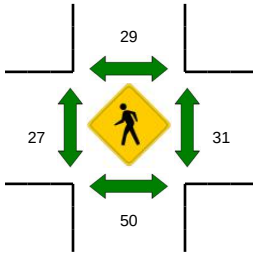
DATE: Wed, Nov 06 2013

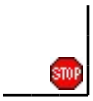
Peak-Hour: 4:40 PM -- 5:40 PM

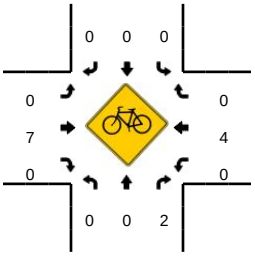
Peak 15-Min: 4:55 PM -- 5:10 PM

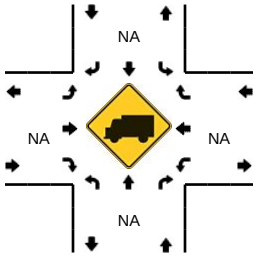


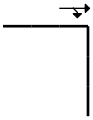


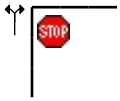


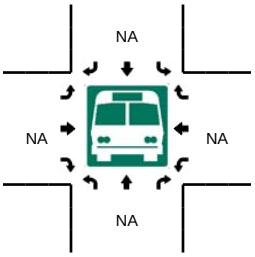












5-Min Count Period Beginning At	San Bruno Ave (Northbound)				San Bruno Ave (Southbound)				23rd St (Eastbound)				23rd St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	6	0	0	0	0	0	0	8	5	0	2	22	0	0	43	
4:05 PM	4	0	1	0	0	0	0	0	0	5	3	0	1	20	0	0	34	
4:10 PM	0	0	1	0	0	0	0	0	0	15	2	0	2	19	0	0	39	
4:15 PM	1	0	3	0	0	0	0	0	0	6	6	0	5	17	0	0	38	
4:20 PM	2	0	3	0	0	0	0	0	0	9	5	0	3	15	0	0	37	
4:25 PM	1	0	1	0	0	0	0	0	0	7	4	0	3	25	0	0	41	
4:30 PM	3	0	0	0	0	0	0	0	0	11	1	0	3	20	0	0	38	
4:35 PM	4	0	3	0	0	0	0	0	0	6	4	0	3	21	0	0	41	
4:40 PM	0	0	1	0	0	0	0	0	0	11	5	0	5	23	0	0	45	
4:45 PM	1	0	2	0	0	0	0	0	0	11	1	0	5	17	0	0	37	
4:50 PM	5	0	3	0	0	0	0	0	0	7	2	0	0	22	0	0	39	
4:55 PM	1	0	1	0	0	0	0	0	0	10	6	0	4	25	0	0	47	479
5:00 PM	3	0	1	0	0	0	0	0	0	9	5	0	2	24	0	0	44	480
5:05 PM	4	0	2	0	0	0	0	0	0	11	1	0	9	28	0	0	55	501
5:10 PM	4	0	0	0	0	0	0	0	0	10	3	0	5	20	0	0	42	504
5:15 PM	2	0	3	0	0	0	0	0	0	4	4	0	5	20	0	0	38	504
5:20 PM	6	0	7	0	0	0	0	0	0	11	4	0	2	22	0	0	52	519
5:25 PM	2	0	3	0	0	0	0	0	0	10	5	0	7	22	0	0	49	527
5:30 PM	1	0	0	0	0	0	0	0	0	10	2	0	2	19	0	0	34	523
5:35 PM	2	0	3	0	0	0	0	0	0	15	4	0	3	24	0	0	51	533
5:40 PM	2	0	0	0	0	0	0	0	0	3	0	0	1	8	0	0	14	502
5:45 PM	1	0	1	0	0	0	0	0	0	9	4	0	2	16	0	0	33	498
5:50 PM	0	0	0	0	0	0	0	0	0	9	4	0	0	23	0	0	36	495
5:55 PM	1	0	0	0	0	0	0	0	0	6	9	0	4	11	0	0	31	479

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	32	0	16	0	0	0	0	0	0	120	48	0	60	308	0	0	584
Heavy Trucks	0	0	0		0	0	0		0	16	16		0	12	0		44
Pedestrians		36				24				20				44			124
Bicycles	0	0	1		0	0	0		0	5	0		0	1	0		7
Railroad																	
Stopped Buses																	

Comments: AM and PM Ped

Report generated on 11/21/2013 3:30 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: SB Dwy (Vermont St) -- 23rd St

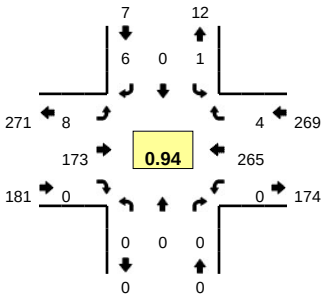
CITY/STATE: San Francisco, CA

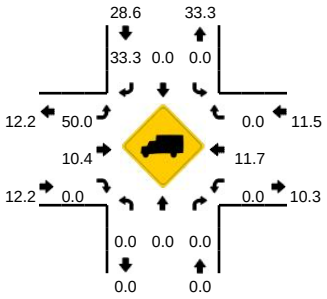
QC JOB #: 11368709

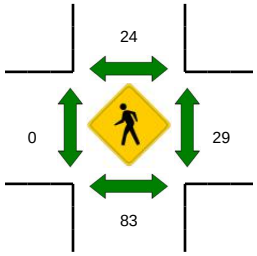
DATE: Wed, Nov 06 2013

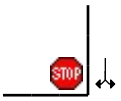
Peak-Hour: 7:55 AM -- 8:55 AM

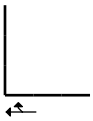
Peak 15-Min: 8:20 AM -- 8:35 AM

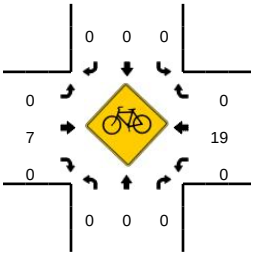


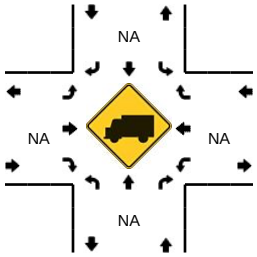


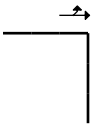


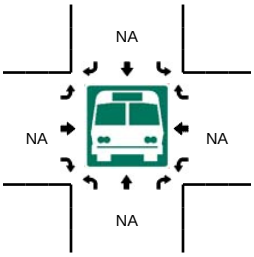












5-Min Count Period Beginning At	SB Dwy (Vermont St) (Northbound)				SB Dwy (Vermont St) (Southbound)				23rd St (Eastbound)				23rd St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	0	0	0	0	0	0	0	9	0	0	0	15	0	0	24	
7:05 AM	0	0	0	0	0	0	0	0	0	3	0	0	0	13	0	0	16	
7:10 AM	0	0	0	0	0	0	0	0	0	3	0	0	0	18	0	0	21	
7:15 AM	0	0	0	0	0	0	1	0	0	6	0	0	0	17	1	0	25	
7:20 AM	0	0	0	0	0	0	0	0	3	9	0	0	0	16	0	0	28	
7:25 AM	0	0	0	0	1	0	0	0	0	12	0	0	0	21	0	0	34	
7:30 AM	0	0	0	0	0	0	0	0	0	6	0	0	0	19	0	0	25	
7:35 AM	0	0	0	0	0	0	0	0	1	9	0	0	0	21	0	0	31	
7:40 AM	0	0	0	0	0	0	1	0	0	11	0	0	0	14	0	0	26	
7:45 AM	0	0	0	0	1	0	0	0	0	7	0	0	0	19	0	0	27	
7:50 AM	0	0	0	0	0	0	1	0	3	7	0	0	0	18	0	0	29	
7:55 AM	0	0	0	0	0	0	1	0	1	17	0	0	0	14	1	0	34	320
8:00 AM	0	0	0	0	1	0	0	0	0	14	0	0	0	13	0	0	28	324
8:05 AM	0	0	0	0	0	0	0	0	1	18	0	0	0	22	0	0	41	349
8:10 AM	0	0	0	0	0	0	0	0	2	13	0	0	0	23	0	0	38	366
8:15 AM	0	0	0	0	0	0	1	0	0	9	0	0	0	24	0	0	34	375
8:20 AM	0	0	0	0	0	0	0	0	1	13	0	0	0	29	2	0	45	392
8:25 AM	0	0	0	0	0	0	0	0	1	15	0	0	0	19	0	0	35	393
8:30 AM	0	0	0	0	0	0	0	0	0	17	0	0	0	25	0	0	42	410
8:35 AM	0	0	0	0	0	0	2	0	0	13	0	0	0	29	0	0	44	423
8:40 AM	0	0	0	0	0	0	1	0	1	14	0	0	0	20	0	0	36	433
8:45 AM	0	0	0	0	0	0	0	0	0	11	0	0	0	29	0	0	40	446
8:50 AM	0	0	0	0	0	0	1	0	1	19	0	0	0	18	1	0	40	457
8:55 AM	0	0	0	0	0	0	2	0	0	9	0	0	0	20	0	0	31	454

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	0	0	0	0	0	0	0	8	180	0	0	0	292	8	0	488
Heavy Trucks	0	0	0		0	0	0		4	24	0		0	44	0		72
Pedestrians		132				32				0				48			212
Bicycles	0	0	0		0	0	0		0	2	0		0	3	0		5
Railroad																	
Stopped Buses																	

Comments: AM and PM Ped

Report generated on 11/21/2013 3:30 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: SB Dwy (Vermont St) -- 23rd St

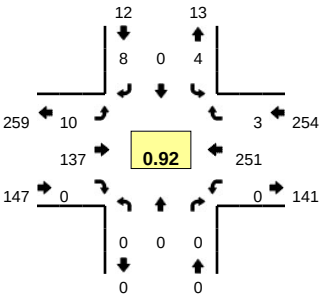
CITY/STATE: San Francisco, CA

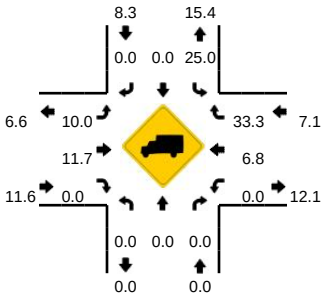
QC JOB #: 11368710

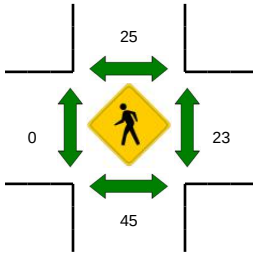
DATE: Wed, Nov 06 2013

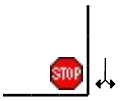
Peak-Hour: 4:40 PM -- 5:40 PM

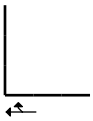
Peak 15-Min: 5:15 PM -- 5:30 PM

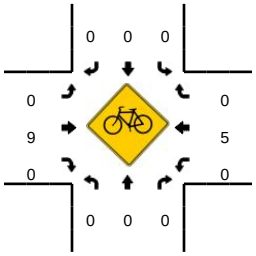


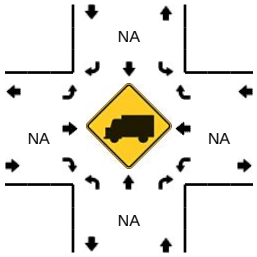


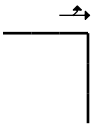


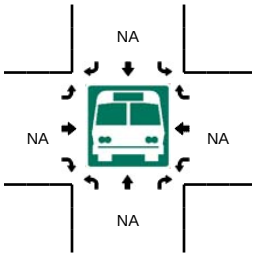












5-Min Count Period Beginning At	SB Dwy (Vermont St) (Northbound)				SB Dwy (Vermont St) (Southbound)				23rd St (Eastbound)				23rd St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0	0	0	0	2	0	0	12	0	0	0	20	0	0	34	
4:05 PM	0	0	0	0	0	0	1	0	0	5	0	0	0	19	1	0	26	
4:10 PM	0	0	0	0	0	0	0	0	0	16	0	0	0	17	0	0	33	
4:15 PM	0	0	0	0	0	0	0	0	0	6	0	0	0	17	1	0	24	
4:20 PM	0	0	0	0	0	0	0	0	1	10	0	1	0	15	0	0	27	
4:25 PM	0	0	0	0	0	0	0	0	1	8	0	1	0	22	0	0	32	
4:30 PM	0	0	0	0	0	0	1	0	1	10	0	0	0	18	1	0	31	
4:35 PM	0	0	0	0	0	0	0	0	0	9	0	0	0	21	0	0	30	
4:40 PM	0	0	0	0	0	0	1	0	1	12	0	0	0	22	0	0	36	
4:45 PM	0	0	0	0	0	0	0	0	2	11	0	0	0	18	0	0	31	
4:50 PM	0	0	0	0	1	0	0	0	3	7	0	0	0	19	1	0	31	
4:55 PM	0	0	0	0	0	0	2	0	1	10	0	0	0	25	1	0	39	374
5:00 PM	0	0	0	0	0	0	0	0	0	10	0	0	0	17	0	0	27	367
5:05 PM	0	0	0	0	2	0	0	0	1	12	0	0	0	28	0	0	43	384
5:10 PM	0	0	0	0	0	0	1	0	1	9	0	0	0	16	0	0	27	378
5:15 PM	0	0	0	0	1	0	0	0	0	9	0	0	0	25	0	0	35	389
5:20 PM	0	0	0	0	0	0	2	0	0	18	0	0	0	18	1	0	39	401
5:25 PM	0	0	0	0	0	0	1	0	1	12	0	0	0	24	0	0	38	407
5:30 PM	0	0	0	0	0	0	0	0	0	11	0	0	0	17	0	0	28	404
5:35 PM	0	0	0	0	0	0	1	0	0	16	0	0	0	22	0	0	39	413
5:40 PM	0	0	0	0	0	0	0	0	0	5	0	0	0	9	0	0	14	391
5:45 PM	0	0	0	0	0	0	0	0	1	9	0	0	0	19	1	0	30	390
5:50 PM	0	0	0	0	0	0	1	0	0	8	0	0	0	18	1	0	28	387
5:55 PM	0	0	0	0	1	0	0	0	0	5	0	0	0	13	1	0	20	368

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	0	0	0	4	0	12	0	4	156	0	0	0	268	4	0	448
Heavy Trucks	0	0	0		0	0	0		4	8	0		0	24	0		36
Pedestrians		40				8				0				20			68
Bicycles	0	0	0		0	0	0		0	1	0		0	1	0		2
Railroad																	
Stopped Buses																	

Comments: AM and PM Ped

Report generated on 11/21/2013 3:30 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

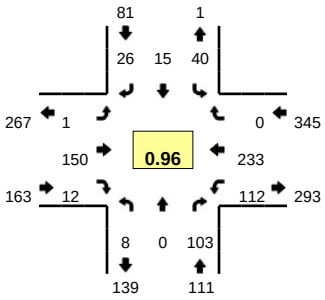
LOCATION: Vermont St -- 23rd St

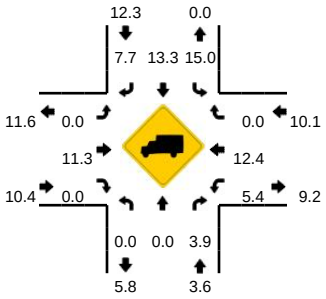
CITY/STATE: San Francisco, CA

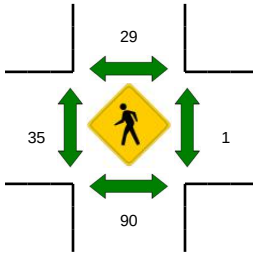
QC JOB #: 11368711

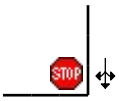
DATE: Wed, Nov 06 2013

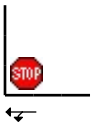
Peak-Hour: 7:50 AM -- 8:50 AM
Peak 15-Min: 8:15 AM -- 8:30 AM

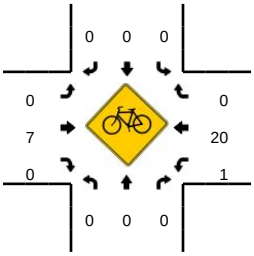


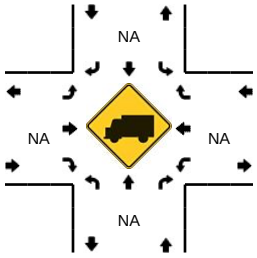


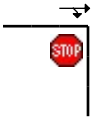


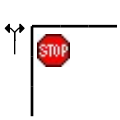


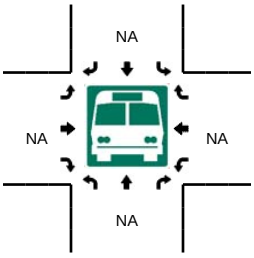












5-Min Count Period Beginning At	Vermont St (Northbound)				Vermont St (Southbound)				23rd St (Eastbound)				23rd St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	6	0	7	5	1	0	0	9	0	0	7	16	0	0	51	
7:05 AM	1	0	5	0	3	2	3	0	0	3	0	0	9	10	0	0	36	
7:10 AM	1	0	6	0	4	3	1	0	0	3	0	0	9	15	0	0	42	
7:15 AM	1	0	4	0	3	5	1	0	0	5	1	0	5	16	0	0	41	
7:20 AM	0	0	4	0	3	2	2	0	0	7	0	0	9	12	0	0	39	
7:25 AM	1	0	5	0	9	2	2	0	0	14	1	0	8	18	0	0	60	
7:30 AM	3	0	9	0	7	2	1	0	0	6	0	0	7	16	0	0	51	
7:35 AM	0	0	9	1	3	7	2	0	0	9	0	0	7	18	0	0	56	
7:40 AM	1	0	8	0	3	2	0	0	0	11	0	0	4	13	0	0	42	
7:45 AM	0	0	8	0	1	5	1	0	0	7	1	0	8	18	0	0	49	
7:50 AM	0	0	12	0	5	1	1	0	0	7	1	0	12	18	0	0	57	
7:55 AM	1	0	13	0	3	2	2	0	1	15	0	0	13	11	0	0	61	585
8:00 AM	0	0	9	0	2	1	1	0	0	15	1	0	9	13	0	0	51	585
8:05 AM	1	0	6	0	4	5	3	0	0	17	1	0	10	19	0	0	66	615
8:10 AM	1	0	5	0	4	1	1	0	0	12	1	0	5	19	0	0	49	622
8:15 AM	0	0	12	0	4	2	0	0	0	8	1	0	4	25	0	0	56	637
8:20 AM	1	0	11	0	5	0	2	0	0	11	1	0	9	26	0	0	66	664
8:25 AM	0	0	11	0	2	2	3	0	0	15	1	0	11	15	0	0	60	664
8:30 AM	0	0	2	0	4	0	6	0	0	15	2	0	7	19	0	0	55	668
8:35 AM	3	0	5	0	1	0	4	0	0	12	1	0	12	23	0	0	61	673
8:40 AM	0	0	13	0	4	0	2	0	0	13	1	0	13	18	0	0	64	695
8:45 AM	1	0	4	0	2	1	1	0	0	10	1	0	7	27	0	0	54	700
8:50 AM	0	0	6	0	4	1	4	0	0	15	4	0	4	15	0	0	53	696
8:55 AM	0	0	2	0	2	1	2	0	0	6	3	0	5	17	0	0	38	673

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	4	0	136	0	44	16	20	0	0	136	12	0	96	264	0	0	728
Heavy Trucks	0	0	12		4	4	0		0	16	0		4	28	0		68
Pedestrians		140				40				44				0			224
Bicycles	0	0	0		0	0	0		0	2	0		0	1	0		3
Railroad																	
Stopped Buses																	

Comments: AM and PM Ped

Report generated on 11/21/2013 3:30 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

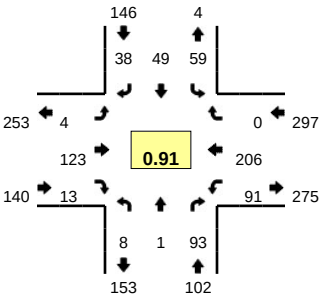
Type of peak hour being reported: Intersection Peak

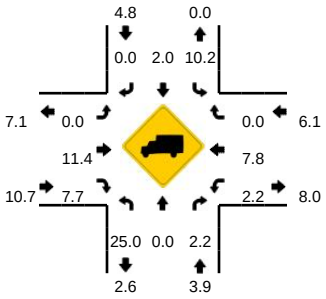
Method for determining peak hour: Total Entering Volume

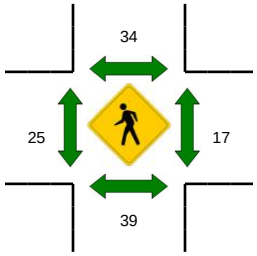
LOCATION: Vermont St -- 23rd St
CITY/STATE: San Francisco, CA

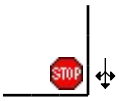
QC JOB #: 11368712
DATE: Wed, Nov 06 2013

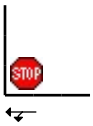
Peak-Hour: 4:40 PM -- 5:40 PM
Peak 15-Min: 5:05 PM -- 5:20 PM

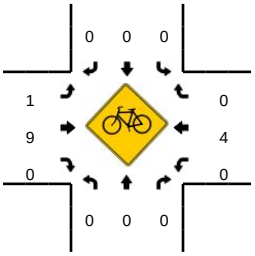


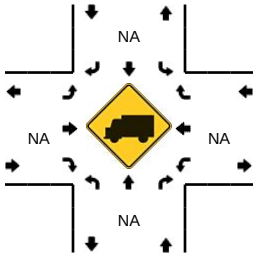


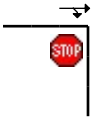


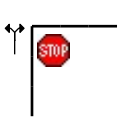


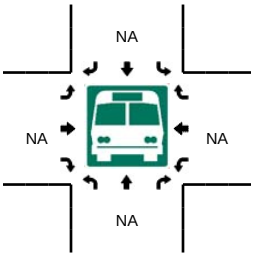












5-Min Count Period Beginning At	Vermont St (Northbound)				Vermont St (Southbound)				23rd St (Eastbound)				23rd St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	2	0	6	0	4	6	0	0	0	7	4	0	5	20	0	0	54	
4:05 PM	1	1	11	1	6	5	2	0	0	6	1	0	9	15	0	0	58	
4:10 PM	0	0	15	0	3	4	3	0	0	13	1	0	7	15	0	0	61	
4:15 PM	1	0	5	0	0	3	1	0	0	6	2	0	6	15	0	0	39	
4:20 PM	2	0	7	0	4	4	2	0	0	10	1	0	6	13	0	0	49	
4:25 PM	2	0	5	0	7	4	2	0	0	6	1	0	5	17	0	0	49	
4:30 PM	0	0	7	0	5	3	3	0	0	10	1	0	9	16	0	0	54	
4:35 PM	1	0	8	0	2	7	0	0	0	7	2	0	11	20	0	1	59	
4:40 PM	0	0	3	0	4	5	7	0	0	11	0	0	9	16	0	0	55	
4:45 PM	2	0	5	0	7	6	3	0	1	9	1	0	6	11	0	0	51	
4:50 PM	0	0	7	0	3	3	5	0	0	6	1	0	3	17	0	0	45	
4:55 PM	2	0	4	0	4	3	3	0	0	10	0	0	5	20	0	0	51	625
5:00 PM	0	0	8	0	6	5	1	0	0	9	1	1	9	13	0	0	53	624
5:05 PM	0	0	17	0	6	5	3	0	0	14	0	0	11	25	0	0	81	647
5:10 PM	0	0	4	0	10	2	4	0	0	8	0	0	8	13	0	0	49	635
5:15 PM	1	1	15	0	2	3	5	0	2	7	1	0	3	18	0	0	58	654
5:20 PM	1	0	9	0	5	2	1	0	0	13	5	0	10	19	0	0	65	670
5:25 PM	1	0	6	0	5	4	2	0	0	10	2	0	9	20	0	0	59	680
5:30 PM	1	0	9	0	4	5	1	0	0	12	0	0	7	15	0	0	54	680
5:35 PM	0	0	6	0	3	6	3	0	0	14	2	0	11	19	0	0	64	685
5:40 PM	1	0	9	0	7	2	0	0	0	4	1	0	7	8	0	0	39	669
5:45 PM	2	0	7	0	6	4	1	0	0	9	0	0	4	18	0	0	51	669
5:50 PM	1	0	2	0	3	1	3	0	0	7	0	1	5	14	0	0	37	661
5:55 PM	1	0	5	0	7	5	0	0	0	5	1	0	6	14	0	0	44	654

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	4	4	144	0	72	40	48	0	8	116	4	0	88	224	0	0	752
Heavy Trucks	0	0	0		0	0	0		0	16	0		0	24	0		40
Pedestrians		40				32				44				32			148
Bicycles	0	0	0		0	0	0		0	1	0		0	2	0		3
Railroad																	
Stopped Buses																	

Comments: AM and PM Ped

Report generated on 11/21/2013 3:30 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

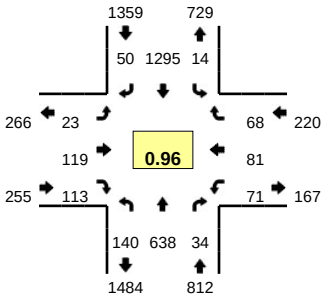
Type of peak hour being reported: Intersection Peak

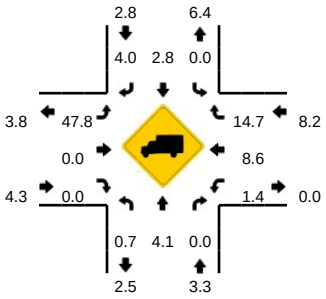
Method for determining peak hour: Total Entering Volume

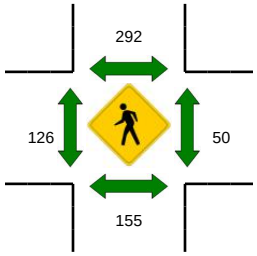
LOCATION: Potrero Ave -- 24th St
CITY/STATE: San Francisco, CA

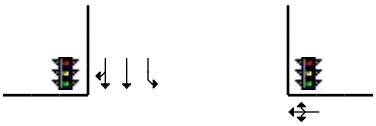
QC JOB #: 10934005
DATE: Tue, Apr 09 2013

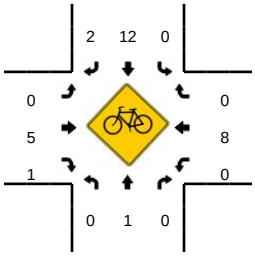
Peak-Hour: 4:15 PM -- 5:15 PM
Peak 15-Min: 4:30 PM -- 4:45 PM

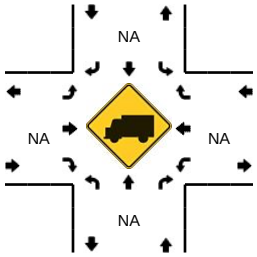


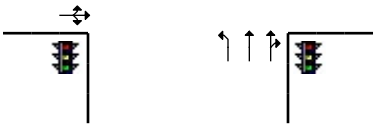


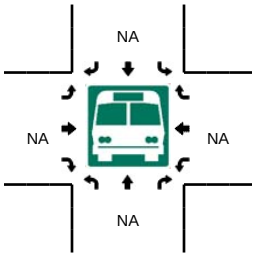












15-Min Count Period Beginning At	Potrero Ave (Northbound)				Potrero Ave (Southbound)				24th St (Eastbound)				24th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	38	177	8	0	4	301	12	0	5	17	24	0	17	16	24	0	643	
4:15 PM	34	162	7	0	2	332	10	0	7	15	17	0	19	24	12	0	641	
4:30 PM	31	183	10	2	6	319	11	0	4	38	36	0	14	16	21	0	691	
4:45 PM	36	162	6	1	2	313	12	0	7	38	30	0	18	16	16	0	657	2632
5:00 PM	34	131	11	2	4	331	17	0	5	28	30	0	20	25	19	0	657	2646
5:15 PM	28	134	3	0	1	305	9	0	4	26	37	0	28	26	13	0	614	2619
5:30 PM	29	140	7	3	2	304	17	0	6	25	26	0	18	25	15	0	617	2545
5:45 PM	33	127	12	1	3	272	9	0	9	25	32	0	18	9	8	0	558	2446

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	124	732	40	8	24	1276	44	0	16	152	144	0	56	64	84	0	2764
Heavy Trucks	0	8	0		0	48	0		12	0	0		0	12	8		88
Pedestrians		180				260				172				16			628
Bicycles	0	0	0		0	2	1		0	1	1		0	4	0		9
Railroad																	
Stopped Buses																	

Comments:

Report generated on 4/18/2013 11:42 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

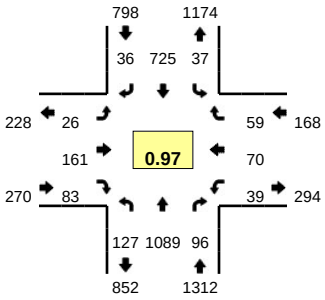
Type of peak hour being reported: Intersection Peak

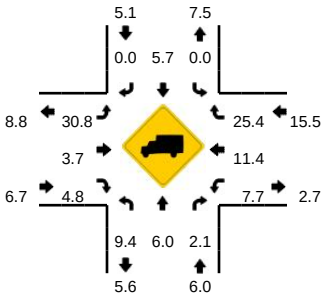
Method for determining peak hour: Total Entering Volume

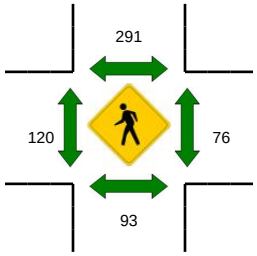
LOCATION: Potrero Ave -- 24th St
CITY/STATE: San Francisco, CA

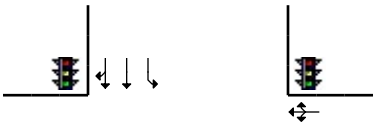
QC JOB #: 10934013
DATE: Tue, Apr 09 2013

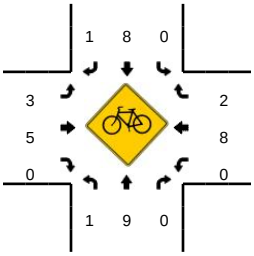
Peak-Hour: 7:45 AM -- 8:45 AM
Peak 15-Min: 8:30 AM -- 8:45 AM

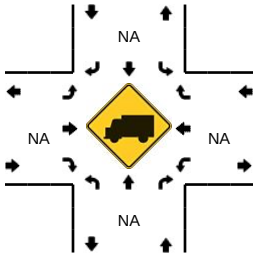


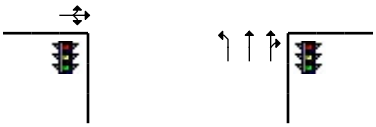


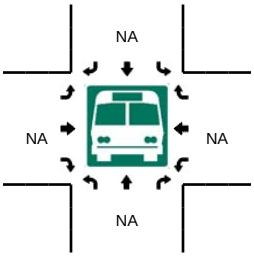












15-Min Count Period Beginning At	Potrero Ave (Northbound)				Potrero Ave (Southbound)				24th St (Eastbound)				24th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	33	149	23	0	4	128	10	0	5	9	18	0	5	9	10	0	403	
7:15 AM	30	211	23	1	0	142	4	0	4	16	20	0	6	7	7	0	471	
7:30 AM	43	251	18	1	3	186	5	1	6	34	15	0	7	18	11	0	599	
7:45 AM	28	266	32	0	9	176	5	0	7	51	24	0	15	22	13	0	648	2121
8:00 AM	39	264	25	2	6	179	5	0	4	37	20	0	8	21	18	0	628	2346
8:15 AM	28	265	20	2	14	172	14	0	5	44	16	0	11	12	12	0	615	2490
8:30 AM	27	294	19	1	8	198	12	0	10	29	23	0	5	15	16	0	657	2548
8:45 AM	28	236	19	2	6	202	8	0	11	33	17	0	7	14	12	0	595	2495

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	108	1176	76	4	32	792	48	0	40	116	92	0	20	60	64	0	2628
Heavy Trucks	4	76	0		0	32	0		16	4	8		4	4	16		164
Pedestrians		100				212				108				64			484
Bicycles	1	4	0		0	1	0		0	1	0		0	5	1		13
Railroad																	
Stopped Buses																	

Comments:

Report generated on 4/18/2013 11:42 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

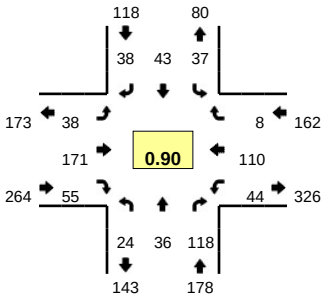
Type of peak hour being reported: Intersection Peak

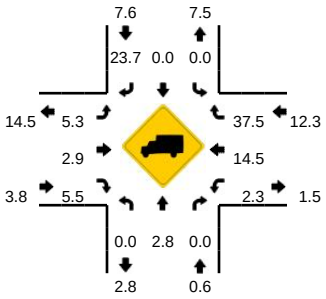
Method for determining peak hour: Total Entering Volume

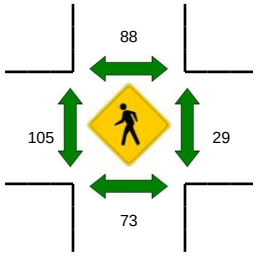
LOCATION: Utah St -- 24th St
CITY/STATE: San Francisco, CA

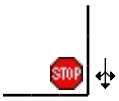
QC JOB #: 11368713
DATE: Wed, Nov 06 2013

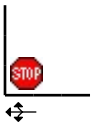
Peak-Hour: 7:25 AM -- 8:25 AM
Peak 15-Min: 7:45 AM -- 8:00 AM

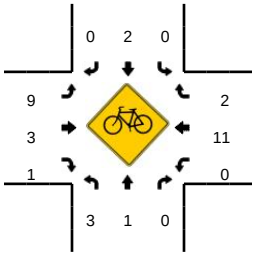


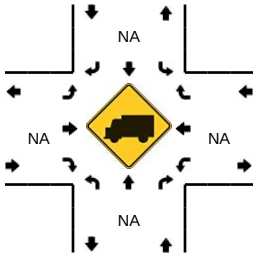


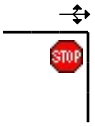


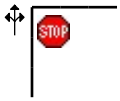


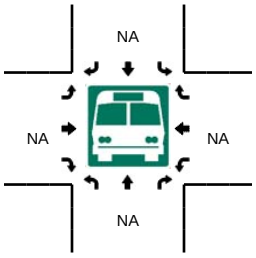












5-Min Count Period Beginning At	Utah St (Northbound)				Utah St (Southbound)				24th St (Eastbound)				24th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	7	6	0	1	2	2	0	4	10	0	0	1	6	0	0	39	
7:05 AM	2	1	8	0	4	3	0	0	0	7	2	0	2	8	1	0	38	
7:10 AM	1	0	7	0	4	4	0	0	5	6	2	0	2	6	0	0	37	
7:15 AM	0	2	8	0	1	1	1	0	1	15	2	0	1	11	1	0	44	
7:20 AM	3	0	12	0	7	3	2	0	3	11	1	0	2	5	0	0	49	
7:25 AM	0	5	8	0	3	5	3	0	2	12	3	1	6	7	0	0	55	
7:30 AM	2	3	9	1	2	5	6	0	3	10	3	0	5	6	1	0	56	
7:35 AM	1	1	10	0	3	6	3	0	3	10	6	0	2	7	1	0	53	
7:40 AM	2	2	7	0	1	4	2	0	4	13	9	0	8	12	1	0	65	
7:45 AM	2	1	6	0	6	2	2	0	2	15	7	0	7	11	0	0	61	
7:50 AM	2	3	13	0	3	4	1	0	0	18	3	0	3	17	1	0	68	
7:55 AM	1	5	11	0	3	1	2	0	5	22	7	0	6	6	2	0	71	636
8:00 AM	2	2	8	0	0	7	4	0	3	12	3	0	1	16	1	0	59	656
8:05 AM	6	5	11	0	3	5	4	0	4	13	4	0	1	7	0	0	63	681
8:10 AM	1	1	12	0	4	3	3	0	7	14	2	0	2	7	0	0	56	700
8:15 AM	2	8	12	0	3	1	2	0	0	14	2	0	2	6	1	0	53	709
8:20 AM	2	0	11	0	6	0	6	0	3	18	6	1	1	8	0	0	62	722
8:25 AM	0	2	8	1	2	2	3	0	2	18	4	1	0	6	2	0	51	718
8:30 AM	4	1	3	0	3	0	4	0	4	11	1	0	0	10	1	0	42	704
8:35 AM	1	3	6	0	1	2	3	0	6	13	0	0	1	9	0	0	45	696
8:40 AM	1	0	4	0	5	4	3	0	1	12	1	0	0	13	0	0	44	675
8:45 AM	1	2	4	0	1	1	4	0	3	14	2	0	2	7	1	0	42	656
8:50 AM	0	4	8	0	4	2	2	0	7	12	2	1	0	4	1	0	47	635
8:55 AM	1	4	5	0	11	3	3	0	1	11	4	0	0	5	1	0	49	613

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	20	36	120	0	48	28	20	0	28	220	68	0	64	136	12	0	800
Heavy Trucks	0	0	0		0	0	12		4	0	4		0	4	4		28
Pedestrians		104				84				184				28			400
Bicycles	2	1	0		0	1	0		1	1	0		0	5	0		11
Railroad																	
Stopped Buses																	

Comments: AM and PM, vehicles, Peds and Bikes

Report generated on 11/21/2013 3:30 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

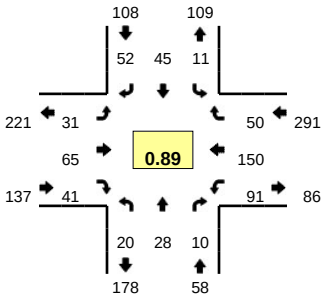
Type of peak hour being reported: Intersection Peak

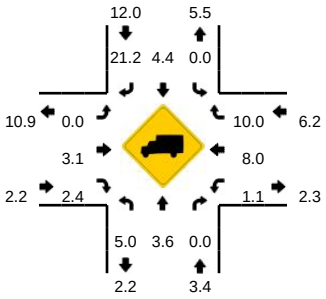
Method for determining peak hour: Total Entering Volume

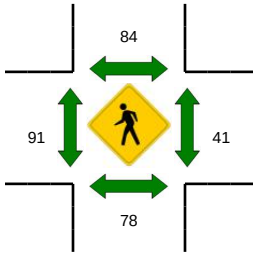
LOCATION: Utah St -- 24th St
CITY/STATE: San Francisco, CA

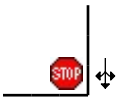
QC JOB #: 11368714
DATE: Wed, Nov 06 2013

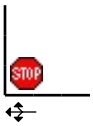
Peak-Hour: 4:35 PM -- 5:35 PM
Peak 15-Min: 5:00 PM -- 5:15 PM

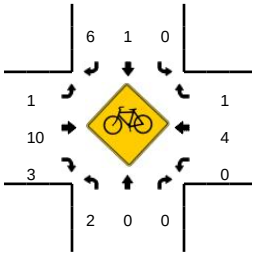


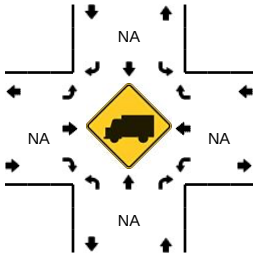


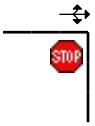


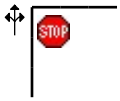


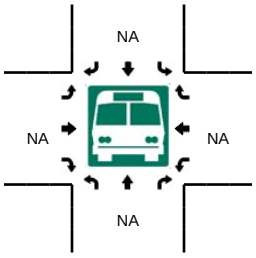












5-Min Count Period Beginning At	Utah St (Northbound)				Utah St (Southbound)				24th St (Eastbound)				24th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	2	0	0	0	2	1	7	0	8	7	5	1	9	12	3	0	57	
4:05 PM	3	1	0	0	1	5	5	0	1	2	3	0	9	16	1	0	47	
4:10 PM	1	3	2	0	0	3	4	1	3	6	1	0	7	7	2	0	40	
4:15 PM	0	3	2	1	0	2	3	0	2	9	6	0	5	18	4	0	55	
4:20 PM	1	1	1	0	2	1	4	0	4	5	2	0	7	16	4	0	48	
4:25 PM	2	1	0	0	1	3	6	0	2	3	2	0	4	8	1	0	33	
4:30 PM	2	1	0	0	0	2	8	0	1	5	2	0	5	13	4	0	43	
4:35 PM	1	2	2	0	4	3	3	0	5	4	3	0	7	17	5	0	56	
4:40 PM	0	2	1	0	1	6	4	0	4	1	4	0	12	15	7	0	57	
4:45 PM	1	4	0	0	1	7	4	0	3	6	6	0	2	13	3	0	50	
4:50 PM	1	1	3	0	0	4	4	0	1	4	1	0	8	14	3	0	44	
4:55 PM	2	0	1	0	0	3	3	0	2	4	3	0	6	10	5	0	39	569
5:00 PM	1	1	1	0	2	7	9	0	1	7	5	0	2	12	0	0	48	560
5:05 PM	1	4	0	0	0	4	6	0	5	9	5	0	6	11	4	0	55	568
5:10 PM	3	3	0	1	0	4	4	0	3	7	4	0	12	18	4	0	63	591
5:15 PM	1	5	2	0	0	2	5	0	2	1	1	0	11	10	5	0	45	581
5:20 PM	2	2	0	0	0	1	1	0	2	7	6	0	0	6	6	0	33	566
5:25 PM	4	2	0	0	2	2	4	0	1	9	2	0	15	12	3	0	56	589
5:30 PM	2	2	0	0	1	2	5	0	2	6	1	0	10	12	5	0	48	594
5:35 PM	1	1	0	0	2	3	1	0	2	5	2	0	3	16	2	0	38	576
5:40 PM	3	2	1	0	0	1	2	0	4	9	3	0	6	14	2	0	47	566
5:45 PM	0	1	0	0	0	1	7	0	2	10	4	0	4	8	2	0	39	555
5:50 PM	0	0	0	0	1	4	4	0	2	1	3	0	1	9	3	0	28	539
5:55 PM	1	2	0	0	1	1	5	0	5	3	3	0	2	10	2	0	35	535

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	20	32	4	4	8	60	76	0	36	92	56	0	80	164	32	0	664
Heavy Trucks	4	0	0		0	4	8		0	0	0		4	8	0		28
Pedestrians		124				76				132				64			396
Bicycles	0	0	0		0	0	0		0	1	0		0	1	0		2
Railroad																	
Stopped Buses																	

Comments: AM and PM, vehicles, Peds and Bikes

Report generated on 11/21/2013 3:30 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: South Driveway Garage Entrance -- 24th St

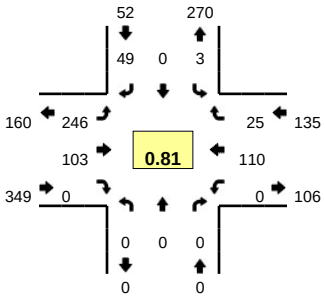
CITY/STATE: San Francisco, CA

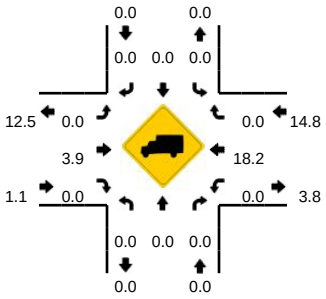
QC JOB #: 11593801

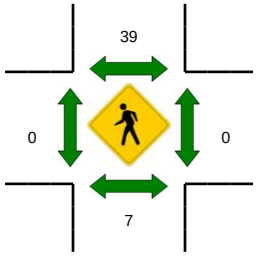
DATE: Thu, Dec 12 2013

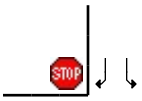
Peak-Hour: 7:25 AM -- 8:25 AM

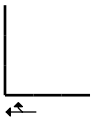
Peak 15-Min: 7:45 AM -- 8:00 AM

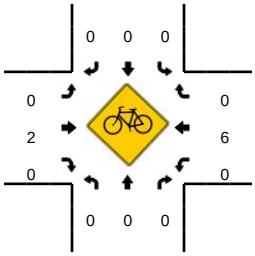


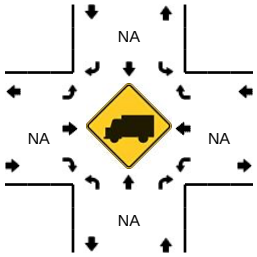


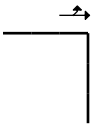


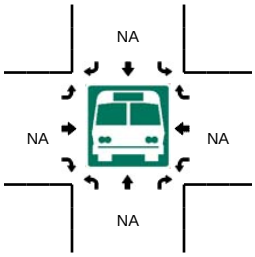












5-Min Count Period Beginning At	South Driveway Garage Entrance (Northbound)				South Driveway Garage Entrance (Southbound)				24th St (Eastbound)				24th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	0	0	0	0	1	0	23	5	0	0	0	6	1	0	36	
7:05 AM	0	0	0	0	2	0	2	0	12	5	0	0	0	6	1	0	28	
7:10 AM	0	0	0	0	0	0	4	0	12	4	0	0	0	5	0	0	25	
7:15 AM	0	0	0	0	2	0	5	0	21	3	0	1	0	6	1	0	39	
7:20 AM	0	0	0	0	0	0	4	0	21	5	0	0	0	5	0	0	35	
7:25 AM	0	0	0	0	0	0	4	0	18	5	0	0	0	9	3	0	39	
7:30 AM	0	0	0	0	1	0	2	0	14	13	0	0	0	2	2	0	34	
7:35 AM	0	0	0	0	0	0	9	0	19	15	0	1	0	8	5	0	57	
7:40 AM	0	0	0	0	1	0	8	0	12	3	0	0	0	16	1	0	41	
7:45 AM	0	0	0	0	0	0	6	0	34	5	0	0	0	8	5	0	58	
7:50 AM	0	0	0	0	1	0	4	0	24	8	0	0	0	12	3	0	52	
7:55 AM	0	0	0	0	0	0	8	0	24	9	0	0	0	13	1	0	55	499
8:00 AM	0	0	0	0	0	0	2	0	24	15	0	0	0	9	3	0	53	516
8:05 AM	0	0	0	0	0	0	4	0	13	6	0	0	0	8	0	0	31	519
8:10 AM	0	0	0	0	0	0	2	0	19	1	0	0	0	6	1	0	29	523
8:15 AM	0	0	0	0	0	0	0	0	19	13	0	0	0	11	1	0	44	528
8:20 AM	0	0	0	0	0	0	0	0	25	10	0	0	0	8	0	0	43	536
8:25 AM	0	0	0	0	0	0	1	0	15	9	0	0	0	6	4	0	35	532
8:30 AM	0	0	0	0	0	0	0	0	9	8	0	0	0	13	2	0	32	530
8:35 AM	0	0	0	0	0	0	0	0	13	12	0	0	0	10	3	0	38	511
8:40 AM	0	0	0	0	0	0	3	0	16	10	0	0	0	8	0	0	37	507
8:45 AM	0	0	0	0	0	0	2	0	11	5	0	0	0	6	0	0	24	473
8:50 AM	0	0	0	0	0	0	1	0	16	7	0	0	0	9	2	0	35	456
8:55 AM	0	0	0	0	0	0	1	0	13	10	0	0	0	5	0	0	29	430

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	0	0	0	4	0	72	0	328	88	0	0	0	132	36	0	660
Heavy Trucks	0	0	0		0	0	0		0	0	0		0	8	0		8
Pedestrians		8				44				0				0			52
Bicycles	0	0	0		0	0	0		0	1	0		0	1	0		2
Railroad																	
Stopped Buses																	

Comments:

Report generated on 12/20/2013 8:21 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: South Driveway Garage Entrance -- 24th St

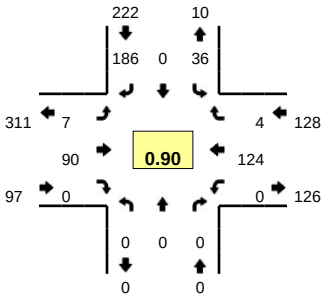
CITY/STATE: San Francisco, CA

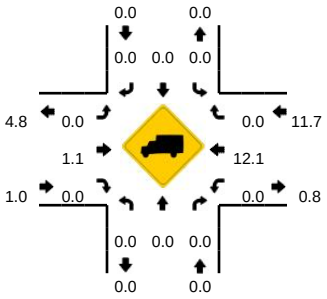
QC JOB #: 11593802

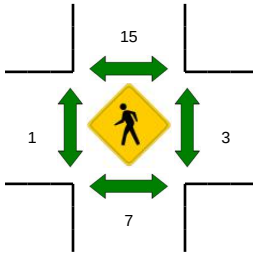
DATE: Thu, Dec 12 2013

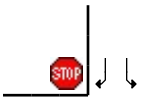
Peak-Hour: 4:25 PM -- 5:25 PM

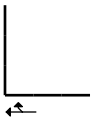
Peak 15-Min: 5:10 PM -- 5:25 PM

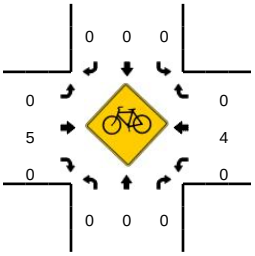


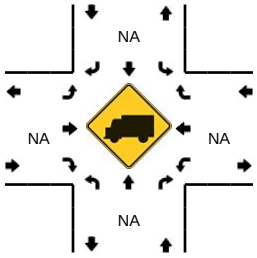


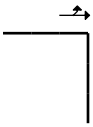


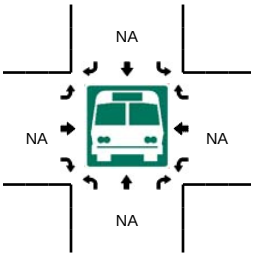












5-Min Count Period Beginning At	South Driveway Garage Entrance (Northbound)				South Driveway Garage Entrance (Southbound)				24th St (Eastbound)				24th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0	0	2	0	10	0	1	9	0	1	0	9	0	0	32	
4:05 PM	0	0	0	0	1	0	11	0	0	5	0	0	0	14	0	0	31	
4:10 PM	0	0	0	0	2	0	19	0	0	10	0	0	0	11	0	0	42	
4:15 PM	0	0	0	0	1	0	10	0	2	2	0	0	0	7	0	0	22	
4:20 PM	0	0	0	0	2	0	8	0	1	6	0	0	0	14	0	1	32	
4:25 PM	0	0	0	0	1	0	12	0	1	16	0	0	0	9	1	0	40	
4:30 PM	0	0	0	0	2	0	14	0	0	2	0	1	0	6	0	0	25	
4:35 PM	0	0	0	0	3	0	25	0	1	7	0	0	0	12	1	0	49	
4:40 PM	0	0	0	0	3	0	17	0	1	8	0	0	0	11	1	0	41	
4:45 PM	0	0	0	0	0	0	14	0	0	7	0	0	0	9	0	0	30	
4:50 PM	0	0	0	0	2	0	14	0	0	3	0	0	0	11	0	0	30	
4:55 PM	0	0	0	0	5	0	11	0	0	6	0	0	0	7	0	0	29	403
5:00 PM	0	0	0	0	0	0	20	0	1	11	0	0	0	11	0	0	43	414
5:05 PM	0	0	0	0	4	0	12	0	1	4	0	0	0	15	0	0	36	419
5:10 PM	0	0	0	0	4	0	23	0	1	6	0	0	0	9	1	0	44	421
5:15 PM	0	0	0	0	7	0	12	0	0	9	0	0	0	11	0	0	39	438
5:20 PM	0	0	0	0	5	0	12	0	0	11	0	0	0	13	0	0	41	447
5:25 PM	0	0	0	0	0	0	12	0	1	5	0	0	0	13	0	0	31	438
5:30 PM	0	0	0	0	1	0	13	0	1	8	0	0	0	5	1	0	29	442
5:35 PM	0	0	0	0	2	0	9	0	1	9	0	0	0	7	3	0	31	424
5:40 PM	0	0	0	0	3	0	8	0	0	6	0	0	0	8	1	0	26	409
5:45 PM	0	0	0	0	0	0	5	0	0	6	0	0	0	4	0	0	15	394
5:50 PM	0	0	0	0	1	0	7	0	0	9	0	1	0	8	0	0	26	390
5:55 PM	0	0	0	0	0	0	1	0	0	3	0	1	0	5	0	0	10	371

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	0	0	0	64	0	188	0	4	104	0	0	0	132	4	0	496
Heavy Trucks	0	0	0		0	0	0		0	0	0		0	8	0		8
Pedestrians		0				20				0				0			20
Bicycles	0	0	0		0	0	0		0	2	0		0	2	0		4
Railroad																	
Stopped Buses																	

Comments:

Report generated on 12/20/2013 8:21 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

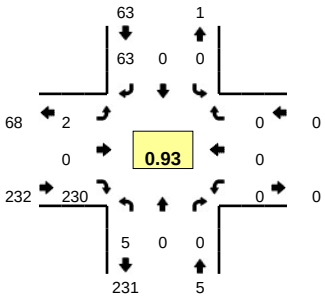
Type of peak hour being reported: Intersection Peak

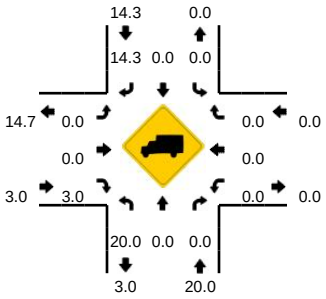
Method for determining peak hour: Total Entering Volume

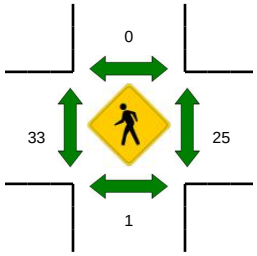
LOCATION: Potrero Ave -- 25th St (South)
CITY/STATE: San Francisco, CA

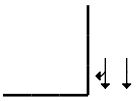
QC JOB #: 10934015
DATE: Tue, Apr 09 2013

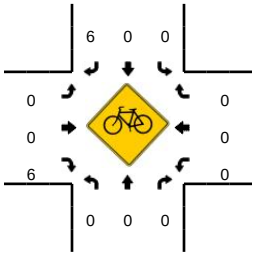
Peak-Hour: 7:30 AM -- 8:30 AM
Peak 15-Min: 7:45 AM -- 8:00 AM

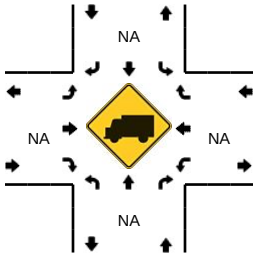


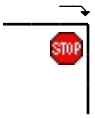


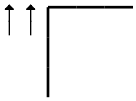


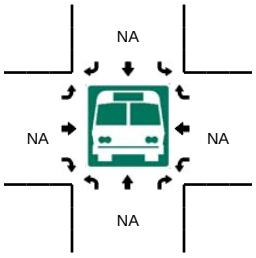












15-Min Count Period Beginning At	Potrero Ave (Northbound)				Potrero Ave (Southbound)				25th St (South) (Eastbound)				25th St (South) (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	1	0	0	0	0	0	10	0	0	0	31	0	0	0	0	0	42	
7:15 AM	0	0	0	0	0	0	15	0	0	0	44	0	0	0	0	0	59	
7:30 AM	2	0	0	0	0	0	7	0	1	0	56	1	0	0	0	0	67	
7:45 AM	0	0	0	1	0	0	17	0	0	0	63	0	0	0	0	0	81	249
8:00 AM	1	0	0	0	0	0	18	0	0	0	59	0	0	0	0	0	78	285
8:15 AM	1	0	0	0	0	0	21	0	0	0	52	0	0	0	0	0	74	300
8:30 AM	0	0	0	0	0	0	10	0	0	0	53	0	0	0	0	0	63	296
8:45 AM	0	0	0	0	0	0	13	0	0	0	49	0	0	0	0	0	62	277

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	0	0	4	0	0	68	0	0	0	252	0	0	0	0	0	324
Heavy Trucks	0	0	0		0	0	12		0	0	12		0	0	0		24
Pedestrians		4				0				32				20			56
Bicycles	0	0	0		0	0	1		0	0	2		0	0	0		3
Railroad																	
Stopped Buses																	

Comments: INS/OUTS ONLY

Report generated on 4/18/2013 11:42 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

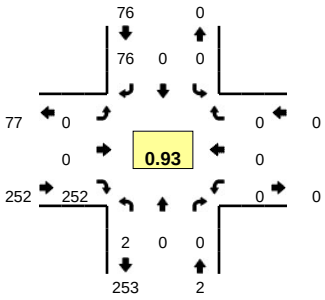
Type of peak hour being reported: Intersection Peak

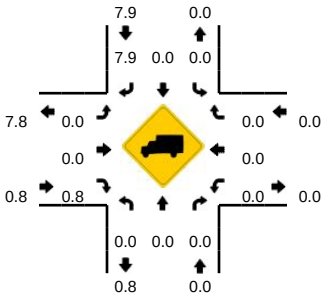
Method for determining peak hour: Total Entering Volume

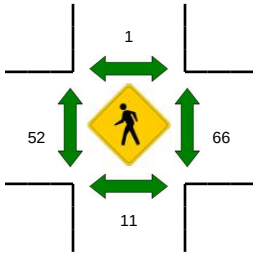
LOCATION: Potrero Ave -- 25th St (South)
CITY/STATE: San Francisco, CA

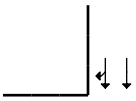
QC JOB #: 10934007
DATE: Tue, Apr 09 2013

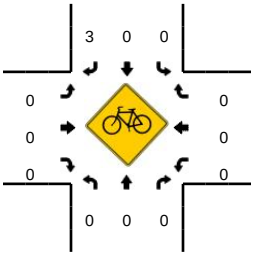
Peak-Hour: 4:30 PM -- 5:30 PM
Peak 15-Min: 5:15 PM -- 5:30 PM

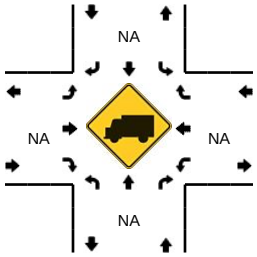


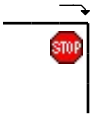


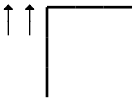


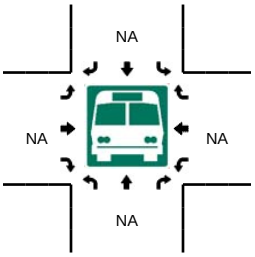












15-Min Count Period Beginning At	Potrero Ave (Northbound)				Potrero Ave (Southbound)				25th St (South) (Eastbound)				25th St (South) (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	1	0	0	0	0	0	8	0	0	0	66	0	0	0	0	0	75	
4:15 PM	0	0	0	0	0	0	7	0	0	0	39	0	0	0	0	0	46	
4:30 PM	1	0	0	0	0	0	22	0	0	0	64	0	0	0	0	0	87	
4:45 PM	0	0	0	0	0	0	16	0	0	0	63	0	0	0	0	0	79	287
5:00 PM	0	0	0	0	0	0	14	0	0	0	61	0	0	0	0	0	75	287
5:15 PM	0	0	0	1	0	0	24	0	0	0	64	0	0	0	0	0	89	330
5:30 PM	0	0	0	0	0	0	22	0	0	0	55	0	0	0	0	0	77	320
5:45 PM	3	0	0	0	0	0	22	0	0	0	42	0	0	0	0	0	67	308

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	0	0	4	0	0	96	0	0	0	256	0	0	0	0	0	356
Heavy Trucks	0	0	0		0	0	8		0	0	0		0	0	0		8
Pedestrians		8				0				60				40			108
Bicycles	0	0	0		0	0	2		0	0	0		0	0	0		2
Railroad																	
Stopped Buses																	

Comments: INS/OUTS ONLY

Report generated on 4/18/2013 11:42 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

APPENDIX F: ANALYSIS ASSUMPTIONS

TABLE D1: SIGNALIZED INTERSECTION LOS CRITERIA		
Level of Service	**Description**	**Average Control Delay Per Vehicle (Seconds)**
A	Operations with very low delay occurring with favorable progression and/or short cycle length.	≤ 10.0
B	Operations with low delay occurring with good progression and/or short cycle lengths.	> 10.0 to 20.0
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	> 20.0 to 35.0
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high volume-to-capacity (V/C) ratios. Many vehicles stop and individual cycle failures are noticeable.	> 35.0 to 55.0
E	Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences. This is considered to be the limit of acceptable delay.	> 55.0 to 80.0
F	Operation with delays unacceptable to most drivers occurring due to over saturation, poor progression, or very long cycle lengths.	> 80.0

Source: Highway Capacity Manual – Special Report 209 (Transportation Research Board, 2000).

TABLE D2: UNSIGNALIZED INTERSECTION LOS CRITERIA		
Level of Service	**Description**	**Average Control Delay Per Vehicle (Seconds)**
A	Little or no traffic delays	≤ 10.0
B	Short traffic delays	> 10.0 to 15.0
C	Average traffic delays	> 15.0 to 25.0
D	Long traffic delays	> 25.0 to 35.0
E	Very long traffic delays	> 35.0 to 50.0
F	Extreme traffic delays with intersection capacity exceeded	> 50.0

Source: Highway Capacity Manual – Special Report 209 (Transportation Research Board, 2000).

TABLE D4: TRAFFIX HCM 2000 ADJUSTMENTS		
Factor	**Value**	**Source**
Area type	CBD	SF Guidelines and Field Observations
Lane width	11 feet	SF Guidelines and Field Observations
Grade	0%	SF Guidelines and Field Observations
Heavy vehicles	2%	SF Guidelines and Field Observations
Parking Maneuvers	5	SF Guidelines and Field Observations: When on-street parking present
Buses Blockages	5	SF Guidelines and Field Observations: When bus stops present
Pedestrians	Varies	Study Intersection Counts

Source: Fehr & Peers, 2014

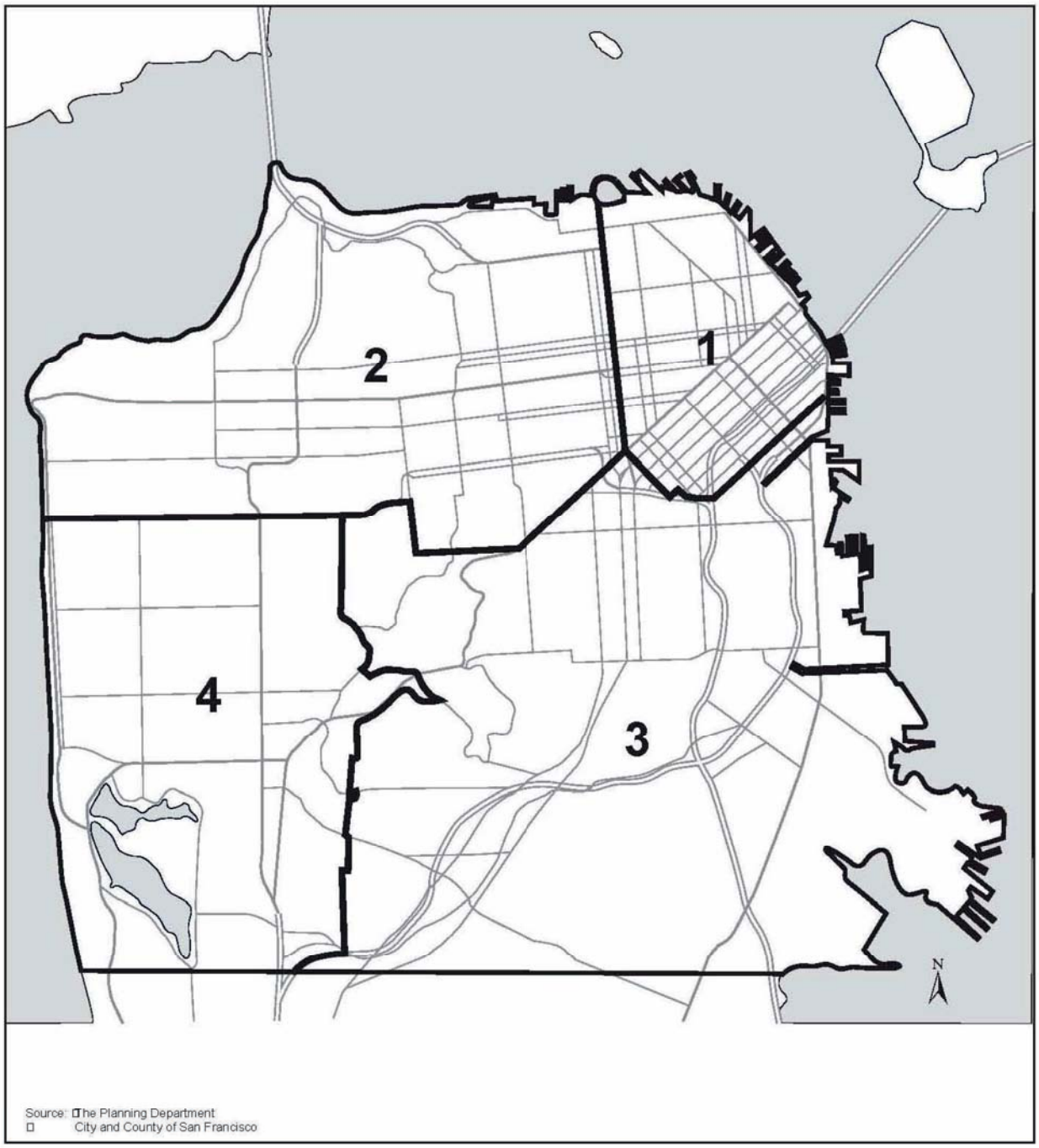


Figure A: Map of San Francisco Showing Superdistrict Boundaries

APPENDIX G: PARKING COUNTS

SFGH On-Campus Parking Supply and Occupancy

Parking Location	Current User	Notes	Existing Supply				Tuesday June 24th,2014					
							10 a.m. to Noon		Noon to 2 p.m.		6 p.m. to 8 p.m.	
			Regular	Carshare/ Carpool/ Electric	Disabled	Total	Occupancy	Percent	Occupancy	Percent	Occupancy	Percent
Lot A	Staff		11	0	0	11	5	45.5%	4	36.4%	4	36.4%
Lot B	Visitor & Staff	17 visitor metered + 2 staff	19	0	2	21	17	81.0%	16	76.2%	12	57.1%
Lot C	Visitor, Staff & City Vehicle	16 visitor metered + 4 city veh + 3 staff	23	0	0	23	14	60.9%	12	52.2%	4	17.4%
Lot D	City Vehicle	8 unmarked + 10 city vehicles	18	0	1	19	17	89.5%	15	78.9%	7	36.8%
Lot E	Staff		37	0	0	37	23	62.2%	22	59.5%	7	18.9%
Lot F	Staff	3 reserved + 22 staff	25	0	2	27	23	85.2%	19	70.4%	18	66.7%
Lot G	Staff		3	0	3	6	5	83.3%	6	100.0%	2	33.3%
Lot H	Staff	Some city veh parked on shoulders/gravel	43	0	0	43	46	107.0%	42	97.7%	11	25.6%
Lot I	Staff	9 reserved + 9 special permit	18	0	2	20	12	60.0%	7	35.0%	11	55.0%
Lot J	Staff		7	0	10	17	16	94.1%	16	94.1%	14	82.4%
Lot K	Staff		37	0	0	37	33	89.2%	33	89.2%	18	48.6%
Lot L	No longer available	Area under construction				0						
Lot M	No longer available	Area under construction				0						
Lot N	Staff	44 staff + 8 for construction vehicles	52	0	0	52	49	94.2%	50	96.2%	5	9.6%
Lot O	Visitor & Staff	10 staff	10	0	13	23	19	82.6%	23	100.0%	20	87.0%
Lot P	Emergency/Sheriff Dept.	6 emergency + 6 sheriff	12	0	0	12	3	25.0%	6	50.0%	5	41.7%
Lot Q	Service docks, no parking	refuse containers				0						
Lot R	Visitor	R1 through R6	112	0	0	112	111	99.1%	83	74.1%	43	38.4%
Lot S	Visitor		0	4	0	4	2	50.0%	2	50.0%	1	25.0%
Lot T	Sheriff Department		6	0	0	6	5	83.3%	6	100.0%	6	100.0%
Service Bldg 55	Staff (campus permit parking)	Some veh parked in unmarked spaces	35	0	2	37	39	105.4%	41	110.8%	14	37.8%
Subtotal surface lots			468	4	35	507	439	86.6%	403	79.5%	202	39.8%
23rd St Garage	Public	Attendant parking on 1st floor 10 am - 2 pm	785	18	17	820	845	103.0%	832	101.5%	288	35.1%
Total off-street			**1,253**	**22**	**52**	**1,327**	**1,284**	**96.8%**	**1,235**	**93.1%**	**490**	**36.9%**
Vermont St	Staff					102	94	92.2%	95	93.1%	44	43.1%
San Bruno Av	Visitor & Staff	20 visitor + 22 staff				42	40	95.2%	35	83.3%	26	61.9%
22nd Street	Visitor & Staff	7 visitor + 54 staff				61	56	91.8%	56	91.8%	28	45.9%
Total on-street						**205**	**190**	**92.7%**	**186**	**90.7%**	**98**	**47.8%**
GRAND TOTAL						**1,532**	**1,474**	**96.2%**	**1,421**	**92.8%**	**588**	**38.4%**
Total on-campus						**712**	**629**	**88.3%**	**589**	**82.7%**	**300**	**42.1%**
Staff						480	427	89.0%	416	86.7%	197	41.0%
Service/Official						41	27	66.9%	29	70.9%	19	45.6%
Patient/Visitor						1,011	1,019	100.8%	976	96.5%	373	36.8%
GRAND TOTAL						**1,532**	**1,474**	**96.2%**	**1,421**	**92.8%**	**588**	**38.4%**

SFGH Off-Campus Parking Suply and Occupancy

		Tuesday, June 24, 2014						
		Supply	10 am - Noon		Noon - 2 pm		6 pm - 8 pm	
Block	Boundary Street	(spaces)	Occupancy	Percent	Occupancy	Percent	Occupancy	Percent
1	20th, 21st, York, and Hampshire	55	29	53%	35	64%	51	93%
2	21st, 22nd,York, and Hampshire	48	26	54%	14	29%	45	94%
3	22nd, 23rd, York, and Hampshire	48	28	58%	26	54%	42	88%
4	23th', 24th, York, and Hampshire	53	28	53%	41	77%	52	98%
5	24th, 25th, York, and Hampshire	53	33	62%	33	62%	48	91%
6	20th, 21st, Hampshire, and Potrero	49	29	59%	37	76%	48	98%
7	21st, 22nd, Hampshire, and Potrero	37	35	95%	41	111%	46	124%
8	22nd, 23rd, Hampshire, and Potrero	43	37	86%	38	88%	42	98%
9	23rd, 24th, Hampshire, and Potrero	45	43	96%	39	87%	46	102%
10	24th, 25th, Hampshire, and Potrero	39	30	77%	31	79%	37	95%
11	Potrero, US 101, 20th, and 22nd	33	23	70%	13	39%	28	85%
12	22nd, 23rd, Potrero, and Vermont	18	15	83%	11	61%	13	72%
13	23rd, 24th, Potrero, and Utah	31	29	94%	28	90%	30	97%
14	24th, 25th, Potrero, and Utah	42	41	98%	31	74%	42	100%
15	23rd, 24th, Utah, and San Bruno	88	78	89%	83	94%	89	101%
16	24th, 25th, Utah, and San Bruno	47	36	77%	32	68%	39	83%
17	23rd, 24th, San Bruno, and Vermont	38	32	84%	32	84%	37	97%
18	24th, 25th, San Bruno, and Vermont	40	34	85%	33	83%	34	85%
19	San Bruno and 22nd							
20	22nd, 23rd, Kansas, and Vermont	47	10	21%	16	34%	32	68%
21A	23rd, 24th, Kansas, and Vermont	67	40	60%	40	60%	44	66%
21B	24th, 25th, Kansas, and Vermont	60	18	30%	21	35%	21	35%
22	22nd, 23rd, Kansas, and Rhode Island	121	49	40%	47	39%	53	44%
23	23rd, 24th, Kansas, and Rhode Island	55	21	38%	24	44%	27	49%
24	24th, 25th, Kansas, and Rhode Island	54	20	37%	23	43%	25	46%
Grand Total		**1,211**	**764**	**63%**	**769**	**64%**	**971**	**80%**

Shading indicates blocks immediately adjacent to SFGH Campus

On-street Parking Supply and Occupancy

Tuesday, June 24, 2014

East-West Streets					10 am - Noon						Noon - 2 pm						6 pm - 8 pm					
		Supply			Occupancy			% Occupied			Occupancy			% Occupied			Occupancy			% Occupied		
Street	Between	N.side	S.side	Both	N.side	S.side	Both	N.side	S.side	Both	N.side	S.side	Both	N.side	S.side	Both	N.side	S.side	Both	N.side	S.side	Both
20th St	York St to Hampshire St	6	9	15	6	5	11	100%	56%	73%	6	9	15	100%	100%	100%	8	8	16	133%	89%	107%
	Hampshire St to Potrero Av	8	8	16	5	0	5	63%	0%	31%	4	3	7	50%	38%	44%	6	7	13	75%	88%	81%
21st St	York St to Hampshire St	6	6	12	0	3	3	0%	50%	25%	3	3	6	50%	50%	50%	5	6	11	83%	100%	92%
	Hampshire St to Potrero Av	6	7	13	4	5	9	67%	71%	69%	4	4	8	67%	57%	62%	6	5	11	100%	71%	85%
22nd St	York St to Hampshire St	6	4	10	4	2	6	67%	50%	60%	4	6	10	67%	150%	100%	6	4	10	100%	100%	100%
	Hampshire St to Potrero Av	6	7	13	4	3	7	67%	43%	54%	6	7	13	100%	100%	100%	7	5	12	117%	71%	92%
	Kansas St to Rhode Island St	11	23	34	1	5	6	9%	22%	18%	3	4	7	27%	17%	21%	4	4	8	36%	17%	24%
23rd St	York St to Hampshire St	8	8	16	3	6	9	38%	75%	56%	7	8	15	88%	100%	94%	6	7	13	75%	88%	81%
	Hampshire St to Potrero Av	5	7	12	6	5	11	120%	71%	92%	5	7	12	100%	100%	100%	7	7	14	140%	100%	117%
	Potrero Av to Utah St		5	5		6	6	0%	120%	120%		8	8	0%	160%	160%		6	6	0%	120%	120%
	Utah St to San Bruno Av		2	2		3	3	0%	150%	150%		2	2	0%	100%	100%		2	2	0%	100%	100%
	San Bruno Av to Vermont St		2	2		4	4	0%	200%	200%		4	4	0%	200%	200%		3	3	0%	150%	150%
	Vermont St to Kansas St		7	7		7	7	0%	100%	100%		6	6	0%	86%	86%		7	7	0%	100%	100%
	Kansas St to Rhode Island St	9	10	19	5	2	7	56%	20%	37%	6	5	11	67%	50%	58%	4	9	13	44%	90%	68%
24th St	York St to Hampshire St	9	9	18	4	6	10	44%	67%	56%	6	5	11	67%	56%	61%	9	9	18	100%	100%	100%
	Hampshire St to Potrero Av	5	8	13	6	6	12	120%	75%	92%	6	7	13	120%	88%	100%	7	6	13	140%	75%	100%
	Potrero Av to Utah St	3	9	12	2	9	11	67%	100%	92%	0	6	6	0%	67%	50%	2	9	11	67%	100%	92%
	Utah St to San Bruno Av	6	9	15	3	8	11	50%	89%	73%	4	10	14	67%	111%	93%	5	8	13	83%	89%	87%
	San Bruno Av to Vermont St	7	8	15	3	7	10	43%	88%	67%	4	7	11	57%	88%	73%	7	7	14	100%	88%	93%
	Kansas St to Rhode Island St	9	10	19	4	4	8	44%	40%	42%	1	4	5	11%	40%	26%	4	3	7	44%	30%	37%
25th St	York St to Hampshire St	6	7	13	5	6	11	83%	86%	85%	4	6	10	67%	86%	77%	3	5	8	50%	71%	62%
	Hampshire St to Potrero Av		5	5		5	5	0%	100%	100%		7	7	0%	140%	140%		6	6	0%	120%	120%
	Potrero Av to Utah St	6	6	12	6	7	13	100%	117%	108%	5	7	12	83%	117%	100%	5	8	13	83%	133%	108%
	Utah St to San Bruno Av	8	8	16	8	1	9	100%	13%	56%	7	4	11	88%	50%	69%	7	1	8	88%	13%	50%
	San Bruno Av to Vermont St	3	8	11	2	3	5	67%	38%	45%	2	2	4	67%	25%	36%	4	7	11	133%	88%	100%
	Kansas St to Rhode Island St	9	19	28	3	12	15	33%	63%	54%	1	7	8	11%	37%	29%	3	11	14	33%	58%	50%
	TOTAL EAST-WEST	**142**	**211**	**353**	**84**	**130**	**214**	**59%**	**62%**	**61%**	**88**	**148**	**236**	**62%**	**70%**	**67%**	**115**	**160**	**275**	**81%**	**76%**	**78%**

East-West Streets					10 am - Noon						Noon - 2 pm						6 pm - 8 pm					
		Supply			Occupancy			% Occupied			Occupancy			% Occupied			Occupancy			% Occupied		
Street	Between	N.side	S.side	Both	N.side	S.side	Both	N.side	S.side	Both	N.side	S.side	Both	N.side	S.side	Both	N.side	S.side	Both	N.side	S.side	Both
20th St	York St to Hampshire St	6	9	15	6	5	11	100%	56%	73%	6	9	15	100%	100%	100%	8	8	16	133%	89%	107%
	Hampshire St to Potrero Av	8	8	16	5	0	5	63%	0%	31%	4	3	7	50%	38%	44%	6	7	13	75%	88%	81%
21st St	York St to Hampshire St	6	6	12	0	3	3	0%	50%	25%	3	3	6	50%	50%	50%	5	6	11	83%	100%	92%
	Hampshire St to Potrero Av	6	7	13	4	5	9	67%	71%	69%	4	4	8	67%	57%	62%	6	5	11	100%	71%	85%
22nd St	York St to Hampshire St	6	4	10	4	2	6	67%	50%	60%	4	6	10	67%	150%	100%	6	4	10	100%	100%	100%
	Hampshire St to Potrero Av	6	7	13	4	3	7	67%	43%	54%	6	7	13	100%	100%	100%	7	5	12	117%	71%	92%
	Kansas St to Rhode Island St	11	23	34	1	5	6	9%	22%	18%	3	4	7	27%	17%	21%	4	4	8	36%	17%	24%
23rd St	York St to Hampshire St	8	8	16	3	6	9	38%	75%	56%	7	8	15	88%	100%	94%	6	7	13	75%	88%	81%
	Hampshire St to Potrero Av	5	7	12	6	5	11	120%	71%	92%	5	7	12	100%	100%	100%	7	7	14	140%	100%	117%
	Potrero Av to Vermont St	0	9	9	0	13	13	0%	144%	144%	0	14	14	0%	156%	156%	0	11	11	0%	122%	122%
	Vermont St to Rhode Island S	9	17	26	5	9	14	56%	53%	54%	6	11	17	67%	65%	65%	4	16	20	44%	94%	77%
24th St	York St to Potrero Av	14	17	31	10	12	22	71%	71%	71%	12	12	24	86%	71%	77%	16	15	31	114%	88%	100%
	Potrero Av to Vermont St	16	26	42	8	24	32	50%	92%	76%	8	23	31	50%	88%	74%	14	24	38	88%	92%	90%
	Kansas St to Rhode Island St	9	10	19	4	4	8	44%	40%	42%	1	4	5	11%	40%	26%	4	3	7	44%	30%	37%
25th St	York St to Potrero Av	6	12	18	5	11	16	83%	92%	89%	4	13	17	67%	108%	94%	3	11	14	50%	92%	78%
	Potrero Av to Vermont St	17	22	39	16	11	27	94%	50%	69%	14	13	27	82%	59%	69%	16	16	32	94%	73%	82%
	Kansas St to Rhode Island St	9	19	28	3	12	15	33%	63%	54%	1	7	8	11%	37%	29%	3	11	14	33%	58%	50%
	TOTAL EAST-WEST	**142**	**211**	**353**	**84**	**130**	**214**	**59%**	**62%**	**61%**	**88**	**148**	**236**	**62%**	**70%**	**67%**	**115**	**160**	**275**	**81%**	**76%**	**78%**

On-street Parking Supply and Occupancy

Tuesday, June 24, 2014

North-South Streets					10 am - Noon						Noon - 2 pm						6 pm - 8 pm					
		Supply			Occupancy			% Occupied			Occupancy			% Occupied			Occupancy			% Occupied		
Street	Between	E. side	W.side	Both	E. side	W.side	Both	E. side	W.side	Both	E. side	W.side	Both	E. side	W.side	Both	E. side	W.side	Both	E. side	W.side	Both
York St	20th St to 21st St	25	22	47	20	8	28	80%	36%	60%	22	5	27	88%	23%	57%	19	19	38	76%	86%	81%
	21st St to 22nd St	18	15	33	16	11	27	89%	73%	82%	18	4	22	100%	27%	67%	19	12	31	106%	80%	94%
	22nd St to 23rd St	18	18	36	18	12	30	100%	67%	83%	17	11	28	94%	61%	78%	22	14	36	122%	78%	100%
	23rd St to 24th St	20	18	38	18	13	31	90%	72%	82%	12	13	25	60%	72%	66%	23	18	41	115%	100%	108%
	24th St to 25th St	16	20	36	18	16	34	113%	80%	94%	16	12	28	100%	60%	78%	18	18	36	113%	90%	100%
Hampshire St	20th St to 21st St	18	19	37	3	14	17	17%	74%	46%	8	18	26	44%	95%	70%	15	16	31	83%	84%	84%
	21st St to 22nd St	21	16	37	8	18	26	38%	113%	70%	3	18	21	14%	113%	57%	21	18	39	100%	113%	105%
	22nd St to 23rd St	18	16	34	11	14	25	61%	88%	74%	2	15	17	11%	94%	50%	18	16	34	100%	100%	100%
	23rd St to 24th St	18	16	34	5	16	21	28%	100%	62%	14	17	31	78%	106%	91%	18	16	34	100%	100%	100%
	24th St to 25th St	18	20	38	6	18	24	33%	90%	63%	12	17	29	67%	85%	76%	18	21	39	100%	105%	103%
Potrero Av	20th St to 21st St	16	26	42	11	20	31	69%	77%	74%	12	8	20	75%	31%	48%	19	18	37	119%	69%	88%
	21st St to 22nd St	9	7	16	8	3	11	89%	43%	69%	11	5	16	122%	71%	100%	16	10	26	178%	143%	163%
	22nd St to 23rd St	15	18	33	14	15	29	93%	83%	88%	11	11	22	73%	61%	67%	14	13	27	93%	72%	82%
	23rd St to 24th St	17	8	25	16	9	25	94%	113%	100%	9	6	15	53%	75%	60%	16	8	24	94%	100%	96%
	24th St to 25th St	11	13	24	6	15	21	55%	115%	88%	7	8	15	64%	62%	63%	10	15	25	91%	115%	104%
Utah St	23rd St to 24th St	15	40	55	12	38	50	80%	95%	91%	14	37	51	93%	93%	93%	14	41	55	93%	103%	100%
	24th St to 25th St	14	14	28	11	12	23	79%	86%	82%	12	11	23	86%	79%	82%	13	13	26	93%	93%	93%
San Bruno Av	23rd St to 24th St	40	14	54	34	14	48	85%	100%	89%	40	13	53	100%	93%	98%	41	15	56	103%	107%	104%
	24th St to 25th St	16	16	32	8	12	20	50%	75%	63%	4	12	16	25%	75%	50%	11	12	23	69%	75%	72%
Vermont St	23rd St to 24th St	15	40	55	11	25	36	73%	63%	65%	11	25	36	73%	63%	65%	12	31	43	80%	78%	78%
	24th St to 25th St	13	40	53	13	10	23	100%	25%	43%	12	16	28	92%	40%	53%	11	19	30	85%	48%	57%
Kansas St	22nd St to 23rd St	47	52	99	10	26	36	21%	50%	36%	16	28	44	34%	54%	44%	32	27	59	68%	52%	60%
	23rd St to 24th St	20	15	35	8	8	16	40%	53%	46%	9	8	17	45%	53%	49%	6	6	12	30%	40%	34%
	24th St to 25th St	20	16	36	8	3	11	40%	19%	31%	5	4	9	25%	25%	25%	2	9	11	10%	56%	31%
Rhode Island St	22nd St to 23rd St	37	77	114	13	26	39	35%	34%	34%	9	21	30	24%	27%	26%	18	34	52	49%	44%	46%
	23rd St to 24th St	21	35	56	7	15	22	33%	43%	39%	10	12	22	48%	34%	39%	8	19	27	38%	54%	48%
	24th St to 25th St	19	13	32	10	9	19	53%	69%	59%	14	13	27	74%	100%	84%	10	11	21	53%	85%	66%
	TOTAL NORTH-SOUTH	**535**	**624**	**1,159**	**323**	**400**	**723**	**60%**	**64%**	**62%**	**330**	**368**	**698**	**62%**	**59%**	**60%**	**444**	**469**	**913**	**83%**	**75%**	**79%**

North-South Streets					10 am - Noon						Noon - 2 pm						6 pm - 8 pm					
		Supply			Occupancy			% Occupied			Occupancy			% Occupied			Occupancy			% Occupied		
Street	Between	E. side	W.side	Both	E. side	W.side	Both	E. side	W.side	Both	E. side	W.side	Both	E. side	W.side	Both	E. side	W.side	Both	E. side	W.side	Both
York St	20th St to 25th St	97	93	190	90	60	150	93%	65%	79%	85	45	130	88%	48%	68%	101	81	182	104%	87%	96%
Hampshire St	20th St to 25th St	93	87	180	33	80	113	35%	92%	63%	39	85	124	42%	98%	69%	90	87	177	97%	100%	98%
Potrero Av	20th St to 24th St	57	59	116	49	47	96	86%	80%	83%	43	30	73	75%	51%	63%	65	49	114	114%	83%	98%
	24th St to 25th St	11	13	24	6	15	21	55%	115%	88%	7	8	15	64%	62%	63%	10	15	25	91%	115%	104%
Utah St	23rd St to 24th St	15	40	55	12	38	50	80%	95%	91%	14	37	51	93%	93%	93%	14	41	55	93%	103%	100%
	24th St to 25th St	14	14	28	11	12	23	79%	86%	82%	12	11	23	86%	79%	82%	13	13	26	93%	93%	93%
San Bruno Av	23rd St to 24th St	40	14	54	34	14	48	85%	100%	89%	40	13	53	100%	93%	98%	41	15	56	103%	107%	104%
	24th St to 25th St	16	16	32	8	12	20	50%	75%	63%	4	12	16	25%	75%	50%	11	12	23	69%	75%	72%
Vermont St	23rd St to 24th St	15	40	55	11	25	36	73%	63%	65%	11	25	36	73%	63%	65%	12	31	43	80%	78%	78%
	24th St to 25th St	13	40	53	13	10	23	100%	25%	43%	12	16	28	92%	40%	53%	11	19	30	85%	48%	57%
Kansas St	22nd St to 23rd St	47	52	99	10	26	36	21%	50%	36%	16	28	44	34%	54%	44%	32	27	59	68%	52%	60%
	23rd St to 25th St	40	31	71	16	11	27	40%	35%	38%	14	12	26	35%	39%	37%	8	15	23	20%	48%	32%
Rhode Island St	22nd St to 23rd St	37	77	114	13	26	39	35%	34%	34%	9	21	30	24%	27%	26%	18	34	52	49%	44%	46%
	23rd St to 25th St	40	48	88	17	24	41	43%	50%	47%	24	25	49	60%	52%	56%	18	30	48	45%	63%	55%
	TOTAL NORTH-SOUTH	**535**	**624**	**1159**	**323**	**400**	**723**	**60%**	**64%**	**62%**	**330**	**368**	**698**	**62%**	**59%**	**60%**	**444**	**469**	**913**	**83%**	**75%**	**79%**

APPENDIX H: TRAVEL DEMAND CALCULATIONS

SFGH 2013 EMPLOYEE SURVEY RESULTS

2013 SFGH Transportation Commute Survey

	ALL EMPLOYEES		UCSF		SAN FRANCISCO CITY AND COUNTY	
From where do you typically commute?						
San Francisco	732	50.8%	423	57.8%	309	43.6%
Marin	52	3.6%	28	3.8%	24	3.4%
Napa	7	0.5%	1	0.1%	6	0.8%
Sonoma	7	0.5%	6	0.8%	1	0.1%
Alameda	214	14.9%	121	16.5%	93	13.1%
Contra Costa	112	7.8%	38	5.2%	74	10.5%
San Mateo	272	18.9%	100	13.7%	172	24.3%
Santa Clara	16	1.1%	8	1.1%	8	1.1%
Solano	21	1.5%	5	0.7%	16	2.3%
Outside Bay Area	7	0.5%	2	0.3%	5	0.7%
Total	**1,440**	**100.0%**	**732**	**100.0%**	**708**	**100.0%**
San Francisco	732	50.8%	423	57.8%	309	43.6%
East Bay	347	24.1%	164	22.4%	183	25.8%
North Bay	66	4.6%	35	4.8%	31	4.4%
South Bay	288	20.0%	108	14.8%	180	25.4%
Outside Bay Area	7	0.5%	2	0.3%	5	0.7%
Total	**1,440**	**100.0%**	**732**	**100.0%**	**708**	**100.0%**
How many days per week do you typically travel to SFGH?						
One	38	2.6%	23	3.1%	15	2.0%
Two	41	2.8%	33	4.4%	8	1.1%
Three	97	6.6%	53	7.1%	44	6.0%
Four	162	11.0%	82	11.0%	80	10.9%
Five	944	63.8%	429	57.7%	515	70.1%
Six	88	5.9%	54	7.3%	34	4.6%
Seven	109	7.4%	70	9.4%	39	5.3%
Total	**1,479**	**100.0%**	**744**	**100.0%**	**735**	**100.0%**
Average	**4.8**		**4.8**		**4.8**	
Number of weekday working days						
None	5	0.3%	2	0.3%	3	0.4%
One	45	3.0%	25	3.4%	20	2.7%
Two	65	4.4%	37	5.0%	28	3.8%
Three	120	8.1%	53	7.1%	67	9.1%
Four	188	12.7%	85	11.4%	103	14.0%
Five	1,056	71.4%	542	72.8%	514	69.9%
Total	**1,479**	**100.0%**	**744**	**100.0%**	**735**	**100.0%**
Average	**4.4**		**4.4**		**4.4**	
Number of weekend working days						
None	1,152	77.9%	595	80.0%	557	75.8%
One	151	10.2%	71	9.5%	80	10.9%
Two	176	11.9%	78	10.5%	98	13.3%
Total	**1,479**	**100.0%**	**744**	**100.0%**	**735**	**100.0%**
Average	**0.34**		**0.31**		**0.38**	

2013 SFGH Transportation Commute Survey

	ALL EMPLOYEES		UCSF		SAN FRANCISCO CITY AND COUNTY	
What mode(s) of travel do you typically use to get to work?						
Public Transit	180	12.5%	97	13.3%	83	11.7%
BART Shuttle	46	3.2%	19	2.6%	27	3.8%
UCSF Shuttle	95	6.6%	73	10.0%	22	3.1%
Walk	83	5.8%	50	6.8%	33	4.7%
Bicycle	100	6.9%	73	10.0%	27	3.8%
Motorcycle/ Scooter	13	0.9%	10	1.4%	3	0.4%
Carpool	114	7.9%	49	6.7%	65	9.2%
Drive Alone	765	53.2%	340	46.6%	425	59.9%
Taxi/ Dropped off	35	2.4%	16	2.2%	19	2.7%
Park offsite and take shuttle to SFGH	8	0.6%	3	0.4%	5	0.7%
All Modes	**1,439**	**100.0%**	**730**	**100.0%**	**709**	**100.0%**
What time do you typically arrive to SFGH for work?						
Before 7AM	236	22.7%	149	22.0%	87	24.0%
7AM-->8AM	296	28.5%	179	26.4%	117	32.3%
8AM-->9AM	302	29.0%	224	33.0%	78	21.5%
9AM-->10AM	95	9.1%	82	12.1%	13	3.6%
10AM-->11AM	22	2.1%	16	2.4%	6	1.7%
11AM-->12PM	7	0.7%	2	0.3%	5	1.4%
12PM-->1PM	7	0.7%	4	0.6%	3	0.8%
1PM-->2PM	3	0.3%	2	0.3%	1	0.3%
2PM-->3PM	7	0.7%	2	0.3%	5	1.4%
3PM-->4PM	5	0.5%	1	0.1%	4	1.1%
4PM-->5PM	2	0.2%	1	0.1%	1	0.3%
5PM-->6PM	1	0.1%		0.0%	1	0.3%
6PM-->7PM	27	2.6%	3	0.4%	24	6.6%
7PM-->8PM	10	1.0%	5	0.7%	5	1.4%
After 8PM	20	1.9%	8	1.2%	12	3.3%
Total	**1,040**	**100.0%**	**678**	**100.0%**	**362**	**100.0%**
Peak hour	**8AM-->9AM**	**29.0%**	**8AM-->9AM**	**33.0%**	**7AM-->8AM**	**32.3%**

2013 SFGH Transportation Commute Survey

	ALL EMPLOYEES		UCSF		SAN FRANCISCO CITY AND COUNTY	
What time do you typically leave SFGH at the end of your day?						
Before 7AM	49	4.7%	33	4.9%	16	4.4%
7AM-->8AM	30	2.9%	7	1.0%	23	6.4%
8AM-->9AM	7	0.7%	4	0.6%	3	0.8%
9AM-->10AM	2	0.2%	1	0.1%	1	0.3%
10AM-->11AM	1	0.1%		0.0%	1	0.3%
11AM-->12PM	0	0.0%		0.0%		0.0%
12PM-->1PM	4	0.4%	4	0.6%		0.0%
1PM-->2PM	4	0.4%	3	0.4%	1	0.3%
2PM-->3PM	19	1.8%	11	1.6%	8	2.2%
3PM-->4PM	80	7.7%	45	6.6%	35	9.7%
4PM-->5PM	198	19.1%	104	15.3%	94	26.0%
5PM-->6PM	283	27.2%	212	31.3%	71	19.7%
6PM-->7PM	167	16.1%	140	20.6%	27	7.5%
7PM-->8PM	96	9.2%	55	8.1%	41	11.4%
After 8PM	99	9.5%	59	8.7%	40	11.1%
Total	**1,039**	**100.0%**	**678**	**100.0%**	**361**	**100.0%**
Peak hour	**5PM-->6PM**	**27.2%**	**5PM-->6PM**	**31.3%**	**4PM-->5PM**	**26.0%**
Typical number of hours staying for work at SFGH						
Less than 1 hour	7	0.7%	5	0.7%	2	0.6%
1	20	1.9%	9	1.3%	11	3.0%
2	12	1.2%	9	1.3%	3	0.8%
3	8	0.8%	7	1.0%	1	0.3%
4	7	0.7%	6	0.9%	1	0.3%
5	10	1.0%	8	1.2%	2	0.6%
6	20	1.9%	16	2.4%	4	1.1%
7	14	1.3%	11	1.6%	3	0.8%
8	158	15.2%	112	16.5%	46	12.7%
9	347	33.4%	200	29.5%	147	40.7%
10	166	16.0%	122	18.0%	44	12.2%
11	68	6.5%	51	7.5%	17	4.7%
12	55	5.3%	38	5.6%	17	4.7%
13	58	5.6%	29	4.3%	29	8.0%
14	8	0.8%	7	1.0%	1	0.3%
15	2	0.2%	2	0.3%		0.0%
16	1	0.1%	1	0.1%		0.0%
17	1	0.1%		0.0%	1	0.3%
18	1	0.1%	1	0.1%		0.0%
19	4	0.4%	4	0.6%		0.0%
20	8	0.8%	7	1.0%	1	0.3%
21	43	4.1%	23	3.4%	20	5.5%
22	11	1.1%	5	0.7%	6	1.7%
23	8	0.8%	3	0.4%	5	1.4%
24	2	0.2%	2	0.3%		0.0%
Total	**1,039**	**100.0%**	**678**	**100.0%**	**361**	**100.0%**
Average	**10.0**		**9.9**		**10.2**	

2013 SFGH Transportation Commute Survey

	ALL EMPLOYEES		UCSF		SAN FRANCISCO CITY AND COUNTY	
If you travel by carpool/vanpool, how many total people travel with you to SFGH? (not including yourself)						
One	117	56.3%	52	59.8%	65	53.7%
Two	66	31.7%	31	35.6%	35	28.9%
Three	18	8.7%	3	3.4%	15	12.4%
Four or more	7	3.4%	1	1.1%	6	5.0%
Total	**208**	**100.0%**	**87**	**100.0%**	**121**	**100.0%**
Average carpool/vanpool (including driver)	**2.63**		**2.47**		**2.74**	
Average all autos	**1.26**		**1.23**		**1.28**	
If and when you drive to SFGH, where do you usually park?						
23rd Street parking garage	302	26.0%	119	21.6%	183	29.9%
SFGH campus parking lot	249	21.4%	96	17.5%	153	25.0%
CHN Garage	7	0.6%		0.0%	7	1.1%
Off-site parking lot (with shuttle service to SFGH)	69	5.9%	32	5.8%	37	6.0%
On the street	350	30.1%	186	33.8%	164	26.8%
On the street w/ SFGH permit	4	0.3%	3	0.5%	1	0.2%
SFGH campus motorcycle parking	7	0.6%	6	1.1%	1	0.2%
23rd Street parking garage or off-site parking lot	3	0.3%	1	0.2%	2	0.3%
23rd Street parking garage or on the street	62	5.3%	44	8.0%	18	2.9%
SFGH campus parking lot or 23rd St garage	11	0.9%	6	1.1%	5	0.8%
SFGH campus parking lot or CHN Garage	1	0.1%		0.0%	1	0.2%
SFGH campus parking lot or off-site parking lot	2	0.2%		0.0%	2	0.3%
SFGH campus parking lot or on the street	47	4.0%	31	5.6%	16	2.6%
SFGH campus lot or on the street w/ SFGH permit	1	0.1%		0.0%	1	0.2%
Off-site parking lot or on the street	23	2.0%	13	2.4%	10	1.6%
On the street w/ or w/out SFGH permit	1	0.1%		0.0%	1	0.2%
SFGH campus motorcycle parking or on the street	1	0.1%	1	0.2%		0.0%
Three or more locations	22	1.9%	12	2.2%	10	1.6%
Total	**1,162**	**100.0%**	**550**	**100.0%**	**612**	**100.0%**
23rd Street parking garage	340	29.3%	145	26.3%	196	32.0%
SFGH campus	288	24.8%	121	22.0%	167	27.2%
On the street	422	36.3%	234	42.5%	188	30.7%
Off-site parking lot (with shuttle service to SFGH)	83	7.1%	39	7.1%	44	7.2%
Other/Undefined	30	2.5%	12	2.2%	18	2.9%
Total	**1,162**	**100.0%**	**550**	**100.0%**	**612**	**100.0%**
If you checked "On the street", how many blocks away from your work site do you typically park?						
One block	76	13.0%	29	9.0%	47	18.0%
Two blocks	89	15.2%	39	12.1%	50	19.2%
Three blocks	91	15.6%	47	14.6%	44	16.9%
Four or more blocks	328	56.2%	208	64.4%	120	46.0%
Total	**584**	**100.0%**	**323**	**100.0%**	**261**	**100.0%**
Average	**3.7**		**4.0**		**3.4**	

2013 SFGH Transportation Commute Survey

No. of Weekday Working Days	Number of Weekend Working Days None	One	Two	Total	
UCSF EMPLOYEES					
None		1	1	2	0%
One	22	2	1	25	3%
Two	30	6	1	37	5%
Three	46	5	2	53	7%
Four	76	6	3	85	11%
Five	421	51	70	542	73%
Total	**595**	**71**	**78**	**744**	**100%**
None	0%	50%	50%	100%	
One	88%	8%	4%	100%	
Two	81%	16%	3%	100%	
Three	87%	9%	4%	100%	
Four	89%	7%	4%	100%	
Five	78%	9%	13%	100%	
Total	**80%**	**10%**	**10%**	**100%**	
SF CITY & CO EMPLOYEES					
None		2	1	3	0%
One	13	1	6	20	3%
Two	6	8	14	28	4%
Three	30	7	30	67	9%
Four	59	36	8	103	14%
Five	449	26	39	514	70%
Total	**557**	**80**	**98**	**735**	**100%**
None	0%	67%	33%	100%	
One	65%	5%	30%	100%	
Two	21%	29%	50%	100%	
Three	45%	10%	45%	100%	
Four	57%	35%	8%	100%	
Five	87%	5%	8%	100%	
Total	**76%**	**11%**	**13%**	**100%**	
ALL EMPLOYEES					
None	0	3	2	5	0%
One	35	3	7	45	3%
Two	36	14	15	65	4%
Three	76	12	32	120	8%
Four	135	42	11	188	13%
Five	870	77	109	1,056	71%
Total	**1,152**	**151**	**176**	**1,479**	**100%**
None	0%	60%	40%	100%	
One	78%	7%	16%	100%	
Two	55%	22%	23%	100%	
Three	63%	10%	27%	100%	
Four	72%	22%	6%	100%	
Five	82%	7%	10%	100%	
Total	**78%**	**10%**	**12%**	**100%**	

2013 SFGH Transportation Commute Survey

	MODE OF TRAVEL											
	Public Transit	BART Shuttle	UCSF Shuttle	Walk	Bicycle	Mcycle/ Scooter	Carpool	Drive Alone	Taxi/ Drop off	Park Off-site + Shuttle	All Modes	
UCSF EMPLOYEES												
San Francisco	47	6	59	40	65	8	14	169	12	1	421	58%
East Bay	40	11	10	9	6	0	22	63	2	0	163	22%
North Bay	2	0	1	0	2	1	5	25	0	0	36	5%
South Bay	8	2	3	1	0	1	7	82	2	2	108	15%
Outside Bay Area	0	0	0	0	0	0	1	1	0	0	2	0%
All Origins	**97**	**19**	**73**	**50**	**73**	**10**	**49**	**340**	**16**	**3**	**730**	**100%**
San Francisco	11%	1%	14%	10%	15%	2%	3%	40%	3%	0%	100%	
East Bay	25%	7%	6%	6%	4%	0%	13%	39%	1%	0%	100%	
North Bay	6%	0%	3%	0%	6%	3%	14%	69%	0%	0%	100%	
South Bay	7%	2%	3%	1%	0%	1%	6%	76%	2%	2%	100%	
Outside Bay Area	0%	0%	0%	0%	0%	0%	50%	50%	0%	0%	100%	
All Origins	**13%**	**3%**	**10%**	**7%**	**10%**	**1%**	**7%**	**47%**	**2%**	**0%**	**100%**	
SF CITY & CO EMPLOYEES												
San Francisco	39	7	16	21	22	3	18	171	12	2	311	44%
East Bay	33	16	5	9	3	0	31	83	3	0	183	26%
North Bay	2	1	0	0	1	0	4	21	0	1	30	4%
South Bay	8	3	1	2	1	0	12	147	4	2	180	25%
Outside Bay Area	1	0	0	1	0	0	0	3	0	0	5	1%
All Origins	**83**	**27**	**22**	**33**	**27**	**3**	**65**	**425**	**19**	**5**	**709**	**100%**
San Francisco	13%	2%	5%	7%	7%	1%	6%	55%	4%	1%	100%	
East Bay	18%	9%	3%	5%	2%	0%	17%	45%	2%	0%	100%	
North Bay	7%	3%	0%	0%	3%	0%	13%	70%	0%	3%	100%	
South Bay	4%	2%	1%	1%	1%	0%	7%	82%	2%	1%	100%	
Outside Bay Area	20%	0%	0%	20%	0%	0%	0%	60%	0%	0%	100%	
All Origins	**12%**	**4%**	**3%**	**5%**	**4%**	**0%**	**9%**	**60%**	**3%**	**1%**	**100%**	
ALL EMPLOYEES												
San Francisco	86	13	75	61	87	11	32	340	24	3	732	51%
East Bay	73	27	15	18	9	0	53	146	5	0	346	24%
North Bay	4	1	1	0	3	1	9	46	0	1	66	5%
South Bay	16	5	4	3	1	1	19	229	6	4	288	20%
Outside Bay Area	1	0	0	1	0	0	1	4	0	0	7	0%
All Origins	**180**	**46**	**95**	**83**	**100**	**13**	**114**	**765**	**35**	**8**	**1,439**	**100%**
San Francisco	12%	2%	10%	8%	12%	2%	4%	46%	3%	0%	100%	
East Bay	21%	8%	4%	5%	3%	0%	15%	42%	1%	0%	100%	
North Bay	6%	2%	2%	0%	5%	2%	14%	70%	0%	2%	100%	
South Bay	6%	2%	1%	1%	0%	0%	7%	80%	2%	1%	100%	
Outside Bay Area	14%	0%	0%	14%	0%	0%	14%	57%	0%	0%	100%	
All Origins	**13%**	**3%**	**7%**	**6%**	**7%**	**1%**	**8%**	**53%**	**2%**	**1%**	**100%**	

TRAVEL DEMAND CALCULATIONS

Trip Generation
SF General Hospital
UCSF Research Facility

Population Group	User Population	Absentees		Average Weekday Staff and Visitor Population	Daily Person Trip Rate [a]	Daily Person Trips	Proportion of Internal SFGH Campus Trips		Net External Daily Person Trips
STAFF									
Faculty/Physicians			0	0		0		0	0
Fellows/Residents			0	0		0		0	0
Nurses/Nurse Practitioners			0	0		0		0	0
Postdocs/Students			0	0		0		0	0
Other Staff	120	10%	12	108	3.68	397	20%	79	318
Total staff	*120*	*10%*	*12*	*108*	*3.68*	*397*	*20%*	*79*	*318*
PATIENTS & VISITORS									
Inpatients			0	0		0		0	0
Outpatients			0	0		0		0	0
Visitors to inpatients	0		0	0		0		0	0
Visitors with outpatients	0		0	0		0		0	0
Total patients and visitors	*0*	*0%*	*0*	*0*	*0.00*	*0*	*0%*	*0*	*0*
OTHER VISITORS									
Community Center Visitors			0	0		0		0	0
Faculty/Staff Visitors	10	0%	0	10	2.00	20	0%	0	20
Vendors/Services	0	0%	0	0	2.00	0	0%	0	0
Total other visitors	*10*	*0%*	*0*	*10*	*2.00*	*20*	*0%*	*0*	*20*
Subtotal Staff+Patients+Visitors	*130*	*9%*	*12*	*118*	*3.54*	*417*	*19%*	*79*	*338*
CHILDCARE									
Childcare staff			0	0		0		0	0
Childcare children			0	0		0		0	0
Total childcare	*0*	*0%*	*0*	*0*	*0.00*	*0*	*0%*	*0*	*0*
RESIDENTIAL									
Contract holders			0	0		0		0	0
Spouses			0	0		0		0	0
Children			0	0		0		0	0
Visitors	0		0	0		0		0	0
Vendors/Services	0		0	0		0		0	0
Total residential	*0*	*0%*	*0*	*0*	*0.00*	*0*	*0%*	*0*	*0*
GRAND TOTAL	**130**	**9%**	**12**	**118**	**3.54**	**417**	**19%**	**79**	**338**

[a] Daily trip rates from Table 16, p. 43, SFGH Transportation Report (CHS Consulting, February 2008)

Trip Generation
SF General Hospital
UCSF Research Facility

Population Group	Mode Splits for External Trips [b]															
	Drive Alone		Drop-off/Taxi		Carpool		Other Shuttle		Public Transit		UCSF Shuttle		Bike/ Motorcycle		Walk		Total All Modes	
STAFF																		
Faculty/Physicians	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Fellows/Residents	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Nurses/Nurse Practitioners	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Postdocs/Students	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Other Staff	148	47%	7	2%	22	7%	10	3%	42	13%	32	10%	36	11%	22	7%	318	100%
Total staff	*148*	*47%*	*7*	*2%*	*22*	*7%*	*10*	*3%*	*42*	*13%*	*32*	*10%*	*36*	*11%*	*22*	*7%*	*318*	*100%*
PATIENTS & VISITORS																		
Inpatients	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Outpatients	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Visitors to inpatients	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Visitors with outpatients	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Total patients and visitors	*0*	*0%*	*0*	*0%*	*0*	*0%*	*0*	*0%*	*0*	*0%*	*0*	*0%*	*0*	*0%*	*0*	*0%*	*0*	*0%*
OTHER VISITORS																		
Community Center Visitors	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Faculty/Staff Visitors	20	100%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	20	100%
Vendors/Services	0	100%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	100%
Total other visitors	*20*	*100%*	*0*	*0%*	*0*	*0%*	*0*	*0%*	*0*	*0%*	*0*	*0%*	*0*	*0%*	*0*	*0%*	*20*	*100%*
Subtotal Staff+Patients+Visitors	*168*	*50%*	*7*	*2%*	*22*	*6%*	*10*	*3%*	*42*	*12%*	*32*	*9%*	*36*	*11%*	*22*	*6%*	*338*	*100%*
CHILDCARE																		
Childcare staff	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Childcare children	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Total childcare	*0*	*0%*	*0*	*0%*	*0*	*0%*	*0*	*0%*	*0*	*0%*	*0*	*0%*	*0*	*0%*	*0*	*0%*	*0*	*0%*
RESIDENTIAL																		
Contract holders	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Spouses	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Children	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Visitors	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Vendors/Services	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Total residential	*0*	*0%*	*0*	*0%*	*0*	*0%*	*0*	*0%*	*0*	*0%*	*0*	*0%*	*0*	*0%*	*0*	*0%*	*0*	*0%*
GRAND TOTAL	**168**	**50%**	**7**	**2%**	**22**	**6%**	**10**	**3%**	**42**	**12%**	**32**	**9%**	**36**	**11%**	**22**	**6%**	**338**	**100%**

[b] Mode of travel based on survey of UCSF employees at SFGH, July 2013.

Trip Generation
SF General Hospital
UCSF Research Facility

Population Group	Weekday Person Trips by Mode (External)										Daily Vehicle Trips [d]	Avg. Veh. Occup. (persons per vehicle)	Peak Hour Percentages [e]					
													AM Peak Hour			PM Peak Hour		
	Auto		Public Transit		UCSF Shuttle		Other [c]		All Modes				% of Daily	% In	% Out	% of Daily	% In	% Out
STAFF																		
Faculty/Physicians	0	0%	0	0%	0	0%	0	0%	0	0%	0	0.00						
Fellows/Residents	0	0%	0	0%	0	0%	0	0%	0	0%	0	0.00						
Nurses/Nurse Practitioners	0	0%	0	0%	0	0%	0	0%	0	0%	0	0.00						
Postdocs/Students	0	0%	0	0%	0	0%	0	0%	0	0%	0	0.00						
Other Staff	177	56%	52	16%	32	10%	58	18%	318	100%	176	1.28	33%	80%	20%	31%	10%	90%
Total staff	*177*	*56%*	*52*	*16%*	*32*	*10%*	*58*	*18%*	*318*	*100%*	*176*	*1.28*	*34%*	*78%*	*22%*	*32%*	*11%*	*89%*
PATIENTS & VISITORS																		
Inpatients	0	0%	0	0%	0	0%	0	0%	0	0%	0	0.00						
Outpatients	0	0%	0	0%	0	0%	0	0%	0	0%	0	0.00						
Visitors to inpatients	0	0%	0	0%	0	0%	0	0%	0	0%	0	0.00						
Visitors with outpatients	0	0%	0	0%	0	0%	0	0%	0	0%								
Total patients and visitors	*0*	*0%*	*0*	*0%*	*0*	*0%*	*0*	*0%*	*0*	*0%*	*0*	*0.00*						
OTHER VISITORS																		
Community Center Visitors	0	0%	0	0%	0	0%	0	0%	0	0%	0	0.00						
Faculty/Staff Visitors	20	100%	0	0%	0	0%	0	0%	20	100%	20	1.00	15%	82%	18%	6%	17%	83%
Vendors/Services	0	0%	0	0%	0	0%	0	0%	0	0%	0	0.00	19%	84%	16%	10%	19%	81%
Total other visitors	*20*	*100%*	*0*	*0%*	*0*	*0%*	*0*	*0%*	*20*	*100%*	*20*	*1.00*	*15%*	*67%*	*33%*	*5%*	*0%*	*100%*
Subtotal Staff+Patients+Visitors	*197*	*58%*	*52*	*15%*	*32*	*9%*	*58*	*17%*	*338*	*100%*	*196*	*1.25*	*32%*	*78%*	*22%*	*29%*	*11%*	*89%*
CHILDCARE																		
Childcare staff	0	0%	0	0%	0	0%	0	0%	0	0%	0	0.00						
Childcare children	0	0%	0	0%	0	0%	0	0%	0	0%	0	0.00						
Total childcare	*0*	*0%*	*0*	*0%*	*0*	*0%*	*0*	*0%*	*0*	*0%*	*0*	*0.00*						
RESIDENTIAL																		
Contract holders	0	0%	0	0%	0	0%	0	0%	0	0%	0	0.00						
Spouses	0	0%	0	0%	0	0%	0	0%	0	0%	0	0.00						
Children	0	0%	0	0%	0	0%	0	0%	0	0%	0	0.00						
Visitors	0	0%	0	0%	0	0%	0	0%	0	0%	0	0.00						
Vendors/Services	0	0%	0	0%	0	0%	0	0%	0	0%	0	0.00						
Total residential	*0*	*0%*	*0*	*0%*	*0*	*0%*	*0*	*0%*	*0*	*0%*	*0*	*0.00*						
GRAND TOTAL	**197**	**58%**	**52**	**15%**	**32**	**9%**	**58**	**17%**	**338**	**100%**	**196**	**1.25**	**32%**	**78%**	**22%**	**29%**	**11%**	**89%**

[c] Other travel modes include walk, bicycle, taxi and motorcycle.

[d] Vehicle trips are calculated based on the following formula: Drive Alone trips + (Drop-off trips x 2) + (Carpool trips / 2) + (Vanpool trips / 10) + (UCSF Shuttle / 15).

[e] Based on survey of UCSF employees at SFGH, July 2013 and SFGH surveys November 2007.

Trip Generation
SF General Hospital
UCSF Research Facility

Population Group	AM Peak Hour Person Trips (External)															AM Peak Hour								
	Auto			Public Transit			UCSF Shuttle			Other [c]			All Modes			Private Vehicles			UCSF Shuttle			Total Vehicles		
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
STAFF																								
Faculty/Physicians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fellows/Residents	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nurses/Nurse Practitioners	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Postdocs/Students	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Staff	47	12	59	14	3	17	8	2	10	15	4	19	84	21	105	46	12	58	1	1	2	47	13	60
Total staff	*47*	*12*	*59*	*14*	*3*	*17*	*8*	*2*	*10*	*15*	*4*	*19*	*84*	*21*	*105*	*46*	*12*	*58*	*1*	*1*	*2*	*47*	*13*	*60*
PATIENTS & VISITORS																								
Inpatients	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Outpatients	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Visitors to inpatients	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Visitors with outpatients	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total patients and visitors	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
OTHER VISITORS																								
Community Center Visitors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Faculty/Staff Visitors	2	1	3	0	0	0	0	0	0	0	0	0	2	1	3	2	1	3	0	0	0	2	1	3
Vendors/Services	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total other visitors	*2*	*1*	*3*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*2*	*1*	*3*	*2*	*1*	*3*	*0*	*0*	*0*	*2*	*1*	*3*
Subtotal Staff+Patients+Visitors	*49*	*13*	*62*	*14*	*3*	*17*	*8*	*2*	*10*	*15*	*4*	*19*	*86*	*22*	*108*	*48*	*13*	*61*	*1*	*1*	*2*	*49*	*14*	*63*
CHILDCARE																								
Childcare staff	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Childcare children	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total childcare	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
RESIDENTIAL																								
Contract holders	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Spouses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Children	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Visitors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vendors/Services	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total residential	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
GRAND TOTAL	**49**	**13**	**62**	**14**	**3**	**17**	**8**	**2**	**10**	**15**	**4**	**19**	**86**	**22**	**108**	**48**	**13**	**61**	**1**	**1**	**2**	**49**	**14**	**63**

[c] Other travel modes include walk, bicycle, taxi and motorcycle.

Trip Generation
SF General Hospital
UCSF Research Facility

Population Group	PM Peak Hour Person Trips (External)															PM Peak Hour Private Vehicles			PM Peak Hour UCSF Shuttle			Total Vehicles		
	Auto			Public Transit			UCSF Shuttle			Other [c]			All Modes											
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
STAFF																								
Faculty/Physicians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fellows/Residents	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nurses/Nurse Practitioners	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Postdocs/Students	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Staff	5	49	54	2	14	16	1	9	10	2	16	18	10	88	98	5	49	54	1	1	2	6	50	56
Total staff	*5*	*49*	*54*	*2*	*14*	*16*	*1*	*9*	*10*	*2*	*16*	*18*	*10*	*88*	*98*	*5*	*49*	*54*	*1*	*1*	*2*	*6*	*50*	*56*
PATIENTS & VISITORS																								
Inpatients	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Outpatients	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Visitors to inpatients	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Visitors with outpatients	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total patients and visitors	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
OTHER VISITORS																								
Community Center Visitors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Faculty/Staff Visitors	0	1	1	0	0	0	0	0	0	0	0	0	0	1	1	0	1	1	0	0	0	0	1	1
Vendors/Services	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total other visitors	*0*	*1*	*1*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*1*	*1*	*0*	*1*	*1*	*0*	*0*	*0*	*0*	*1*	*1*
Subtotal Staff+Patients+Visitors	*5*	*50*	*55*	*2*	*14*	*16*	*1*	*9*	*10*	*2*	*16*	*18*	*10*	*89*	*99*	*5*	*50*	*55*	*1*	*1*	*2*	*6*	*51*	*57*
CHILDCARE																								
Childcare staff	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Childcare children	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total childcare	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
RESIDENTIAL																								
Contract holders	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Spouses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Children	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Visitors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vendors/Services	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total residential	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
GRAND TOTAL	**5**	**50**	**55**	**2**	**14**	**16**	**1**	**9**	**10**	**2**	**16**	**18**	**10**	**89**	**99**	**5**	**50**	**55**	**1**	**1**	**2**	**6**	**51**	**57**

[c] Other travel modes include walk, bicycle, taxi and motorcycle.

Trip Generation
SF General Hospital
UCSF Research Facility

Population Group	Typical Weekday Person Trips	Motor Vehicle Mode Split [f]	Average Vehicle Occupancy	Typical Daily Vehicle Trips to Garage	Typical Daily Vehicles Parking	Peak Demand Rate [g]	Peak Parking Demand
STAFF							
Faculty/Physicians	0	0%	0.00	0	0		0
Fellows/Residents	0	0%	0.00	0	0		0
Nurses/Nurse Practitioners	0	0%	0.00	0	0		0
Postdocs/Students	0	0%	0.00	0	0		0
Other Staff	318	53%	1.07	159	80	0.85	68
Total staff	*318*	*53%*	*1.07*	*159*	*80*	*0.85*	*68*
PATIENTS & VISITORS							
Inpatients							
Outpatients							
Visitors to inpatients							
Visitors with outpatients							
Total patients and visitors							
OTHER VISITORS							
Community Center Visitors	0	0%	0.00	0	0		0
Faculty/Staff Visitors	20	100%	1.00	20	10	0.40	4
Vendors/Services	0	0%	0.00	0	0	0.60	0
Total other visitors	*20*	*100%*	*1.00*	*20*	*10*	*0.40*	*4*
Subtotal Staff+Patients+Visitors	*338*	*56%*	*1.06*	*179*	*90*	*0.80*	*72*
CHILDCARE							
Childcare staff							
Childcare children							
Total childcare							
RESIDENTIAL							
Contract holders							
Spouses							
Children							
Visitors							
Vendors/Services							
Total residential							
GRAND TOTAL	**338**	**56%**	**1.06**	**179**	**90**	**0.80**	**72**

[b] Mode of travel based on survey of UCSF employees at SFGH, July 2013.
[g] Based on 1996 LRDP peak parking demand rates, with adjustments.
[h] Parking location based on UCSF Transportation Services Annual Commute Survey 2013

Trip Generation
SF General Hospital
UCSF Research Facility

Population Group	Origins/Destinations [a]								
	San Francisco SD1	San Francisco SD2	San Francisco SD3	San Francisco SD4	East Bay	North Bay	South Bay	Outside Bay Area	All Origins
STAFF									
Faculty/Physicians									0%
Fellows/Residents									0%
Nurses/Nurse Practitioners									0%
Postdocs/Students									0%
Other Staff	6%	12%	26%	14%	22%	5%	15%	0%	100%
Total staff	*6%*	*12%*	*26%*	*14%*	*22%*	*5%*	*15%*	*0%*	*100%*
PATIENTS & VISITORS									
Inpatients									
Outpatients									
Visitors to inpatients									
Visitors with outpatients									
Total patients and visitors									
OTHER VISITORS									
Community Center Visitors									
Faculty/Staff Visitors	17%	8%	7%	24%	13%	9%	11%	11%	100%
Vendors/Services	14%	14%	14%	14%	14%	7%	19%	2%	100%
Total other visitors	*17%*	*8%*	*7%*	*24%*	*13%*	*9%*	*11%*	*11%*	*100%*
Subtotal Staff+Patients+Visitors	*6%*	*12%*	*25%*	*14%*	*22%*	*5%*	*15%*	*0%*	*100%*
CHILDCARE									
Childcare staff									
Childcare children									
Total childcare									
RESIDENTIAL									
Contract holders									
Spouses									
Children									
Visitors									
Vendors/Services									
Total residential									
GRAND TOTAL	**6%**	**12%**	**25%**	**14%**	**22%**	**5%**	**15%**	**0%**	**100%**

[a] Origin/Destination for staff based on surveys of UCSF employees at SFGH, July 2013.

Trip Generation
SF General Hospital
UCSF Research Facility

Population Group	AM Peak Hour Vehicle Distribution																		
	San Francisco SD1		San Francisco SD2		San Francisco SD3		San Francisco SD4		East Bay		North Bay		South Bay		Outside Bay Area		All Origins		
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	Total
STAFF																			
Faculty/Physicians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fellows/Residents	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nurses/Nurse Practitioners	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Postdocs/Students	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Staff	3	1	6	2	12	3	7	2	10	3	2	1	7	2	0	0	47	13	60
Total staff	*3*	*1*	*6*	*2*	*12*	*3*	*7*	*2*	*10*	*3*	*2*	*1*	*7*	*2*	*0*	*0*	*47*	*13*	*60*
PATIENTS & VISITORS																			
Inpatients	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Outpatients	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Visitors to inpatients	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Visitors with outpatients	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total patients and visitors	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
OTHER VISITORS																			
Community Center Visitors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Faculty/Staff Visitors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	3
Vendors/Services	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total other visitors	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*2*	*1*	*3*
Subtotal Staff+Patients+Visitors	*3*	*1*	*6*	*2*	*12*	*3*	*7*	*2*	*11*	*3*	*2*	*1*	*7*	*2*	*0*	*0*	*49*	*14*	*63*
CHILDCARE																			
Childcare staff	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Childcare children	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total childcare	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
RESIDENTIAL																			
Contract holders	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Spouses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Children	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Visitors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vendors/Services	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total residential	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
GRAND TOTAL	**3**	**1**	**6**	**2**	**12**	**3**	**7**	**2**	**11**	**3**	**2**	**1**	**7**	**2**	**0**	**0**	**49**	**14**	**63**

Trip Generation
SF General Hospital
UCSF Research Facility

Population Group	PM Peak Hour Vehicle Distribution																		
	San Francisco SD1		San Francisco SD2		San Francisco SD3		San Francisco SD4		East Bay		North Bay		South Bay		Outside Bay Area		All Origins		
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	Total
STAFF																			
Faculty/Physicians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fellows/Residents	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nurses/Nurse Practitioners	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Postdocs/Students	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Staff	0	3	1	6	2	13	1	7	1	11	0	2	1	7	0	0	6	50	56
Total staff	*0*	*3*	*1*	*6*	*2*	*13*	*1*	*7*	*1*	*11*	*0*	*2*	*1*	*7*	*0*	*0*	*6*	*50*	*56*
PATIENTS & VISITORS																			
Inpatients	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Outpatients	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Visitors to inpatients	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Visitors with outpatients	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total patients and visitors	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
OTHER VISITORS																			
Community Center Visitors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Faculty/Staff Visitors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Vendors/Services	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total other visitors	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*1*	*1*
Subtotal Staff+Patients+Visitors	*0*	*3*	*1*	*6*	*2*	*13*	*1*	*7*	*1*	*11*	*0*	*3*	*1*	*7*	*0*	*0*	*6*	*51*	*57*
CHILDCARE																			
Childcare staff	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Childcare children	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total childcare	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
RESIDENTIAL																			
Contract holders	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Spouses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Children	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Visitors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vendors/Services	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total residential	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
GRAND TOTAL	**0**	**3**	**1**	**6**	**2**	**13**	**1**	**7**	**1**	**11**	**0**	**3**	**1**	**7**	**0**	**0**	**6**	**51**	**57**

Trip Generation
SF General Hospital
UCSF Research Facility

Population Group	AM Peak Hour Public Transit Distribution																		
	San Francisco SD1		San Francisco SD2		San Francisco SD3		San Francisco SD4		East Bay		North Bay		South Bay		Outside Bay Area		All Origins		
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	Total
STAFF																			
Faculty/Physicians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fellows/Residents	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nurses/Nurse Practitioners	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Postdocs/Students	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Staff	1	0	2	0	4	1	2	0	3	1	1	0	2	0	0	0	14	3	17
Total staff	*1*	*0*	*2*	*0*	*4*	*1*	*2*	*0*	*3*	*1*	*1*	*0*	*2*	*0*	*0*	*0*	*14*	*3*	*17*
PATIENTS & VISITORS																			
Inpatients	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Outpatients	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Visitors to inpatients	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Visitors with outpatients	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total patients and visitors	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
OTHER VISITORS																			
Community Center Visitors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Faculty/Staff Visitors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vendors/Services	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total other visitors	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Subtotal Staff+Patients+Visitors	*1*	*0*	*2*	*0*	*4*	*1*	*2*	*0*	*3*	*1*	*1*	*0*	*2*	*0*	*0*	*0*	*14*	*3*	*17*
CHILDCARE																			
Childcare staff	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Childcare children	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total childcare	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
RESIDENTIAL																			
Contract holders	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Spouses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Children	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Visitors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vendors/Services	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total residential	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
GRAND TOTAL	**1**	**0**	**2**	**0**	**4**	**1**	**2**	**0**	**3**	**1**	**1**	**0**	**2**	**0**	**0**	**0**	**14**	**3**	**17**

Trip Generation
SF General Hospital
UCSF Research Facility

Population Group	PM Peak Hour Public Transit Distribution																		
	San Francisco SD1		San Francisco SD2		San Francisco SD3		San Francisco SD4		East Bay		North Bay		South Bay		Outside Bay Area		All Origins		
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	Total
STAFF																			
Faculty/Physicians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fellows/Residents	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nurses/Nurse Practitioners	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Postdocs/Students	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Staff	0	1	0	2	1	4	0	2	0	3	0	1	0	2	0	0	2	14	16
Total staff	*0*	*1*	*0*	*2*	*1*	*4*	*0*	*2*	*0*	*3*	*0*	*1*	*0*	*2*	*0*	*0*	*2*	*14*	*16*
PATIENTS & VISITORS																			
Inpatients	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Outpatients	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Visitors to inpatients	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Visitors with outpatients	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total patients and visitors	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
OTHER VISITORS																			
Community Center Visitors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Faculty/Staff Visitors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vendors/Services	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total other visitors	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Subtotal Staff+Patients+Visitors	*0*	*1*	*0*	*2*	*1*	*4*	*0*	*2*	*0*	*3*	*0*	*1*	*0*	*2*	*0*	*0*	*2*	*14*	*16*
CHILDCARE																			
Childcare staff	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Childcare children	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total childcare	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
RESIDENTIAL																			
Contract holders	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Spouses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Children	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Visitors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vendors/Services	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total residential	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
GRAND TOTAL	**0**	**1**	**0**	**2**	**1**	**4**	**0**	**2**	**0**	**3**	**0**	**1**	**0**	**2**	**0**	**0**	**2**	**14**	**16**

UCSF LRDP EIR

Weekday AM Peak Hour (7 to 9 AM)

#	Intersection Name	Date of Count	TABLE 1A - INTERSECTION TURNING MOVEMENT VOLUMES																
			Northbound				Southbound				Eastbound				Westbound				Total All
			Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Approaches
FINAL 2040 CUMULATIVE																			
SF General Hospital (w/out backfill of SFGH Campus)																			
281	Potrero Av / 20th St		95	1,357	0	1,452	0	750	31	781	90	0	112	202	0	0	0	0	2,435
282	Potrero Av / 22nd St North		0	1,515	177	1,692	145	782	0	927	0	0	0	0	47	0	78	125	2,744
283	Potrero Av / 22nd St South		67	1,603	0	1,670	0	794	35	829	89	0	141	230	0	0	0	0	2,729
284	Potrero Av / 23rd St		0	1,347	145	1,492	175	724	36	935	51	65	49	165	139	0	272	411	3,003
285	Utah St / 23rd St		61	0	85	146	0	0	0	0	0	287	98	385	44	350	0	394	925
286	West Driveway / 23rd St		0	0	0	0	3	0	51	54	72	300	0	372	0	343	16	359	785
287	San Bruno Av / 23rd St		19	0	43	62	0	0	0	0	0	246	57	303	36	340	0	376	741
288	East Driveway / 23rd St		0	0	0	0	0	0	0	0	0	289	0	289	0	376	0	376	665
289	Vermont St / 23rd St		10	0	108	118	49	16	34	99	0	274	15	289	125	332	0	457	963
290	Potrero Av / 24th St		166	1,370	155	1,691	58	807	47	912	39	180	92	311	57	81	83	221	3,135
291	Utah St / 24th St		24	60	119	203	44	52	46	142	59	274	60	393	45	151	27	223	961
292	Garage Driveway / 24th St		0	0	0	0	12	0	103	115	329	108	0	437	0	120	32	152	704
293	Potrero Av / 25th St		0	1,675	243	1,918	16	940	0	956	0	0	0	0	190	0	16	206	3,080
SF General Hospital (with backfill of SFGH Campus)																			
281	Potrero Av / 20th St		95	1,368	0	1,463	0	796	31	827	90	0	112	202	0	0	0	0	2,492
282	Potrero Av / 22nd St North		0	1,520	177	1,697	168	805	0	973	0	0	0	0	47	0	83	130	2,801
283	Potrero Av / 22nd St South		67	1,608	0	1,675	0	817	35	852	89	0	141	230	0	0	0	0	2,757
284	Potrero Av / 23rd St		0	1,352	145	1,497	175	747	36	958	51	79	49	179	139	3	272	414	3,049
285	Utah St / 23rd St		64	0	85	149	0	0	0	0	0	287	112	399	44	350	0	394	942
286	West Driveway / 23rd St		0	0	0	0	3	0	51	54	72	300	0	372	0	343	16	359	785
287	San Bruno Av / 23rd St		19	0	54	73	0	0	0	0	0	246	57	303	81	340	0	421	797
288	East Driveway / 23rd St		0	0	0	0	0	0	0	0	0	300	0	300	0	421	0	421	721
289	Vermont St / 23rd St		10	0	108	118	49	16	34	99	0	285	15	300	125	377	0	502	1,019
290	Potrero Av / 24th St		166	1,370	222	1,758	81	807	47	935	39	194	92	325	73	84	88	246	3,264
291	Utah St / 24th St		24	60	119	203	58	52	46	156	59	379	60	498	45	176	30	251	1,108
292	Garage Driveway / 24th St		0	0	0	0	23	0	131	154	448	108	0	556	0	120	77	197	907
293	Potrero Av / 25th St		0	1,742	243	1,985	16	956	0	972	0	0	0	0	190	0	16	206	3,163

UCSF LRDP EIR
Weekday PM Peak Hour (4 to 6 PM)

#	Intersection Name	Date of Count	TABLE 1A - INTERSECTION TURNING MOVEMENT VOLUMES																
			Northbound				Southbound				Eastbound				Westbound				Total All
			Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Approaches
FINAL 2040 CUMULATIVE																			
SF General Hospital (w/out backfill of SFGH Campus)																			
281	Potrero Av / 20th St		84	984	0	1,068	0	1,481	73	1,554	154	0	116	270	0	0	0	0	2,892
282	Potrero Av / 22nd St North		0	1,142	116	1,258	139	1,576	0	1,715	0	0	0	0	81	0	141	222	3,195
283	Potrero Av / 22nd St South		37	1,215	0	1,252	0	1,596	61	1,657	43	0	118	161	0	0	0	0	3,070
284	Potrero Av / 23rd St		0	970	124	1,094	120	1,521	73	1,714	32	78	75	185	134	0	250	384	3,377
285	Utah St / 23rd St		61	0	61	122	0	0	0	0	0	225	97	322	71	323	0	394	838
286	West Driveway / 23rd St		0	0	0	0	6	0	48	54	40	246	0	286	0	346	29	375	715
287	San Bruno Av / 23rd St		31	0	46	77	0	0	0	0	0	208	44	252	52	344	0	396	725
288	East Driveway / 23rd St		0	0	0	0	0	0	0	0	0	254	0	254	0	396	0	396	650
289	Vermont St / 23rd St		11	0	98	109	82	49	44	175	0	241	13	254	137	341	0	478	1,016
290	Potrero Av / 24th St		166	918	68	1,152	33	1,616	81	1,730	25	124	113	262	118	112	151	381	3,525
291	Utah St / 24th St		38	36	12	86	13	63	92	168	33	137	55	225	109	251	53	413	892
292	Garage Driveway / 24th St		0	0	0	0	55	0	246	301	62	100	0	162	0	167	7	174	637
293	Potrero Av / 25th St		0	1,136	87	1,223	9	1,838	0	1,847	0	0	0	0	267	0	16	283	3,353
SF General Hospital (with backfill of SFGH Campus)																			
281	Potrero Av / 20th St		84	1,028	0	1,112	0	1,486	73	1,559	154	0	116	270	0	0	0	0	2,942
282	Potrero Av / 22nd St North		0	1,164	116	1,280	142	1,579	0	1,720	0	0	0	0	81	0	163	244	3,245
283	Potrero Av / 22nd St South		37	1,237	0	1,274	0	1,599	61	1,660	43	0	118	161	0	0	0	0	3,095
284	Potrero Av / 23rd St		0	992	124	1,116	120	1,524	73	1,717	32	80	75	187	134	14	250	398	3,417
285	Utah St / 23rd St		75	0	61	136	0	0	0	0	0	225	99	324	71	323	0	394	853
286	West Driveway / 23rd St		0	0	0	0	6	0	48	54	40	246	0	286	0	346	29	375	715
287	San Bruno Av / 23rd St		31	0	92	123	0	0	0	0	0	208	44	252	57	344	0	401	777
288	East Driveway / 23rd St		0	0	0	0	0	0	0	0	0	300	0	300	0	401	0	401	702
289	Vermont St / 23rd St		11	0	98	109	82	49	44	175	0	287	13	300	137	346	0	483	1,068
290	Potrero Av / 24th St		166	918	76	1,160	36	1,616	81	1,733	25	126	113	264	183	126	173	482	3,638
291	Utah St / 24th St		38	36	12	86	15	63	92	170	33	149	55	237	109	352	67	528	1,020
292	Garage Driveway / 24th St		0	0	0	0	101	0	361	462	76	100	0	176	0	167	12	179	817
293	Potrero Av / 25th St		0	1,144	87	1,231	9	1,903	0	1,912	0	0	0	0	267	0	16	283	3,426

UCSF LRDP EIR
Weekday AM Peak Hour (7 to 9 AM)

#	Intersection Name	Date of Count	TABLE 1A - INTERSECTION TURNING MOVEMENT VOLUMES																
			Northbound				Southbound				Eastbound				Westbound				Total All
			Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Approaches
			SF General Hospital - Counts																
281	Potrero Av / 20th St	F and P	70	1,070		1,140		663	21	684	56		92	148				0	1,972
282	Potrero Av / 22nd St North	F and P		1,167	160	1,327	97	723		820				0	46		44	90	2,237
283	Potrero Av / 22nd St South	F and P	6	1,279		1,285		729	21	750	82		104	186				0	2,221
284	Potrero Av / 23rd St	F and P		1,111	89	1,200	141	671	19	831	42	16	40	98	93		171	264	2,393
285	Utah St / 23rd St	F and P	27		54	81				0		235	64	299	33	285		318	698
286	West Driveway / 23rd St	F and P				0	7		62	69	89	197		286		253	20	273	628
287	San Bruno Av / 23rd St	F and P	19		30	49				0		147	52	199	29	259		288	536
288	East Driveway 2 / 23rd St	F and P				0	1		6	7	8	173		181		265	4	269	457
289	Vermont St / 23rd St	F and P	8		103	111	40	15	26	81	1	150	12	163	112	233		345	700
290	Potrero Av / 24th St	F and P	127	1,089	96	1,312	37	725	36	798	26	161	83	270	39	70	59	168	2,548
291	Utah St / 24th St	F and P	24	36	118	178	37	43	38	118	38	171	55	264	44	110	8	162	722
292	Garage Driveway / 24th St	F and P				0	3		49	52	246	103		349		110	25	135	536
293	Potrero Av / 25th St	F and P		1,302	224	1,526	16	840		856				0	188		16	204	2,586

UCSF LRDP EIR
Weekday AM Peak Hour (7 to 9 AM)

#	Intersection Name	Date of Count	TABLE 1A - INTERSECTION TURNING MOVEMENT VOLUMES																
			Northbound				Southbound				Eastbound				Westbound				Total All
			Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Approaches
			SF General Hospital - Baseline																
281	Potrero Av / 20th St		70	1,070	0	1,140	0	663	21	684	56	0	92	148	0	0	0	0	1,972
282	Potrero Av / 22nd St North		0	1,267	168	1,435	97	723	0	820	0	0	0	0	46	0	44	90	2,345
283	Potrero Av / 22nd St South		6	1,353	0	1,359	0	748	21	769	82	0	104	186	0	0	0	0	2,314
284	Potrero Av / 23rd St		0	1,111	110	1,221	162	671	19	852	42	41	40	123	109	0	206	315	2,511
285	Utah St / 23rd St		30	0	54	84	0	0	0	0	0	235	78	313	40	285	0	325	722
286	West Driveway / 23rd St		0	0	0	0	7	0	64	71	92	197	0	289	0	261	22	283	643
287	San Bruno Av / 23rd St		19	0	30	49	0	0	0	0	0	147	57	204	29	264	0	293	546
288	East Driveway 2 / 23rd St		0	0	0	0	1	0	6	7	8	173	0	181	0	265	4	269	457
289	Vermont St / 23rd St		8	0	103	111	40	15	26	81	1	160	13	174	112	235	0	347	713
290	Potrero Av / 24th St		127	1,119	96	1,342	37	745	38	820	31	161	83	275	39	70	71	180	2,617
291	Utah St / 24th St		24	36	118	178	37	43	38	118	40	194	60	294	44	118	8	170	760
292	Garage Driveway / 24th St		0	0	0	0	3	0	50	53	246	103	0	349	0	120	25	145	547
293	Potrero Av / 25th St		0	1,326	224	1,550	16	851	0	867	0	0	0	0	188	0	16	204	2,621

UCSF LRDP EIR
Weekday AM Peak Hour (7 to 9 AM)

#	Intersection Name	Date of Count	TABLE 1A - INTERSECTION TURNING MOVEMENT VOLUMES																
			Northbound				Southbound				Eastbound				Westbound				Total All
			Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Approaches
			SF General Hospital - Project																
281	Potrero Av / 20th St		0	2	0	2	0	9	0	9	0	0	1	1	0	0	0	0	12
282	Potrero Av / 22nd St North		0	2	0	2	0	11	0	11	0	0	0	0	0	0	0	0	13
283	Potrero Av / 22nd St South		0	2	0	2	0	11	0	11	0	0	1	1	0	0	0	0	14
284	Potrero Av / 23rd St		0	9	-21	-12	-7	19	0	12	0	0	0	0	-11	0	-7	-18	-18
285	Utah St / 23rd St		0	0	0	0	0	0	0	0	0	-29	0	-29	0	-19	0	-19	-48
286	West Driveway / 23rd St		0	0	0	0	-4	0	-13	-17	-20	-10	0	-30	0	-6	-6	-12	-59
287	San Bruno Av / 23rd St		0	0	9	9	0	0	0	0	0	-14	0	-14	7	-11	0	-4	-9
288	East Driveway 2 / 23rd St		0	0	0	0	-1	0	-6	-7	-8	5	0	-3	0	1	-4	-3	-13
289	Vermont St / 23rd St		0	0	0	0	0	0	0	0	0	3	0	3	0	-3	0	-3	0
290	Potrero Av / 24th St		0	-21	53	32	19	-11	-1	7	0	7	0	7	18	2	9	29	75
291	Utah St / 24th St		0	0	0	0	0	0	0	0	0	79	0	79	0	29	0	29	108
292	Garage Driveway / 24th St		0	0	0	0	9	0	29	38	79	0	0	79	0	0	7	7	124
293	Potrero Av / 25th St		0	32	0	32	0	7	0	7	0	0	0	0	0	0	0	0	39

UCSF LRDP EIR
Weekday AM Peak Hour (7 to 9 AM)

#	Intersection Name	Date of Count	TABLE 1A - INTERSECTION TURNING MOVEMENT VOLUMES																
			Northbound				Southbound				Eastbound				Westbound				Total All Approaches
			Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	
			SF General Hospital - Baseline plus project																
281	Potrero Av / 20th St		70	1,072	0	1,142	0	672	21	693	56	0	93	149	0	0	0	0	1,984
282	Potrero Av / 22nd St North		0	1,269	168	1,437	97	734	0	831	0	0	0	0	46	0	44	90	2,358
283	Potrero Av / 22nd St South		6	1,355	0	1,361	0	759	21	780	82	0	105	187	0	0	0	0	2,328
284	Potrero Av / 23rd St		0	1,120	89	1,209	155	690	19	864	42	41	40	123	98	0	199	297	2,493
285	Utah St / 23rd St		30	0	54	84	0	0	0	0	0	206	78	284	40	266	0	306	674
286	West Driveway / 23rd St		0	0	0	0	3	0	51	54	72	187	0	259	0	255	16	271	584
287	San Bruno Av / 23rd St		19	0	39	58	0	0	0	0	0	133	57	190	36	253	0	289	537
288	East Driveway 2 / 23rd St		0	0	0	0	0	0	0	0	0	178	0	178	0	266	0	266	444
289	Vermont St / 23rd St		8	0	103	111	40	15	26	81	1	163	13	177	112	232	0	344	713
290	Potrero Av / 24th St		127	1,098	149	1,374	56	734	37	827	31	168	83	282	57	72	80	209	2,692
291	Utah St / 24th St		24	36	118	178	37	43	38	118	40	273	60	373	44	147	8	199	868
292	Garage Driveway / 24th St		0	0	0	0	12	0	79	91	325	103	0	428	0	120	32	152	671
293	Potrero Av / 25th St		0	1,358	224	1,582	16	858	0	874	0	0	0	0	188	0	16	204	2,660

UCSF LRDP EIR
Weekday PM Peak Hour (4 to 6 PM)

#	Intersection Name	Date of Count	TABLE 1A - INTERSECTION TURNING MOVEMENT VOLUMES																
			Northbound				Southbound				Eastbound				Westbound				Total All Approaches
			Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	
			SF General Hospital - Counts																
281	Potrero Av / 20th St	F and P	75	664		739		1,120	73	1,193	147		52	199				0	2,131
282	Potrero Av / 22nd St North	F and P		858	107	965	77	1,242		1,319				0	81		58	139	2,423
283	Potrero Av / 22nd St South	F and P	9	926		935		1,230	48	1,278	42		74	116				0	2,329
284	Potrero Av / 23rd St	F and P		708	86	794	91	1,184	30	1,305	24	46	52	122	93		220	313	2,534
285	Utah St / 23rd St	F and P	58		45	103				0		157	61	218	41	280		321	642
286	West Driveway / 23rd St	F and P				0	9		64	73	58	144		202		256	33	289	564
287	San Bruno Av / 23rd St	F and P	31		26	57				0		119	42	161	49	266		315	533
288	East Driveway 2 / 23rd St	F and P				0	4		8	12	10	137		147		251	3	254	413
289	Vermont St / 23rd St	F and P	8	1	93	102	59	49	38	146	4	123	13	140	91	206		297	685
290	Potrero Av / 24th St	F and P	140	638	34	812	14	1,295	50	1,359	23	119	113	255	71	81	68	220	2,646
291	Utah St / 24th St	F and P	20	28	10	58	11	45	52	108	31	65	41	137	91	150	50	291	594
292	Garage Driveway / 24th St	F and P				0	36		186	222	7	90		97		124	4	128	447
293	Potrero Av / 25th St	F and P		847	87	934	8	1,455		1,463				0	262		16	278	2,675

UCSF LRDP EIR
Weekday PM Peak Hour (4 to 6 PM)

#	Intersection Name	Date of Count	TABLE 1A - INTERSECTION TURNING MOVEMENT VOLUMES																
			Northbound				Southbound				Eastbound				Westbound				Total All Approaches
			Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	
			SF General Hospital - Baseline																
281	Potrero Av / 20th St		75	664	0	739	0	1,120	73	1,193	147	0	52	199	0	0	0	0	2,131
282	Potrero Av / 22nd St North		0	873	112	985	77	1,242	0	1,319	0	0	0	0	81	0	58	139	2,443
283	Potrero Av / 22nd St South		9	943	0	952	0	1,270	53	1,323	42	0	74	116	0	0	0	0	2,391
284	Potrero Av / 23rd St		0	708	86	794	91	1,219	34	1,344	24	46	52	122	120	0	220	340	2,600
285	Utah St / 23rd St		58	0	51	109	0	0	0	0	0	157	66	223	44	282	0	326	658
286	West Driveway / 23rd St		0	0	0	0	11	0	64	75	58	150	0	208	0	262	35	297	580
287	San Bruno Av / 23rd St		31	0	26	57	0	0	0	0	0	119	42	161	49	266	0	315	533
288	East Driveway 2 / 23rd St		0	0	0	0	4	0	8	12	10	137	0	147	0	251	3	254	413
289	Vermont St / 23rd St		8	1	93	102	59	49	38	146	4	124	13	141	91	208	0	299	688
290	Potrero Av / 24th St		140	689	34	863	14	1,325	52	1,391	25	119	113	257	71	81	80	232	2,743
291	Utah St / 24th St		20	28	12	60	13	45	52	110	31	85	51	167	100	160	50	310	647
292	Garage Driveway / 24th St		0	0	0	0	36	0	186	222	10	100	0	110	0	124	4	128	460
293	Potrero Av / 25th St		0	847	87	934	9	1,500	0	1,509	0	0	0	0	262	0	16	278	2,721

UCSF LRDP EIR
Weekday PM Peak Hour (4 to 6 PM)

#	Intersection Name	Date of Count	TABLE 1A - INTERSECTION TURNING MOVEMENT VOLUMES																
			Northbound				Southbound				Eastbound				Westbound				Total All Approaches
			Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	
SF General Hospital - Project																			
281	Potrero Av / 20th St		1	8	0	9	0	2	0	2	0	0	0	0	0	0	0	0	11
282	Potrero Av / 22nd St North		0	10	0	10	0	2	0	2	0	0	0	0	0	0	0	0	12
283	Potrero Av / 22nd St South		1	10	0	11	0	2	0	2	0	0	0	0	0	0	0	0	13
284	Potrero Av / 23rd St		0	19	-20	-1	-6	9	0	3	0	0	0	0	-14	0	-8	-22	-20
285	Utah St / 23rd St		0	0	0	0	0	0	0	0	0	-27	0	-27	0	-22	0	-22	-49
286	West Driveway / 23rd St		0	0	0	0	-5	0	-16	-21	-18	-9	0	-27	0	-7	-6	-13	-61
287	San Bruno Av / 23rd St		0	0	19	19	0	0	0	0	0	-14	0	-14	3	-12	0	-9	-4
288	East Driveway 2 / 23rd St		0	0	0	0	-3	0	-7	-10	-9	13	0	4	0	-2	-3	-5	-11
289	Vermont St / 23rd St		0	0	0	0	0	0	0	0	0	11	0	11	0	-6	0	-6	5
290	Potrero Av / 24th St		0	-20	26	6	9	-13	-1	-5	0	3	0	3	38	4	19	61	65
291	Utah St / 24th St		0	0	0	0	0	0	0	0	0	39	0	39	0	60	0	60	99
292	Garage Driveway / 24th St		0	0	0	0	19	0	60	79	39	0	0	39	0	0	3	3	121
293	Potrero Av / 25th St		0	7	0	7	0	25	0	25	0	0	0	0	0	0	0	0	32

UCSF LRDP EIR
Weekday PM Peak Hour (4 to 6 PM)

#	Intersection Name	Date of Count	TABLE 1A - INTERSECTION TURNING MOVEMENT VOLUMES																
			Northbound				Southbound				Eastbound				Westbound				Total All Approaches
			Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	
			SF General Hospital - Baseline plus Project																
281	Potrero Av / 20th St		76	672	0	748	0	1,122	73	1,195	147	0	52	199	0	0	0	0	2,142
282	Potrero Av / 22nd St North		0	883	112	995	77	1,244	0	1,321	0	0	0	0	81	0	58	139	2,455
283	Potrero Av / 22nd St South		10	953	0	963	0	1,272	53	1,325	42	0	74	116	0	0	0	0	2,404
284	Potrero Av / 23rd St		0	727	66	793	85	1,228	34	1,347	24	46	52	122	106	0	212	318	2,580
285	Utah St / 23rd St		58	0	51	109	0	0	0	0	0	130	66	196	44	260	0	304	609
286	West Driveway / 23rd St		0	0	0	0	6	0	48	54	40	141	0	181	0	255	29	284	519
287	San Bruno Av / 23rd St		31	0	45	76	0	0	0	0	0	105	42	147	52	254	0	306	529
288	East Driveway 2 / 23rd St		0	0	0	0	1	0	1	2	1	150	0	151	0	249	0	249	402
289	Vermont St / 23rd St		8	1	93	102	59	49	38	146	4	135	13	152	91	202	0	293	693
290	Potrero Av / 24th St		140	669	60	869	23	1,312	51	1,386	25	122	113	260	109	85	99	293	2,808
291	Utah St / 24th St		20	28	12	60	13	45	52	110	31	124	51	206	100	220	50	370	746
292	Garage Driveway / 24th St		0	0	0	0	55	0	246	301	49	100	0	149	0	124	7	131	581
293	Potrero Av / 25th St		0	854	87	941	9	1,525	0	1,534	0	0	0	0	262	0	16	278	2,753

SFGH PARKING GARAGE EXPANSION

PROJECT TRIP GENERATION
LAND USE: RETAIL (ALL TRIPS)
Proposed Size: 20,000 gsf

DAILY:			**PEAK HOUR PERIOD:**	**Wkday AM**	**Wkday PM**
Linked Trip Factor [a]:	64%		Peak hour trips as a % of daily trips:	2.5% [c]	9.0% [b]
Weekday person-trip Generation Rate [b]:	150.0	trips/1000 gsf	Total peak hour person-trip rate (trips/1,000 gsf):	3.8	13.5
Total Weekday Person-trips (w/out linked trip factor):		3,000	Percent of All Trips during peak hour:	100%	100%
Weekday Trips:	100%	1,080	Peak hour Trips (w/ linked trip factor):	27	97

Origins	Distribution [a]	Mode	Percent [a]	Average Vehicle Occup. [a]	WEEKDAY All Day Person Trips	WEEKDAY All Day Vehicle-Trips	WEEKDAY AM Peak Hour Person Trips	WEEKDAY AM Peak Hour Vehicle-Trips	WEEKDAY PM Peak Hour Person Trips	WEEKDAY PM Peak Hour Vehicle-Trips
Superdistrict 1	6.3%	Auto	45.3%	1.67	31	18	1	0	3	2
		Transit	29.5%		20		0		2	
		Walk	21.4%		14		0		1	
		Other	3.8%		3		0		0	
		TOTAL	*100.0%*		*68*	*18*	*2*	*0*	*6*	*2*
Superdistrict 2	9.2%	Auto	62.2%	1.48	62	42	2	1	6	4
		Transit	16.7%		17		0		1	
		Walk	18.1%		18		0		2	
		Other	3.0%		3		0		0	
		TOTAL	*100.0%*		*99*	*42*	*2*	*1*	*9*	*4*
Superdistrict 3	56.9%	Auto	60.4%	1.98	371	187	9	5	33	17
		Transit	10.0%		62		2		6	
		Walk	28.1%		172		4		16	
		Other	1.5%		10		0		1	
		TOTAL	*100.0%*		*614*	*187*	*15*	*5*	*55*	*17*
Superdistrict 4	5.3%	Auto	83.2%	1.73	48	28	1	1	4	2
		Transit	11.6%		7		0		1	
		Walk	2.3%		1		0		0	
		Other	2.8%		2		0		0	
		TOTAL	*100.0%*		*57*	*28*	*1*	*1*	*5*	*2*
East Bay	4.3%	Auto	72.7%	1.71	33	20	1	0	3	2
		Transit	18.9%		9		0		1	
		Walk	7.8%		4		0		0	
		Other	0.6%		0		0		0	
		TOTAL	*100.0%*		*46*	*20*	*1*	*0*	*4*	*2*
North Bay	2.4%	Auto	87.3%	1.44	23	16	1	0	2	1
		Transit	12.0%		3		0		0	
		Walk	0.0%		0		0		0	
		Other	0.7%		0		0		0	
		TOTAL	*100.0%*		*26*	*16*	*1*	*0*	*2*	*1*
South Bay	11.0%	Auto	87.0%	1.64	103	63	3	2	9	6
		Transit	9.0%		11		0		1	
		Walk	2.3%		3		0		0	
		Other	1.7%		2		0		0	
		TOTAL	*100.0%*		*119*	*63*	*3*	*2*	*11*	*6*
Out of Region	4.7%	Auto	59.4%	1.68	30	18	1	0	3	2
		Transit	18.0%		9		0		1	
		Walk	18.5%		9		0		1	
		Other	4.1%		2		0		0	
		TOTAL	*100.0%*		*51*	*18*	*1*	*0*	*5*	*2*
TOTAL	**100.0%**	Auto	64.9%	1.79	700	391	18	10	63	35
		Transit	12.6%		136		3		12	
		Walk	20.6%		222		6		20	
		Other	2.0%		21		1		2	
		TOTAL	*100.0%*		*1,080*	*391*	*27*	*10*	*97*	*35*

[a] Calculated from work and non-work trip estimates
[b] SF Guidelines, Appendix C - Table C-1 (General Retail)
[c] The weekday a.m. peak hour trip generation rates are based on the weekday a.m. to weekday p.m. ratio for Shopping Center [LU 820] from ITE Trip Generation, 9th Edition (

SFGH PARKING GARAGE EXPANSION

PROJECT TRIP GENERATION

LAND USE: RETAIL (WORK TRIPS)

Proposed Size: 20,000 gsf

DAILY:		
Linked Trip Factor [a]:	0%	
Weekday person-trip Generation Rate [b]:	150.0	trips/1000 gsf
Total Weekday Person-trips (w/out linked trip factor):		3,000
Weekday Work Trips (w/ linked trip factor) [d]:	4%	120

PEAK HOUR PERIOD:	**Wkday AM**	**Wkday PM**
Peak hour trips as a % of daily trips:	2.5% [c]	9.0% [b]
Total peak hour person-trip rate (trips/1,000 gsf):	3.8	13.5
Percent of Work Trips during peak hour:	4.0% [e]	4.0% [d]
Peak hour Work Trips (w/ linked trip factor):	3	11

Origins	**Distribution [f]**	**Mode**	**Percent [f]**	**Average Vehicle Occup. [f]**	**WEEKDAY**					
					All Day		**AM Peak Hour**		**PM Peak Hour**	
					Person Trips	**Vehicle-Trips**	**Person Trips**	**Vehicle-Trips**	**Person Trips**	**Vehicle-Trips**
Superdistrict 1	8.3%	Auto	46.9%	1.30	5	4	0	0	0	0
		Transit	32.7%		3		0		0	
		Walk	17.7%		2		0		0	
		Other	2.7%		0		0		0	
		TOTAL	*100.0%*		*10*	*4*	*0*	*0*	*1*	*0*
Superdistrict 2	10.6%	Auto	64.6%	1.26	8	7	0	0	1	1
		Transit	26.4%		3		0		0	
		Walk	6.9%		1		0		0	
		Other	2.1%		0		0		0	
		TOTAL	*100.0%*		*13*	*7*	*0*	*0*	*1*	*1*
Superdistrict 3	23.9%	Auto	59.7%	1.25	17	14	0	0	2	1
		Transit	20.6%		6		0		1	
		Walk	15.1%		4		0		0	
		Other	4.6%		1		0		0	
		TOTAL	*100.0%*		*29*	*14*	*1*	*0*	*3*	*1*
Superdistrict 4	7.9%	Auto	75.7%	1.48	7	5	0	0	1	0
		Transit	21.5%		2		0		0	
		Walk	0.0%		0		0		0	
		Other	2.8%		0		0		0	
		TOTAL	*100.0%*		*9*	*5*	*0*	*0*	*1*	*0*
East Bay	14.3%	Auto	68.8%	1.61	12	7	0	0	1	1
		Transit	29.7%		5		0		0	
		Walk	0.0%		0		0		0	
		Other	1.5%		0		0		0	
		TOTAL	*100.0%*		*17*	*7*	*0*	*0*	*2*	*1*
North Bay	5.6%	Auto	86.9%	1.44	6	4	0	0	1	0
		Transit	10.5%		1		0		0	
		Walk	0.0%		0		0		0	
		Other	2.6%		0		0		0	
		TOTAL	*100.0%*		*7*	*4*	*0*	*0*	*1*	*0*
South Bay	26.9%	Auto	88.5%	1.13	29	25	1	1	3	2
		Transit	8.8%		3		0		0	
		Walk	0.0%		0		0		0	
		Other	2.7%		1		0		0	
		TOTAL	*100.0%*		*32*	*25*	*1*	*1*	*3*	*2*
Out of Region	2.5%	Auto	61.8%	1.56	2	1	0	0	0	0
		Transit	35.3%		1		0		0	
		Walk	0.0%		0		0		0	
		Other	2.9%		0		0		0	
		TOTAL	*100.0%*		*3*	*1*	*0*	*0*	*0*	*0*
TOTAL	**100.0%**	Auto	71.0%	1.28	85	67	2	2	8	6
		Transit	20.2%		24		1		2	
		Walk	5.8%		7		0		1	
		Other	2.9%		4		0		0	
		TOTAL	*100.0%*		*120*	*67*	*3*	*2*	*11*	*6*

[a] No linked-trip factor assumed for work trips

[b] SF Guidelines, Appendix C - Table C-1 (General Retail)

[c] The weekday a.m. peak hour trip generation rates are based on the weekday a.m. to weekday p.m. ratio for Shopping Center [LU 820] from ITE Trip Generation, 9th Edition (

[d] SF Guidelines, Appendix C - Table C-2 (Retail)

[e] The weekday a.m. peak hour percentages of work/non-work trips are assumed to be the same as the weekday p.m. peak hour percentages shown in Table C-2 of the SF Gu

[f] SF Guidelines, Appendix E - Table E-5 Work Trips to SD3 (All)

SFGH PARKING GARAGE EXPANSION

PROJECT TRIP GENERATION
LAND USE: RETAIL (NON-WORK TRIPS
Proposed Size: 20,000 gsf

DAILY:		
Linked Trip Factor [a]:	67%	
Weekday person-trip Generation Rate [b]:	150.0	trips/1000 gsf
Total Weekday Person-trips (w/out linked trip factor):		3,000
Wday Non-Work Trips (w/ linked trip factor) [d]:	96%	960

PEAK HOUR PERIOD:	**Wkday AM**	**Wkday PM**
Peak hour trips as a % of daily trips:	2.5% [c]	9.0% [b]
Total peak hour person-trip rate (trips/1,000 gsf):	3.8	13.5
Percent of Non-Work Trips during peak hour:	96.0% [e]	96.0% [d]
Peak hour Non-Work Trips (w/ linked trip factor):	24	86

Origins	**Distribution [f]**	**Mode**	**Percent [f]**	**Average Vehicle Occup. [f]**	**WEEKDAY**					
					All Day		**AM Peak Hour**		**PM Peak Hour**	
					Person Trips	**Vehicle-Trips**	**Person Trips**	**Vehicle-Trips**	**Person Trips**	**Vehicle-Trips**
Superdistrict 1	6.0%	Auto	45.0%	1.76	26	15	1	0	2	1
		Transit	29.0%		17		0		2	
		Walk	22.0%		13		0		1	
		Other	4.0%		2		0		0	
		TOTAL	*100.0%*		*58*	*15*	*1*	*0*	*5*	*1*
Superdistrict 2	9.0%	Auto	61.8%	1.52	53	35	1	1	5	3
		Transit	15.3%		13		0		1	
		Walk	19.8%		17		0		2	
		Other	3.1%		3		0		0	
		TOTAL	*100.0%*		*86*	*35*	*2*	*1*	*8*	*3*
Superdistrict 3	61.0%	Auto	60.4%	2.04	354	173	9	4	32	16
		Transit	9.5%		56		1		5	
		Walk	28.7%		168		4		15	
		Other	1.4%		8		0		1	
		TOTAL	*100.0%*		*586*	*173*	*15*	*4*	*53*	*16*
Superdistrict 4	5.0%	Auto	84.7%	1.78	41	23	1	1	4	2
		Transit	9.7%		5		0		0	
		Walk	2.8%		1		0		0	
		Other	2.8%		1		0		0	
		TOTAL	*100.0%*		*48*	*23*	*1*	*1*	*4*	*2*
East Bay	3.0%	Auto	75.0%	1.77	22	12	1	0	2	1
		Transit	12.5%		4		0		0	
		Walk	12.5%		4		0		0	
		Other	0.0%		0		0		0	
		TOTAL	*100.0%*		*29*	*12*	*1*	*0*	*3*	*1*
North Bay	2.0%	Auto	87.5%	1.44	17	12	0	0	2	1
		Transit	12.5%		2		0		0	
		Walk	0.0%		0		0		0	
		Other	0.0%		0		0		0	
		TOTAL	*100.0%*		*19*	*12*	*0*	*0*	*2*	*1*
South Bay	9.0%	Auto	86.4%	1.98	75	38	2	1	7	3
		Transit	9.1%		8		0		1	
		Walk	3.2%		3		0		0	
		Other	1.3%		1		0		0	
		TOTAL	*100.0%*		*86*	*38*	*2*	*1*	*8*	*3*
Out of Region	5.0%	Auto	59.2%	1.69	28	17	1	0	3	2
		Transit	16.9%		8		0		1	
		Walk	19.7%		9		0		1	
		Other	4.2%		2		0		0	
		TOTAL	*100.0%*		*48*	*17*	*1*	*0*	*4*	*2*
TOTAL	**100.0%**	Auto	64.1%	1.90	615	324	15	8	55	29
		Transit	11.7%		112		3		10	
		Walk	22.4%		215		5		19	
		Other	1.8%		18		0		2	
		TOTAL	*100.0%*		*960*	*324*	*24*	*8*	*86*	*29*

[a] Assumes that 66 percent of the retail customers are already in the SFGH area for other purposes (e.g. medical office visit)
[b] SF Guidelines, Appendix C - Table C-1 (General Retail)
[c] The weekday a.m. peak hour trip generation rates are based on the weekday a.m. to weekday p.m. ratio for Shopping Center [LU 820] from ITE Trip Generation, 9th Edition (
[d] SF Guidelines, Appendix C - Table C-2 (Retail)
[e] The weekday a.m. peak hour percentages of work/non-work trips are assumed to be the same as the weekday p.m. peak hour percentages shown in Table C-2 of the SF Gu
[f] SF Guidelines, Appendix E - Table E-14 Visitor Trips to SD3 (Retail)

Vehicle Miles of Travel
SF General Hospital
UCSF Research Facility

Population Group	Increase in Daily Vehicle Distribution [a]								
	S. Francisco SD1	S. Francisco SD2	S. Francisco SD3	S. Francisco SD4	East Bay	North Bay	South Bay	Outside Bay Area	All Origins
Approx. distance to campus	*2.7 miles*	*3.5 miles*	*1.8 miles*	*4.7 miles*	*25 miles*	*40 miles*	*33 miles*	*88 miles*	*15.2 miles*
STAFF									
Faculty/Physicians	0	0	0	0	0	0	0	0	0
Fellows/Residents	0	0	0	0	0	0	0	0	0
Nurses/Nurse Practitioners	0	0	0	0	0	0	0	0	0
Postdocs/Students	0	0	0	0	0	0	0	0	0
Other Staff	10	22	45	25	39	9	26	0	176
Total staff	*10*	*22*	*45*	*25*	*39*	*9*	*26*	*0*	*176*
PATIENTS & VISITORS									
Inpatients	0	0	0	0	0	0	0	0	0
Outpatients	0	0	0	0	0	0	0	0	0
Visitors to inpatients	0	0	0	0	0	0	0	0	0
Visitors with outpatients	0	0	0	0	0	0	0	0	0
Total patients and visitors	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
OTHER VISITORS									
Community Center Visitors	0	0	0	0	0	0	0	0	0
Faculty/Staff Visitors	3	2	1	5	3	2	2	2	20
Vendors/Services	0	0	0	0	0	0	0	0	0
Total other visitors	*3*	*2*	*1*	*5*	*3*	*2*	*2*	*2*	*20*
Subtotal Staff+Patients+Visitors	*14*	*23*	*46*	*29*	*42*	*10*	*28*	*3*	*196*
CHILDCARE									
Childcare staff	0	0	0	0	0	0	0	0	0
Childcare children	0	0	0	0	0	0	0	0	0
Total childcare	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
RESIDENTIAL									
Contract holders	0	0	0	0	0	0	0	0	0
Spouses	0	0	0	0	0	0	0	0	0
Children	0	0	0	0	0	0	0	0	0
Visitors	0	0	0	0	0	0	0	0	0
Vendors/Services	0	0	0	0	0	0	0	0	0
Total residential	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
GRAND TOTAL	**14**	**23**	**46**	**29**	**42**	**10**	**28**	**3**	**196**

[a] Origin/Destination for staff based on surveys of UCSF employees at SFGH, July 2013.

Vehicle Miles of Travel
SF General Hospital
UCSF Research Facility

Population Group *Approx. distance to campus*	Increase in Daily Vehicle Miles of Travel								
	San Francisco SD1	San Francisco SD2	San Francisco SD3	San Francisco SD4	East Bay	North Bay	South Bay	Outside Bay Area	All Origins
STAFF									
Faculty/Physicians	0	0	0	0	0	0	0	0	0
Fellows/Residents	0	0	0	0	0	0	0	0	0
Nurses/Nurse Practitioners	0	0	0	0	0	0	0	0	0
Postdocs/Students	0	0	0	0	0	0	0	0	0
Other Staff	28	76	81	115	980	346	857	42	2,525
Total staff	*28*	*76*	*81*	*115*	*980*	*346*	*857*	*42*	*2,525*
PATIENTS & VISITORS									
Inpatients	0	0	0	0	0	0	0	0	0
Outpatients	0	0	0	0	0	0	0	0	0
Visitors to inpatients	0	0	0	0	0	0	0	0	0
Visitors with outpatients	0	0	0	0	0	0	0	0	0
Total patients and visitors	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
OTHER VISITORS									
Community Center Visitors	0	0	0	0	0	0	0	0	0
Faculty/Staff Visitors	9	5	2	23	66	72	74	189	441
Vendors/Services	0	0	0	0	0	0	0	0	0
Total other visitors	*9*	*5*	*2*	*23*	*66*	*72*	*74*	*189*	*441*
Subtotal Staff+Patients+Visitors	*37*	*81*	*83*	*138*	*1,046*	*418*	*931*	*231*	*2,966*
CHILDCARE									
Childcare staff	0	0	0	0	0	0	0	0	0
Childcare children	0	0	0	0	0	0	0	0	0
Total childcare	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
RESIDENTIAL									
Contract holders	0	0	0	0	0	0	0	0	0
Spouses	0	0	0	0	0	0	0	0	0
Children	0	0	0	0	0	0	0	0	0
Visitors	0	0	0	0	0	0	0	0	0
Vendors/Services	0	0	0	0	0	0	0	0	0
Total residential	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
GRAND TOTAL	**37**	**81**	**83**	**138**	**1,046**	**418**	**931**	**231**	**2,966**

APPENDIX I: EMPLOYEE SURVEY RESULTS - 2015

FEHR PEERS

April 1, 2016

Ms. Kathy Jung
Director of Facilities and Capital Projects
San Francisco Department of Public Health
101 Grove Street, Room 323
San Francisco, CA 94102

Subject: Priscilla Chan and Mark Zuckerberg San Francisco General Hospital Employee Travel Survey Results – 2015 (DRAFT)

Dear Kathy:

Fehr & Peers and Adavant Consulting conducted a travel survey in 2015 of current Priscilla Chan and Mark Zuckerberg San Francisco General Hospital ("ZSFG") employees, who are comprised of SF Department of Public Health ("SFDPH") and University of California, San Francisco ("UCSF") employees. This letter report discusses the methodology behind the survey and presents the results of the 2015 survey while noting key trends between the 2015 survey results and the previous survey conducted in 2013.

METHODOLOGY

The 2015 travel survey was developed by Fehr & Peers and Adavant Consulting in coordination with SFDPH and UCSF, and it included 22 questions related to employees' commuter travel to/from ZSFG. The primary questions in the survey considered topics such as the trip origin, frequency, duration, and mode of travel for employees. In addition, more focused questions were asked about employees who drive to the ZSFG campus, such as how many people are in their carpool, where they park, etc. Other questions included hypothetical situations to understand if employees might shift their travel mode based on changes in circumstances. The 2015 Employee Survey is included as an attachment to this document.

Approximately 3,600 employees travel to the ZSFG campus on a typical weekday.[1] The survey was distributed in August 2015 to all ZSFG employees via email in electronic format. Additional paper copies were also made available at various locations throughout the ZSFG campus to encourage as many employees as possible to complete the survey. Over 2,400 survey responses (1,770 via email and 650 on paper) were collected up to the end of August 2015, which represents approximately two thirds of the daily employee population. It represented about 1,000 additional responses compared to the 2013 survey.

COMPARATIVE SURVEY RESULTS

The results from the 2015 travel survey are presented below.[2] The 2015 survey results are also qualitatively compared to the 2013 travel survey results to identify key trends in employee travel behavior over the past two years.

Commute Origin (Home Location)

The commute origin of all employees and UCSF and SFDPH employees separately is shown in **Chart 1**. The counties employees commute from the most are San Francisco, San Mateo, and Alameda. The majority of both UCSF employees (53 percent) and SFDPH employees (43 percent) commute from San Francisco County. This is generally consistent with the 2013 survey results, though the proportion of employees living in San Francisco has decreased by about two percentage points while the proportion living in San Mateo has increased by about two percentage points.

[1] SFGH Institutional Master Plan Update, 2014.

[2] Some of the survey questions, such as "Who is your employer?" and "What is your home zip code?" are not individually reported; rather they are incorporated into the analysis of other questions to provide a cross-tabulated analysis that incorporates both geography and employer.

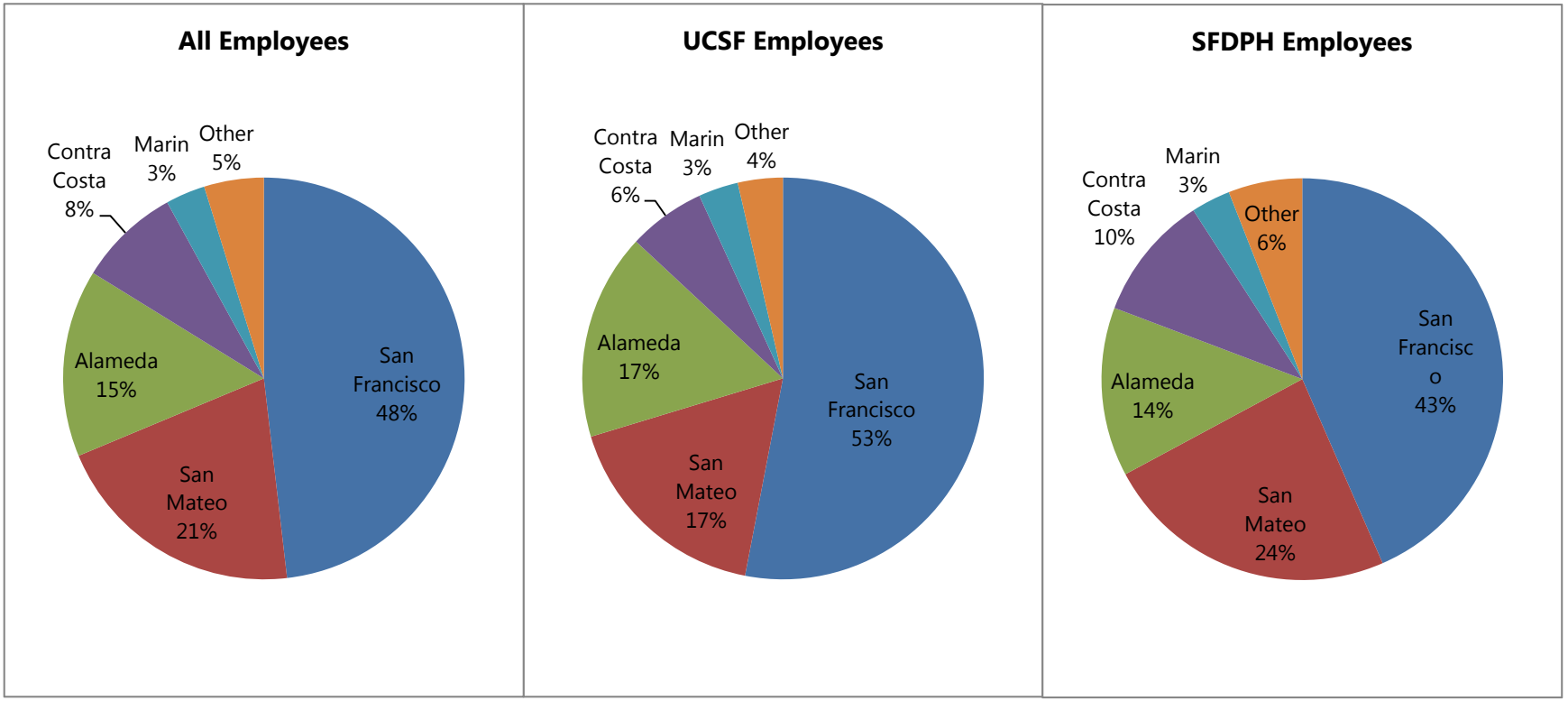


Chart 1 Employee Commute Origin

Note: "Other" includes Santa Clara, Solano, Sonoma, Napa, and other counties outside the Bay Area

Weekly Commute Frequency

The frequency of employee commuting (expressed in the typical number of days per week) to ZSFG is shown in **Chart 2**. A significant majority of ZSFG employees (67 percent) commute to ZSFG five or more days per week, followed by those that commute four days per week (13 percent) and three days per week (11 percent). The combined average number of days that employees commute to the ZSFG campus is 4.3 days per week.

In general, UCSF employees travel to ZSFG slightly more frequently (4.4 days per week) than SFDPH employees (4.3 days per week). Compared to the 2013 survey, all employees are commuting less frequently to ZSFG (4.3 days vs 4.6 days per week). The proportion of employees commuting five or more days per week has decreased by about 10 percentage points, while the proportion of all other frequencies has increased by two to four percentage points.

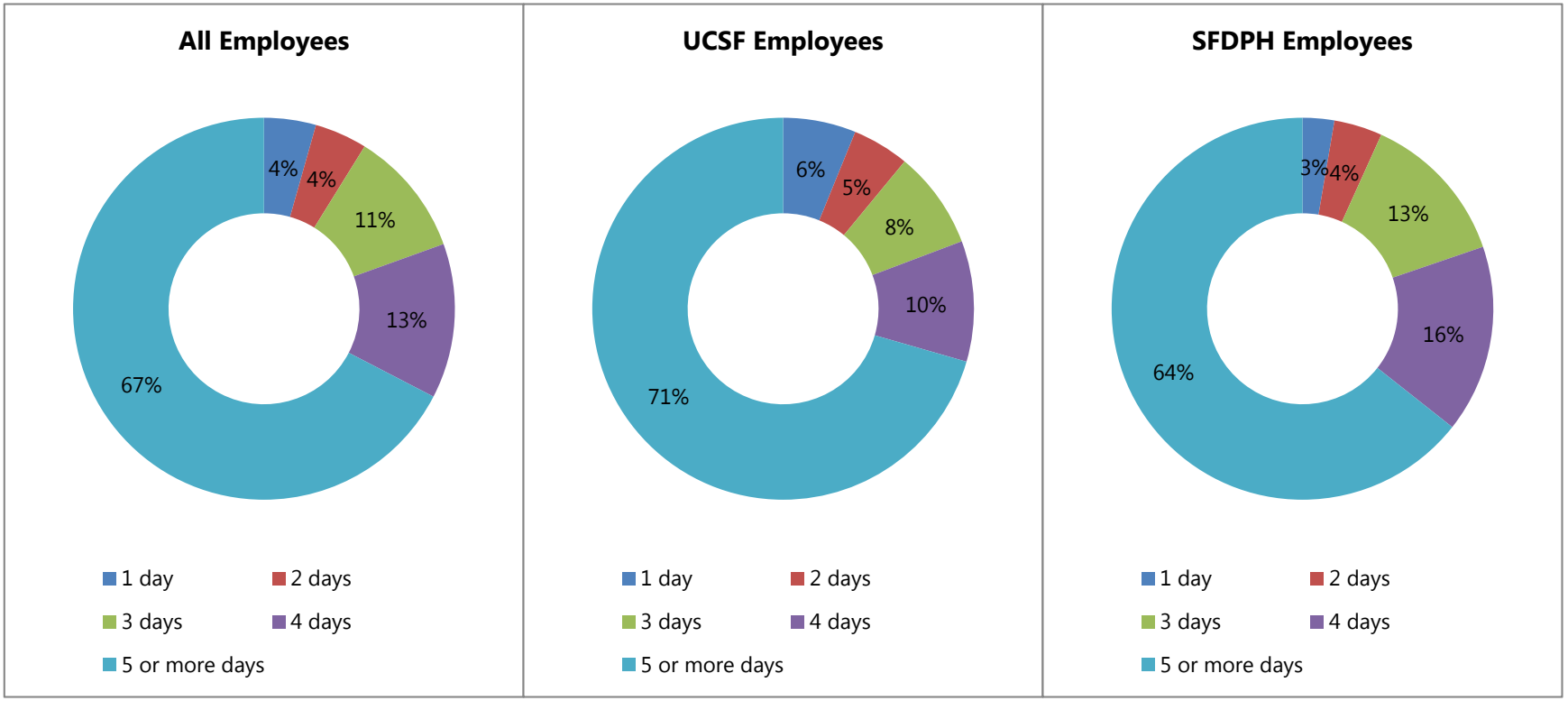


Chart 2 Employee Commute Frequency

Commute Mode of Travel

Chart 3 shows the mode that ZSFG employees typically use to travel to and from the campus. In addition to "traditional" options including drive alone and public transit, there are shuttles operated by SFDPH and UCSF that travel to BART, other UCSF campuses, and off-site parking areas (since closed). In general, a majority (53 percent) of employees drive alone to the ZSFG campus, followed by those that arrive by public transit (15 percent) (i.e. SF Muni, SamTrans, BART, Caltrain, etc.), or a bus shuttle (11 percent).

A higher proportion of SFDPH employees drive alone to work – 60 percent – compared to 46 percent of UCSF employees, most likely due to the possibility of purchasing discounted monthly parking permits available to some SFDPH employees. UCSF employees have a higher proportion of bicycling, walking, and taking either public transit or the UCSF shuttle than SFDPH employees, while SFDPH employees have a higher proportion of carpooling. These mode choices are fairly similar to the results available from the 2013 survey, with auto mode share for all employees remaining relatively constant at about 53 percent. The proportion of all employees taking public transit has increased slightly by about two percentage points compared to 2013, but the proportion of employees walking and bicycling has decreased by about three percentage points. These minor differences could be just due to how the question was understood by the employees taking the survey, as those who take public transit also have to walk into the ZSFG campus for the last portion of their trip.

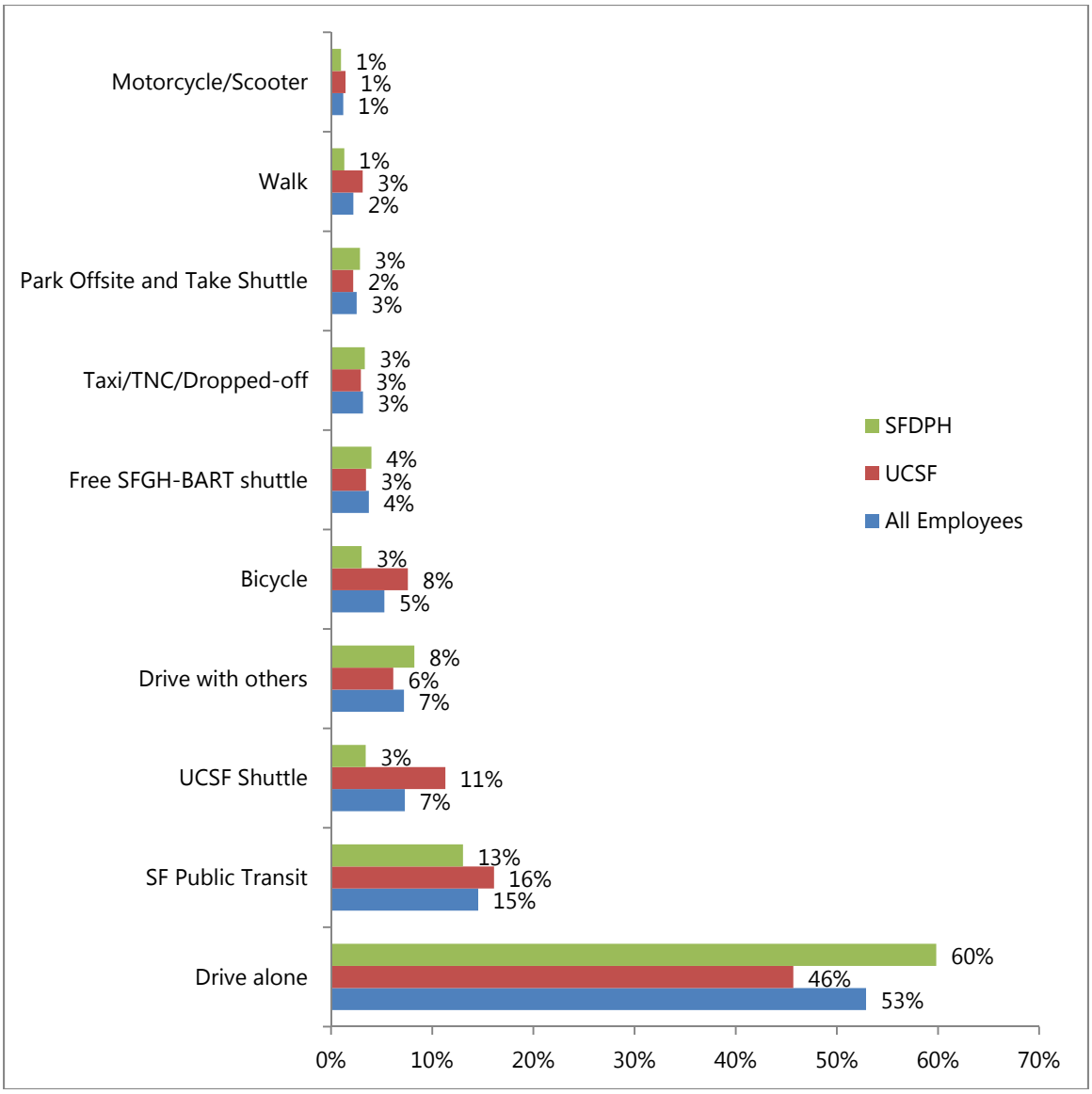


Chart 3 Employee Travel Mode

Time of Arrival and Departure

As previously noted, not all ZSFG employees work on a typical weekday schedule. There are administrative and research employees, most of whom work on a typical weekday work schedule, generally arriving between 7 AM and 9 AM, and leaving between 4 PM and 6 PM. Some research employees may work more or less than 8 hours each day. ZSFG also has hospital employees, who typically work on three shifts and some work on weekends. The day shift is typically from 7 AM to 3:30 PM, the evening shift is typically from 3 PM to 11:30 PM, and the owl shift is typically from 11 PM to 7:30 PM.

The aggregated proportions of employee's arrival and departure times to/from the ZSFG campus throughout a typical day is shown in **Chart 4** and **Chart 5**. Most employees arrive to the hospital before 10 AM (non-shift and day shift), though there are some mid-day and afternoon arrivals around 2 PM (evening shift), as well as 6 PM and after 8 PM (night shift). Most employees depart the hospital between 3 PM and 7 PM (non-shift and day shift), which falls within the typical evening commute for the City. There are also departures in the early morning before 8 AM (night shift) and in the evening after 8 PM. In general, SFDPH employees tend to arrive and depart earlier than UCSF employees due to the nature of their work shifts, resulting in departures that are spread out over a longer period of time than for UCSF employees. These patterns are generally consistent with the 2013 survey results.

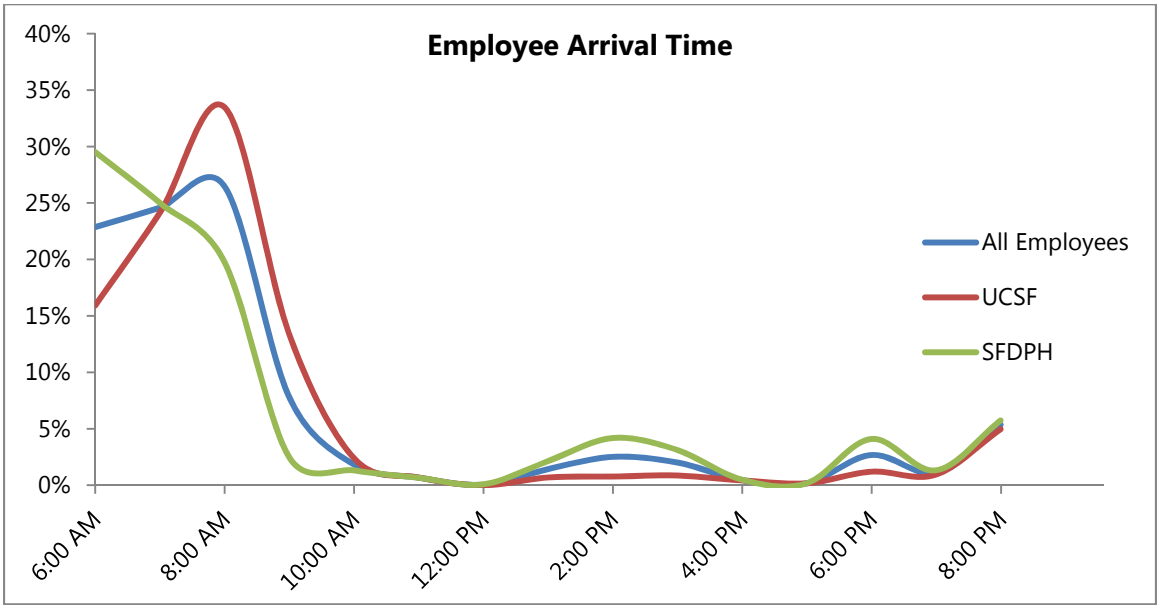


Chart 4 Employee Arrival Time

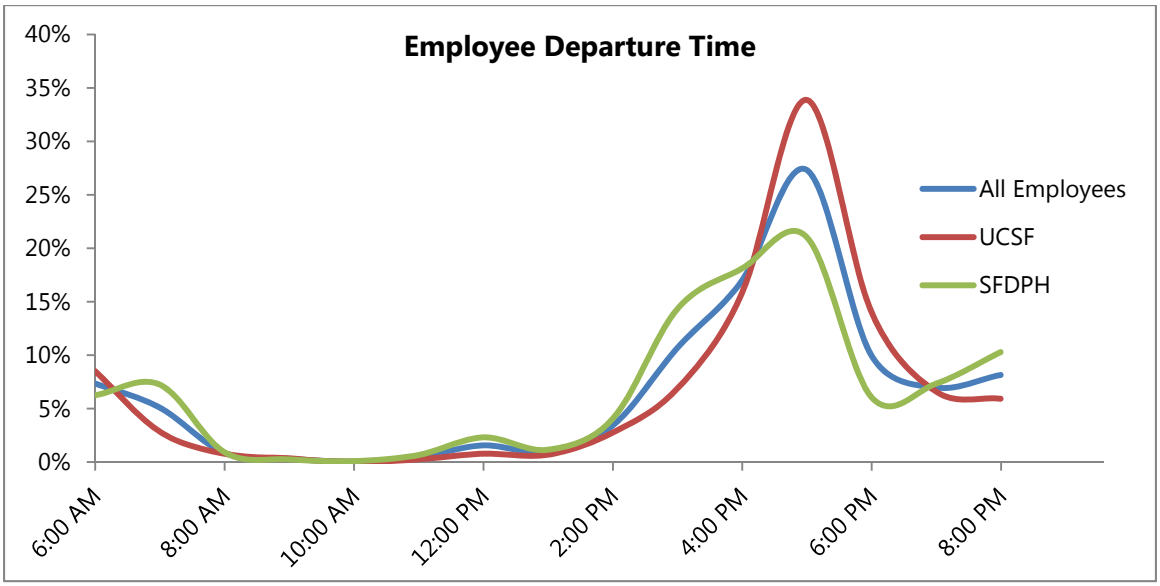


Chart 5 Employee Departure Time

Duration of Stay at Work

The proportion of employees' typical duration of stay at the hospital is presented in **Chart 6**. A significant majority of employees (nearly 70 percent) stay between eight to eleven hours at the hospital. A notable proportion of employees have longer stays, with 12 percent staying at the hospital 21 to 24 hours and 11 percent staying 12 to 15 hours. The longer stays at the hospital (20 hours or more) have increased by about five percentage points from 2013.

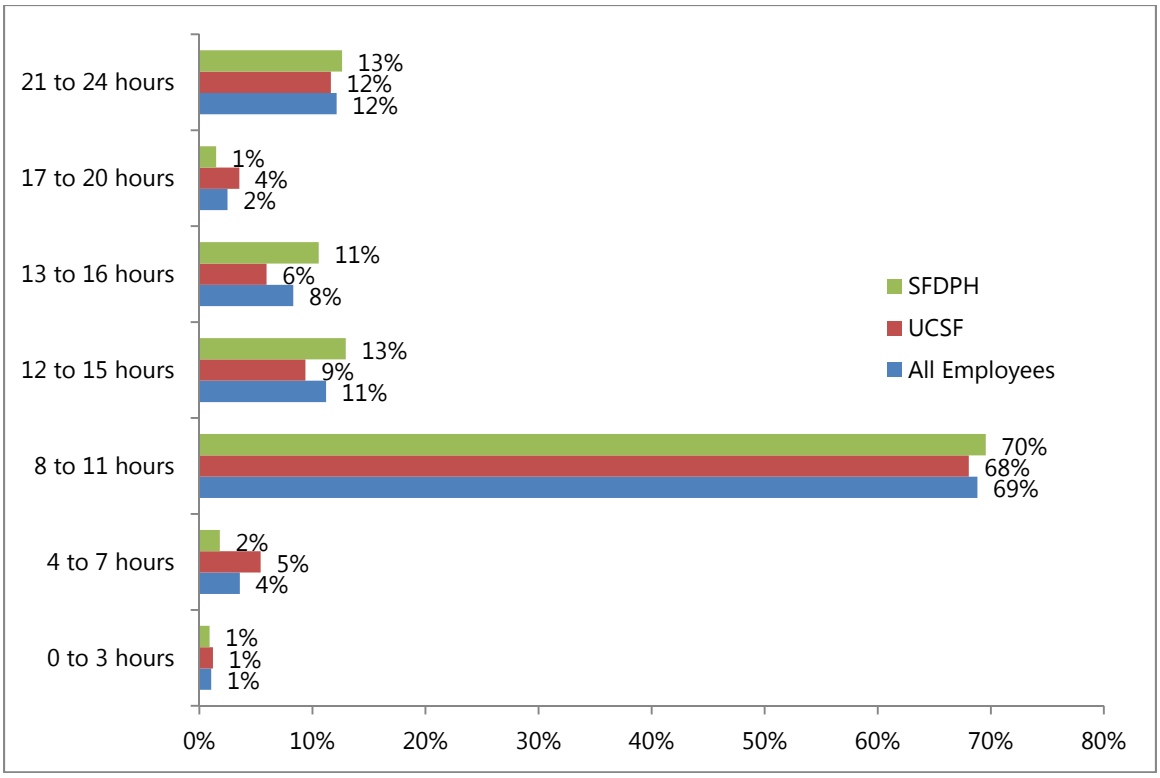


Chart 6 Employee Duration of Stay

Size of Carpool Group

For employees who commute to ZSFG via carpooling or vanpooling, the proportion of the size of the group is shown in **Chart 7**. Most ZSFG employees (54 percent) have a carpool size of one person (for a total occupancy of two people per vehicle), while about one-third of employees have a carpool size of two people (for a total vehicle occupancy of three people). The proportion of carpool sizes between UCSF and SFDPH employees is very similar. Compared to 2013, the size of carpools has generally increased: the proportion of carpools with two total occupants has declined by about two percentage points, while carpools of three or more occupants have increased by about three percentage points.

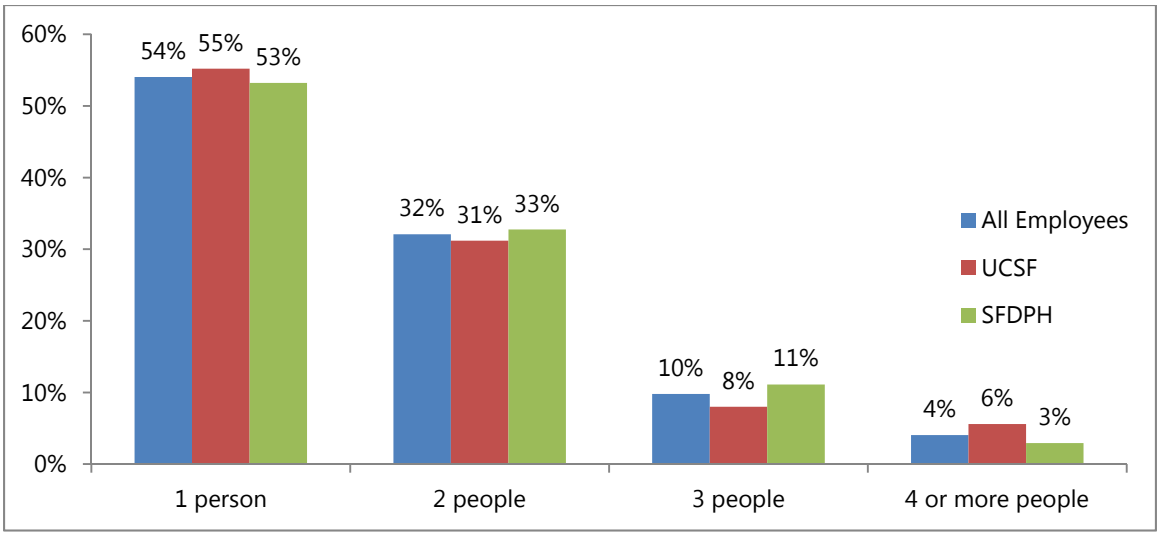


Chart 7 Employee Carpool Size (excludes driver)

Parking Location

For those employees who drive to ZSFG, **Chart 8** shows where those employees typically park. In general, about one-third of all employees park at a campus parking lot, one-third park in the 23rd Street parking garage, and one-third park on-street. A very small proportion park in another lot or off-site and use a shuttle service to get to the ZSFG campus (this lot was closed in January 2016 after construction of the new hospital building was almost completed).

These proportions are similar to those found in the 2013 survey, though the proportion of employees parking off-site or in another lot has decreased by about four percentage points, the proportion of employees parking on-street has decreased by about two percentage points, and the proportion parking at the ZSFG campus or the 23rd Street garage has increased by about six percentage points. SFDPH employees are slightly more likely to park on-campus at a lot or at the 23rd Street garage (for which SFDPH employees can request a discounted parking permit), while UCSF employees are slightly more likely to park on the street; 62 percent of SFDPH employees park at a campus parking lot or at the 23rd Street parking garage, compared to 57 percent of UCSF employees. Conversely, 32 percent of SFDPH employees park on-street, compared to 37 percent of UCSF employees.

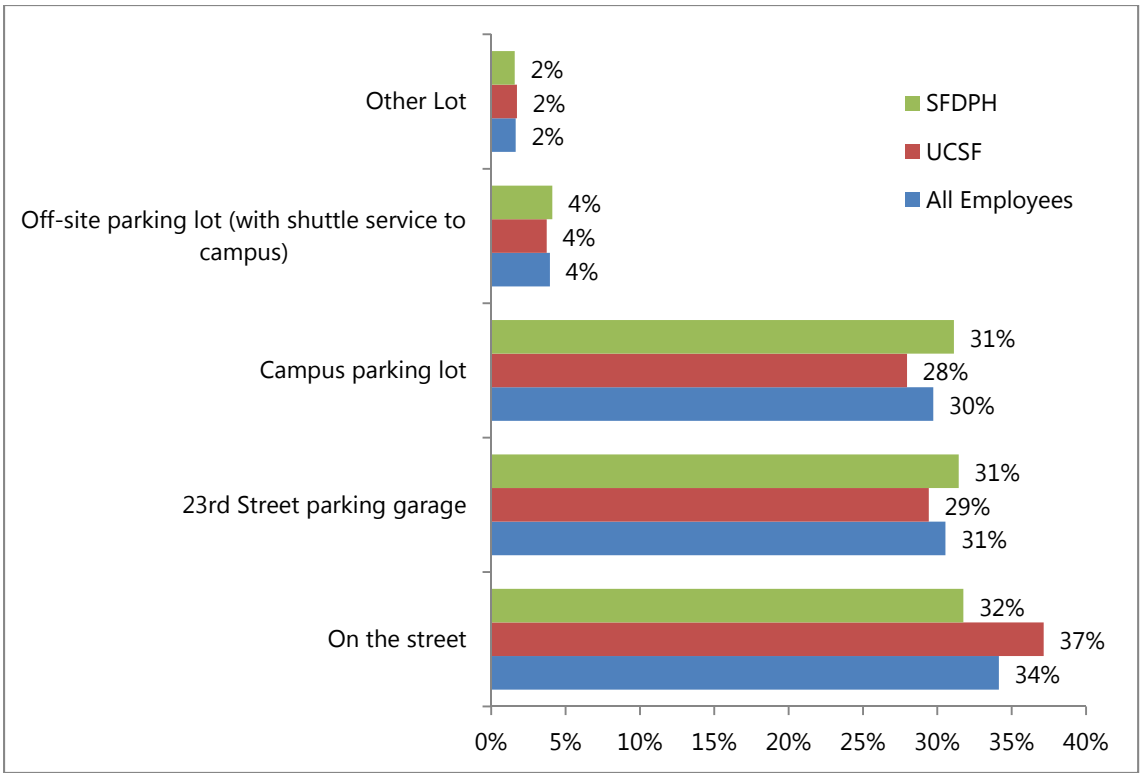
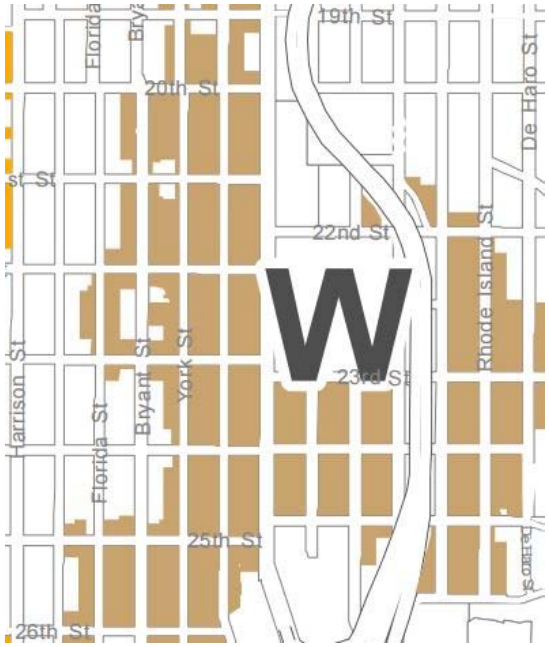


Chart 8 Employee Parking Location

On-Street Parking Location Distance

For those employees who park on-street, **Chart 9** illustrates approximately how far from the ZSFG campus they typically park, expressed in number of city blocks. Most of the on-street parking spaces near the ZSFG campus are part of the San Francisco Residential Parking Permit (RPP) area W, which was established to discourage long-term parking by people who do not live in the area.

Within RPP Zone W, vehicles without a RPP permit are allowed to park for one hour from Monday to Friday between 8 AM and 6 PM, while vehicles with a residential permit are allowed to park without any time restrictions. ZSFG does not make residential parking permits available to its faculty and staff. **Inset 1** illustrates the RPP area W regulations near ZSFG.



Inset 1: RPP Area W

Sixty-one percent of UCSF employees park more than four blocks away from the ZSFG campus (assumed to be outside RPP Zone W), compared to 40 percent of SFDPH employees. Averaging both populations, slightly more than half of all ZSFG employees (51 percent) who park on-street park four or more blocks away from the campus. The proportion of employees parking four or more blocks away has decreased by about six percentage points from 2013, which is believed to be caused by the observed reduction of employees parking on the street between 2013 and 2015 (i.e., those who used to park four or more blocks away from the ZSFG campus in 2013 are no longer parking on the street). In 2015, about one-fifth of SFDPH employees typically park either one block, two blocks, or three blocks away, while a smaller proportion of UCSF employees are able to do so.

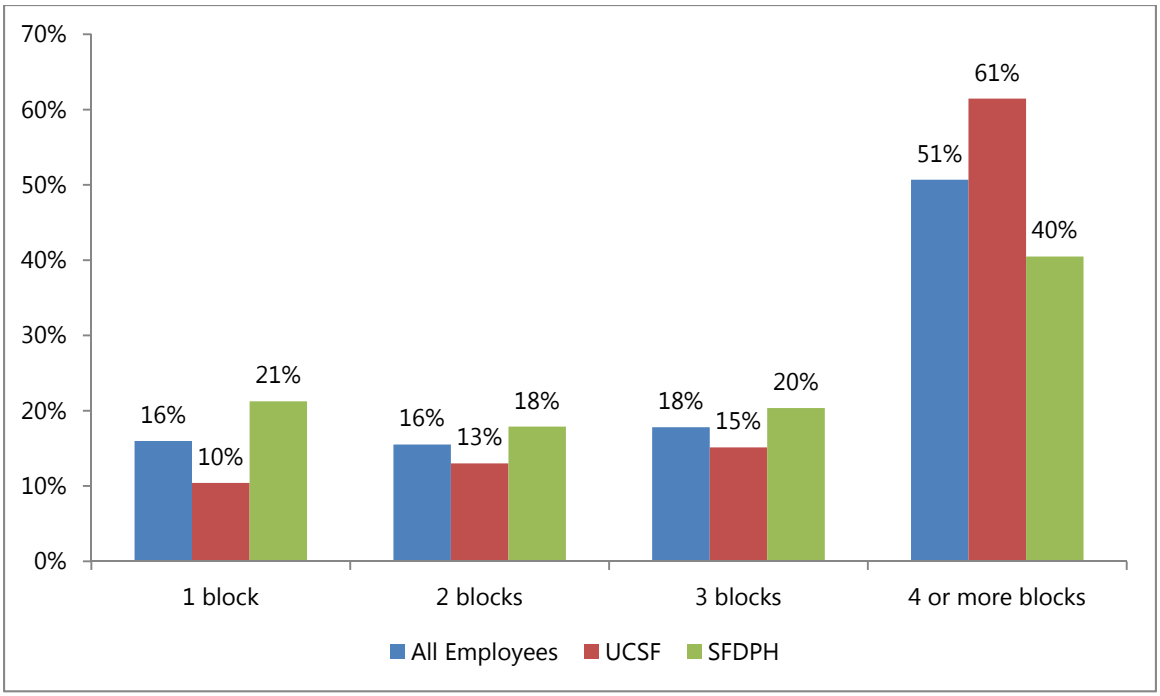


Chart 9 Employee On-Street Parking Distance from the ZSFG campus

Reasons for Driving Alone

Employees who frequently drive alone to the ZSFG campus were asked to provide the reasons as to why they did so. The results are summarized in **Chart 10**. The most common reason for all employees driving alone was because it "saves time" (39 percent), followed by the need to conduct personal errands before or after work (28 percent), travel independence (26 percent), and the unpredictability of their work schedule (24 percent). These trends are generally the same for both UCSF and SFDPH employees. A higher proportion of SFDPH employees indicated that driving saves time, provides the ability to do personal errands, provides a high level of comfort, and provides a sense of independence compared to UCSF employees, while a larger proportion of UCSF employees indicated that they typically drove because of their unpredictable schedule. These results are similar to those obtained from the 2013 survey, though schedule unpredictability as a reason for driving alone to the ZSFG campus has decreased for UCSF employees and increased for SFDPH employees.

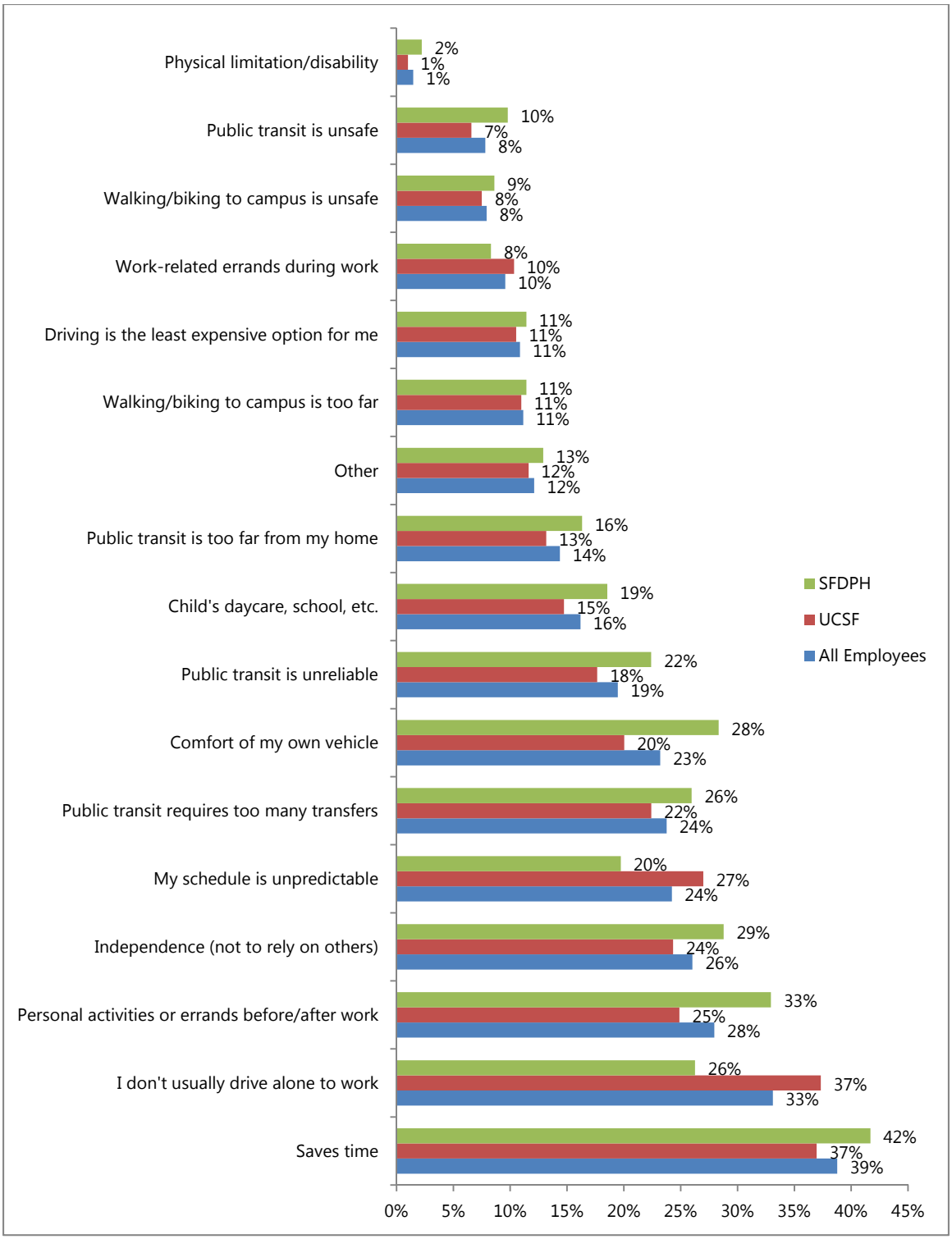


Chart 10 Employee Reasons to Drive-Alone

Mode of Travel Elasticity

Employees who typically drive and park at the 23rd Street garage were asked if they would change their mode of transportation based on the following hypothetical situation:

"If monthly parking rates for the 23rd Street parking garage increased by 50% (e.g. if the daily hourly maximum increased from $12 to $18 or the monthly pass increased from $100 to $150) would you change your mode of transportation?"

Chart 11 summarizes how employees responded. With the proposed price increases, approximately 20 percent of all employees would consider changing their mode of transportation (i.e. not drive to work), while the remainder would either continue to drive and park elsewhere (40 percent) or continue to park in the garage and pay the higher rates (40 percent). In general, a higher proportion of SFDPH employees would consider shifting from driving to other modes of travel or driving and parking elsewhere (most likely on the street) compared to UCSF employees. The proportion of all employees who would consider shifting to non-auto modes has decreased by about three percentage points from 2013 and the proportion who would not park at the 23rd Street garage has decreased by seven percentage points, while the proportion who would continue to drive and park in the garage has increased by about 10 percentage points. This indicates that employees are less likely in 2015 than they were in 2013 to either stop driving or stop parking at the 23rd Street garage due to potential price increases.

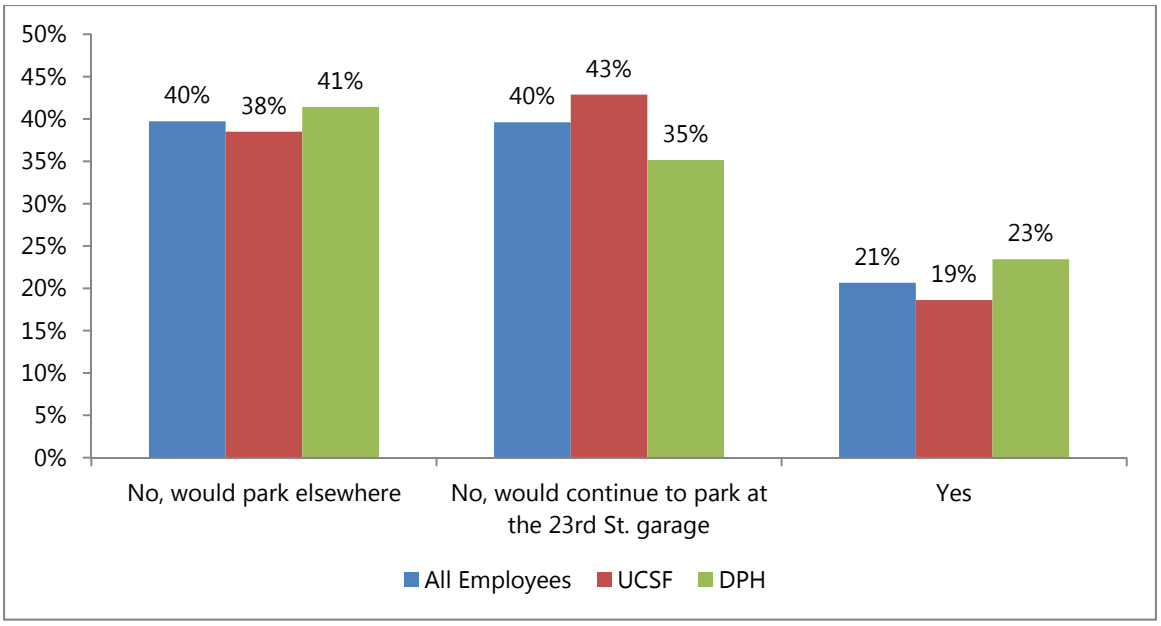


Chart 11 Mode Share Elasticity for 23rd Street Garage

Midday Off-Campus Travel Mode

For employees who travel off-campus to other locations throughout the day, **Chart 12** summarizes which travel mode these employees typically use. The two most common modes for employees are either their personal vehicle (28 percent) or the UCSF shuttle (32 percent). A smaller percentage of employees walk (12 percent) or take the bus (11 percent). A substantial proportion of UCSF employees use the UCSF shuttle (40 percent) to travel mid-day, while only 10 percent of SFDPH employees do so. A higher proportion of SFDPH employees use either their personal car, walk, or take the bus or BART to travel compared to UCSF employees. The proportion of all employees taking their personal vehicle has decreased by one percentage point from 2013, and the proportion of employees taking the UCSF shuttle has decreased by four percentage points. Travel by all the remaining modes has increased by about one percentage point from 2013.

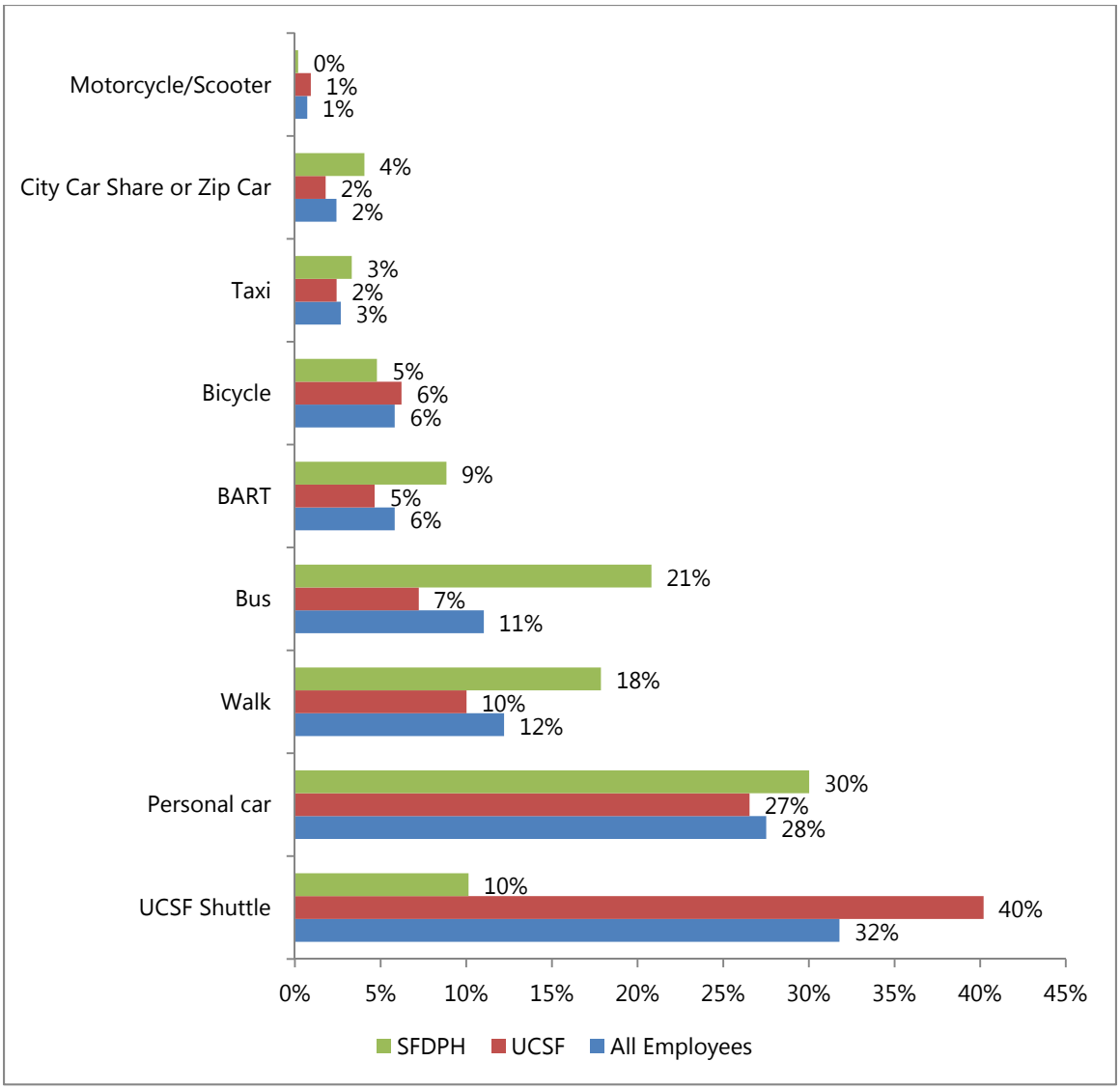


Chart 12 Midday Off-Campus Travel Mode (All Employees)

SUPPLEMENTARY TRAVEL QUESTIONS

SFDPH occasionally surveys employees working at the ZSFG campus to gauge the effectiveness of transportation programs that may affect commutes, such as transportation measures, pricing, or policy changes. The following topics were covered only in the 2015 survey, so no temporal comparison is available with 2013.

Caltrain Bus Shuttle Service

ZSFG campus employees were asked if they would use a commute-hours bus shuttle service between the campus and a Caltrain station, and if so, how frequently they would use such a service. The results are summarized in **Chart 13**. Ten percent of survey respondents reported that they would use the shuttle three or more times per week, which amounts to approximately 360 employees per day.[3] An additional five percent of employees, or 180 people daily, would consider taking the shuttle one to two times per week. It is likely that most of this 15 percent of employees who would consider taking a bus shuttle to Caltrain live in San Mateo County; as previously detailed in Chart 1, 21 percent of ZSFG employees commute from San Mateo County. Some of the employees who live in San Mateo County may not be likely to take Caltrain to the ZSFG campus for other reasons beyond access from Caltrain to the campus, including not living close to a Caltrain station or living near a station that does not have a Caltrain express train service stop.

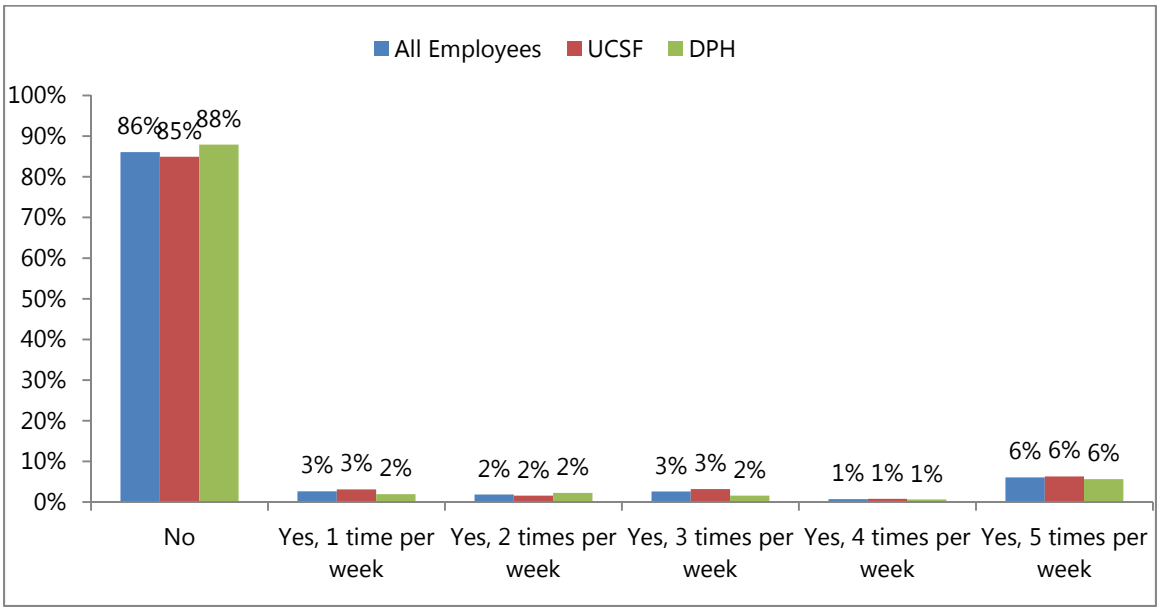


Chart 13 Potential Caltrain Shuttle Bus Service Use

[3] This calculation assumes 3,600 daily commuters per the SFGH Institutional Master Plan Update, 2014.

Transbay Transit Terminal Bus Shuttle Service

ZSFG campus employees were also asked if they would use a commute-hours bus shuttle service between the ZSFG campus and the Transbay Transit Terminal and, if so, how frequently they would use such a service. The results are summarized in **Chart 14**. Eleven percent of the respondents reported that they would use the shuttle service three or more times per week, which amounts to almost 400 employees per day.[4] An additional six percent of employees, or approximately 215 people daily, would consider taking the shuttle service one to two times per week. It is likely that most of this 17 percent of employees who would consider taking a shuttle bus to the Transbay Transit Terminal live in Alameda, Marin, and Contra Costa Counties; as previously detailed in Chart 1, 26 percent of ZSFG campus employees commute to work from these three counties. Some of the employees who live in these three counties may not be likely to take transit services that stop at the Transbay Transit Terminal for several reasons beyond access from the Terminal to the campus, including not living close to a transit stop or infrequent service to the Transbay Transit Terminal.

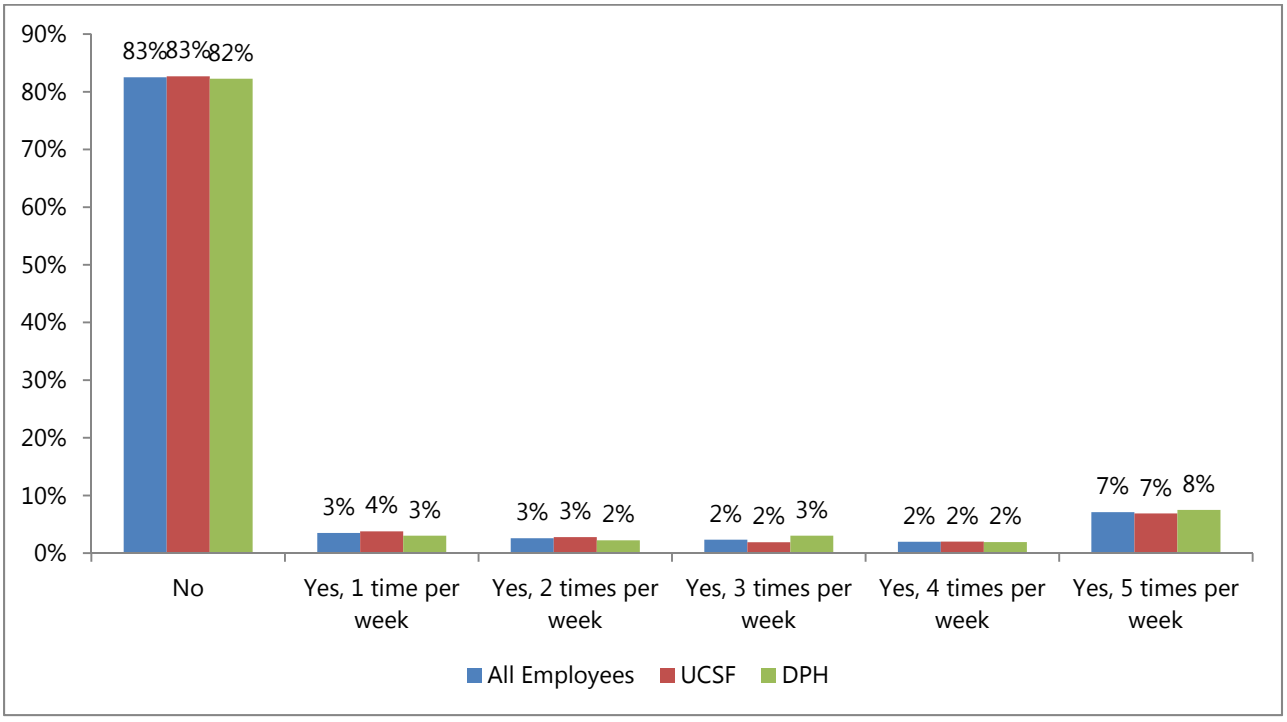


Chart 14 Potential Transbay Transit Terminal Bus Shuttle Service

[4] This calculation assumes 3,600 daily commuters per the SFGH Institutional Master Plan Update, 2014.

BART Bus Shuttle Service Expansion

ZSFG campus employees were asked how likely they would be to use the existing BART shuttle bus service if either service to the 24th Street station had extended hours of operation, or if the route was modified to travel to the 16th Street station (instead of the 24th Street station). The results are summarized in **Chart 15**.

About one-third of all employees would be likely or very likely to use the BART shuttle for their commute if the proposed changes were implemented, while about half would be unlikely or very unlikely to change. Given the longer duration of afternoon and evening departure times for employees, the results of this question indicate that expanding the BART bus shuttle service would provide an added incentive for some employees to change their travel modes and use public transit.

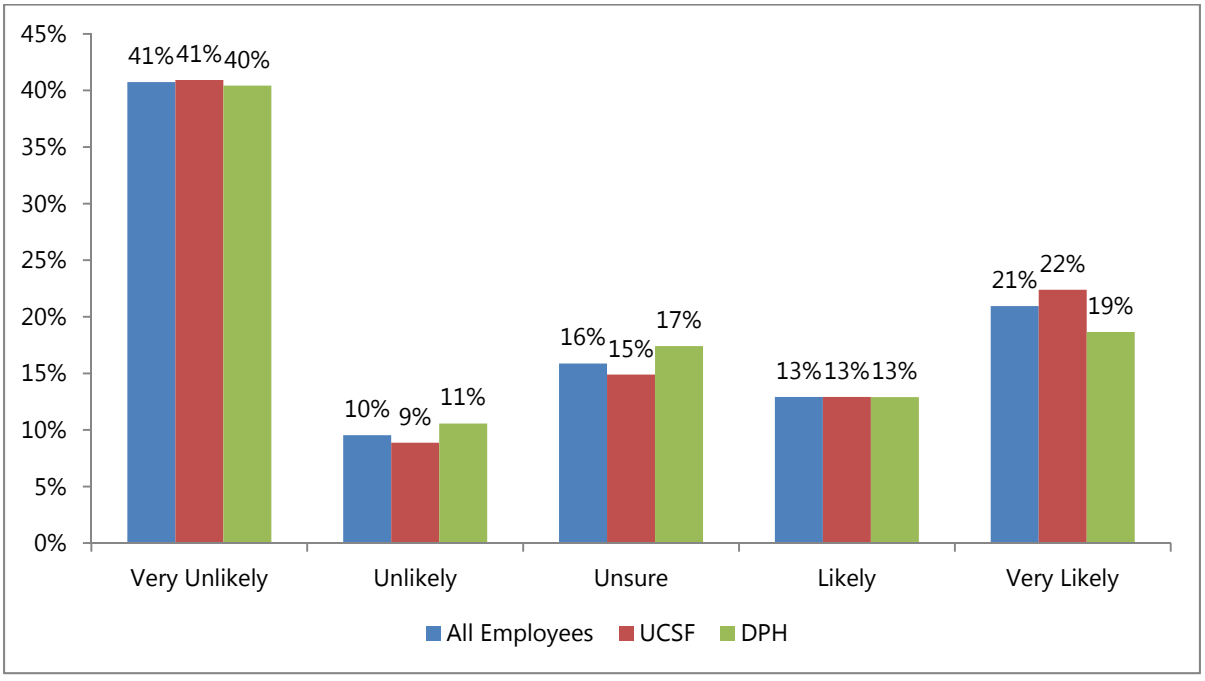


Chart 15 Potential Expansion of BART Bus Shuttle Service

Likeliness to Bike to Work

ZSFG employee likeliness to bike to work for some or all of their journey to work is shown in **Chart 16**. A majority of all employees (69 percent) are either unlikely or very unlikely to bike as part of their commute, while about one-fifth of employees are likely or very likely to do so. In general, a larger proportion of UCSF employees than SFDPH employees are either likely or very likely to bike to work for all or a portion of their journey.

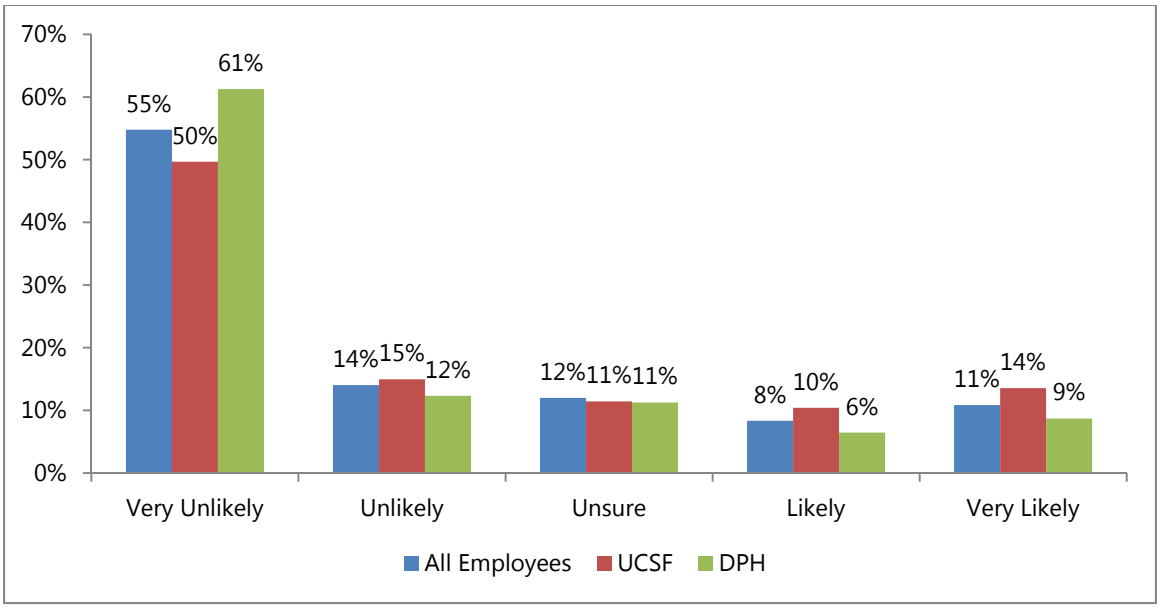


Chart 16 Likeliness to Commute via Bicycle

Infrastructure Influence on Likeliness to Commute via Bicycle

As a follow-up question to the likeliness to commute via bicycle, employees were asked about their likeliness to bike if various bike infrastructure features were provided at the ZSFG campus. **Chart 17** shows the percent of ZSFG campus employees who would be more likely or very likely to bike if the specific features were provided. These results show that more than one-quarter of all employees (28 to 32 percent) would be likely or very likely to ever bike to work (or bike for some part of their commute journey) if bike lockers, additional bike parking, or shower facilities for bikes were provided at the ZSFG campus. Bike racks on shuttles or bicycle safety classes had a smaller effect but would also cause employees to consider ever biking to work. In general, UCSF employees

reported being more influenced than SFDPH employees by additional bicycle facilities when considering ever bicycling to work. These results show that a sizable proportion of employees would consider biking to the ZSFG campus if they were able to find a safe and secure place to store their bicycle and a facility to clean up before beginning work.

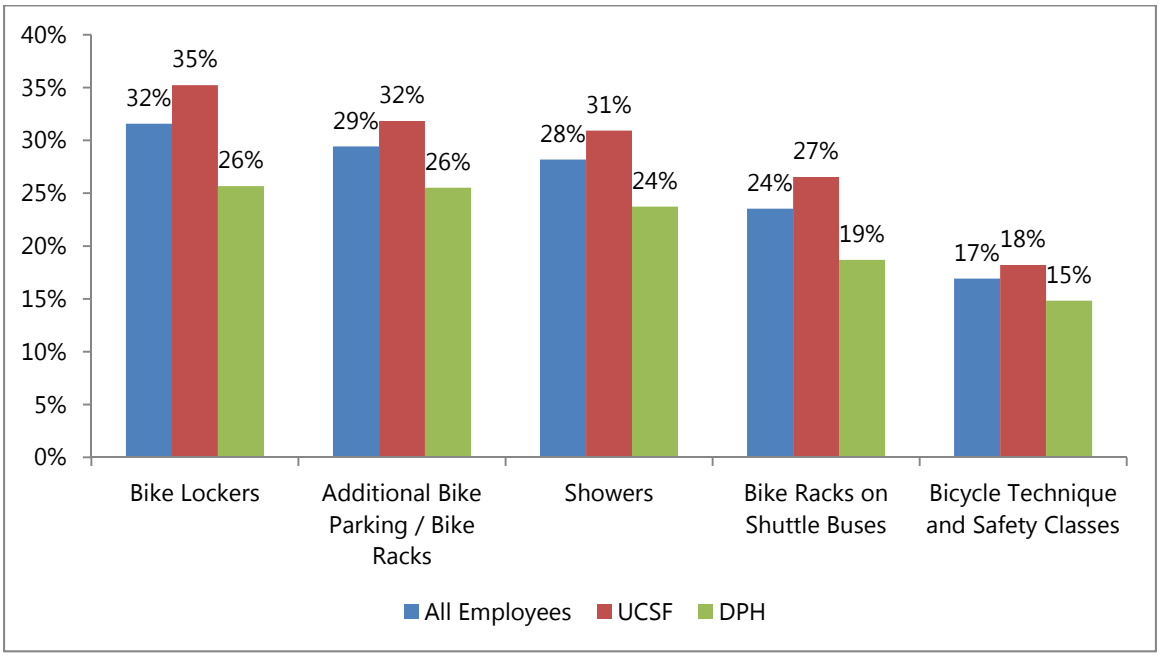


Chart 17 Likeliness to Bike to Work as a result of Infrastructure Improvements

Awareness of TDM Programs

ZSFG campus employees were asked if they were aware of various transportation programs that are available to them. **Chart 18**, **Chart 19**, and **Chart 20** show the proportion of all employees, UCSF employees, and SFDPH employees, respectively, who are aware of the following TDM programs:

- UCSF Shuttle
- ZSFG Shuttle
- City CarShare
- Commuter Benefits
- Carpool Matching Services

- Emergency Ride Home

Most ZSFG campus employees are aware of the UCSF shuttle bus service (92 percent), the SFDPH shuttle bus service (66 percent), and City CarShare (51 percent), while less than half are aware of the availability of Employee Commuter Benefits (41 percent). About one-quarter of ZSFG campus employees are aware of carpool matching services and the emergency ride home program. In general, SFDPH employees are more aware of the commuter benefits and emergency ride home programs than UCSF employees. These results show that additional marketing efforts may help to increase the utilization of programs that are not as well known to employees.

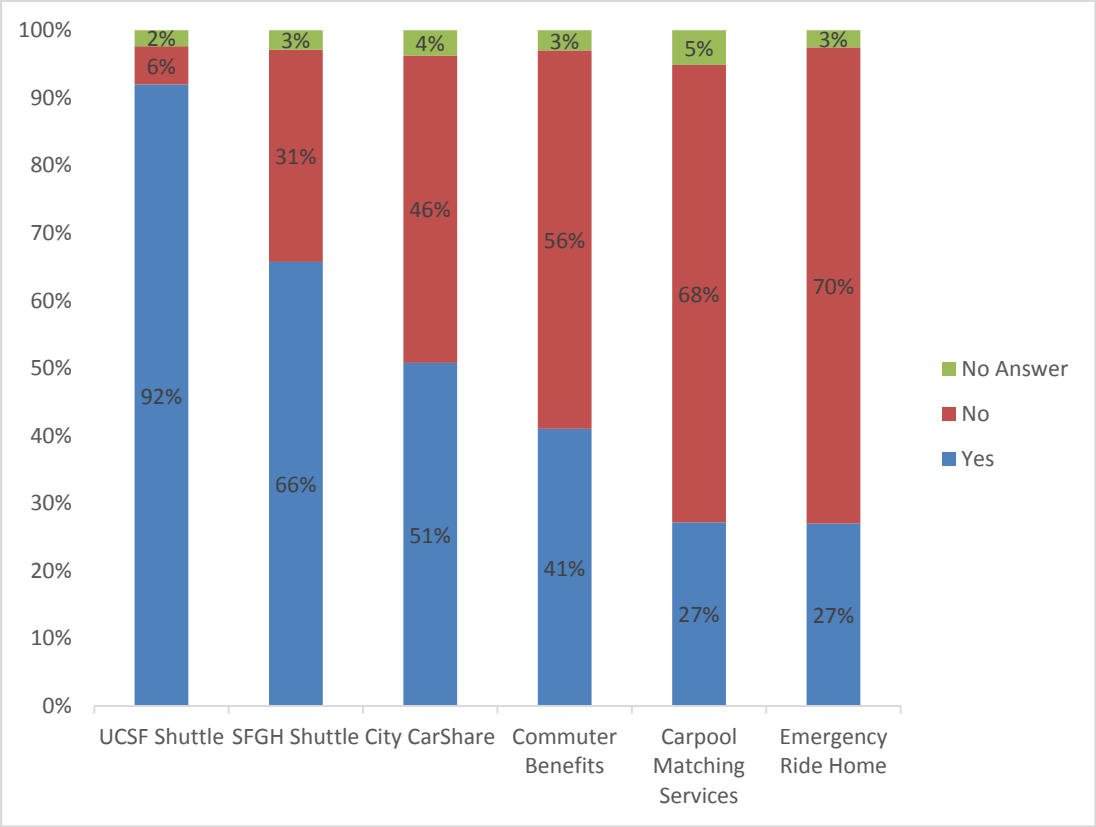


Chart 18 Awareness of TDM Programs (All Employees)

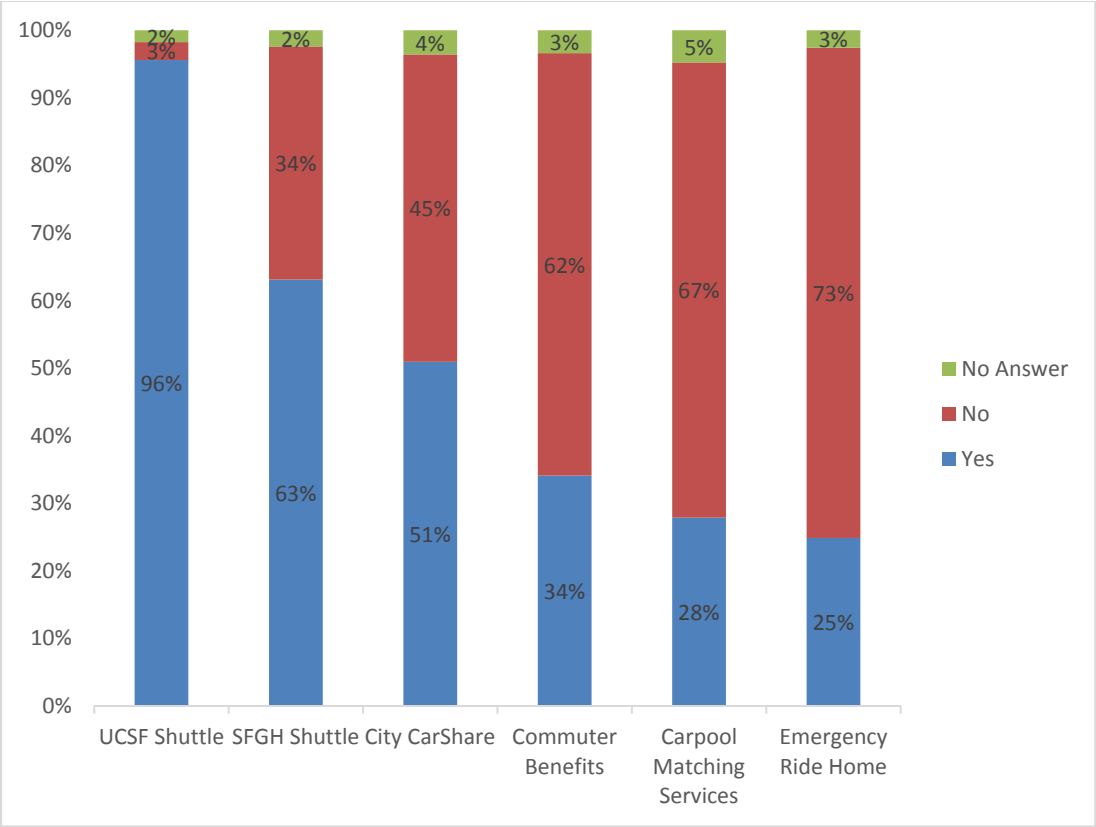


Chart 19 Awareness of TDM Programs (UCSF Employees)

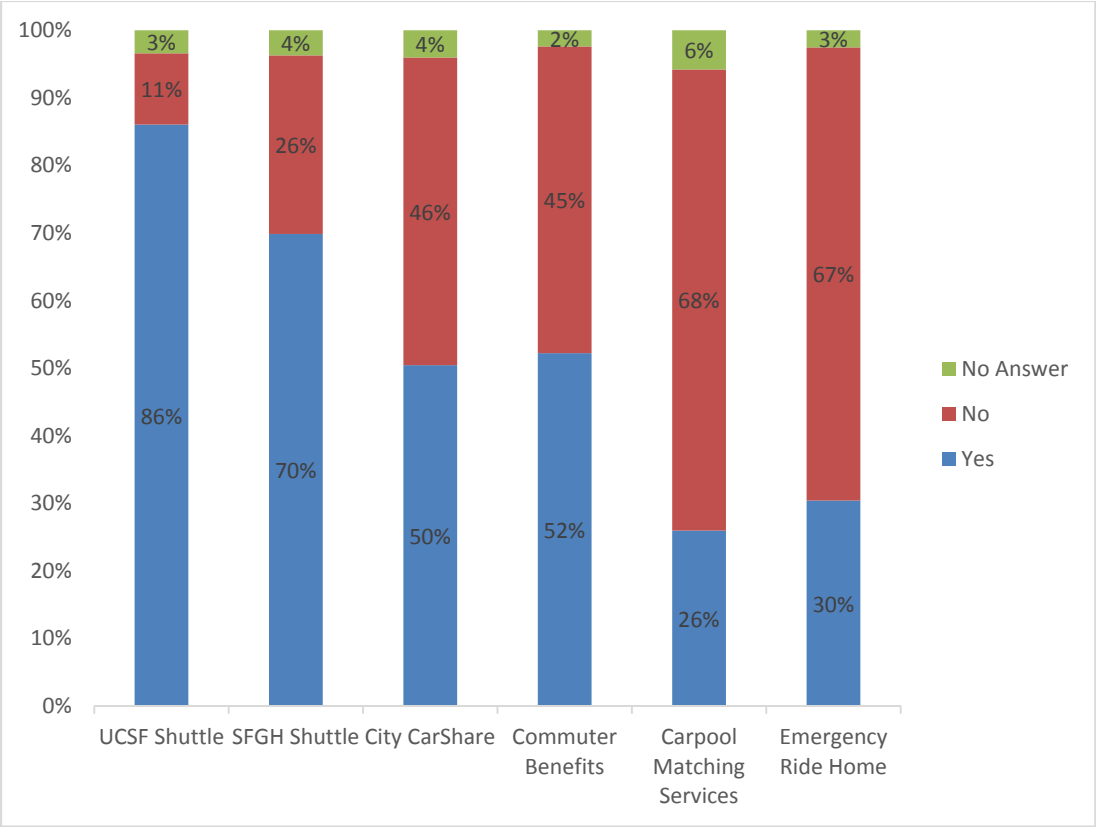


Chart 20 Awareness of TDM Programs (SFDPH Employees)

We hope that you have found the information in this letter helpful. If you have any questions, feel free to call Eric at 415.348.0300.

Sincerely,

FEHR & PEERS

Eric Womeldorff, PE
Senior Associate

José I Farrán, PE
Principal - Adavant Consulting

SF13-0683.02

Attachment: 2015 ZSFG Campus Employee Travel Survey Questionnaire

SFGH Employee Transportation Survey
2015

Thank you for taking this survey! Your responses will help SFGH understand campus parking and transportation needs better in order to inform campus transportation decisions to better serve employee needs.

Any information you provide will be kept confidential.

To show our appreciation , at the end of the survey you will have an opportunity to enter to **win an iPad mini** (thanks to a generous donation from Jacobs Project Management)!

Please complete the survey by Friday, August 28th.

1 Who is your employer?

☐ City and County of San Francisco ☐ UCSF ☐ Other: _____

2 Where do you live?

☐ San Francisco County ☐ Alameda County ☐ Napa County
☐ San Mateo County ☐ Contra Costa County ☐ Sonoma County
☐ Santa Clara County ☐ Solano County ☐ Marin County
☐ Other: _____

3 How many days a week do you normally travel to the SFGH campus?

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7

4 Which days do you usually travel to the SFGH campus? **(multiple answers ok)**

☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday
☐ Friday ☐ Saturday ☐ Sunday

5 About what time do you usually **arrive** at work? **(please select only one)**

☐ 6-7 am ☐ 7-8 am ☐ 8-9 am ☐ 9-10 am ☐ 10-11 am ☐ 11-12 am ☐ 12-1 pm
☐ 1-2 pm ☐ 2-3 pm ☐ 3-4 pm ☐ 4-5 pm ☐ 5-6 pm ☐ 6-7 pm ☐ 7-8 pm
☐ 8-9 pm ☐ 9-10 pm ☐ 10-11 pm ☐ 11-12 pm ☐ 12-1 am ☐ 1-2 am ☐ 2-3 am
☐ 3-4 am ☐ 4-5 am ☐ 5-6 am

6 About what time do you usually **leave** work? **(please select only one)**

☐ 6-7 am ☐ 7-8 am ☐ 8-9 am ☐ 9-10 am ☐ 10-11 am ☐ 11-12 am ☐ 12-1 pm
☐ 1-2 pm ☐ 2-3 pm ☐ 3-4 pm ☐ 4-5 pm ☐ 5-6 pm ☐ 6-7 pm ☐ 7-8 pm
☐ 8-9 pm ☐ 9-10 pm ☐ 10-11 pm ☐ 11-12 pm ☐ 12-1 am ☐ 1-2 am ☐ 2-3 am
☐ 3-4 am ☐ 4-5 am ☐ 5-6 am

You can also take the survey online at **www.surveymonkey.com/r/7VCMY5G**

7 How do you usually commute to the SFGH campus for work? **(multiple answers ok)**

- ☐ Drive alone
- ☐ Drive with others
- ☐ Motorcycle/Scooter
- ☐ Public Transit *(Muni, BART, etc.)*
- ☐ Dropped Off
- ☐ SamTrans
- ☐ Free SFGH-BART shuttle
- ☐ Caltrain
- ☐ Marin Commute Club
- ☐ UCSF Shuttle
- ☐ Casual Carpool
- ☐ Walk
- ☐ Other: _____

8 If you carpool to work, how many other people travel with you (not including yourself)? **(please select only one)**

- ☐ 1
- ☐ 2
- ☐ 3
- ☐ 4 or more
- ☐ I don't carpool to work

9 If you frequently drive alone to work, please check **all** of the reasons why.

- ☐ I don't usually drive alone to work
- ☐ Saves time
- ☐ Child's daycare, school, etc.
- ☐ Work-related errands during work
- ☐ Personal activities or errands before/after work
- ☐ Comfort of my own vehicle
- ☐ Independence (not to rely on others)
- ☐ Public transit is unreliable
- ☐ Public transit is unsafe
- ☐ Public transit is too far from my home
- ☐ Public transit requires too many transfers
- ☐ Physical limitation/diability
- ☐ My schedule is unpredictable
- ☐ Walking/biking to campus is unsafe
- ☐ Walking/biking to campus is too far
- ☐ Driving is the least expensive option for me
- ☐ Other: _____

10 If you drive to work, where do you usually park?

- ☐ I don't drive to work
- ☐ On-campus motorcycle parking
- ☐ Off-site parking lot (with shuttle service to campus)
- ☐ Other: _____
- ☐ Campus parking lot
- ☐ 23rd Street parking garage
- ☐ On the street

11 If you park on the street, how many blocks away from SFGH do you normally park? **(please select only one)**

- ☐ 1 block
- ☐ 2 blocks
- ☐ 3 blocks
- ☐ 4 blocks or more
- ☐ I don't usually park on the street

12 If monthly parking rates for the 23rd St. parking garage increased by 50% (e.g. if the daily hourly maximum increased from $12 to $18 or the monthly pass increased from $100 to $150) would ou change your mode of transportation? **(please select only one)**

- ☐ I don't usually park in the 23rd St garage
- ☐ No, I would continue to drive and park in the garage
- ☐ Yes, I would use other forms of transportation or carpool
- ☐ No, I would continue to drive and park elsewhere

13 If traveling off-campus to other locations during the day, what mode of travel do you normally use?

- ☐ Bicycle
- ☐ UCSF Shuttle
- ☐ BART
- ☐ Walk
- ☐ Bus
- ☐ Taxi
- ☐ Personal car
- ☐ City Car Share or Zip Car
- ☐ Motorcycle/Scooter
- ☐ I don't travel off-campus during the work day

14 If traveling off-campus during the day, how many average daily round trips do you make? **(please select only one)**

☐ 1 a day ☐ 2 a day ☐ 3 a day ☐ 4 a day

☐ 5 a day or more ☐ I do not make any additional off-campus trips

15 If a shuttle was provided (running generally from 6 AM to 10 AM and from 3 PM to 7 PM every 15 to 20 minutes) between Caltrain and SFGH, would you use Caltrain for your commute? **(please select only one)**

☐ Yes, 1 time per week ☐ Yes, 2 times per week ☐ Yes, 3 times per week

☐ Yes, 4 times per week ☐ Yes, 5 times per week ☐ NO

☐ Other: _____

16 If a shuttle was provided (running generally from 6 AM to 10 AM and from 3 PM to 7 PM every 15 to 20 minutes) between Transbay Terminal and SFGH, would you use a transbay bus provider for your commute? (Examples: AC Transit, Golden Gate Transit, SamTrans, Westcat Lynx) **(please select only one)**

☐ Yes, 1 time per week ☐ Yes, 2 times per week ☐ Yes, 3 times per week

☐ Yes, 4 times per week ☐ Yes, 5 times per week ☐ NO

☐ Other: _____

17 If the existing shuttle from the 24th Street BART Station were to extend its hours of service (currently 6 – 9 AM and 4 – 7 PM), be made more frequent, and/or shifted to serve the 16th Street BART Station, would you be more likely to use BART for your commute? **(please select only one)**

☐ Very likely ☐ Likely ☐ Unsure ☐ Unlikely ☐ Very unlikely

18 How likely are you to ever bike to work or to bike for some part of your commute to work? **(please select only one)**

☐ Very likely ☐ Likely ☐ Unsure ☐ Unlikely ☐ Very unlikely

19 If the following were provided, how likely are you to ever to bike to work for some part of your commute to work?

	Very likely	Likely	Unsure	Unlikely	Very unlikely
Bike Lockers	☐	☐	☐	☐	☐
Showers	☐	☐	☐	☐	☐
Additional Bike Parking/Bike Racks	☐	☐	☐	☐	☐
Bike Racks on Shuttle Buses	☐	☐	☐	☐	☐
Bicycle Technique and Safety Classes	☐	☐	☐	☐	☐
Other: _____	☐	☐	☐	☐	☐

20 Are you aware of the following programs?

	Yes	No
Emergency Ride Home	☐	☐
Commuter Benefits	☐	☐
City CarShare	☐	☐
Carpool Matching Services	☐	☐
UCSF Shuttle	☐	☐
SFGH Shuttle	☐	☐

21 What is your home zip code? _____

zip code

22 If you would like to enter to win a free iPad Mini, please enter your name and email address or phone number below. Your information will be kept confidential. Your information will not be shared and will only be used for the purposes of selecting a winner.

_____

name

_____

email address

_____

phone number

APPENDIX D

Air Quality, Greenhouse Gases, and Health Risk Assessment

Air Quality, Greenhouse Gas, and Health Risk Assessment

University of California San Francisco
San Francisco General Hospital
Research Building and City Parking Garage Expansion

Prepared by:

RCH Group
11060 White Rock Road
Rancho Cordova, California 95670

March 7, 2016

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ATTACHMENTS

A – CalEEMod Output Files

B – Health Risk Assessment Methodology and Assumptions

1.0 INTRODUCTION

This document provides an analysis of potential air quality impacts that would result from implementation of the San Francisco General Hospital (SFGH) project, and identification of applicable mitigation measures. The SFGH project includes construction and operation of the proposed research building and expansion of the existing SFGH parking garage. Other issues related to air emissions covered in this document include the assessment of emissions related to air quality health impacts (health risk assessment or HRA). Issues related to climate change and greenhouse gas (GHG) emissions are also included. The supporting methodology and assumptions used in the air quality analysis are provided in **Attachment A: CalEEMod Output Files** and **Attachment B: Health Risk Assessment Methodology and Assumptions**.

2.0 PROJECT OVERVIEW

The SFGH project is expected to include construction of a new research building with office space on the "B/C" parking lot site (approximately two acres). The proposed research building would be approximately 175,000 square feet and five-stories in height, plus a mechanical penthouse.

Upon completion of the proposed research building, approximately 680 University of California at San Francisco (UCSF) employees would be relocated from existing facilities on the SFGH campus to the new research building. In addition, about 120 employees could relocate from off-campus leased space to the new facility. Thus, a total of approximately 800 employees would occupy the proposed research building.

The SFGH project would also include an expansion of the existing SFGH parking garage, of approximately 307 parking spaces (approximately 122,800 square feet). The proposed parking garage expansion (within approximately 0.6 acres) would be developed by the Parking Authority, which owns the site and the parking structure. The proposed expansion of the City parking structure would extend the garage south toward 24th Street on the surface parking lot portion of the garage site. The 307-space expansion would be up to five stories above grade (same as the existing garage). Up to 5,000 square feet of ground floor retail space could be substituted for up to 15 of the proposed 307 parking spaces within the garage expansion. A further parking garage expansion (approximately 210,800 square feet) would add one additional floor to the existing garage, in addition to the horizontal garage expansion proposed as part of the project, for a newly expanded garage with a total of up to 527 additional spaces (or 512 spaces with the retail space).

The following conditions were examined within the air quality analysis:

- Project: Research Building and Parking Garage Expansion (307 spaces) without Retail
- Variant 1: Research Building and Parking Garage Expansion (292 spaces) with Retail
- Variant 2: Research Building and Further Parking Garage Expansion (527 spaces) without Retail
- Variant 3: Research Building and Further Parking Garage Expansion (512 spaces) with Retail
- Variant 4: Research Building with On-site Parking Garage (182 spaces)
- Variant 5: Research Building only

The project site is located within the San Francisco Bay Area Air Basin (Air Basin), which encompasses Alameda, Contra Costa, Santa Clara, San Francisco, San Mateo, Marin, and Napa Counties, and the southern portions of Solano and Sonoma Counties. The project site is under the jurisdiction of the Bay Area Air Quality Management District (BAAQMD). The BAAQMD monitors and regulates air quality pursuant to the Federal Clean Air Act, as amended, and the California Clean Air Act. The BAAQMD adopts and enforces controls on stationary sources of air pollutants through its permit and inspection programs. Other BAAQMD responsibilities include monitoring air quality, preparation of clean air plans, and responding to citizen air quality complaints.

3.0 ANALYSIS METHODOLGY

Intermittent (short-term construction emissions that occur from activities, such as site preparation, site-grading, and building construction) and long-term air quality impacts related to the operation of the SFGH project were evaluated. The analysis focuses on daily and annual emissions from these construction and operational (mobile, area, stationary, and fugitive sources) activities. The air quality analysis is consistent with the methods described in the BAAQMD *CEQA Air Quality Guidelines* (dated June 2010, updated in May 2011, and revised in May 2012).[1] Mitigation measures are presented to reduce impacts to less than significant.

[1] The BAAQMD's June 2010 adopted thresholds of significance were challenged in a lawsuit California Building Industry Association v BAAQMD). On March 5, 2012 the Alameda County Superior Court issued a judgment finding that the Air District had failed to comply with CEQA when it adopted the thresholds. The court found that the adoption of the thresholds was a project under CEQA and ordered the Air District to examine whether the thresholds would have a significant impact on the environment under CEQA before recommending their use. The court did not determine whether the thresholds are or are not based on substantial evidence and thus valid on the merits. The court issued a writ of mandate ordering the District to set aside the thresholds and cease dissemination of them until the Air District had complied with CEQA. The court's order permits the Air District to develop and disseminate these CEQA Guidelines, as long as they do not implement the thresholds of significance. Although the BAAQMD's adoption of significance thresholds for air quality analysis has been subject to judicial actions, the City

The air quality analysis includes a review of criteria pollutant[2] emissions such as carbon monoxide (CO)[3], nitrogen oxides (NO_x), sulfur dioxide (SO_2), volatile organic compounds (VOC) as reactive organic gases (ROG)[4], particulate matter less than 10 micrometers (coarse or PM_{10}), particulate matter less than 2.5 micrometers (fine or $PM_{2.5}$).[5]

The HRA addresses diesel particulate matter (DPM) emissions from on-site construction equipment and haul trucks, proposed stationary sources (generator), air toxics from fume hoods, and cumulative impacts from nearby permitted stationary sources, several minor roadways, and Highway 101.

Regulatory models used to estimate air quality impacts include:

- California Air Resources Board's (CARB) EMFAC2011[6]emissions inventory model. EMFAC2011 is the latest emission inventory model that calculates emission inventories and emission rates for motor vehicles operating on roads in California. This model reflects CARB's current understanding of how vehicles travel and how much they emit. EMFAC2011 can be used to show how California motor vehicle emissions have changed over time and are projected to change in the future.
- CARB OFFROAD2011[7] emissions inventory model. OFFROAD2011 is the latest emission inventory model that calculates emission inventories and emission rates for off-road equipment such as loaders, excavators, and off-road haul trucks operating in

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of San Francisco has determined that BAAQMD's Revised Draft Options and Justification Report (October 2009), provide substantial evidence to support the BAAQMD recommended thresholds. Therefore, the City of South San Francisco has determined the BAAQMD recommended thresholds are appropriate for use in this analysis. California's First District Court of Appeal issued a decision in *California Building Industry Association v. Bay Area Air Quality Management District* (Case No. A134335, August 13, 2013), laying the groundwork for the reinstatement of the BAAQMD's air quality thresholds, including for greenhouse gas emissions and toxic air contaminants. On December 15, 2015, the California Supreme Court (Case No. S213478) concluded that agencies subject to CEQA generally are not required to analyze the impact of existing environmental conditions on a project's future users or residents. This project does not propose new receptor and thus, this particular ruling is not directly applicable.

[2] Criteria air pollutants refer to those air pollutants for which the United States Environmental Protection Agency (USEPA) and California Air Resources Board (CARB) has established National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) under the Federal Clean Air Act (CAA).

[3] CO is a non–reactive pollutant that is a product of incomplete combustion of organic material, and is mostly associated with motor vehicle traffic, and in wintertime, with wood–burning stoves and fireplaces.

[4] VOC means any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, which participates in atmospheric photochemical reactions and thus, a precursor of ozone formation. ROGs are any reactive compounds of carbon, excluding methane, CO, CO_2 carbonic acid, metallic carbides or carbonates, ammonium carbonate, and other exempt compounds. The terms VOC and ROG are often used interchangeably.

[5] PM_{10} and $PM_{2.5}$ consists of airborne particles that measure 10 microns or less in diameter and 2.5 microns or less in diameter, respectively. PM_{10} and $PM_{2.5}$ represent fractions of particulate matter that can be inhaled into the air passages and the lungs, causing adverse health effects.

[6] CARB EMFAC2011 User's Guide, December 20, 2012, http://www.arb.ca.gov/msei/modeling.htm

[7] CARB OFFROAD2011 Instructions, http://www.arb.ca.gov/msprog/ordiesel/info_1085/oei_write_up.pdf

California. This model reflects CARB's current understanding of how equipment operates and how much they emit. OFFROAD2011 can be used to show how California off-road equipment emissions have changed over time and are projected to change in the future.

- CalEEMod (California Emissions Estimator Model Version 2013.2.2)[8] land use emissions model estimates construction emissions due to demolition and construction activities and operations.
- USEPA AP-42, Compilation of Air Pollutant Emission Factors, has been published since 1972 as the primary compilation of USEPA's emission factor information. It contains emission factors and process information for more than 200 air pollution source categories. A source category is a specific industry sector or group of similar emitting sources. The emission factors have been developed and compiled from source test data, material balance studies, and engineering estimates. Emissions for the emergency generator were determined based on AP-42.
- AERMOD (American Meteorological Society/USEPA Regulatory Model) is an atmospheric dispersion model which can simulate point, area, volume, and line emissions sources and has the capability to include simple, intermediate, and complex terrain along with meteorological conditions and multiple receptor locations.[9,10] AERMOD is commonly executed to yield 1-hour maximum and annual average concentrations (in $\mu g/m^3$) at each receptor.

The HRA was conducted following methodologies in OEHHA's *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*.[11] This was accomplished by applying the estimated concentrations at the receptors analyzed to the established cancer risk estimates and acceptable reference concentrations for non-cancer health effects.

Recent OEHHA's revisions to its *Guidance Manual* were primarily designed to ensure that the greater sensitivity of children to cancer and other health risks is reflected in HRA. For example, OEHHA now recommends that risks be analyzed separately for multiple age groups, focusing especially on young children and teenagers, rather than the past practice of analyzing risks to the general population, without distinction by age. OEHHA also now recommends that statistical "age sensitivity factors" be incorporated into a HRA, and that children's relatively high breathing

[8] California Emissions Estimator Model User's Guide, July 2013. http://www.caleemod.com/
[9] USEPA Preferred/Recommended Models, *AERMOD Modeling System*, http://www.epa.gov/ttn/scram/dispersion_prefrec.htm#aermod.
[10] Title 40 CFR Part 51, *Revision to the Guideline on Air Quality Models: Adoption of a Preferred General Purpose (Flat and Complex Terrain) Dispersion Model and Other Revisions; Final Rule*, http://www.epa.gov/ttn/scram/guidance/guide/appw_05.pdf.
[11] Office of Environmental Health Hazard Assessment, *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*, February 2015, http://oehha.ca.gov/air/hot_spots/hotspots2015.html

rates be accounted for. On the other hand, the *Guidance Manual* revisions also include some changes that would reduce calculated health risks. For example, under the former guidance, OEHHA recommended that residential cancer risks be assessed by assuming 70 years of exposure at a residential receptor; under the *Guidance Manual*, this assumption is lessened to 30 years. **Attachment B: Health Risk Assessment Methodology and Assumptions** provides additional assumptions used within the health impact evaluation.

4.0 THRESHOLDS OF SIGNFICANCE

The significance of potential impacts was determined based on State CEQA Guidelines, Appendix G, and the BAAQMD *CEQA Air Quality Guidelines*. Using Appendix G evaluation thresholds, the SFGH project would be considered to have significant air quality impacts if it were to:

A. Conflict with or obstruct implementation of the applicable air quality plan;

B. Violate any air quality standard or contribute substantially to an existing or projected air quality violation;

C. Expose sensitive receptors to substantial pollutant concentrations;

D. Create objectionable odors affecting a substantial number of people; or

E. Result in a cumulatively considerable net increase of any nonattainment pollutant, and/or health impacts (including releasing emissions that exceed quantitative thresholds for ozone precursors).

The air quality analysis follows the methodology presented in the recent CEQA Guidelines released by the BAAQMD in May 2012. However, since the May 2012 *CEQA Air Quality Guidelines*[12] do not provide specific significance thresholds, the thresholds and methodologies from the BAAQMD's 2011 *CEQA Air Quality Guidelines* were used to evaluate the potential impacts of construction and operation of the SFGH project. The thresholds of significance applied to assess project-level air quality impacts are:

- Average daily construction exhaust emissions of 54 pounds per day of ROG, NO_x, or $PM_{2.5}$ or 82 pounds per day of PM_{10};
- Average daily operation emissions of 54 pounds per day of ROG, NO_x, or $PM_{2.5}$ or 82 pounds per day of PM_{10}; or result in maximum annual emissions of 10 tons per year of ROG, NO_x, or $PM_{2.5}$ or 15 tons per year of PM_{10};

[12] Bay Area Air Quality Management District. *CEQA Air Quality Guidelines*, May 2012, http://www.baaqmd.gov/~/media/Files/Planning%20and%20Research/CEQA/BAAQMD%20CEQA%20Guidelines_Final_May%202012.ashx?la=en

- Exposure of persons by siting a new source or a new sensitive receptor to substantial levels of TAC resulting in (a) a cancer risk level greater than 10 in one million, (b) a noncancerous risk (chronic or acute) hazard index greater than 1.0, or (c) an increase of annual average $PM_{2.5}$ of greater than 0.3 micrograms per cubic meter ($\mu g/m^3$). For this threshold, sensitive receptors include residential uses, schools, parks, daycare centers, nursing homes, and medical centers; or
- Frequently and for a substantial duration, create or expose sensitive receptors to substantial objectionable odors affecting a substantial number of people.

Assessment of a significant cumulative impact if it would result in:

- Exposure of persons, by siting a new source or a new sensitive receptor, to substantial levels of TAC during either construction or operation resulting in (a) a cancer risk level greater than 100 in a million, (b) a noncancer risk (chronic or acute) hazard index greater than 10.0, or (c) annual average $PM_{2.5}$ of greater than 0.8 $\mu g/m^3$.

For projects that are considered new sources of TAC or $PM_{2.5}$ (such as construction activity, stationary sources, industrial sources, or roadway projects), it is generally appropriate to use both the project-level and cumulative-level thresholds because the project-level threshold identifies project's incremental contribution to health impacts, while the cumulative threshold assesses project's cumulative contribution to health impacts. However, for projects that consist of new receptors (such as proposed residences or schools), it is generally appropriate to use only the cumulative-level threshold because the project itself is not a source of TAC or $PM_{2.5}$ and, thus, the individual project-level threshold is not relevant. Therefore, the SFGH project, which does not include new receptors, was compared to both the project-level and cumulative-level thresholds.

The BAAQMD air quality significance thresholds are found in **Table 1**.

The BAAQMD *CEQA Air Quality Guidelines* identify a project-specific threshold of either 1,100 metric tons of CO_2e per year or 4.6 metric tons of CO_2e per year per service population (i.e., the number of residents plus the number of employees associated with a new development), which is also considered a cumulatively considerable contribution to the global GHG burden and, therefore, a significant cumulative impact. This analysis applies the 1,100 metric tons and 4.6 metric tons of CO_2e per year per service population significance criterion to SFGH project GHG emissions. GHG emissions and their thresholds of significance are further discussed in **Section 6**.

Table 1: BAAQMD Air Quality Significance Thresholds

Pollutant	Construction Thresholds	Daily Operational Thresholds	Annual Operational Thresholds
Criteria Air Pollutants			
ROG	54	54	10
NOx	54	54	10
PM_{10}	82 (exhaust only)	82	15
$PM_{2.5}$	54 (exhaust only)	54	10
CO	NA	9.0 ppm (8-hour) and 20.0 ppm (1-hour)	
Fugitive Dust	Best Management Practices	NA	
Project Health Risk and Hazards			
Excess Cancer Risk	10 per million	10 per million	
Chronic Hazard Index	1.0	1.0	
Acute Hazard Index	1.0	1.0	
Incremental Annual Average $PM_{2.5}$	0.3 µg/m^3	0.3 µg/m^3	
Cumulative Health Risk and Hazards			
Excess Cancer Risk	100 per million	100 per million	
Chronic Hazard Index	10.0	10.0	
Acute Hazard Index	10.0	10.0	
Incremental Annual Average $PM_{2.5}$	0.8 µg/m^3	0.8 µg/m^3	
Greenhouse Gas Emissions			
Annual Emissions	1,100 metric tons or 4.6 metric tons per capita		

SOURCE: BAAQMD Adopted Air Quality CEQA Thresholds of Significance - June 2, 2010, http://www.baaqmd.gov/~/media/Files/Planning%20and%20Research/CEQA/Summary_Table_Proposed_BAAQMD_CEQA_Thresholds_May_3_2010.ashx?la=en

5.0 IMPACT ANALYSIS AND MITIGATION

The air quality analysis includes a review of pollutant emissions such as CO, NO_x, SO_2, VOC as ROG, PM_{10}, and $PM_{2.5}$. The HRA addresses the DPM emissions from on-site construction equipment and haul trucks associated with the SFGH project and cumulative impacts from nearby permitted sources, nearby local roadways, and Highway 101 (located to the east of the project site).

IMPACT AQ-1: *Would the proposed project conflict with or obstruct implementation of the applicable air quality pl*an? **Less than Significant Impact with Mitigation**

The BAAQMD adopted its 2010 Bay Area Clean Air Plan (CAP) in accordance with the requirements of the California Clean Air Act (CCAA) to implement all feasible measures to reduce ozone; provide a control strategy to reduce ozone, particulate matter, air toxics, and GHG emissions in a single, integrated plan; and establish emission control measures to be adopted or

implemented in the 2010 through 2012 timeframe. The primary goals of the 2010 Bay Area CAP are to:

- Attain air quality standards;
- Reduce population exposure and protecting public health in the Bay Area; and
- Reduce GHG emissions and protect the climate.

BAAQMD recommends that approving a project where an air quality plan consistency determination is required to analyze the project with respect to the following questions: (1) Does the project support the primary goals of the air quality plan; (2) Does the project include applicable control measures from the air quality plan; and (3) Does the project disrupt or hinder implementation of any 2010 CAP control measures? If the first two questions are concluded in the affirmative and the third question concluded in the negative, the BAAQMD considers the project consistent with air quality plans prepared for the Bay Area.

Any project that would not support the 2010 CAP goals would not be considered consistent with the 2010 CAP. The recommended measure for determining project support of these goals is consistency with BAAQMD CEQA thresholds of significance. As presented in the subsequent impact discussions, the SFGH project with mitigations would not exceed the BAAQMD significance thresholds; therefore, the SFGH project with mitigations would support the primary goals of the 2010 CAP. As mentioned, projects that incorporate all feasible control measures in the air quality plan are considered consistent with the 2010 CAP.

The SFGH project with mitigation measures would support the primary goals of the 2010 CAP, it would be consistent with all applicable 2010 CAP control measures, and would not disrupt or hinder implementation of any 2010 CAP control measures. Therefore, this impact would be less than significant.

IMPACT AQ-2: *Would proposed project construction activities conflict with or obstruct implementation of the applicable air quality plan or violate any air quality standards or contribute substantially to an existing or projected air quality violation?* **Less than Significant Impact with Mitigation**

The SFGH project includes the construction of a research building and expansion of the existing SFGH parking garage. The proposed research building would be approximately 175,000 square feet and include 32 parking spaces; all within an 88,810-square-foot (approximately two acres) lot. No demolition of existing buildings would be required. A total of 9,000 cubic yards of soil export was assumed for construction of the research building. Construction activities for the research building were assumed to occur during 2017 (for a total of 12 months).[13] **Table 2**

[13] However, construction of the proposed research building is likely to occur from 2017 through 2019 at a lower intensity than assumed. Thus, the air quality analysis is conservative (overestimation) of the impacts.

provides the estimated construction schedule for the research building by phase: site preparation, grading, building construction, paving, and architectural coating.

The parking garage expansion would be one of four alternatives: (1) 307 parking spaces with no retail, (2) 292 parking spaces with 5,000 square feet of retail, (3) 527 parking spaces with no retail, and (4) 512 parking spaces with 5,000 square feet of retail. The parking garage expansion would occur on a 26,320-square-foot lot. Construction activities for the parking garage expansion were assumed to occur during 2018 (for a total of five months).[14] **Table 3** provides the estimated construction schedule for the parking garage expansion by phase: site preparation, grading, building construction, paving, and architectural coating.

Typically, construction activities would occur between 8 a.m. and 6 p.m. (ten hours per day), on Monday through Friday.

Table 2: Construction Schedule - Research Building

Phase	Description	Start	End	Working Days
1	Site Preparation	1/2/2017	1/4/2017	3
2	Grading	1/5/2017	1/12/2017	6
3	Building Construction	1/13/2017	11/16/2017	220
4	Paving	11/17/2017	11/30/2017	10
5	Architectural Coating	12/1/2017	12/14/2017	10

SOURCE: CARB CalEEMod Version 2013.2.2.

Table 3: Construction Schedule - Parking Garage Expansion

Phase	Description	Start	End	Working Days
1	Site Preparation	1/2/2018	1/2/2018	1
2	Grading	1/3/2018	1/4/2018	2
3	Building Construction	1/5/2018	5/24/2018	100
4	Paving	5/25/2018	5/31/2018	5
5	Architectural Coating	6/1/2018	6/7/2018	5

SOURCE: CARB CalEEMod Version 2013.2.2.

Table 4 provides the estimated construction equipment usage along with the number of pieces of equipment, daily hours of operation, horsepower (hp), and load factor (i.e., percent of full throttle) for the research building. **Table 5** provides the estimated construction equipment usage for the parking garage expansion. A total of 9,000 cubic yards of soil export was assumed for construction of the research building and parking garage expansion. An additional 25,000 cubic yards of soil export was assumed for construction of the Project Variant 4 (which includes an on-site subsurface parking garage). An average daily construction crew of approximately 92 and 52

[14] However, construction of the proposed garage expansion by the Parking Authority is likely to occur from 2018 through 2020 at a lower intensity than assumed. Thus, the air quality analysis is conservative (overestimation) of the impacts.

workers would be present on-site during building construction for the research building and parking garage expansion, respectively, with less workers during other construction phases.

Table 4: Construction Equipment Usage – Research Building

Phase	Equipment	Amount	Daily Hours	HP	Load Factor
Site Preparation	Graders	1	8	174	0.41
Site Preparation	Scrapers	1	8	361	0.48
Site Preparation	Tractors/Loaders/Backhoes	1	7	97	0.37
Grading	Graders	1	8	174	0.41
Grading	Rubber Tired Dozers	1	8	255	0.4
Grading	Tractors/Loaders/Backhoes	2	7	97	0.37
Building Construction	Cranes	1	8	226	0.29
Building Construction	Forklifts	2	7	89	0.2
Building Construction	Generator Sets	1	8	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6	97	0.37
Building Construction	Welders	3	8	46	0.45
Paving	Cement and Mortar Mixers	1	8	9	0.56
Paving	Pavers	1	8	125	0.42
Paving	Paving Equipment	1	8	130	0.36
Paving	Rollers	2	8	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8	97	0.37
Architectural Coating	Air Compressors	1	6	78	0.48

SOURCE: CARB CalEEMod Version 2013.2.2.

Table5: Construction Equipment Usage – Parking Garage Expansion

Phase	Equipment	Amount	Daily Hours	HP	Load Factor
Site Preparation	Graders	1	8	174	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	8	97	0.37
Grading	Concrete/Industrial Saws	1	8	81	0.73
Grading	Rubber Tired Dozers	1	1	255	0.4
Grading	Tractors/Loaders/Backhoes	2	6	97	0.37
Building Construction	Cranes	1	4	226	0.29
Building Construction	Forklifts	2	6	89	0.2
Building Construction	Tractors/Loaders/Backhoes	2	8	97	0.37
Paving	Cement and Mortar Mixers	4	6	9	0.56
Paving	Pavers	1	7	125	0.42
Paving	Rollers	1	7	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7	97	0.37
Architectural Coating	Air Compressors	1	6	78	0.48

SOURCE: CARB CalEEMod Version 2013.2.2.

The emissions generated from these construction activities include:

- Dust (including PM_{10} and $PM_{2.5}$) primarily from "fugitive" sources (i.e., emissions released through means other than through a stack or tailpipe) such as material handling, site preparation, excavation, and travel on unpaved surfaces; and
- Combustion emissions of criteria air pollutants (ROG, NO_x, CO, PM_{10}, and $PM_{2.5}$) primarily from operation of heavy off-road construction equipment, haul trucks, (primarily diesel-operated), and construction worker automobile trips (primarily gasoline-operated).

Construction-related fugitive dust emissions would vary from day to day, depending on the level and type of activity, silt content of the soil, and the weather. High winds (greater than 10 miles per hour) occur infrequently in the area, less than two percent of the time. In the absence of mitigation, construction activities may result in significant quantities of dust, and as a result, local visibility and PM_{10} concentrations may be adversely affected on a temporary and intermittent basis during construction. In addition, the fugitive dust generated by construction would include not only PM_{10}, but also larger particles, which would fall out of the atmosphere within several hundred feet of the site and could result in nuisance-type impacts.

Erosion control measures and water programs are typically undertaken to minimize these fugitive dust and particulate emissions. A dust control efficiency of over 50 percent due to daily watering and other measures (e.g., limiting vehicle speed to 15 miles per hour (mph), management of stockpiles, screening process controls, etc.) was estimated. Based on CalEEMod, one water application per day reduces fugitive dust by 34 percent, two water applications per day reduces fugitive dust by 55 percent, and three water applications per day reduces fugitive dust by 61 percent.

The CalEEMod (California Emissions Estimator Model, Version 2013.2.2) was used to quantify construction-related pollutant emissions. CalEEMod output worksheets are included in **Attachment A: CalEEMod Output Files. Table 6** presents the average annual daily unmitigated construction emissions generated by the Project and Variant conditions. The estimated average annual daily unmitigated construction-related exhaust emissions would not exceed the thresholds for ROG, NOx, PM_{10}, or $PM_{2.5}$.

Table 6: Unmitigated Daily Construction Emissions (pounds)

Condition	ROG	NOx	PM_{10}	$PM_{2.5}$	CO
	Project				
Construction Year 1	11.2	26.0	1.45	1.39	24.7
Construction Year 2	12.8	12.2	0.70	0.64	12.2
Significance Threshold	54	54	82	54	---
Significant (Yes or No)?	No	No	No	No	No
	Variant 1				
Construction Year 1	11.2	26.0	1.45	1.39	24.7
Construction Year 2	12.8	12.1	0.70	0.64	12.1
Significance Threshold	54	54	82	54	---
Significant (Yes or No)?	No	No	No	No	No
	Variant 2				
Construction Year 1	11.2	26.0	1.45	1.39	24.7
Construction Year 2	21.2	13.4	0.72	0.66	15.6
Significance Threshold	54	54	82	54	---
Significant (Yes or No)?	No	No	No	No	No
	Variant 3				
Construction Year 1	11.2	26.0	1.45	1.39	24.7
Construction Year 2	21.2	13.4	0.72	0.66	15.5
Significance Threshold	54	54	82	54	---
Significant (Yes or No)?	No	No	No	No	No
	Variant 4				
Construction Year 1	14.8	30.4	1.51	1.44	32.9
Significance Threshold	54	54	82	54	---
Significant (Yes or No)?	No	No	No	No	No
	Variant 5				
Construction Year 1	11.2	26.0	1.45	1.39	24.7
Significance Threshold	54	54	82	54	---
Significant (Yes or No)?	No	No	No	No	No

SOURCE: CARB CalEEMod Version 2013.2.2.

With regard to construction activities, the Project and Variant 1 result in the same estimated average annual daily unmitigated construction emissions. Variant 2 and 3 result in the same estimated average annual daily unmitigated construction emissions; which are higher than the Project and Variant 1 during construction year 2 due to the larger proposed garage expansion. Variant 4 would result in higher estimated average annual daily unmitigated construction emissions than Variant 5 due to additional soil export associated with the on-site subsurface parking garage.

The BAAQMD approach to analysis of construction-related particulate impacts (other than exhaust PM) emphasizes implementation of effective and comprehensive dust control

measures rather than detailed quantification of emissions. The BAAQMD considers construction-related fugitive dust impacts of projects to be less than significant if recommended dust-control measures are implemented. Therefore, BAAQMD-identified Best Management Practices for control of fugitive dust would be implemented by the construction contractor as **Mitigation Measure AQ-1: Best Management Practices for Controlling Particulate Emissions.** With this measure in place the construction-related fugitive dust emissions would be less than significant.

Although the criteria air pollutant emissions from construction activities of the SFGH project would be below BAAQMD significance thresholds, *BAAQMD's CEQA Air Quality Guidelines* consider these impacts to be less than significant if Best Management Practices for control of these emissions are implemented. Therefore, Best Management Practices for control of VOC and combustion exhaust emissions would be implemented by the construction contractor as **Mitigation Measure AQ-2: Architectural Coatings, Mitigation Measure AQ-3: Demolition, and Mitigation Measures AQ-4: Off-Road Equipment Control Measures.** With these measures in place the construction-related emissions would be less than significant.

Mitigation Measure AQ-1: *BAAQMD Required Dust Control Measures:* The construction contractor shall reduce construction-related air pollutant emissions by implementing BAAQMD's basic fugitive dust control measures, including:

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
- All haul trucks transporting soil, sand, or other loose material off site shall be covered.
- All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All vehicle speeds on unpaved roads shall be limited to 15 miles per hour.
- All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
- A publically visible sign shall be posted with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action with 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

Mitigation Measure AQ-2: *BAAQMD Regulation 8, Rule 3 for Architectural Coatings.* Emissions of VOC due to the use of architectural coatings are regulated by the limits contained in Regulation 8: Organic Compounds, Rule 3: Architectural Coatings (Rule 8-3). Rule 8-3 was

revised on January 1, 2011 to include more stringent VOC limit requirements. The revised VOC architectural coating limits specify that the use paints and solvents with a VOC content of 100 grams per liter or less for interior and 150 grams per liter or less for exterior surfaces shall be required.

Mitigation Measure AQ-3: *BAAQMD Regulation 11, Rule 2 for Demolition.* The potential for toxic air contaminants (asbestos and lead based paint) to be released into the environment is regulated and monitored through the Building Division in compliance with *BAAQMD Regulation 11, Rule 2 during Demolition*. Any applicant requesting a building or demolition permit involving a structure suspected of containing asbestos (defined as a building constructed prior to 1978) and/or lead based paint (defined as a building constructed prior to 1960) is required to obtain a J-Permit from the BAAQMD. The J Permit is required to be posted on the job site and if it is not there the job can be fined by the BAAQMD and may be shut down by the City's Building Division. Through this process, the BAAQMD and the City Building Division ensure that asbestos and lead based paints are handled, removed, encapsulated and disposed of in accordance with prevailing law requisite to protect the environment, the people conducting the work and nearby sensitive receptors. The process typically requires surveys and removal of lead based paints and asbestos by licensed contractors certified in the handling methods requisite to protect the environment and public health and safety. The process also provides for BAAQMD and City supervision to insure compliance.

Mitigation Measure AQ-4: *BAAQMD Required Basic Exhaust Emissions Reduction Measures.* The construction contractor shall implement the following measures during construction to reduce construction-related exhaust emissions:

- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations). Clear signage shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.

Mitigation Measure: Implement Mitigation Measures AQ-1, AQ-2, AQ-3, and AQ-4.

Table 7 presents the average annual daily mitigated construction emissions generated by the Project and Variant conditions. The estimated average annual daily mitigated construction-related exhaust emissions would not exceed the thresholds for ROG, NOx, PM_{10}, or $PM_{2.5}$.

Table 7: Mitigated Daily Construction Emissions (pounds)

Condition	ROG	NOx	PM_{10}	$PM_{2.5}$	CO
	Project				
Construction Year 1	8.94	23.0	0.17	0.16	23.8
Construction Year 2	12.0	7.50	0.08	0.08	12.3
Significance Threshold	54	54	82	54	---
Significant (Yes or No)?	No	No	No	No	No
	Variant 1				
Construction Year 1	8.94	23.0	0.17	0.16	23.8
Construction Year 2	12.0	7.49	0.08	0.08	12.3
Significance Threshold	54	54	82	54	---
Significant (Yes or No)?	No	No	No	No	No
	Variant 2				
Construction Year 1	8.94	23.0	0.17	0.16	23.8
Construction Year 2	20.5	8.71	0.10	0.09	15.7
Significance Threshold	54	54	82	54	---
Significant (Yes or No)?	No	No	No	No	No
	Variant 3				
Construction Year 1	8.94	23.0	0.17	0.16	23.8
Construction Year 2	20.6	13.1	0.10	0.09	15.7
Significance Threshold	54	54	82	54	---
Significant (Yes or No)?	No	No	No	No	No
	Variant 4				
Construction Year 1	12.6	27.4	0.22	0.21	31.9
Significance Threshold	54	54	82	54	---
Significant (Yes or No)?	No	No	No	No	No
	Variant 5				
Construction Year 1	8.94	23.0	0.17	0.16	23.8
Significance Threshold	54	54	82	54	---
Significant (Yes or No)?	No	No	No	No	No

SOURCE: CARB CalEEMod Version 2013.2.2.

IMPACT AQ-3: *Would the operation of the proposed project conflict with or obstruct implementation of the applicable air quality plan or violate any air quality standards or contribute substantially to an existing or projected air quality violation?* **Less than Significant Impact**

CalEEMod was used to estimate emissions that would be associated with motor vehicle use, space and water heating, and landscape maintenance emissions expected to occur after the SFGH project construction is complete and operational. The SFGH project land use types and size and other project-specific information were input to the model. Unless otherwise noted, the CalEEMod model defaults for San Francisco County were used. CalEEMod provides emissions

for transportation, areas sources, electricity consumption, natural gas combustion, electricity usage associated with water usage and wastewater discharge, and solid waste land filling and transport.[15] CalEEMod output worksheets are included in **Attachment A: CalEEMod Output Files**. Operational emissions also associated with the SFGH project would include fume hoods and an emergency generator needed for research operations, as well as motor vehicles for staff and visitors and retail customers.

Operations were assumed to include a 2,000 kilowatt (kW) diesel-fueled standby emergency generator for the research building. The generator would be operated in emergency situations (backup power) and during regular maintenance cycles (once or twice a month for a short duration for a total of 50 hours per year). The 2,000 kW emergency generator would meet USEPA Tier 4 Exhaust Emissions Standards for Nonroad Compression-Ignition Engines Emission Standards.

Compounds used during research could volatilize and escape through fume hood vents. Current chemical inventories from Buildings 1, 3, 9, 30, 40, and 100 (for which operations would be moved into the proposed research building), were used within the HRA. Fume hoods would meet Title 8 of the California Code of Regulations, which contain California Occupational Safety and Health Administration (Cal/OSHA) requirements for fume hoods. The regulations include design features to protect laboratory personnel and establish specific requirements for use and storage of carcinogens, including the requirement to scrub or filter air emissions from areas where carcinogens are used. The regulations also require that the top of the fume hood stack be located at least seven feet above the roof of the building.

One of the sources of operational emissions at the SFGH project would be increased vehicle emissions from additional staff and visitors and vehicle emissions associated with the retail use. Traffic volumes used to estimate vehicle-related emissions were derived from Fehr & Peers[16]. The SFGH project would generate approximately 196 new vehicle trips per day associated with the research building and 98 vehicle trips per day associated with the retail space within the expanded parking garage. In addition to exhaust emissions, vehicles would also generate PM_{10} and $PM_{2.5}$ from entrained road dust and tire and brake wear.

Estimated total (includes area, energy, mobile, generator, and fume hoods) daily and annual operational emissions that would be associated with the Project and Variant conditions are presented in **Tables 8 and 9** and are compared to BAAQMD's thresholds of significance. The

[15] Mobile sources are motor vehicles and trucks. Area sources include landscape maintenance (equipment used for these activities such as gasoline-powered lawnmowers and blowers), maintenance application of paints and other interior and exterior surface coatings, and increased use of consumer products that result in emissions of ROG. Natural gas combustion is for space and water heating.

[16] Fehr & Peers. *Proposed UCSF Research Building at San Francisco General Hospital Transportation Impact Study*. December 2015, Revised March 2016.

estimated Project and Variant conditions' operational emissions would be below the BAAQMD's significance thresholds and would be less than significant.

The SFGH project's energy demand would be typical for a development of this scope and nature. The proposed research building would comply with current State codes concerning energy consumption, including Title 24 of the California Code of Regulations. The proposed parking garage extension would also comply with current State and local codes concerning energy consumption, including the City's Green Building Ordinance.

In addition, the proposed research building would comply with the UC Policy on Sustainable Practices, which requires new construction meet a minimum standard of LEED-NC Silver and strive for LEED-NC Gold when possible, requires 20 percent better energy performance than Title 24 (and strives to achieve 30 percent), and requires new laboratory buildings meet Labs21 Environmental Performance Criteria. The proposed research building would also be designed to incorporate water-conserving measures, such as installing low-flush toilets and urinals, as required by Chapter 4 of the California Plumbing Code.

Table 8: Daily Operational Emissions (pounds)

Condition	ROG	NOx	PM_{10}	$PM_{2.5}$	CO
	Project				
Area, Energy, Mobile	8.18	2.19	1.16	0.38	6.20
Generator	2.25	5.91	0.35	0.35	30.7
Fume Hoods	25.6	---	---	---	---
Total	**36.1**	**8.11**	**1.51**	**0.74**	**36.9**
Significance Threshold	54	54	82	54	---
Significant Impact?	No	No	No	No	No
	Variant 1				
Area, Energy, Mobile	8.40	2.59	1.49	0.48	8.14
Generator	2.25	5.91	0.35	0.35	30.7
Fume Hoods	25.6	---	---	---	---
Total	**36.3**	**8.50**	**1.84**	**0.83**	**38.9**
Significance Threshold	54	54	82	54	---
Significant Impact?	No	No	No	No	No
	Variant 2				
Area, Energy, Mobile	10.3	2.19	1.16	0.38	6.20
Generator	2.25	5.91	0.35	0.35	30.7
Fume Hoods	25.6	---	---	---	---
Total	**38.2**	**8.11**	**1.51**	**0.74**	**37.0**
Significance Threshold	54	54	82	54	---
Significant Impact?	No	No	No	No	No
	Variant 3				
Area, Energy, Mobile	10.5	2.59	1.49	0.48	8.16
Generator	2.25	5.91	0.35	0.35	30.7
Fume Hoods	25.6	---	---	---	---
Total	**38.4**	**8.50**	**1.84**	**0.83**	**38.9**
Significance Threshold	54	54	82	54	---
Significant Impact?	No	No	No	No	No
	Variant 4				
Area, Energy, Mobile	6.96	2.19	1.16	0.38	6.19
Generator	2.25	5.91	0.35	0.35	30.7
Fume Hoods	25.6	---	---	---	---
Total	**34.8**	**8.11**	**1.51**	**0.74**	**36.9**
Significance Threshold	54	54	82	54	---
Significant Impact?	No	No	No	No	No
	Variant 5				
Area, Energy, Mobile	5.19	2.19	1.16	0.38	6.17
Generator	2.25	5.91	0.35	0.35	30.7
Fume Hoods	33.1	---	---	---	---
Total	**8.26**	**8.11**	**1.51**	**0.74**	**36.9**
Significance Threshold	54	54	82	54	---
Significant Impact?	No	No	No	No	No

Table 9: Annual Operational Emissions (tons)

Condition	ROG	NOx	PM_{10}	$PM_{2.5}$	CO
	Project				
Area, Energy, Mobile	1.54	0.52	0.21	0.07	1.65
Generator	0.03	0.07	0.004	0.004	0.38
Fume Hoods	0.13	---	---	---	---
Total	**1.69**	**0.59**	**0.21**	**0.08**	**2.04**
Significance Threshold	54	54	82	54	---
Significant Impact?	No	No	No	No	No
	Variant 1				
Area, Energy, Mobile	1.53	0.49	0.26	0.09	1.42
Generator	0.03	0.07	0.004	0.004	0.38
Fume Hoods	0.13	---	---	---	---
Total	**1.68**	**0.57**	**0.27**	**0.09**	**1.80**
Significance Threshold	54	54	82	54	---
Significant Impact?	No	No	No	No	No
	Variant 2				
Area, Energy, Mobile	1.93	0.52	0.21	0.07	1.65
Generator	0.03	0.07	0.004	0.004	0.38
Fume Hoods	0.13	---	---	---	---
Total	**2.08**	**0.59**	**0.21**	**0.08**	**2.04**
Significance Threshold	54	54	82	54	---
Significant Impact?	No	No	No	No	No
	Variant 3				
Area, Energy, Mobile	1.87	0.49	0.26	0.09	1.42
Generator	0.03	0.07	0.004	0.004	0.38
Fume Hoods	0.13	---	---	---	---
Total	**2.03**	**0.57**	**0.27**	**0.09**	**1.81**
Significance Threshold	54	54	82	54	---
Significant Impact?	No	No	No	No	No
	Variant 4				
Area, Energy, Mobile	1.27	0.42	0.21	0.07	1.09
Generator	0.03	0.07	0.004	0.004	0.38
Fume Hoods	0.13	---	---	---	---
Total	**1.42**	**0.50**	**0.21**	**0.07**	**1.48**
Significance Threshold	54	54	82	54	---
Significant Impact?	No	No	No	No	No
	Variant 5				
Area, Energy, Mobile	0.95	0.42	0.21	0.07	1.09
Generator	0.03	0.07	0.004	0.004	0.38
Fume Hoods	0.13	---	---	---	---
Total	**1.15**	**0.59**	**0.21**	**0.08**	**2.03**
Significance Threshold	54	54	82	54	---
Significant Impact?	No	No	No	No	No

IMPACT AQ-4: *Would proposed project operational activities cause an exceedance of the CAAQS for CO at traffic intersections?* **Less than Significant Impact**

Increased traffic volumes due to the project would result in increased pollutant emissions in the vicinity of the roads utilized by this traffic, which can cause pollutant levels to exceed the ambient air quality standards. The BAAQMD has identified the following screening criteria for determining whether a project's motor vehicle CO emissions would likely cause ambient air quality standards to be exceeded:

- The project is consistent with an applicable congestion management program established by the county congestion management agency for designated roads or highways, the regional transportation plan, and local congestion management agency plans.
- The project traffic would increase traffic volumes at affected intersections to more than 44,000 vehicles per day.
- The project traffic would increase traffic volumes at affected intersections to more than 24,000 vehicles per day where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, bridge underpass, natural or urban street canyon, below-grade roadway).

The SFGH project would generate minimal new traffic trips and would comply with these screening criteria. Based on the BAAQMD's criteria, SFGH project-related traffic would not exceed CO standards and therefore, no further analysis was conducted for CO impacts. This impact would be considered less than significant on a project-level and cumulative basis.

IMPACT AQ-5: *Would proposed project construction and operational activities expose sensitive receptors to substantial concentrations of toxic air contaminants?* **Less than Significant Impact with Mitigation**

The SFGH project would constitute a new emission source of DPM and $PM_{2.5}$ due to construction activities, the proposed emergency generator, and various air toxics associated with the fume hoods. Studies have demonstrated that DPM from diesel-fueled engines is a human carcinogen and that chronic (long-term) inhalation exposure to DPM poses a chronic health risk. Health effects from carcinogenic air toxics are usually described in terms of individual cancer risk. Individual cancer risk is the likelihood that a person exposed to air toxic concentrations over a 30-year period will contract cancer, based on the use of standard risk-assessment methodology. The maximally exposed individual (MEI) represents the worst–case risk estimate, based on a theoretical person continuously exposed for a lifetime at the point of highest compound concentration in the air. This is a highly conservative assumption, since most people do not remain at home all day and on average residents change residences every 11 to 12 years. In addition, this assumption assumes that residents are experiencing outdoor concentrations for the entire exposure period.

This HRA analyzes the incremental cancer risks to sensitive receptors in the vicinity of the SFGH project, using emission rates (in pounds per hour) from CARB's CalEEMod emission model. DPM (as reported as exhaust of $PM_{2.5}$) emission rates were input into the USEPA's AERMOD atmospheric dispersion model to calculate ambient air concentrations at receptors in the SFGH project vicinity. This HRA is intended to provide a worst–case estimate of the increased exposure by employing a standard emission estimation program, an accepted pollutant dispersion model, approved toxicity factors, and conservative exposure parameters.

In accordance with OEHHA *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments,*[17] this HRA was accomplished by applying the highest estimated concentrations of TAC at the receptors analyzed to the established cancer potency factors and acceptable reference concentrations for non-cancer health effects. For the Project and Variant conditions, the maximum DPM concentrations occurred at a residential receptor (also known as the MEI) along 23rd Street to the south and east of the project site. Increased cancer risks were calculated using the modeled DPM concentrations and OEHHA-recommended methodologies for both a child exposure (3rd trimester through 2 years of age) and adult exposure. The cancer risk calculations were based on applying the OEHHA-recommended age sensitivity factors and breathing rates, as well as fraction of time at home and an exposure duration of 30 years, to the DPM concentration exposures. Age-sensitivity factors reflect the greater sensitivity of infants and small children to cancer causing air pollutants. The supporting methodology and assumptions used in the HRA are provided in **Attachment B: Health Risk Assessment Methodology and Assumptions**.

These conservative methodologies overestimate both non-carcinogenic and carcinogenic health risk, possibly by an order of magnitude or more. Therefore, for carcinogenic risks, the actual probabilities of cancer formation in the populations of concern due to exposure to carcinogenic pollutants are likely to be lower than the risks derived using the HRA methodology. The extrapolation of toxicity data in animals to humans, the estimation of concentration prediction methods within dispersion models; and the variability in lifestyles, fitness and other confounding factors of the human population also contribute to the overestimation of health impacts. Therefore, the results of the HRA are highly overstated.

Incremental Cancer Risk

The following describes the HRA results associated with existing receptors due to SFGH construction activities and operational emissons. As shown in **Table 10**, the maximum cancer risk from construction emissions for a residential-adult receptor would be 2.3 per million and for a residential-child receptor would be 54.9 per million. The maximum unmitigated cancer risk

[17] Office of Environmental Health Hazard Assessment, *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*, February 2015, http://oehha.ca.gov/air/hot_spots/hotspots2015.html

from construction emissions for a school child would be 3.9 per million. The estimated cancer risk for a 30-year lifetime exposure would be 55.0 per million. Thus, the cancer risk due to construction activities and operational emissions would be potentially above the BAAQMD threshold of 10 per million and would be potentially significant.

The maximum cancer risk from unmitigated construction emissions associated with the parking garage expansion only for a residential-adult receptor would be 1.4 per million and for a residential-child receptor would be 32.1 per million. For the expanded parking garage, the maximum DPM concentrations occurred at a residential receptor (also known as the MEI) along 23rd Street to the east of the project site.

Table 10: Unmitigated Project Health Impacts

Condition	Cancer Risk (child/adult)	Hazard Impact (acute/chronic)	$PM_{2.5}$ Concentration ($\mu g/m^3$)
Project	54.9/2.32	0.19/0.09	0.37
Variant 1	54.9/2.32	0.19/0.09	0.37
Variant 2	55.0/2.32	0.19/0.09	0.37
Variant 3	55.0/2.32	0.19/0.09	0.37
Variant 4	54.5/2.41	0.19/0.08	0.38
Variant 5	52.6/2.32	0.19/0.08	0.37
Significance Threshold	10	1.0	0.3
Significant (Yes or No)?	**Yes**	No	**Yes**

However, with the implementation of **Mitigation Measures AQ-1 through AQ-5**, the maximum cancer risk from construction emissions for a residential-adult receptor would be 0.3 per million and for a residential-child receptor would be 7.1 per million (see **Table 11**). The maximum unmitigated cancer risk from construction emissions for a school child would be 0.5 per million. The estimated cancer risk for a 30-year lifetime exposure would be 7.2 per million. Thus, the cancer risk due to construction activities would be below the BAAQMD threshold of 10 per million and would be less than significant.

The maximum cancer risk from mitigated construction emissions associated with the parking garage expansion only for a residential-adult receptor would be 0.2 per million and for a residential-child receptor would be 5.1 per million.

Mitigation Measure AQ-5: *BAAQMD Enhanced Exhaust Emissions Reduction Measures.* The construction contractor shall implement the following measures during construction to further reduce construction-related exhaust emissions:

All off-road equipment greater than 25 horsepower (hp) and operating for more than 20 total hours over the entire duration of construction activities shall meet the following requirements:

1. Where access to alternative sources of power are available, portable diesel engines shall be prohibited; and

2. All off-road equipment shall have:

a. Engines that meet or exceed either USEPA or CARB Tier 2 off-road emission standards, and

b. Engines that are retrofitted with a CARB Level 3 Verified Diesel Emissions Control Strategy. Acceptable options for reducing emissions include the use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, add-on devices such as particulate filters, and/or other options as such are available.

Table 11: Mitigated Project Health Impacts

Condition	Cancer Risk (child/adult)	Hazard Impact (acute/chronic)	$PM_{2.5}$ Concentration ($\mu g/m^3$)
Project	7.10/0.27	0.04/0.01	0.04
Variant 1	7.10/0.27	0.04/0.01	0.04
Variant 2	7.16/0.27	0.04/0.01	0.04
Variant 3	7.16/0.27	0.04/0.01	0.04
Variant 4	8.82/0.36	0.05/0.01	0.06
Variant 5	6.65/0.27	0.04/0.01	0.04
Significance Threshold	10	1.0	0.3
Significant (Yes or No)?	No	No	No

A screening analysis was conducted on the full chemical inventory accounting for the amount of chemical and its toxicity. The screening analysis found that the primary focus of the cancer risk is due to carbon tetrachloride, chloroform, formaldehyde, hydrazine, and urethane. The screening analysis found that the primary focus of acute health impacts is due to chloroform and sodium hydroxide. The screening analysis found that the primary focus of chronic health impacts is due to formalin, chloroform, formaldehyde, glutaraldehyde, hydrochloric acid, and phosphoric acid.

The estimated cancer risk for a 30-year lifetime exposure to the generator and fume hood operations would be 0.6 and 0.3 per million, respectively.

Non-Cancer Health Hazard Associated with Existing Receptors

Both acute (short-term) and chronic (long-term) adverse health impacts unrelated to cancer are measured against a hazard index (HI), which is defined as the ratio of the predicted incremental DPM exposure concentration from the SFGH project to a published reference exposure level (REL) that could cause adverse health effects. The REL are published by OEHHA based on epidemiological research. The ratio (referred to as the Hazard Quotient [HQ]) of each non-carcinogenic substance that affects a certain organ system is added to produce an overall HI for that organ system. The overall HI is calculated for each organ system. The impact is considered to be significant if the overall HI for the highest-impacted organ system is greater than 1.0.

The chronic reference exposure level for DPM was established by the California OEHHA[18] as 5 µg/m^3. Thus, the SFGH project-related annual concentration of DPM cannot exceed 5.0 µg/m^3; resulting in a chronic acute HI of greater than 1.0 (i.e., DPM annual concentration/5.0 µg/m^3). There is no acute REL for DPM. However, diesel exhaust does contain acrolein, formaldehyde and other compounds, which do have an acute REL. Based on DPM speciation data, acrolein emissions are approximately 1.3 percent of the total DPM emissions.[19] The acute REL for acrolein was established by the California OEHHA[20] as 2.5 µg/m^3. In total, acrolein represent over 90 percent of the acute health impacts from diesel engines. Thus, the project-related 1-hour concentration of acrolein cannot exceed 2.5 µg/m^3; resulting in an acute HI of greater than 1.0.

The unmitigated chronic HI would be 0.07. The mitigated chronic HI would be 0.01. The chronic HI would be below the project-level threshold of 1 and the impact would therefore be less than significant. The unmitigated acute HI would be 0.16. The unmitigated acute HI would be 0.02. The acute HI would be below the project-level threshold of 1 and the impact would therefore be less than significant.

$PM_{2.5}$ Concentration

Dispersion modeling also estimated the exposure of sensitive receptors to project-related concentrations of $PM_{2.5}$. The BAAQMD *Air Quality Guidelines* requires inclusion only of $PM_{2.5}$ exhaust emissions in this analysis (i.e., fugitive dust emissions are addressed under BAAQMD dust control measures which are required by law to be implemented during project construction). The unmitigated annual $PM_{2.5}$ concentration from construction activities would be 0.37 µg/m^3. With implementation of **Mitigation Measures AQ-1 through AQ-5**, the annual $PM_{2.5}$ concentration would be reduced to 0.04 µg/m^3. Thus, the annual $PM_{2.5}$ concentration due to SFGH project construction would be below the BAAQMD threshold of 0.3 µg/m^3 and would be less than significant (see **Tables 10 and 11**).

[18] California Office of Environmental Health Hazards Assessment - Acute, 8-hour, and Chronic Reference Exposure Levels, June 2014, http://www.oehha.ca.gov/air/allrels.html

[19] TOG Speciation Profile for Off-Road Diesel Emissions CARB Speciation Profile 818 (Building Construction - Diesel)

[20] California Office of Environmental Health Hazards Assessment - Acute, 8-hour, and Chronic Reference Exposure Levels, June 2014**,** http://www.oehha.ca.gov/air/allrels.html

Cumulative Health Impact Methodology

The BAAQMD's *CEQA Air Quality Guidelines* also include standards and methods for determining the significance of cumulative health risk impacts. The method for determining cumulative health risk requires the tallying of health risk from permitted stationary sources, major roadways and any other identified substantial TAC sources in the vicinity of a project site (i.e., within a 1,000-foot radius) and then adding the individual sources to determine whether the BAAQMD's cumulative health risk thresholds are exceeded.

BAAQMD has developed a geo-referenced database of permitted stationary emissions sources throughout the San Francisco Bay Area and the *Stationary Source Risk & Hazard Analysis Tool* for estimating cumulative health risks from the permitted sources. Two permitted sources are located within 1,000 feet of the SFGH project.

BAAQMD has also developed a geo-referenced database of roadways throughout the San Francisco Bay Area and has developed the *Highway Screening Analysis Tool* for estimating cumulative health risks from roadways. US 101 is located within 1,000 feet of the SFGH project. BAAQMD *CEQA Air Quality Guidelines* also require the inclusion of surface streets within 1,000 feet of the SFGH project with annual average daily traffic of 10,000 or greater. Upon review of nearby roadways, Potrero Avenue meets the criteria. However, 23rd Street, 24th Street, 25th Street, San Bruno Avenue, Utah Avenue, and Vermont Avenue were also included in the analysis; although less than 10,000 annual average daily traffic, these roadways are located adjacent to the project site.[21]

Cumulative Impacts

The maximum cancer risk from mitigated construction for a residential-adult receptor would be 0.4 per million and for a residential-child receptor would be 8.5 per million with mitigation. The estimated cancer risk impacts at the MEI due to US 101 is 19.5 per million. The estimated cancer risk impacts at the MEI due to nearby local roadways is 4.8 per million. The estimated cancer risk impacts at the MEI due to nearby permitted sources is 10.9 per million.[22]The cumulative cancer risk from the SFGH project construction activities and other nearby sources would be 44.0 per million and thus, below the cumulative threshold of 100 per million and would be less than significant (see **Table 12**). The acute and chronic impacts would be below the cumulative

[21] Fehr & Peers. *Proposed UCSF Research Building at San Francisco General Hospital Transportation Impact Study*. December 2015, Revised March 2016.

[22] Facility #3974 (Building 10, Room 1118) contains seven large generators and two boilers. Facility #14901 contains two diesel generators. Current emissions information provided for 2014 and BAAMD's screening calculator and distance adjustment multiplier was used to estimate refined results. Information (cancer risks and chronic index) was adjusted for distance from source to receptor, based on BAAQMD's *Distance Adjustment Multiplier for Diesel Internal Combustion Engine* and the *Distance Adjustment Multiplier for Gasoline Dispensing Facilities*.

threshold of 10 and thus, would be less than significant. The cumulative $PM_{2.5}$ concentration would be 0.37 µg/m^3 and thus, below the cumulative threshold of 0.8 µg/m^3 and would be less than significant.

Table 12: Cumulative Health Impacts

Source	Cancer Risk	Hazard Impact (acute/chronic)	$PM_{2.5}$ Concentration (µg/m^3)
San Francisco General Hospital (#3974), 1001 Potrero Avenue[a]	10.1	0.06/0.01	0.02
San Francisco General Hospital (#14901), 1001 Potrero Avenue[a]	0.84	<0.01/<0.01	<0.01
Potrero Avenue[b]	1.63	<0.01	0.062
23rd Street[b]	0.30	<0.01	0.012
24th Street[b]	1.57	<0.01	0.059
25th Street[b]	0.19	<0.01	0.007
San Bruno Avenue[b]	0.40	<0.01	0.016
Utah Avenue[b]	0.40	<0.01	0.015
Vermont Avenue[b]	0.28	<0.01	0.011
US 101[c]	19.5	0.05/0.02	0.155
Maximum Mitigated Project	8.82/0.36	0.05/0.01	0.06
Cumulative Impact	**44.0**	**0.14/0.05**	**0.37**
Significance Threshold	100	10	0.8
Significant (Yes or No)?	No	No	No

a Bay Area Air Quality Management District. *Stationary Source Screening Analysis Tool*. May 2012.
b Cancer Risk, Health Impact, and $PM_{2.5}$ Concentration values for local roadways are based on BAAQMD's Roadway Screening Analysis Calculator, dated April 16, 2015.
c Cancer Risk, Hazard Impact, and $PM_{2.5}$ Concentration values for US 101 are based on BAAQMD's Highway Screening Analysis Tool, dated April 29, 2011.

IMPACT AQ-6: *Would the proposed project create objectionable odors affecting a substantial amount of people?* **Less than Significant Impact**

Though offensive odors from stationary and mobile sources rarely cause any physical harm, they still remain unpleasant and can lead to public distress, generating citizen complaints to local governments. The occurrence and severity of odor impacts depend on the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of receptors. Generally, odor emissions are highly dispersive, especially in areas with higher average wind speeds. However, odors disperse less quickly during inversions or during calm conditions, which hamper vertical mixing and dispersion.

According to CARB's *Air Quality and Land Use Handbook*,[23] typical odor sources of concern include wastewater treatment plants, sanitary landfills, transfer stations, composting facilities, petroleum refineries, asphalt batch plants, chemical manufacturing facilities, fiberglass manufacturing facilities, auto body shops, rendering plants, and coffee roasting facilities. Odor

[23] California Air Resources Board. *Air Quality and Land Use Handbook: A Community Health Perspective*. April 2005. Available: http://www.arb.ca.gov/ch/handbook.pdf. Accessed: October 2013.

impacts on residential areas and sensitive receptors, such as hospitals, day care centers, schools, etc., warrant the closest scrutiny, but consideration should also be given to other land uses where people may congregate, such as recreational facilities, work sites, and commercial areas.

Projects that would site a new receptor farther than the applicable screening distance from an existing odor source would not likely result in a significant odor impact. The odor screening distances are not used as absolute screening criteria, rather as information to consider along with the odor parameters and complaint history. The odor screening distances for a sewage treatment plant, refinery, and chemical plant are two miles.[24] The SFGH project is not within the odor screening distances for a sewage treatment plant, refinery, or other odor producing sources. Diesel-fueled construction equipment would generate some odors associated with diesel exhaust. However, these emissions typically dissipate quickly and would be temporary in nature and thus, would be unlikely to affect a substantial number of people. Therefore, odor impacts associated with construction and operation of the SFGH project would be less than significant**.**

6.0 GREENHOUSE GAS ANALYSIS

"Global warming" and "global climate change" are the terms used to describe the increase in the average temperature of the earth's near-surface air and oceans since the mid-20th century and its projected continuation. Warming of the climate system is now considered to be unequivocal (IPCC, 2007), with global surface temperature increasing approximately 1.33 degrees Fahrenheit (°F) over the last 100 years. Continued warming is projected to increase global average temperature between 2 and 11°F over the next 100 years.

Natural processes and human actions have been identified as the causes of this warming. The International Panel on Climate Change (IPCC) concludes that variations in natural phenomena such as solar radiation and volcanoes produced most of the warming from pre-industrial times to 1950 and had a small cooling effect afterward. After 1950, however, increasing GHG concentrations resulting from human activity such as fossil fuel burning and deforestation have been responsible for most of the observed temperature increase. These basic conclusions have been endorsed by more than 45 scientific societies and academies of science, including all of the national academies of science of the major industrialized countries. Since 2007, no scientific body of national or international standing has maintained a dissenting opinion.

Increases in GHG concentrations in the earth's atmosphere are thought to be the main cause of human-induced climate change. GHG naturally trap heat by impeding the exit of solar radiation that has hit the earth and is reflected back into space. Some GHG occur naturally and are necessary for keeping the earth's surface inhabitable. However, increases in the concentrations of these gases in the atmosphere during the last 100 years have decreased the amount of solar

[24] Sacramento Metropolitan Air Quality Management District, Guide to Air Quality Assessment in Sacramento County, June 2014, http://www.airquality.org/ceqa/cequguideupdate/Ch7OdorScreeningDistancesFINAL.pdf

radiation that is reflected back into space, intensifying the natural greenhouse effect and resulting in the increase of global average temperature.

Gases that trap heat in the atmosphere are referred to as GHG because they capture heat radiated from the sun as it is reflected back into the atmosphere, much like a greenhouse does. The accumulation of GHG has been implicated as the driving force for global climate change. The primary GHG are carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O), ozone, and water vapor.

While the presence of the primary GHG in the atmosphere are naturally occurring, CO_2, CH_4, and N_2O are also emitted from human activities, accelerating the rate at which these compounds occur within earth's atmosphere. Emissions of CO_2 are largely by-products of fossil fuel combustion, whereas methane results from off-gassing associated with agricultural practices and landfills. Other GHG include hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride, and are generated in certain industrial processes. GHG are typically reported in "carbon dioxide-equivalent" measures (CO_2e).[25]

There is international scientific consensus that human-caused increases in GHG have and will continue to contribute to global warming. Potential global warming impacts in California may include, but are not limited to, loss in snow pack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, and more drought years. Secondary effects are likely to include a global rise in sea level, impacts to agriculture, changes in disease vectors, and changes in habitat and biodiversity.[26]

Assembly Bill 32 (California Global Warming Solutions Act of 2006)

California passed the California Global Warming Solutions Act of 2006 (AB 32; California Health and Safety Code Division 25.5, Sections 38500 - 38599). AB 32 establishes regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and establishes a cap on statewide GHG emissions. AB 32 requires that statewide GHG emissions be reduced to 1990 levels by 2020. This reduction will be accomplished by enforcing a statewide cap on GHG emissions that will be phased in starting in 2012. To effectively implement the cap, AB 32 directs CARB to develop and implement regulations to reduce statewide GHG emissions from stationary sources. AB 32 specifies that regulations adopted in response to AB 1493 should be used to address GHG emissions from vehicles. However, AB 32 also includes language

[25] Because of the differential heat absorption potential of various GHG, GHG emissions are frequently measured in "carbon dioxide-equivalents," which present a weighted average based on each gas's heat absorption (or "global warming") potential.

[26] California Climate Change Portal. Frequently Asked Questions about Global Climate Change. Available Online at: http://www.climatechange.ca.gov/publications/faqs.html.

stating that if the AB 1493 regulations cannot be implemented, then CARB should develop new regulations to control vehicle GHG emissions under the authorization of AB 32.

AB 32 requires CARB to adopt a quantified cap on GHG emissions representing 1990 emissions levels and disclose how it arrived at the cap; institute a schedule to meet the emissions cap; and develop tracking, reporting, and enforcement mechanisms to ensure that the state reduces GHG emissions enough to meet the cap. AB 32 also includes guidance on instituting emissions reductions in an economically efficient manner, along with conditions to ensure that businesses and consumers are not unfairly affected by the reductions. Using these criteria to reduce statewide GHG emissions to 1990 levels by 2020 would represent an approximate 25 to 30 percent reduction in current emissions levels. However, CARB has discretionary authority to seek greater reductions in more significant and growing GHG sectors, such as transportation, as compared to other sectors that are not anticipated to significantly increase emissions. Under AB 32, CARB must adopt regulations to achieve reductions in GHG to meet the 1990 emissions cap by 2020.

Thresholds of Significance

Separate thresholds of significance are established for operational GHG emissions from stationary sources (such as generators, furnaces, and boilers) and non-stationary sources (such as on-road vehicles). As no threshold has been established for construction-related emissions, the operational emissions thresholds apply. The threshold for stationary sources is 10,000 metric tons of CO_2e per year (i.e., emissions above this level may be considered significant). For non-stationary sources, three separate thresholds have been established:

- Compliance with a Qualified Greenhouse Gas Reduction Strategy (i.e., if a project is found to be out of compliance with a Qualified Greenhouse Gas Reduction Strategy, its GHG emissions may be considered significant); or
- 1,100 metric tons of CO_2e per year (i.e., emissions above this level may be considered significant); or
- 4.6 metric tons of CO_2e per service population per year (i.e., emissions above this level may be considered significant). Service population is the sum of residents plus employees expected for a development project.

For quantifying a project's GHG emissions, BAAQMD recommends that all GHG emissions from a project be estimated, including a project's direct and indirect GHG emissions from operations. Direct emissions refer to emissions produced from onsite combustion of energy, such as natural gas used in furnaces and boilers, emissions from industrial processes, and fuel combustion from mobile sources. Indirect emissions are emissions produced offsite from energy production and water conveyance due to a project's energy use and water consumption.

IMPACT GHG-1: *Would the proposed project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?* **Less than Significant Impact**

CalEEMod was used to quantify GHG emissions associated with SFGH project construction activities, as well as long-term operational emissions produced by motor vehicles, natural gas combustion for space and water heating, electricity use, and landscape maintenance equipment. CalEEMod incorporates GHG emission factors for the central electric utility serving the Bay Area and mitigation measures based on the California Air Pollution Control Officer's Association (CAPCOA) *Quantifying Greenhouse Gas Mitigation Measures* and the *California Climate Action Registry General Reporting Protocol*.

Default rates for energy consumption were assumed in the model. Emissions rates associated with electricity consumption were adjusted to account for Pacific Gas & Electric utility's projected CO_2 intensity rates. The projected CO_2 intensity rate is based, in part, on the requirement of a renewable energy portfolio standard of 33 percent by the year 2020. CalEEMod uses a default rate of 641 pounds of CO_2 per megawatt of electricity produced. The projected CO_2 intensity rate of 290 pounds of CO_2 per megawatt of electricity produced was used.[27]

The estimated construction and operational GHG emissions for the Project condition are presented in **Table 13**. The 30-year amortized annual construction related GHG emissions would be 17.2 metric tons of CO_2e. The estimated construction and facility operational GHG emissions are 948 metric tons of CO_2e, which is below the BAAQMD threshold of 1,100 metric tons. The GHG construction and operational emissions would be 1.2 metric tons per service population (approximately 800 employees) per year, which is below the BAAQMD threshold of 4.6 metric tons per service population. Thus, the Project condition's impacts on climate change would be less than significant.

The estimated GHG construction and operational emissions for all Variant conditions except Variant 3 is below the BAAQMD threshold of 1,100 metric tons. The estimated GHG construction and operational emissions for Variant 3 is 1,102 metric tons and thus, potentially greater than the BAAQMD *Brightline* threshold of 1,100 metric tons. However, the GHG emissions per service population for Variant 3 would be below the BAAQMD *Efficiency* threshold. Thus, the Variant condition's impacts on climate change would be less than significant. **Attachment A: CalEEMod Output Files** contains detailed operational GHG emissions inventory results for the Project and Variant conditions.

[27] Greenhouse Gas Emission Factors: Guidance for PG&E Customers, November 2015, http://www.pge.com/includes/docs/pdfs/shared/environment/calculator/pge_ghg_emission_factor_info_sheet.pdf

Table A-13: Annual Greenhouse Gas Emissions (metric tons)

Condition	Annual CO_2e Metric Tons	Potentially Significant?
Total Emissions		
Project	948	No
Variant 1	1,022	No
Variant 2	1,028	No
Variant 3	1,102	**Yes**
Variant 4	898	No
Variant 5	835	No
BAAQMD Brightline Threshold	1,100	
Total Emissions per Service Population		
Project	1.2	No
Variant 1	1.3	No
Variant 2	1.3	No
Variant 3	1.4	No
Variant 4	1.1	No
Variant 5	1.0	No
BAAQMD Efficiency Threshold	4.6	

SOURCE: CARB CalEEMod Version 2013.2.2 and USEPA AP 42 Section 3.4

The SFGH project's energy demand would be typical for a development of this scope and nature. The proposed research building would comply with current State codes concerning energy consumption, including Title 24 of the California Code of Regulations. The proposed parking garage extension would also comply with current State and local codes concerning energy consumption, including the City's Green Building Ordinance.

In addition, the proposed research building would comply with the UC Policy on Sustainable Practices,[28] which requires new construction meet a minimum standard of LEED-NC Silver and strive for LEED-NC Gold when possible, requires 20 percent better energy performance than Title 24 (and strives to achieve 30 percent), and requires new laboratory buildings meet Labs21 Environmental Performance Criteria. The proposed research building would also be designed to incorporate water-conserving measures, such as installing low-flush toilets and urinals, as required by Chapter 4 of the California Plumbing Code.

[28] The Sustainable Practices Policy establishes goals in nine areas of sustainable practices: green building, clean energy, transportation, climate protection, sustainable operations, waste reduction and recycling, environmentally preferable purchasing, sustainable foodservice, sustainable water systems. University of California – Sustainable Practices, June 22, 2015, http://policy.ucop.edu/doc/3100155/SustainablePractices

IMPACT GHG-2: *Would the proposed project conflict with implementation of State, Air District, County, and City goals for reducing GHG emissions?* **Less than Significant Impact**

The City of San Francisco has adopted a Climate Action Plan (CAP)[29] regarding the reduction of GHG emissions. The proposed project would result in a significant impact if it would be in conflict with AB 32 State goals and the goals, policies, and measures of the applicable CAP for reducing GHG emissions. The assumption is that AB 32 and the CAP will be successful in reducing GHG emissions and reducing the cumulative GHG emissions statewide by 2020. The City and State have taken these measures, because no project individually could have a major impact (either positively or negatively) on the global concentration of GHG.

San Francisco has prepared *Strategies to Address Greenhouse Gas Emissions* (GHG Reduction Strategy),[30] which presents a comprehensive assessment of policies, programs, and ordinances that collectively represent San Francisco's *Qualified GHG Reduction Strategy* in compliance with the CEQA Guidelines. The actions outlined in the strategy have resulted in a 14.5 percent reduction in GHG emissions in 2010 compared to 1990 levels, exceeding the year 2020 reduction goals outlined in the BAAQMD's *2010 Clean Air Plan* and Assembly Bill 32. The proposed project has been reviewed relative to the AB 32 measures and San Francisco CAP and it has been determined that the proposed project would not conflict with the goals of AB 32 and the applicable CAP.

The proposed project would be subject to and required to comply with several regulations adopted to reduce GHG emissions as identified in the GHG Reduction Strategy. The regulations that are applicable to the proposed project include the Stormwater Management Ordinance, the Mandatory Recycling and Composting Ordinance, and the Construction and Demolition Debris Recovery Ordinance.

These regulations, as outlined in San Francisco's GHG Reduction Strategy, have proven effective as San Francisco's GHG emissions have been measurably reduced when compared to 1990 emissions levels, demonstrating that the City has met and exceeded EO S-3-05, AB 32, and the BAAQMD's *2010 Clean Air Plan* GHG reduction goals for the year 2020. The proposed project was determined to be consistent with San Francisco's GHG Reduction Strategy. Other existing regulations, such as those implemented through AB 32, will continue to reduce a proposed project's contribution to climate change. Therefore, the proposed project's GHG emissions would not conflict with state, regional, and local GHG reduction plans and regulations, and the proposed project's contribution to GHG emissions would not be cumulatively considerable or generate GHG emissions, either directly or indirectly, that would have a

[29] San Francisco Department of Environment, San Francisco Climate Action Plan, September 2004, http://www.sf-planning.org/ftp/files/MEA/GHG-Reduction_ApxA.pdf

[30] San Francisco Planning Department, Strategies to Address Greenhouse Gas Emissions in San Francisco, 2010, http://sfmea.sfplanning.org/GHG_Reduction_Strategy.pdf

significant impact on the environment. For these reasons, the proposed project would result in a less-than-significant impact related to GHG emissions.

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Attachment A

Construction and Operational Emissions

CalEEMod Output Files

Parking Garage Expansion without Retail
- Annual
- Summer
- Winter

Parking Garage Expansion with Retail
- Annual
- Summer
- Winter

Further Parking Garage Expansion without Retail
- Annual
- Summer
- Winter

Further Parking Garage Expansion with Retail
- Annual
- Summer
- Winter

Research Building with On-Site Parking
- Annual
- Summer
- Winter

Research Building
- Annual
- Summer
- Winter

Detailed Greenhouse Gas Emission Inventories

Generator Emission Inventory

Fume Hood Chemical Inventory

Parking Garage Expansion without Retail

UCSF Parking Garage Expansion 307 Spaces No Retail

San Francisco County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	307.00	Space	0.60	122,800.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	4.6	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E Greenhouse Gas Emission Factors: Guidance for PG&E Customers (November 2015)

Land Use - Building lot is 26,320 square feet

Construction Phase -

Grading - 0.6 acre footprint

Architectural Coating -

Vechicle Emission Factors -

Vechicle Emission Factors -

Vechicle Emission Factors -

Construction Off-road Equipment Mitigation - BAAQMD Enhanced Mitigation Measures

Area Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3

tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblGrading	AcresOfGrading	0.00	0.60
tblGrading	AcresOfGrading	0.50	0.60
tblLandUse	LotAcreage	2.76	0.60
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblProjectCharacteristics	OperationalYear	2014	2020

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	0.7171	0.6807	0.6819	1.1600e-003	0.0321	0.0392	0.0713	8.7900e-003	0.0361	0.0449	0.0000	98.7299	98.7299	0.0184	0.0000	99.1170
Total	**0.7171**	**0.6807**	**0.6819**	**1.1600e-003**	**0.0321**	**0.0392**	**0.0713**	**8.7900e-003**	**0.0361**	**0.0449**	**0.0000**	**98.7299**	**98.7299**	**0.0184**	**0.0000**	**99.1170**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	0.6735	0.4199	0.6908	1.1600e-003	0.0314	4.4500e-003	0.0358	8.5200e-003	4.3400e-003	0.0129	0.0000	98.7298	98.7298	0.0184	0.0000	99.1169
Total	**0.6735**	**0.4199**	**0.6908**	**1.1600e-003**	**0.0314**	**4.4500e-003**	**0.0358**	**8.5200e-003**	**4.3400e-003**	**0.0129**	**0.0000**	**98.7298**	**98.7298**	**0.0184**	**0.0000**	**99.1169**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**6.08**	**38.32**	**-1.31**	**0.00**	**2.37**	**88.65**	**49.80**	**3.07**	**87.98**	**71.36**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.5439	3.0000e-005	2.8400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.4900e-003	5.4900e-003	1.0000e-005	0.0000	5.7900e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	108.8735	108.8735	0.0109	2.2500e-003	109.8004
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.5439**	**3.0000e-005**	**2.8400e-003**	**0.0000**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**108.8789**	**108.8789**	**0.0109**	**2.2500e-003**	**109.8062**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.5439	3.0000e-005	2.8400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.4900e-003	5.4900e-003	1.0000e-005	0.0000	5.7900e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	108.8735	108.8735	0.0109	2.2500e-003	109.8004
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.5439**	**3.0000e-005**	**2.8400e-003**	**0.0000**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**108.8789**	**108.8789**	**0.0109**	**2.2500e-003**	**109.8062**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/2/2018	1/2/2018	5	1	
2	Grading	Grading	1/3/2018	1/4/2018	5	2	
3	Building Construction	Building Construction	1/5/2018	5/24/2018	5	100	
4	Paving	Paving	5/25/2018	5/31/2018	5	5	
5	Architectural Coating	Architectural Coating	6/1/2018	6/7/2018	5	5	

Acres of Grading (Site Preparation Phase): 0.6

Acres of Grading (Grading Phase): 0.6

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 184,200; Non-Residential Outdoor: 61,400 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	174	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Rubber Tired Dozers	1	1.00	255	0.40
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Building Construction	Cranes	1	4.00	226	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Paving	Pavers	1	7.00	125	0.42
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	2	5.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	52.00	20.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	10.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Water Exposed Area

3.2 Site Preparation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.2000e-004	0.0000	3.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.5000e-004	5.4700e-003	3.5000e-003	0.0000		3.3000e-004	3.3000e-004		3.0000e-004	3.0000e-004	0.0000	0.4257	0.4257	1.3000e-004	0.0000	0.4285
Total	**5.5000e-004**	**5.4700e-003**	**3.5000e-003**	**0.0000**	**3.2000e-004**	**3.3000e-004**	**6.5000e-004**	**3.0000e-005**	**3.0000e-004**	**3.3000e-004**	**0.0000**	**0.4257**	**0.4257**	**1.3000e-004**	**0.0000**	**0.4285**

3.2 Site Preparation - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	1.0000e-005	1.0000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0209	0.0209	0.0000	0.0000	0.0210
Total	**1.0000e-005**	**1.0000e-005**	**1.0000e-004**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0209**	**0.0209**	**0.0000**	**0.0000**	**0.0210**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.4000e-004	0.0000	1.4000e-004	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.1000e-004	2.3300e-003	3.5000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.4257	0.4257	1.3000e-004	0.0000	0.4285
Total	**1.1000e-004**	**2.3300e-003**	**3.5000e-003**	**0.0000**	**1.4000e-004**	**2.0000e-005**	**1.6000e-004**	**2.0000e-005**	**2.0000e-005**	**4.0000e-005**	**0.0000**	**0.4257**	**0.4257**	**1.3000e-004**	**0.0000**	**0.4285**

3.2 Site Preparation - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	1.0000e-005	1.0000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0209	0.0209	0.0000	0.0000	0.0210
Total	**1.0000e-005**	**1.0000e-005**	**1.0000e-004**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0209**	**0.0209**	**0.0000**	**0.0000**	**0.0210**

3.3 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.0700e-003	0.0000	1.0700e-003	4.5000e-004	0.0000	4.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0500e-003	9.3200e-003	8.3500e-003	1.0000e-005		6.1000e-004	6.1000e-004		5.9000e-004	5.9000e-004	0.0000	1.0649	1.0649	2.1000e-004	0.0000	1.0692
Total	**1.0500e-003**	**9.3200e-003**	**8.3500e-003**	**1.0000e-005**	**1.0700e-003**	**6.1000e-004**	**1.6800e-003**	**4.5000e-004**	**5.9000e-004**	**1.0400e-003**	**0.0000**	**1.0649**	**1.0649**	**2.1000e-004**	**0.0000**	**1.0692**

3.3 Grading - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-005	4.0000e-005	4.1000e-004	0.0000	9.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0837	0.0837	0.0000	0.0000	0.0838
Total	**3.0000e-005**	**4.0000e-005**	**4.1000e-004**	**0.0000**	**9.0000e-005**	**0.0000**	**9.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0837**	**0.0837**	**0.0000**	**0.0000**	**0.0838**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					4.8000e-004	0.0000	4.8000e-004	2.0000e-004	0.0000	2.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.7000e-004	5.9800e-003	7.9600e-003	1.0000e-005		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	1.0649	1.0649	2.1000e-004	0.0000	1.0692
Total	**2.7000e-004**	**5.9800e-003**	**7.9600e-003**	**1.0000e-005**	**4.8000e-004**	**6.0000e-005**	**5.4000e-004**	**2.0000e-004**	**6.0000e-005**	**2.6000e-004**	**0.0000**	**1.0649**	**1.0649**	**2.1000e-004**	**0.0000**	**1.0692**

3.3 Grading - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-005	4.0000e-005	4.1000e-004	0.0000	9.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0837	0.0837	0.0000	0.0000	0.0838
Total	**3.0000e-005**	**4.0000e-005**	**4.1000e-004**	**0.0000**	**9.0000e-005**	**0.0000**	**9.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0837**	**0.0837**	**0.0000**	**0.0000**	**0.0838**

3.4 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0539	0.5479	0.3862	5.7000e-004		0.0353	0.0353		0.0325	0.0325	0.0000	51.7208	51.7208	0.0161	0.0000	52.0589
Total	**0.0539**	**0.5479**	**0.3862**	**5.7000e-004**		**0.0353**	**0.0353**		**0.0325**	**0.0325**	**0.0000**	**51.7208**	**51.7208**	**0.0161**	**0.0000**	**52.0589**

3.4 Building Construction - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0102	0.0805	0.1518	2.3000e-004	6.3900e-003	1.1300e-003	7.5200e-003	1.8300e-003	1.0400e-003	2.8700e-003	0.0000	20.0287	20.0287	1.5000e-004	0.0000	20.0319
Worker	7.7300e-003	0.0106	0.1062	3.1000e-004	0.0236	2.1000e-004	0.0238	6.2700e-003	1.9000e-004	6.4600e-003	0.0000	21.7697	21.7697	1.0700e-003	0.0000	21.7923
Total	**0.0180**	**0.0911**	**0.2580**	**5.4000e-004**	**0.0300**	**1.3400e-003**	**0.0313**	**8.1000e-003**	**1.2300e-003**	**9.3300e-003**	**0.0000**	**41.7984**	**41.7984**	**1.2200e-003**	**0.0000**	**41.8242**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0139	0.3050	0.3965	5.7000e-004		2.8800e-003	2.8800e-003		2.8800e-003	2.8800e-003	0.0000	51.7208	51.7208	0.0161	0.0000	52.0589
Total	**0.0139**	**0.3050**	**0.3965**	**5.7000e-004**		**2.8800e-003**	**2.8800e-003**		**2.8800e-003**	**2.8800e-003**	**0.0000**	**51.7208**	**51.7208**	**0.0161**	**0.0000**	**52.0589**

3.4 Building Construction - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0102	0.0805	0.1518	2.3000e-004	6.3900e-003	1.1300e-003	7.5200e-003	1.8300e-003	1.0400e-003	2.8700e-003	0.0000	20.0287	20.0287	1.5000e-004	0.0000	20.0319
Worker	7.7300e-003	0.0106	0.1062	3.1000e-004	0.0236	2.1000e-004	0.0238	6.2700e-003	1.9000e-004	6.4600e-003	0.0000	21.7697	21.7697	1.0700e-003	0.0000	21.7923
Total	**0.0180**	**0.0911**	**0.2580**	**5.4000e-004**	**0.0300**	**1.3400e-003**	**0.0313**	**8.1000e-003**	**1.2300e-003**	**9.3300e-003**	**0.0000**	**41.7984**	**41.7984**	**1.2200e-003**	**0.0000**	**41.8242**

3.5 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.2700e-003	0.0216	0.0178	3.0000e-005		1.2600e-003	1.2600e-003		1.1700e-003	1.1700e-003	0.0000	2.3909	2.3909	6.7000e-004	0.0000	2.4051
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.2700e-003**	**0.0216**	**0.0178**	**3.0000e-005**		**1.2600e-003**	**1.2600e-003**		**1.1700e-003**	**1.1700e-003**	**0.0000**	**2.3909**	**2.3909**	**6.7000e-004**	**0.0000**	**2.4051**

3.5 Paving - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3000e-004	1.8000e-004	1.8400e-003	1.0000e-005	4.1000e-004	0.0000	4.1000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3768	0.3768	2.0000e-005	0.0000	0.3772
Total	**1.3000e-004**	**1.8000e-004**	**1.8400e-003**	**1.0000e-005**	**4.1000e-004**	**0.0000**	**4.1000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.3768**	**0.3768**	**2.0000e-005**	**0.0000**	**0.3772**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.5000e-004	0.0117	0.0170	3.0000e-005		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004	0.0000	2.3909	2.3909	6.7000e-004	0.0000	2.4051
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.5000e-004**	**0.0117**	**0.0170**	**3.0000e-005**		**1.1000e-004**	**1.1000e-004**		**1.1000e-004**	**1.1000e-004**	**0.0000**	**2.3909**	**2.3909**	**6.7000e-004**	**0.0000**	**2.4051**

3.5 Paving - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3000e-004	1.8000e-004	1.8400e-003	1.0000e-005	4.1000e-004	0.0000	4.1000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3768	0.3768	2.0000e-005	0.0000	0.3772
Total	**1.3000e-004**	**1.8000e-004**	**1.8400e-003**	**1.0000e-005**	**4.1000e-004**	**0.0000**	**4.1000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.3768**	**0.3768**	**2.0000e-005**	**0.0000**	**0.3772**

3.6 Architectural Coating - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.6403					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.5000e-004	5.0100e-003	4.6400e-003	1.0000e-005		3.8000e-004	3.8000e-004		3.8000e-004	3.8000e-004	0.0000	0.6383	0.6383	6.0000e-005	0.0000	0.6396
Total	**0.6411**	**5.0100e-003**	**4.6400e-003**	**1.0000e-005**		**3.8000e-004**	**3.8000e-004**		**3.8000e-004**	**3.8000e-004**	**0.0000**	**0.6383**	**0.6383**	**6.0000e-005**	**0.0000**	**0.6396**

3.6 Architectural Coating - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.0000e-005	1.0000e-004	1.0200e-003	0.0000	2.3000e-004	0.0000	2.3000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.2093	0.2093	1.0000e-005	0.0000	0.2095
Total	**7.0000e-005**	**1.0000e-004**	**1.0200e-003**	**0.0000**	**2.3000e-004**	**0.0000**	**2.3000e-004**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**0.0000**	**0.2093**	**0.2093**	**1.0000e-005**	**0.0000**	**0.2095**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.6403					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.5000e-004	3.3900e-003	4.5800e-003	1.0000e-005		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.6383	0.6383	6.0000e-005	0.0000	0.6396
Total	**0.6405**	**3.3900e-003**	**4.5800e-003**	**1.0000e-005**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**	**0.0000**	**0.6383**	**0.6383**	**6.0000e-005**	**0.0000**	**0.6396**

3.6 Architectural Coating - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.0000e-005	1.0000e-004	1.0200e-003	0.0000	2.3000e-004	0.0000	2.3000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.2093	0.2093	1.0000e-005	0.0000	0.2095
Total	**7.0000e-005**	**1.0000e-004**	**1.0200e-003**	**0.0000**	**2.3000e-004**	**0.0000**	**2.3000e-004**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**0.0000**	**0.2093**	**0.2093**	**1.0000e-005**	**0.0000**	**0.2095**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.631289	0.058518	0.148045	0.077273	0.026007	0.003276	0.026188	0.004043	0.003129	0.010899	0.010305	0.000529	0.000500

4.4 Fleet Mix

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	108.8735	108.8735	0.0109	2.2500e-003	109.8004
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	108.8735	108.8735	0.0109	2.2500e-003	109.8004
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	827672	108.8735	0.0109	2.2500e-003	109.8004
Total		**108.8735**	**0.0109**	**2.2500e-003**	**109.8004**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	827672	108.8735	0.0109	2.2500e-003	109.8004
Total		**108.8735**	**0.0109**	**2.2500e-003**	**109.8004**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.5439	3.0000e-005	2.8400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.4900e-003	5.4900e-003	1.0000e-005	0.0000	5.7900e-003
Unmitigated	0.5439	3.0000e-005	2.8400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.4900e-003	5.4900e-003	1.0000e-005	0.0000	5.7900e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0640					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.4796					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.7000e-004	3.0000e-005	2.8400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.4900e-003	5.4900e-003	1.0000e-005	0.0000	5.7900e-003
Total	**0.5439**	**3.0000e-005**	**2.8400e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**5.4900e-003**	**5.4900e-003**	**1.0000e-005**	**0.0000**	**5.7900e-003**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0640					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.4796					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.7000e-004	3.0000e-005	2.8400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.4900e-003	5.4900e-003	1.0000e-005	0.0000	5.7900e-003
Total	**0.5439**	**3.0000e-005**	**2.8400e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**5.4900e-003**	**5.4900e-003**	**1.0000e-005**	**0.0000**	**5.7900e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/ Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Indoor/ Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

UCSF Parking Garage Expansion 307 Spaces No Retail

San Francisco County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	307.00	Space	0.60	122,800.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	4.6	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E Greenhouse Gas Emission Factors: Guidance for PG&E Customers (November 2015)

Land Use - Building lot is 26,320 square feet

Construction Phase -

Grading - 0.6 acre footprint

Architectural Coating -

Vechicle Emission Factors -

Vechicle Emission Factors -

Vechicle Emission Factors -

Construction Off-road Equipment Mitigation - BAAQMD Enhanced Mitigation Measures

Area Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3

tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblGrading	AcresOfGrading	0.00	0.60
tblGrading	AcresOfGrading	0.50	0.60
tblLandUse	LotAcreage	2.76	0.60
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblProjectCharacteristics	OperationalYear	2014	2020

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	256.4596	12.6899	12.3434	0.0224	1.1652	0.7321	1.7799	0.4731	0.6735	1.0601	0.0000	2,092.5072	2,092.5072	0.3820	0.0000	2,100.5283
Total	**256.4596**	**12.6899**	**12.3434**	**0.0224**	**1.1652**	**0.7321**	**1.7799**	**0.4731**	**0.6735**	**1.0601**	**0.0000**	**2,092.5072**	**2,092.5072**	**0.3820**	**0.0000**	**2,100.5283**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	256.2204	7.8321	12.5487	0.0224	0.6224	0.0843	0.7067	0.2267	0.0821	0.2878	0.0000	2,092.5072	2,092.5072	0.3820	0.0000	2,100.5283
Total	**256.2204**	**7.8321**	**12.5487**	**0.0224**	**0.6224**	**0.0843**	**0.7067**	**0.2267**	**0.0821**	**0.2878**	**0.0000**	**2,092.5072**	**2,092.5072**	**0.3820**	**0.0000**	**2,100.5283**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.09**	**38.28**	**-1.66**	**0.00**	**46.58**	**88.49**	**60.30**	**52.09**	**87.80**	**72.86**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.9818	2.9000e-004	0.0316	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		0.0672	0.0672	1.8000e-004		0.0710
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**2.9818**	**2.9000e-004**	**0.0316**	**0.0000**	**0.0000**	**1.1000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**1.1000e-004**		**0.0672**	**0.0672**	**1.8000e-004**	**0.0000**	**0.0710**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.9818	2.9000e-004	0.0316	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		0.0672	0.0672	1.8000e-004		0.0710
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**2.9818**	**2.9000e-004**	**0.0316**	**0.0000**	**0.0000**	**1.1000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**1.1000e-004**		**0.0672**	**0.0672**	**1.8000e-004**	**0.0000**	**0.0710**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/2/2018	1/2/2018	5	1	
2	Grading	Grading	1/3/2018	1/4/2018	5	2	
3	Building Construction	Building Construction	1/5/2018	5/24/2018	5	100	
4	Paving	Paving	5/25/2018	5/31/2018	5	5	
5	Architectural Coating	Architectural Coating	6/1/2018	6/7/2018	5	5	

Acres of Grading (Site Preparation Phase): 0.6

Acres of Grading (Grading Phase): 0.6

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 184,200; Non-Residential Outdoor: 61,400 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	174	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Rubber Tired Dozers	1	1.00	255	0.40
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Building Construction	Cranes	1	4.00	226	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Paving	Pavers	1	7.00	125	0.42
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	2	5.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	52.00	20.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	10.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Water Exposed Area

3.2 Site Preparation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.6363	0.0000	0.6363	0.0687	0.0000	0.0687			0.0000			0.0000
Off-Road	1.0983	10.9398	7.0042	9.3200e-003		0.6535	0.6535		0.6012	0.6012		938.5863	938.5863	0.2922		944.7224
Total	**1.0983**	**10.9398**	**7.0042**	**9.3200e-003**	**0.6363**	**0.6535**	**1.2898**	**0.0687**	**0.6012**	**0.6699**		**938.5863**	**938.5863**	**0.2922**		**944.7224**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0155	0.0178	0.2154	6.3000e-004	0.0472	3.9000e-004	0.0476	0.0125	3.7000e-004	0.0129		48.9623	48.9623	2.2700e-003		49.0101
Total	**0.0155**	**0.0178**	**0.2154**	**6.3000e-004**	**0.0472**	**3.9000e-004**	**0.0476**	**0.0125**	**3.7000e-004**	**0.0129**		**48.9623**	**48.9623**	**2.2700e-003**		**49.0101**

3.2 Site Preparation - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2863	0.0000	0.2863	0.0309	0.0000	0.0309			0.0000			0.0000
Off-Road	0.2270	4.6535	6.9975	9.3200e-003		0.0394	0.0394		0.0394	0.0394	0.0000	938.5863	938.5863	0.2922		944.7224
Total	**0.2270**	**4.6535**	**6.9975**	**9.3200e-003**	**0.2863**	**0.0394**	**0.3257**	**0.0309**	**0.0394**	**0.0703**	**0.0000**	**938.5863**	**938.5863**	**0.2922**		**944.7224**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0155	0.0178	0.2154	6.3000e-004	0.0472	3.9000e-004	0.0476	0.0125	3.7000e-004	0.0129		48.9623	48.9623	2.2700e-003		49.0101
Total	**0.0155**	**0.0178**	**0.2154**	**6.3000e-004**	**0.0472**	**3.9000e-004**	**0.0476**	**0.0125**	**3.7000e-004**	**0.0129**		**48.9623**	**48.9623**	**2.2700e-003**		**49.0101**

3.3 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.0709	0.0000	1.0709	0.4481	0.0000	0.4481			0.0000			0.0000
Off-Road	1.0530	9.3216	8.3495	0.0120		0.6139	0.6139		0.5862	0.5862		1,173.8565	1,173.8565	0.2268		1,178.6197
Total	**1.0530**	**9.3216**	**8.3495**	**0.0120**	**1.0709**	**0.6139**	**1.6849**	**0.4481**	**0.5862**	**1.0343**		**1,173.8565**	**1,173.8565**	**0.2268**		**1,178.6197**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0309	0.0355	0.4309	1.2600e-003	0.0943	7.9000e-004	0.0951	0.0250	7.3000e-004	0.0257		97.9247	97.9247	4.5500e-003		98.0202
Total	**0.0309**	**0.0355**	**0.4309**	**1.2600e-003**	**0.0943**	**7.9000e-004**	**0.0951**	**0.0250**	**7.3000e-004**	**0.0257**		**97.9247**	**97.9247**	**4.5500e-003**		**98.0202**

3.3 Grading - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.4819	0.0000	0.4819	0.2017	0.0000	0.2017			0.0000			0.0000
Off-Road	0.2661	5.9808	7.9564	0.0120		0.0604	0.0604		0.0604	0.0604	0.0000	1,173.8565	1,173.8565	0.2268		1,178.6197
Total	**0.2661**	**5.9808**	**7.9564**	**0.0120**	**0.4819**	**0.0604**	**0.5423**	**0.2017**	**0.0604**	**0.2620**	**0.0000**	**1,173.8565**	**1,173.8565**	**0.2268**		**1,178.6197**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0309	0.0355	0.4309	1.2600e-003	0.0943	7.9000e-004	0.0951	0.0250	7.3000e-004	0.0257		97.9247	97.9247	4.5500e-003		98.0202
Total	**0.0309**	**0.0355**	**0.4309**	**1.2600e-003**	**0.0943**	**7.9000e-004**	**0.0951**	**0.0250**	**7.3000e-004**	**0.0257**		**97.9247**	**97.9247**	**4.5500e-003**		**98.0202**

3.4 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0786	10.9578	7.7239	0.0113		0.7055	0.7055		0.6491	0.6491		1,140.2487	1,140.2487	0.3550		1,147.7032
Total	**1.0786**	**10.9578**	**7.7239**	**0.0113**		**0.7055**	**0.7055**		**0.6491**	**0.6491**		**1,140.2487**	**1,140.2487**	**0.3550**		**1,147.7032**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1830	1.5474	2.3791	4.5700e-003	0.1320	0.0225	0.1545	0.0377	0.0207	0.0583		443.0502	443.0502	3.3300e-003		443.1202
Worker	0.1607	0.1848	2.2404	6.5400e-003	0.4904	4.1000e-003	0.4945	0.1301	3.8000e-003	0.1339		509.2083	509.2083	0.0237		509.7049
Total	**0.3438**	**1.7321**	**4.6195**	**0.0111**	**0.6224**	**0.0266**	**0.6490**	**0.1677**	**0.0245**	**0.1922**		**952.2585**	**952.2585**	**0.0270**		**952.8251**

3.4 Building Construction - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2778	6.1000	7.9292	0.0113		0.0577	0.0577		0.0577	0.0577	0.0000	1,140.2487	1,140.2487	0.3550		1,147.7032
Total	**0.2778**	**6.1000**	**7.9292**	**0.0113**		**0.0577**	**0.0577**		**0.0577**	**0.0577**	**0.0000**	**1,140.2487**	**1,140.2487**	**0.3550**		**1,147.7032**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1830	1.5474	2.3791	4.5700e-003	0.1320	0.0225	0.1545	0.0377	0.0207	0.0583		443.0502	443.0502	3.3300e-003		443.1202
Worker	0.1607	0.1848	2.2404	6.5400e-003	0.4904	4.1000e-003	0.4945	0.1301	3.8000e-003	0.1339		509.2083	509.2083	0.0237		509.7049
Total	**0.3438**	**1.7321**	**4.6195**	**0.0111**	**0.6224**	**0.0266**	**0.6490**	**0.1677**	**0.0245**	**0.1922**		**952.2585**	**952.2585**	**0.0270**		**952.8251**

3.5 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9092	8.6233	7.1255	0.0111		0.5050	0.5050		0.4681	0.4681		1,054.2145	1,054.2145	0.2968		1,060.4462
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9092**	**8.6233**	**7.1255**	**0.0111**		**0.5050**	**0.5050**		**0.4681**	**0.4681**		**1,054.2145**	**1,054.2145**	**0.2968**		**1,060.4462**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0556	0.0640	0.7755	2.2600e-003	0.1698	1.4200e-003	0.1712	0.0450	1.3100e-003	0.0463		176.2644	176.2644	8.1900e-003		176.4363
Total	**0.0556**	**0.0640**	**0.7755**	**2.2600e-003**	**0.1698**	**1.4200e-003**	**0.1712**	**0.0450**	**1.3100e-003**	**0.0463**		**176.2644**	**176.2644**	**8.1900e-003**		**176.4363**

3.5 Paving - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2200	4.6827	6.7829	0.0111		0.0431	0.0431		0.0431	0.0431	0.0000	1,054.2145	1,054.2145	0.2968		1,060.4462
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.2200**	**4.6827**	**6.7829**	**0.0111**		**0.0431**	**0.0431**		**0.0431**	**0.0431**	**0.0000**	**1,054.2145**	**1,054.2145**	**0.2968**		**1,060.4462**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0556	0.0640	0.7755	2.2600e-003	0.1698	1.4200e-003	0.1712	0.0450	1.3100e-003	0.0463		176.2644	176.2644	8.1900e-003		176.4363
Total	**0.0556**	**0.0640**	**0.7755**	**2.2600e-003**	**0.1698**	**1.4200e-003**	**0.1712**	**0.0450**	**1.3100e-003**	**0.0463**		**176.2644**	**176.2644**	**8.1900e-003**		**176.4363**

3.6 Architectural Coating - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	256.1301					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506		281.4485	281.4485	0.0267		282.0102
Total	**256.4287**	**2.0058**	**1.8542**	**2.9700e-003**		**0.1506**	**0.1506**		**0.1506**	**0.1506**		**281.4485**	**281.4485**	**0.0267**		**282.0102**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0309	0.0355	0.4309	1.2600e-003	0.0943	7.9000e-004	0.0951	0.0250	7.3000e-004	0.0257		97.9247	97.9247	4.5500e-003		98.0202
Total	**0.0309**	**0.0355**	**0.4309**	**1.2600e-003**	**0.0943**	**7.9000e-004**	**0.0951**	**0.0250**	**7.3000e-004**	**0.0257**		**97.9247**	**97.9247**	**4.5500e-003**		**98.0202**

3.6 Architectural Coating - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	256.1301					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0594	1.3570	1.8324	2.9700e-003		0.0143	0.0143		0.0143	0.0143	0.0000	281.4485	281.4485	0.0267		282.0102
Total	**256.1895**	**1.3570**	**1.8324**	**2.9700e-003**		**0.0143**	**0.0143**		**0.0143**	**0.0143**	**0.0000**	**281.4485**	**281.4485**	**0.0267**		**282.0102**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0309	0.0355	0.4309	1.2600e-003	0.0943	7.9000e-004	0.0951	0.0250	7.3000e-004	0.0257		97.9247	97.9247	4.5500e-003		98.0202
Total	**0.0309**	**0.0355**	**0.4309**	**1.2600e-003**	**0.0943**	**7.9000e-004**	**0.0951**	**0.0250**	**7.3000e-004**	**0.0257**		**97.9247**	**97.9247**	**4.5500e-003**		**98.0202**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.631289	0.058518	0.148045	0.077273	0.026007	0.003276	0.026188	0.004043	0.003129	0.010899	0.010305	0.000529	0.000500

4.4 Fleet Mix

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.9818	2.9000e-004	0.0316	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		0.0672	0.0672	1.8000e-004		0.0710
Unmitigated	2.9818	2.9000e-004	0.0316	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		0.0672	0.0672	1.8000e-004		0.0710

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.3509					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.6279					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.9700e-003	2.9000e-004	0.0316	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		0.0672	0.0672	1.8000e-004		0.0710
Total	**2.9818**	**2.9000e-004**	**0.0316**	**0.0000**		**1.1000e-004**	**1.1000e-004**		**1.1000e-004**	**1.1000e-004**		**0.0672**	**0.0672**	**1.8000e-004**		**0.0710**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.3509					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.6279					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.9700e-003	2.9000e-004	0.0316	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		0.0672	0.0672	1.8000e-004		0.0710
Total	**2.9818**	**2.9000e-004**	**0.0316**	**0.0000**		**1.1000e-004**	**1.1000e-004**		**1.1000e-004**	**1.1000e-004**		**0.0672**	**0.0672**	**1.8000e-004**		**0.0710**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

UCSF Parking Garage Expansion 307 Spaces No Retail

San Francisco County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	307.00	Space	0.60	122,800.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	4.6	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E Greenhouse Gas Emission Factors: Guidance for PG&E Customers (November 2015)

Land Use - Building lot is 26,320 square feet

Construction Phase -

Grading - 0.6 acre footprint

Architectural Coating -

Vechicle Emission Factors -

Vechicle Emission Factors -

Vechicle Emission Factors -

Construction Off-road Equipment Mitigation - BAAQMD Enhanced Mitigation Measures

Area Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3

tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblGrading	AcresOfGrading	0.00	0.60
tblGrading	AcresOfGrading	0.50	0.60
tblLandUse	LotAcreage	2.76	0.60
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblProjectCharacteristics	OperationalYear	2014	2020

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	256.4607	12.8159	13.4439	0.0220	1.1652	0.7323	1.7799	0.4731	0.6738	1.0601	0.0000	2,058.6585	2,058.6585	0.3821	0.0000	2,066.6817
Total	**256.4607**	**12.8159**	**13.4439**	**0.0220**	**1.1652**	**0.7323**	**1.7799**	**0.4731**	**0.6738**	**1.0601**	**0.0000**	**2,058.6585**	**2,058.6585**	**0.3821**	**0.0000**	**2,066.6817**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	256.2215	7.9581	13.6492	0.0220	0.6224	0.0845	0.7069	0.2267	0.0824	0.2878	0.0000	2,058.6585	2,058.6585	0.3821	0.0000	2,066.6817
Total	**256.2215**	**7.9581**	**13.6492**	**0.0220**	**0.6224**	**0.0845**	**0.7069**	**0.2267**	**0.0824**	**0.2878**	**0.0000**	**2,058.6585**	**2,058.6585**	**0.3821**	**0.0000**	**2,066.6817**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.09**	**37.90**	**-1.53**	**0.00**	**46.58**	**88.46**	**60.28**	**52.09**	**87.78**	**72.86**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.9818	2.9000e-004	0.0316	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		0.0672	0.0672	1.8000e-004		0.0710
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**2.9818**	**2.9000e-004**	**0.0316**	**0.0000**	**0.0000**	**1.1000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**1.1000e-004**		**0.0672**	**0.0672**	**1.8000e-004**	**0.0000**	**0.0710**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.9818	2.9000e-004	0.0316	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		0.0672	0.0672	1.8000e-004		0.0710
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**2.9818**	**2.9000e-004**	**0.0316**	**0.0000**	**0.0000**	**1.1000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**1.1000e-004**		**0.0672**	**0.0672**	**1.8000e-004**	**0.0000**	**0.0710**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/2/2018	1/2/2018	5	1	
2	Grading	Grading	1/3/2018	1/4/2018	5	2	
3	Building Construction	Building Construction	1/5/2018	5/24/2018	5	100	
4	Paving	Paving	5/25/2018	5/31/2018	5	5	
5	Architectural Coating	Architectural Coating	6/1/2018	6/7/2018	5	5	

Acres of Grading (Site Preparation Phase): 0.6

Acres of Grading (Grading Phase): 0.6

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 184,200; Non-Residential Outdoor: 61,400 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	174	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Rubber Tired Dozers	1	1.00	255	0.40
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Building Construction	Cranes	1	4.00	226	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Paving	Pavers	1	7.00	125	0.42
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	2	5.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	52.00	20.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	10.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Water Exposed Area

3.2 Site Preparation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.6363	0.0000	0.6363	0.0687	0.0000	0.0687			0.0000			0.0000
Off-Road	1.0983	10.9398	7.0042	9.3200e-003		0.6535	0.6535		0.6012	0.6012		938.5863	938.5863	0.2922		944.7224
Total	**1.0983**	**10.9398**	**7.0042**	**9.3200e-003**	**0.6363**	**0.6535**	**1.2898**	**0.0687**	**0.6012**	**0.6699**		**938.5863**	**938.5863**	**0.2922**		**944.7224**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0160	0.0220	0.2105	5.9000e-004	0.0472	3.9000e-004	0.0476	0.0125	3.7000e-004	0.0129		46.0494	46.0494	2.2700e-003		46.0972
Total	**0.0160**	**0.0220**	**0.2105**	**5.9000e-004**	**0.0472**	**3.9000e-004**	**0.0476**	**0.0125**	**3.7000e-004**	**0.0129**		**46.0494**	**46.0494**	**2.2700e-003**		**46.0972**

3.2 Site Preparation - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2863	0.0000	0.2863	0.0309	0.0000	0.0309			0.0000			0.0000
Off-Road	0.2270	4.6535	6.9975	9.3200e-003		0.0394	0.0394		0.0394	0.0394	0.0000	938.5863	938.5863	0.2922		944.7224
Total	**0.2270**	**4.6535**	**6.9975**	**9.3200e-003**	**0.2863**	**0.0394**	**0.3257**	**0.0309**	**0.0394**	**0.0703**	**0.0000**	**938.5863**	**938.5863**	**0.2922**		**944.7224**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0160	0.0220	0.2105	5.9000e-004	0.0472	3.9000e-004	0.0476	0.0125	3.7000e-004	0.0129		46.0494	46.0494	2.2700e-003		46.0972
Total	**0.0160**	**0.0220**	**0.2105**	**5.9000e-004**	**0.0472**	**3.9000e-004**	**0.0476**	**0.0125**	**3.7000e-004**	**0.0129**		**46.0494**	**46.0494**	**2.2700e-003**		**46.0972**

3.3 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.0709	0.0000	1.0709	0.4481	0.0000	0.4481			0.0000			0.0000
Off-Road	1.0530	9.3216	8.3495	0.0120		0.6139	0.6139		0.5862	0.5862		1,173.8565	1,173.8565	0.2268		1,178.6197
Total	**1.0530**	**9.3216**	**8.3495**	**0.0120**	**1.0709**	**0.6139**	**1.6849**	**0.4481**	**0.5862**	**1.0343**		**1,173.8565**	**1,173.8565**	**0.2268**		**1,178.6197**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0320	0.0440	0.4211	1.1800e-003	0.0943	7.9000e-004	0.0951	0.0250	7.3000e-004	0.0257		92.0988	92.0988	4.5500e-003		92.1943
Total	**0.0320**	**0.0440**	**0.4211**	**1.1800e-003**	**0.0943**	**7.9000e-004**	**0.0951**	**0.0250**	**7.3000e-004**	**0.0257**		**92.0988**	**92.0988**	**4.5500e-003**		**92.1943**

3.3 Grading - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.4819	0.0000	0.4819	0.2017	0.0000	0.2017			0.0000			0.0000
Off-Road	0.2661	5.9808	7.9564	0.0120		0.0604	0.0604		0.0604	0.0604	0.0000	1,173.8565	1,173.8565	0.2268		1,178.6197
Total	**0.2661**	**5.9808**	**7.9564**	**0.0120**	**0.4819**	**0.0604**	**0.5423**	**0.2017**	**0.0604**	**0.2620**	**0.0000**	**1,173.8565**	**1,173.8565**	**0.2268**		**1,178.6197**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0320	0.0440	0.4211	1.1800e-003	0.0943	7.9000e-004	0.0951	0.0250	7.3000e-004	0.0257		92.0988	92.0988	4.5500e-003		92.1943
Total	**0.0320**	**0.0440**	**0.4211**	**1.1800e-003**	**0.0943**	**7.9000e-004**	**0.0951**	**0.0250**	**7.3000e-004**	**0.0257**		**92.0988**	**92.0988**	**4.5500e-003**		**92.1943**

3.4 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0786	10.9578	7.7239	0.0113		0.7055	0.7055		0.6491	0.6491		1,140.2487	1,140.2487	0.3550		1,147.7032
Total	**1.0786**	**10.9578**	**7.7239**	**0.0113**		**0.7055**	**0.7055**		**0.6491**	**0.6491**		**1,140.2487**	**1,140.2487**	**0.3550**		**1,147.7032**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2231	1.6292	3.5304	4.5500e-003	0.1320	0.0227	0.1548	0.0377	0.0209	0.0586		439.4961	439.4961	3.4300e-003		439.5681
Worker	0.1663	0.2290	2.1896	6.1500e-003	0.4904	4.1000e-003	0.4945	0.1301	3.8000e-003	0.1339		478.9137	478.9137	0.0237		479.4103
Total	**0.3894**	**1.8582**	**5.7200**	**0.0107**	**0.6224**	**0.0268**	**0.6493**	**0.1677**	**0.0247**	**0.1924**		**918.4098**	**918.4098**	**0.0271**		**918.9785**

3.4 Building Construction - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2778	6.1000	7.9292	0.0113		0.0577	0.0577		0.0577	0.0577	0.0000	1,140.2487	1,140.2487	0.3550		1,147.7032
Total	**0.2778**	**6.1000**	**7.9292**	**0.0113**		**0.0577**	**0.0577**		**0.0577**	**0.0577**	**0.0000**	**1,140.2487**	**1,140.2487**	**0.3550**		**1,147.7032**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2231	1.6292	3.5304	4.5500e-003	0.1320	0.0227	0.1548	0.0377	0.0209	0.0586		439.4961	439.4961	3.4300e-003		439.5681
Worker	0.1663	0.2290	2.1896	6.1500e-003	0.4904	4.1000e-003	0.4945	0.1301	3.8000e-003	0.1339		478.9137	478.9137	0.0237		479.4103
Total	**0.3894**	**1.8582**	**5.7200**	**0.0107**	**0.6224**	**0.0268**	**0.6493**	**0.1677**	**0.0247**	**0.1924**		**918.4098**	**918.4098**	**0.0271**		**918.9785**

3.5 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9092	8.6233	7.1255	0.0111		0.5050	0.5050		0.4681	0.4681		1,054.2145	1,054.2145	0.2968		1,060.4462
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9092**	**8.6233**	**7.1255**	**0.0111**		**0.5050**	**0.5050**		**0.4681**	**0.4681**		**1,054.2145**	**1,054.2145**	**0.2968**		**1,060.4462**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0576	0.0793	0.7579	2.1300e-003	0.1698	1.4200e-003	0.1712	0.0450	1.3100e-003	0.0463		165.7778	165.7778	8.1900e-003		165.9497
Total	**0.0576**	**0.0793**	**0.7579**	**2.1300e-003**	**0.1698**	**1.4200e-003**	**0.1712**	**0.0450**	**1.3100e-003**	**0.0463**		**165.7778**	**165.7778**	**8.1900e-003**		**165.9497**

3.5 Paving - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2200	4.6827	6.7829	0.0111		0.0431	0.0431		0.0431	0.0431	0.0000	1,054.2145	1,054.2145	0.2968		1,060.4462
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.2200**	**4.6827**	**6.7829**	**0.0111**		**0.0431**	**0.0431**		**0.0431**	**0.0431**	**0.0000**	**1,054.2145**	**1,054.2145**	**0.2968**		**1,060.4462**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0576	0.0793	0.7579	2.1300e-003	0.1698	1.4200e-003	0.1712	0.0450	1.3100e-003	0.0463		165.7778	165.7778	8.1900e-003		165.9497
Total	**0.0576**	**0.0793**	**0.7579**	**2.1300e-003**	**0.1698**	**1.4200e-003**	**0.1712**	**0.0450**	**1.3100e-003**	**0.0463**		**165.7778**	**165.7778**	**8.1900e-003**		**165.9497**

3.6 Architectural Coating - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	256.1301					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506		281.4485	281.4485	0.0267		282.0102
Total	**256.4287**	**2.0058**	**1.8542**	**2.9700e-003**		**0.1506**	**0.1506**		**0.1506**	**0.1506**		**281.4485**	**281.4485**	**0.0267**		**282.0102**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0320	0.0440	0.4211	1.1800e-003	0.0943	7.9000e-004	0.0951	0.0250	7.3000e-004	0.0257		92.0988	92.0988	4.5500e-003		92.1943
Total	**0.0320**	**0.0440**	**0.4211**	**1.1800e-003**	**0.0943**	**7.9000e-004**	**0.0951**	**0.0250**	**7.3000e-004**	**0.0257**		**92.0988**	**92.0988**	**4.5500e-003**		**92.1943**

3.6 Architectural Coating - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	256.1301					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0594	1.3570	1.8324	2.9700e-003		0.0143	0.0143		0.0143	0.0143	0.0000	281.4485	281.4485	0.0267		282.0102
Total	**256.1895**	**1.3570**	**1.8324**	**2.9700e-003**		**0.0143**	**0.0143**		**0.0143**	**0.0143**	**0.0000**	**281.4485**	**281.4485**	**0.0267**		**282.0102**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0320	0.0440	0.4211	1.1800e-003	0.0943	7.9000e-004	0.0951	0.0250	7.3000e-004	0.0257		92.0988	92.0988	4.5500e-003		92.1943
Total	**0.0320**	**0.0440**	**0.4211**	**1.1800e-003**	**0.0943**	**7.9000e-004**	**0.0951**	**0.0250**	**7.3000e-004**	**0.0257**		**92.0988**	**92.0988**	**4.5500e-003**		**92.1943**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.631289	0.058518	0.148045	0.077273	0.026007	0.003276	0.026188	0.004043	0.003129	0.010899	0.010305	0.000529	0.000500

4.4 Fleet Mix

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.9818	2.9000e-004	0.0316	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		0.0672	0.0672	1.8000e-004		0.0710
Unmitigated	2.9818	2.9000e-004	0.0316	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		0.0672	0.0672	1.8000e-004		0.0710

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.3509					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.6279					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.9700e-003	2.9000e-004	0.0316	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		0.0672	0.0672	1.8000e-004		0.0710
Total	**2.9818**	**2.9000e-004**	**0.0316**	**0.0000**		**1.1000e-004**	**1.1000e-004**		**1.1000e-004**	**1.1000e-004**		**0.0672**	**0.0672**	**1.8000e-004**		**0.0710**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.3509					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.6279					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.9700e-003	2.9000e-004	0.0316	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		0.0672	0.0672	1.8000e-004		0.0710
Total	**2.9818**	**2.9000e-004**	**0.0316**	**0.0000**		**1.1000e-004**	**1.1000e-004**		**1.1000e-004**	**1.1000e-004**		**0.0672**	**0.0672**	**1.8000e-004**		**0.0710**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

Parking Garage Expansion with Retail

UCSF Parking Garage Expansion 292 Spaces With Retail

San Francisco County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	292.00	Space	0.60	116,800.00	0
Strip Mall	5.00	1000sqft	0.00	5,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	4.6	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E Greenhouse Gas Emission Factors: Guidance for PG&E Customers (November 2015)

Land Use - Building lot is 26,320 square feet

Construction Phase - Construction of the proposed parking garage expansion is estimated to occur in 2018 and 2019 (14 months)

Grading - parking garage footprint is 0.6 acres

Architectural Coating -

Vehicle Trips - Vehicle trips - Based on 98 net new daily trips per day (Transportation Study for UCSF Reasearch Building by Fehr & Peers, December 2015, Revised March 2016)

Vechicle Emission Factors -

Vechicle Emission Factors -

Vechicle Emission Factors -

Construction Off-road Equipment Mitigation - BAAQMD Enhanced Mitigation Measures

Area Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblGrading	AcresOfGrading	0.00	0.60
tblGrading	AcresOfGrading	0.50	0.60
tblLandUse	LotAcreage	2.63	0.60
tblLandUse	LotAcreage	0.11	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblProjectCharacteristics	OperationalYear	2014	2020
tblVehicleTrips	ST_TR	42.04	19.60
tblVehicleTrips	SU_TR	20.43	19.60
tblVehicleTrips	WD_TR	44.32	19.60

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	0.7168	0.6803	0.6778	1.1500e-003	0.0312	0.0392	0.0704	8.5400e-003	0.0361	0.0447	0.0000	97.8926	97.8926	0.0184	0.0000	98.2788
Total	**0.7168**	**0.6803**	**0.6778**	**1.1500e-003**	**0.0312**	**0.0392**	**0.0704**	**8.5400e-003**	**0.0361**	**0.0447**	**0.0000**	**97.8926**	**97.8926**	**0.0184**	**0.0000**	**98.2788**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	0.6732	0.4195	0.6868	1.1500e-003	0.0304	4.4400e-003	0.0349	8.2800e-003	4.3300e-003	0.0126	0.0000	97.8925	97.8925	0.0184	0.0000	98.2788
Total	**0.6732**	**0.4195**	**0.6868**	**1.1500e-003**	**0.0304**	**4.4400e-003**	**0.0349**	**8.2800e-003**	**4.3300e-003**	**0.0126**	**0.0000**	**97.8925**	**97.8925**	**0.0184**	**0.0000**	**98.2788**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**6.08**	**38.34**	**-1.32**	**0.00**	**2.47**	**88.67**	**50.45**	**3.04**	**88.01**	**71.76**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.5400	3.0000e-005	2.7500e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.3100e-003	5.3100e-003	1.0000e-005	0.0000	5.6100e-003
Energy	1.3000e-004	1.1800e-003	9.9000e-004	1.0000e-005		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	112.4706	112.4706	0.0111	2.3200e-003	113.4251
Mobile	0.0414	0.0688	0.3250	8.4000e-004	0.0570	1.1000e-003	0.0581	0.0155	1.0200e-003	0.0165	0.0000	57.3802	57.3802	2.2400e-003	0.0000	57.4274
Waste						0.0000	0.0000		0.0000	0.0000	4.2628	0.0000	4.2628	0.2519	0.0000	9.5532
Water						0.0000	0.0000		0.0000	0.0000	0.4700	1.4725	1.9425	0.0484	1.1700e-003	3.3221
Total	**0.5815**	**0.0700**	**0.3288**	**8.5000e-004**	**0.0570**	**1.2000e-003**	**0.0582**	**0.0155**	**1.1200e-003**	**0.0166**	**4.7328**	**171.3287**	**176.0615**	**0.3137**	**3.4900e-003**	**183.7334**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.5400	3.0000e-005	2.7500e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.3100e-003	5.3100e-003	1.0000e-005	0.0000	5.6100e-003
Energy	1.3000e-004	1.1800e-003	9.9000e-004	1.0000e-005		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	112.4706	112.4706	0.0111	2.3200e-003	113.4251
Mobile	0.0414	0.0688	0.3250	8.4000e-004	0.0570	1.1000e-003	0.0581	0.0155	1.0200e-003	0.0165	0.0000	57.3802	57.3802	2.2400e-003	0.0000	57.4274
Waste						0.0000	0.0000		0.0000	0.0000	4.2628	0.0000	4.2628	0.2519	0.0000	9.5532
Water						0.0000	0.0000		0.0000	0.0000	0.4700	1.4725	1.9425	0.0484	1.1700e-003	3.3214
Total	**0.5815**	**0.0700**	**0.3288**	**8.5000e-004**	**0.0570**	**1.2000e-003**	**0.0582**	**0.0155**	**1.1200e-003**	**0.0166**	**4.7328**	**171.3287**	**176.0615**	**0.3137**	**3.4900e-003**	**183.7326**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/2/2018	1/2/2018	5	1	
2	Grading	Grading	1/3/2018	1/4/2018	5	2	
3	Building Construction	Building Construction	1/5/2018	5/24/2018	5	100	
4	Paving	Paving	5/25/2018	5/31/2018	5	5	
5	Architectural Coating	Architectural Coating	6/1/2018	6/7/2018	5	5	

Acres of Grading (Site Preparation Phase): 0.6

Acres of Grading (Grading Phase): 0.6

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 184,200; Non-Residential Outdoor: 61,400 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	174	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Rubber Tired Dozers	1	1.00	255	0.40
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Building Construction	Cranes	1	4.00	226	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Paving	Pavers	1	7.00	125	0.42
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	2	5.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	50.00	20.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	10.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Water Exposed Area

Clean Paved Roads

3.2 Site Preparation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.2000e-004	0.0000	3.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.5000e-004	5.4700e-003	3.5000e-003	0.0000		3.3000e-004	3.3000e-004		3.0000e-004	3.0000e-004	0.0000	0.4257	0.4257	1.3000e-004	0.0000	0.4285
Total	**5.5000e-004**	**5.4700e-003**	**3.5000e-003**	**0.0000**	**3.2000e-004**	**3.3000e-004**	**6.5000e-004**	**3.0000e-005**	**3.0000e-004**	**3.3000e-004**	**0.0000**	**0.4257**	**0.4257**	**1.3000e-004**	**0.0000**	**0.4285**

3.2 Site Preparation - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	1.0000e-005	1.0000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0209	0.0209	0.0000	0.0000	0.0210
Total	**1.0000e-005**	**1.0000e-005**	**1.0000e-004**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0209**	**0.0209**	**0.0000**	**0.0000**	**0.0210**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.4000e-004	0.0000	1.4000e-004	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.1000e-004	2.3300e-003	3.5000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.4257	0.4257	1.3000e-004	0.0000	0.4285
Total	**1.1000e-004**	**2.3300e-003**	**3.5000e-003**	**0.0000**	**1.4000e-004**	**2.0000e-005**	**1.6000e-004**	**2.0000e-005**	**2.0000e-005**	**4.0000e-005**	**0.0000**	**0.4257**	**0.4257**	**1.3000e-004**	**0.0000**	**0.4285**

3.2 Site Preparation - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	1.0000e-005	1.0000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0209	0.0209	0.0000	0.0000	0.0210
Total	**1.0000e-005**	**1.0000e-005**	**1.0000e-004**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0209**	**0.0209**	**0.0000**	**0.0000**	**0.0210**

3.3 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.0700e-003	0.0000	1.0700e-003	4.5000e-004	0.0000	4.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0500e-003	9.3200e-003	8.3500e-003	1.0000e-005		6.1000e-004	6.1000e-004		5.9000e-004	5.9000e-004	0.0000	1.0649	1.0649	2.1000e-004	0.0000	1.0692
Total	**1.0500e-003**	**9.3200e-003**	**8.3500e-003**	**1.0000e-005**	**1.0700e-003**	**6.1000e-004**	**1.6800e-003**	**4.5000e-004**	**5.9000e-004**	**1.0400e-003**	**0.0000**	**1.0649**	**1.0649**	**2.1000e-004**	**0.0000**	**1.0692**

3.3 Grading - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-005	4.0000e-005	4.1000e-004	0.0000	9.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0837	0.0837	0.0000	0.0000	0.0838
Total	**3.0000e-005**	**4.0000e-005**	**4.1000e-004**	**0.0000**	**9.0000e-005**	**0.0000**	**9.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0837**	**0.0837**	**0.0000**	**0.0000**	**0.0838**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					4.8000e-004	0.0000	4.8000e-004	2.0000e-004	0.0000	2.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.7000e-004	5.9800e-003	7.9600e-003	1.0000e-005		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	1.0649	1.0649	2.1000e-004	0.0000	1.0692
Total	**2.7000e-004**	**5.9800e-003**	**7.9600e-003**	**1.0000e-005**	**4.8000e-004**	**6.0000e-005**	**5.4000e-004**	**2.0000e-004**	**6.0000e-005**	**2.6000e-004**	**0.0000**	**1.0649**	**1.0649**	**2.1000e-004**	**0.0000**	**1.0692**

3.3 Grading - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-005	4.0000e-005	4.1000e-004	0.0000	9.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0837	0.0837	0.0000	0.0000	0.0838
Total	**3.0000e-005**	**4.0000e-005**	**4.1000e-004**	**0.0000**	**9.0000e-005**	**0.0000**	**9.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0837**	**0.0837**	**0.0000**	**0.0000**	**0.0838**

3.4 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0539	0.5479	0.3862	5.7000e-004		0.0353	0.0353		0.0325	0.0325	0.0000	51.7208	51.7208	0.0161	0.0000	52.0589
Total	**0.0539**	**0.5479**	**0.3862**	**5.7000e-004**		**0.0353**	**0.0353**		**0.0325**	**0.0325**	**0.0000**	**51.7208**	**51.7208**	**0.0161**	**0.0000**	**52.0589**

3.4 Building Construction - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0102	0.0805	0.1518	2.3000e-004	6.3900e-003	1.1300e-003	7.5200e-003	1.8300e-003	1.0400e-003	2.8700e-003	0.0000	20.0287	20.0287	1.5000e-004	0.0000	20.0319
Worker	7.4300e-003	0.0102	0.1021	3.0000e-004	0.0227	2.0000e-004	0.0229	6.0300e-003	1.8000e-004	6.2200e-003	0.0000	20.9324	20.9324	1.0300e-003	0.0000	20.9541
Total	**0.0177**	**0.0907**	**0.2539**	**5.3000e-004**	**0.0291**	**1.3300e-003**	**0.0304**	**7.8600e-003**	**1.2200e-003**	**9.0900e-003**	**0.0000**	**40.9611**	**40.9611**	**1.1800e-003**	**0.0000**	**40.9860**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0139	0.3050	0.3965	5.7000e-004		2.8800e-003	2.8800e-003		2.8800e-003	2.8800e-003	0.0000	51.7208	51.7208	0.0161	0.0000	52.0589
Total	**0.0139**	**0.3050**	**0.3965**	**5.7000e-004**		**2.8800e-003**	**2.8800e-003**		**2.8800e-003**	**2.8800e-003**	**0.0000**	**51.7208**	**51.7208**	**0.0161**	**0.0000**	**52.0589**

3.4 Building Construction - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0102	0.0805	0.1518	2.3000e-004	6.3900e-003	1.1300e-003	7.5200e-003	1.8300e-003	1.0400e-003	2.8700e-003	0.0000	20.0287	20.0287	1.5000e-004	0.0000	20.0319
Worker	7.4300e-003	0.0102	0.1021	3.0000e-004	0.0227	2.0000e-004	0.0229	6.0300e-003	1.8000e-004	6.2200e-003	0.0000	20.9324	20.9324	1.0300e-003	0.0000	20.9541
Total	**0.0177**	**0.0907**	**0.2539**	**5.3000e-004**	**0.0291**	**1.3300e-003**	**0.0304**	**7.8600e-003**	**1.2200e-003**	**9.0900e-003**	**0.0000**	**40.9611**	**40.9611**	**1.1800e-003**	**0.0000**	**40.9860**

3.5 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.2700e-003	0.0216	0.0178	3.0000e-005		1.2600e-003	1.2600e-003		1.1700e-003	1.1700e-003	0.0000	2.3909	2.3909	6.7000e-004	0.0000	2.4051
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.2700e-003**	**0.0216**	**0.0178**	**3.0000e-005**		**1.2600e-003**	**1.2600e-003**		**1.1700e-003**	**1.1700e-003**	**0.0000**	**2.3909**	**2.3909**	**6.7000e-004**	**0.0000**	**2.4051**

3.5 Paving - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3000e-004	1.8000e-004	1.8400e-003	1.0000e-005	4.1000e-004	0.0000	4.1000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3768	0.3768	2.0000e-005	0.0000	0.3772
Total	**1.3000e-004**	**1.8000e-004**	**1.8400e-003**	**1.0000e-005**	**4.1000e-004**	**0.0000**	**4.1000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.3768**	**0.3768**	**2.0000e-005**	**0.0000**	**0.3772**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.5000e-004	0.0117	0.0170	3.0000e-005		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004	0.0000	2.3909	2.3909	6.7000e-004	0.0000	2.4051
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.5000e-004**	**0.0117**	**0.0170**	**3.0000e-005**		**1.1000e-004**	**1.1000e-004**		**1.1000e-004**	**1.1000e-004**	**0.0000**	**2.3909**	**2.3909**	**6.7000e-004**	**0.0000**	**2.4051**

3.5 Paving - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3000e-004	1.8000e-004	1.8400e-003	1.0000e-005	4.1000e-004	0.0000	4.1000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3768	0.3768	2.0000e-005	0.0000	0.3772
Total	**1.3000e-004**	**1.8000e-004**	**1.8400e-003**	**1.0000e-005**	**4.1000e-004**	**0.0000**	**4.1000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.3768**	**0.3768**	**2.0000e-005**	**0.0000**	**0.3772**

3.6 Architectural Coating - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.6403					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.5000e-004	5.0100e-003	4.6400e-003	1.0000e-005		3.8000e-004	3.8000e-004		3.8000e-004	3.8000e-004	0.0000	0.6383	0.6383	6.0000e-005	0.0000	0.6396
Total	**0.6411**	**5.0100e-003**	**4.6400e-003**	**1.0000e-005**		**3.8000e-004**	**3.8000e-004**		**3.8000e-004**	**3.8000e-004**	**0.0000**	**0.6383**	**0.6383**	**6.0000e-005**	**0.0000**	**0.6396**

3.6 Architectural Coating - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.0000e-005	1.0000e-004	1.0200e-003	0.0000	2.3000e-004	0.0000	2.3000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.2093	0.2093	1.0000e-005	0.0000	0.2095
Total	**7.0000e-005**	**1.0000e-004**	**1.0200e-003**	**0.0000**	**2.3000e-004**	**0.0000**	**2.3000e-004**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**0.0000**	**0.2093**	**0.2093**	**1.0000e-005**	**0.0000**	**0.2095**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.6403					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.5000e-004	3.3900e-003	4.5800e-003	1.0000e-005		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.6383	0.6383	6.0000e-005	0.0000	0.6396
Total	**0.6405**	**3.3900e-003**	**4.5800e-003**	**1.0000e-005**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**	**0.0000**	**0.6383**	**0.6383**	**6.0000e-005**	**0.0000**	**0.6396**

3.6 Architectural Coating - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.0000e-005	1.0000e-004	1.0200e-003	0.0000	2.3000e-004	0.0000	2.3000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.2093	0.2093	1.0000e-005	0.0000	0.2095
Total	**7.0000e-005**	**1.0000e-004**	**1.0200e-003**	**0.0000**	**2.3000e-004**	**0.0000**	**2.3000e-004**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**0.0000**	**0.2093**	**0.2093**	**1.0000e-005**	**0.0000**	**0.2095**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0414	0.0688	0.3250	8.4000e-004	0.0570	1.1000e-003	0.0581	0.0155	1.0200e-003	0.0165	0.0000	57.3802	57.3802	2.2400e-003	0.0000	57.4274
Unmitigated	0.0414	0.0688	0.3250	8.4000e-004	0.0570	1.1000e-003	0.0581	0.0155	1.0200e-003	0.0165	0.0000	57.3802	57.3802	2.2400e-003	0.0000	57.4274

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
Strip Mall	98.00	98.00	98.00	150,923	150,923
Total	98.00	98.00	98.00	150,923	150,923

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.631289	0.058518	0.148045	0.077273	0.026007	0.003276	0.026188	0.004043	0.003129	0.010899	0.010305	0.000529	0.000500

4.4 Fleet Mix

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	111.1899	111.1899	0.0111	2.3000e-003	112.1366
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	111.1899	111.1899	0.0111	2.3000e-003	112.1366
NaturalGas Mitigated	1.3000e-004	1.1800e-003	9.9000e-004	1.0000e-005		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	1.2807	1.2807	2.0000e-005	2.0000e-005	1.2885
NaturalGas Unmitigated	1.3000e-004	1.1800e-003	9.9000e-004	1.0000e-005		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	1.2807	1.2807	2.0000e-005	2.0000e-005	1.2885

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	24000	1.3000e-004	1.1800e-003	9.9000e-004	1.0000e-005		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	1.2807	1.2807	2.0000e-005	2.0000e-005	1.2885
Total		**1.3000e-004**	**1.1800e-003**	**9.9000e-004**	**1.0000e-005**		**9.0000e-005**	**9.0000e-005**		**9.0000e-005**	**9.0000e-005**	**0.0000**	**1.2807**	**1.2807**	**2.0000e-005**	**2.0000e-005**	**1.2885**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	24000	1.3000e-004	1.1800e-003	9.9000e-004	1.0000e-005		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	1.2807	1.2807	2.0000e-005	2.0000e-005	1.2885
Total		**1.3000e-004**	**1.1800e-003**	**9.9000e-004**	**1.0000e-005**		**9.0000e-005**	**9.0000e-005**		**9.0000e-005**	**9.0000e-005**	**0.0000**	**1.2807**	**1.2807**	**2.0000e-005**	**2.0000e-005**	**1.2885**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	787232	103.5539	0.0104	2.1400e-003	104.4355
Strip Mall	58050	7.6360	7.6000e-004	1.6000e-004	7.7010
Total		**111.1899**	**0.0111**	**2.3000e-003**	**112.1366**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	787232	103.5539	0.0104	2.1400e-003	104.4355
Strip Mall	58050	7.6360	7.6000e-004	1.6000e-004	7.7010
Total		**111.1899**	**0.0111**	**2.3000e-003**	**112.1366**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.5400	3.0000e-005	2.7500e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.3100e-003	5.3100e-003	1.0000e-005	0.0000	5.6100e-003
Unmitigated	0.5400	3.0000e-005	2.7500e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.3100e-003	5.3100e-003	1.0000e-005	0.0000	5.6100e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0640					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.4757					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.6000e-004	3.0000e-005	2.7500e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.3100e-003	5.3100e-003	1.0000e-005	0.0000	5.6100e-003
Total	**0.5400**	**3.0000e-005**	**2.7500e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**5.3100e-003**	**5.3100e-003**	**1.0000e-005**	**0.0000**	**5.6100e-003**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0640					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.4757					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.6000e-004	3.0000e-005	2.7500e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.3100e-003	5.3100e-003	1.0000e-005	0.0000	5.6100e-003
Total	**0.5400**	**3.0000e-005**	**2.7500e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**5.3100e-003**	**5.3100e-003**	**1.0000e-005**	**0.0000**	**5.6100e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	1.9425	0.0484	1.1700e-003	3.3214
Unmitigated	1.9425	0.0484	1.1700e-003	3.3221

7.2 Water by Land Use

Unmitigated

	Indoor/ Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	1.48145 / 0.907986	1.9425	0.0484	1.1700e-003	3.3221
Total		**1.9425**	**0.0484**	**1.1700e-003**	**3.3221**

Mitigated

	Indoor/ Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	1.48145 / 0.907986	1.9425	0.0484	1.1700e-003	3.3214
Total		**1.9425**	**0.0484**	**1.1700e-003**	**3.3214**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	4.2628	0.2519	0.0000	9.5532
Unmitigated	4.2628	0.2519	0.0000	9.5532

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	21	4.2628	0.2519	0.0000	9.5532
Total		**4.2628**	**0.2519**	**0.0000**	**9.5532**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	21	4.2628	0.2519	0.0000	9.5532
Total		**4.2628**	**0.2519**	**0.0000**	**9.5532**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

UCSF Parking Garage Expansion 292 Spaces With Retail

San Francisco County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	292.00	Space	0.60	116,800.00	0
Strip Mall	5.00	1000sqft	0.00	5,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	4.6	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E Greenhouse Gas Emission Factors: Guidance for PG&E Customers (November 2015)

Land Use - Building lot is 26,320 square feet

Construction Phase - Construction of the proposed parking garage expansion is estimated to occur in 2018 and 2019 (14 months)

Grading - parking garage footprint is 0.6 acres

Architectural Coating -

Vehicle Trips - Vehicle trips - Based on 98 net new daily trips per day (Transportation Study for UCSF Reasearch Building by Fehr & Peers, December 2015, Revised March 2016)

Vechicle Emission Factors -

Vechicle Emission Factors -

Vechicle Emission Factors -

Construction Off-road Equipment Mitigation - BAAQMD Enhanced Mitigation Measures

Area Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblGrading	AcresOfGrading	0.00	0.60
tblGrading	AcresOfGrading	0.50	0.60
tblLandUse	LotAcreage	2.63	0.60
tblLandUse	LotAcreage	0.11	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblProjectCharacteristics	OperationalYear	2014	2020
tblVehicleTrips	ST_TR	42.04	19.60
tblVehicleTrips	SU_TR	20.43	19.60
tblVehicleTrips	WD_TR	44.32	19.60

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	256.4596	12.6828	12.2572	0.0222	1.1652	0.7319	1.7799	0.4731	0.6734	1.0601	0.0000	2,072.9222	2,072.9222	0.3811	0.0000	2,080.9243
Total	**256.4596**	**12.6828**	**12.2572**	**0.0222**	**1.1652**	**0.7319**	**1.7799**	**0.4731**	**0.6734**	**1.0601**	**0.0000**	**2,072.9222**	**2,072.9222**	**0.3811**	**0.0000**	**2,080.9243**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	256.2204	7.8250	12.4625	0.0222	0.6036	0.0841	0.6877	0.2267	0.0820	0.2878	0.0000	2,072.9222	2,072.9222	0.3811	0.0000	2,080.9243
Total	**256.2204**	**7.8250**	**12.4625**	**0.0222**	**0.6036**	**0.0841**	**0.6877**	**0.2267**	**0.0820**	**0.2878**	**0.0000**	**2,072.9222**	**2,072.9222**	**0.3811**	**0.0000**	**2,080.9243**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.09**	**38.30**	**-1.67**	**0.00**	**48.20**	**88.51**	**61.37**	**52.09**	**87.82**	**72.86**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.9603	2.8000e-004	0.0305	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		0.0650	0.0650	1.7000e-004		0.0687
Energy	7.1000e-004	6.4500e-003	5.4100e-003	4.0000e-005		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004		7.7357	7.7357	1.5000e-004	1.4000e-004	7.7828
Mobile	0.2321	0.3524	1.6738	4.8200e-003	0.3253	6.0500e-003	0.3314	0.0879	5.5800e-003	0.0935		364.1213	364.1213	0.0136		364.4069
Total	**3.1931**	**0.3591**	**1.7097**	**4.8600e-003**	**0.3253**	**6.6500e-003**	**0.3320**	**0.0879**	**6.1800e-003**	**0.0941**		**371.9220**	**371.9220**	**0.0139**	**1.4000e-004**	**372.2583**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.9603	2.8000e-004	0.0305	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		0.0650	0.0650	1.7000e-004		0.0687
Energy	7.1000e-004	6.4500e-003	5.4100e-003	4.0000e-005		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004		7.7357	7.7357	1.5000e-004	1.4000e-004	7.7828
Mobile	0.2321	0.3524	1.6738	4.8200e-003	0.3253	6.0500e-003	0.3314	0.0879	5.5800e-003	0.0935		364.1213	364.1213	0.0136		364.4069
Total	**3.1931**	**0.3591**	**1.7097**	**4.8600e-003**	**0.3253**	**6.6500e-003**	**0.3320**	**0.0879**	**6.1800e-003**	**0.0941**		**371.9220**	**371.9220**	**0.0139**	**1.4000e-004**	**372.2583**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/2/2018	1/2/2018	5	1	
2	Grading	Grading	1/3/2018	1/4/2018	5	2	
3	Building Construction	Building Construction	1/5/2018	5/24/2018	5	100	
4	Paving	Paving	5/25/2018	5/31/2018	5	5	
5	Architectural Coating	Architectural Coating	6/1/2018	6/7/2018	5	5	

Acres of Grading (Site Preparation Phase): 0.6

Acres of Grading (Grading Phase): 0.6

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 184,200; Non-Residential Outdoor: 61,400 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	174	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Rubber Tired Dozers	1	1.00	255	0.40
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Building Construction	Cranes	1	4.00	226	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Paving	Pavers	1	7.00	125	0.42
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	2	5.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	50.00	20.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	10.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Water Exposed Area

Clean Paved Roads

3.2 Site Preparation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.6363	0.0000	0.6363	0.0687	0.0000	0.0687			0.0000			0.0000
Off-Road	1.0983	10.9398	7.0042	9.3200e-003		0.6535	0.6535		0.6012	0.6012		938.5863	938.5863	0.2922		944.7224
Total	**1.0983**	**10.9398**	**7.0042**	**9.3200e-003**	**0.6363**	**0.6535**	**1.2898**	**0.0687**	**0.6012**	**0.6699**		**938.5863**	**938.5863**	**0.2922**		**944.7224**

3.2 Site Preparation - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0155	0.0178	0.2154	6.3000e-004	0.0472	3.9000e-004	0.0476	0.0125	3.7000e-004	0.0129		48.9623	48.9623	2.2700e-003		49.0101
Total	**0.0155**	**0.0178**	**0.2154**	**6.3000e-004**	**0.0472**	**3.9000e-004**	**0.0476**	**0.0125**	**3.7000e-004**	**0.0129**		**48.9623**	**48.9623**	**2.2700e-003**		**49.0101**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2863	0.0000	0.2863	0.0309	0.0000	0.0309			0.0000			0.0000
Off-Road	0.2270	4.6535	6.9975	9.3200e-003		0.0394	0.0394		0.0394	0.0394	0.0000	938.5863	938.5863	0.2922		944.7224
Total	**0.2270**	**4.6535**	**6.9975**	**9.3200e-003**	**0.2863**	**0.0394**	**0.3257**	**0.0309**	**0.0394**	**0.0703**	**0.0000**	**938.5863**	**938.5863**	**0.2922**		**944.7224**

3.2 Site Preparation - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0155	0.0178	0.2154	6.3000e-004	0.0472	3.9000e-004	0.0476	0.0125	3.7000e-004	0.0129		48.9623	48.9623	2.2700e-003		49.0101
Total	**0.0155**	**0.0178**	**0.2154**	**6.3000e-004**	**0.0472**	**3.9000e-004**	**0.0476**	**0.0125**	**3.7000e-004**	**0.0129**		**48.9623**	**48.9623**	**2.2700e-003**		**49.0101**

3.3 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.0709	0.0000	1.0709	0.4481	0.0000	0.4481			0.0000			0.0000
Off-Road	1.0530	9.3216	8.3495	0.0120		0.6139	0.6139		0.5862	0.5862		1,173.8565	1,173.8565	0.2268		1,178.6197
Total	**1.0530**	**9.3216**	**8.3495**	**0.0120**	**1.0709**	**0.6139**	**1.6849**	**0.4481**	**0.5862**	**1.0343**		**1,173.8565**	**1,173.8565**	**0.2268**		**1,178.6197**

3.3 Grading - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0309	0.0355	0.4309	1.2600e-003	0.0943	7.9000e-004	0.0951	0.0250	7.3000e-004	0.0257		97.9247	97.9247	4.5500e-003		98.0202
Total	**0.0309**	**0.0355**	**0.4309**	**1.2600e-003**	**0.0943**	**7.9000e-004**	**0.0951**	**0.0250**	**7.3000e-004**	**0.0257**		**97.9247**	**97.9247**	**4.5500e-003**		**98.0202**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.4819	0.0000	0.4819	0.2017	0.0000	0.2017			0.0000			0.0000
Off-Road	0.2661	5.9808	7.9564	0.0120		0.0604	0.0604		0.0604	0.0604	0.0000	1,173.8565	1,173.8565	0.2268		1,178.6197
Total	**0.2661**	**5.9808**	**7.9564**	**0.0120**	**0.4819**	**0.0604**	**0.5423**	**0.2017**	**0.0604**	**0.2620**	**0.0000**	**1,173.8565**	**1,173.8565**	**0.2268**		**1,178.6197**

3.3 Grading - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0309	0.0355	0.4309	1.2600e-003	0.0943	7.9000e-004	0.0951	0.0250	7.3000e-004	0.0257		97.9247	97.9247	4.5500e-003		98.0202
Total	**0.0309**	**0.0355**	**0.4309**	**1.2600e-003**	**0.0943**	**7.9000e-004**	**0.0951**	**0.0250**	**7.3000e-004**	**0.0257**		**97.9247**	**97.9247**	**4.5500e-003**		**98.0202**

3.4 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0786	10.9578	7.7239	0.0113		0.7055	0.7055		0.6491	0.6491		1,140.2487	1,140.2487	0.3550		1,147.7032
Total	**1.0786**	**10.9578**	**7.7239**	**0.0113**		**0.7055**	**0.7055**		**0.6491**	**0.6491**		**1,140.2487**	**1,140.2487**	**0.3550**		**1,147.7032**

3.4 Building Construction - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1830	1.5474	2.3791	4.5700e-003	0.1320	0.0225	0.1545	0.0377	0.0207	0.0583		443.0502	443.0502	3.3300e-003		443.1202
Worker	0.1545	0.1776	2.1543	6.2900e-003	0.4715	3.9500e-003	0.4755	0.1251	3.6500e-003	0.1287		489.6233	489.6233	0.0227		490.1009
Total	**0.3376**	**1.7250**	**4.5333**	**0.0109**	**0.6036**	**0.0265**	**0.6300**	**0.1627**	**0.0243**	**0.1871**		**932.6735**	**932.6735**	**0.0261**		**933.2211**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2778	6.1000	7.9292	0.0113		0.0577	0.0577		0.0577	0.0577	0.0000	1,140.2487	1,140.2487	0.3550		1,147.7032
Total	**0.2778**	**6.1000**	**7.9292**	**0.0113**		**0.0577**	**0.0577**		**0.0577**	**0.0577**	**0.0000**	**1,140.2487**	**1,140.2487**	**0.3550**		**1,147.7032**

3.4 Building Construction - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1830	1.5474	2.3791	4.5700e-003	0.1320	0.0225	0.1545	0.0377	0.0207	0.0583		443.0502	443.0502	3.3300e-003		443.1202
Worker	0.1545	0.1776	2.1543	6.2900e-003	0.4715	3.9500e-003	0.4755	0.1251	3.6500e-003	0.1287		489.6233	489.6233	0.0227		490.1009
Total	**0.3376**	**1.7250**	**4.5333**	**0.0109**	**0.6036**	**0.0265**	**0.6300**	**0.1627**	**0.0243**	**0.1871**		**932.6735**	**932.6735**	**0.0261**		**933.2211**

3.5 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9092	8.6233	7.1255	0.0111		0.5050	0.5050		0.4681	0.4681		1,054.2145	1,054.2145	0.2968		1,060.4462
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9092**	**8.6233**	**7.1255**	**0.0111**		**0.5050**	**0.5050**		**0.4681**	**0.4681**		**1,054.2145**	**1,054.2145**	**0.2968**		**1,060.4462**

3.5 Paving - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0556	0.0640	0.7755	2.2600e-003	0.1698	1.4200e-003	0.1712	0.0450	1.3100e-003	0.0463		176.2644	176.2644	8.1900e-003		176.4363
Total	**0.0556**	**0.0640**	**0.7755**	**2.2600e-003**	**0.1698**	**1.4200e-003**	**0.1712**	**0.0450**	**1.3100e-003**	**0.0463**		**176.2644**	**176.2644**	**8.1900e-003**		**176.4363**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2200	4.6827	6.7829	0.0111		0.0431	0.0431		0.0431	0.0431	0.0000	1,054.2145	1,054.2145	0.2968		1,060.4462
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.2200**	**4.6827**	**6.7829**	**0.0111**		**0.0431**	**0.0431**		**0.0431**	**0.0431**	**0.0000**	**1,054.2145**	**1,054.2145**	**0.2968**		**1,060.4462**

3.5 Paving - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0556	0.0640	0.7755	2.2600e-003	0.1698	1.4200e-003	0.1712	0.0450	1.3100e-003	0.0463		176.2644	176.2644	8.1900e-003		176.4363
Total	**0.0556**	**0.0640**	**0.7755**	**2.2600e-003**	**0.1698**	**1.4200e-003**	**0.1712**	**0.0450**	**1.3100e-003**	**0.0463**		**176.2644**	**176.2644**	**8.1900e-003**		**176.4363**

3.6 Architectural Coating - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	256.1301					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506		281.4485	281.4485	0.0267		282.0102
Total	**256.4287**	**2.0058**	**1.8542**	**2.9700e-003**		**0.1506**	**0.1506**		**0.1506**	**0.1506**		**281.4485**	**281.4485**	**0.0267**		**282.0102**

3.6 Architectural Coating - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0309	0.0355	0.4309	1.2600e-003	0.0943	7.9000e-004	0.0951	0.0250	7.3000e-004	0.0257		97.9247	97.9247	4.5500e-003		98.0202
Total	**0.0309**	**0.0355**	**0.4309**	**1.2600e-003**	**0.0943**	**7.9000e-004**	**0.0951**	**0.0250**	**7.3000e-004**	**0.0257**		**97.9247**	**97.9247**	**4.5500e-003**		**98.0202**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	256.1301					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0594	1.3570	1.8324	2.9700e-003		0.0143	0.0143		0.0143	0.0143	0.0000	281.4485	281.4485	0.0267		282.0102
Total	**256.1895**	**1.3570**	**1.8324**	**2.9700e-003**		**0.0143**	**0.0143**		**0.0143**	**0.0143**	**0.0000**	**281.4485**	**281.4485**	**0.0267**		**282.0102**

3.6 Architectural Coating - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0309	0.0355	0.4309	1.2600e-003	0.0943	7.9000e-004	0.0951	0.0250	7.3000e-004	0.0257		97.9247	97.9247	4.5500e-003		98.0202
Total	**0.0309**	**0.0355**	**0.4309**	**1.2600e-003**	**0.0943**	**7.9000e-004**	**0.0951**	**0.0250**	**7.3000e-004**	**0.0257**		**97.9247**	**97.9247**	**4.5500e-003**		**98.0202**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.2321	0.3524	1.6738	4.8200e-003	0.3253	6.0500e-003	0.3314	0.0879	5.5800e-003	0.0935		364.1213	364.1213	0.0136		364.4069
Unmitigated	0.2321	0.3524	1.6738	4.8200e-003	0.3253	6.0500e-003	0.3314	0.0879	5.5800e-003	0.0935		364.1213	364.1213	0.0136		364.4069

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
Strip Mall	98.00	98.00	98.00	150,923	150,923
Total	98.00	98.00	98.00	150,923	150,923

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.631289	0.058518	0.148045	0.077273	0.026007	0.003276	0.026188	0.004043	0.003129	0.010899	0.010305	0.000529	0.000500

4.4 Fleet Mix

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	7.1000e-004	6.4500e-003	5.4100e-003	4.0000e-005		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004		7.7357	7.7357	1.5000e-004	1.4000e-004	7.7828
NaturalGas Unmitigated	7.1000e-004	6.4500e-003	5.4100e-003	4.0000e-005		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004		7.7357	7.7357	1.5000e-004	1.4000e-004	7.7828

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	65.7534	7.1000e-004	6.4500e-003	5.4100e-003	4.0000e-005		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004		7.7357	7.7357	1.5000e-004	1.4000e-004	7.7828
Total		**7.1000e-004**	**6.4500e-003**	**5.4100e-003**	**4.0000e-005**		**4.9000e-004**	**4.9000e-004**		**4.9000e-004**	**4.9000e-004**		**7.7357**	**7.7357**	**1.5000e-004**	**1.4000e-004**	**7.7828**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Strip Mall	0.0657534	7.1000e-004	6.4500e-003	5.4100e-003	4.0000e-005		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004		7.7357	7.7357	1.5000e-004	1.4000e-004	7.7828
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**7.1000e-004**	**6.4500e-003**	**5.4100e-003**	**4.0000e-005**		**4.9000e-004**	**4.9000e-004**		**4.9000e-004**	**4.9000e-004**		**7.7357**	**7.7357**	**1.5000e-004**	**1.4000e-004**	**7.7828**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.9603	2.8000e-004	0.0305	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		0.0650	0.0650	1.7000e-004		0.0687
Unmitigated	2.9603	2.8000e-004	0.0305	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		0.0650	0.0650	1.7000e-004		0.0687

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.3509					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.6065					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.8700e-003	2.8000e-004	0.0305	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		0.0650	0.0650	1.7000e-004		0.0687
Total	**2.9603**	**2.8000e-004**	**0.0305**	**0.0000**		**1.1000e-004**	**1.1000e-004**		**1.1000e-004**	**1.1000e-004**		**0.0650**	**0.0650**	**1.7000e-004**		**0.0687**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.3509					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.6065					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.8700e-003	2.8000e-004	0.0305	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		0.0650	0.0650	1.7000e-004		0.0687
Total	**2.9603**	**2.8000e-004**	**0.0305**	**0.0000**		**1.1000e-004**	**1.1000e-004**		**1.1000e-004**	**1.1000e-004**		**0.0650**	**0.0650**	**1.7000e-004**		**0.0687**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

UCSF Parking Garage Expansion 292 Spaces With Retail

San Francisco County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	292.00	Space	0.60	116,800.00	0
Strip Mall	5.00	1000sqft	0.00	5,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	4.6	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E Greenhouse Gas Emission Factors: Guidance for PG&E Customers (November 2015)

Land Use - Building lot is 26,320 square feet

Construction Phase - Construction of the proposed parking garage expansion is estimated to occur in 2018 and 2019 (14 months)

Grading - parking garage footprint is 0.6 acres

Architectural Coating -

Vehicle Trips - Vehicle trips - Based on 98 net new daily trips per day (Transportation Study for UCSF Reasearch Building by Fehr & Peers, December 2015, Revised March 2016)

Vechicle Emission Factors -

Vechicle Emission Factors -

Vechicle Emission Factors -

Construction Off-road Equipment Mitigation - BAAQMD Enhanced Mitigation Measures

Area Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblGrading	AcresOfGrading	0.00	0.60
tblGrading	AcresOfGrading	0.50	0.60
tblLandUse	LotAcreage	2.63	0.60
tblLandUse	LotAcreage	0.11	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblProjectCharacteristics	OperationalYear	2014	2020
tblVehicleTrips	ST_TR	42.04	19.60
tblVehicleTrips	SU_TR	20.43	19.60
tblVehicleTrips	WD_TR	44.32	19.60

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	256.4607	12.8071	13.3597	0.0218	1.1652	0.7322	1.7799	0.4731	0.6736	1.0601	0.0000	2,040.2388	2,040.2388	0.3812	0.0000	2,048.2428
Total	**256.4607**	**12.8071**	**13.3597**	**0.0218**	**1.1652**	**0.7322**	**1.7799**	**0.4731**	**0.6736**	**1.0601**	**0.0000**	**2,040.2388**	**2,040.2388**	**0.3812**	**0.0000**	**2,048.2428**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	256.2215	7.9493	13.5649	0.0218	0.6036	0.0843	0.6879	0.2267	0.0822	0.2878	0.0000	2,040.2388	2,040.2388	0.3812	0.0000	2,048.2428
Total	**256.2215**	**7.9493**	**13.5649**	**0.0218**	**0.6036**	**0.0843**	**0.6879**	**0.2267**	**0.0822**	**0.2878**	**0.0000**	**2,040.2388**	**2,040.2388**	**0.3812**	**0.0000**	**2,048.2428**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.09**	**37.93**	**-1.54**	**0.00**	**48.20**	**88.48**	**61.35**	**52.09**	**87.79**	**72.86**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.9603	2.8000e-004	0.0305	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		0.0650	0.0650	1.7000e-004		0.0687
Energy	7.1000e-004	6.4500e-003	5.4100e-003	4.0000e-005		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004		7.7357	7.7357	1.5000e-004	1.4000e-004	7.7828
Mobile	0.2437	0.3908	1.9329	4.5900e-003	0.3253	6.0800e-003	0.3314	0.0879	5.6100e-003	0.0935		347.0493	347.0493	0.0136		347.3351
Total	**3.2047**	**0.3976**	**1.9689**	**4.6300e-003**	**0.3253**	**6.6800e-003**	**0.3320**	**0.0879**	**6.2100e-003**	**0.0941**		**354.8500**	**354.8500**	**0.0139**	**1.4000e-004**	**355.1866**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.9603	2.8000e-004	0.0305	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		0.0650	0.0650	1.7000e-004		0.0687
Energy	7.1000e-004	6.4500e-003	5.4100e-003	4.0000e-005		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004		7.7357	7.7357	1.5000e-004	1.4000e-004	7.7828
Mobile	0.2437	0.3908	1.9329	4.5900e-003	0.3253	6.0800e-003	0.3314	0.0879	5.6100e-003	0.0935		347.0493	347.0493	0.0136		347.3351
Total	**3.2047**	**0.3976**	**1.9689**	**4.6300e-003**	**0.3253**	**6.6800e-003**	**0.3320**	**0.0879**	**6.2100e-003**	**0.0941**		**354.8500**	**354.8500**	**0.0139**	**1.4000e-004**	**355.1866**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/2/2018	1/2/2018	5	1	
2	Grading	Grading	1/3/2018	1/4/2018	5	2	
3	Building Construction	Building Construction	1/5/2018	5/24/2018	5	100	
4	Paving	Paving	5/25/2018	5/31/2018	5	5	
5	Architectural Coating	Architectural Coating	6/1/2018	6/7/2018	5	5	

Acres of Grading (Site Preparation Phase): 0.6

Acres of Grading (Grading Phase): 0.6

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 184,200; Non-Residential Outdoor: 61,400 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	174	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Rubber Tired Dozers	1	1.00	255	0.40
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Building Construction	Cranes	1	4.00	226	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Paving	Pavers	1	7.00	125	0.42
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	2	5.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	50.00	20.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	10.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Water Exposed Area

Clean Paved Roads

3.2 Site Preparation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.6363	0.0000	0.6363	0.0687	0.0000	0.0687			0.0000			0.0000
Off-Road	1.0983	10.9398	7.0042	9.3200e-003		0.6535	0.6535		0.6012	0.6012		938.5863	938.5863	0.2922		944.7224
Total	**1.0983**	**10.9398**	**7.0042**	**9.3200e-003**	**0.6363**	**0.6535**	**1.2898**	**0.0687**	**0.6012**	**0.6699**		**938.5863**	**938.5863**	**0.2922**		**944.7224**

3.2 Site Preparation - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0160	0.0220	0.2105	5.9000e-004	0.0472	3.9000e-004	0.0476	0.0125	3.7000e-004	0.0129		46.0494	46.0494	2.2700e-003		46.0972
Total	**0.0160**	**0.0220**	**0.2105**	**5.9000e-004**	**0.0472**	**3.9000e-004**	**0.0476**	**0.0125**	**3.7000e-004**	**0.0129**		**46.0494**	**46.0494**	**2.2700e-003**		**46.0972**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2863	0.0000	0.2863	0.0309	0.0000	0.0309			0.0000			0.0000
Off-Road	0.2270	4.6535	6.9975	9.3200e-003		0.0394	0.0394		0.0394	0.0394	0.0000	938.5863	938.5863	0.2922		944.7224
Total	**0.2270**	**4.6535**	**6.9975**	**9.3200e-003**	**0.2863**	**0.0394**	**0.3257**	**0.0309**	**0.0394**	**0.0703**	**0.0000**	**938.5863**	**938.5863**	**0.2922**		**944.7224**

3.2 Site Preparation - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0160	0.0220	0.2105	5.9000e-004	0.0472	3.9000e-004	0.0476	0.0125	3.7000e-004	0.0129		46.0494	46.0494	2.2700e-003		46.0972
Total	**0.0160**	**0.0220**	**0.2105**	**5.9000e-004**	**0.0472**	**3.9000e-004**	**0.0476**	**0.0125**	**3.7000e-004**	**0.0129**		**46.0494**	**46.0494**	**2.2700e-003**		**46.0972**

3.3 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.0709	0.0000	1.0709	0.4481	0.0000	0.4481			0.0000			0.0000
Off-Road	1.0530	9.3216	8.3495	0.0120		0.6139	0.6139		0.5862	0.5862		1,173.8565	1,173.8565	0.2268		1,178.6197
Total	**1.0530**	**9.3216**	**8.3495**	**0.0120**	**1.0709**	**0.6139**	**1.6849**	**0.4481**	**0.5862**	**1.0343**		**1,173.8565**	**1,173.8565**	**0.2268**		**1,178.6197**

3.3 Grading - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0320	0.0440	0.4211	1.1800e-003	0.0943	7.9000e-004	0.0951	0.0250	7.3000e-004	0.0257		92.0988	92.0988	4.5500e-003		92.1943
Total	**0.0320**	**0.0440**	**0.4211**	**1.1800e-003**	**0.0943**	**7.9000e-004**	**0.0951**	**0.0250**	**7.3000e-004**	**0.0257**		**92.0988**	**92.0988**	**4.5500e-003**		**92.1943**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.4819	0.0000	0.4819	0.2017	0.0000	0.2017			0.0000			0.0000
Off-Road	0.2661	5.9808	7.9564	0.0120		0.0604	0.0604		0.0604	0.0604	0.0000	1,173.8565	1,173.8565	0.2268		1,178.6197
Total	**0.2661**	**5.9808**	**7.9564**	**0.0120**	**0.4819**	**0.0604**	**0.5423**	**0.2017**	**0.0604**	**0.2620**	**0.0000**	**1,173.8565**	**1,173.8565**	**0.2268**		**1,178.6197**

3.3 Grading - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0320	0.0440	0.4211	1.1800e-003	0.0943	7.9000e-004	0.0951	0.0250	7.3000e-004	0.0257		92.0988	92.0988	4.5500e-003		92.1943
Total	**0.0320**	**0.0440**	**0.4211**	**1.1800e-003**	**0.0943**	**7.9000e-004**	**0.0951**	**0.0250**	**7.3000e-004**	**0.0257**		**92.0988**	**92.0988**	**4.5500e-003**		**92.1943**

3.4 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0786	10.9578	7.7239	0.0113		0.7055	0.7055		0.6491	0.6491		1,140.2487	1,140.2487	0.3550		1,147.7032
Total	**1.0786**	**10.9578**	**7.7239**	**0.0113**		**0.7055**	**0.7055**		**0.6491**	**0.6491**		**1,140.2487**	**1,140.2487**	**0.3550**		**1,147.7032**

3.4 Building Construction - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2231	1.6292	3.5304	4.5500e-003	0.1320	0.0227	0.1548	0.0377	0.0209	0.0586		439.4961	439.4961	3.4300e-003		439.5681
Worker	0.1599	0.2202	2.1054	5.9100e-003	0.4715	3.9500e-003	0.4755	0.1251	3.6500e-003	0.1287		460.4939	460.4939	0.0227		460.9715
Total	**0.3830**	**1.8494**	**5.6357**	**0.0105**	**0.6036**	**0.0267**	**0.6302**	**0.1627**	**0.0246**	**0.1873**		**899.9900**	**899.9900**	**0.0262**		**900.5396**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2778	6.1000	7.9292	0.0113		0.0577	0.0577		0.0577	0.0577	0.0000	1,140.2487	1,140.2487	0.3550		1,147.7032
Total	**0.2778**	**6.1000**	**7.9292**	**0.0113**		**0.0577**	**0.0577**		**0.0577**	**0.0577**	**0.0000**	**1,140.2487**	**1,140.2487**	**0.3550**		**1,147.7032**

3.4 Building Construction - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2231	1.6292	3.5304	4.5500e-003	0.1320	0.0227	0.1548	0.0377	0.0209	0.0586		439.4961	439.4961	3.4300e-003		439.5681
Worker	0.1599	0.2202	2.1054	5.9100e-003	0.4715	3.9500e-003	0.4755	0.1251	3.6500e-003	0.1287		460.4939	460.4939	0.0227		460.9715
Total	**0.3830**	**1.8494**	**5.6357**	**0.0105**	**0.6036**	**0.0267**	**0.6302**	**0.1627**	**0.0246**	**0.1873**		**899.9900**	**899.9900**	**0.0262**		**900.5396**

3.5 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9092	8.6233	7.1255	0.0111		0.5050	0.5050		0.4681	0.4681		1,054.2145	1,054.2145	0.2968		1,060.4462
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9092**	**8.6233**	**7.1255**	**0.0111**		**0.5050**	**0.5050**		**0.4681**	**0.4681**		**1,054.2145**	**1,054.2145**	**0.2968**		**1,060.4462**

3.5 Paving - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0576	0.0793	0.7579	2.1300e-003	0.1698	1.4200e-003	0.1712	0.0450	1.3100e-003	0.0463		165.7778	165.7778	8.1900e-003		165.9497
Total	**0.0576**	**0.0793**	**0.7579**	**2.1300e-003**	**0.1698**	**1.4200e-003**	**0.1712**	**0.0450**	**1.3100e-003**	**0.0463**		**165.7778**	**165.7778**	**8.1900e-003**		**165.9497**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2200	4.6827	6.7829	0.0111		0.0431	0.0431		0.0431	0.0431	0.0000	1,054.2145	1,054.2145	0.2968		1,060.4462
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.2200**	**4.6827**	**6.7829**	**0.0111**		**0.0431**	**0.0431**		**0.0431**	**0.0431**	**0.0000**	**1,054.2145**	**1,054.2145**	**0.2968**		**1,060.4462**

3.5 Paving - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0576	0.0793	0.7579	2.1300e-003	0.1698	1.4200e-003	0.1712	0.0450	1.3100e-003	0.0463		165.7778	165.7778	8.1900e-003		165.9497
Total	**0.0576**	**0.0793**	**0.7579**	**2.1300e-003**	**0.1698**	**1.4200e-003**	**0.1712**	**0.0450**	**1.3100e-003**	**0.0463**		**165.7778**	**165.7778**	**8.1900e-003**		**165.9497**

3.6 Architectural Coating - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	256.1301					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506		281.4485	281.4485	0.0267		282.0102
Total	**256.4287**	**2.0058**	**1.8542**	**2.9700e-003**		**0.1506**	**0.1506**		**0.1506**	**0.1506**		**281.4485**	**281.4485**	**0.0267**		**282.0102**

3.6 Architectural Coating - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0320	0.0440	0.4211	1.1800e-003	0.0943	7.9000e-004	0.0951	0.0250	7.3000e-004	0.0257		92.0988	92.0988	4.5500e-003		92.1943
Total	**0.0320**	**0.0440**	**0.4211**	**1.1800e-003**	**0.0943**	**7.9000e-004**	**0.0951**	**0.0250**	**7.3000e-004**	**0.0257**		**92.0988**	**92.0988**	**4.5500e-003**		**92.1943**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	256.1301					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0594	1.3570	1.8324	2.9700e-003		0.0143	0.0143		0.0143	0.0143	0.0000	281.4485	281.4485	0.0267		282.0102
Total	**256.1895**	**1.3570**	**1.8324**	**2.9700e-003**		**0.0143**	**0.0143**		**0.0143**	**0.0143**	**0.0000**	**281.4485**	**281.4485**	**0.0267**		**282.0102**

3.6 Architectural Coating - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0320	0.0440	0.4211	1.1800e-003	0.0943	7.9000e-004	0.0951	0.0250	7.3000e-004	0.0257		92.0988	92.0988	4.5500e-003		92.1943
Total	**0.0320**	**0.0440**	**0.4211**	**1.1800e-003**	**0.0943**	**7.9000e-004**	**0.0951**	**0.0250**	**7.3000e-004**	**0.0257**		**92.0988**	**92.0988**	**4.5500e-003**		**92.1943**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.2437	0.3908	1.9329	4.5900e-003	0.3253	6.0800e-003	0.3314	0.0879	5.6100e-003	0.0935		347.0493	347.0493	0.0136		347.3351
Unmitigated	0.2437	0.3908	1.9329	4.5900e-003	0.3253	6.0800e-003	0.3314	0.0879	5.6100e-003	0.0935		347.0493	347.0493	0.0136		347.3351

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
Strip Mall	98.00	98.00	98.00	150,923	150,923
Total	98.00	98.00	98.00	150,923	150,923

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.631289	0.058518	0.148045	0.077273	0.026007	0.003276	0.026188	0.004043	0.003129	0.010899	0.010305	0.000529	0.000500

4.4 Fleet Mix

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	7.1000e-004	6.4500e-003	5.4100e-003	4.0000e-005		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004		7.7357	7.7357	1.5000e-004	1.4000e-004	7.7828
NaturalGas Unmitigated	7.1000e-004	6.4500e-003	5.4100e-003	4.0000e-005		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004		7.7357	7.7357	1.5000e-004	1.4000e-004	7.7828

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	65.7534	7.1000e-004	6.4500e-003	5.4100e-003	4.0000e-005		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004		7.7357	7.7357	1.5000e-004	1.4000e-004	7.7828
Total		**7.1000e-004**	**6.4500e-003**	**5.4100e-003**	**4.0000e-005**		**4.9000e-004**	**4.9000e-004**		**4.9000e-004**	**4.9000e-004**		**7.7357**	**7.7357**	**1.5000e-004**	**1.4000e-004**	**7.7828**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Strip Mall	0.0657534	7.1000e-004	6.4500e-003	5.4100e-003	4.0000e-005		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004		7.7357	7.7357	1.5000e-004	1.4000e-004	7.7828
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**7.1000e-004**	**6.4500e-003**	**5.4100e-003**	**4.0000e-005**		**4.9000e-004**	**4.9000e-004**		**4.9000e-004**	**4.9000e-004**		**7.7357**	**7.7357**	**1.5000e-004**	**1.4000e-004**	**7.7828**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.9603	2.8000e-004	0.0305	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		0.0650	0.0650	1.7000e-004		0.0687
Unmitigated	2.9603	2.8000e-004	0.0305	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		0.0650	0.0650	1.7000e-004		0.0687

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.3509					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.6065					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.8700e-003	2.8000e-004	0.0305	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		0.0650	0.0650	1.7000e-004		0.0687
Total	**2.9603**	**2.8000e-004**	**0.0305**	**0.0000**		**1.1000e-004**	**1.1000e-004**		**1.1000e-004**	**1.1000e-004**		**0.0650**	**0.0650**	**1.7000e-004**		**0.0687**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.3509					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.6065					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.8700e-003	2.8000e-004	0.0305	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		0.0650	0.0650	1.7000e-004		0.0687
Total	**2.9603**	**2.8000e-004**	**0.0305**	**0.0000**		**1.1000e-004**	**1.1000e-004**		**1.1000e-004**	**1.1000e-004**		**0.0650**	**0.0650**	**1.7000e-004**		**0.0687**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

Further Parking Garage Expansion without Retail

UCSF Parking Garage Expansion 527 Spaces No Retail

San Francisco County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	527.00	Space	0.60	210,800.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	4.6	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E Greenhouse Gas Emission Factors: Guidance for PG&E Customers (November 2015)

Land Use - Building lot is 26,320 square feet

Construction Phase -

Grading - parking garage footprint is 0.6 acres

Architectural Coating -

Vechicle Emission Factors -

Vechicle Emission Factors -

Vechicle Emission Factors -

Construction Off-road Equipment Mitigation - BAAQMD Enhanced Mitigation Measures

Area Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3

tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblGrading	AcresOfGrading	0.00	0.60
tblGrading	AcresOfGrading	0.50	0.60
tblLandUse	LotAcreage	4.74	0.60
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblProjectCharacteristics	OperationalYear	2014	2020

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	1.1892	0.7487	0.8721	1.5600e-003	0.0539	0.0402	0.0941	0.0147	0.0370	0.0517	0.0000	129.4089	129.4089	0.0193	0.0000	129.8146
Total	**1.1892**	**0.7487**	**0.8721**	**1.5600e-003**	**0.0539**	**0.0402**	**0.0941**	**0.0147**	**0.0370**	**0.0517**	**0.0000**	**129.4089**	**129.4089**	**0.0193**	**0.0000**	**129.8146**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	1.1456	0.4879	0.8811	1.5600e-003	0.0531	5.4400e-003	0.0586	0.0144	5.2600e-003	0.0197	0.0000	129.4088	129.4088	0.0193	0.0000	129.8145
Total	**1.1456**	**0.4879**	**0.8811**	**1.5600e-003**	**0.0531**	**5.4400e-003**	**0.0586**	**0.0144**	**5.2600e-003**	**0.0197**	**0.0000**	**129.4088**	**129.4088**	**0.0193**	**0.0000**	**129.8145**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**3.66**	**34.84**	**-1.03**	**0.00**	**1.43**	**86.46**	**37.75**	**1.77**	**85.80**	**61.98**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.9337	5.0000e-005	4.8700e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	9.4200e-003	9.4200e-003	3.0000e-005	0.0000	9.9500e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	186.8935	186.8935	0.0187	3.8700e-003	188.4847
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.9337**	**5.0000e-005**	**4.8700e-003**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**186.9029**	**186.9029**	**0.0187**	**3.8700e-003**	**188.4946**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.9337	5.0000e-005	4.8700e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	9.4200e-003	9.4200e-003	3.0000e-005	0.0000	9.9500e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	186.8935	186.8935	0.0187	3.8700e-003	188.4847
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.9337**	**5.0000e-005**	**4.8700e-003**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**186.9029**	**186.9029**	**0.0187**	**3.8700e-003**	**188.4946**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/2/2018	1/2/2018	5	1	
2	Grading	Grading	1/3/2018	1/4/2018	5	2	
3	Building Construction	Building Construction	1/5/2018	5/24/2018	5	100	
4	Paving	Paving	5/25/2018	5/31/2018	5	5	
5	Architectural Coating	Architectural Coating	6/1/2018	6/7/2018	5	5	

Acres of Grading (Site Preparation Phase): 0.6

Acres of Grading (Grading Phase): 0.6

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 316,200; Non-Residential Outdoor: 105,400 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	174	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Rubber Tired Dozers	1	1.00	255	0.40
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Building Construction	Cranes	1	4.00	226	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Paving	Pavers	1	7.00	125	0.42
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	2	5.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	89.00	35.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	18.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Water Exposed Area

3.2 Site Preparation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.2000e-004	0.0000	3.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.5000e-004	5.4700e-003	3.5000e-003	0.0000		3.3000e-004	3.3000e-004		3.0000e-004	3.0000e-004	0.0000	0.4257	0.4257	1.3000e-004	0.0000	0.4285
Total	**5.5000e-004**	**5.4700e-003**	**3.5000e-003**	**0.0000**	**3.2000e-004**	**3.3000e-004**	**6.5000e-004**	**3.0000e-005**	**3.0000e-004**	**3.3000e-004**	**0.0000**	**0.4257**	**0.4257**	**1.3000e-004**	**0.0000**	**0.4285**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	1.0000e-005	1.0000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0209	0.0209	0.0000	0.0000	0.0210
Total	**1.0000e-005**	**1.0000e-005**	**1.0000e-004**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0209**	**0.0209**	**0.0000**	**0.0000**	**0.0210**

3.2 Site Preparation - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.4000e-004	0.0000	1.4000e-004	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.1000e-004	2.3300e-003	3.5000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.4257	0.4257	1.3000e-004	0.0000	0.4285
Total	**1.1000e-004**	**2.3300e-003**	**3.5000e-003**	**0.0000**	**1.4000e-004**	**2.0000e-005**	**1.6000e-004**	**2.0000e-005**	**2.0000e-005**	**4.0000e-005**	**0.0000**	**0.4257**	**0.4257**	**1.3000e-004**	**0.0000**	**0.4285**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	1.0000e-005	1.0000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0209	0.0209	0.0000	0.0000	0.0210
Total	**1.0000e-005**	**1.0000e-005**	**1.0000e-004**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0209**	**0.0209**	**0.0000**	**0.0000**	**0.0210**

3.3 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.0700e-003	0.0000	1.0700e-003	4.5000e-004	0.0000	4.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0500e-003	9.3200e-003	8.3500e-003	1.0000e-005		6.1000e-004	6.1000e-004		5.9000e-004	5.9000e-004	0.0000	1.0649	1.0649	2.1000e-004	0.0000	1.0692
Total	**1.0500e-003**	**9.3200e-003**	**8.3500e-003**	**1.0000e-005**	**1.0700e-003**	**6.1000e-004**	**1.6800e-003**	**4.5000e-004**	**5.9000e-004**	**1.0400e-003**	**0.0000**	**1.0649**	**1.0649**	**2.1000e-004**	**0.0000**	**1.0692**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-005	4.0000e-005	4.1000e-004	0.0000	9.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0837	0.0837	0.0000	0.0000	0.0838
Total	**3.0000e-005**	**4.0000e-005**	**4.1000e-004**	**0.0000**	**9.0000e-005**	**0.0000**	**9.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0837**	**0.0837**	**0.0000**	**0.0000**	**0.0838**

3.3 Grading - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					4.8000e-004	0.0000	4.8000e-004	2.0000e-004	0.0000	2.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.7000e-004	5.9800e-003	7.9600e-003	1.0000e-005		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	1.0649	1.0649	2.1000e-004	0.0000	1.0692
Total	**2.7000e-004**	**5.9800e-003**	**7.9600e-003**	**1.0000e-005**	**4.8000e-004**	**6.0000e-005**	**5.4000e-004**	**2.0000e-004**	**6.0000e-005**	**2.6000e-004**	**0.0000**	**1.0649**	**1.0649**	**2.1000e-004**	**0.0000**	**1.0692**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-005	4.0000e-005	4.1000e-004	0.0000	9.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0837	0.0837	0.0000	0.0000	0.0838
Total	**3.0000e-005**	**4.0000e-005**	**4.1000e-004**	**0.0000**	**9.0000e-005**	**0.0000**	**9.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0837**	**0.0837**	**0.0000**	**0.0000**	**0.0838**

3.4 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0539	0.5479	0.3862	5.7000e-004		0.0353	0.0353		0.0325	0.0325	0.0000	51.7208	51.7208	0.0161	0.0000	52.0589
Total	**0.0539**	**0.5479**	**0.3862**	**5.7000e-004**		**0.0353**	**0.0353**		**0.0325**	**0.0325**	**0.0000**	**51.7208**	**51.7208**	**0.0161**	**0.0000**	**52.0589**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0179	0.1409	0.2657	4.0000e-004	0.0112	1.9800e-003	0.0132	3.2000e-003	1.8200e-003	5.0200e-003	0.0000	35.0502	35.0502	2.7000e-004	0.0000	35.0559
Worker	0.0132	0.0182	0.1817	5.3000e-004	0.0404	3.5000e-004	0.0407	0.0107	3.3000e-004	0.0111	0.0000	37.2597	37.2597	1.8400e-003	0.0000	37.2983
Total	**0.0311**	**0.1591**	**0.4475**	**9.3000e-004**	**0.0516**	**2.3300e-003**	**0.0539**	**0.0139**	**2.1500e-003**	**0.0161**	**0.0000**	**72.3100**	**72.3100**	**2.1100e-003**	**0.0000**	**72.3542**

3.4 Building Construction - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0139	0.3050	0.3965	5.7000e-004		2.8800e-003	2.8800e-003		2.8800e-003	2.8800e-003	0.0000	51.7208	51.7208	0.0161	0.0000	52.0589
Total	**0.0139**	**0.3050**	**0.3965**	**5.7000e-004**		**2.8800e-003**	**2.8800e-003**		**2.8800e-003**	**2.8800e-003**	**0.0000**	**51.7208**	**51.7208**	**0.0161**	**0.0000**	**52.0589**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0179	0.1409	0.2657	4.0000e-004	0.0112	1.9800e-003	0.0132	3.2000e-003	1.8200e-003	5.0200e-003	0.0000	35.0502	35.0502	2.7000e-004	0.0000	35.0559
Worker	0.0132	0.0182	0.1817	5.3000e-004	0.0404	3.5000e-004	0.0407	0.0107	3.3000e-004	0.0111	0.0000	37.2597	37.2597	1.8400e-003	0.0000	37.2983
Total	**0.0311**	**0.1591**	**0.4475**	**9.3000e-004**	**0.0516**	**2.3300e-003**	**0.0539**	**0.0139**	**2.1500e-003**	**0.0161**	**0.0000**	**72.3100**	**72.3100**	**2.1100e-003**	**0.0000**	**72.3542**

3.5 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.2700e-003	0.0216	0.0178	3.0000e-005		1.2600e-003	1.2600e-003		1.1700e-003	1.1700e-003	0.0000	2.3909	2.3909	6.7000e-004	0.0000	2.4051
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.2700e-003**	**0.0216**	**0.0178**	**3.0000e-005**		**1.2600e-003**	**1.2600e-003**		**1.1700e-003**	**1.1700e-003**	**0.0000**	**2.3909**	**2.3909**	**6.7000e-004**	**0.0000**	**2.4051**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3000e-004	1.8000e-004	1.8400e-003	1.0000e-005	4.1000e-004	0.0000	4.1000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3768	0.3768	2.0000e-005	0.0000	0.3772
Total	**1.3000e-004**	**1.8000e-004**	**1.8400e-003**	**1.0000e-005**	**4.1000e-004**	**0.0000**	**4.1000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.3768**	**0.3768**	**2.0000e-005**	**0.0000**	**0.3772**

3.5 Paving - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.5000e-004	0.0117	0.0170	3.0000e-005		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004	0.0000	2.3909	2.3909	6.7000e-004	0.0000	2.4051
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.5000e-004**	**0.0117**	**0.0170**	**3.0000e-005**		**1.1000e-004**	**1.1000e-004**		**1.1000e-004**	**1.1000e-004**	**0.0000**	**2.3909**	**2.3909**	**6.7000e-004**	**0.0000**	**2.4051**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3000e-004	1.8000e-004	1.8400e-003	1.0000e-005	4.1000e-004	0.0000	4.1000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3768	0.3768	2.0000e-005	0.0000	0.3772
Total	**1.3000e-004**	**1.8000e-004**	**1.8400e-003**	**1.0000e-005**	**4.1000e-004**	**0.0000**	**4.1000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.3768**	**0.3768**	**2.0000e-005**	**0.0000**	**0.3772**

3.6 Architectural Coating - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.0992					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.5000e-004	5.0100e-003	4.6400e-003	1.0000e-005		3.8000e-004	3.8000e-004		3.8000e-004	3.8000e-004	0.0000	0.6383	0.6383	6.0000e-005	0.0000	0.6396
Total	**1.0999**	**5.0100e-003**	**4.6400e-003**	**1.0000e-005**		**3.8000e-004**	**3.8000e-004**		**3.8000e-004**	**3.8000e-004**	**0.0000**	**0.6383**	**0.6383**	**6.0000e-005**	**0.0000**	**0.6396**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3000e-004	1.8000e-004	1.8400e-003	1.0000e-005	4.1000e-004	0.0000	4.1000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3768	0.3768	2.0000e-005	0.0000	0.3772
Total	**1.3000e-004**	**1.8000e-004**	**1.8400e-003**	**1.0000e-005**	**4.1000e-004**	**0.0000**	**4.1000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.3768**	**0.3768**	**2.0000e-005**	**0.0000**	**0.3772**

3.6 Architectural Coating - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.0992					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.5000e-004	3.3900e-003	4.5800e-003	1.0000e-005		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.6383	0.6383	6.0000e-005	0.0000	0.6396
Total	**1.0993**	**3.3900e-003**	**4.5800e-003**	**1.0000e-005**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**	**0.0000**	**0.6383**	**0.6383**	**6.0000e-005**	**0.0000**	**0.6396**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3000e-004	1.8000e-004	1.8400e-003	1.0000e-005	4.1000e-004	0.0000	4.1000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3768	0.3768	2.0000e-005	0.0000	0.3772
Total	**1.3000e-004**	**1.8000e-004**	**1.8400e-003**	**1.0000e-005**	**4.1000e-004**	**0.0000**	**4.1000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.3768**	**0.3768**	**2.0000e-005**	**0.0000**	**0.3772**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.631289	0.058518	0.148045	0.077273	0.026007	0.003276	0.026188	0.004043	0.003129	0.010899	0.010305	0.000529	0.000500

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	186.8935	186.8935	0.0187	3.8700e-003	188.4847
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	186.8935	186.8935	0.0187	3.8700e-003	188.4847
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	1.42079e+006	186.8935	0.0187	3.8700e-003	188.4847
Total		**186.8935**	**0.0187**	**3.8700e-003**	**188.4847**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	1.42079e+006	186.8935	0.0187	3.8700e-003	188.4847
Total		**186.8935**	**0.0187**	**3.8700e-003**	**188.4847**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.9337	5.0000e-005	4.8700e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	9.4200e-003	9.4200e-003	3.0000e-005	0.0000	9.9500e-003
Unmitigated	0.9337	5.0000e-005	4.8700e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	9.4200e-003	9.4200e-003	3.0000e-005	0.0000	9.9500e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1099					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.8233					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.6000e-004	5.0000e-005	4.8700e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	9.4200e-003	9.4200e-003	3.0000e-005	0.0000	9.9500e-003
Total	**0.9337**	**5.0000e-005**	**4.8700e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**9.4200e-003**	**9.4200e-003**	**3.0000e-005**	**0.0000**	**9.9500e-003**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1099					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.8233					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.6000e-004	5.0000e-005	4.8700e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	9.4200e-003	9.4200e-003	3.0000e-005	0.0000	9.9500e-003
Total	**0.9337**	**5.0000e-005**	**4.8700e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**9.4200e-003**	**9.4200e-003**	**3.0000e-005**	**0.0000**	**9.9500e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/ Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Indoor/ Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

UCSF Parking Garage Expansion 527 Spaces No Retail

San Francisco County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	527.00	Space	0.60	210,800.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	4.6	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E Greenhouse Gas Emission Factors: Guidance for PG&E Customers (November 2015)

Land Use - Building lot is 26,320 square feet

Construction Phase -

Grading - parking garage footprint is 0.6 acres

Architectural Coating -

Vechicle Emission Factors -

Vechicle Emission Factors -

Vechicle Emission Factors -

Construction Off-road Equipment Mitigation - BAAQMD Enhanced Mitigation Measures

Area Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3

tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblGrading	AcresOfGrading	0.00	0.60
tblGrading	AcresOfGrading	0.50	0.60
tblLandUse	LotAcreage	4.74	0.60
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblProjectCharacteristics	OperationalYear	2014	2020

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	440.0304	13.9819	15.7219	0.0305	1.1652	0.7519	1.8223	0.4731	0.6918	1.0601	0.0000	2,787.1161	2,787.1161	0.4013	0.0000	2,795.5431
Total	**440.0304**	**13.9819**	**15.7219**	**0.0305**	**1.1652**	**0.7519**	**1.8223**	**0.4731**	**0.6918**	**1.0601**	**0.0000**	**2,787.1161**	**2,787.1161**	**0.4013**	**0.0000**	**2,795.5431**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	439.7912	9.1241	15.9271	0.0305	1.0704	0.1041	1.1744	0.2885	0.1004	0.3889	0.0000	2,787.1161	2,787.1161	0.4013	0.0000	2,795.5431
Total	**439.7912**	**9.1241**	**15.9271**	**0.0305**	**1.0704**	**0.1041**	**1.1744**	**0.2885**	**0.1004**	**0.3889**	**0.0000**	**2,787.1161**	**2,787.1161**	**0.4013**	**0.0000**	**2,795.5431**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.05**	**34.74**	**-1.31**	**0.00**	**8.14**	**86.16**	**35.55**	**39.03**	**85.49**	**63.32**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	5.1185	5.0000e-004	0.0542	0.0000		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004		0.1153	0.1153	3.1000e-004		0.1218
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**5.1185**	**5.0000e-004**	**0.0542**	**0.0000**	**0.0000**	**1.9000e-004**	**1.9000e-004**	**0.0000**	**1.9000e-004**	**1.9000e-004**		**0.1153**	**0.1153**	**3.1000e-004**	**0.0000**	**0.1218**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	5.1185	5.0000e-004	0.0542	0.0000		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004		0.1153	0.1153	3.1000e-004		0.1218
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**5.1185**	**5.0000e-004**	**0.0542**	**0.0000**	**0.0000**	**1.9000e-004**	**1.9000e-004**	**0.0000**	**1.9000e-004**	**1.9000e-004**		**0.1153**	**0.1153**	**3.1000e-004**	**0.0000**	**0.1218**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/2/2018	1/2/2018	5	1	
2	Grading	Grading	1/3/2018	1/4/2018	5	2	
3	Building Construction	Building Construction	1/5/2018	5/24/2018	5	100	
4	Paving	Paving	5/25/2018	5/31/2018	5	5	
5	Architectural Coating	Architectural Coating	6/1/2018	6/7/2018	5	5	

Acres of Grading (Site Preparation Phase): 0.6

Acres of Grading (Grading Phase): 0.6

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 316,200; Non-Residential Outdoor: 105,400 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	174	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Rubber Tired Dozers	1	1.00	255	0.40
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Building Construction	Cranes	1	4.00	226	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Paving	Pavers	1	7.00	125	0.42
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	2	5.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	89.00	35.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	18.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Water Exposed Area

3.2 Site Preparation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.6363	0.0000	0.6363	0.0687	0.0000	0.0687			0.0000			0.0000
Off-Road	1.0983	10.9398	7.0042	9.3200e-003		0.6535	0.6535		0.6012	0.6012		938.5863	938.5863	0.2922		944.7224
Total	**1.0983**	**10.9398**	**7.0042**	**9.3200e-003**	**0.6363**	**0.6535**	**1.2898**	**0.0687**	**0.6012**	**0.6699**		**938.5863**	**938.5863**	**0.2922**		**944.7224**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0155	0.0178	0.2154	6.3000e-004	0.0472	3.9000e-004	0.0476	0.0125	3.7000e-004	0.0129		48.9623	48.9623	2.2700e-003		49.0101
Total	**0.0155**	**0.0178**	**0.2154**	**6.3000e-004**	**0.0472**	**3.9000e-004**	**0.0476**	**0.0125**	**3.7000e-004**	**0.0129**		**48.9623**	**48.9623**	**2.2700e-003**		**49.0101**

3.2 Site Preparation - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2863	0.0000	0.2863	0.0309	0.0000	0.0309			0.0000			0.0000
Off-Road	0.2270	4.6535	6.9975	9.3200e-003		0.0394	0.0394		0.0394	0.0394	0.0000	938.5863	938.5863	0.2922		944.7224
Total	**0.2270**	**4.6535**	**6.9975**	**9.3200e-003**	**0.2863**	**0.0394**	**0.3257**	**0.0309**	**0.0394**	**0.0703**	**0.0000**	**938.5863**	**938.5863**	**0.2922**		**944.7224**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0155	0.0178	0.2154	6.3000e-004	0.0472	3.9000e-004	0.0476	0.0125	3.7000e-004	0.0129		48.9623	48.9623	2.2700e-003		49.0101
Total	**0.0155**	**0.0178**	**0.2154**	**6.3000e-004**	**0.0472**	**3.9000e-004**	**0.0476**	**0.0125**	**3.7000e-004**	**0.0129**		**48.9623**	**48.9623**	**2.2700e-003**		**49.0101**

3.3 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.0709	0.0000	1.0709	0.4481	0.0000	0.4481			0.0000			0.0000
Off-Road	1.0530	9.3216	8.3495	0.0120		0.6139	0.6139		0.5862	0.5862		1,173.8565	1,173.8565	0.2268		1,178.6197
Total	**1.0530**	**9.3216**	**8.3495**	**0.0120**	**1.0709**	**0.6139**	**1.6849**	**0.4481**	**0.5862**	**1.0343**		**1,173.8565**	**1,173.8565**	**0.2268**		**1,178.6197**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0309	0.0355	0.4309	1.2600e-003	0.0943	7.9000e-004	0.0951	0.0250	7.3000e-004	0.0257		97.9247	97.9247	4.5500e-003		98.0202
Total	**0.0309**	**0.0355**	**0.4309**	**1.2600e-003**	**0.0943**	**7.9000e-004**	**0.0951**	**0.0250**	**7.3000e-004**	**0.0257**		**97.9247**	**97.9247**	**4.5500e-003**		**98.0202**

3.3 Grading - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.4819	0.0000	0.4819	0.2017	0.0000	0.2017			0.0000			0.0000
Off-Road	0.2661	5.9808	7.9564	0.0120		0.0604	0.0604		0.0604	0.0604	0.0000	1,173.8565	1,173.8565	0.2268		1,178.6197
Total	**0.2661**	**5.9808**	**7.9564**	**0.0120**	**0.4819**	**0.0604**	**0.5423**	**0.2017**	**0.0604**	**0.2620**	**0.0000**	**1,173.8565**	**1,173.8565**	**0.2268**		**1,178.6197**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0309	0.0355	0.4309	1.2600e-003	0.0943	7.9000e-004	0.0951	0.0250	7.3000e-004	0.0257		97.9247	97.9247	4.5500e-003		98.0202
Total	**0.0309**	**0.0355**	**0.4309**	**1.2600e-003**	**0.0943**	**7.9000e-004**	**0.0951**	**0.0250**	**7.3000e-004**	**0.0257**		**97.9247**	**97.9247**	**4.5500e-003**		**98.0202**

3.4 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0786	10.9578	7.7239	0.0113		0.7055	0.7055		0.6491	0.6491		1,140.2487	1,140.2487	0.3550		1,147.7032
Total	**1.0786**	**10.9578**	**7.7239**	**0.0113**		**0.7055**	**0.7055**		**0.6491**	**0.6491**		**1,140.2487**	**1,140.2487**	**0.3550**		**1,147.7032**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3203	2.7079	4.1634	8.0000e-003	0.2311	0.0394	0.2704	0.0659	0.0362	0.1021		775.3378	775.3378	5.8300e-003		775.4603
Worker	0.2751	0.3162	3.8346	0.0112	0.8393	7.0200e-003	0.8463	0.2226	6.5000e-003	0.2291		871.5295	871.5295	0.0405		872.3796
Total	**0.5954**	**3.0242**	**7.9980**	**0.0192**	**1.0704**	**0.0464**	**1.1168**	**0.2885**	**0.0427**	**0.3312**		**1,646.8674**	**1,646.8674**	**0.0463**		**1,647.8399**

3.4 Building Construction - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2778	6.1000	7.9292	0.0113		0.0577	0.0577		0.0577	0.0577	0.0000	1,140.2487	1,140.2487	0.3550		1,147.7032
Total	**0.2778**	**6.1000**	**7.9292**	**0.0113**		**0.0577**	**0.0577**		**0.0577**	**0.0577**	**0.0000**	**1,140.2487**	**1,140.2487**	**0.3550**		**1,147.7032**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3203	2.7079	4.1634	8.0000e-003	0.2311	0.0394	0.2704	0.0659	0.0362	0.1021		775.3378	775.3378	5.8300e-003		775.4603
Worker	0.2751	0.3162	3.8346	0.0112	0.8393	7.0200e-003	0.8463	0.2226	6.5000e-003	0.2291		871.5295	871.5295	0.0405		872.3796
Total	**0.5954**	**3.0242**	**7.9980**	**0.0192**	**1.0704**	**0.0464**	**1.1168**	**0.2885**	**0.0427**	**0.3312**		**1,646.8674**	**1,646.8674**	**0.0463**		**1,647.8399**

3.5 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9092	8.6233	7.1255	0.0111		0.5050	0.5050		0.4681	0.4681		1,054.2145	1,054.2145	0.2968		1,060.4462
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9092**	**8.6233**	**7.1255**	**0.0111**		**0.5050**	**0.5050**		**0.4681**	**0.4681**		**1,054.2145**	**1,054.2145**	**0.2968**		**1,060.4462**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0556	0.0640	0.7755	2.2600e-003	0.1698	1.4200e-003	0.1712	0.0450	1.3100e-003	0.0463		176.2644	176.2644	8.1900e-003		176.4363
Total	**0.0556**	**0.0640**	**0.7755**	**2.2600e-003**	**0.1698**	**1.4200e-003**	**0.1712**	**0.0450**	**1.3100e-003**	**0.0463**		**176.2644**	**176.2644**	**8.1900e-003**		**176.4363**

3.5 Paving - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2200	4.6827	6.7829	0.0111		0.0431	0.0431		0.0431	0.0431	0.0000	1,054.2145	1,054.2145	0.2968		1,060.4462
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.2200**	**4.6827**	**6.7829**	**0.0111**		**0.0431**	**0.0431**		**0.0431**	**0.0431**	**0.0000**	**1,054.2145**	**1,054.2145**	**0.2968**		**1,060.4462**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0556	0.0640	0.7755	2.2600e-003	0.1698	1.4200e-003	0.1712	0.0450	1.3100e-003	0.0463		176.2644	176.2644	8.1900e-003		176.4363
Total	**0.0556**	**0.0640**	**0.7755**	**2.2600e-003**	**0.1698**	**1.4200e-003**	**0.1712**	**0.0450**	**1.3100e-003**	**0.0463**		**176.2644**	**176.2644**	**8.1900e-003**		**176.4363**

3.6 Architectural Coating - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	439.6761					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506		281.4485	281.4485	0.0267		282.0102
Total	**439.9747**	**2.0058**	**1.8542**	**2.9700e-003**		**0.1506**	**0.1506**		**0.1506**	**0.1506**		**281.4485**	**281.4485**	**0.0267**		**282.0102**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0556	0.0640	0.7755	2.2600e-003	0.1698	1.4200e-003	0.1712	0.0450	1.3100e-003	0.0463		176.2644	176.2644	8.1900e-003		176.4363
Total	**0.0556**	**0.0640**	**0.7755**	**2.2600e-003**	**0.1698**	**1.4200e-003**	**0.1712**	**0.0450**	**1.3100e-003**	**0.0463**		**176.2644**	**176.2644**	**8.1900e-003**		**176.4363**

3.6 Architectural Coating - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	439.6761					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0594	1.3570	1.8324	2.9700e-003		0.0143	0.0143		0.0143	0.0143	0.0000	281.4485	281.4485	0.0267		282.0102
Total	**439.7355**	**1.3570**	**1.8324**	**2.9700e-003**		**0.0143**	**0.0143**		**0.0143**	**0.0143**	**0.0000**	**281.4485**	**281.4485**	**0.0267**		**282.0102**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0556	0.0640	0.7755	2.2600e-003	0.1698	1.4200e-003	0.1712	0.0450	1.3100e-003	0.0463		176.2644	176.2644	8.1900e-003		176.4363
Total	**0.0556**	**0.0640**	**0.7755**	**2.2600e-003**	**0.1698**	**1.4200e-003**	**0.1712**	**0.0450**	**1.3100e-003**	**0.0463**		**176.2644**	**176.2644**	**8.1900e-003**		**176.4363**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.631289	0.058518	0.148045	0.077273	0.026007	0.003276	0.026188	0.004043	0.003129	0.010899	0.010305	0.000529	0.000500

4.4 Fleet Mix

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	5.1185	5.0000e-004	0.0542	0.0000		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004		0.1153	0.1153	3.1000e-004		0.1218
Unmitigated	5.1185	5.0000e-004	0.0542	0.0000		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004		0.1153	0.1153	3.1000e-004		0.1218

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.6023					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.5111					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	5.0900e-003	5.0000e-004	0.0542	0.0000		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004		0.1153	0.1153	3.1000e-004		0.1218
Total	**5.1185**	**5.0000e-004**	**0.0542**	**0.0000**		**1.9000e-004**	**1.9000e-004**		**1.9000e-004**	**1.9000e-004**		**0.1153**	**0.1153**	**3.1000e-004**		**0.1218**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.6023					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.5111					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	5.0900e-003	5.0000e-004	0.0542	0.0000		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004		0.1153	0.1153	3.1000e-004		0.1218
Total	**5.1185**	**5.0000e-004**	**0.0542**	**0.0000**		**1.9000e-004**	**1.9000e-004**		**1.9000e-004**	**1.9000e-004**		**0.1153**	**0.1153**	**3.1000e-004**		**0.1218**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

UCSF Parking Garage Expansion 527 Spaces No Retail

San Francisco County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	527.00	Space	0.60	210,800.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	4.6	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E Greenhouse Gas Emission Factors: Guidance for PG&E Customers (November 2015)

Land Use - Building lot is 26,320 square feet

Construction Phase -

Grading - parking garage footprint is 0.6 acres

Architectural Coating -

Vechicle Emission Factors -

Vechicle Emission Factors -

Vechicle Emission Factors -

Construction Off-road Equipment Mitigation - BAAQMD Enhanced Mitigation Measures

Area Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3

tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblGrading	AcresOfGrading	0.00	0.60
tblGrading	AcresOfGrading	0.50	0.60
tblLandUse	LotAcreage	4.74	0.60
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblProjectCharacteristics	OperationalYear	2014	2020

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	440.0323	14.2007	17.6496	0.0298	1.1652	0.7523	1.8227	0.4731	0.6922	1.0601	0.0000	2,729.0461	2,729.0461	0.4015	0.0000	2,737.4767
Total	**440.0323**	**14.2007**	**17.6496**	**0.0298**	**1.1652**	**0.7523**	**1.8227**	**0.4731**	**0.6922**	**1.0601**	**0.0000**	**2,729.0461**	**2,729.0461**	**0.4015**	**0.0000**	**2,737.4767**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	439.7931	9.3429	17.8549	0.0298	1.0704	0.1045	1.1748	0.2885	0.1008	0.3892	0.0000	2,729.0461	2,729.0461	0.4015	0.0000	2,737.4767
Total	**439.7931**	**9.3429**	**17.8549**	**0.0298**	**1.0704**	**0.1045**	**1.1748**	**0.2885**	**0.1008**	**0.3892**	**0.0000**	**2,729.0461**	**2,729.0461**	**0.4015**	**0.0000**	**2,737.4767**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.05**	**34.21**	**-1.16**	**0.00**	**8.14**	**86.11**	**35.54**	**39.03**	**85.44**	**63.28**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	5.1185	5.0000e-004	0.0542	0.0000		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004		0.1153	0.1153	3.1000e-004		0.1218
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**5.1185**	**5.0000e-004**	**0.0542**	**0.0000**	**0.0000**	**1.9000e-004**	**1.9000e-004**	**0.0000**	**1.9000e-004**	**1.9000e-004**		**0.1153**	**0.1153**	**3.1000e-004**	**0.0000**	**0.1218**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	5.1185	5.0000e-004	0.0542	0.0000		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004		0.1153	0.1153	3.1000e-004		0.1218
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**5.1185**	**5.0000e-004**	**0.0542**	**0.0000**	**0.0000**	**1.9000e-004**	**1.9000e-004**	**0.0000**	**1.9000e-004**	**1.9000e-004**		**0.1153**	**0.1153**	**3.1000e-004**	**0.0000**	**0.1218**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/2/2018	1/2/2018	5	1	
2	Grading	Grading	1/3/2018	1/4/2018	5	2	
3	Building Construction	Building Construction	1/5/2018	5/24/2018	5	100	
4	Paving	Paving	5/25/2018	5/31/2018	5	5	
5	Architectural Coating	Architectural Coating	6/1/2018	6/7/2018	5	5	

Acres of Grading (Site Preparation Phase): 0.6

Acres of Grading (Grading Phase): 0.6

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 316,200; Non-Residential Outdoor: 105,400 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	174	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Rubber Tired Dozers	1	1.00	255	0.40
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Building Construction	Cranes	1	4.00	226	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Paving	Pavers	1	7.00	125	0.42
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	2	5.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	89.00	35.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	18.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Water Exposed Area

3.2 Site Preparation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.6363	0.0000	0.6363	0.0687	0.0000	0.0687			0.0000			0.0000
Off-Road	1.0983	10.9398	7.0042	9.3200e-003		0.6535	0.6535		0.6012	0.6012		938.5863	938.5863	0.2922		944.7224
Total	**1.0983**	**10.9398**	**7.0042**	**9.3200e-003**	**0.6363**	**0.6535**	**1.2898**	**0.0687**	**0.6012**	**0.6699**		**938.5863**	**938.5863**	**0.2922**		**944.7224**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0160	0.0220	0.2105	5.9000e-004	0.0472	3.9000e-004	0.0476	0.0125	3.7000e-004	0.0129		46.0494	46.0494	2.2700e-003		46.0972
Total	**0.0160**	**0.0220**	**0.2105**	**5.9000e-004**	**0.0472**	**3.9000e-004**	**0.0476**	**0.0125**	**3.7000e-004**	**0.0129**		**46.0494**	**46.0494**	**2.2700e-003**		**46.0972**

3.2 Site Preparation - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2863	0.0000	0.2863	0.0309	0.0000	0.0309			0.0000			0.0000
Off-Road	0.2270	4.6535	6.9975	9.3200e-003		0.0394	0.0394		0.0394	0.0394	0.0000	938.5863	938.5863	0.2922		944.7224
Total	**0.2270**	**4.6535**	**6.9975**	**9.3200e-003**	**0.2863**	**0.0394**	**0.3257**	**0.0309**	**0.0394**	**0.0703**	**0.0000**	**938.5863**	**938.5863**	**0.2922**		**944.7224**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0160	0.0220	0.2105	5.9000e-004	0.0472	3.9000e-004	0.0476	0.0125	3.7000e-004	0.0129		46.0494	46.0494	2.2700e-003		46.0972
Total	**0.0160**	**0.0220**	**0.2105**	**5.9000e-004**	**0.0472**	**3.9000e-004**	**0.0476**	**0.0125**	**3.7000e-004**	**0.0129**		**46.0494**	**46.0494**	**2.2700e-003**		**46.0972**

3.3 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.0709	0.0000	1.0709	0.4481	0.0000	0.4481			0.0000			0.0000
Off-Road	1.0530	9.3216	8.3495	0.0120		0.6139	0.6139		0.5862	0.5862		1,173.8565	1,173.8565	0.2268		1,178.6197
Total	**1.0530**	**9.3216**	**8.3495**	**0.0120**	**1.0709**	**0.6139**	**1.6849**	**0.4481**	**0.5862**	**1.0343**		**1,173.8565**	**1,173.8565**	**0.2268**		**1,178.6197**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0320	0.0440	0.4211	1.1800e-003	0.0943	7.9000e-004	0.0951	0.0250	7.3000e-004	0.0257		92.0988	92.0988	4.5500e-003		92.1943
Total	**0.0320**	**0.0440**	**0.4211**	**1.1800e-003**	**0.0943**	**7.9000e-004**	**0.0951**	**0.0250**	**7.3000e-004**	**0.0257**		**92.0988**	**92.0988**	**4.5500e-003**		**92.1943**

3.3 Grading - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.4819	0.0000	0.4819	0.2017	0.0000	0.2017			0.0000			0.0000
Off-Road	0.2661	5.9808	7.9564	0.0120		0.0604	0.0604		0.0604	0.0604	0.0000	1,173.8565	1,173.8565	0.2268		1,178.6197
Total	**0.2661**	**5.9808**	**7.9564**	**0.0120**	**0.4819**	**0.0604**	**0.5423**	**0.2017**	**0.0604**	**0.2620**	**0.0000**	**1,173.8565**	**1,173.8565**	**0.2268**		**1,178.6197**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0320	0.0440	0.4211	1.1800e-003	0.0943	7.9000e-004	0.0951	0.0250	7.3000e-004	0.0257		92.0988	92.0988	4.5500e-003		92.1943
Total	**0.0320**	**0.0440**	**0.4211**	**1.1800e-003**	**0.0943**	**7.9000e-004**	**0.0951**	**0.0250**	**7.3000e-004**	**0.0257**		**92.0988**	**92.0988**	**4.5500e-003**		**92.1943**

3.4 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0786	10.9578	7.7239	0.0113		0.7055	0.7055		0.6491	0.6491		1,140.2487	1,140.2487	0.3550		1,147.7032
Total	**1.0786**	**10.9578**	**7.7239**	**0.0113**		**0.7055**	**0.7055**		**0.6491**	**0.6491**		**1,140.2487**	**1,140.2487**	**0.3550**		**1,147.7032**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3904	2.8511	6.1782	7.9600e-003	0.2311	0.0398	0.2709	0.0659	0.0366	0.1025		769.1182	769.1182	6.0000e-003		769.2443
Worker	0.2846	0.3919	3.7475	0.0105	0.8393	7.0200e-003	0.8463	0.2226	6.5000e-003	0.2291		819.6792	819.6792	0.0405		820.5292
Total	**0.6750**	**3.2430**	**9.9257**	**0.0185**	**1.0704**	**0.0468**	**1.1172**	**0.2885**	**0.0431**	**0.3316**		**1,588.7974**	**1,588.7974**	**0.0465**		**1,589.7735**

3.4 Building Construction - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2778	6.1000	7.9292	0.0113		0.0577	0.0577		0.0577	0.0577	0.0000	1,140.2487	1,140.2487	0.3550		1,147.7032
Total	**0.2778**	**6.1000**	**7.9292**	**0.0113**		**0.0577**	**0.0577**		**0.0577**	**0.0577**	**0.0000**	**1,140.2487**	**1,140.2487**	**0.3550**		**1,147.7032**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3904	2.8511	6.1782	7.9600e-003	0.2311	0.0398	0.2709	0.0659	0.0366	0.1025		769.1182	769.1182	6.0000e-003		769.2443
Worker	0.2846	0.3919	3.7475	0.0105	0.8393	7.0200e-003	0.8463	0.2226	6.5000e-003	0.2291		819.6792	819.6792	0.0405		820.5292
Total	**0.6750**	**3.2430**	**9.9257**	**0.0185**	**1.0704**	**0.0468**	**1.1172**	**0.2885**	**0.0431**	**0.3316**		**1,588.7974**	**1,588.7974**	**0.0465**		**1,589.7735**

3.5 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9092	8.6233	7.1255	0.0111		0.5050	0.5050		0.4681	0.4681		1,054.2145	1,054.2145	0.2968		1,060.4462
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9092**	**8.6233**	**7.1255**	**0.0111**		**0.5050**	**0.5050**		**0.4681**	**0.4681**		**1,054.2145**	**1,054.2145**	**0.2968**		**1,060.4462**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0576	0.0793	0.7579	2.1300e-003	0.1698	1.4200e-003	0.1712	0.0450	1.3100e-003	0.0463		165.7778	165.7778	8.1900e-003		165.9497
Total	**0.0576**	**0.0793**	**0.7579**	**2.1300e-003**	**0.1698**	**1.4200e-003**	**0.1712**	**0.0450**	**1.3100e-003**	**0.0463**		**165.7778**	**165.7778**	**8.1900e-003**		**165.9497**

3.5 Paving - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2200	4.6827	6.7829	0.0111		0.0431	0.0431		0.0431	0.0431	0.0000	1,054.2145	1,054.2145	0.2968		1,060.4462
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.2200**	**4.6827**	**6.7829**	**0.0111**		**0.0431**	**0.0431**		**0.0431**	**0.0431**	**0.0000**	**1,054.2145**	**1,054.2145**	**0.2968**		**1,060.4462**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0576	0.0793	0.7579	2.1300e-003	0.1698	1.4200e-003	0.1712	0.0450	1.3100e-003	0.0463		165.7778	165.7778	8.1900e-003		165.9497
Total	**0.0576**	**0.0793**	**0.7579**	**2.1300e-003**	**0.1698**	**1.4200e-003**	**0.1712**	**0.0450**	**1.3100e-003**	**0.0463**		**165.7778**	**165.7778**	**8.1900e-003**		**165.9497**

3.6 Architectural Coating - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	439.6761					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506		281.4485	281.4485	0.0267		282.0102
Total	**439.9747**	**2.0058**	**1.8542**	**2.9700e-003**		**0.1506**	**0.1506**		**0.1506**	**0.1506**		**281.4485**	**281.4485**	**0.0267**		**282.0102**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0576	0.0793	0.7579	2.1300e-003	0.1698	1.4200e-003	0.1712	0.0450	1.3100e-003	0.0463		165.7778	165.7778	8.1900e-003		165.9497
Total	**0.0576**	**0.0793**	**0.7579**	**2.1300e-003**	**0.1698**	**1.4200e-003**	**0.1712**	**0.0450**	**1.3100e-003**	**0.0463**		**165.7778**	**165.7778**	**8.1900e-003**		**165.9497**

3.6 Architectural Coating - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	439.6761					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0594	1.3570	1.8324	2.9700e-003		0.0143	0.0143		0.0143	0.0143	0.0000	281.4485	281.4485	0.0267		282.0102
Total	**439.7355**	**1.3570**	**1.8324**	**2.9700e-003**		**0.0143**	**0.0143**		**0.0143**	**0.0143**	**0.0000**	**281.4485**	**281.4485**	**0.0267**		**282.0102**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0576	0.0793	0.7579	2.1300e-003	0.1698	1.4200e-003	0.1712	0.0450	1.3100e-003	0.0463		165.7778	165.7778	8.1900e-003		165.9497
Total	**0.0576**	**0.0793**	**0.7579**	**2.1300e-003**	**0.1698**	**1.4200e-003**	**0.1712**	**0.0450**	**1.3100e-003**	**0.0463**		**165.7778**	**165.7778**	**8.1900e-003**		**165.9497**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.631289	0.058518	0.148045	0.077273	0.026007	0.003276	0.026188	0.004043	0.003129	0.010899	0.010305	0.000529	0.000500

4.4 Fleet Mix

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	5.1185	5.0000e-004	0.0542	0.0000		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004		0.1153	0.1153	3.1000e-004		0.1218
Unmitigated	5.1185	5.0000e-004	0.0542	0.0000		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004		0.1153	0.1153	3.1000e-004		0.1218

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.6023					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.5111					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	5.0900e-003	5.0000e-004	0.0542	0.0000		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004		0.1153	0.1153	3.1000e-004		0.1218
Total	**5.1185**	**5.0000e-004**	**0.0542**	**0.0000**		**1.9000e-004**	**1.9000e-004**		**1.9000e-004**	**1.9000e-004**		**0.1153**	**0.1153**	**3.1000e-004**		**0.1218**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.6023					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.5111					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	5.0900e-003	5.0000e-004	0.0542	0.0000		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004		0.1153	0.1153	3.1000e-004		0.1218
Total	**5.1185**	**5.0000e-004**	**0.0542**	**0.0000**		**1.9000e-004**	**1.9000e-004**		**1.9000e-004**	**1.9000e-004**		**0.1153**	**0.1153**	**3.1000e-004**		**0.1218**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

Further Parking Garage Expansion with Retail

UCSF Parking Garage Expansion 512 Spaces With Retail

San Francisco County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	512.00	Space	0.60	204,800.00	0
Strip Mall	5.00	1000sqft	0.00	5,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	4.6	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E Greenhouse Gas Emission Factors: Guidance for PG&E Customers (November 2015)

Land Use - Building lot is 26,320 square feet

Construction Phase -

Grading - parking garage footprint is 0.6 acres

Architectural Coating -

Vehicle Trips - Vehicle Trips - Based on 98 net new daily trips per day (Transportation Study for UCSF Research Building by Fehr & Peers, December 2015, Revised March 2016)

Vechicle Emission Factors -

Vechicle Emission Factors -

Vechicle Emission Factors -

Construction Off-road Equipment Mitigation - BAAQMD Enhanced Mitigation Measures

Area Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblLandUse	LotAcreage	4.61	0.60
tblLandUse	LotAcreage	0.11	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblProjectCharacteristics	OperationalYear	2014	2020
tblVehicleTrips	ST_TR	42.04	19.60
tblVehicleTrips	SU_TR	20.43	19.60
tblVehicleTrips	WD_TR	44.32	19.60

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	1.1889	0.7483	0.8680	1.5400e-003	0.0526	0.0402	0.0928	0.0144	0.0370	0.0514	0.0000	128.5507	128.5507	0.0193	0.0000	128.9555
Total	**1.1889**	**0.7483**	**0.8680**	**1.5400e-003**	**0.0526**	**0.0402**	**0.0928**	**0.0144**	**0.0370**	**0.0514**	**0.0000**	**128.5507**	**128.5507**	**0.0193**	**0.0000**	**128.9555**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	1.1557	0.7325	0.8769	1.5400e-003	0.0520	5.4400e-003	0.0575	0.0141	5.2600e-003	0.0194	0.0000	128.5506	128.5506	0.0193	0.0000	128.9554
Total	**1.1557**	**0.7325**	**0.8769**	**1.5400e-003**	**0.0520**	**5.4400e-003**	**0.0575**	**0.0141**	**5.2600e-003**	**0.0194**	**0.0000**	**128.5506**	**128.5506**	**0.0193**	**0.0000**	**128.9554**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**2.79**	**2.11**	**-1.03**	**0.00**	**1.07**	**86.46**	**38.06**	**1.67**	**85.80**	**62.26**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.9297	4.0000e-005	4.7800e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	9.2400e-003	9.2400e-003	2.0000e-005	0.0000	9.7600e-003
Energy	1.3000e-004	1.1800e-003	9.9000e-004	1.0000e-005		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	190.4907	190.4907	0.0190	3.9400e-003	192.1094
Mobile	0.0414	0.0688	0.3250	8.4000e-004	0.0570	1.1000e-003	0.0581	0.0155	1.0200e-003	0.0165	0.0000	57.3802	57.3802	2.2400e-003	0.0000	57.4274
Waste						0.0000	0.0000		0.0000	0.0000	4.2628	0.0000	4.2628	0.2519	0.0000	9.5532
Water						0.0000	0.0000		0.0000	0.0000	0.4700	1.4725	1.9425	0.0484	1.1700e-003	3.3221
Total	**0.9713**	**0.0700**	**0.3308**	**8.5000e-004**	**0.0570**	**1.2100e-003**	**0.0582**	**0.0155**	**1.1300e-003**	**0.0166**	**4.7328**	**249.3527**	**254.0855**	**0.3216**	**5.1100e-003**	**262.4218**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.9297	4.0000e-005	4.7800e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	9.2400e-003	9.2400e-003	2.0000e-005	0.0000	9.7600e-003
Energy	1.3000e-004	1.1800e-003	9.9000e-004	1.0000e-005		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	190.4907	190.4907	0.0190	3.9400e-003	192.1094
Mobile	0.0414	0.0688	0.3250	8.4000e-004	0.0570	1.1000e-003	0.0581	0.0155	1.0200e-003	0.0165	0.0000	57.3802	57.3802	2.2400e-003	0.0000	57.4274
Waste						0.0000	0.0000		0.0000	0.0000	4.2628	0.0000	4.2628	0.2519	0.0000	9.5532
Water						0.0000	0.0000		0.0000	0.0000	0.4700	1.4725	1.9425	0.0484	1.1700e-003	3.3214
Total	**0.9713**	**0.0700**	**0.3308**	**8.5000e-004**	**0.0570**	**1.2100e-003**	**0.0582**	**0.0155**	**1.1300e-003**	**0.0166**	**4.7328**	**249.3527**	**254.0855**	**0.3215**	**5.1100e-003**	**262.4211**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/2/2018	1/2/2018	5	1	
2	Grading	Grading	1/3/2018	1/4/2018	5	2	
3	Building Construction	Building Construction	1/5/2018	5/24/2018	5	100	
4	Paving	Paving	5/25/2018	5/31/2018	5	5	
5	Architectural Coating	Architectural Coating	6/1/2018	6/7/2018	5	5	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 316,200; Non-Residential Outdoor: 105,400 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	174	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Rubber Tired Dozers	1	1.00	255	0.40
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Building Construction	Cranes	1	4.00	226	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Paving	Pavers	1	7.00	125	0.42
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	2	5.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	87.00	35.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	17.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Water Exposed Area

3.2 Site Preparation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.5000e-004	5.4700e-003	3.5000e-003	0.0000		3.3000e-004	3.3000e-004		3.0000e-004	3.0000e-004	0.0000	0.4257	0.4257	1.3000e-004	0.0000	0.4285
Total	**5.5000e-004**	**5.4700e-003**	**3.5000e-003**	**0.0000**	**2.7000e-004**	**3.3000e-004**	**6.0000e-004**	**3.0000e-005**	**3.0000e-004**	**3.3000e-004**	**0.0000**	**0.4257**	**0.4257**	**1.3000e-004**	**0.0000**	**0.4285**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	1.0000e-005	1.0000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0209	0.0209	0.0000	0.0000	0.0210
Total	**1.0000e-005**	**1.0000e-005**	**1.0000e-004**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0209**	**0.0209**	**0.0000**	**0.0000**	**0.0210**

3.2 Site Preparation - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.2000e-004	0.0000	1.2000e-004	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9000e-004	4.1300e-003	3.5000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.4257	0.4257	1.3000e-004	0.0000	0.4285
Total	**1.9000e-004**	**4.1300e-003**	**3.5000e-003**	**0.0000**	**1.2000e-004**	**2.0000e-005**	**1.4000e-004**	**1.0000e-005**	**2.0000e-005**	**3.0000e-005**	**0.0000**	**0.4257**	**0.4257**	**1.3000e-004**	**0.0000**	**0.4285**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	1.0000e-005	1.0000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0209	0.0209	0.0000	0.0000	0.0210
Total	**1.0000e-005**	**1.0000e-005**	**1.0000e-004**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0209**	**0.0209**	**0.0000**	**0.0000**	**0.0210**

3.3 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					7.5000e-004	0.0000	7.5000e-004	4.1000e-004	0.0000	4.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0500e-003	9.3200e-003	8.3500e-003	1.0000e-005		6.1000e-004	6.1000e-004		5.9000e-004	5.9000e-004	0.0000	1.0649	1.0649	2.1000e-004	0.0000	1.0692
Total	**1.0500e-003**	**9.3200e-003**	**8.3500e-003**	**1.0000e-005**	**7.5000e-004**	**6.1000e-004**	**1.3600e-003**	**4.1000e-004**	**5.9000e-004**	**1.0000e-003**	**0.0000**	**1.0649**	**1.0649**	**2.1000e-004**	**0.0000**	**1.0692**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-005	4.0000e-005	4.1000e-004	0.0000	9.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0837	0.0837	0.0000	0.0000	0.0838
Total	**3.0000e-005**	**4.0000e-005**	**4.1000e-004**	**0.0000**	**9.0000e-005**	**0.0000**	**9.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0837**	**0.0837**	**0.0000**	**0.0000**	**0.0838**

3.3 Grading - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.4000e-004	0.0000	3.4000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.9000e-004	0.0104	7.9600e-003	1.0000e-005		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	1.0649	1.0649	2.1000e-004	0.0000	1.0692
Total	**4.9000e-004**	**0.0104**	**7.9600e-003**	**1.0000e-005**	**3.4000e-004**	**6.0000e-005**	**4.0000e-004**	**1.9000e-004**	**6.0000e-005**	**2.5000e-004**	**0.0000**	**1.0649**	**1.0649**	**2.1000e-004**	**0.0000**	**1.0692**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-005	4.0000e-005	4.1000e-004	0.0000	9.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0837	0.0837	0.0000	0.0000	0.0838
Total	**3.0000e-005**	**4.0000e-005**	**4.1000e-004**	**0.0000**	**9.0000e-005**	**0.0000**	**9.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0837**	**0.0837**	**0.0000**	**0.0000**	**0.0838**

3.4 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0539	0.5479	0.3862	5.7000e-004		0.0353	0.0353		0.0325	0.0325	0.0000	51.7208	51.7208	0.0161	0.0000	52.0589
Total	**0.0539**	**0.5479**	**0.3862**	**5.7000e-004**		**0.0353**	**0.0353**		**0.0325**	**0.0325**	**0.0000**	**51.7208**	**51.7208**	**0.0161**	**0.0000**	**52.0589**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0179	0.1409	0.2657	4.0000e-004	0.0112	1.9800e-003	0.0132	3.2000e-003	1.8200e-003	5.0200e-003	0.0000	35.0502	35.0502	2.7000e-004	0.0000	35.0559
Worker	0.0129	0.0177	0.1776	5.2000e-004	0.0395	3.4000e-004	0.0398	0.0105	3.2000e-004	0.0108	0.0000	36.4224	36.4224	1.7900e-003	0.0000	36.4601
Total	**0.0308**	**0.1587**	**0.4434**	**9.2000e-004**	**0.0506**	**2.3200e-003**	**0.0530**	**0.0137**	**2.1400e-003**	**0.0158**	**0.0000**	**71.4727**	**71.4727**	**2.0600e-003**	**0.0000**	**71.5160**

3.4 Building Construction - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0234	0.5324	0.3965	5.7000e-004		2.8800e-003	2.8800e-003		2.8800e-003	2.8800e-003	0.0000	51.7208	51.7208	0.0161	0.0000	52.0589
Total	**0.0234**	**0.5324**	**0.3965**	**5.7000e-004**		**2.8800e-003**	**2.8800e-003**		**2.8800e-003**	**2.8800e-003**	**0.0000**	**51.7208**	**51.7208**	**0.0161**	**0.0000**	**52.0589**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0179	0.1409	0.2657	4.0000e-004	0.0112	1.9800e-003	0.0132	3.2000e-003	1.8200e-003	5.0200e-003	0.0000	35.0502	35.0502	2.7000e-004	0.0000	35.0559
Worker	0.0129	0.0177	0.1776	5.2000e-004	0.0395	3.4000e-004	0.0398	0.0105	3.2000e-004	0.0108	0.0000	36.4224	36.4224	1.7900e-003	0.0000	36.4601
Total	**0.0308**	**0.1587**	**0.4434**	**9.2000e-004**	**0.0506**	**2.3200e-003**	**0.0530**	**0.0137**	**2.1400e-003**	**0.0158**	**0.0000**	**71.4727**	**71.4727**	**2.0600e-003**	**0.0000**	**71.5160**

3.5 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.2700e-003	0.0216	0.0178	3.0000e-005		1.2600e-003	1.2600e-003		1.1700e-003	1.1700e-003	0.0000	2.3909	2.3909	6.7000e-004	0.0000	2.4051
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.2700e-003**	**0.0216**	**0.0178**	**3.0000e-005**		**1.2600e-003**	**1.2600e-003**		**1.1700e-003**	**1.1700e-003**	**0.0000**	**2.3909**	**2.3909**	**6.7000e-004**	**0.0000**	**2.4051**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3000e-004	1.8000e-004	1.8400e-003	1.0000e-005	4.1000e-004	0.0000	4.1000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3768	0.3768	2.0000e-005	0.0000	0.3772
Total	**1.3000e-004**	**1.8000e-004**	**1.8400e-003**	**1.0000e-005**	**4.1000e-004**	**0.0000**	**4.1000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.3768**	**0.3768**	**2.0000e-005**	**0.0000**	**0.3772**

3.5 Paving - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.7000e-004	0.0206	0.0170	3.0000e-005		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004	0.0000	2.3909	2.3909	6.7000e-004	0.0000	2.4051
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**9.7000e-004**	**0.0206**	**0.0170**	**3.0000e-005**		**1.1000e-004**	**1.1000e-004**		**1.1000e-004**	**1.1000e-004**	**0.0000**	**2.3909**	**2.3909**	**6.7000e-004**	**0.0000**	**2.4051**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3000e-004	1.8000e-004	1.8400e-003	1.0000e-005	4.1000e-004	0.0000	4.1000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3768	0.3768	2.0000e-005	0.0000	0.3772
Total	**1.3000e-004**	**1.8000e-004**	**1.8400e-003**	**1.0000e-005**	**4.1000e-004**	**0.0000**	**4.1000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.3768**	**0.3768**	**2.0000e-005**	**0.0000**	**0.3772**

3.6 Architectural Coating - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.0992					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.5000e-004	5.0100e-003	4.6400e-003	1.0000e-005		3.8000e-004	3.8000e-004		3.8000e-004	3.8000e-004	0.0000	0.6383	0.6383	6.0000e-005	0.0000	0.6396
Total	**1.0999**	**5.0100e-003**	**4.6400e-003**	**1.0000e-005**		**3.8000e-004**	**3.8000e-004**		**3.8000e-004**	**3.8000e-004**	**0.0000**	**0.6383**	**0.6383**	**6.0000e-005**	**0.0000**	**0.6396**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3000e-004	1.7000e-004	1.7400e-003	1.0000e-005	3.9000e-004	0.0000	3.9000e-004	1.0000e-004	0.0000	1.1000e-004	0.0000	0.3559	0.3559	2.0000e-005	0.0000	0.3562
Total	**1.3000e-004**	**1.7000e-004**	**1.7400e-003**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**3.9000e-004**	**1.0000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.3559**	**0.3559**	**2.0000e-005**	**0.0000**	**0.3562**

3.6 Architectural Coating - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.0992					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.8000e-004	5.8800e-003	4.5800e-003	1.0000e-005		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.6383	0.6383	6.0000e-005	0.0000	0.6396
Total	**1.0995**	**5.8800e-003**	**4.5800e-003**	**1.0000e-005**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**	**0.0000**	**0.6383**	**0.6383**	**6.0000e-005**	**0.0000**	**0.6396**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3000e-004	1.7000e-004	1.7400e-003	1.0000e-005	3.9000e-004	0.0000	3.9000e-004	1.0000e-004	0.0000	1.1000e-004	0.0000	0.3559	0.3559	2.0000e-005	0.0000	0.3562
Total	**1.3000e-004**	**1.7000e-004**	**1.7400e-003**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**3.9000e-004**	**1.0000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.3559**	**0.3559**	**2.0000e-005**	**0.0000**	**0.3562**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0414	0.0688	0.3250	8.4000e-004	0.0570	1.1000e-003	0.0581	0.0155	1.0200e-003	0.0165	0.0000	57.3802	57.3802	2.2400e-003	0.0000	57.4274
Unmitigated	0.0414	0.0688	0.3250	8.4000e-004	0.0570	1.1000e-003	0.0581	0.0155	1.0200e-003	0.0165	0.0000	57.3802	57.3802	2.2400e-003	0.0000	57.4274

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
Strip Mall	98.00	98.00	98.00	150,923	150,923
Total	98.00	98.00	98.00	150,923	150,923

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.631289	0.058518	0.148045	0.077273	0.026007	0.003276	0.026188	0.004043	0.003129	0.010899	0.010305	0.000529	0.000500

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	189.2100	189.2100	0.0189	3.9100e-003	190.8209
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	189.2100	189.2100	0.0189	3.9100e-003	190.8209
NaturalGas Mitigated	1.3000e-004	1.1800e-003	9.9000e-004	1.0000e-005		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	1.2807	1.2807	2.0000e-005	2.0000e-005	1.2885
NaturalGas Unmitigated	1.3000e-004	1.1800e-003	9.9000e-004	1.0000e-005		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	1.2807	1.2807	2.0000e-005	2.0000e-005	1.2885

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	24000	1.3000e-004	1.1800e-003	9.9000e-004	1.0000e-005		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	1.2807	1.2807	2.0000e-005	2.0000e-005	1.2885
Total		**1.3000e-004**	**1.1800e-003**	**9.9000e-004**	**1.0000e-005**		**9.0000e-005**	**9.0000e-005**		**9.0000e-005**	**9.0000e-005**	**0.0000**	**1.2807**	**1.2807**	**2.0000e-005**	**2.0000e-005**	**1.2885**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	24000	1.3000e-004	1.1800e-003	9.9000e-004	1.0000e-005		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	1.2807	1.2807	2.0000e-005	2.0000e-005	1.2885
Total		**1.3000e-004**	**1.1800e-003**	**9.9000e-004**	**1.0000e-005**		**9.0000e-005**	**9.0000e-005**		**9.0000e-005**	**9.0000e-005**	**0.0000**	**1.2807**	**1.2807**	**2.0000e-005**	**2.0000e-005**	**1.2885**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	1.38035e+006	181.5740	0.0182	3.7600e-003	183.1199
Strip Mall	58050	7.6360	7.6000e-004	1.6000e-004	7.7010
Total		**189.2100**	**0.0189**	**3.9200e-003**	**190.8209**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	1.38035e+006	181.5740	0.0182	3.7600e-003	183.1199
Strip Mall	58050	7.6360	7.6000e-004	1.6000e-004	7.7010
Total		**189.2100**	**0.0189**	**3.9200e-003**	**190.8209**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.9297	4.0000e-005	4.7800e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	9.2400e-003	9.2400e-003	2.0000e-005	0.0000	9.7600e-003
Unmitigated	0.9297	4.0000e-005	4.7800e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	9.2400e-003	9.2400e-003	2.0000e-005	0.0000	9.7600e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1099					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.8194					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.5000e-004	4.0000e-005	4.7800e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	9.2400e-003	9.2400e-003	2.0000e-005	0.0000	9.7600e-003
Total	**0.9297**	**4.0000e-005**	**4.7800e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**9.2400e-003**	**9.2400e-003**	**2.0000e-005**	**0.0000**	**9.7600e-003**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1099					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.8194					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.5000e-004	4.0000e-005	4.7800e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	9.2400e-003	9.2400e-003	2.0000e-005	0.0000	9.7600e-003
Total	**0.9297**	**4.0000e-005**	**4.7800e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**9.2400e-003**	**9.2400e-003**	**2.0000e-005**	**0.0000**	**9.7600e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	1.9425	0.0484	1.1700e-003	3.3214
Unmitigated	1.9425	0.0484	1.1700e-003	3.3221

7.2 Water by Land Use

Unmitigated

	Indoor/ Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	1.48145 / 0.907986	1.9425	0.0484	1.1700e-003	3.3221
Total		**1.9425**	**0.0484**	**1.1700e-003**	**3.3221**

Mitigated

	Indoor/ Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	1.48145 / 0.907986	1.9425	0.0484	1.1700e-003	3.3214
Total		**1.9425**	**0.0484**	**1.1700e-003**	**3.3214**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	4.2628	0.2519	0.0000	9.5532
Unmitigated	4.2628	0.2519	0.0000	9.5532

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	21	4.2628	0.2519	0.0000	9.5532
Total		**4.2628**	**0.2519**	**0.0000**	**9.5532**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	21	4.2628	0.2519	0.0000	9.5532
Total		**4.2628**	**0.2519**	**0.0000**	**9.5532**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

UCSF Parking Garage Expansion 512 Spaces With Retail

San Francisco County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	512.00	Space	0.60	204,800.00	0
Strip Mall	5.00	1000sqft	0.00	5,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	4.6	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E Greenhouse Gas Emission Factors: Guidance for PG&E Customers (November 2015)

Land Use - Building lot is 26,320 square feet

Construction Phase -

Grading - parking garage footprint is 0.6 acres

Architectural Coating -

Vehicle Trips - Vehicle Trips - Based on 98 net new daily trips per day (Transportation Study for UCSF Research Building by Fehr & Peers, December 2015, Revised March 2016)

Vechicle Emission Factors -

Vechicle Emission Factors -

Vechicle Emission Factors -

Construction Off-road Equipment Mitigation - BAAQMD Enhanced Mitigation Measures

Area Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblLandUse	LotAcreage	4.61	0.60
tblLandUse	LotAcreage	0.11	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblProjectCharacteristics	OperationalYear	2014	2020
tblVehicleTrips	ST_TR	42.04	19.60
tblVehicleTrips	SU_TR	20.43	19.60
tblVehicleTrips	WD_TR	44.32	19.60

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	440.0273	13.9748	15.6357	0.0303	1.0515	0.7517	1.8032	0.4388	0.6916	1.0257	0.0000	2,767.5311	2,767.5311	0.4004	0.0000	2,775.9390
Total	**440.0273**	**13.9748**	**15.6357**	**0.0303**	**1.0515**	**0.7517**	**1.8032**	**0.4388**	**0.6916**	**1.0257**	**0.0000**	**2,767.5311**	**2,767.5311**	**0.4004**	**0.0000**	**2,775.9390**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	439.8425	13.6658	15.8410	0.0303	1.0515	0.1039	1.1554	0.2835	0.1002	0.3837	0.0000	2,767.5311	2,767.5311	0.4004	0.0000	2,775.9390
Total	**439.8425**	**13.6658**	**15.8410**	**0.0303**	**1.0515**	**0.1039**	**1.1554**	**0.2835**	**0.1002**	**0.3837**	**0.0000**	**2,767.5311**	**2,767.5311**	**0.4004**	**0.0000**	**2,775.9390**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.04**	**2.21**	**-1.31**	**0.00**	**0.00**	**86.18**	**35.93**	**35.39**	**85.51**	**62.59**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	5.0970	4.9000e-004	0.0531	0.0000		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004		0.1132	0.1132	3.0000e-004		0.1195
Energy	7.1000e-004	6.4500e-003	5.4100e-003	4.0000e-005		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004		7.7357	7.7357	1.5000e-004	1.4000e-004	7.7828
Mobile	0.2321	0.3524	1.6738	4.8200e-003	0.3253	6.0500e-003	0.3314	0.0879	5.5800e-003	0.0935		364.1213	364.1213	0.0136		364.4069
Total	**5.3298**	**0.3594**	**1.7323**	**4.8600e-003**	**0.3253**	**6.7300e-003**	**0.3321**	**0.0879**	**6.2600e-003**	**0.0942**		**371.9701**	**371.9701**	**0.0141**	**1.4000e-004**	**372.3092**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	5.0970	4.9000e-004	0.0531	0.0000		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004		0.1132	0.1132	3.0000e-004		0.1195
Energy	7.1000e-004	6.4500e-003	5.4100e-003	4.0000e-005		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004		7.7357	7.7357	1.5000e-004	1.4000e-004	7.7828
Mobile	0.2321	0.3524	1.6738	4.8200e-003	0.3253	6.0500e-003	0.3314	0.0879	5.5800e-003	0.0935		364.1213	364.1213	0.0136		364.4069
Total	**5.3298**	**0.3594**	**1.7323**	**4.8600e-003**	**0.3253**	**6.7300e-003**	**0.3321**	**0.0879**	**6.2600e-003**	**0.0942**		**371.9701**	**371.9701**	**0.0141**	**1.4000e-004**	**372.3092**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/2/2018	1/2/2018	5	1	
2	Grading	Grading	1/3/2018	1/4/2018	5	2	
3	Building Construction	Building Construction	1/5/2018	5/24/2018	5	100	
4	Paving	Paving	5/25/2018	5/31/2018	5	5	
5	Architectural Coating	Architectural Coating	6/1/2018	6/7/2018	5	5	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 316,200; Non-Residential Outdoor: 105,400 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	174	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Rubber Tired Dozers	1	1.00	255	0.40
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Building Construction	Cranes	1	4.00	226	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Paving	Pavers	1	7.00	125	0.42
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	2	5.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	87.00	35.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	17.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Water Exposed Area

3.2 Site Preparation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	1.0983	10.9398	7.0042	9.3200e-003		0.6535	0.6535		0.6012	0.6012		938.5863	938.5863	0.2922		944.7224
Total	**1.0983**	**10.9398**	**7.0042**	**9.3200e-003**	**0.5303**	**0.6535**	**1.1837**	**0.0573**	**0.6012**	**0.6584**		**938.5863**	**938.5863**	**0.2922**		**944.7224**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0155	0.0178	0.2154	6.3000e-004	0.0472	3.9000e-004	0.0476	0.0125	3.7000e-004	0.0129		48.9623	48.9623	2.2700e-003		49.0101
Total	**0.0155**	**0.0178**	**0.2154**	**6.3000e-004**	**0.0472**	**3.9000e-004**	**0.0476**	**0.0125**	**3.7000e-004**	**0.0129**		**48.9623**	**48.9623**	**2.2700e-003**		**49.0101**

3.2 Site Preparation - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2386	0.0000	0.2386	0.0258	0.0000	0.0258			0.0000			0.0000
Off-Road	0.3847	8.2535	6.9975	9.3200e-003		0.0424	0.0424		0.0424	0.0424	0.0000	938.5863	938.5863	0.2922		944.7224
Total	**0.3847**	**8.2535**	**6.9975**	**9.3200e-003**	**0.2386**	**0.0424**	**0.2810**	**0.0258**	**0.0424**	**0.0682**	**0.0000**	**938.5863**	**938.5863**	**0.2922**		**944.7224**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0155	0.0178	0.2154	6.3000e-004	0.0472	3.9000e-004	0.0476	0.0125	3.7000e-004	0.0129		48.9623	48.9623	2.2700e-003		49.0101
Total	**0.0155**	**0.0178**	**0.2154**	**6.3000e-004**	**0.0472**	**3.9000e-004**	**0.0476**	**0.0125**	**3.7000e-004**	**0.0129**		**48.9623**	**48.9623**	**2.2700e-003**		**49.0101**

3.3 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7528	0.0000	0.7528	0.4138	0.0000	0.4138			0.0000			0.0000
Off-Road	1.0530	9.3216	8.3495	0.0120		0.6139	0.6139		0.5862	0.5862		1,173.8565	1,173.8565	0.2268		1,178.6197
Total	**1.0530**	**9.3216**	**8.3495**	**0.0120**	**0.7528**	**0.6139**	**1.3667**	**0.4138**	**0.5862**	**1.0000**		**1,173.8565**	**1,173.8565**	**0.2268**		**1,178.6197**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0309	0.0355	0.4309	1.2600e-003	0.0943	7.9000e-004	0.0951	0.0250	7.3000e-004	0.0257		97.9247	97.9247	4.5500e-003		98.0202
Total	**0.0309**	**0.0355**	**0.4309**	**1.2600e-003**	**0.0943**	**7.9000e-004**	**0.0951**	**0.0250**	**7.3000e-004**	**0.0257**		**97.9247**	**97.9247**	**4.5500e-003**		**98.0202**

3.3 Grading - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.3387	0.0000	0.3387	0.1862	0.0000	0.1862			0.0000			0.0000
Off-Road	0.4852	10.3969	7.9564	0.0120		0.0604	0.0604		0.0604	0.0604	0.0000	1,173.8565	1,173.8565	0.2268		1,178.6197
Total	**0.4852**	**10.3969**	**7.9564**	**0.0120**	**0.3387**	**0.0604**	**0.3991**	**0.1862**	**0.0604**	**0.2466**	**0.0000**	**1,173.8565**	**1,173.8565**	**0.2268**		**1,178.6197**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0309	0.0355	0.4309	1.2600e-003	0.0943	7.9000e-004	0.0951	0.0250	7.3000e-004	0.0257		97.9247	97.9247	4.5500e-003		98.0202
Total	**0.0309**	**0.0355**	**0.4309**	**1.2600e-003**	**0.0943**	**7.9000e-004**	**0.0951**	**0.0250**	**7.3000e-004**	**0.0257**		**97.9247**	**97.9247**	**4.5500e-003**		**98.0202**

3.4 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0786	10.9578	7.7239	0.0113		0.7055	0.7055		0.6491	0.6491		1,140.2487	1,140.2487	0.3550		1,147.7032
Total	**1.0786**	**10.9578**	**7.7239**	**0.0113**		**0.7055**	**0.7055**		**0.6491**	**0.6491**		**1,140.2487**	**1,140.2487**	**0.3550**		**1,147.7032**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3203	2.7079	4.1634	8.0000e-003	0.2311	0.0394	0.2704	0.0659	0.0362	0.1021		775.3378	775.3378	5.8300e-003		775.4603
Worker	0.2689	0.3091	3.7484	0.0109	0.8204	6.8700e-003	0.8273	0.2176	6.3500e-003	0.2240		851.9446	851.9446	0.0396		852.7755
Total	**0.5892**	**3.0170**	**7.9118**	**0.0189**	**1.0515**	**0.0463**	**1.0977**	**0.2835**	**0.0426**	**0.3261**		**1,627.2824**	**1,627.2824**	**0.0454**		**1,628.2358**

3.4 Building Construction - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4688	10.6488	7.9292	0.0113		0.0577	0.0577		0.0577	0.0577	0.0000	1,140.2487	1,140.2487	0.3550		1,147.7032
Total	**0.4688**	**10.6488**	**7.9292**	**0.0113**		**0.0577**	**0.0577**		**0.0577**	**0.0577**	**0.0000**	**1,140.2487**	**1,140.2487**	**0.3550**		**1,147.7032**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3203	2.7079	4.1634	8.0000e-003	0.2311	0.0394	0.2704	0.0659	0.0362	0.1021		775.3378	775.3378	5.8300e-003		775.4603
Worker	0.2689	0.3091	3.7484	0.0109	0.8204	6.8700e-003	0.8273	0.2176	6.3500e-003	0.2240		851.9446	851.9446	0.0396		852.7755
Total	**0.5892**	**3.0170**	**7.9118**	**0.0189**	**1.0515**	**0.0463**	**1.0977**	**0.2835**	**0.0426**	**0.3261**		**1,627.2824**	**1,627.2824**	**0.0454**		**1,628.2358**

3.5 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9092	8.6233	7.1255	0.0111		0.5050	0.5050		0.4681	0.4681		1,054.2145	1,054.2145	0.2968		1,060.4462
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9092**	**8.6233**	**7.1255**	**0.0111**		**0.5050**	**0.5050**		**0.4681**	**0.4681**		**1,054.2145**	**1,054.2145**	**0.2968**		**1,060.4462**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0556	0.0640	0.7755	2.2600e-003	0.1698	1.4200e-003	0.1712	0.0450	1.3100e-003	0.0463		176.2644	176.2644	8.1900e-003		176.4363
Total	**0.0556**	**0.0640**	**0.7755**	**2.2600e-003**	**0.1698**	**1.4200e-003**	**0.1712**	**0.0450**	**1.3100e-003**	**0.0463**		**176.2644**	**176.2644**	**8.1900e-003**		**176.4363**

3.5 Paving - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3892	8.2378	6.7829	0.0111		0.0450	0.0450		0.0450	0.0450	0.0000	1,054.2145	1,054.2145	0.2968		1,060.4462
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.3892**	**8.2378**	**6.7829**	**0.0111**		**0.0450**	**0.0450**		**0.0450**	**0.0450**	**0.0000**	**1,054.2145**	**1,054.2145**	**0.2968**		**1,060.4462**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0556	0.0640	0.7755	2.2600e-003	0.1698	1.4200e-003	0.1712	0.0450	1.3100e-003	0.0463		176.2644	176.2644	8.1900e-003		176.4363
Total	**0.0556**	**0.0640**	**0.7755**	**2.2600e-003**	**0.1698**	**1.4200e-003**	**0.1712**	**0.0450**	**1.3100e-003**	**0.0463**		**176.2644**	**176.2644**	**8.1900e-003**		**176.4363**

3.6 Architectural Coating - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	439.6761					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506		281.4485	281.4485	0.0267		282.0102
Total	**439.9747**	**2.0058**	**1.8542**	**2.9700e-003**		**0.1506**	**0.1506**		**0.1506**	**0.1506**		**281.4485**	**281.4485**	**0.0267**		**282.0102**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0525	0.0604	0.7325	2.1400e-003	0.1603	1.3400e-003	0.1617	0.0425	1.2400e-003	0.0438		166.4719	166.4719	7.7300e-003		166.6343
Total	**0.0525**	**0.0604**	**0.7325**	**2.1400e-003**	**0.1603**	**1.3400e-003**	**0.1617**	**0.0425**	**1.2400e-003**	**0.0438**		**166.4719**	**166.4719**	**7.7300e-003**		**166.6343**

3.6 Architectural Coating - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	439.6761					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1139	2.3524	1.8324	2.9700e-003		0.0143	0.0143		0.0143	0.0143	0.0000	281.4485	281.4485	0.0267		282.0102
Total	**439.7900**	**2.3524**	**1.8324**	**2.9700e-003**		**0.0143**	**0.0143**		**0.0143**	**0.0143**	**0.0000**	**281.4485**	**281.4485**	**0.0267**		**282.0102**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0525	0.0604	0.7325	2.1400e-003	0.1603	1.3400e-003	0.1617	0.0425	1.2400e-003	0.0438		166.4719	166.4719	7.7300e-003		166.6343
Total	**0.0525**	**0.0604**	**0.7325**	**2.1400e-003**	**0.1603**	**1.3400e-003**	**0.1617**	**0.0425**	**1.2400e-003**	**0.0438**		**166.4719**	**166.4719**	**7.7300e-003**		**166.6343**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.2321	0.3524	1.6738	4.8200e-003	0.3253	6.0500e-003	0.3314	0.0879	5.5800e-003	0.0935		364.1213	364.1213	0.0136		364.4069
Unmitigated	0.2321	0.3524	1.6738	4.8200e-003	0.3253	6.0500e-003	0.3314	0.0879	5.5800e-003	0.0935		364.1213	364.1213	0.0136		364.4069

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
Strip Mall	98.00	98.00	98.00	150,923	150,923
Total	98.00	98.00	98.00	150,923	150,923

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.631289	0.058518	0.148045	0.077273	0.026007	0.003276	0.026188	0.004043	0.003129	0.010899	0.010305	0.000529	0.000500

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	7.1000e-004	6.4500e-003	5.4100e-003	4.0000e-005		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004		7.7357	7.7357	1.5000e-004	1.4000e-004	7.7828
NaturalGas Unmitigated	7.1000e-004	6.4500e-003	5.4100e-003	4.0000e-005		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004		7.7357	7.7357	1.5000e-004	1.4000e-004	7.7828

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	65.7534	7.1000e-004	6.4500e-003	5.4100e-003	4.0000e-005		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004		7.7357	7.7357	1.5000e-004	1.4000e-004	7.7828
Total		**7.1000e-004**	**6.4500e-003**	**5.4100e-003**	**4.0000e-005**		**4.9000e-004**	**4.9000e-004**		**4.9000e-004**	**4.9000e-004**		**7.7357**	**7.7357**	**1.5000e-004**	**1.4000e-004**	**7.7828**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Strip Mall	0.0657534	7.1000e-004	6.4500e-003	5.4100e-003	4.0000e-005		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004		7.7357	7.7357	1.5000e-004	1.4000e-004	7.7828
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**7.1000e-004**	**6.4500e-003**	**5.4100e-003**	**4.0000e-005**		**4.9000e-004**	**4.9000e-004**		**4.9000e-004**	**4.9000e-004**		**7.7357**	**7.7357**	**1.5000e-004**	**1.4000e-004**	**7.7828**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	5.0970	4.9000e-004	0.0531	0.0000		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004		0.1132	0.1132	3.0000e-004		0.1195
Unmitigated	5.0970	4.9000e-004	0.0531	0.0000		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004		0.1132	0.1132	3.0000e-004		0.1195

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.6023					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.4897					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	5.0000e-003	4.9000e-004	0.0531	0.0000		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004		0.1132	0.1132	3.0000e-004		0.1195
Total	**5.0970**	**4.9000e-004**	**0.0531**	**0.0000**		**1.9000e-004**	**1.9000e-004**		**1.9000e-004**	**1.9000e-004**		**0.1132**	**0.1132**	**3.0000e-004**		**0.1195**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.6023					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.4897					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	5.0000e-003	4.9000e-004	0.0531	0.0000		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004		0.1132	0.1132	3.0000e-004		0.1195
Total	**5.0970**	**4.9000e-004**	**0.0531**	**0.0000**		**1.9000e-004**	**1.9000e-004**		**1.9000e-004**	**1.9000e-004**		**0.1132**	**0.1132**	**3.0000e-004**		**0.1195**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

UCSF Parking Garage Expansion 512 Spaces With Retail

San Francisco County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	512.00	Space	0.60	204,800.00	0
Strip Mall	5.00	1000sqft	0.00	5,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	4.6	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E Greenhouse Gas Emission Factors: Guidance for PG&E Customers (November 2015)

Land Use - Building lot is 26,320 square feet

Construction Phase -

Grading - parking garage footprint is 0.6 acres

Architectural Coating -

Vehicle Trips - Vehicle Trips - Based on 98 net new daily trips per day (Transportation Study for UCSF Research Building by Fehr & Peers, December 2015, Revised March 2016)

Vechicle Emission Factors -

Vechicle Emission Factors -

Vechicle Emission Factors -

Construction Off-road Equipment Mitigation - BAAQMD Enhanced Mitigation Measures

Area Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblLandUse	LotAcreage	4.61	0.60
tblLandUse	LotAcreage	0.11	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblProjectCharacteristics	OperationalYear	2014	2020
tblVehicleTrips	ST_TR	42.04	19.60
tblVehicleTrips	SU_TR	20.43	19.60
tblVehicleTrips	WD_TR	44.32	19.60

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	440.0291	14.1919	17.5654	0.0296	1.0515	0.7522	1.8037	0.4388	0.6920	1.0257	0.0000	2,710.6264	2,710.6264	0.4006	0.0000	2,719.0378
Total	**440.0291**	**14.1919**	**17.5654**	**0.0296**	**1.0515**	**0.7522**	**1.8037**	**0.4388**	**0.6920**	**1.0257**	**0.0000**	**2,710.6264**	**2,710.6264**	**0.4006**	**0.0000**	**2,719.0378**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	439.8444	13.8829	17.7707	0.0296	1.0515	0.1043	1.1558	0.2835	0.1006	0.3841	0.0000	2,710.6264	2,710.6264	0.4006	0.0000	2,719.0378
Total	**439.8444**	**13.8829**	**17.7707**	**0.0296**	**1.0515**	**0.1043**	**1.1558**	**0.2835**	**0.1006**	**0.3841**	**0.0000**	**2,710.6264**	**2,710.6264**	**0.4006**	**0.0000**	**2,719.0378**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.04**	**2.18**	**-1.17**	**0.00**	**0.00**	**86.13**	**35.92**	**35.39**	**85.46**	**62.55**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	5.0970	4.9000e-004	0.0531	0.0000		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004		0.1132	0.1132	3.0000e-004		0.1195
Energy	7.1000e-004	6.4500e-003	5.4100e-003	4.0000e-005		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004		7.7357	7.7357	1.5000e-004	1.4000e-004	7.7828
Mobile	0.2437	0.3908	1.9329	4.5900e-003	0.3253	6.0800e-003	0.3314	0.0879	5.6100e-003	0.0935		347.0493	347.0493	0.0136		347.3351
Total	**5.3414**	**0.3978**	**1.9915**	**4.6300e-003**	**0.3253**	**6.7600e-003**	**0.3321**	**0.0879**	**6.2900e-003**	**0.0942**		**354.8982**	**354.8982**	**0.0141**	**1.4000e-004**	**355.2374**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	5.0970	4.9000e-004	0.0531	0.0000		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004		0.1132	0.1132	3.0000e-004		0.1195
Energy	7.1000e-004	6.4500e-003	5.4100e-003	4.0000e-005		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004		7.7357	7.7357	1.5000e-004	1.4000e-004	7.7828
Mobile	0.2437	0.3908	1.9329	4.5900e-003	0.3253	6.0800e-003	0.3314	0.0879	5.6100e-003	0.0935		347.0493	347.0493	0.0136		347.3351
Total	**5.3414**	**0.3978**	**1.9915**	**4.6300e-003**	**0.3253**	**6.7600e-003**	**0.3321**	**0.0879**	**6.2900e-003**	**0.0942**		**354.8982**	**354.8982**	**0.0141**	**1.4000e-004**	**355.2374**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/2/2018	1/2/2018	5	1	
2	Grading	Grading	1/3/2018	1/4/2018	5	2	
3	Building Construction	Building Construction	1/5/2018	5/24/2018	5	100	
4	Paving	Paving	5/25/2018	5/31/2018	5	5	
5	Architectural Coating	Architectural Coating	6/1/2018	6/7/2018	5	5	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 316,200; Non-Residential Outdoor: 105,400 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	174	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Rubber Tired Dozers	1	1.00	255	0.40
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Building Construction	Cranes	1	4.00	226	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Paving	Pavers	1	7.00	125	0.42
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	2	5.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	87.00	35.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	17.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Water Exposed Area

3.2 Site Preparation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	1.0983	10.9398	7.0042	9.3200e-003		0.6535	0.6535		0.6012	0.6012		938.5863	938.5863	0.2922		944.7224
Total	**1.0983**	**10.9398**	**7.0042**	**9.3200e-003**	**0.5303**	**0.6535**	**1.1837**	**0.0573**	**0.6012**	**0.6584**		**938.5863**	**938.5863**	**0.2922**		**944.7224**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0160	0.0220	0.2105	5.9000e-004	0.0472	3.9000e-004	0.0476	0.0125	3.7000e-004	0.0129		46.0494	46.0494	2.2700e-003		46.0972
Total	**0.0160**	**0.0220**	**0.2105**	**5.9000e-004**	**0.0472**	**3.9000e-004**	**0.0476**	**0.0125**	**3.7000e-004**	**0.0129**		**46.0494**	**46.0494**	**2.2700e-003**		**46.0972**

3.2 Site Preparation - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2386	0.0000	0.2386	0.0258	0.0000	0.0258			0.0000			0.0000
Off-Road	0.3847	8.2535	6.9975	9.3200e-003		0.0424	0.0424		0.0424	0.0424	0.0000	938.5863	938.5863	0.2922		944.7224
Total	**0.3847**	**8.2535**	**6.9975**	**9.3200e-003**	**0.2386**	**0.0424**	**0.2810**	**0.0258**	**0.0424**	**0.0682**	**0.0000**	**938.5863**	**938.5863**	**0.2922**		**944.7224**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0160	0.0220	0.2105	5.9000e-004	0.0472	3.9000e-004	0.0476	0.0125	3.7000e-004	0.0129		46.0494	46.0494	2.2700e-003		46.0972
Total	**0.0160**	**0.0220**	**0.2105**	**5.9000e-004**	**0.0472**	**3.9000e-004**	**0.0476**	**0.0125**	**3.7000e-004**	**0.0129**		**46.0494**	**46.0494**	**2.2700e-003**		**46.0972**

3.3 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7528	0.0000	0.7528	0.4138	0.0000	0.4138			0.0000			0.0000
Off-Road	1.0530	9.3216	8.3495	0.0120		0.6139	0.6139		0.5862	0.5862		1,173.8565	1,173.8565	0.2268		1,178.6197
Total	**1.0530**	**9.3216**	**8.3495**	**0.0120**	**0.7528**	**0.6139**	**1.3667**	**0.4138**	**0.5862**	**1.0000**		**1,173.8565**	**1,173.8565**	**0.2268**		**1,178.6197**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0320	0.0440	0.4211	1.1800e-003	0.0943	7.9000e-004	0.0951	0.0250	7.3000e-004	0.0257		92.0988	92.0988	4.5500e-003		92.1943
Total	**0.0320**	**0.0440**	**0.4211**	**1.1800e-003**	**0.0943**	**7.9000e-004**	**0.0951**	**0.0250**	**7.3000e-004**	**0.0257**		**92.0988**	**92.0988**	**4.5500e-003**		**92.1943**

3.3 Grading - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.3387	0.0000	0.3387	0.1862	0.0000	0.1862			0.0000			0.0000
Off-Road	0.4852	10.3969	7.9564	0.0120		0.0604	0.0604		0.0604	0.0604	0.0000	1,173.8565	1,173.8565	0.2268		1,178.6197
Total	**0.4852**	**10.3969**	**7.9564**	**0.0120**	**0.3387**	**0.0604**	**0.3991**	**0.1862**	**0.0604**	**0.2466**	**0.0000**	**1,173.8565**	**1,173.8565**	**0.2268**		**1,178.6197**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0320	0.0440	0.4211	1.1800e-003	0.0943	7.9000e-004	0.0951	0.0250	7.3000e-004	0.0257		92.0988	92.0988	4.5500e-003		92.1943
Total	**0.0320**	**0.0440**	**0.4211**	**1.1800e-003**	**0.0943**	**7.9000e-004**	**0.0951**	**0.0250**	**7.3000e-004**	**0.0257**		**92.0988**	**92.0988**	**4.5500e-003**		**92.1943**

3.4 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0786	10.9578	7.7239	0.0113		0.7055	0.7055		0.6491	0.6491		1,140.2487	1,140.2487	0.3550		1,147.7032
Total	**1.0786**	**10.9578**	**7.7239**	**0.0113**		**0.7055**	**0.7055**		**0.6491**	**0.6491**		**1,140.2487**	**1,140.2487**	**0.3550**		**1,147.7032**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3904	2.8511	6.1782	7.9600e-003	0.2311	0.0398	0.2709	0.0659	0.0366	0.1025		769.1182	769.1182	6.0000e-003		769.2443
Worker	0.2782	0.3831	3.6633	0.0103	0.8204	6.8700e-003	0.8273	0.2176	6.3500e-003	0.2240		801.2594	801.2594	0.0396		802.0904
Total	**0.6686**	**3.2342**	**9.8415**	**0.0183**	**1.0515**	**0.0467**	**1.0982**	**0.2835**	**0.0430**	**0.3265**		**1,570.3776**	**1,570.3776**	**0.0456**		**1,571.3346**

3.4 Building Construction - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4688	10.6488	7.9292	0.0113		0.0577	0.0577		0.0577	0.0577	0.0000	1,140.2487	1,140.2487	0.3550		1,147.7032
Total	**0.4688**	**10.6488**	**7.9292**	**0.0113**		**0.0577**	**0.0577**		**0.0577**	**0.0577**	**0.0000**	**1,140.2487**	**1,140.2487**	**0.3550**		**1,147.7032**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3904	2.8511	6.1782	7.9600e-003	0.2311	0.0398	0.2709	0.0659	0.0366	0.1025		769.1182	769.1182	6.0000e-003		769.2443
Worker	0.2782	0.3831	3.6633	0.0103	0.8204	6.8700e-003	0.8273	0.2176	6.3500e-003	0.2240		801.2594	801.2594	0.0396		802.0904
Total	**0.6686**	**3.2342**	**9.8415**	**0.0183**	**1.0515**	**0.0467**	**1.0982**	**0.2835**	**0.0430**	**0.3265**		**1,570.3776**	**1,570.3776**	**0.0456**		**1,571.3346**

3.5 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9092	8.6233	7.1255	0.0111		0.5050	0.5050		0.4681	0.4681		1,054.2145	1,054.2145	0.2968		1,060.4462
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9092**	**8.6233**	**7.1255**	**0.0111**		**0.5050**	**0.5050**		**0.4681**	**0.4681**		**1,054.2145**	**1,054.2145**	**0.2968**		**1,060.4462**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0576	0.0793	0.7579	2.1300e-003	0.1698	1.4200e-003	0.1712	0.0450	1.3100e-003	0.0463		165.7778	165.7778	8.1900e-003		165.9497
Total	**0.0576**	**0.0793**	**0.7579**	**2.1300e-003**	**0.1698**	**1.4200e-003**	**0.1712**	**0.0450**	**1.3100e-003**	**0.0463**		**165.7778**	**165.7778**	**8.1900e-003**		**165.9497**

3.5 Paving - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3892	8.2378	6.7829	0.0111		0.0450	0.0450		0.0450	0.0450	0.0000	1,054.2145	1,054.2145	0.2968		1,060.4462
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.3892**	**8.2378**	**6.7829**	**0.0111**		**0.0450**	**0.0450**		**0.0450**	**0.0450**	**0.0000**	**1,054.2145**	**1,054.2145**	**0.2968**		**1,060.4462**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0576	0.0793	0.7579	2.1300e-003	0.1698	1.4200e-003	0.1712	0.0450	1.3100e-003	0.0463		165.7778	165.7778	8.1900e-003		165.9497
Total	**0.0576**	**0.0793**	**0.7579**	**2.1300e-003**	**0.1698**	**1.4200e-003**	**0.1712**	**0.0450**	**1.3100e-003**	**0.0463**		**165.7778**	**165.7778**	**8.1900e-003**		**165.9497**

3.6 Architectural Coating - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	439.6761					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506		281.4485	281.4485	0.0267		282.0102
Total	**439.9747**	**2.0058**	**1.8542**	**2.9700e-003**		**0.1506**	**0.1506**		**0.1506**	**0.1506**		**281.4485**	**281.4485**	**0.0267**		**282.0102**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0544	0.0749	0.7158	2.0100e-003	0.1603	1.3400e-003	0.1617	0.0425	1.2400e-003	0.0438		156.5679	156.5679	7.7300e-003		156.7303
Total	**0.0544**	**0.0749**	**0.7158**	**2.0100e-003**	**0.1603**	**1.3400e-003**	**0.1617**	**0.0425**	**1.2400e-003**	**0.0438**		**156.5679**	**156.5679**	**7.7300e-003**		**156.7303**

3.6 Architectural Coating - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	439.6761					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1139	2.3524	1.8324	2.9700e-003		0.0143	0.0143		0.0143	0.0143	0.0000	281.4485	281.4485	0.0267		282.0102
Total	**439.7900**	**2.3524**	**1.8324**	**2.9700e-003**		**0.0143**	**0.0143**		**0.0143**	**0.0143**	**0.0000**	**281.4485**	**281.4485**	**0.0267**		**282.0102**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0544	0.0749	0.7158	2.0100e-003	0.1603	1.3400e-003	0.1617	0.0425	1.2400e-003	0.0438		156.5679	156.5679	7.7300e-003		156.7303
Total	**0.0544**	**0.0749**	**0.7158**	**2.0100e-003**	**0.1603**	**1.3400e-003**	**0.1617**	**0.0425**	**1.2400e-003**	**0.0438**		**156.5679**	**156.5679**	**7.7300e-003**		**156.7303**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.2437	0.3908	1.9329	4.5900e-003	0.3253	6.0800e-003	0.3314	0.0879	5.6100e-003	0.0935		347.0493	347.0493	0.0136		347.3351
Unmitigated	0.2437	0.3908	1.9329	4.5900e-003	0.3253	6.0800e-003	0.3314	0.0879	5.6100e-003	0.0935		347.0493	347.0493	0.0136		347.3351

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
Strip Mall	98.00	98.00	98.00	150,923	150,923
Total	98.00	98.00	98.00	150,923	150,923

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.631289	0.058518	0.148045	0.077273	0.026007	0.003276	0.026188	0.004043	0.003129	0.010899	0.010305	0.000529	0.000500

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	7.1000e-004	6.4500e-003	5.4100e-003	4.0000e-005		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004		7.7357	7.7357	1.5000e-004	1.4000e-004	7.7828
NaturalGas Unmitigated	7.1000e-004	6.4500e-003	5.4100e-003	4.0000e-005		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004		7.7357	7.7357	1.5000e-004	1.4000e-004	7.7828

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	65.7534	7.1000e-004	6.4500e-003	5.4100e-003	4.0000e-005		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004		7.7357	7.7357	1.5000e-004	1.4000e-004	7.7828
Total		**7.1000e-004**	**6.4500e-003**	**5.4100e-003**	**4.0000e-005**		**4.9000e-004**	**4.9000e-004**		**4.9000e-004**	**4.9000e-004**		**7.7357**	**7.7357**	**1.5000e-004**	**1.4000e-004**	**7.7828**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Strip Mall	0.0657534	7.1000e-004	6.4500e-003	5.4100e-003	4.0000e-005		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004		7.7357	7.7357	1.5000e-004	1.4000e-004	7.7828
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**7.1000e-004**	**6.4500e-003**	**5.4100e-003**	**4.0000e-005**		**4.9000e-004**	**4.9000e-004**		**4.9000e-004**	**4.9000e-004**		**7.7357**	**7.7357**	**1.5000e-004**	**1.4000e-004**	**7.7828**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	5.0970	4.9000e-004	0.0531	0.0000		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004		0.1132	0.1132	3.0000e-004		0.1195
Unmitigated	5.0970	4.9000e-004	0.0531	0.0000		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004		0.1132	0.1132	3.0000e-004		0.1195

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.6023					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.4897					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	5.0000e-003	4.9000e-004	0.0531	0.0000		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004		0.1132	0.1132	3.0000e-004		0.1195
Total	**5.0970**	**4.9000e-004**	**0.0531**	**0.0000**		**1.9000e-004**	**1.9000e-004**		**1.9000e-004**	**1.9000e-004**		**0.1132**	**0.1132**	**3.0000e-004**		**0.1195**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.6023					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.4897					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	5.0000e-003	4.9000e-004	0.0531	0.0000		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004		0.1132	0.1132	3.0000e-004		0.1195
Total	**5.0970**	**4.9000e-004**	**0.0531**	**0.0000**		**1.9000e-004**	**1.9000e-004**		**1.9000e-004**	**1.9000e-004**		**0.1132**	**0.1132**	**3.0000e-004**		**0.1195**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

Research and Development Building with On-Site Parking

UCSF General Hospital Research Building (R&D) On-Site Parking

San Francisco County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Research & Development	175.00	1000sqft	2.00	175,000.00	0
Enclosed Parking with Elevator	182.00	Space	0.00	72,800.00	0
Parking Lot	32.00	Space	0.29	12,800.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	4.6	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E Greenhouse Gas Emission Factors: Guidance for PG&E Customers (November 2015)

Land Use - Building lot is 88,810 square feet with subsurface garage

Construction Phase -

Trips and VMT - Surface parking requires 25,000 cubic yards of soil export

Grading - 9,000 cubic yards of soil export

Architectural Coating -

Vehicle Trips - Based on 196 net new daily trips per day (Transportation Study for UCSF Research Building by FEHR & PEERS, December 2015)

Vechicle Emission Factors -

Vechicle Emission Factors -

Vechicle Emission Factors -

Energy Use -

Construction Off-road Equipment Mitigation - BAAQMD Enhanced Mitigation Measure

Area Mitigation -

Energy Mitigation - LEED-NC Silver

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3

tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
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tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
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tblConstEquipMitigation	Tier	No Change	Tier 2
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tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblGrading	AcresOfGrading	12.50	3.00

tblGrading	MaterialExported	0.00	25,000.00
tblGrading	MaterialExported	0.00	9,000.00
tblLandUse	LotAcreage	4.02	2.00
tblLandUse	LotAcreage	1.64	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblProjectCharacteristics	OperationalYear	2014	2020
tblVehicleTrips	ST_TR	1.90	1.12
tblVehicleTrips	SU_TR	1.11	1.12
tblVehicleTrips	WD_TR	8.11	1.12

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2017	1.8348	3.7653	4.0797	6.7500e-003	0.2435	0.1869	0.4304	0.0858	0.1780	0.2638	0.0000	572.1860	572.1860	0.0634	0.0000	573.5170
Total	**1.8348**	**3.7653**	**4.0797**	**6.7500e-003**	**0.2435**	**0.1869**	**0.4304**	**0.0858**	**0.1780**	**0.2638**	**0.0000**	**572.1860**	**572.1860**	**0.0634**	**0.0000**	**573.5170**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2017	1.5583	3.3955	3.9630	6.7500e-003	0.1972	0.0276	0.2248	0.0624	0.0265	0.0889	0.0000	572.1858	572.1858	0.0634	0.0000	573.5167
Total	**1.5583**	**3.3955**	**3.9630**	**6.7500e-003**	**0.1972**	**0.0276**	**0.2248**	**0.0624**	**0.0265**	**0.0889**	**0.0000**	**572.1858**	**572.1858**	**0.0634**	**0.0000**	**573.5167**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**15.07**	**9.82**	**2.86**	**0.00**	**19.03**	**85.24**	**47.78**	**27.27**	**85.11**	**66.29**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.1475	3.0000e-005	3.6000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.9500e-003	6.9500e-003	2.0000e-005	0.0000	7.3400e-003
Energy	0.0242	0.2203	0.1851	1.3200e-003		0.0167	0.0167		0.0167	0.0167	0.0000	496.2164	496.2164	0.0302	9.7000e-003	499.8588
Mobile	0.0959	0.2041	0.9040	2.6700e-003	0.1856	3.4000e-003	0.1890	0.0503	3.1400e-003	0.0535	0.0000	183.2273	183.2273	6.9100e-003	0.0000	183.3724
Waste						0.0000	0.0000		0.0000	0.0000	2.6998	0.0000	2.6998	0.1596	0.0000	6.0504
Water						0.0000	0.0000		0.0000	0.0000	27.2986	61.2455	88.5441	2.8100	0.0675	168.4692
Total	**1.2676**	**0.4244**	**1.0927**	**3.9900e-003**	**0.1856**	**0.0202**	**0.2058**	**0.0503**	**0.0199**	**0.0702**	**29.9984**	**740.6961**	**770.6944**	**3.0067**	**0.0772**	**857.7580**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.1475	3.0000e-005	3.6000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.9500e-003	6.9500e-003	2.0000e-005	0.0000	7.3400e-003
Energy	0.0207	0.1881	0.1580	1.1300e-003		0.0143	0.0143		0.0143	0.0143	0.0000	446.8187	446.8187	0.0281	8.7600e-003	450.1257
Mobile	0.0959	0.2041	0.9040	2.6700e-003	0.1856	3.4000e-003	0.1890	0.0503	3.1400e-003	0.0535	0.0000	183.2273	183.2273	6.9100e-003	0.0000	183.3724
Waste						0.0000	0.0000		0.0000	0.0000	2.6998	0.0000	2.6998	0.1596	0.0000	6.0504
Water						0.0000	0.0000		0.0000	0.0000	27.2986	61.2455	88.5441	2.8094	0.0674	168.4256
Total	**1.2641**	**0.3922**	**1.0656**	**3.8000e-003**	**0.1856**	**0.0177**	**0.2033**	**0.0503**	**0.0174**	**0.0678**	**29.9984**	**691.2984**	**721.2968**	**3.0041**	**0.0761**	**807.9814**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.28**	**7.59**	**2.48**	**4.76**	**0.00**	**12.16**	**1.19**	**0.00**	**12.32**	**3.49**	**0.00**	**6.67**	**6.41**	**0.09**	**1.35**	**5.80**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/2/2017	1/4/2017	5	3	
2	Grading	Grading	1/5/2017	1/12/2017	5	6	
3	Building Construction	Building Construction	1/13/2017	11/16/2017	5	220	
4	Paving	Paving	11/17/2017	11/30/2017	5	10	
5	Architectural Coating	Architectural Coating	12/1/2017	12/14/2017	5	10	

Acres of Grading (Site Preparation Phase): 4.5

Acres of Grading (Grading Phase): 3

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 372,276; Non-Residential Outdoor: 124,092 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	174	0.41
Site Preparation	Scrapers	1	8.00	361	0.48
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Building Construction	Cranes	1	8.00	226	0.29
Building Construction	Forklifts	2	7.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Paving	Pavers	1	8.00	125	0.42
Paving	Paving Equipment	1	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	3	8.00	0.00	1,125.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	3,125.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	92.00	43.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	18.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Water Exposed Area

Clean Paved Roads

3.2 Site Preparation - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.7100e-003	0.0000	3.7100e-003	4.6000e-004	0.0000	4.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.7900e-003	0.0429	0.0257	4.0000e-005		2.1000e-003	2.1000e-003		1.9300e-003	1.9300e-003	0.0000	3.3195	3.3195	1.0200e-003	0.0000	3.3409
Total	**3.7900e-003**	**0.0429**	**0.0257**	**4.0000e-005**	**3.7100e-003**	**2.1000e-003**	**5.8100e-003**	**4.6000e-004**	**1.9300e-003**	**2.3900e-003**	**0.0000**	**3.3195**	**3.3195**	**1.0200e-003**	**0.0000**	**3.3409**

3.2 Site Preparation - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0151	0.1491	0.2265	4.0000e-004	9.3500e-003	1.7500e-003	0.0111	2.5600e-003	1.6100e-003	4.1700e-003	0.0000	35.5264	35.5264	2.5000e-004	0.0000	35.5317
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	5.0000e-005	5.4000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1043	0.1043	1.0000e-005	0.0000	0.1045
Total	**0.0151**	**0.1492**	**0.2270**	**4.0000e-004**	**9.4600e-003**	**1.7500e-003**	**0.0112**	**2.5900e-003**	**1.6100e-003**	**4.2000e-003**	**0.0000**	**35.6307**	**35.6307**	**2.6000e-004**	**0.0000**	**35.6361**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.6700e-003	0.0000	1.6700e-003	2.1000e-004	0.0000	2.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.1000e-003	0.0292	0.0220	4.0000e-005		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004	0.0000	3.3195	3.3195	1.0200e-003	0.0000	3.3409
Total	**1.1000e-003**	**0.0292**	**0.0220**	**4.0000e-005**	**1.6700e-003**	**1.2000e-004**	**1.7900e-003**	**2.1000e-004**	**1.2000e-004**	**3.3000e-004**	**0.0000**	**3.3195**	**3.3195**	**1.0200e-003**	**0.0000**	**3.3409**

3.2 Site Preparation - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0151	0.1491	0.2265	4.0000e-004	9.3500e-003	1.7500e-003	0.0111	2.5600e-003	1.6100e-003	4.1700e-003	0.0000	35.5264	35.5264	2.5000e-004	0.0000	35.5317
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	5.0000e-005	5.4000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1043	0.1043	1.0000e-005	0.0000	0.1045
Total	**0.0151**	**0.1492**	**0.2270**	**4.0000e-004**	**9.4600e-003**	**1.7500e-003**	**0.0112**	**2.5900e-003**	**1.6100e-003**	**4.2000e-003**	**0.0000**	**35.6307**	**35.6307**	**2.6000e-004**	**0.0000**	**35.6361**

3.3 Grading - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0806	0.0000	0.0806	0.0421	0.0000	0.0421	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.0900e-003	0.0845	0.0569	6.0000e-005		4.6700e-003	4.6700e-003		4.2900e-003	4.2900e-003	0.0000	5.7277	5.7277	1.7500e-003	0.0000	5.7646
Total	**8.0900e-003**	**0.0845**	**0.0569**	**6.0000e-005**	**0.0806**	**4.6700e-003**	**0.0852**	**0.0421**	**4.2900e-003**	**0.0464**	**0.0000**	**5.7277**	**5.7277**	**1.7500e-003**	**0.0000**	**5.7646**

3.3 Grading - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0419	0.4143	0.6291	1.1000e-003	0.0260	4.8700e-003	0.0309	7.1200e-003	4.4700e-003	0.0116	0.0000	98.6844	98.6844	7.0000e-004	0.0000	98.6991
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-004	1.3000e-004	1.3500e-003	0.0000	2.7000e-004	0.0000	2.7000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.2609	0.2609	1.0000e-005	0.0000	0.2611
Total	**0.0420**	**0.4144**	**0.6304**	**1.1000e-003**	**0.0263**	**4.8700e-003**	**0.0311**	**7.1900e-003**	**4.4700e-003**	**0.0117**	**0.0000**	**98.9453**	**98.9453**	**7.1000e-004**	**0.0000**	**98.9602**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0363	0.0000	0.0363	0.0190	0.0000	0.0190	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.1300e-003	0.0539	0.0403	6.0000e-005		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004	0.0000	5.7277	5.7277	1.7500e-003	0.0000	5.7646
Total	**2.1300e-003**	**0.0539**	**0.0403**	**6.0000e-005**	**0.0363**	**2.4000e-004**	**0.0365**	**0.0190**	**2.4000e-004**	**0.0192**	**0.0000**	**5.7277**	**5.7277**	**1.7500e-003**	**0.0000**	**5.7646**

3.3 Grading - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0419	0.4143	0.6291	1.1000e-003	0.0260	4.8700e-003	0.0309	7.1200e-003	4.4700e-003	0.0116	0.0000	98.6844	98.6844	7.0000e-004	0.0000	98.6991
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-004	1.3000e-004	1.3500e-003	0.0000	2.7000e-004	0.0000	2.7000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.2609	0.2609	1.0000e-005	0.0000	0.2611
Total	**0.0420**	**0.4144**	**0.6304**	**1.1000e-003**	**0.0263**	**4.8700e-003**	**0.0311**	**7.1900e-003**	**4.4700e-003**	**0.0117**	**0.0000**	**98.9453**	**98.9453**	**7.1000e-004**	**0.0000**	**98.9602**

3.4 Building Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.3660	2.5144	1.7874	2.7400e-003		0.1608	0.1608		0.1540	0.1540	0.0000	232.9955	232.9955	0.0518	0.0000	234.0829
Total	**0.3660**	**2.5144**	**1.7874**	**2.7400e-003**		**0.1608**	**0.1608**		**0.1540**	**0.1540**	**0.0000**	**232.9955**	**232.9955**	**0.0518**	**0.0000**	**234.0829**

3.4 Building Construction - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0618	0.4206	0.8215	1.0900e-003	0.0302	5.8300e-003	0.0361	8.6600e-003	5.3600e-003	0.0140	0.0000	96.8018	96.8018	7.4000e-004	0.0000	96.8173
Worker	0.0330	0.0453	0.4538	1.2000e-003	0.0918	8.1000e-004	0.0926	0.0244	7.5000e-004	0.0252	0.0000	87.9918	87.9918	4.4800e-003	0.0000	88.0859
Total	**0.0948**	**0.4659**	**1.2753**	**2.2900e-003**	**0.1220**	**6.6400e-003**	**0.1287**	**0.0331**	**6.1100e-003**	**0.0392**	**0.0000**	**184.7936**	**184.7936**	**5.2200e-003**	**0.0000**	**184.9032**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1038	2.1934	1.6876	2.7400e-003		0.0135	0.0135		0.0135	0.0135	0.0000	232.9952	232.9952	0.0518	0.0000	234.0827
Total	**0.1038**	**2.1934**	**1.6876**	**2.7400e-003**		**0.0135**	**0.0135**		**0.0135**	**0.0135**	**0.0000**	**232.9952**	**232.9952**	**0.0518**	**0.0000**	**234.0827**

3.4 Building Construction - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0618	0.4206	0.8215	1.0900e-003	0.0302	5.8300e-003	0.0361	8.6600e-003	5.3600e-003	0.0140	0.0000	96.8018	96.8018	7.4000e-004	0.0000	96.8173
Worker	0.0330	0.0453	0.4538	1.2000e-003	0.0918	8.1000e-004	0.0926	0.0244	7.5000e-004	0.0252	0.0000	87.9918	87.9918	4.4800e-003	0.0000	88.0859
Total	**0.0948**	**0.4659**	**1.2753**	**2.2900e-003**	**0.1220**	**6.6400e-003**	**0.1287**	**0.0331**	**6.1100e-003**	**0.0392**	**0.0000**	**184.7936**	**184.7936**	**5.2200e-003**	**0.0000**	**184.9032**

3.5 Paving - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.2000e-003	0.0823	0.0603	9.0000e-005		5.1100e-003	5.1100e-003		4.7100e-003	4.7100e-003	0.0000	8.0625	8.0625	2.4200e-003	0.0000	8.1134
Paving	3.8000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**8.5800e-003**	**0.0823**	**0.0603**	**9.0000e-005**		**5.1100e-003**	**5.1100e-003**		**4.7100e-003**	**4.7100e-003**	**0.0000**	**8.0625**	**8.0625**	**2.4200e-003**	**0.0000**	**8.1134**

3.5 Paving - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.4000e-004	3.4000e-004	3.3600e-003	1.0000e-005	6.8000e-004	1.0000e-005	6.9000e-004	1.8000e-004	1.0000e-005	1.9000e-004	0.0000	0.6521	0.6521	3.0000e-005	0.0000	0.6528
Total	**2.4000e-004**	**3.4000e-004**	**3.3600e-003**	**1.0000e-005**	**6.8000e-004**	**1.0000e-005**	**6.9000e-004**	**1.8000e-004**	**1.0000e-005**	**1.9000e-004**	**0.0000**	**0.6521**	**0.6521**	**3.0000e-005**	**0.0000**	**0.6528**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.6200e-003	0.0770	0.0640	9.0000e-005		4.1000e-004	4.1000e-004		4.1000e-004	4.1000e-004	0.0000	8.0625	8.0625	2.4200e-003	0.0000	8.1134
Paving	3.8000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**4.0000e-003**	**0.0770**	**0.0640**	**9.0000e-005**		**4.1000e-004**	**4.1000e-004**		**4.1000e-004**	**4.1000e-004**	**0.0000**	**8.0625**	**8.0625**	**2.4200e-003**	**0.0000**	**8.1134**

3.5 Paving - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.4000e-004	3.4000e-004	3.3600e-003	1.0000e-005	6.8000e-004	1.0000e-005	6.9000e-004	1.8000e-004	1.0000e-005	1.9000e-004	0.0000	0.6521	0.6521	3.0000e-005	0.0000	0.6528
Total	**2.4000e-004**	**3.4000e-004**	**3.3600e-003**	**1.0000e-005**	**6.8000e-004**	**1.0000e-005**	**6.9000e-004**	**1.8000e-004**	**1.0000e-005**	**1.9000e-004**	**0.0000**	**0.6521**	**0.6521**	**3.0000e-005**	**0.0000**	**0.6528**

3.6 Architectural Coating - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.2941					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.6600e-003	0.0109	9.3400e-003	1.0000e-005		8.7000e-004	8.7000e-004		8.7000e-004	8.7000e-004	0.0000	1.2766	1.2766	1.3000e-004	0.0000	1.2795
Total	**1.2958**	**0.0109**	**9.3400e-003**	**1.0000e-005**		**8.7000e-004**	**8.7000e-004**		**8.7000e-004**	**8.7000e-004**	**0.0000**	**1.2766**	**1.2766**	**1.3000e-004**	**0.0000**	**1.2795**

3.6 Architectural Coating - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.9000e-004	4.0000e-004	4.0400e-003	1.0000e-005	8.2000e-004	1.0000e-005	8.2000e-004	2.2000e-004	1.0000e-005	2.2000e-004	0.0000	0.7825	0.7825	4.0000e-005	0.0000	0.7834
Total	**2.9000e-004**	**4.0000e-004**	**4.0400e-003**	**1.0000e-005**	**8.2000e-004**	**1.0000e-005**	**8.2000e-004**	**2.2000e-004**	**1.0000e-005**	**2.2000e-004**	**0.0000**	**0.7825**	**0.7825**	**4.0000e-005**	**0.0000**	**0.7834**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.2941					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.7000e-004	0.0118	9.1600e-003	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	1.2766	1.2766	1.3000e-004	0.0000	1.2795
Total	**1.2947**	**0.0118**	**9.1600e-003**	**1.0000e-005**		**7.0000e-005**	**7.0000e-005**		**7.0000e-005**	**7.0000e-005**	**0.0000**	**1.2766**	**1.2766**	**1.3000e-004**	**0.0000**	**1.2795**

3.6 Architectural Coating - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.9000e-004	4.0000e-004	4.0400e-003	1.0000e-005	8.2000e-004	1.0000e-005	8.2000e-004	2.2000e-004	1.0000e-005	2.2000e-004	0.0000	0.7825	0.7825	4.0000e-005	0.0000	0.7834
Total	**2.9000e-004**	**4.0000e-004**	**4.0400e-003**	**1.0000e-005**	**8.2000e-004**	**1.0000e-005**	**8.2000e-004**	**2.2000e-004**	**1.0000e-005**	**2.2000e-004**	**0.0000**	**0.7825**	**0.7825**	**4.0000e-005**	**0.0000**	**0.7834**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0959	0.2041	0.9040	2.6700e-003	0.1856	3.4000e-003	0.1890	0.0503	3.1400e-003	0.0535	0.0000	183.2273	183.2273	6.9100e-003	0.0000	183.3724
Unmitigated	0.0959	0.2041	0.9040	2.6700e-003	0.1856	3.4000e-003	0.1890	0.0503	3.1400e-003	0.0535	0.0000	183.2273	183.2273	6.9100e-003	0.0000	183.3724

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Research & Development	196.00	196.00	196.00	491,224	491,224
Total	196.00	196.00	196.00	491,224	491,224

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Research & Development	9.50	7.30	7.30	33.00	48.00	19.00	82	15	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.631289	0.058518	0.148045	0.077273	0.026007	0.003276	0.026188	0.004043	0.003129	0.010899	0.010305	0.000529	0.000500

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	242.0778	242.0778	0.0242	5.0100e-003	244.1388
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	256.3994	256.3994	0.0256	5.3000e-003	258.5823
NaturalGas Mitigated	0.0207	0.1881	0.1580	1.1300e-003		0.0143	0.0143		0.0143	0.0143	0.0000	204.7409	204.7409	3.9200e-003	3.7500e-003	205.9869
NaturalGas Unmitigated	0.0242	0.2203	0.1851	1.3200e-003		0.0167	0.0167		0.0167	0.0167	0.0000	239.8170	239.8170	4.6000e-003	4.4000e-003	241.2764

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Research & Development	4.494e+006	0.0242	0.2203	0.1851	1.3200e-003		0.0167	0.0167		0.0167	0.0167	0.0000	239.8170	239.8170	4.6000e-003	4.4000e-003	241.2764
Total		**0.0242**	**0.2203**	**0.1851**	**1.3200e-003**		**0.0167**	**0.0167**		**0.0167**	**0.0167**	**0.0000**	**239.8170**	**239.8170**	**4.6000e-003**	**4.4000e-003**	**241.2764**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Research & Development	3.8367e+006	0.0207	0.1881	0.1580	1.1300e-003		0.0143	0.0143		0.0143	0.0143	0.0000	204.7409	204.7409	3.9200e-003	3.7500e-003	205.9869
Total		**0.0207**	**0.1881**	**0.1580**	**1.1300e-003**		**0.0143**	**0.0143**		**0.0143**	**0.0143**	**0.0000**	**204.7409**	**204.7409**	**3.9200e-003**	**3.7500e-003**	**205.9869**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	490672	64.5439	6.4500e-003	1.3400e-003	65.0934
Parking Lot	11264	1.4817	1.5000e-004	3.0000e-005	1.4943
Research & Development	1.44725e+006	190.3739	0.0190	3.9400e-003	191.9947
Total		**256.3994**	**0.0256**	**5.3100e-003**	**258.5824**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	433597	57.0361	5.7000e-003	1.1800e-003	57.5217
Parking Lot	11264	1.4817	1.5000e-004	3.0000e-005	1.4943
Research & Development	1.39545e+006	183.5600	0.0184	3.8000e-003	185.1228
Total		**242.0778**	**0.0242**	**5.0100e-003**	**244.1388**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.1475	3.0000e-005	3.6000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.9500e-003	6.9500e-003	2.0000e-005	0.0000	7.3400e-003
Unmitigated	1.1475	3.0000e-005	3.6000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.9500e-003	6.9500e-003	2.0000e-005	0.0000	7.3400e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1294					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.0178					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.4000e-004	3.0000e-005	3.6000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.9500e-003	6.9500e-003	2.0000e-005	0.0000	7.3400e-003
Total	**1.1475**	**3.0000e-005**	**3.6000e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**6.9500e-003**	**6.9500e-003**	**2.0000e-005**	**0.0000**	**7.3400e-003**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1294					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.0178					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.4000e-004	3.0000e-005	3.6000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.9500e-003	6.9500e-003	2.0000e-005	0.0000	7.3400e-003
Total	**1.1475**	**3.0000e-005**	**3.6000e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**6.9500e-003**	**6.9500e-003**	**2.0000e-005**	**0.0000**	**7.3400e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	88.5441	2.8094	0.0674	168.4256
Unmitigated	88.5441	2.8100	0.0675	168.4692

7.2 Water by Land Use

Unmitigated

	Indoor/ Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Research & Development	86.0464 / 0	88.5441	2.8100	0.0675	168.4692
Total		**88.5441**	**2.8100**	**0.0675**	**168.4692**

Mitigated

	Indoor/ Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Research & Development	86.0464 / 0	88.5441	2.8094	0.0674	168.4256
Total		**88.5441**	**2.8094**	**0.0674**	**168.4256**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	2.6998	0.1596	0.0000	6.0504
Unmitigated	2.6998	0.1596	0.0000	6.0504

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Research & Development	13.3	2.6998	0.1596	0.0000	6.0504
Total		**2.6998**	**0.1596**	**0.0000**	**6.0504**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Research & Development	13.3	2.6998	0.1596	0.0000	6.0504
Total		**2.6998**	**0.1596**	**0.0000**	**6.0504**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

UCSF General Hospital Research Building (R&D) On-Site Parking

San Francisco County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Research & Development	175.00	1000sqft	2.00	175,000.00	0
Enclosed Parking with Elevator	182.00	Space	0.00	72,800.00	0
Parking Lot	32.00	Space	0.29	12,800.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	4.6	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E Greenhouse Gas Emission Factors: Guidance for PG&E Customers (November 2015)

Land Use - Building lot is 88,810 square feet with subsurface garage

Construction Phase -

Trips and VMT - Surface parking requires 25,000 cubic yards of soil export

Grading - 9,000 cubic yards of soil export

Architectural Coating -

Vehicle Trips - Based on 196 net new daily trips per day (Transportation Study for UCSF Research Building by FEHR & PEERS, December 2015)

Vechicle Emission Factors -

Vechicle Emission Factors -

Vechicle Emission Factors -

Energy Use -

Construction Off-road Equipment Mitigation - BAAQMD Enhanced Mitigation Measure

Area Mitigation -

Energy Mitigation - LEED-NC Silver

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
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tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
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tblConstEquipMitigation	DPF	No Change	Level 3
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tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
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tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblGrading	AcresOfGrading	12.50	3.00

tblGrading	MaterialExported	0.00	25,000.00
tblGrading	MaterialExported	0.00	9,000.00
tblLandUse	LotAcreage	4.02	2.00
tblLandUse	LotAcreage	1.64	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblProjectCharacteristics	OperationalYear	2014	2020
tblVehicleTrips	ST_TR	1.90	1.12
tblVehicleTrips	SU_TR	1.11	1.12
tblVehicleTrips	WD_TR	8.11	1.12

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2017	259.2180	159.9178	204.1555	0.3897	35.9077	3.1757	39.0834	16.5082	2.9202	19.4284	0.0000	38,504.6399	38,504.6399	0.9350	0.0000	38,524.2747
Total	**259.2180**	**159.9178**	**204.1555**	**0.3897**	**35.9077**	**3.1757**	**39.0834**	**16.5082**	**2.9202**	**19.4284**	**0.0000**	**38,504.6399**	**38,504.6399**	**0.9350**	**0.0000**	**38,524.2747**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2017	258.9996	149.7313	198.6190	0.3897	21.1394	1.7005	22.8398	8.7884	1.5694	10.3577	0.0000	38,504.6399	38,504.6399	0.9350	0.0000	38,524.2747
Total	**258.9996**	**149.7313**	**198.6190**	**0.3897**	**21.1394**	**1.7005**	**22.8398**	**8.7884**	**1.5694**	**10.3577**	**0.0000**	**38,504.6399**	**38,504.6399**	**0.9350**	**0.0000**	**38,524.2747**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.08**	**6.37**	**2.71**	**0.00**	**41.13**	**46.45**	**41.56**	**46.76**	**46.26**	**46.69**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	6.2897	3.7000e-004	0.0400	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0851	0.0851	2.3000e-004		0.0899
Energy	0.1328	1.2071	1.0140	7.2400e-003		0.0917	0.0917		0.0917	0.0917		1,448.5093	1,448.5093	0.0278	0.0266	1,457.3247
Mobile	0.5368	1.0429	4.8632	0.0154	1.0589	0.0187	1.0776	0.2861	0.0173	0.3034		1,163.4052	1,163.4052	0.0419		1,164.2849
Total	**6.9593**	**2.2504**	**5.9172**	**0.0226**	**1.0589**	**0.1106**	**1.1695**	**0.2861**	**0.1091**	**0.3952**		**2,611.9996**	**2,611.9996**	**0.0699**	**0.0266**	**2,621.6994**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	6.2897	3.7000e-004	0.0400	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0851	0.0851	2.3000e-004		0.0899
Energy	0.1134	1.0305	0.8657	6.1800e-003		0.0783	0.0783		0.0783	0.0783		1,236.6479	1,236.6479	0.0237	0.0227	1,244.1739
Mobile	0.5368	1.0429	4.8632	0.0154	1.0589	0.0187	1.0776	0.2861	0.0173	0.3034		1,163.4052	1,163.4052	0.0419		1,164.2849
Total	**6.9399**	**2.0738**	**5.7689**	**0.0216**	**1.0589**	**0.0972**	**1.1561**	**0.2861**	**0.0957**	**0.3818**		**2,400.1382**	**2,400.1382**	**0.0658**	**0.0227**	**2,408.5487**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.28**	**7.85**	**2.51**	**4.68**	**0.00**	**12.14**	**1.15**	**0.00**	**12.30**	**3.40**	**0.00**	**8.11**	**8.11**	**5.81**	**14.65**	**8.13**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/2/2017	1/4/2017	5	3	
2	Grading	Grading	1/5/2017	1/12/2017	5	6	
3	Building Construction	Building Construction	1/13/2017	11/16/2017	5	220	
4	Paving	Paving	11/17/2017	11/30/2017	5	10	
5	Architectural Coating	Architectural Coating	12/1/2017	12/14/2017	5	10	

Acres of Grading (Site Preparation Phase): 4.5

Acres of Grading (Grading Phase): 3

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 372,276; Non-Residential Outdoor: 124,092 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	174	0.41
Site Preparation	Scrapers	1	8.00	361	0.48
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Building Construction	Cranes	1	8.00	226	0.29
Building Construction	Forklifts	2	7.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Paving	Pavers	1	8.00	125	0.42
Paving	Paving Equipment	1	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	3	8.00	0.00	1,125.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	3,125.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	92.00	43.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	18.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Water Exposed Area

Clean Paved Roads

3.2 Site Preparation - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.4758	0.0000	2.4758	0.3058	0.0000	0.3058			0.0000			0.0000
Off-Road	2.5289	28.6230	17.1310	0.0238		1.3967	1.3967		1.2850	1.2850		2,439.4360	2,439.4360	0.7474		2,455.1322
Total	**2.5289**	**28.6230**	**17.1310**	**0.0238**	**2.4758**	**1.3967**	**3.8725**	**0.3058**	**1.2850**	**1.5908**		**2,439.4360**	**2,439.4360**	**0.7474**		**2,455.1322**

3.2 Site Preparation - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	9.1005	94.8370	132.9958	0.2649	6.4525	1.1663	7.6188	1.7620	1.0719	2.8339		26,134.8345	26,134.8345	0.1837		26,138.6911
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0270	0.0312	0.3770	1.0100e-003	0.0754	6.4000e-004	0.0761	0.0200	5.9000e-004	0.0206		81.3480	81.3480	3.9100e-003		81.4300
Total	**9.1275**	**94.8682**	**133.3728**	**0.2659**	**6.5280**	**1.1669**	**7.6949**	**1.7820**	**1.0725**	**2.8545**		**26,216.1824**	**26,216.1824**	**0.1876**		**26,220.1211**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.1141	0.0000	1.1141	0.1376	0.0000	0.1376			0.0000			0.0000
Off-Road	0.7332	19.4604	14.6507	0.0238		0.0805	0.0805		0.0805	0.0805	0.0000	2,439.4360	2,439.4360	0.7474		2,455.1322
Total	**0.7332**	**19.4604**	**14.6507**	**0.0238**	**1.1141**	**0.0805**	**1.1946**	**0.1376**	**0.0805**	**0.2181**	**0.0000**	**2,439.4360**	**2,439.4360**	**0.7474**		**2,455.1322**

3.2 Site Preparation - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	9.1005	94.8370	132.9958	0.2649	6.4525	1.1663	7.6188	1.7620	1.0719	2.8339		26,134.8345	26,134.8345	0.1837		26,138.6911
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0270	0.0312	0.3770	1.0100e-003	0.0754	6.4000e-004	0.0761	0.0200	5.9000e-004	0.0206		81.3480	81.3480	3.9100e-003		81.4300
Total	**9.1275**	**94.8682**	**133.3728**	**0.2659**	**6.5280**	**1.1669**	**7.6949**	**1.7820**	**1.0725**	**2.8545**		**26,216.1824**	**26,216.1824**	**0.1876**		**26,220.1211**

3.3 Grading - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					26.8515	0.0000	26.8515	14.0360	0.0000	14.0360			0.0000			0.0000
Off-Road	2.6973	28.1608	18.9679	0.0206		1.5550	1.5550		1.4306	1.4306		2,104.5737	2,104.5737	0.6448		2,118.1153
Total	**2.6973**	**28.1608**	**18.9679**	**0.0206**	**26.8515**	**1.5550**	**28.4066**	**14.0360**	**1.4306**	**15.4667**		**2,104.5737**	**2,104.5737**	**0.6448**		**2,118.1153**

3.3 Grading - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	12.6396	131.7180	184.7164	0.3679	8.9619	1.6199	10.5817	2.4472	1.4888	3.9360		36,298.3812	36,298.3812	0.2551		36,303.7376
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0338	0.0390	0.4712	1.2600e-003	0.0943	8.0000e-004	0.0951	0.0250	7.4000e-004	0.0258		101.6849	101.6849	4.8800e-003		101.7875
Total	**12.6734**	**131.7570**	**185.1876**	**0.3692**	**9.0562**	**1.6207**	**10.6768**	**2.4722**	**1.4896**	**3.9617**		**36,400.0661**	**36,400.0661**	**0.2600**		**36,405.5251**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					12.0832	0.0000	12.0832	6.3162	0.0000	6.3162			0.0000			0.0000
Off-Road	0.7097	17.9743	13.4314	0.0206		0.0798	0.0798		0.0798	0.0798	0.0000	2,104.5737	2,104.5737	0.6448		2,118.1153
Total	**0.7097**	**17.9743**	**13.4314**	**0.0206**	**12.0832**	**0.0798**	**12.1630**	**6.3162**	**0.0798**	**6.3960**	**0.0000**	**2,104.5737**	**2,104.5737**	**0.6448**		**2,118.1153**

3.3 Grading - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	12.6396	131.7180	184.7164	0.3679	8.9619	1.6199	10.5817	2.4472	1.4888	3.9360		36,298.3812	36,298.3812	0.2551		36,303.7376
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0338	0.0390	0.4712	1.2600e-003	0.0943	8.0000e-004	0.0951	0.0250	7.4000e-004	0.0258		101.6849	101.6849	4.8800e-003		101.7875
Total	**12.6734**	**131.7570**	**185.1876**	**0.3692**	**9.0562**	**1.6207**	**10.6768**	**2.4722**	**1.4896**	**3.9617**		**36,400.0661**	**36,400.0661**	**0.2600**		**36,405.5251**

3.4 Building Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.3275	22.8585	16.2492	0.0249		1.4621	1.4621		1.3998	1.3998		2,334.8503	2,334.8503	0.5189		2,345.7479
Total	**3.3275**	**22.8585**	**16.2492**	**0.0249**		**1.4621**	**1.4621**		**1.3998**	**1.3998**		**2,334.8503**	**2,334.8503**	**0.5189**		**2,345.7479**

3.4 Building Construction - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.4937	3.6736	6.0817	9.8900e-003	0.2840	0.0528	0.3368	0.0810	0.0485	0.1295		973.3092	973.3092	7.3400e-003		973.4633
Worker	0.3107	0.3586	4.3351	0.0116	0.8676	7.4000e-003	0.8750	0.2301	6.8300e-003	0.2369		935.5014	935.5014	0.0449		936.4445
Total	**0.8044**	**4.0321**	**10.4167**	**0.0215**	**1.1516**	**0.0602**	**1.2118**	**0.3111**	**0.0553**	**0.3665**		**1,908.8107**	**1,908.8107**	**0.0523**		**1,909.9079**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9440	19.9403	15.3416	0.0249		0.1223	0.1223		0.1223	0.1223	0.0000	2,334.8503	2,334.8503	0.5189		2,345.7479
Total	**0.9440**	**19.9403**	**15.3416**	**0.0249**		**0.1223**	**0.1223**		**0.1223**	**0.1223**	**0.0000**	**2,334.8503**	**2,334.8503**	**0.5189**		**2,345.7479**

3.4 Building Construction - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.4937	3.6736	6.0817	9.8900e-003	0.2840	0.0528	0.3368	0.0810	0.0485	0.1295		973.3092	973.3092	7.3400e-003		973.4633
Worker	0.3107	0.3586	4.3351	0.0116	0.8676	7.4000e-003	0.8750	0.2301	6.8300e-003	0.2369		935.5014	935.5014	0.0449		936.4445
Total	**0.8044**	**4.0321**	**10.4167**	**0.0215**	**1.1516**	**0.0602**	**1.2118**	**0.3111**	**0.0553**	**0.3665**		**1,908.8107**	**1,908.8107**	**0.0523**		**1,909.9079**

3.5 Paving - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6402	16.4619	12.0566	0.0176		1.0230	1.0230		0.9423	0.9423		1,777.4745	1,777.4745	0.5344		1,788.6966
Paving	0.0760					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.7161**	**16.4619**	**12.0566**	**0.0176**		**1.0230**	**1.0230**		**0.9423**	**0.9423**		**1,777.4745**	**1,777.4745**	**0.5344**		**1,788.6966**

3.5 Paving - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0507	0.0585	0.7068	1.8900e-003	0.1415	1.2100e-003	0.1427	0.0375	1.1100e-003	0.0386		152.5274	152.5274	7.3200e-003		152.6812
Total	**0.0507**	**0.0585**	**0.7068**	**1.8900e-003**	**0.1415**	**1.2100e-003**	**0.1427**	**0.0375**	**1.1100e-003**	**0.0386**		**152.5274**	**152.5274**	**7.3200e-003**		**152.6812**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7250	15.4034	12.7897	0.0176		0.0827	0.0827		0.0827	0.0827	0.0000	1,777.4745	1,777.4745	0.5344		1,788.6966
Paving	0.0760					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.8010**	**15.4034**	**12.7897**	**0.0176**		**0.0827**	**0.0827**		**0.0827**	**0.0827**	**0.0000**	**1,777.4745**	**1,777.4745**	**0.5344**		**1,788.6966**

3.5 Paving - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0507	0.0585	0.7068	1.8900e-003	0.1415	1.2100e-003	0.1427	0.0375	1.1100e-003	0.0386		152.5274	152.5274	7.3200e-003		152.6812
Total	**0.0507**	**0.0585**	**0.7068**	**1.8900e-003**	**0.1415**	**1.2100e-003**	**0.1427**	**0.0375**	**1.1100e-003**	**0.0386**		**152.5274**	**152.5274**	**7.3200e-003**		**152.6812**

3.6 Architectural Coating - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	258.8249					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3323	2.1850	1.8681	2.9700e-003		0.1733	0.1733		0.1733	0.1733		281.4481	281.4481	0.0297		282.0721
Total	**259.1572**	**2.1850**	**1.8681**	**2.9700e-003**		**0.1733**	**0.1733**		**0.1733**	**0.1733**		**281.4481**	**281.4481**	**0.0297**		**282.0721**

3.6 Architectural Coating - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0608	0.0702	0.8482	2.2600e-003	0.1698	1.4500e-003	0.1712	0.0450	1.3400e-003	0.0464		183.0329	183.0329	8.7900e-003		183.2174
Total	**0.0608**	**0.0702**	**0.8482**	**2.2600e-003**	**0.1698**	**1.4500e-003**	**0.1712**	**0.0450**	**1.3400e-003**	**0.0464**		**183.0329**	**183.0329**	**8.7900e-003**		**183.2174**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	258.8249					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1139	2.3524	1.8324	2.9700e-003		0.0143	0.0143		0.0143	0.0143	0.0000	281.4481	281.4481	0.0297		282.0721
Total	**258.9388**	**2.3524**	**1.8324**	**2.9700e-003**		**0.0143**	**0.0143**		**0.0143**	**0.0143**	**0.0000**	**281.4481**	**281.4481**	**0.0297**		**282.0721**

3.6 Architectural Coating - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0608	0.0702	0.8482	2.2600e-003	0.1698	1.4500e-003	0.1712	0.0450	1.3400e-003	0.0464		183.0329	183.0329	8.7900e-003		183.2174
Total	**0.0608**	**0.0702**	**0.8482**	**2.2600e-003**	**0.1698**	**1.4500e-003**	**0.1712**	**0.0450**	**1.3400e-003**	**0.0464**		**183.0329**	**183.0329**	**8.7900e-003**		**183.2174**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.5368	1.0429	4.8632	0.0154	1.0589	0.0187	1.0776	0.2861	0.0173	0.3034		1,163.4052	1,163.4052	0.0419		1,164.2849
Unmitigated	0.5368	1.0429	4.8632	0.0154	1.0589	0.0187	1.0776	0.2861	0.0173	0.3034		1,163.4052	1,163.4052	0.0419		1,164.2849

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Research & Development	196.00	196.00	196.00	491,224	491,224
Total	196.00	196.00	196.00	491,224	491,224

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Research & Development	9.50	7.30	7.30	33.00	48.00	19.00	82	15	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.631289	0.058518	0.148045	0.077273	0.026007	0.003276	0.026188	0.004043	0.003129	0.010899	0.010305	0.000529	0.000500

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1134	1.0305	0.8657	6.1800e-003		0.0783	0.0783		0.0783	0.0783		1,236.6479	1,236.6479	0.0237	0.0227	1,244.1739
NaturalGas Unmitigated	0.1328	1.2071	1.0140	7.2400e-003		0.0917	0.0917		0.0917	0.0917		1,448.5093	1,448.5093	0.0278	0.0266	1,457.3247

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Research & Development	12312.3	0.1328	1.2071	1.0140	7.2400e-003		0.0917	0.0917		0.0917	0.0917		1,448.5093	1,448.5093	0.0278	0.0266	1,457.3247
Total		**0.1328**	**1.2071**	**1.0140**	**7.2400e-003**		**0.0917**	**0.0917**		**0.0917**	**0.0917**		**1,448.5093**	**1,448.5093**	**0.0278**	**0.0266**	**1,457.3247**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Research & Development	10.5115	0.1134	1.0305	0.8657	6.1800e-003		0.0783	0.0783		0.0783	0.0783		1,236.6479	1,236.6479	0.0237	0.0227	1,244.1739
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.1134**	**1.0305**	**0.8657**	**6.1800e-003**		**0.0783**	**0.0783**		**0.0783**	**0.0783**		**1,236.6479**	**1,236.6479**	**0.0237**	**0.0227**	**1,244.1739**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	6.2897	3.7000e-004	0.0400	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0851	0.0851	2.3000e-004		0.0899
Unmitigated	6.2897	3.7000e-004	0.0400	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0851	0.0851	2.3000e-004		0.0899

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.7091					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	5.5768					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.7600e-003	3.7000e-004	0.0400	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0851	0.0851	2.3000e-004		0.0899
Total	**6.2897**	**3.7000e-004**	**0.0400**	**0.0000**		**1.4000e-004**	**1.4000e-004**		**1.4000e-004**	**1.4000e-004**		**0.0851**	**0.0851**	**2.3000e-004**		**0.0899**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.7091					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	5.5768					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.7600e-003	3.7000e-004	0.0400	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0851	0.0851	2.3000e-004		0.0899
Total	**6.2897**	**3.7000e-004**	**0.0400**	**0.0000**		**1.4000e-004**	**1.4000e-004**		**1.4000e-004**	**1.4000e-004**		**0.0851**	**0.0851**	**2.3000e-004**		**0.0899**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

UCSF General Hospital Research Building (R&D) On-Site Parking

San Francisco County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Research & Development	175.00	1000sqft	2.00	175,000.00	0
Enclosed Parking with Elevator	182.00	Space	0.00	72,800.00	0
Parking Lot	32.00	Space	0.29	12,800.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	4.6	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E Greenhouse Gas Emission Factors: Guidance for PG&E Customers (November 2015)

Land Use - Building lot is 88,810 square feet with subsurface garage

Construction Phase -

Trips and VMT - Surface parking requires 25,000 cubic yards of soil export

Grading - 9,000 cubic yards of soil export

Architectural Coating -

Vehicle Trips - Based on 196 net new daily trips per day (Transportation Study for UCSF Research Building by FEHR & PEERS, December 2015)

Vechicle Emission Factors -

Vechicle Emission Factors -

Vechicle Emission Factors -

Energy Use -

Construction Off-road Equipment Mitigation - BAAQMD Enhanced Mitigation Measure

Area Mitigation -

Energy Mitigation - LEED-NC Silver

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3

tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblGrading	AcresOfGrading	12.50	3.00

tblGrading	MaterialExported	0.00	25,000.00
tblGrading	MaterialExported	0.00	9,000.00
tblLandUse	LotAcreage	4.02	2.00
tblLandUse	LotAcreage	1.64	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblProjectCharacteristics	OperationalYear	2014	2020
tblVehicleTrips	ST_TR	1.90	1.12
tblVehicleTrips	SU_TR	1.11	1.12
tblVehicleTrips	WD_TR	8.11	1.12

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2017	259.2204	168.6569	248.8531	0.3895	35.9077	3.1805	39.0882	16.5082	2.9246	19.4328	0.0000	38,407.9756	38,407.9756	0.9377	0.0000	38,427.6669
Total	**259.2204**	**168.6569**	**248.8531**	**0.3895**	**35.9077**	**3.1805**	**39.0882**	**16.5082**	**2.9246**	**19.4328**	**0.0000**	**38,407.9756**	**38,407.9756**	**0.9377**	**0.0000**	**38,427.6669**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2017	259.0020	158.4704	243.3166	0.3895	21.1394	1.7053	22.8447	8.7884	1.5738	10.3622	0.0000	38,407.9756	38,407.9756	0.9377	0.0000	38,427.6669
Total	**259.0020**	**158.4704**	**243.3166**	**0.3895**	**21.1394**	**1.7053**	**22.8447**	**8.7884**	**1.5738**	**10.3622**	**0.0000**	**38,407.9756**	**38,407.9756**	**0.9377**	**0.0000**	**38,427.6669**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.08**	**6.04**	**2.22**	**0.00**	**41.13**	**46.38**	**41.56**	**46.76**	**46.19**	**46.68**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	6.2897	3.7000e-004	0.0400	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0851	0.0851	2.3000e-004		0.0899
Energy	0.1328	1.2071	1.0140	7.2400e-003		0.0917	0.0917		0.0917	0.0917		1,448.5093	1,448.5093	0.0278	0.0266	1,457.3247
Mobile	0.5593	1.1616	5.2799	0.0146	1.0589	0.0188	1.0777	0.2861	0.0173	0.3034		1,108.5711	1,108.5711	0.0419		1,109.4512
Total	**6.9818**	**2.3690**	**6.3339**	**0.0219**	**1.0589**	**0.1106**	**1.1696**	**0.2861**	**0.1092**	**0.3953**		**2,557.1655**	**2,557.1655**	**0.0699**	**0.0266**	**2,566.8658**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	6.2897	3.7000e-004	0.0400	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0851	0.0851	2.3000e-004		0.0899
Energy	0.1134	1.0305	0.8657	6.1800e-003		0.0783	0.0783		0.0783	0.0783		1,236.6479	1,236.6479	0.0237	0.0227	1,244.1739
Mobile	0.5593	1.1616	5.2799	0.0146	1.0589	0.0188	1.0777	0.2861	0.0173	0.3034		1,108.5711	1,108.5711	0.0419		1,109.4512
Total	**6.9623**	**2.1925**	**6.1856**	**0.0208**	**1.0589**	**0.0972**	**1.1561**	**0.2861**	**0.0958**	**0.3819**		**2,345.3041**	**2,345.3041**	**0.0658**	**0.0227**	**2,353.7150**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.28**	**7.45**	**2.34**	**4.84**	**0.00**	**12.13**	**1.15**	**0.00**	**12.29**	**3.39**	**0.00**	**8.29**	**8.29**	**5.81**	**14.65**	**8.30**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/2/2017	1/4/2017	5	3	
2	Grading	Grading	1/5/2017	1/12/2017	5	6	
3	Building Construction	Building Construction	1/13/2017	11/16/2017	5	220	
4	Paving	Paving	11/17/2017	11/30/2017	5	10	
5	Architectural Coating	Architectural Coating	12/1/2017	12/14/2017	5	10	

Acres of Grading (Site Preparation Phase): 4.5

Acres of Grading (Grading Phase): 3

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 372,276; Non-Residential Outdoor: 124,092 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	174	0.41
Site Preparation	Scrapers	1	8.00	361	0.48
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Building Construction	Cranes	1	8.00	226	0.29
Building Construction	Forklifts	2	7.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Paving	Pavers	1	8.00	125	0.42
Paving	Paving Equipment	1	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	3	8.00	0.00	1,125.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	3,125.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	92.00	43.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	18.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Water Exposed Area

Clean Paved Roads

3.2 Site Preparation - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.4758	0.0000	2.4758	0.3058	0.0000	0.3058			0.0000			0.0000
Off-Road	2.5289	28.6230	17.1310	0.0238		1.3967	1.3967		1.2850	1.2850		2,439.4360	2,439.4360	0.7474		2,455.1322
Total	**2.5289**	**28.6230**	**17.1310**	**0.0238**	**2.4758**	**1.3967**	**3.8725**	**0.3058**	**1.2850**	**1.5908**		**2,439.4360**	**2,439.4360**	**0.7474**		**2,455.1322**

3.2 Site Preparation - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	10.9061	101.1225	165.1839	0.2648	6.4525	1.1698	7.6223	1.7620	1.0751	2.8371		26,069.5890	26,069.5890	0.1863		26,073.5021
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0281	0.0386	0.3705	9.5000e-004	0.0754	6.4000e-004	0.0761	0.0200	5.9000e-004	0.0206		76.5115	76.5115	3.9100e-003		76.5935
Total	**10.9342**	**101.1611**	**165.5544**	**0.2657**	**6.5280**	**1.1704**	**7.6984**	**1.7820**	**1.0757**	**2.8577**		**26,146.1005**	**26,146.1005**	**0.1903**		**26,150.0956**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.1141	0.0000	1.1141	0.1376	0.0000	0.1376			0.0000			0.0000
Off-Road	0.7332	19.4604	14.6507	0.0238		0.0805	0.0805		0.0805	0.0805	0.0000	2,439.4360	2,439.4360	0.7474		2,455.1322
Total	**0.7332**	**19.4604**	**14.6507**	**0.0238**	**1.1141**	**0.0805**	**1.1946**	**0.1376**	**0.0805**	**0.2181**	**0.0000**	**2,439.4360**	**2,439.4360**	**0.7474**		**2,455.1322**

3.2 Site Preparation - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	10.9061	101.1225	165.1839	0.2648	6.4525	1.1698	7.6223	1.7620	1.0751	2.8371		26,069.5890	26,069.5890	0.1863		26,073.5021
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0281	0.0386	0.3705	9.5000e-004	0.0754	6.4000e-004	0.0761	0.0200	5.9000e-004	0.0206		76.5115	76.5115	3.9100e-003		76.5935
Total	**10.9342**	**101.1611**	**165.5544**	**0.2657**	**6.5280**	**1.1704**	**7.6984**	**1.7820**	**1.0757**	**2.8577**		**26,146.1005**	**26,146.1005**	**0.1903**		**26,150.0956**

3.3 Grading - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					26.8515	0.0000	26.8515	14.0360	0.0000	14.0360			0.0000			0.0000
Off-Road	2.6973	28.1608	18.9679	0.0206		1.5550	1.5550		1.4306	1.4306		2,104.5737	2,104.5737	0.6448		2,118.1153
Total	**2.6973**	**28.1608**	**18.9679**	**0.0206**	**26.8515**	**1.5550**	**28.4066**	**14.0360**	**1.4306**	**15.4667**		**2,104.5737**	**2,104.5737**	**0.6448**		**2,118.1153**

3.3 Grading - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	15.1473	140.4479	229.4221	0.3677	8.9619	1.6247	10.5865	2.4472	1.4933	3.9404		36,207.7626	36,207.7626	0.2588		36,213.1974
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0351	0.0483	0.4632	1.1800e-003	0.0943	8.0000e-004	0.0951	0.0250	7.4000e-004	0.0258		95.6393	95.6393	4.8800e-003		95.7419
Total	**15.1824**	**140.4962**	**229.8853**	**0.3689**	**9.0562**	**1.6255**	**10.6817**	**2.4722**	**1.4940**	**3.9662**		**36,303.4019**	**36,303.4019**	**0.2637**		**36,308.9392**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					12.0832	0.0000	12.0832	6.3162	0.0000	6.3162			0.0000			0.0000
Off-Road	0.7097	17.9743	13.4314	0.0206		0.0798	0.0798		0.0798	0.0798	0.0000	2,104.5737	2,104.5737	0.6448		2,118.1153
Total	**0.7097**	**17.9743**	**13.4314**	**0.0206**	**12.0832**	**0.0798**	**12.1630**	**6.3162**	**0.0798**	**6.3960**	**0.0000**	**2,104.5737**	**2,104.5737**	**0.6448**		**2,118.1153**

3.3 Grading - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	15.1473	140.4479	229.4221	0.3677	8.9619	1.6247	10.5865	2.4472	1.4933	3.9404		36,207.7626	36,207.7626	0.2588		36,213.1974
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0351	0.0483	0.4632	1.1800e-003	0.0943	8.0000e-004	0.0951	0.0250	7.4000e-004	0.0258		95.6393	95.6393	4.8800e-003		95.7419
Total	**15.1824**	**140.4962**	**229.8853**	**0.3689**	**9.0562**	**1.6255**	**10.6817**	**2.4722**	**1.4940**	**3.9662**		**36,303.4019**	**36,303.4019**	**0.2637**		**36,308.9392**

3.4 Building Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.3275	22.8585	16.2492	0.0249		1.4621	1.4621		1.3998	1.3998		2,334.8503	2,334.8503	0.5189		2,345.7479
Total	**3.3275**	**22.8585**	**16.2492**	**0.0249**		**1.4621**	**1.4621**		**1.3998**	**1.3998**		**2,334.8503**	**2,334.8503**	**0.5189**		**2,345.7479**

3.4 Building Construction - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.6236	3.8682	8.5336	9.8600e-003	0.2840	0.0534	0.3374	0.0810	0.0490	0.1300		965.5535	965.5535	7.5400e-003		965.7119
Worker	0.3230	0.4442	4.2612	0.0109	0.8676	7.4000e-003	0.8750	0.2301	6.8300e-003	0.2369		879.8819	879.8819	0.0449		880.8250
Total	**0.9465**	**4.3124**	**12.7948**	**0.0207**	**1.1516**	**0.0608**	**1.2124**	**0.3111**	**0.0559**	**0.3670**		**1,845.4355**	**1,845.4355**	**0.0525**		**1,846.5369**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9440	19.9403	15.3416	0.0249		0.1223	0.1223		0.1223	0.1223	0.0000	2,334.8503	2,334.8503	0.5189		2,345.7479
Total	**0.9440**	**19.9403**	**15.3416**	**0.0249**		**0.1223**	**0.1223**		**0.1223**	**0.1223**	**0.0000**	**2,334.8503**	**2,334.8503**	**0.5189**		**2,345.7479**

3.4 Building Construction - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.6236	3.8682	8.5336	9.8600e-003	0.2840	0.0534	0.3374	0.0810	0.0490	0.1300		965.5535	965.5535	7.5400e-003		965.7119
Worker	0.3230	0.4442	4.2612	0.0109	0.8676	7.4000e-003	0.8750	0.2301	6.8300e-003	0.2369		879.8819	879.8819	0.0449		880.8250
Total	**0.9465**	**4.3124**	**12.7948**	**0.0207**	**1.1516**	**0.0608**	**1.2124**	**0.3111**	**0.0559**	**0.3670**		**1,845.4355**	**1,845.4355**	**0.0525**		**1,846.5369**

3.5 Paving - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6402	16.4619	12.0566	0.0176		1.0230	1.0230		0.9423	0.9423		1,777.4745	1,777.4745	0.5344		1,788.6966
Paving	0.0760					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.7161**	**16.4619**	**12.0566**	**0.0176**		**1.0230**	**1.0230**		**0.9423**	**0.9423**		**1,777.4745**	**1,777.4745**	**0.5344**		**1,788.6966**

3.5 Paving - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0527	0.0724	0.6948	1.7700e-003	0.1415	1.2100e-003	0.1427	0.0375	1.1100e-003	0.0386		143.4590	143.4590	7.3200e-003		143.6128
Total	**0.0527**	**0.0724**	**0.6948**	**1.7700e-003**	**0.1415**	**1.2100e-003**	**0.1427**	**0.0375**	**1.1100e-003**	**0.0386**		**143.4590**	**143.4590**	**7.3200e-003**		**143.6128**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7250	15.4034	12.7897	0.0176		0.0827	0.0827		0.0827	0.0827	0.0000	1,777.4745	1,777.4745	0.5344		1,788.6966
Paving	0.0760					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.8010**	**15.4034**	**12.7897**	**0.0176**		**0.0827**	**0.0827**		**0.0827**	**0.0827**	**0.0000**	**1,777.4745**	**1,777.4745**	**0.5344**		**1,788.6966**

3.5 Paving - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0527	0.0724	0.6948	1.7700e-003	0.1415	1.2100e-003	0.1427	0.0375	1.1100e-003	0.0386		143.4590	143.4590	7.3200e-003		143.6128
Total	**0.0527**	**0.0724**	**0.6948**	**1.7700e-003**	**0.1415**	**1.2100e-003**	**0.1427**	**0.0375**	**1.1100e-003**	**0.0386**		**143.4590**	**143.4590**	**7.3200e-003**		**143.6128**

3.6 Architectural Coating - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	258.8249					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3323	2.1850	1.8681	2.9700e-003		0.1733	0.1733		0.1733	0.1733		281.4481	281.4481	0.0297		282.0721
Total	**259.1572**	**2.1850**	**1.8681**	**2.9700e-003**		**0.1733**	**0.1733**		**0.1733**	**0.1733**		**281.4481**	**281.4481**	**0.0297**		**282.0721**

3.6 Architectural Coating - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0632	0.0869	0.8337	2.1300e-003	0.1698	1.4500e-003	0.1712	0.0450	1.3400e-003	0.0464		172.1508	172.1508	8.7900e-003		172.3353
Total	**0.0632**	**0.0869**	**0.8337**	**2.1300e-003**	**0.1698**	**1.4500e-003**	**0.1712**	**0.0450**	**1.3400e-003**	**0.0464**		**172.1508**	**172.1508**	**8.7900e-003**		**172.3353**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	258.8249					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1139	2.3524	1.8324	2.9700e-003		0.0143	0.0143		0.0143	0.0143	0.0000	281.4481	281.4481	0.0297		282.0721
Total	**258.9388**	**2.3524**	**1.8324**	**2.9700e-003**		**0.0143**	**0.0143**		**0.0143**	**0.0143**	**0.0000**	**281.4481**	**281.4481**	**0.0297**		**282.0721**

3.6 Architectural Coating - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0632	0.0869	0.8337	2.1300e-003	0.1698	1.4500e-003	0.1712	0.0450	1.3400e-003	0.0464		172.1508	172.1508	8.7900e-003		172.3353
Total	**0.0632**	**0.0869**	**0.8337**	**2.1300e-003**	**0.1698**	**1.4500e-003**	**0.1712**	**0.0450**	**1.3400e-003**	**0.0464**		**172.1508**	**172.1508**	**8.7900e-003**		**172.3353**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.5593	1.1616	5.2799	0.0146	1.0589	0.0188	1.0777	0.2861	0.0173	0.3034		1,108.5711	1,108.5711	0.0419		1,109.4512
Unmitigated	0.5593	1.1616	5.2799	0.0146	1.0589	0.0188	1.0777	0.2861	0.0173	0.3034		1,108.5711	1,108.5711	0.0419		1,109.4512

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Research & Development	196.00	196.00	196.00	491,224	491,224
Total	196.00	196.00	196.00	491,224	491,224

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Research & Development	9.50	7.30	7.30	33.00	48.00	19.00	82	15	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.631289	0.058518	0.148045	0.077273	0.026007	0.003276	0.026188	0.004043	0.003129	0.010899	0.010305	0.000529	0.000500

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1134	1.0305	0.8657	6.1800e-003		0.0783	0.0783		0.0783	0.0783		1,236.6479	1,236.6479	0.0237	0.0227	1,244.1739
NaturalGas Unmitigated	0.1328	1.2071	1.0140	7.2400e-003		0.0917	0.0917		0.0917	0.0917		1,448.5093	1,448.5093	0.0278	0.0266	1,457.3247

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Research & Development	12312.3	0.1328	1.2071	1.0140	7.2400e-003		0.0917	0.0917		0.0917	0.0917		1,448.5093	1,448.5093	0.0278	0.0266	1,457.3247
Total		**0.1328**	**1.2071**	**1.0140**	**7.2400e-003**		**0.0917**	**0.0917**		**0.0917**	**0.0917**		**1,448.5093**	**1,448.5093**	**0.0278**	**0.0266**	**1,457.3247**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Research & Development	10.5115	0.1134	1.0305	0.8657	6.1800e-003		0.0783	0.0783		0.0783	0.0783		1,236.6479	1,236.6479	0.0237	0.0227	1,244.1739
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.1134**	**1.0305**	**0.8657**	**6.1800e-003**		**0.0783**	**0.0783**		**0.0783**	**0.0783**		**1,236.6479**	**1,236.6479**	**0.0237**	**0.0227**	**1,244.1739**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	6.2897	3.7000e-004	0.0400	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0851	0.0851	2.3000e-004		0.0899
Unmitigated	6.2897	3.7000e-004	0.0400	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0851	0.0851	2.3000e-004		0.0899

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.7091					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	5.5768					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.7600e-003	3.7000e-004	0.0400	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0851	0.0851	2.3000e-004		0.0899
Total	**6.2897**	**3.7000e-004**	**0.0400**	**0.0000**		**1.4000e-004**	**1.4000e-004**		**1.4000e-004**	**1.4000e-004**		**0.0851**	**0.0851**	**2.3000e-004**		**0.0899**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.7091					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	5.5768					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.7600e-003	3.7000e-004	0.0400	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0851	0.0851	2.3000e-004		0.0899
Total	**6.2897**	**3.7000e-004**	**0.0400**	**0.0000**		**1.4000e-004**	**1.4000e-004**		**1.4000e-004**	**1.4000e-004**		**0.0851**	**0.0851**	**2.3000e-004**		**0.0899**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

Research and Development Building

UCSF General Hospital Research Building (R&D)

San Francisco County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Research & Development	175.00	1000sqft	2.00	175,000.00	0
Parking Lot	32.00	Space	0.29	12,800.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	4.6	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E Greenhouse Gas Emission Factors: Guidance for PG&E Customers (November 2015)

Land Use - Building lot is 88,810 square feet

Construction Phase -

Trips and VMT -

Grading - 9,000 cubic yards of soil export

Architectural Coating -

Vehicle Trips - Based on 196 net new daily vehicle trips per day (Transportation Study for UCSF Research Building by FEHR & PEERS, December 2015)

Vechicle Emission Factors -

Vechicle Emission Factors -

Vechicle Emission Factors -

Energy Use -

Construction Off-road Equipment Mitigation - BAAQMD Enhanced Mitigation Measure

Area Mitigation -

Energy Mitigation - LEED-NC Silver

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3

tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblGrading	MaterialExported	0.00	9,000.00

tblLandUse	LotAcreage	4.02	2.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblProjectCharacteristics	OperationalYear	2014	2020
tblVehicleTrips	ST_TR	1.90	1.12
tblVehicleTrips	SU_TR	1.11	1.12
tblVehicleTrips	WD_TR	8.11	1.12

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2017	1.3848	3.2182	3.0672	4.9400e-003	0.1170	0.1801	0.2971	0.0360	0.1718	0.2078	0.0000	416.5769	416.5769	0.0610	0.0000	417.8569
Total	**1.3848**	**3.2182**	**3.0672**	**4.9400e-003**	**0.1170**	**0.1801**	**0.2971**	**0.0360**	**0.1718**	**0.2078**	**0.0000**	**416.5769**	**416.5769**	**0.0610**	**0.0000**	**417.8569**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2017	1.1083	2.8485	2.9505	4.9400e-003	0.1042	0.0208	0.1250	0.0302	0.0203	0.0505	0.0000	416.5766	416.5766	0.0610	0.0000	417.8566
Total	**1.1083**	**2.8485**	**2.9505**	**4.9400e-003**	**0.1042**	**0.0208**	**0.1250**	**0.0302**	**0.0203**	**0.0505**	**0.0000**	**416.5766**	**416.5766**	**0.0610**	**0.0000**	**417.8566**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**19.97**	**11.49**	**3.80**	**0.00**	**10.98**	**88.44**	**57.94**	**16.14**	**88.19**	**75.71**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.8251	2.0000e-005	1.9100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.7000e-003	3.7000e-003	1.0000e-005	0.0000	3.9100e-003
Energy	0.0242	0.2203	0.1851	1.3200e-003		0.0167	0.0167		0.0167	0.0167	0.0000	431.6725	431.6725	0.0238	8.3700e-003	434.7654
Mobile	0.0959	0.2041	0.9040	2.6700e-003	0.1856	3.4000e-003	0.1890	0.0503	3.1400e-003	0.0535	0.0000	183.2273	183.2273	6.9100e-003	0.0000	183.3724
Waste						0.0000	0.0000		0.0000	0.0000	2.6998	0.0000	2.6998	0.1596	0.0000	6.0504
Water						0.0000	0.0000		0.0000	0.0000	27.2986	61.2455	88.5441	2.8100	0.0675	168.4692
Total	**0.9452**	**0.4244**	**1.0910**	**3.9900e-003**	**0.1856**	**0.0202**	**0.2058**	**0.0503**	**0.0199**	**0.0702**	**29.9984**	**676.1490**	**706.1473**	**3.0002**	**0.0758**	**792.6612**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.8251	2.0000e-005	1.9100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.7000e-003	3.7000e-003	1.0000e-005	0.0000	3.9100e-003
Energy	0.0207	0.1881	0.1580	1.1300e-003		0.0143	0.0143		0.0143	0.0143	0.0000	389.7826	389.7826	0.0224	7.5800e-003	392.6040
Mobile	0.0959	0.2041	0.9040	2.6700e-003	0.1856	3.4000e-003	0.1890	0.0503	3.1400e-003	0.0535	0.0000	183.2273	183.2273	6.9100e-003	0.0000	183.3724
Waste						0.0000	0.0000		0.0000	0.0000	2.6998	0.0000	2.6998	0.1596	0.0000	6.0504
Water						0.0000	0.0000		0.0000	0.0000	27.2986	61.2455	88.5441	2.8094	0.0674	168.4256
Total	**0.9416**	**0.3922**	**1.0639**	**3.8000e-003**	**0.1856**	**0.0177**	**0.2033**	**0.0503**	**0.0174**	**0.0678**	**29.9984**	**634.2591**	**664.2574**	**2.9983**	**0.0750**	**750.4563**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.37**	**7.59**	**2.48**	**4.76**	**0.00**	**12.16**	**1.19**	**0.00**	**12.32**	**3.49**	**0.00**	**6.20**	**5.93**	**0.06**	**1.17**	**5.32**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/2/2017	1/4/2017	5	3	
2	Grading	Grading	1/5/2017	1/12/2017	5	6	
3	Building Construction	Building Construction	1/13/2017	11/16/2017	5	220	
4	Paving	Paving	11/17/2017	11/30/2017	5	10	
5	Architectural Coating	Architectural Coating	12/1/2017	12/14/2017	5	10	

Acres of Grading (Site Preparation Phase): 4.5

Acres of Grading (Grading Phase): 3

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 263,076; Non-Residential Outdoor: 87,692 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	174	0.41
Site Preparation	Scrapers	1	8.00	361	0.48
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Building Construction	Cranes	1	8.00	226	0.29
Building Construction	Forklifts	2	7.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Paving	Pavers	1	8.00	125	0.42
Paving	Paving Equipment	1	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	3	8.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	1,125.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	61.00	31.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	12.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Water Exposed Area

3.2 Site Preparation - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.3900e-003	0.0000	2.3900e-003	2.6000e-004	0.0000	2.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.7900e-003	0.0429	0.0257	4.0000e-005		2.1000e-003	2.1000e-003		1.9300e-003	1.9300e-003	0.0000	3.3195	3.3195	1.0200e-003	0.0000	3.3409
Total	**3.7900e-003**	**0.0429**	**0.0257**	**4.0000e-005**	**2.3900e-003**	**2.1000e-003**	**4.4900e-003**	**2.6000e-004**	**1.9300e-003**	**2.1900e-003**	**0.0000**	**3.3195**	**3.3195**	**1.0200e-003**	**0.0000**	**3.3409**

3.2 Site Preparation - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	5.0000e-005	5.4000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1043	0.1043	1.0000e-005	0.0000	0.1045
Total	**4.0000e-005**	**5.0000e-005**	**5.4000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.1043**	**0.1043**	**1.0000e-005**	**0.0000**	**0.1045**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.0700e-003	0.0000	1.0700e-003	1.2000e-004	0.0000	1.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.1000e-003	0.0292	0.0220	4.0000e-005		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004	0.0000	3.3195	3.3195	1.0200e-003	0.0000	3.3409
Total	**1.1000e-003**	**0.0292**	**0.0220**	**4.0000e-005**	**1.0700e-003**	**1.2000e-004**	**1.1900e-003**	**1.2000e-004**	**1.2000e-004**	**2.4000e-004**	**0.0000**	**3.3195**	**3.3195**	**1.0200e-003**	**0.0000**	**3.3409**

3.2 Site Preparation - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	5.0000e-005	5.4000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1043	0.1043	1.0000e-005	0.0000	0.1045
Total	**4.0000e-005**	**5.0000e-005**	**5.4000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.1043**	**0.1043**	**1.0000e-005**	**0.0000**	**0.1045**

3.3 Grading - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0210	0.0000	0.0210	0.0103	0.0000	0.0103	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.0900e-003	0.0845	0.0569	6.0000e-005		4.6700e-003	4.6700e-003		4.2900e-003	4.2900e-003	0.0000	5.7277	5.7277	1.7500e-003	0.0000	5.7646
Total	**8.0900e-003**	**0.0845**	**0.0569**	**6.0000e-005**	**0.0210**	**4.6700e-003**	**0.0257**	**0.0103**	**4.2900e-003**	**0.0146**	**0.0000**	**5.7277**	**5.7277**	**1.7500e-003**	**0.0000**	**5.7646**

3.3 Grading - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0151	0.1491	0.2265	4.0000e-004	9.3500e-003	1.7500e-003	0.0111	2.5600e-003	1.6100e-003	4.1700e-003	0.0000	35.5264	35.5264	2.5000e-004	0.0000	35.5317
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-004	1.3000e-004	1.3500e-003	0.0000	2.7000e-004	0.0000	2.7000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.2609	0.2609	1.0000e-005	0.0000	0.2611
Total	**0.0152**	**0.1493**	**0.2278**	**4.0000e-004**	**9.6200e-003**	**1.7500e-003**	**0.0114**	**2.6300e-003**	**1.6100e-003**	**4.2400e-003**	**0.0000**	**35.7873**	**35.7873**	**2.6000e-004**	**0.0000**	**35.7928**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					9.4400e-003	0.0000	9.4400e-003	4.6400e-003	0.0000	4.6400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.1300e-003	0.0539	0.0403	6.0000e-005		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004	0.0000	5.7277	5.7277	1.7500e-003	0.0000	5.7646
Total	**2.1300e-003**	**0.0539**	**0.0403**	**6.0000e-005**	**9.4400e-003**	**2.4000e-004**	**9.6800e-003**	**4.6400e-003**	**2.4000e-004**	**4.8800e-003**	**0.0000**	**5.7277**	**5.7277**	**1.7500e-003**	**0.0000**	**5.7646**

3.3 Grading - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0151	0.1491	0.2265	4.0000e-004	9.3500e-003	1.7500e-003	0.0111	2.5600e-003	1.6100e-003	4.1700e-003	0.0000	35.5264	35.5264	2.5000e-004	0.0000	35.5317
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-004	1.3000e-004	1.3500e-003	0.0000	2.7000e-004	0.0000	2.7000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.2609	0.2609	1.0000e-005	0.0000	0.2611
Total	**0.0152**	**0.1493**	**0.2278**	**4.0000e-004**	**9.6200e-003**	**1.7500e-003**	**0.0114**	**2.6300e-003**	**1.6100e-003**	**4.2400e-003**	**0.0000**	**35.7873**	**35.7873**	**2.6000e-004**	**0.0000**	**35.7928**

3.4 Building Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.3660	2.5144	1.7874	2.7400e-003		0.1608	0.1608		0.1540	0.1540	0.0000	232.9955	232.9955	0.0518	0.0000	234.0829
Total	**0.3660**	**2.5144**	**1.7874**	**2.7400e-003**		**0.1608**	**0.1608**		**0.1540**	**0.1540**	**0.0000**	**232.9955**	**232.9955**	**0.0518**	**0.0000**	**234.0829**

3.4 Building Construction - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0446	0.3032	0.5923	7.8000e-004	0.0218	4.2100e-003	0.0260	6.2500e-003	3.8600e-003	0.0101	0.0000	69.7873	69.7873	5.3000e-004	0.0000	69.7986
Worker	0.0219	0.0300	0.3009	8.0000e-004	0.0609	5.4000e-004	0.0614	0.0162	5.0000e-004	0.0167	0.0000	58.3424	58.3424	2.9700e-003	0.0000	58.4048
Total	**0.0665**	**0.3332**	**0.8931**	**1.5800e-003**	**0.0827**	**4.7500e-003**	**0.0874**	**0.0224**	**4.3600e-003**	**0.0268**	**0.0000**	**128.1297**	**128.1297**	**3.5000e-003**	**0.0000**	**128.2033**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1038	2.1934	1.6876	2.7400e-003		0.0135	0.0135		0.0135	0.0135	0.0000	232.9952	232.9952	0.0518	0.0000	234.0827
Total	**0.1038**	**2.1934**	**1.6876**	**2.7400e-003**		**0.0135**	**0.0135**		**0.0135**	**0.0135**	**0.0000**	**232.9952**	**232.9952**	**0.0518**	**0.0000**	**234.0827**

3.4 Building Construction - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0446	0.3032	0.5923	7.8000e-004	0.0218	4.2100e-003	0.0260	6.2500e-003	3.8600e-003	0.0101	0.0000	69.7873	69.7873	5.3000e-004	0.0000	69.7986
Worker	0.0219	0.0300	0.3009	8.0000e-004	0.0609	5.4000e-004	0.0614	0.0162	5.0000e-004	0.0167	0.0000	58.3424	58.3424	2.9700e-003	0.0000	58.4048
Total	**0.0665**	**0.3332**	**0.8931**	**1.5800e-003**	**0.0827**	**4.7500e-003**	**0.0874**	**0.0224**	**4.3600e-003**	**0.0268**	**0.0000**	**128.1297**	**128.1297**	**3.5000e-003**	**0.0000**	**128.2033**

3.5 Paving - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.2000e-003	0.0823	0.0603	9.0000e-005		5.1100e-003	5.1100e-003		4.7100e-003	4.7100e-003	0.0000	8.0625	8.0625	2.4200e-003	0.0000	8.1134
Paving	3.8000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**8.5800e-003**	**0.0823**	**0.0603**	**9.0000e-005**		**5.1100e-003**	**5.1100e-003**		**4.7100e-003**	**4.7100e-003**	**0.0000**	**8.0625**	**8.0625**	**2.4200e-003**	**0.0000**	**8.1134**

3.5 Paving - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.4000e-004	3.4000e-004	3.3600e-003	1.0000e-005	6.8000e-004	1.0000e-005	6.9000e-004	1.8000e-004	1.0000e-005	1.9000e-004	0.0000	0.6521	0.6521	3.0000e-005	0.0000	0.6528
Total	**2.4000e-004**	**3.4000e-004**	**3.3600e-003**	**1.0000e-005**	**6.8000e-004**	**1.0000e-005**	**6.9000e-004**	**1.8000e-004**	**1.0000e-005**	**1.9000e-004**	**0.0000**	**0.6521**	**0.6521**	**3.0000e-005**	**0.0000**	**0.6528**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.6200e-003	0.0770	0.0640	9.0000e-005		4.1000e-004	4.1000e-004		4.1000e-004	4.1000e-004	0.0000	8.0625	8.0625	2.4200e-003	0.0000	8.1134
Paving	3.8000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**4.0000e-003**	**0.0770**	**0.0640**	**9.0000e-005**		**4.1000e-004**	**4.1000e-004**		**4.1000e-004**	**4.1000e-004**	**0.0000**	**8.0625**	**8.0625**	**2.4200e-003**	**0.0000**	**8.1134**

3.5 Paving - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.4000e-004	3.4000e-004	3.3600e-003	1.0000e-005	6.8000e-004	1.0000e-005	6.9000e-004	1.8000e-004	1.0000e-005	1.9000e-004	0.0000	0.6521	0.6521	3.0000e-005	0.0000	0.6528
Total	**2.4000e-004**	**3.4000e-004**	**3.3600e-003**	**1.0000e-005**	**6.8000e-004**	**1.0000e-005**	**6.9000e-004**	**1.8000e-004**	**1.0000e-005**	**1.9000e-004**	**0.0000**	**0.6521**	**0.6521**	**3.0000e-005**	**0.0000**	**0.6528**

3.6 Architectural Coating - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.9145					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.6600e-003	0.0109	9.3400e-003	1.0000e-005		8.7000e-004	8.7000e-004		8.7000e-004	8.7000e-004	0.0000	1.2766	1.2766	1.3000e-004	0.0000	1.2795
Total	**0.9162**	**0.0109**	**9.3400e-003**	**1.0000e-005**		**8.7000e-004**	**8.7000e-004**		**8.7000e-004**	**8.7000e-004**	**0.0000**	**1.2766**	**1.2766**	**1.3000e-004**	**0.0000**	**1.2795**

3.6 Architectural Coating - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-004	2.7000e-004	2.6900e-003	1.0000e-005	5.4000e-004	0.0000	5.5000e-004	1.4000e-004	0.0000	1.5000e-004	0.0000	0.5217	0.5217	3.0000e-005	0.0000	0.5223
Total	**2.0000e-004**	**2.7000e-004**	**2.6900e-003**	**1.0000e-005**	**5.4000e-004**	**0.0000**	**5.5000e-004**	**1.4000e-004**	**0.0000**	**1.5000e-004**	**0.0000**	**0.5217**	**0.5217**	**3.0000e-005**	**0.0000**	**0.5223**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.9145					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.7000e-004	0.0118	9.1600e-003	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	1.2766	1.2766	1.3000e-004	0.0000	1.2795
Total	**0.9151**	**0.0118**	**9.1600e-003**	**1.0000e-005**		**7.0000e-005**	**7.0000e-005**		**7.0000e-005**	**7.0000e-005**	**0.0000**	**1.2766**	**1.2766**	**1.3000e-004**	**0.0000**	**1.2795**

3.6 Architectural Coating - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-004	2.7000e-004	2.6900e-003	1.0000e-005	5.4000e-004	0.0000	5.5000e-004	1.4000e-004	0.0000	1.5000e-004	0.0000	0.5217	0.5217	3.0000e-005	0.0000	0.5223
Total	**2.0000e-004**	**2.7000e-004**	**2.6900e-003**	**1.0000e-005**	**5.4000e-004**	**0.0000**	**5.5000e-004**	**1.4000e-004**	**0.0000**	**1.5000e-004**	**0.0000**	**0.5217**	**0.5217**	**3.0000e-005**	**0.0000**	**0.5223**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0959	0.2041	0.9040	2.6700e-003	0.1856	3.4000e-003	0.1890	0.0503	3.1400e-003	0.0535	0.0000	183.2273	183.2273	6.9100e-003	0.0000	183.3724
Unmitigated	0.0959	0.2041	0.9040	2.6700e-003	0.1856	3.4000e-003	0.1890	0.0503	3.1400e-003	0.0535	0.0000	183.2273	183.2273	6.9100e-003	0.0000	183.3724

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Parking Lot	0.00	0.00	0.00		
Research & Development	196.00	196.00	196.00	491,224	491,224
Total	196.00	196.00	196.00	491,224	491,224

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Research & Development	9.50	7.30	7.30	33.00	48.00	19.00	82	15	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.631289	0.058518	0.148045	0.077273	0.026007	0.003276	0.026188	0.004043	0.003129	0.010899	0.010305	0.000529	0.000500

4.4 Fleet Mix

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	185.0417	185.0417	0.0185	3.8300e-003	186.6171
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	191.8555	191.8555	0.0192	3.9700e-003	193.4890
NaturalGas Mitigated	0.0207	0.1881	0.1580	1.1300e-003		0.0143	0.0143		0.0143	0.0143	0.0000	204.7409	204.7409	3.9200e-003	3.7500e-003	205.9869
NaturalGas Unmitigated	0.0242	0.2203	0.1851	1.3200e-003		0.0167	0.0167		0.0167	0.0167	0.0000	239.8170	239.8170	4.6000e-003	4.4000e-003	241.2764

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Research & Development	4.494e+006	0.0242	0.2203	0.1851	1.3200e-003		0.0167	0.0167		0.0167	0.0167	0.0000	239.8170	239.8170	4.6000e-003	4.4000e-003	241.2764
Total		**0.0242**	**0.2203**	**0.1851**	**1.3200e-003**		**0.0167**	**0.0167**		**0.0167**	**0.0167**	**0.0000**	**239.8170**	**239.8170**	**4.6000e-003**	**4.4000e-003**	**241.2764**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Research & Development	3.8367e+006	0.0207	0.1881	0.1580	1.1300e-003		0.0143	0.0143		0.0143	0.0143	0.0000	204.7409	204.7409	3.9200e-003	3.7500e-003	205.9869
Total		**0.0207**	**0.1881**	**0.1580**	**1.1300e-003**		**0.0143**	**0.0143**		**0.0143**	**0.0143**	**0.0000**	**204.7409**	**204.7409**	**3.9200e-003**	**3.7500e-003**	**205.9869**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Parking Lot	11264	1.4817	1.5000e-004	3.0000e-005	1.4943
Research & Development	1.44725e+006	190.3739	0.0190	3.9400e-003	191.9947
Total		**191.8555**	**0.0192**	**3.9700e-003**	**193.4890**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Parking Lot	11264	1.4817	1.5000e-004	3.0000e-005	1.4943
Research & Development	1.39545e+006	183.5600	0.0184	3.8000e-003	185.1228
Total		**185.0417**	**0.0185**	**3.8300e-003**	**186.6171**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.8251	2.0000e-005	1.9100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.7000e-003	3.7000e-003	1.0000e-005	0.0000	3.9100e-003
Unmitigated	0.8251	2.0000e-005	1.9100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.7000e-003	3.7000e-003	1.0000e-005	0.0000	3.9100e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0915					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.7335					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.8000e-004	2.0000e-005	1.9100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.7000e-003	3.7000e-003	1.0000e-005	0.0000	3.9100e-003
Total	**0.8251**	**2.0000e-005**	**1.9100e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**3.7000e-003**	**3.7000e-003**	**1.0000e-005**	**0.0000**	**3.9100e-003**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0915					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.7335					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.8000e-004	2.0000e-005	1.9100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.7000e-003	3.7000e-003	1.0000e-005	0.0000	3.9100e-003
Total	**0.8251**	**2.0000e-005**	**1.9100e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**3.7000e-003**	**3.7000e-003**	**1.0000e-005**	**0.0000**	**3.9100e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	88.5441	2.8094	0.0674	168.4256
Unmitigated	88.5441	2.8100	0.0675	168.4692

7.2 Water by Land Use

Unmitigated

	Indoor/ Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Research & Development	86.0464 / 0	88.5441	2.8100	0.0675	168.4692
Total		**88.5441**	**2.8100**	**0.0675**	**168.4692**

Mitigated

	Indoor/ Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Research & Development	86.0464 / 0	88.5441	2.8094	0.0674	168.4256
Total		**88.5441**	**2.8094**	**0.0674**	**168.4256**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	2.6998	0.1596	0.0000	6.0504
Unmitigated	2.6998	0.1596	0.0000	6.0504

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Research & Development	13.3	2.6998	0.1596	0.0000	6.0504
Total		**2.6998**	**0.1596**	**0.0000**	**6.0504**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Research & Development	13.3	2.6998	0.1596	0.0000	6.0504
Total		**2.6998**	**0.1596**	**0.0000**	**6.0504**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

UCSF General Hospital Research Building (R&D)

San Francisco County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Research & Development	175.00	1000sqft	2.00	175,000.00	0
Parking Lot	32.00	Space	0.29	12,800.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	4.6	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E Greenhouse Gas Emission Factors: Guidance for PG&E Customers (November 2015)

Land Use - Building lot is 88,810 square feet

Construction Phase -

Trips and VMT -

Grading - 9,000 cubic yards of soil export

Architectural Coating -

Vehicle Trips - Based on 196 net new daily vehicle trips per day (Transportation Study for UCSF Research Building by FEHR & PEERS, December 2015)

Vechicle Emission Factors -

Vechicle Emission Factors -

Vechicle Emission Factors -

Energy Use -

Construction Off-road Equipment Mitigation - BAAQMD Enhanced Mitigation Measure

Area Mitigation -

Energy Mitigation - LEED-NC Silver

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3

tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
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tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblGrading	MaterialExported	0.00	9,000.00

tblLandUse	LotAcreage	4.02	2.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblProjectCharacteristics	OperationalYear	2014	2020
tblVehicleTrips	ST_TR	1.90	1.12
tblVehicleTrips	SU_TR	1.11	1.12
tblVehicleTrips	WD_TR	8.11	1.12

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2017	183.2764	75.6182	85.9370	0.1543	10.3155	2.1390	12.4544	4.3405	1.9673	6.3078	0.0000	15,273.6759	15,273.6759	0.7513	0.0000	15,289.4541
Total	**183.2764**	**75.6182**	**85.9370**	**0.1543**	**10.3155**	**2.1390**	**12.4544**	**4.3405**	**1.9673**	**6.3078**	**0.0000**	**15,273.6759**	**15,273.6759**	**0.7513**	**0.0000**	**15,289.4541**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2017	183.0580	65.4317	80.4005	0.1543	6.4683	0.6638	7.1320	2.4515	0.6165	3.0680	0.0000	15,273.6759	15,273.6759	0.7513	0.0000	15,289.4541
Total	**183.0580**	**65.4317**	**80.4005**	**0.1543**	**6.4683**	**0.6638**	**7.1320**	**2.4515**	**0.6165**	**3.0680**	**0.0000**	**15,273.6759**	**15,273.6759**	**0.7513**	**0.0000**	**15,289.4541**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.12**	**13.47**	**6.44**	**0.00**	**37.30**	**68.97**	**42.73**	**43.52**	**68.66**	**51.36**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	4.5220	2.0000e-004	0.0213	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0453	0.0453	1.2000e-004		0.0479
Energy	0.1328	1.2071	1.0140	7.2400e-003		0.0917	0.0917		0.0917	0.0917		1,448.5093	1,448.5093	0.0278	0.0266	1,457.3247
Mobile	0.5368	1.0429	4.8632	0.0154	1.0589	0.0187	1.0776	0.2861	0.0173	0.3034		1,163.4052	1,163.4052	0.0419		1,164.2849
Total	**5.1916**	**2.2502**	**5.8985**	**0.0226**	**1.0589**	**0.1105**	**1.1694**	**0.2861**	**0.1091**	**0.3952**		**2,611.9598**	**2,611.9598**	**0.0698**	**0.0266**	**2,621.6574**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	4.5220	2.0000e-004	0.0213	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0453	0.0453	1.2000e-004		0.0479
Energy	0.1134	1.0305	0.8657	6.1800e-003		0.0783	0.0783		0.0783	0.0783		1,236.6479	1,236.6479	0.0237	0.0227	1,244.1739
Mobile	0.5368	1.0429	4.8632	0.0154	1.0589	0.0187	1.0776	0.2861	0.0173	0.3034		1,163.4052	1,163.4052	0.0419		1,164.2849
Total	**5.1722**	**2.0736**	**5.7502**	**0.0216**	**1.0589**	**0.0971**	**1.1560**	**0.2861**	**0.0957**	**0.3818**		**2,400.0984**	**2,400.0984**	**0.0657**	**0.0227**	**2,408.5066**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.37**	**7.85**	**2.51**	**4.68**	**0.00**	**12.14**	**1.15**	**0.00**	**12.30**	**3.40**	**0.00**	**8.11**	**8.11**	**5.82**	**14.65**	**8.13**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/2/2017	1/4/2017	5	3	
2	Grading	Grading	1/5/2017	1/12/2017	5	6	
3	Building Construction	Building Construction	1/13/2017	11/16/2017	5	220	
4	Paving	Paving	11/17/2017	11/30/2017	5	10	
5	Architectural Coating	Architectural Coating	12/1/2017	12/14/2017	5	10	

Acres of Grading (Site Preparation Phase): 4.5

Acres of Grading (Grading Phase): 3

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 263,076; Non-Residential Outdoor: 87,692 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	174	0.41
Site Preparation	Scrapers	1	8.00	361	0.48
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Building Construction	Cranes	1	8.00	226	0.29
Building Construction	Forklifts	2	7.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Paving	Pavers	1	8.00	125	0.42
Paving	Paving Equipment	1	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	3	8.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	1,125.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	61.00	31.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	12.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Water Exposed Area

3.2 Site Preparation - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.5908	0.0000	1.5908	0.1718	0.0000	0.1718			0.0000			0.0000
Off-Road	2.5289	28.6230	17.1310	0.0238		1.3967	1.3967		1.2850	1.2850		2,439.4360	2,439.4360	0.7474		2,455.1322
Total	**2.5289**	**28.6230**	**17.1310**	**0.0238**	**1.5908**	**1.3967**	**2.9875**	**0.1718**	**1.2850**	**1.4567**		**2,439.4360**	**2,439.4360**	**0.7474**		**2,455.1322**

3.2 Site Preparation - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0270	0.0312	0.3770	1.0100e-003	0.0754	6.4000e-004	0.0761	0.0200	5.9000e-004	0.0206		81.3480	81.3480	3.9100e-003		81.4300
Total	**0.0270**	**0.0312**	**0.3770**	**1.0100e-003**	**0.0754**	**6.4000e-004**	**0.0761**	**0.0200**	**5.9000e-004**	**0.0206**		**81.3480**	**81.3480**	**3.9100e-003**		**81.4300**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7158	0.0000	0.7158	0.0773	0.0000	0.0773			0.0000			0.0000
Off-Road	0.7332	19.4604	14.6507	0.0238		0.0805	0.0805		0.0805	0.0805	0.0000	2,439.4360	2,439.4360	0.7474		2,455.1322
Total	**0.7332**	**19.4604**	**14.6507**	**0.0238**	**0.7158**	**0.0805**	**0.7963**	**0.0773**	**0.0805**	**0.1577**	**0.0000**	**2,439.4360**	**2,439.4360**	**0.7474**		**2,455.1322**

3.2 Site Preparation - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0270	0.0312	0.3770	1.0100e-003	0.0754	6.4000e-004	0.0761	0.0200	5.9000e-004	0.0206		81.3480	81.3480	3.9100e-003		81.4300
Total	**0.0270**	**0.0312**	**0.3770**	**1.0100e-003**	**0.0754**	**6.4000e-004**	**0.0761**	**0.0200**	**5.9000e-004**	**0.0206**		**81.3480**	**81.3480**	**3.9100e-003**		**81.4300**

3.3 Grading - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.9949	0.0000	6.9949	3.4345	0.0000	3.4345			0.0000			0.0000
Off-Road	2.6973	28.1608	18.9679	0.0206		1.5550	1.5550		1.4306	1.4306		2,104.5737	2,104.5737	0.6448		2,118.1153
Total	**2.6973**	**28.1608**	**18.9679**	**0.0206**	**6.9949**	**1.5550**	**8.5499**	**3.4345**	**1.4306**	**4.8651**		**2,104.5737**	**2,104.5737**	**0.6448**		**2,118.1153**

3.3 Grading - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.5503	47.4185	66.4979	0.1325	3.2263	0.5832	3.8094	0.8810	0.5360	1.4170		13,067.4172	13,067.4172	0.0918		13,069.3456
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0338	0.0390	0.4712	1.2600e-003	0.0943	8.0000e-004	0.0951	0.0250	7.4000e-004	0.0258		101.6849	101.6849	4.8800e-003		101.7875
Total	**4.5840**	**47.4575**	**66.9691**	**0.1337**	**3.3206**	**0.5840**	**3.9045**	**0.9060**	**0.5367**	**1.4427**		**13,169.1022**	**13,169.1022**	**0.0967**		**13,171.1330**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.1477	0.0000	3.1477	1.5455	0.0000	1.5455			0.0000			0.0000
Off-Road	0.7097	17.9743	13.4314	0.0206		0.0798	0.0798		0.0798	0.0798	0.0000	2,104.5737	2,104.5737	0.6448		2,118.1153
Total	**0.7097**	**17.9743**	**13.4314**	**0.0206**	**3.1477**	**0.0798**	**3.2275**	**1.5455**	**0.0798**	**1.6253**	**0.0000**	**2,104.5737**	**2,104.5737**	**0.6448**		**2,118.1153**

3.3 Grading - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.5503	47.4185	66.4979	0.1325	3.2263	0.5832	3.8094	0.8810	0.5360	1.4170		13,067.4172	13,067.4172	0.0918		13,069.3456
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0338	0.0390	0.4712	1.2600e-003	0.0943	8.0000e-004	0.0951	0.0250	7.4000e-004	0.0258		101.6849	101.6849	4.8800e-003		101.7875
Total	**4.5840**	**47.4575**	**66.9691**	**0.1337**	**3.3206**	**0.5840**	**3.9045**	**0.9060**	**0.5367**	**1.4427**		**13,169.1022**	**13,169.1022**	**0.0967**		**13,171.1330**

3.4 Building Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.3275	22.8585	16.2492	0.0249		1.4621	1.4621		1.3998	1.3998		2,334.8503	2,334.8503	0.5189		2,345.7479
Total	**3.3275**	**22.8585**	**16.2492**	**0.0249**		**1.4621**	**1.4621**		**1.3998**	**1.3998**		**2,334.8503**	**2,334.8503**	**0.5189**		**2,345.7479**

3.4 Building Construction - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3559	2.6484	4.3845	7.1300e-003	0.2048	0.0381	0.2428	0.0584	0.0350	0.0934		701.6880	701.6880	5.2900e-003		701.7991
Worker	0.2060	0.2377	2.8743	7.6700e-003	0.5753	4.9100e-003	0.5802	0.1526	4.5300e-003	0.1571		620.2781	620.2781	0.0298		620.9034
Total	**0.5619**	**2.8861**	**7.2588**	**0.0148**	**0.7800**	**0.0430**	**0.8230**	**0.2110**	**0.0395**	**0.2505**		**1,321.9662**	**1,321.9662**	**0.0351**		**1,322.7026**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9440	19.9403	15.3416	0.0249		0.1223	0.1223		0.1223	0.1223	0.0000	2,334.8503	2,334.8503	0.5189		2,345.7479
Total	**0.9440**	**19.9403**	**15.3416**	**0.0249**		**0.1223**	**0.1223**		**0.1223**	**0.1223**	**0.0000**	**2,334.8503**	**2,334.8503**	**0.5189**		**2,345.7479**

3.4 Building Construction - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3559	2.6484	4.3845	7.1300e-003	0.2048	0.0381	0.2428	0.0584	0.0350	0.0934		701.6880	701.6880	5.2900e-003		701.7991
Worker	0.2060	0.2377	2.8743	7.6700e-003	0.5753	4.9100e-003	0.5802	0.1526	4.5300e-003	0.1571		620.2781	620.2781	0.0298		620.9034
Total	**0.5619**	**2.8861**	**7.2588**	**0.0148**	**0.7800**	**0.0430**	**0.8230**	**0.2110**	**0.0395**	**0.2505**		**1,321.9662**	**1,321.9662**	**0.0351**		**1,322.7026**

3.5 Paving - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6402	16.4619	12.0566	0.0176		1.0230	1.0230		0.9423	0.9423		1,777.4745	1,777.4745	0.5344		1,788.6966
Paving	0.0760					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.7161**	**16.4619**	**12.0566**	**0.0176**		**1.0230**	**1.0230**		**0.9423**	**0.9423**		**1,777.4745**	**1,777.4745**	**0.5344**		**1,788.6966**

3.5 Paving - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0507	0.0585	0.7068	1.8900e-003	0.1415	1.2100e-003	0.1427	0.0375	1.1100e-003	0.0386		152.5274	152.5274	7.3200e-003		152.6812
Total	**0.0507**	**0.0585**	**0.7068**	**1.8900e-003**	**0.1415**	**1.2100e-003**	**0.1427**	**0.0375**	**1.1100e-003**	**0.0386**		**152.5274**	**152.5274**	**7.3200e-003**		**152.6812**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7250	15.4034	12.7897	0.0176		0.0827	0.0827		0.0827	0.0827	0.0000	1,777.4745	1,777.4745	0.5344		1,788.6966
Paving	0.0760					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.8010**	**15.4034**	**12.7897**	**0.0176**		**0.0827**	**0.0827**		**0.0827**	**0.0827**	**0.0000**	**1,777.4745**	**1,777.4745**	**0.5344**		**1,788.6966**

3.5 Paving - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0507	0.0585	0.7068	1.8900e-003	0.1415	1.2100e-003	0.1427	0.0375	1.1100e-003	0.0386		152.5274	152.5274	7.3200e-003		152.6812
Total	**0.0507**	**0.0585**	**0.7068**	**1.8900e-003**	**0.1415**	**1.2100e-003**	**0.1427**	**0.0375**	**1.1100e-003**	**0.0386**		**152.5274**	**152.5274**	**7.3200e-003**		**152.6812**

3.6 Architectural Coating - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	182.9036					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3323	2.1850	1.8681	2.9700e-003		0.1733	0.1733		0.1733	0.1733		281.4481	281.4481	0.0297		282.0721
Total	**183.2359**	**2.1850**	**1.8681**	**2.9700e-003**		**0.1733**	**0.1733**		**0.1733**	**0.1733**		**281.4481**	**281.4481**	**0.0297**		**282.0721**

3.6 Architectural Coating - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0405	0.0468	0.5654	1.5100e-003	0.1132	9.7000e-004	0.1141	0.0300	8.9000e-004	0.0309		122.0219	122.0219	5.8600e-003		122.1449
Total	**0.0405**	**0.0468**	**0.5654**	**1.5100e-003**	**0.1132**	**9.7000e-004**	**0.1141**	**0.0300**	**8.9000e-004**	**0.0309**		**122.0219**	**122.0219**	**5.8600e-003**		**122.1449**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	182.9036					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1139	2.3524	1.8324	2.9700e-003		0.0143	0.0143		0.0143	0.0143	0.0000	281.4481	281.4481	0.0297		282.0721
Total	**183.0175**	**2.3524**	**1.8324**	**2.9700e-003**		**0.0143**	**0.0143**		**0.0143**	**0.0143**	**0.0000**	**281.4481**	**281.4481**	**0.0297**		**282.0721**

3.6 Architectural Coating - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0405	0.0468	0.5654	1.5100e-003	0.1132	9.7000e-004	0.1141	0.0300	8.9000e-004	0.0309		122.0219	122.0219	5.8600e-003		122.1449
Total	**0.0405**	**0.0468**	**0.5654**	**1.5100e-003**	**0.1132**	**9.7000e-004**	**0.1141**	**0.0300**	**8.9000e-004**	**0.0309**		**122.0219**	**122.0219**	**5.8600e-003**		**122.1449**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.5368	1.0429	4.8632	0.0154	1.0589	0.0187	1.0776	0.2861	0.0173	0.3034		1,163.4052	1,163.4052	0.0419		1,164.2849
Unmitigated	0.5368	1.0429	4.8632	0.0154	1.0589	0.0187	1.0776	0.2861	0.0173	0.3034		1,163.4052	1,163.4052	0.0419		1,164.2849

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Parking Lot	0.00	0.00	0.00		
Research & Development	196.00	196.00	196.00	491,224	491,224
Total	196.00	196.00	196.00	491,224	491,224

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Research & Development	9.50	7.30	7.30	33.00	48.00	19.00	82	15	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.631289	0.058518	0.148045	0.077273	0.026007	0.003276	0.026188	0.004043	0.003129	0.010899	0.010305	0.000529	0.000500

4.4 Fleet Mix

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1134	1.0305	0.8657	6.1800e-003		0.0783	0.0783		0.0783	0.0783		1,236.6479	1,236.6479	0.0237	0.0227	1,244.1739
NaturalGas Unmitigated	0.1328	1.2071	1.0140	7.2400e-003		0.0917	0.0917		0.0917	0.0917		1,448.5093	1,448.5093	0.0278	0.0266	1,457.3247

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Research & Development	12312.3	0.1328	1.2071	1.0140	7.2400e-003		0.0917	0.0917		0.0917	0.0917		1,448.5093	1,448.5093	0.0278	0.0266	1,457.3247
Total		**0.1328**	**1.2071**	**1.0140**	**7.2400e-003**		**0.0917**	**0.0917**		**0.0917**	**0.0917**		**1,448.5093**	**1,448.5093**	**0.0278**	**0.0266**	**1,457.3247**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Research & Development	10.5115	0.1134	1.0305	0.8657	6.1800e-003		0.0783	0.0783		0.0783	0.0783		1,236.6479	1,236.6479	0.0237	0.0227	1,244.1739
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.1134**	**1.0305**	**0.8657**	**6.1800e-003**		**0.0783**	**0.0783**		**0.0783**	**0.0783**		**1,236.6479**	**1,236.6479**	**0.0237**	**0.0227**	**1,244.1739**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	4.5220	2.0000e-004	0.0213	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0453	0.0453	1.2000e-004		0.0479
Unmitigated	4.5220	2.0000e-004	0.0213	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0453	0.0453	1.2000e-004		0.0479

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.5011					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.0189					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.0000e-003	2.0000e-004	0.0213	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0453	0.0453	1.2000e-004		0.0479
Total	**4.5220**	**2.0000e-004**	**0.0213**	**0.0000**		**8.0000e-005**	**8.0000e-005**		**8.0000e-005**	**8.0000e-005**		**0.0453**	**0.0453**	**1.2000e-004**		**0.0479**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.5011					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.0189					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.0000e-003	2.0000e-004	0.0213	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0453	0.0453	1.2000e-004		0.0479
Total	**4.5220**	**2.0000e-004**	**0.0213**	**0.0000**		**8.0000e-005**	**8.0000e-005**		**8.0000e-005**	**8.0000e-005**		**0.0453**	**0.0453**	**1.2000e-004**		**0.0479**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

UCSF General Hospital Research Building (R&D)

San Francisco County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Research & Development	175.00	1000sqft	2.00	175,000.00	0
Parking Lot	32.00	Space	0.29	12,800.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	4.6	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E Greenhouse Gas Emission Factors: Guidance for PG&E Customers (November 2015)

Land Use - Building lot is 88,810 square feet

Construction Phase -

Trips and VMT -

Grading - 9,000 cubic yards of soil export

Architectural Coating -

Vehicle Trips - Based on 196 net new daily vehicle trips per day (Transportation Study for UCSF Research Building by FEHR & PEERS, December 2015)

Vechicle Emission Factors -

Vechicle Emission Factors -

Vechicle Emission Factors -

Energy Use -

Construction Off-road Equipment Mitigation - BAAQMD Enhanced Mitigation Measure

Area Mitigation -

Energy Mitigation - LEED-NC Silver

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3

tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblGrading	MaterialExported	0.00	9,000.00

tblLandUse	LotAcreage	4.02	2.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblProjectCharacteristics	OperationalYear	2014	2020
tblVehicleTrips	ST_TR	1.90	1.12
tblVehicleTrips	SU_TR	1.11	1.12
tblVehicleTrips	WD_TR	8.11	1.12

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2017	183.2780	78.7703	102.0230	0.1541	10.3155	2.1407	12.4562	4.3405	1.9689	6.3094	0.0000	15,235.0076	15,235.0076	0.7513	0.0000	15,250.7858
Total	**183.2780**	**78.7703**	**102.0230**	**0.1541**	**10.3155**	**2.1407**	**12.4562**	**4.3405**	**1.9689**	**6.3094**	**0.0000**	**15,235.0076**	**15,235.0076**	**0.7513**	**0.0000**	**15,250.7858**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2017	183.0596	68.5838	96.4865	0.1541	6.4683	0.6655	7.1338	2.4515	0.6181	3.0696	0.0000	15,235.0076	15,235.0076	0.7513	0.0000	15,250.7858
Total	**183.0596**	**68.5838**	**96.4865**	**0.1541**	**6.4683**	**0.6655**	**7.1338**	**2.4515**	**0.6181**	**3.0696**	**0.0000**	**15,235.0076**	**15,235.0076**	**0.7513**	**0.0000**	**15,250.7858**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.12**	**12.93**	**5.43**	**0.00**	**37.30**	**68.91**	**42.73**	**43.52**	**68.61**	**51.35**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	4.5220	2.0000e-004	0.0213	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0453	0.0453	1.2000e-004		0.0479
Energy	0.1328	1.2071	1.0140	7.2400e-003		0.0917	0.0917		0.0917	0.0917		1,448.5093	1,448.5093	0.0278	0.0266	1,457.3247
Mobile	0.5593	1.1616	5.2799	0.0146	1.0589	0.0188	1.0777	0.2861	0.0173	0.3034		1,108.5711	1,108.5711	0.0419		1,109.4512
Total	**5.2141**	**2.3689**	**6.3152**	**0.0219**	**1.0589**	**0.1106**	**1.1695**	**0.2861**	**0.1091**	**0.3952**		**2,557.1257**	**2,557.1257**	**0.0698**	**0.0266**	**2,566.8237**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	4.5220	2.0000e-004	0.0213	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0453	0.0453	1.2000e-004		0.0479
Energy	0.1134	1.0305	0.8657	6.1800e-003		0.0783	0.0783		0.0783	0.0783		1,236.6479	1,236.6479	0.0237	0.0227	1,244.1739
Mobile	0.5593	1.1616	5.2799	0.0146	1.0589	0.0188	1.0777	0.2861	0.0173	0.3034		1,108.5711	1,108.5711	0.0419		1,109.4512
Total	**5.1947**	**2.1923**	**6.1669**	**0.0208**	**1.0589**	**0.0972**	**1.1561**	**0.2861**	**0.0957**	**0.3818**		**2,345.2643**	**2,345.2643**	**0.0657**	**0.0227**	**2,353.6730**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.37**	**7.45**	**2.35**	**4.84**	**0.00**	**12.14**	**1.15**	**0.00**	**12.30**	**3.40**	**0.00**	**8.29**	**8.29**	**5.82**	**14.65**	**8.30**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/2/2017	1/4/2017	5	3	
2	Grading	Grading	1/5/2017	1/12/2017	5	6	
3	Building Construction	Building Construction	1/13/2017	11/16/2017	5	220	
4	Paving	Paving	11/17/2017	11/30/2017	5	10	
5	Architectural Coating	Architectural Coating	12/1/2017	12/14/2017	5	10	

Acres of Grading (Site Preparation Phase): 4.5

Acres of Grading (Grading Phase): 3

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 263,076; Non-Residential Outdoor: 87,692 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	174	0.41
Site Preparation	Scrapers	1	8.00	361	0.48
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Building Construction	Cranes	1	8.00	226	0.29
Building Construction	Forklifts	2	7.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Paving	Pavers	1	8.00	125	0.42
Paving	Paving Equipment	1	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	3	8.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	1,125.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	61.00	31.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	12.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Water Exposed Area

3.2 Site Preparation - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.5908	0.0000	1.5908	0.1718	0.0000	0.1718			0.0000			0.0000
Off-Road	2.5289	28.6230	17.1310	0.0238		1.3967	1.3967		1.2850	1.2850		2,439.4360	2,439.4360	0.7474		2,455.1322
Total	**2.5289**	**28.6230**	**17.1310**	**0.0238**	**1.5908**	**1.3967**	**2.9875**	**0.1718**	**1.2850**	**1.4567**		**2,439.4360**	**2,439.4360**	**0.7474**		**2,455.1322**

3.2 Site Preparation - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0281	0.0386	0.3705	9.5000e-004	0.0754	6.4000e-004	0.0761	0.0200	5.9000e-004	0.0206		76.5115	76.5115	3.9100e-003		76.5935
Total	**0.0281**	**0.0386**	**0.3705**	**9.5000e-004**	**0.0754**	**6.4000e-004**	**0.0761**	**0.0200**	**5.9000e-004**	**0.0206**		**76.5115**	**76.5115**	**3.9100e-003**		**76.5935**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7158	0.0000	0.7158	0.0773	0.0000	0.0773			0.0000			0.0000
Off-Road	0.7332	19.4604	14.6507	0.0238		0.0805	0.0805		0.0805	0.0805	0.0000	2,439.4360	2,439.4360	0.7474		2,455.1322
Total	**0.7332**	**19.4604**	**14.6507**	**0.0238**	**0.7158**	**0.0805**	**0.7963**	**0.0773**	**0.0805**	**0.1577**	**0.0000**	**2,439.4360**	**2,439.4360**	**0.7474**		**2,455.1322**

3.2 Site Preparation - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0281	0.0386	0.3705	9.5000e-004	0.0754	6.4000e-004	0.0761	0.0200	5.9000e-004	0.0206		76.5115	76.5115	3.9100e-003		76.5935
Total	**0.0281**	**0.0386**	**0.3705**	**9.5000e-004**	**0.0754**	**6.4000e-004**	**0.0761**	**0.0200**	**5.9000e-004**	**0.0206**		**76.5115**	**76.5115**	**3.9100e-003**		**76.5935**

3.3 Grading - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.9949	0.0000	6.9949	3.4345	0.0000	3.4345			0.0000			0.0000
Off-Road	2.6973	28.1608	18.9679	0.0206		1.5550	1.5550		1.4306	1.4306		2,104.5737	2,104.5737	0.6448		2,118.1153
Total	**2.6973**	**28.1608**	**18.9679**	**0.0206**	**6.9949**	**1.5550**	**8.5499**	**3.4345**	**1.4306**	**4.8651**		**2,104.5737**	**2,104.5737**	**0.6448**		**2,118.1153**

3.3 Grading - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	5.4530	50.5612	82.5920	0.1324	3.2263	0.5849	3.8112	0.8810	0.5376	1.4186		13,034.7945	13,034.7945	0.0932		13,036.7511
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0351	0.0483	0.4632	1.1800e-003	0.0943	8.0000e-004	0.0951	0.0250	7.4000e-004	0.0258		95.6393	95.6393	4.8800e-003		95.7419
Total	**5.4881**	**50.6095**	**83.0551**	**0.1336**	**3.3206**	**0.5857**	**3.9063**	**0.9060**	**0.5383**	**1.4443**		**13,130.4339**	**13,130.4339**	**0.0981**		**13,132.4929**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.1477	0.0000	3.1477	1.5455	0.0000	1.5455			0.0000			0.0000
Off-Road	0.7097	17.9743	13.4314	0.0206		0.0798	0.0798		0.0798	0.0798	0.0000	2,104.5737	2,104.5737	0.6448		2,118.1153
Total	**0.7097**	**17.9743**	**13.4314**	**0.0206**	**3.1477**	**0.0798**	**3.2275**	**1.5455**	**0.0798**	**1.6253**	**0.0000**	**2,104.5737**	**2,104.5737**	**0.6448**		**2,118.1153**

3.3 Grading - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	5.4530	50.5612	82.5920	0.1324	3.2263	0.5849	3.8112	0.8810	0.5376	1.4186		13,034.7945	13,034.7945	0.0932		13,036.7511
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0351	0.0483	0.4632	1.1800e-003	0.0943	8.0000e-004	0.0951	0.0250	7.4000e-004	0.0258		95.6393	95.6393	4.8800e-003		95.7419
Total	**5.4881**	**50.6095**	**83.0551**	**0.1336**	**3.3206**	**0.5857**	**3.9063**	**0.9060**	**0.5383**	**1.4443**		**13,130.4339**	**13,130.4339**	**0.0981**		**13,132.4929**

3.4 Building Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.3275	22.8585	16.2492	0.0249		1.4621	1.4621		1.3998	1.3998		2,334.8503	2,334.8503	0.5189		2,345.7479
Total	**3.3275**	**22.8585**	**16.2492**	**0.0249**		**1.4621**	**1.4621**		**1.3998**	**1.3998**		**2,334.8503**	**2,334.8503**	**0.5189**		**2,345.7479**

3.4 Building Construction - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.4495	2.7887	6.1521	7.1100e-003	0.2048	0.0385	0.2432	0.0584	0.0354	0.0937		696.0967	696.0967	5.4400e-003		696.2109
Worker	0.2142	0.2945	2.8254	7.2100e-003	0.5753	4.9100e-003	0.5802	0.1526	4.5300e-003	0.1571		583.4000	583.4000	0.0298		584.0253
Total	**0.6637**	**3.0833**	**8.9775**	**0.0143**	**0.7800**	**0.0434**	**0.8234**	**0.2110**	**0.0399**	**0.2508**		**1,279.4967**	**1,279.4967**	**0.0352**		**1,280.2362**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9440	19.9403	15.3416	0.0249		0.1223	0.1223		0.1223	0.1223	0.0000	2,334.8503	2,334.8503	0.5189		2,345.7479
Total	**0.9440**	**19.9403**	**15.3416**	**0.0249**		**0.1223**	**0.1223**		**0.1223**	**0.1223**	**0.0000**	**2,334.8503**	**2,334.8503**	**0.5189**		**2,345.7479**

3.4 Building Construction - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.4495	2.7887	6.1521	7.1100e-003	0.2048	0.0385	0.2432	0.0584	0.0354	0.0937		696.0967	696.0967	5.4400e-003		696.2109
Worker	0.2142	0.2945	2.8254	7.2100e-003	0.5753	4.9100e-003	0.5802	0.1526	4.5300e-003	0.1571		583.4000	583.4000	0.0298		584.0253
Total	**0.6637**	**3.0833**	**8.9775**	**0.0143**	**0.7800**	**0.0434**	**0.8234**	**0.2110**	**0.0399**	**0.2508**		**1,279.4967**	**1,279.4967**	**0.0352**		**1,280.2362**

3.5 Paving - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6402	16.4619	12.0566	0.0176		1.0230	1.0230		0.9423	0.9423		1,777.4745	1,777.4745	0.5344		1,788.6966
Paving	0.0760					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.7161**	**16.4619**	**12.0566**	**0.0176**		**1.0230**	**1.0230**		**0.9423**	**0.9423**		**1,777.4745**	**1,777.4745**	**0.5344**		**1,788.6966**

3.5 Paving - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0527	0.0724	0.6948	1.7700e-003	0.1415	1.2100e-003	0.1427	0.0375	1.1100e-003	0.0386		143.4590	143.4590	7.3200e-003		143.6128
Total	**0.0527**	**0.0724**	**0.6948**	**1.7700e-003**	**0.1415**	**1.2100e-003**	**0.1427**	**0.0375**	**1.1100e-003**	**0.0386**		**143.4590**	**143.4590**	**7.3200e-003**		**143.6128**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7250	15.4034	12.7897	0.0176		0.0827	0.0827		0.0827	0.0827	0.0000	1,777.4745	1,777.4745	0.5344		1,788.6966
Paving	0.0760					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.8010**	**15.4034**	**12.7897**	**0.0176**		**0.0827**	**0.0827**		**0.0827**	**0.0827**	**0.0000**	**1,777.4745**	**1,777.4745**	**0.5344**		**1,788.6966**

3.5 Paving - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0527	0.0724	0.6948	1.7700e-003	0.1415	1.2100e-003	0.1427	0.0375	1.1100e-003	0.0386		143.4590	143.4590	7.3200e-003		143.6128
Total	**0.0527**	**0.0724**	**0.6948**	**1.7700e-003**	**0.1415**	**1.2100e-003**	**0.1427**	**0.0375**	**1.1100e-003**	**0.0386**		**143.4590**	**143.4590**	**7.3200e-003**		**143.6128**

3.6 Architectural Coating - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	182.9036					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3323	2.1850	1.8681	2.9700e-003		0.1733	0.1733		0.1733	0.1733		281.4481	281.4481	0.0297		282.0721
Total	**183.2359**	**2.1850**	**1.8681**	**2.9700e-003**		**0.1733**	**0.1733**		**0.1733**	**0.1733**		**281.4481**	**281.4481**	**0.0297**		**282.0721**

3.6 Architectural Coating - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0421	0.0579	0.5558	1.4200e-003	0.1132	9.7000e-004	0.1141	0.0300	8.9000e-004	0.0309		114.7672	114.7672	5.8600e-003		114.8902
Total	**0.0421**	**0.0579**	**0.5558**	**1.4200e-003**	**0.1132**	**9.7000e-004**	**0.1141**	**0.0300**	**8.9000e-004**	**0.0309**		**114.7672**	**114.7672**	**5.8600e-003**		**114.8902**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	182.9036					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1139	2.3524	1.8324	2.9700e-003		0.0143	0.0143		0.0143	0.0143	0.0000	281.4481	281.4481	0.0297		282.0721
Total	**183.0175**	**2.3524**	**1.8324**	**2.9700e-003**		**0.0143**	**0.0143**		**0.0143**	**0.0143**	**0.0000**	**281.4481**	**281.4481**	**0.0297**		**282.0721**

3.6 Architectural Coating - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0421	0.0579	0.5558	1.4200e-003	0.1132	9.7000e-004	0.1141	0.0300	8.9000e-004	0.0309		114.7672	114.7672	5.8600e-003		114.8902
Total	**0.0421**	**0.0579**	**0.5558**	**1.4200e-003**	**0.1132**	**9.7000e-004**	**0.1141**	**0.0300**	**8.9000e-004**	**0.0309**		**114.7672**	**114.7672**	**5.8600e-003**		**114.8902**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.5593	1.1616	5.2799	0.0146	1.0589	0.0188	1.0777	0.2861	0.0173	0.3034		1,108.5711	1,108.5711	0.0419		1,109.4512
Unmitigated	0.5593	1.1616	5.2799	0.0146	1.0589	0.0188	1.0777	0.2861	0.0173	0.3034		1,108.5711	1,108.5711	0.0419		1,109.4512

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Parking Lot	0.00	0.00	0.00		
Research & Development	196.00	196.00	196.00	491,224	491,224
Total	196.00	196.00	196.00	491,224	491,224

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Research & Development	9.50	7.30	7.30	33.00	48.00	19.00	82	15	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.631289	0.058518	0.148045	0.077273	0.026007	0.003276	0.026188	0.004043	0.003129	0.010899	0.010305	0.000529	0.000500

4.4 Fleet Mix

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1134	1.0305	0.8657	6.1800e-003		0.0783	0.0783		0.0783	0.0783		1,236.6479	1,236.6479	0.0237	0.0227	1,244.1739
NaturalGas Unmitigated	0.1328	1.2071	1.0140	7.2400e-003		0.0917	0.0917		0.0917	0.0917		1,448.5093	1,448.5093	0.0278	0.0266	1,457.3247

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Research & Development	12312.3	0.1328	1.2071	1.0140	7.2400e-003		0.0917	0.0917		0.0917	0.0917		1,448.5093	1,448.5093	0.0278	0.0266	1,457.3247
Total		**0.1328**	**1.2071**	**1.0140**	**7.2400e-003**		**0.0917**	**0.0917**		**0.0917**	**0.0917**		**1,448.5093**	**1,448.5093**	**0.0278**	**0.0266**	**1,457.3247**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Research & Development	10.5115	0.1134	1.0305	0.8657	6.1800e-003		0.0783	0.0783		0.0783	0.0783		1,236.6479	1,236.6479	0.0237	0.0227	1,244.1739
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.1134**	**1.0305**	**0.8657**	**6.1800e-003**		**0.0783**	**0.0783**		**0.0783**	**0.0783**		**1,236.6479**	**1,236.6479**	**0.0237**	**0.0227**	**1,244.1739**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	4.5220	2.0000e-004	0.0213	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0453	0.0453	1.2000e-004		0.0479
Unmitigated	4.5220	2.0000e-004	0.0213	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0453	0.0453	1.2000e-004		0.0479

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.5011					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.0189					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.0000e-003	2.0000e-004	0.0213	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0453	0.0453	1.2000e-004		0.0479
Total	**4.5220**	**2.0000e-004**	**0.0213**	**0.0000**		**8.0000e-005**	**8.0000e-005**		**8.0000e-005**	**8.0000e-005**		**0.0453**	**0.0453**	**1.2000e-004**		**0.0479**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.5011					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.0189					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.0000e-003	2.0000e-004	0.0213	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0453	0.0453	1.2000e-004		0.0479
Total	**4.5220**	**2.0000e-004**	**0.0213**	**0.0000**		**8.0000e-005**	**8.0000e-005**		**8.0000e-005**	**8.0000e-005**		**0.0453**	**0.0453**	**1.2000e-004**		**0.0479**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

Attachment A

Detailed Greenhouse Gas Emissions Inventory Results

The estimated construction and operational GHG emissions for the project are presented in **Table A-1**. The 30-year amortized annual construction related GHG emissions would be 17.2 metric tons of CO_2e. The estimated construction and facility operational GHG emissions are 948 metric tons of CO_2e, which is below the BAAQMD threshold of 1,100 metric tons. The GHG construction and operational emissions would be 1.2 metric tons per service population (approximately 800 employees) per year, which is below the BAAQMD threshold of 4.6 metric tons per service population.

Table A-1: Greenhouse Gas Emissions – Project

Source	Annual CO2e Metric Tons		
	Research Building	**Garage**	**Total**
Construction (30-year amortized)	13.9	3.30	17.2
Operations			
Area Sources	0.00391	0.00579	0.0097
Energy	393	110	502
Solid Waste	6.05		6.05
Water	168		168
Generator	70.6		70.6
Mobile	183		183
Total Emissions	**835**	**113**	**948**
BAAQMD Brightline Threshold	1,100	1,100	1,100
Potentially Significant?	No	No	No
Service Population	800		800
Total Emissions per Service Population	**1.0**		**1.2**
BAAQMD Efficiency Threshold	4.6		4.6
Potentially Significant?	No		No

SOURCE: CARB CalEEMod Version 2013.2.2 and USEPA AP 42 Section 3.4

The estimated construction and operational GHG emissions for the Variant 1 are presented in **Table A-2**. The 30-year amortized annual construction related GHG emissions would be 17.2 metric tons of CO_2e. The estimated construction and facility operational GHG emissions are 1,022 metric tons of CO_2e, which is below the BAAQMD threshold of 1,100 metric tons. The GHG construction and operational emissions would be 1.3 metric tons per service population (approximately 800 employees) per year, which is below the BAAQMD threshold of 4.6 metric tons per service population.

Table A-2: Greenhouse Gas Emissions – Variant 1

Source	Annual CO2e Metric Tons		
	Research Building	**Garage/Retail**	**Total**
Construction (30-year amortized)	13.9	3.28	17.2
Operations			
Area Sources	0.00391	0.00561	0.00952
Energy	393	113	506
Solid Waste	6.05	9.55	15.6
Water	168	3.32	172
Generator	70.6		70.6
Mobile	183	57.4	241
Total Emissions	**835**	**187**	**1,022**
BAAQMD Brightline Threshold	1,100	1,100	1,100
Potentially Significant?	No	No	No
Service Population	800		800
Total Emissions per Service Population	**1.0**		**1.3**
BAAQMD Efficiency Threshold	4.6		4.6
Potentially Significant?	No		No

SOURCE: CARB CalEEMod Version 2013.2.2 and USEPA AP 42 Section 3.4

The estimated construction and operational GHG emissions for the Variant 2 are presented in **Table A-3**. The 30-year amortized annual construction related GHG emissions would be 18.3 metric tons of CO_2e. The estimated construction and facility operational GHG emissions are 1,028 metric tons of CO_2e, which is below the BAAQMD threshold of 1,100 metric tons. The GHG construction and operational emissions would be 1.3 metric tons per service population (approximately 800 employees) per year, which is below the BAAQMD threshold of 4.6 metric tons per service population.

Table A-3: Greenhouse Gas Emissions – Variant 2

Source	Annual CO2e Metric Tons		
	Research Building	**Garage**	**Total**
Construction (30-year amortized)	13.9	4.33	18.3
Operations			
Area Sources	0.00391	0.00995	0.01386
Energy	393	188	581
Solid Waste	6.05		6.05
Water	168		168
Generator	70.6		70.6
Mobile	183		183
Total Emissions	**835**	**193**	**1,028**
BAAQMD Brightline Threshold	1,100	1,100	1,100
Potentially Significant?	No	No	No
Service Population	800		800
Total Emissions per Service Population	**1.0**		**1.3**
BAAQMD Efficiency Threshold	4.6		4.6
Potentially Significant?	No		No

SOURCE: CARB CalEEMod Version 2013.2.2 and USEPA AP 42 Section 3.4

The estimated construction and operational GHG emissions for Variant 3 are presented in **Table A-4**. The 30-year amortized annual construction related GHG emissions would be 18.2 metric tons of CO_2e. The estimated construction and facility operational GHG emissions are 1,102 metric tons of CO_2e, which is slightly above the BAAQMD threshold of 1,100 metric tons. However, the GHG construction and operational emissions would be 1.4 metric tons per service population (approximately 800 employees) per year, which is below the BAAQMD threshold of 4.6 metric tons per service population.

Table A-4: Greenhouse Gas Emissions – Variant 3

Source	Annual CO2e Metric Tons		
	Research Building	**Garage/Retail**	**Total**
Construction (30-year amortized)	13.9	4.30	18.2
Operations			
Area Sources	0.00391	0.00976	0.0137
Energy	393	192	585
Solid Waste	6.1	9.55	15.6
Water	168	3.32	172
Generator	70.6		70.6
Mobile	183	57.4	241
Total Emissions	**835**	**267**	**1,102**
BAAQMD Brightline Threshold	1,100	1,100	1,100
Potentially Significant?	No	No	**Yes**
Service Population	800		800
Total Emissions per Service Population	**1.0**		**1.4**
BAAQMD Efficiency Threshold	4.6		4.6
Potentially Significant?	No		No

SOURCE: CARB CalEEMod Version 2013.2.2 and USEPA AP 42 Section 3.4

The estimated construction and operational GHG emissions for Variant 4 are presented in **Table A-5**. The 30-year amortized annual construction related GHG emissions would be 19.1 metric tons of CO_2e. The estimated construction and facility operational GHG emissions are 898 metric tons of CO_2e, which is below the BAAQMD threshold of 1,100 metric tons. The GHG construction and operational emissions would be 1.1 metric tons per service population (approximately 800 employees) per year, which is below the BAAQMD threshold of 4.6 metric tons per service population.

Table A-5: Greenhouse Gas Emissions – Variant 4

Source	Annual CO2e Metric Tons
	Research Building
Construction (30-year amortized)	19.1
Operations	
Area Sources	0.00734
Energy	450
Solid Waste	6.05
Water	168
Generator	70.6
Mobile	183
Total Emissions	**898**
BAAQMD Brightline Threshold	1,100
Potentially Significant?	No
Service Population	800
Total Emissions per Service Population	**1.1**
BAAQMD Efficiency Threshold	4.6
Potentially Significant?	No

SOURCE: CARB CalEEMod Version 2013.2.2 and USEPA AP 42 Section 3.4

The estimated construction and operational GHG emissions for Variant 5 are presented in **Table A-6**. The 30-year amortized annual construction related GHG emissions would be 13.9 metric tons of CO_2e. The estimated construction and facility operational GHG emissions are 835 metric tons of CO_2e, which is below the BAAQMD threshold of 1,100 metric tons. The GHG construction and operational emissions would be 1.0 metric tons per service population (approximately 800 employees) per year, which is below the BAAQMD threshold of 4.6 metric tons per service population.

Table A-6: Greenhouse Gas Emissions – Variant 5

Source	Annual CO2e Metric Tons
	Research Building
Construction (30-year amortized)	13.9
Operations	
Area Sources	0.00391
Energy	393
Solid Waste	6.05
Water	168
Generator	70.6
Mobile	183
Total Emissions	**835**
BAAQMD Brightline Threshold	1,100
Potentially Significant?	No
Service Population	800
Total Emissions per Service Population	**1.0**
BAAQMD Efficiency Threshold	4.6
Potentially Significant?	No

SOURCE: CARB CalEEMod Version 2013.2.2 and USEPA AP 42 Section 3.4

Emergency Generator Emission Factors and Emissions Inventory

Tier 4	**EF (g/hp-hr)**	**HP**	**Annual Emissions (tons)**	**Daily Emissions (lbs)**			
NOx	0.50	2682	0.07	5.91		50	hours per year
CO	2.60	2682	0.38	30.7		2	hours per day
SOx	1.84	2682	0.27	21.7		1	generator test per day
PM10/PM2.5	0.03	2682	0.00	0.35			
CO2	526	2682	77.8		6,222	70.6	metric tons
TOC (ROG)	0.19	2682	0.03	2.25			
Tier 2	**EF (g/hp-hr)**	**HP**	**Annual Emissions (tons)**	**Daily Emissions (lbs)**			
NOx	4.50	2682	0.67	53.2		50	hours per year
CO	2.60	2682	0.38	30.7		2	hours per day
SOx	1.84	2682	0.27	21.8		1	generator test per day
PM10/PM2.5	0.15	2682	0.02	1.77			
CO2	526	2682	77.8		6,222	70.6	metric tons
TOC (ROG)	0.30	2682	0.04	3.55			

Attachment A

Chemical Inventory (Non-Toxics)

Compound	CAS#	Amount	Units
(-)-BETA-PINENE, 98%	18172-67-3	0.55	lbs
(+,-)-ISOPROTERENOL, HYDROCHLORIDE	949-36-0	0.011	lbs
1,1'-CARBONYLDIIMIDAZOLE	530-62-1	0.022	lbs
1,2-Butanediol		0.055	lbs
1,2-ETHANEDITHIOL	540-63-6	0.0264	gal
1,2-PHENYLENEDIAMINE	95-54-5	0.0022	lbs
1,3-DICHLORO-5,5-DIMETHYL-HYDANTOIN	118-52-5	0.055	lbs
1,3-DICYCLOHEXYLCARBODIIMIDE	538-75-0	0.055	lbs
1,3-DIPHENYLGUANIDINE, 97%	102-06-7	0.00055	lbs
1,4-DIAZABICYCLO(2,2,2)OCTANE	280-57-9	0.275	lbs
1,8-DIAZABICYCLO[5.4.0]UNDEC-7-ENE, 98%	6674-22-2	0.055	lbs
10%-NEUTRAL BUFFERED FORMALIN	50-00-0	0.76032	gal
10X TAE BUFFER	64-19-7	2.37736	gal
18-CROWN-6, 99%	17455-13-9	0.22	lbs
1-ACETYL-2-PHENYLHYDRAZINE	114-83-0	0.055	lbs
1-BUTANOL	71-36-4	8.215415	gal
1-CHLORO-2,4-DINITROBENZENE	97-00-7	0.11	lbs
1-CHLOROBUTANE	109-69-3	0.52834	gal
1-HEPTANOL	111-70-6	0.066	gal
1-METHYL-2-PYRROLIDINONE	872-50-5	0.660255	gal
1-NAPHTHYL ISOTHIOCYANATE, 98%	551-06-4	0.022	lbs
1-PENTANOL	71-41-1	0.33	gal
1-PENTENE	109-67-1	1	lbs
1-PROPANOL	71-23-9	0.92434	gal
1-VINYL-2-PYRROLIDONE	88-12-0	62.5	gal
1X TAE		5.2834	gal
2 B-MERCAPTOETHANOL	60-24-2	0.033	gal
2-(DIISOPROPYLAMINO)ETHYL CHLORIDE HYDRO- CHLORIDE, 97%	4261-68-1	0.22	lbs
2-(DIMETHYLAMINO)ETHYL METHACRYLATE, 99%, STABILIZED WITH 0.2% MEHQ	2867-47-2	0.1188	gal
2-(ETHYLAMINO)-ETHANOL, 98%	110-73-6	0.2112	gal
2,2,4-TRIMETHYL PENTANE	540-84-1	0.26417	gal
2,2,6,6-TETRAMETHYLPIPERIDINE	768-66-1	6.25	gal
2,2-DIMETHOXYPROPANE, 98%		0.132	gal
2,4-DINITROPHENOL		0.22	lbs
2-AMINOETHANOL	141-43-5	0.26417	gal
2-BROMO-2-CHLORO-1,1,1-TRIFLUOROETHANE	151-67-7	0.066	gal
2-MERCAPTOETHANOL	60-24-3	1.258224	lbs

2-METHYL-1,4-NAPTHOQUINONE	58-27-5	0.055	lbs
2-METHYL-2-BUTANOL	75-85-4	0.1188	gal
2-METHYLBUTANE	78-78-5	4.88706	gal
2-PROPANOL	67-63-0	304.9342	gal
2-PYRROLIDINONE	616-45-5	0.0528	gal
3,4DIHYDRO-2H PYRAN	110-87-2	0.22	lbs
3,4-LUTIDINE	583-58-4	0.22	lbs
3-AMINOPROPYLTRIETHOXYSILANE	919-30-3	0.264	gal
3-CHLOROPROPIONIC ACID, 98%	107-94-8	0.22	lbs
3-CHLOROPROPIONYL CHLORIDE, 98%	625-36-5	0.22	lbs
3-CYANOPYRIDINE	100-54-9	1.1	lbs
3-METHYL-1-BUTANOL	123-51-3	0.132	gal
3-PICOLINE	108-99-6	1.1	lbs
4,4'-DIAMINODIPHENYL SULFONE	80-08-0	0.22	lbs
4-AMINOPHENYLMERCURIC ACETATE, TECH.	6283-24-5	0.022	lbs
4-DIMETHYLAMINOPYRIDINE		0.011	lbs
4-NITROBENZENESULFONYL CHLORIDE, 95% (TITR.)	98-74-8	0.055	lbs
4-NITROPHENYL CHLOROFORMATE, 97%	7693-46-1	0.011	lbs
5-AZA-2'-DEOXYCYTIDINE	2353-33-6	0.000033	lbs
5-BROMO-4-CHLORO-3-INDOLYL PHOSPHATE, P-TOLUIDINE SALT (BCIP)	6578-06-10	0.45944	lbs
7-OXABICYCLO(2.2.1)HEPTANE (1,4-EPOXY- CYCLOHEXANE), 99%	279-49-2	0.297	gal
8-AMINO-2-NAPHTHALENE SULFONIC ACID	119-28-8	0.22	lbs
8-CHLOROTHEOPHYLLINE, 99%(TITR.)	85-18-7	0.22	lbs
ACETAZOLAMIDE	59-66-5	0.22	lbs
ACETIC ACID	107745-70-0	9.207086	lbs
ACETIC ACID (GLACIAL)	64-19-7	20.7454	gal
ACETIC ANHYDRIDE	108-24-7	8.722708	lbs
ACETONE	67-64-1	41.53831	gal
ACETONITRILE	75-05-8	35.86205	gal
ACRIDINE ORANGE	65-61-2	0.3432	lbs
ACRIDINE ORANGE, BIOLOGICAL STAIN	10127-02-3	0.33	lbs
ACRYLAMIDE	79-06-1	15.29701	lbs
ADENINE, 99.5+%	73-24-5	0.077055	lbs
ADENOSINE 5'-TRIPHOSPHATE, DISODIUM SALT		0.055	lbs
ALCOHOL (200 PROOF)	64-17-5	12.53044	gal
ALCOHOL ISOPROPYL 70%	67-63-0	7.39676	gal
ALCOHOL, FORMALDEHYDE		0.132	gal
ALCONOX DETERGENT POWDER	25155-30-0	18.04	lbs
ALUMINUM CHLORIDE		0.22	lbs
ALUMINUM ISOPROPOXIDE, 98+%	555-31-7	2.2	lbs
ALUMINUM-NICKEL CATALYST, RANEY-TYPE ALLOY, AL-NI 50/50, POWDER	12635-29-9	1.1	lbs
AMILORIDE HYDROCHLORIDE HYDRATE	2016-88-8	0.0198	lbs

Aminoguanidine HCL	1937-19-5	0.055	lbs
AMINOGUANIDINE NITRATE, 99%	10308-82-4	0.066	lbs
AMMONIUM CARBAMATE	1111-78-0	0.55	lbs
AMMONIUM HYDROXIDE	1336-21-6	35.90724	lbs
AMMONIUM METAVANADATE	7803-55-6	0.11	lbs
AMMONIUM MOLYBDATE TETRAHYDRATE	12054-85-2	1.1	lbs
AMMONIUM NITRATE, REAGENT ACS (CRYSTALS)	6484-52-2	2.2	lbs
AMMONIUM OXALATE	6009-70-7	1.32	lbs
AMMONIUM PERSULFATE	7727-54-0	5.078231	lbs
ANILINE BLUE	28631-66-5	0.057251	lbs
ANTIFOAM B EMULSION	7440-36-0	0.066	gal
BARIUM CHLORIDE DIHYDRATE, REAGENT ACS (CRYSTALS)		1.1	lbs
BARIUM OXIDE	1304-28-5	0.22	lbs
BBL GRAM SAFRANIN SOLUTION	477-73-6	0.33	gal
BENZOPHENONE	119-61-9	1.1	lbs
BENZOTHIAZOLE	95-16-9	0.22	lbs
BENZOYL CHLORIDE, 99%		0.55	lbs
BENZYL ALCOHOL	100-51-6	0.66034	gal
BIS-ACRYLAMIDE	110-26-9	0.495	lbs
BLEACH	7681-52-9	94.99342	gal
BLUING REAGENT	67-56-1	1.32085	gal
B-MERCAPTOETHANOL	60-24-2	0.00792	gal
BOUIN'S FLUID	50-00-0	0.066	gal
BRADFORD REAGENT		0.132	gal
BROMOACETALDEHYDE DIETHYL ACETAL, 99% (GC)	2032-35-1	0.22	lbs
BSA	9048-46-8	1.245295	lbs
Buffer QG		0.528	gal
BUTANE	106-97-8	0.264	gal
BUTANE, 2-METHYL-	78-78-4	1.05668	gal
BUTANOL	71-36-3	4.22672	gal
BUTYL ACETATE	123-86-4	0.396	gal
BUTYL ALCOHOL	75-65-0	1.1	lbs
BUTYL CHLORIDE	109-69-3	1.05668	gal
BUTYL FORMATE	592-84-7	0.066	gal
BUTYRIC ACID	107-92-6	0.0264	gal
CAFFEINE	58-08-2	3.751	lbs
CALCIUM HYDROXIDE	1305-62-0	1.1	lbs
CAMPHENE	79-92-5	0.22	lbs
Carbogen	124-38-9	228	cuft
CDTA (1,2-Cyclohexylenedi nitrilo-tetraacetic Acid)	13291-61-	0.55	lbs
CELLULOSE PHOSPHATE	9015-14-9	0.22	lbs
CERIC AMMONIUM NITRATE	16774-21-3	1.22	lbs
CETYLTRIMETHYL AMMONIUM BROMIDE	57-09-0	0.666239	lbs
Chemical gel dry Invitrogen		0.132	gal

CHLORAMPHENICOL	56-75-7	0.506239	lbs
CHLOROFORM-D	865-49-6	0.0264	gal
CHLOROQUINE	50-63-5	1.078	lbs
CHLORPROMAZINE, HYDROCHLORIDE	69-09-0	0.011	lbs
CITRACONIC ANHYDRIDE 98%	616-02-4	0.055	lbs
CITRISOLV	5989-27-5	3.5	gal
CLEAR-RITE 3	8030-30-6	8	gal
CLOROX (NA HYPOCHLORITE 12.5% BLEACH)	7681-52-9	13.77412	gal
COBALT (II) CHLORIDE HEXAHYDRATE	7791-13-1	0.33	lbs
COBALT CHLORIDE	7646-79-9	4.207346	lbs
COBALT CHLORIDE HEXAHYDRATE	7791-13-1	0.352	lbs
COBALTOUS AMMONIUM SULFATE	13586-36-4	0.22	lbs
COLCHICINE	64-86-8	0.2222	lbs
COLLODION	60-29-7	0.1848	gal
COPPER (II) CHLORIDE DIHYDRATE	10125-13-0	0.22	lbs
COPPER (II) SULFATE PENTAHYDRATE	7758-99-8	0.55	lbs
COPPER IODIDE	1335-23-5	0.55	lbs
COPPER SULFATE	7758-99-8	0.22	lbs
Corn Oil	8001-30-7	0.132	gal
COVERAGE PLUS - DISINFECTANT	68424-95-3	2	gal
CRYSTAL VIOLET	548-62-9	8.923396	lbs
CUPRIC CHLORIDE	10125-13-0	1.54	lbs
CUPRIC SULFATE, FINE CRYSTAL	7758-99-8	5.576	lbs
CYCLOHEXANE	110-82-7	2.13448	gal
CYCLOHEXIMIDE	66-81-9	0.011	lbs
CYCLOPENTANONE	120-92-3	0.11	lbs
D(+) GALACTOSE	59-23-4	3.85	lbs
D(+)-CAMPHOR, 97%	464-49-3	0.22	lbs
DEAE - Dextran Hydrochloride		0.242	lbs
DEAE CELLULOSE	9013-34-7	0.11	lbs
DECANE	124-18-5	25	gal
DENATURING SOLUTION		0.066	gal
DEOXYCHOLIC ACID SODIUM SALT	302-95-4	2.31	lbs
DEPC (DIETHYL PYROCARBONATE)		0.0066	gal
DEUTERIUM BROMIDE, 47 WT% SOLUTION IN D2O, 99+ ATOM % D	13536-59-9	0.11	lbs
DEUTERIUM OXIDE	7789-20-0	8.066827	lbs
D-FRUCTOSE 1,6-DIPHOSPHATE, TRISODIUM	81028-91-3	0.22	lbs
DIBUTYL PHTHALATE	84-74-2	0.066	gal
Dichloromethane	75-09-2	5.4154	gal
DIETHANOLAMINE	111-42-2	4.601476	lbs
DIETHYL ETHER	60-29-7	0.52834	gal
DIETHYL PYROCARBONATE	1609-47-8	0.033	gal
DIETHYLAMINOETHYL CELLULOSE	9013-34-7	2.2	lbs

DIETHYLPYROCARBONATE	1609-47-8	0.0396	gal
Diff Quik Fixative	67-56-1	1.05617	gal
DIGITONIN	11024-24-1	0.01619	lbs
DIMETHOXYMETHANE	109-87-5	0.22	lbs
DIMETHYL CARBONATE, 99%	616-38-6	0.44	lbs
DIMETHYL SULFOXIDE	67-68-5	37.34893	lbs
DIMETHYLACETAMIDE	127-19-5	0.0264	gal
DIMETHYLAMINO ETHANOL	108-01-0	0.0066	gal
DIPHENYLAMINE	122-39-4	0.00022	lbs
DI-TER-BUTYLPHENOL	98-54-4	0.22	lbs
DL-10-CAMPHORSULFONIC ACID, 98%	5872-08-2	0.55	lbs
Dodecyl-b-D-maltoside	69227-93-6	0.0011	lbs
Doxorubicin		0.000022	lbs
Doxorubicin hydrochloride	25316-40-9	0.000264	gal
DOXYCYCLINE	564-25-0	0.22	lbs
DTSSP	57757-57-0	0.00022	lbs
ECONOFLUOR 2	95-63-6	1.981275	gal
ENHANCE	64-19-7	0.0625	gal
EPINEPHRINE	329-65-7	0.000264	gal
EPINEPHRINE, BITARTRATE SALT	51-42-3	0.0022	lbs
ETHANOL	64-17-5	124.8402	gal
ETHANOLAMINE	141-43-5	0.950893	gal
ETHIDIUM BROMIDE	1239-45-8	1.249226	lbs
ETHYL ACETATE	141-78-6	13.81157	gal
ETHYL ALCOHOL-D, 99.5+ ATOM % D	925-93-9	0.44	lbs
ETHYL ETHER	60-29-7	0.79234	gal
ETHYLENEDIAMINE TETRA ACETIC ACID (EDTA)	60-00-4	4.95	lbs
FERRIC CHLORIDE	7705-08-0	5.94834	lbs
FERRIC CHLORIDE HEXAHYDRATE	10025-77-1	0.55	lbs
FERRIC NITRATE	10421-48-4	3.3	lbs
FERROUS CHLORIDE	7758-94-3	0.55	lbs
Fetal Bovine Serum (Hyclone, 500mL Liquid)		1.584	gal
FOLIN & CIOCALTEU'S PHENOL REAGENT		0.0792	gal
FORMAMIDE	75-12-7	29.78706	lbs
FORMIC ACID	64-18-6	10.53382	lbs
FYRITE		0.0132	gal
Gadolinium(III) Chloride Hexahydrate		0.055	lbs
Gelcode reducer base		0.066	gal
GENETICIN	108321-42-2	0.0242	lbs
Genistein		0.0022	lbs
GRAM CRYSTAL VIOLET	548-62-9	0.528	gal
GUAIACOL	90-05-1	0.55	lbs
GUANIDINE	50-01-1	19.76374	lbs
HEMATOXYLIN, HARRIS TYPE, MODIFIED WITH ACETATE	517-28-2	1.32068	gal

HEPTAFLUORBUTYRIC ANHYDRIDE	336-59-4	0.00528	gal
HEPTANE	142-82-5	6.22672	gal
HEPTANOIC ACID	111-14-8	0.22	lbs
HEXADECYLTRIMETHYLAMMONIUM BROMIDE	57-09-0	0.33	lbs
HEXAMETHYLENE TETRAMINE	100-97-0	1.1	lbs
HYAMINE HYDROXIDE	121-54-0	0.132	gal
HYDROGEN	1333-74-0	400	cuft
HYDROGEN PEROXIDE	7722-84-1	4.700355	gal
HYDROQUINONE	123-31-9	0.11	lbs
HYDROXYLAMINE	7803-49-8	2.42	lbs
HYDROXYLAMINE HYDROCHLORIDE	5470-11-1	0.011	lbs
HYDROXYUREA	127-07-1	0.011	lbs
HYGROMYCIN B	31282-04-9	0.00022	lbs
HYPOPHOSPHOROUS ACID	6303-21-5	0.11	lbs
IMIDAZOLE	288-32-4	9.918403	lbs
IODOACETAMIDE	144-48-9	0.033	lbs
IODOACETIC ACID	64-69-7	0.022	lbs
IODOMETHANE	74-88-4	1.22	lbs
IRON (III) CHLORIDE HEXAHYDRATE	10025-77-1	0.44	lbs
IRON (III) NITRATE NONAHYDRATE	7782-61-8	1.1	lbs
IRON CHLORIDE	7705-08-0	0.308	lbs
IRON(III) CHLORIDE HEXAHYDRATE, REAGENT ACS (LUMPS)	10025-77-1	1.1	lbs
ISOAMYL ALCOHOL	123-51-3	4.8131	gal
ISOBUTANOL	78-83-1	0.66	gal
ISOBUTYRALDEHYDE	78-84-2	0.22	lbs
ISONICOTINIC ACID HYDRAZIDE, 99%	54-85-3	0.0044	lbs
ISOOCTANE		1.05668	gal
ISOPROPANOL	67-63-0	27.61161	gal
ISOPROTERENOL	51-31-0	0.011	lbs
LACTIC ACID	50-21-5	0.028638	lbs
LEAD CHROMATE	7758-97-6	0.22	lbs
LEVAMISOLE, HYDROCHLORIDE	1659-80-5	0.249123	lbs
LIDOCAINE HYDROCHLORIDE	73-78-9	0.055	lbs
LITHIUM CARBONATE	554-13-2	3.038487	lbs
LITHIUM CITRATE	919-16-4	0.44	lbs
LITHIUM HYDROXIDE, MONOHYDRATE	1310-66-3	2.2	lbs
L-PHENYLEPHRINE	61-76-7	0.033	lbs
MALEIC ACID	110-16-7	11.65153	lbs
MALEIMIDE	541-59-3	0.055	lbs
MANGANESE CHLORIDE	7773-01-5	5.192	lbs
MANGANESE CHLORIDE TETRAHYDRATE	13446-34-9	3.311	lbs
MANGANESE DIOXIDE	1313-13-9	0.22	lbs
MERCAPTOETHANOL, 2-	60-24-2	0.0594	gal
MERCURIC NITRATE	10045-94-0	0.22	lbs

META-PHOSPHORIC ACID		0.22	lbs
METHANESULFONIC ACID ETHYL ESTER	62-50-0	0.011	lbs
METHOTREXATE	59-05-2	0.00044	lbs
METHOXYLAMINE HYDROCHLORIDE, 98+%		0.275	lbs
METHYL ACETATE	79-20-9	1.05668	gal
METHYL BUTYL ETHER	628-28-4	1.05668	gal
METHYL CHLOROACETATE, 98%	96-34-4	0.11	lbs
METHYL METHACRYLATE	80-62-6	1.128846	gal
METHYL SALICYLATE	119-36-8	1.188595	gal
METHYL SULFOXIDE	67-68-5	0.066	gal
METHYLCYCLOHEXANE	108-87-2	0.132	gal
METRONIDAZOLE	443-48-1	0.055	lbs
Miltefosine		0.00011	lbs
MINERAL SPIRITS	8030-30-6	0.0792	gal
MONENSIN SODIUM	22373-78-0	0.0022	lbs
MOX REAGENT	593-56-6	0.0132	gal
MYCOPHENOLIC ACID	24280-93-1	0.0022	lbs
MYRISTYLTRIMETHYLAMMONIUM BROMIDE	1119-97-7	0.22	lbs
-N,N,N',N' Tetramethylethylenediamine	110-18-19	0.0066	gal
N,N,N',N'-TETRAMETHYLETHYLENEDIAMINE	110-18-9	0.0264	gal
N,N,O-Tris(trimethylsilyl)hydroxylamine		0.0022	lbs
N,N-DICHLOROURETHANE, 98%	13698-16-3	0.055	lbs
N,N'-DICYCLOHEXYLCARBODIIMIDE	538-75-0	0.055	lbs
N,N-DIISOPROPYLETHYLAMINE	7087-68-5	0.00132	gal
N,N-DIMETHYLHEXYLAMINE, 99%	4385-04-0	0.055	lbs
N,N-DIPROPYLACETAMIDE, 99+% (GC)	1116-24-1	0.22	lbs
N,N'-METHYLENE-BIS-ACRYLAMIDE	110-26-9	1.813495	lbs
NALIDIXIC ACID SODIUM	3374-05-8	0.000022	lbs
N-BROMOSUCCINIMIDE	128-08-5	0.44	lbs
N-BUTANOL	71-36-3	14.26047	lbs
N-BUTYLAMINE	109-73-9	0.066	gal
N-BUTYRIC ACID	107-92-6	0.0242	lbs
N-CHLOROSUCCINIMIDE	128-09-6	0.22	lbs
N-ETHYLMALEIMIDE, 99+%	128-53-0	0.011	lbs
N-HEPTANE	142-82-5	2.11336	gal
NICKEL (II) CHLORIDE HEXAHYDRATE	7791-20-0	1.408	lbs
NICKEL SULFATE	10101-97-0	2.42	lbs
NICOTINE	54-11-5	0.44	lbs
NIFLUMIC ACID	4394-00-7	0.022	lbs
NITROCELLULOSE, DRY	9004-70-0	2.2	lbs
NITROETHANE	79-24-3	0.26417	gal
N-METHYLPYRROLE, 99+% (GC)	96-54-8	0.22	lbs
N-PROPANOL	71-23-8	1.12268	gal
OCTYLAMINE	11-86-4	0.0264	gal

OIL	8002-05-9	0.1514	gal
O-PHOSPHORYLETHANOLAMINE	1071-23-4	0.011	lbs
OSMIUM TETROXIDE	20816-12-0	0.00792	gal
OUABAIN, OCTAHYDRATE	11018-89-6	0.00055	lbs
OXALIC ACID	144-62-7	5.5	lbs
OXYGEN	7782-44-7	766	cuft
Palmitoyl Chloride		0.011	lbs
P-AMINOPHENYLMERCURIC ACETATE	6283-24-5	0.013203	lbs
PAPAIN	9001-73-4	0.000176	lbs
PAPAVERINE HYDROCHLORIDE	61-25-6	0.011	lbs
PARAFORMALDEHYDE	30525-89-4	57.3662	lbs
PARAROSANILINE	632-99-5	0.01584	gal
PAROMOMYCIN SULFATE	1263-89-4	0.0022	lbs
PENICILLIN, STREPTOMYCIN		0.5808	gal
PENTAFLUOROPROPIONIC ANHYDRIDE	356-42-3	0.0066	gal
PENTANE	109-66-0	6.60425	gal
PEPSIN	9001-75-6	0.055	lbs
PERCHLORIC ACID	7601-90-3	1.05651	gal
PERIODIC ACID	10450-60-9	0.374	lbs
PETROLEUM ETHER	68476-50-6	1.05668	gal
PHALLOIDIN	17466-45-4	2.201593	lbs
PHENOLPHTHALEIN	77-09-8	0.088	lbs
PHENYLACETALDEHYDE DIMETHYL ACETAL, 98%	101-48-4	0.22	lbs
PHENYLARSINE OXIDE	637-03-6	0.0022	lbs
PHENYLEPHRINE HYDROCHLORIDE	61-76-7	0.000528	gal
PHENYLHYDRAZINE HYDROCHLORIDE	59-88-1	0.011	lbs
PHENYL-METHYL-SULFONYL FLUORIDE	329-98-6	9.592461	lbs
PHOSPHOMOLYBDIC ACID	11104-88-4	0.22	lbs
Phosphonoformic acid: Foscarnet	63585-09-1	0.05555	lbs
PHOSPHOROUS PENTOXIDE	1314-56-3	0.22	lbs
PICRIC ACID	88-89-1	1.132	gal
PILOCARPINE NITRATE	148-72-1	0.066	lbs
PINENE	1330-16-1	0.33	lbs
PIPERAZINE, ANHYDROUS	110-85-0	0.22	lbs
PMSF	329-98-6	0.2266	lbs
Poly-D-Lysine Hydrobromide		0.011	lbs
ponceau s solution	6226-79-S	0.26417	gal
POTASSIUM BISULFATE	7646-93-7	2.2	lbs
POTASSIUM DICHROMATE	7778-50-9	5.152272	lbs
POTASSIUM FLUORIDE	7789-23-3	0.22	lbs
POTASSIUM HYDROXIDE	1310-58-3	23.96912	lbs
POTASSIUM IRON(III) CYANIDE	13746-66-2	0.22	lbs
POTASSIUM NITRATE		0.066	gal
POTASSIUM PERCHLORATE	7778-74-7	0.66	lbs

POTASSIUM PERMANGANATE	7722-64-7	3.41	lbs
POTASSIUM PERSULFATE	7727-21-1	1.1	lbs
POTASSIUM PHOSPHATE	7778-53-2	22.55	lbs
POTASSIUM SULFATE	7646-93-7	7.7	lbs
POTASSIUM TERT.-BUTOXIDE, 95-99%	865-47-4	1.222448	lbs
POTASSIUM TETRAFLUOROBORATE, C.P.	14075-53-7	0.0066	gal
P-PHENYLENEDIAMINE	106-50-3	0.055	lbs
PRIMAQUINE DIPHOSPHATE, 99+%	63-45-6	0.22	lbs
PROCAINE HYDROCHLORIDE	51-05-8	0.11	lbs
PROPANE	74-98-6	15.2	cuft
PROPIONALDEHYDE DIETHYL ACETAL	4744-08-5	0.11	lbs
PROPIONIC ACID	79-09-4	0.264	gal
PROPYLAMINE, 98%	107-10-8	0.066	gal
PROPYLENE OXIDE	75-56-9	0.26417	gal
P-TOLUENESULFONHYDRAZIDE, 97%	1576-35-8	0.22	lbs
P-TOLUENESULFONIC ACID	6192-52-5	0.22	lbs
P-TOLUENESULFONYL CHLORIDE	98-59-9	0.22	lbs
PUROMYCIN	58-58-2	0.002576	lbs
PUTRESCINE	110-60-1	0.0066	lbs
PVPP-40	9003-39-8	0.22	lbs
PYRIDINE, ANHYDROUS	110-86-1	0.0264	gal
PYRIDINIUM BROMIDE PERBROMIDE, 95 %	39416-48-3	0.22	lbs
PYRIDINIUM CHLORCHROMATE	26299-14-9	0.22	lbs
QUERCETIN	6151-25-3	0.143	lbs
QUINACRINE DIHYDROCHLORIDE	69-05-6	0.055	lbs
QUINOLINE	91-22-5	1.022	lbs
REAGENT ALCOHOL	64-17-5	3.43421	gal
RIFAMPICIN	13292-46-1	0.00099	lbs
ROCCAL	8001-54-5	0.75	gal
ROTENONE	83-79-4	0.011	lbs
S(-)-PROPRANOLOL HYDROCHLORIDE	4199-10-4	0.000055	lbs
SAFRANIN O	477-73-6	0.077	lbs
SALBUTAMOL HEMISULFATE		0.00055	lbs
SALICYLIC ACID	69-72-7	2.805	lbs
SCINTIVERSE		2.11336	gal
SEC-BUTANOL	78-92-2	0.475285	gal
SEPHACRYL S-200-HR	#N/A	0.0264	gal
SHELL OIL (PELLA A)	8002-05-9	0.0132	gal
SIGMACOTE		0.1056	gal
SILVER NITRATE	7761-88-8	0.748	lbs
Sirius Red	2610-10-8	0.066	lbs
SODA LIME	8006-28-8	1	lbs
SODIUM AZIDE	26628-22-8	7.75942	lbs
SODIUM BISULFATE	7681-38-1	5.72	lbs

SODIUM BOROHYDRIDE	16940-66-2	1.54	lbs
SODIUM CACODYLATE TRIHYDRATE WHITE CRYSTALS OR CRYSTALLINE POWDER	6131-99-3	0.66	lbs
SODIUM CYANIDE	143-33-9	0.55	lbs
SODIUM DEOXYCHOLATE	302-95-4	0.077	lbs
SODIUM DEUTEROXIDE	14014-06-3	0.11	lbs
SODIUM FLUORIDE	7681-49-4	2.728	lbs
SODIUM HYPOCHLORITE	7681-52-9	5.8696	gal
SODIUM IODATE	7681-55-2	1.22	lbs
SODIUM METABISULFITE	7681-57-4	6.5	lbs
SODIUM META-PERIODATE	7790-28-5	0.11	lbs
SODIUM NITRATE	7631-99-4	2.53	lbs
SODIUM NITRITE	7632-00-0	3.09	lbs
SODIUM NITROFERRICYANIDE (III) DIHYDRATE	13755-38-9	10.555	lbs
SODIUM NITROPRUSSIDE	14402-89-2	0.44	lbs
SODIUM ORTHOVANADATE	13721-39-6	0.814	lbs
SODIUM PERCHLORATE	7601-89-0	0.22	lbs
SODIUM PERIODATE	7790-28-5	0.594	lbs
SODIUM PHOSPHATE TRIBASIC DODECAHYDRATE	10101-89-0	2.169893	lbs
SODIUM SELENITE	10102-18-8	0.0484	lbs
SODIUM SULFIDE NONAHYDRATE	1318-84-4	0.22	lbs
SODIUM THIOCYANATE	540-72-7	2.31	lbs
SODIUM-M-PERIODATE	7790-28-5	0.055	lbs
SPERMIDINE	124-20-9	0.0066	lbs
STANNOUS CHLORIDE	7772-99-8	1.22	lbs
SULFURIC ACID	8014-95-7	3.344128	gal
Sulfuric Acid 10N	7664-93-9	2.271505	gal
SULFURIC ACID-D2, 97% +/- 1% SOLUTION IN D2O, 99.5+ ATOM % D	13813-19-9	0.11	lbs
SYBR SAFE STAIN IN DMSO	67-68-5	0.000686	gal
TAMOXIFEN	10540-29-1	0.0022	lbs
T-AMYL ALCOHOL	75-85-4	1.069846	gal
T-BUTANOL	75-65-0	0.132	gal
TEMED	110-18-9	0.258747	lbs
TERT-AMYL ALCOHOL	75-85-4	0.0264	gal
TERT-BUTYL CARBAZATE	870-46-2	0.055	lbs
TERT-BUTYLAMINE		0.0264	gal
TETRABUTYLAMMONIUM DIHYDROGEN PHOSPHATE	5574-97-0	0.0528	gal
TETRABUTYLAMMONIUM HYDROXIDE	2052-49-5	1.1066	lbs
TETRACYCLINE HYDROCHLORIDE	64-75-5	0.132	lbs
TETRAETHYLTHIURAM DISULFIDE	97-77-8	0.66	lbs
TETRAHYDROFURAN, ANHYDROUS	109-99-9	1	lbs
TETRAMETHYLAMMONIUM CHLORIDE	75-57-0	2.476864	lbs
TFA	76-05-1	0.79251	gal

THALIDOMIDE	50-35-1	0.00242	lbs
THEOPHYLLINE	58-55-9	0.11	lbs
THIMEROSAL	54-64-8	0.1034	lbs
THIOGLYCOLIC ACID	68-11-1	0.132	gal
TIN(II) CHLORIDE DIHYDRATE, REAGENT ACS (CRYSTALS)	10025-69-1	0.011	lbs
TOLUENE	108-88-3	6.80225	gal
TOLUIDINE BLUE	92-31-9	0.22	lbs
TRICHLOROACETIC ACID	76-03-9	15.44468	lbs
TRICHLOROISOCYANURIC ACID	87-90-1	0.22	lbs
TRIFLUOROACETIC ACID	76-05-1	0.564687	lbs
TRIISOPROPYL BORATE, 98+%	5419-55-6	0.176	lbs
TRIMETHOPRIM	738-70-5	0.00055	lbs
TRIMETHYLACETIC ACID, 99%	75-98-9	0.22	lbs
TRIPHENYLPHOSPHINE	603-35-0	0.055	lbs
TRISODIUM PHOSPHATE	7601-54-9	5	lbs
TRITYL CHLORIDE 98%	76-83-5	0.22	lbs
TRYPAN BLUE STAIN	72-57-1	5.191516	lbs
TURPENTINE	8006-64-2	0.132	gal
VALERALDEHYDE	110-62-3	0.06336	gal
VESPHENE II ST	90-43-7	6	gal
WASTE FLAMMABLE LIQUIDS		2	gal
WEIGERT'S IRON HEMATOXYLIN SOLUTION	64-17-5	0.066	gal
ZEPHIRAN CHLORIDE	8001-54-5	0.75	gal
ZINC ACETATE	5970-45-6	4.4	lbs
ZINC CHLORIDE	7646-85-7	8.272	lbs
ZINC, GRANULAR, 30 MESH, P.A.	7440-66-6	4.4	lbs

SOURCE: UCSF Chemical Inventory, by Building, Email from Travis Clark to Cory Barringhaus, dated September 14, 2015.

Chemical Inventory (Toxics)

Compound	CAS#	Slope Factor	Acute REL	Chronic REL	Amount	Units	Toxic Weighted Value		
							Cancer Risk	Acute	Chronic
BUFFERED NEUTRAL FORMALIN 10%	50-00-0	0.021	55	9	16.6	lbs	0.35	0.03	**1.84**
CARBON TETRACHLORIDE	56-23-5	0.15	1900	40	29.3	lbs	**4.40**	<0.01	0.73
CHLOROFORM	67-66-3	0.019	150	300	3,488	lbs	**66.3**	**2.33**	**11.6**
COOMASSIE STAIN SOLUTION	67-56-1		28000	4000	0.55	lbs		<0.01	<0.01
CYTOSEAL, W/TOLUENE	108-88-3		37000	300	1.26	lbs		<0.01	<0.01
DPX MOUNTING MEDIUM	1330-20-7		22000	700	1.39	lbs		<0.01	<0.01
ETHYL BENZENE	100-41-4	0.0087		2000	7.64	lbs	0.07		<0.01
ETHYLENE GLYCOL	107-21-1			400	45.4	lbs			0.11
FORMALDEHYDE	50-00-0	0.021	55	9	125	lbs	**2.62**	0.23	**13.8**
GELCODE BLUE STAIN REAGENT	7664-38-2			7	7.95	lbs			1.14
GLUTARALDEHYDE	111-30-8			0.08	31.3	lbs			**391**
HEXANE (PRACT)	110-54-3			7000	32.7	lbs			<0.01
HYDRAZINE	302-01-2	17		0.2	0.11	lbs	**1.91**		0.56
HYDRAZINE SULFATE	10034-93-2	3			0.22	lbs	0.66		
HYDROCHLORIC ACID	7647-01-0		2100	9	192	lbs		0.01	21.4
MANGANESE	7439-96-5			0.09	0.55	lbs			6.11
METHANOL	67-56-1		28000	4000	624	lbs		<0.01	0.16
METHYLENE CHLORIDE	75-09-2	0.0035	14000	400	46.9	lbs	0.16	<0.01	0.12
MONOCROTALINE	315-22-1	10			0.01	lbs	0.07		
M-XYLENE	108-38-3		22000	700	2.00	lbs		<0.01	<0.01
NITRIC ACID	7697-37-2		86		13.5	lbs		0.02	
Nitrilotriacetic acid, 99%	139-13-9	0.0053			0.22	lbs	<0.01		
O-PHOSPHORIC ACID	7664-38-2			7	5.18	lbs			0.74
O-TOLUIDINE	95-53-4	0.18			0.28	lbs	0.05		

PERMOUNT	108-88-3		37000	300	41.1	lbs		<0.01	0.14
PHENOL	108-95-2		5800	200	11.4	lbs		<0.01	0.06
PHENOL CHLOROFORM ALCOHOL	67-66-3	0.019	150	300	5.64	lbs	0.11	<0.01	0.02
PHOSPHORIC ACID	7664-38-2			7	15.1	lbs			**2.16**
PONCEAU MX	3761-53-3	0.0045			0.06	lbs	0.00		
PROPANOL	67-63-0		3200	7000	7.08	lbs		<0.01	<0.01
P-XYLENE, 99%	106-42-3		22000	700	2.37	lbs		<0.01	<0.01
SODIUM HYDROXIDE	1310-73-2		8		163	lbs		**2.04**	
TRIETHYLAMINE	121-44-8		2800	200	3.60	lbs		<0.01	0.02
TRIZOL	108-95-2		5800	200	6.84	lbs		<0.01	0.03
URETHANE	51-79-6	1			1.65	lbs	**1.65**		
WRIGHT - GEIMSA STAIN	67-56-1		28000	400	4.12	lbs		<0.01	0.01
XYLENE	1330-20-7		22000	700	194	lbs		<0.01	0.28

SOURCE: UCSF Chemical Inventory, by Building, Email from Travis Clark to Cory Barringhaus, dated September 14, 2015.

Attachment B

Health Risk Assessment Assumptions and Methodologies

A health risk assessment (HRA) is accomplished in four steps: 1) hazards identification, 2) exposure assessment, 3) toxicity assessment, and 4) risk characterization. These steps cover the estimation of air emissions, the estimation of the air concentrations resulting from a dispersion analysis, the incorporation of the toxicity of the pollutants emitted, and the characterization of the risk based on exposure parameters such as breathing rate, age adjustment factors, and exposure duration; each depending on receptor type (i.e., residence, school, adult, child, recreational areas).

This HRA was conducted in accordance with technical guidelines developed by federal, state, and regional agencies, including U.S. Environmental Protection Agency (USEPA), California Environmental Protection Agency (CalEPA), California Office of Environmental Health Hazard Assessment (OEHHA) *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*[1] and the Bay Area Air Quality Management District (BAAQMD) *Health Risk Screening Analysis Guidelines*.[2] This HRA addresses the emissions from construction activities including onsite equipment and haul trucks. Specific focus is on diesel particulate matter (DPM) and particulate matter equal to or less than 2.5 micrometers (fine particulate or $PM_{2.5}$ emissions).

According to CalEPA, a HRA should not be interpreted as the expected rates of cancer or other potential human health effects, but rather as estimates of potential risk or likelihood of adverse effects based on current knowledge, under a number of highly conservative assumptions and the best assessment tools currently available.

TERMS AND DEFINITIONS

As the practice of conducting a HRA is particularly complex and involves concepts that are not altogether familiar to most people, several terms and definitions are provided that are considered essential to the understanding of the approach, methodology and results:

> *Acute effect* – a health effect (non-cancer) produced within a short period of time (few minutes to several days) following an exposure to Toxic Air Contaminants (TACs).
>
> *Cancer risk* – the probability of an individual contracting cancer from a lifetime (i.e., 70 year) exposure to TAC such as DPM in the ambient air.

[1] Office of Environmental Health Hazard Assessment, *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*, February 2015, http://oehha.ca.gov/air/hot_spots/hotspots2015.html.

[2] Bay Area Air Quality Management District, BAAQMD *Health Risk Screening Analysis Guidelines*, January 2010, http://www.baaqmd.gov/pmt/air_toxics/risk_procedures_policies/hrsa_guidelines.pdf.

Chronic effect – a health effect (non-cancer) produced from a continuous exposure occurring over an extended period of time (weeks, months, years).

Hazard Index (HI) – the unitless ratio of an exposure level over the acceptable reference dose (RfC). The HI can be applied to multiple compounds in an additive manner.

Hazard Quotient (HQ) – the unitless ratio of an exposure level over the acceptable reference dose (RfC). The HQ is applied to individual compounds.

Toxic air contaminants (TAC) – any air pollutant that is capable of causing short-term (acute) and/or long-term (chronic or carcinogenic, i.e., cancer causing) adverse human health effects (i.e., injury or illness). The current California list of TAC lists approximately 200 compounds, including particulate emissions from diesel-fueled engines.

Human Health Effects - comprise disorders such as eye watering, respiratory or heart ailments, and other (i.e., non-cancer) related diseases.

Health Risk Assessment (HRA) – an analysis designed to predict the generation and dispersion of TAC in the outdoor environment, evaluate the potential for exposure of human populations, and to assess and quantify both the individual and population-wide health risks associated with those levels of exposure.

Incremental – under CEQA, the net difference (or change) in conditions or impacts when comparing the baseline to future year project conditions.

Maximum exposed individual (MEI) – an individual assumed to be located at the point where the highest concentrations of TACs, and therefore, health risks are predicted to occur.

Non-cancer risks – health risks such as eye watering, respiratory or heart ailments, and other non-cancer related diseases.

Receptors – the locations where potential health impacts or risks are predicted (i.e., schools, residences, and recreational sites).

LIMITATIONS AND UNCERTAINTIES

There are a number of important limitations and uncertainties commonly associated with a HRA due to the wide variability of human exposures to TACs, the extended timeframes over which the exposures are evaluated and the inability to verify the results. Among these challenges are the following:

- The HRA exposure estimates do not take into account that people do not usually reside at the same location for 70 years and that other exposures (i.e., school children) are also of much shorter durations than was assumed in this analysis. Therefore, the results of the HRA are highly overstated for those cases.

- Other limitations and uncertainties associated with HRA and identified by the CalEPA include: (a.) lack of reliable monitoring data; (b.) extrapolation of toxicity data in animals to humans; (c.) estimation errors in calculating TACs emissions; (d.) concentration prediction errors with dispersion models; and (e.) the variability in lifestyles, fitness and other confounding factors of the human population.

HAZARDS IDENTIFICATION

Diesel exhaust is a complex mixture of numerous individual gaseous and particulate compounds emitted from diesel-fueled combustion engines. DPM is formed primarily through the incomplete combustion of diesel fuel. DPM is removed from the atmosphere through physical processes including atmospheric fall-out and washout by rain. Humans can be exposed to airborne DPM by deposition on water, soil, and vegetation; although the main pathway of exposure is inhalation.

In August 1998, the California Air Resource Board (CARB) identified DPM as an air toxic. The CARB developed the *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles* and *Risk Management Guidance for the Permitting of New Stationary Diesel-Fueled Engines* and approved these documents on September 28, 2000.[3,4] The documents represent proposals to reduce DPM emissions, with the goal of reducing emissions and the associated health risk by 75 percent in 2010 and by 85 percent in 2020. The program aimed to require the use of state-of-the-art catalyzed DPM filters and ultra-low-sulfur diesel fuel.

In 2001, CARB assessed the state-wide health risks from exposure to diesel exhaust and to other toxic air contaminants. It is difficult to distinguish the health risks of diesel emissions from those of other air toxics, since diesel exhaust contains approximately 40 different TACs. The CARB study detected diesel exhaust by using ambient air carbon soot measurements as a surrogate for diesel emissions. The study reported that the state-wide cancer risk from exposure to diesel exhaust was about 540 per million population as compared to a total risk for exposure to all ambient air toxics of 760 per million. This estimate, which accounts for about 70 percent of the total risk from TACs, included both urban and rural areas in the state. The estimate can also be considered an average worst-case for the state, since it assumes constant exposure to outdoor concentrations of diesel exhaust and does not account for expected lower concentrations indoors, where most of time is spent.

COMMUNITY AIR RISK EVALUATION

The BAAQMD's Community Air Risk Evaluation (CARE) program was initiated in 2004 to evaluate and reduce health risks associated with exposure to outdoor air toxics (TACs) in the

[3] California Air Resources Board. *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles.* October 2000. http://www.arb.ca.gov/diesel/documents/rrpfinal.pdf

[4] California Air Resources Board. *Risk Management Guidance for the Permitting of New Stationary Diesel-Fueled Engines.* October 2000. http://www.arb.ca.gov/diesel/documents/rmgfinal.pdf

Bay Area. Based on findings of the latest report, DPM was found to account for approximately 85 percent of the cancer risk from airborne toxics. Carcinogenic compounds from gasoline-powered cars and light duty trucks were also identified as significant contributors: 1,3-butadiene contributed four percent of the cancer risk-weighted emissions, and benzene contributed three percent. Collectively, five compounds—diesel PM, 1,3-butadiene, benzene, formaldehyde, and acetaldehyde—were found to be responsible for more than 90 percent of the cancer risk attributed to emissions. All of these compounds are associated with emissions from internal combustion engines. The most important sources of cancer risk-weighted emissions were combustion-related sources of DPM, including on-road mobile sources (31 percent), construction equipment (29 percent), and ships and harbor craft (13 percent). A 75 percent reduction in DPM was predicted between 2005 and 2015 when the inventory accounted for CARB's diesel regulations. Overall, cancer risk from TAC dropped by more than 50 percent between 2005 and 2015, when emissions inputs accounted for state diesel regulations and other reductions.[5]

Modeled cancer risks from TAC in 2005 were highest near sources of DPM: near core urban areas, along major roadways and freeways, and near maritime shipping terminals. Peak modeled risks were found to be located east of San Francisco, near West Oakland, and the maritime Port of Oakland. BAAQMD has identified seven impacted communities in the Bay Area:

- Western Contra Costa County and the cities of Richmond and San Pablo.
- Western Alameda County along the Interstate 880 corridor and the cities of Berkeley, Alameda, Oakland, and Hayward.
- San Jose.
- Eastern side of San Francisco.
- Concord.
- Vallejo.
- Pittsburgh and Antioch.

The SFGH project is on the eastern of San Francisco, which is part of the seven CARE program impacted communities in the Bay Area. The health impacts in the Bay Area, as determined both by pollution levels and by existing health vulnerabilities in a community, are approximately 160 cancer risk per million persons, while in eastern San Francisco, the health impact is approximately 280 cancer risk per million persons.[6]

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[5] BAAQMD. Improving Air Quality & Health in Bay Area Communities, Community Air Risk Program (CARE) Retrospective & Path Forward (2004 – 2013). April 2014. http://www.baaqmd.gov/~/media/Files/Planning%20and%20Research/CARE%20Program/Documents/CARE_Retrospective_April2014.ashx?la=en

[6] BAAQMD. Identifying Areas with Cumulative Impacts from Air Pollution in the San Francisco Bay Area. March 2014.http://www.baaqmd.gov/~/media/Files/Planning%20and%20Research/CARE%20Program/Documents/ImpactCommunities_2_Methodology.ashx?la=en

EXPOSURE ASSESSMENT

Dispersion is the process by which atmospheric pollutants disseminate due to wind and vertical stability. The results of a dispersion analysis are used to assess pollutant concentrations at or near an emission source. The results of an analysis allow predicted concentrations of pollutants to be compared directly to air quality standards and other criteria such as health risks based on modeled concentrations.

A rising pollutant plume reacts with the environment in several ways before it levels off. First, the plume's own turbulence interacts with atmospheric turbulence to entrain ambient air. This mixing process reduces and eventually eliminates the density and momentum differences that cause the plume to rise. Second, the wind transports the plume during its rise and entrainment process. Higher winds mix the plume more rapidly, resulting in a lower final rise. Third, the plume interacts with the vertical temperature stratification of the atmosphere, rising as a result of buoyancy in the unstable-to-neutrally stratified mixed layer. However, after the plume encounters the mixing lid and the stably stratified air above, its vertical motion is dampened.

Molecules of gas or small particles injected into the atmosphere will separate from each other as they are acted on by turbulent eddies. The Gaussian mathematical model such as AERMOD simulates the dispersion of the gas or particles within the atmosphere. The formulation of the Gaussian model is based on the following assumptions:

- The predictions are not time-dependent (all conditions remain unchanged with time)
- The wind speed and direction are uniform, both horizontally and vertically, throughout the region of concern
- The rate of diffusion is not a function of position
- Diffusion in the direction of the transporting wind is negligible when compared to the transport flow

Dispersion Modeling Approach

This section presents the methodology used for the dispersion modeling analysis. This section addresses all of the fundamental components of an air dispersion modeling analysis including:

- Model selection and options
- Receptor locations
- Meteorological data
- Source release characteristics
- Building downwash

Air dispersion modeling was performed to estimate the downwind dispersion of DPM exhaust emissions resulting from construction activities and generator and fume hood operations. A description of the air quality modeling parameters, including air dispersion model selection,

modeling domain, source exhaust parameters, building downwash conditions, meteorological data selection, and receptor network, is provided.

Model Selection and Options

AERMOD (Version 15181)[7] was used for the dispersion analysis. AERMOD is the USEPA preferred atmospheric dispersion modeling system for general industrial sources. The model can simulate point, area, volume, and line sources. AERMOD is the appropriate model for this analysis based on the coverage of simple, intermediate, and complex terrain. It also predicts both short-term and long-term (annual) average concentrations. The model was executed using the regulatory default options (stack-tip downwash, buoyancy-induced dispersion, and final plume rise), default wind speed profile categories, default potential temperature gradients, and assuming no pollutant decay.

The selection of the appropriate dispersion coefficients depends on the land use within three kilometers (km) of the project site. The types of land use were based on the classification method defined by Auer (1978); using pertinent United States Geological Survey (USGS) 1:24,000 scale (7.5 minute) topographic maps of the area. If the Auer land use types of heavy industrial, light-to-moderate industrial, commercial, and compact residential account for 50 percent or more of the total area, the USEPA *Guideline on Air Quality Models* recommends using urban dispersion coefficients; otherwise, the appropriate rural coefficients can be used. Based on observation of the area surrounding the project site, urban dispersion coefficients were applied in the analysis.

Receptor Locations

Land uses such as primary and secondary schools, hospitals, and convalescent homes are considered to be relatively sensitive to poor air quality because the very young, the old, and the infirm are more susceptible to respiratory infections and other air quality-related health problems than the general public.

Some receptors are considered more sensitive to air pollutants than others, because of preexisting health problems, proximity to the emissions source, or duration of exposure to air pollutants. Land uses such as schools, children's daycare centers, hospitals, and convalescent homes are considered to be more sensitive than the general public to poor air quality because the population groups associated with these uses have increased susceptibility to respiratory distress. Persons engaged in strenuous work or exercise also have increased sensitivity to poor air quality. The CARB has identified the following people as most likely to be affected by air pollution: children less than 14 years of age, the elderly over 65 years of age, athletes, and those with cardiovascular and chronic respiratory diseases. These groups are classified as sensitive population groups.

Residential areas are considered more sensitive to air quality conditions than commercial and industrial areas, because people generally spend longer periods of time at their residences, resulting in greater exposure to ambient air quality conditions. Recreational uses are also

[7] US Environmental Protection Agency, AERMOD Modeling System, http://www.epa.gov/scram001/dispersion_prefrec.htm

considered sensitive, due to the greater exposure to ambient air quality conditions and because the presence of pollution detracts from the recreational experience. According to the BAAQMD, workers are not considered sensitive receptors because all employers must follow regulations set forth by the Occupation Safety and Health Administration to ensure the health and well-being of their employees.

BAAQMD considers the relevant zone of influence for an assessment of air quality health risks to be within 1,000 feet of a project site. Existing sensitive receptors consist of residential land uses approximately 480 feet west of the proposed research building (west of Potrero Avenue), residential land uses approximately 200 feet southwest of the proposed research building (south of 23rd Street) and residential land uses in 400 feet east of the proposed research building (east of Kansas Street and US101). Existing sensitive receptors also include residential land uses approximately 100 feet to the east, south, and west of the proposed SFGH parking garage expansion. Bryant Child Development Center (kindergarten) and San Francisco International High School are approximately 1,000 feet west of the proposed research building. Valdivia Family Day care is approximately 870 feet southwest of the proposed research building. Bryant Elementary School is approximately 1,000 feet south of the proposed research building.

Receptors were placed at a height of 1.8 meters (typical breathing height). Terrain elevations for receptor locations were used (i.e., complex terrain) based on available USGS information for the area. **Figure B-1** displays the location of the sensitive receptors used in the HRA.

Meteorological Data

Air quality is a function of both the rate and location of pollutant emissions under the influence of meteorological conditions and topographic features affecting pollutant movement and dispersal. Atmospheric conditions such as wind speed, wind direction, atmospheric stability, and air temperature gradients interact with the physical features of the landscape to determine the movement and dispersal of air pollutants, and consequently affect air quality.

Hourly meteorological data from BAAQMD's meteorological station at Mission Bay and San Francisco International Airport (surface data), located approximately ten miles to the north of the project site, and Oakland International Airport (upper air) were used in the dispersion modeling analysis. Meteorological data from 2005 through 2009 were used; the same meteorological data set used for the UCSF Long Range Development Plan Environmental Impact Report. **Figure B-2** displays the wind rose during this period. Wind directions are predominately from the south southwest and there is a low frequency of calm wind conditions, as shown in **Figure B-3**. The regional average annual wind speed is 6.6 miles per hour.

FIGURE B-1

HEALTH RISK ASSESSMENT RECEPTORS

FIGURE B-2

WINDROSE FOR MISSION BAY METEOROLOGICAL STATION

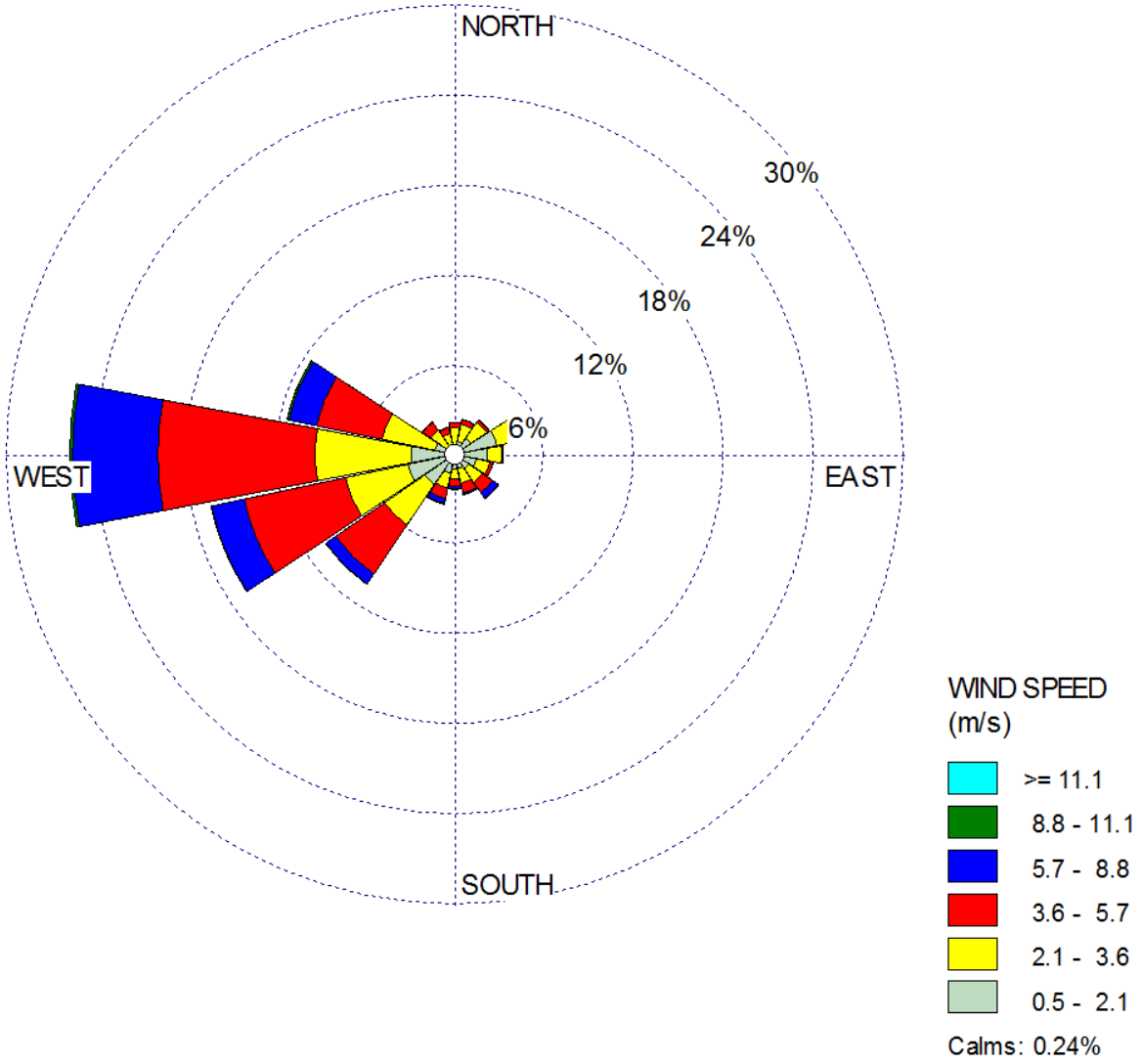
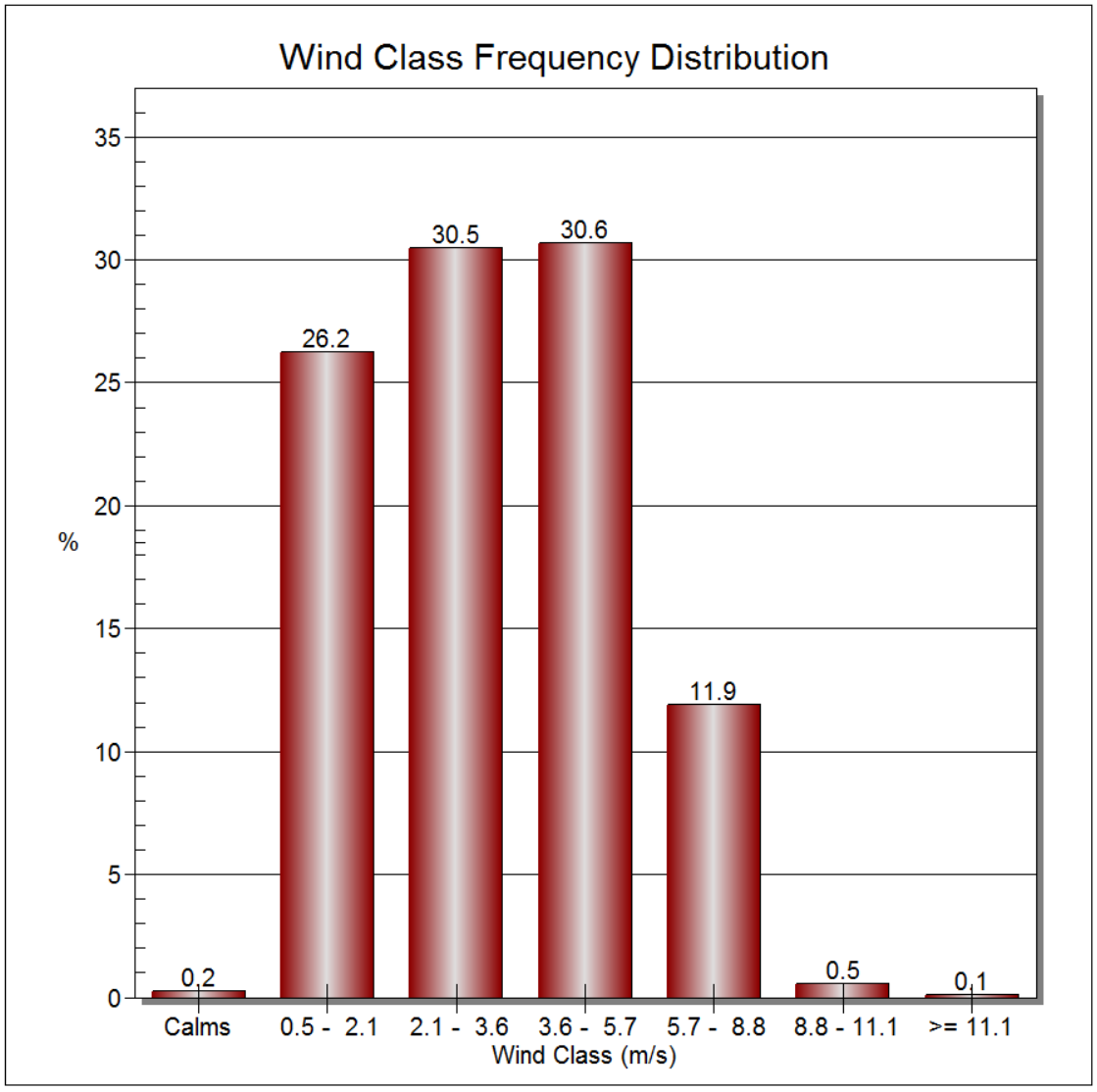


FIGURE B-3

WIND SPEED DISTRIBUTION FOR MISSION BAY METEOROLOGICAL STATION



Source Release Characteristics

Construction equipment activities were treated as an area source. The release height of the off-road equipment exhaust was 3.05 meters. Model parameters for volume sources include emission rate, release height, and plume width. Terrain elevations for emission source locations were used (i.e., complex terrain) based on available USGS DEM for the area. AERMAP (Version 11103)[8] was used to develop the terrain elevations, although the project site is generally flat.

Compounds used during research could volatilize and escape through fume hood vents. Current chemical inventories from Buildings 1, 3, 9, 30, 40, and 100 (which would be moved into the proposed research building), were used.

A chemical inventory for Buildings 1, 3, 9, 30, 40, and 100 was generated through the UCSF Research Information Online database. The resulting aggregate chemical inventory was then compared to the toxicity for each compound. This HRA was based on the chemical inventory, chemical properties and toxicity of the chemicals involved. A screening analysis was conducted on the full chemical inventory accounting for the amount of chemical and its toxicity. The screening analysis multiplied the annual chemical usage by the slope factor to determine which compounds (any values greater than 1) to include in the refined analysis for cancer risk. The screening analysis multiplied the annual chemical usage by a factor of 0.1 to determine the maximum hourly usage and divided by the acute reference exposure level to determine which compounds (any values greater than 1) to include in the refined analysis for acute health impacts. The screening analysis took the annual chemical usage divided by the chronic reference exposure level to determine which compounds (any values greater than 1) to include in the refined analysis for chronic health impacts. The screening analysis found that the primary focus of the cancer risk is due to carbon tetrachloride, chloroform, formaldehyde, hydrazine, and urethane. The screening analysis found that the primary focus of acute health impacts is due to chloroform and sodium hydroxide. The screening analysis found that the primary focus of chronic health impacts is due to formalin, chloroform, formaldehyde, glutaraldehyde, hydrochloric acid, and phosphoric acid.

Fume hoods would meet Title 8 of the California Code of Regulations, which contain California Occupational Safety and Health Administration (Cal/OSHA) requirements for fume hoods. The regulations include design features to protect laboratory personnel and establish specific requirements for use and storage of carcinogens, including the requirement to scrub or filter air emissions from areas where carcinogens are used. They also require that the top of the fume hood stack be located at least seven feet above the roof of the building. **Attachment A: CalEEMod Output Files** contains detailed information related to the fume hood emissions.

Health risk assessments have been prepared for several similar research facilities such as UC campuses, including UC San Francisco,[9,10] UC Davis, UC San Diego, and UC Berkeley[11] and

[8] US Environmental Protection Agency, AERMAP, http://www.epa.gov/ttn/scram/dispersion_related.htm#aermap.

[9] Health Risk Assessment for Emissions of Air Toxics from Operational Sources, University of California, San Francisco Mission Bay, November 2009. http://campusplanning.ucsf.edu/pdf/UCSF_Academic_Building_Final_IS-MND_101812.pdf

biotech development projects, including City of Menlo Park Commonwealth Corporate Center[12]. Review of these similar research projects was conducted for comparison with the proposed research building. The analysis for UC Davis shows that with the projected amount of laboratory space that would be built on campus under the current UC LRDP, the estimated cancer risk is 0.5 in one million. Similarly, a recent health risk assessment was conducted for UC Berkeley that took into account a number of TAC sources. This analysis estimated a cancer risk of 1.3 in one million. A health risk assessment for the UC San Francisco Mission Bay site included diesel generators, natural gas boilers, and laboratory emissions. This analysis estimated a cancer risk of 8.0 in one million. A health risk assessment for the Commonwealth Corporate Center included emergency generators and research facilities. This analysis estimated a cancer risk of 6.3 in one million.

Model parameters for point sources include emission rate, release height, stack diameter, exit temperature, and exit velocity. The emergency generator was assigned a stack height of 30 feet, a diameter of 1 foot, an exit temperature of 746 Kelvin, and an exit velocity of 47.4 meters per second. The fume hoods were assigned a stack height of 87 feet, a diameter of 1.5 feet, an exit temperature of 293 Kelvin, and an exit velocity of 15.0 meters per second.[13]

Building Downwash

Building downwash is the influence building structures on the wind flow and thus the emissions from point sources such as generators and fume hoods. The AERMOD required input of building heights and projected building widths for 36 wind directions. The USEPA Building Profile Input Program was used to determine the direction-specific building dimensions. Building downwash algorithms incorporated into AERMOD account for the plume dispersion effects of the aerodynamic wakes and eddies produced by buildings and structures. The Plume Rise Model Enhancements (PRIME) model was used to determine the direction-specific building downwash parameters. PRIME calculates fields of turbulence intensity, wind speed, and slopes of the mean streamlines as a function of projected building shape. Using a numerical plume rise model, PRIME determines the change in plume centerline location and the rate of plume dispersion with downwind distance. Concentrations are predicted in both the near and far wake regions, with the plume mass captured by the near wake treated separately from the uncaptured primary plume, and re-emitted to the far wake as a volume source. The buildings incorporated into the model and their lateral dimensions are represented in **Figure B-4**.

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[10] Genentech Hall Fume Hood Risk Screen 2011, University of California, San Francisco Mission Bay, December 7, 2011. http://campusplanning.ucsf.edu/pdf/UCSF_Academic_Building_Final_IS-MND_101812.pdf

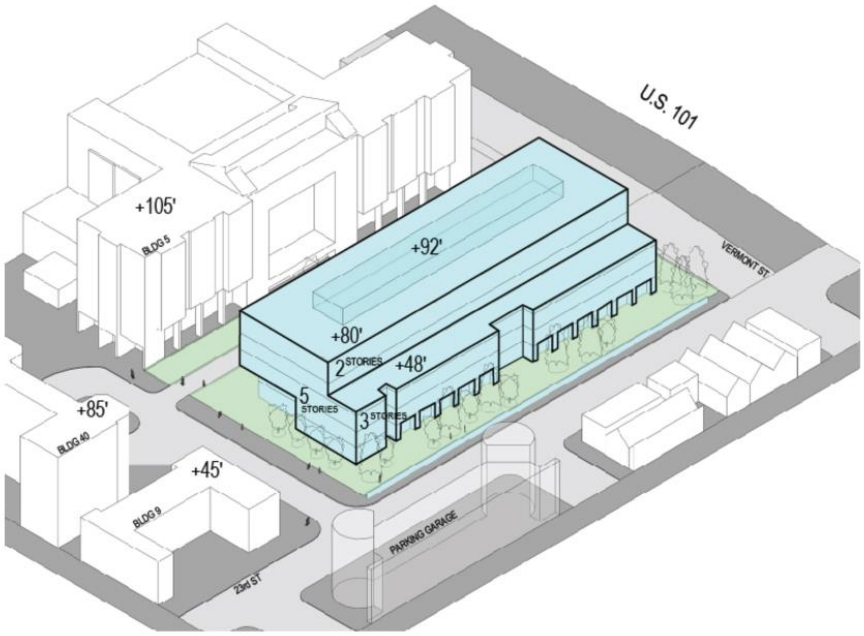
[11] Air Quality and Human Risk Impact Assessment, University of California, Proposed Richmond Bay Campus Long Range Development Plan, November 14, 2013. http://richmondbaycampus.lbl.gov/assets/docs/draft-eir/Appx-B-RBC-EIR.pdf

[12] City of Menlo Park, Commonwealth Corporate Center Project, February 2014, http://menlopark.org/DocumentCenter/View/1644

[13] Environ, *University of California Mission Bay Site, Health Risk Analysis for Emissions of Air Toxics from Operational Sources*, November 2009.

FIGURE B-4

NEARBY BUILDING HEIGHTS



EXPOSURE PARAMETERS

The HRA was conducted following methodologies in OEHHA's *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*.[14] This was accomplished by applying the estimated concentrations at the receptors analyzed to the established cancer risk estimates and acceptable reference concentrations for non-cancer health effects.

OEHHA's revisions to its *Guidance Manual* were primarily designed to ensure that the greater sensitivity of children to cancer and other health risks is reflected in HRAs. For example, OEHHA now recommends that risks be analyzed separately for multiple age groups, focusing especially on young children and teenagers, rather than the past practice of analyzing risks to the general population, without distinction by age. OEHHA also now recommends that statistical "age sensitivity factors" be incorporated into a HRA, and that children's relatively high breathing rates be accounted for. On the other hand, the *Guidance Manual* revisions also include some changes that would reduce calculated health risks. For example, under the former guidance, OEHHA recommended that residential cancer risks be assessed by assuming 70 years of exposure at a residential receptor; under the *Guidance Manual*, this assumption is lessened to 30 years.

[14] Office of Environmental Health Hazard Assessment, *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*, February 2015, http://oehha.ca.gov/air/hot_spots/hotspots2015.html

OEHHA has developed exposure factors (e.g., daily breathing rates) for six age groups including the last trimester to birth, birth to 2 years, 2 to 9 years, 2 to 16 years, 16 to 30 years, and 16 to 70 years. These age bins allow for more refined exposure information to be used when estimating exposure and the potential for developing cancer over a lifetime. This means that exposure variates are needed for the third trimester, ages zero to less than two, ages two to less than nine, ages two to less than 16, ages 16 to less than 30, and ages 16 to 70. Residential receptors utilize the 95th percentile breathing rate values. The breathing rates are age-specific and are 1,090 liters per kilogram-day for ages less than 2 years, 745 liters per kilogram-day for ages 2 to 16 years, and 335 liters per kilogram-day for ages 16 to 30 years. A school child breathing rate is 520 liters per kilogram-day and an off-site worker breathing rate is 230 liters per kilogram-day.

OEHHA developed age sensitivity factors (ASF) to take into account the increased sensitivity to carcinogens during early-in-life exposures. OEHHA recommends that cancer risks be weighted by a factor of 10 for exposures that occur from the third trimester of pregnancy to 2 years of age, and by a factor of 3 for exposures from 2 years through 15 years of age. For estimating cancer risks for residential receptors over a 30 year and 70 year lifetime, the incorporation of the ASF results in a cancer risk adjustment factor (CRAF) of 1.7.

Based on OEHHA recommendations, the cancer risk to residential receptors assumes exposure occurs 24 hours per day for 350 days per year while accounting for a percentage of time at home. OEHHA evaluated information from activity pattern databases to estimate the fraction of time at home (FAH) during the day. This information was used to adjust exposure duration and cancer risk based on the assumption that a person is not present at home continuously for 24 hours and therefore exposure to emissions is not occurring when a person is away from their home. In general, the FAH factors are age-specific and are 0.85 for ages less than 2 years, 0.72 for ages 2 to 16 years, and 0.73 for ages 16 to 70 years.

OEHHA has decreased the exposure duration currently being used for estimating cancer risk at the maximum exposed individual resident from 70 years to 30 years. This is based on studies showing that 30 years is a reasonable estimate of the 90th to 95th percentile of residency duration in the population. Additionally, OEHHA recommends using the 9 and 70-year exposure duration to represent the potential impacts over the range of residency periods. Given the exposure durations of less than 24 hours, these sensitive receptors were evaluated for acute impacts only. Based on OEHHA recommendations, for children at school sites, exposure is assumed to occur 10 hours per day for 180 days (or 36 weeks) per year. Cancer risk estimates for children at school sites are calculated based on 9 year exposure duration. School sites also include teachers and other adult staff which are treated as off-site workers.

RISK CHARACTERIZATION

Cancer risk is defined as the lifetime probability of developing cancer from exposure to carcinogenic substances. Cancer risks are expressed as the chance in one million of getting cancer (i.e., number of cancer cases among one million people exposed). The cancer risks are assumed to occur exclusively through the inhalation pathway. The cancer risk can be estimated

by using the cancer potency factor (milligrams per kilogram of body weight per day [mg/kg-day]), the 30-year annual average concentration (microgram per cubic meter [$\mu g/m^3$]), and the lifetime exposure adjustment.

Following guidelines established by OEHHA, the incremental cancer risks attributable to the SFGH project were calculated by applying exposure parameters to modeled DPM concentrations in order to determine the inhalation dose (mg/kg-day) or the amount of pollutants inhaled per body weight mass per day. The cancer risks occur exclusively through the inhalation pathway; therefore, the cancer risks can be estimated from the following equation:

$$\text{Dose-inh} = \frac{C_{air} * \{DBR\} * A * ASF * FAH * EF * ED * 10^{-6}}{AT}$$

Where:

Dose-inh	= Dose of the toxic substance through inhalation in mg/kg-day
10^{-6}	= Micrograms to milligrams conversion, Liters to cubic meters conversion
C_{air}	= Concentration in air in microgram (μg)/cubic meter (m^3)
{DBR}	= Daily breathing rate in liter (L)/kg body weight – day
A	= Inhalation absorption factor, 1.0
ASF	= Age Sensitivity Factor
EF	= Exposure frequency (days/year)
ED	= Exposure duration (years)
FAH	= Fraction of Time at Home
AT	= Averaging time period over which exposure is averaged in days (25,550 days for a 70 year cancer risk)

To determine incremental cancer risk, the estimated inhalation dose attributed to the proposed project was multiplied by the cancer potency slope factor (cancer risk per mg/kg-day). The cancer potency slope factor is the upper bound on the increased cancer risk from a lifetime exposure to a pollutant. These slope factors are based on epidemiological studies and are different values for different pollutants. This allows the estimated inhalation dose to be equated to a cancer risk.

Non-cancer adverse health impacts, acute (short-term) and chronic (long-term), are measured against a hazard index (HI), which is defined as the ratio of the predicted incremental exposure concentration from the proposed project to a published reference exposure level (REL) that could cause adverse health effects as established by OEHHA. The ratio (referred to as the Hazard Quotient [HQ]) of each non-carcinogenic substance that affects a certain organ system is added to produce an overall HI for that organ system. The overall HI is calculated for each organ system. If the overall HI for the highest-impacted organ system is greater than one, then the impact is considered to be significant.

The HI is an expression used for the potential for non-cancer health effects. The relationship for the non-cancer health effects is given by the annual concentration (in $\mu g/m^3$) and the REL (in

µg/m^3). The acute hazard index was determined using the "simple" concurrent maximum approach, which tends to be conservative (i.e., overpredicts).

The relationship for the non-cancer health effects is given by the following equation:

$$HI = C/REL$$

Where:

HI = Hazard index; an expression of the potential for non-cancer health effects.
C = Annual average concentration (µg/m^3) during the 70 year exposure period.
REL = Concentration at which no adverse health effects are anticipated.

The chronic REL for DPM was established by the California OEHHA[15] as 5 µg/m^3. There is no acute REL for DPM. However, diesel exhaust does contain acrolein and other compounds, which do have an acute REL. BAAQMD's DPM speciation table (based on profile 4674 within the USEPA Speciate 4.2)[16] was used to assess the acute impacts. Acrolein emissions are approximately 1.3 percent of the total diesel fuel emissions. The acute REL for acrolein was established by the California OEHHA[17] as 2.5 µg/m^3. **Table B-1** displays the toxicity values for the pollutants of concern associated with the fume hoods. Based on the chemical inventory, the amount of potential usage, and the compounds toxicity, the pollutants of concern are noted within **Table B-1**.[18]

A screening analysis was conducted on the full chemical inventory accounting for the amount of chemical and its toxicity. The screening analysis found that the primary focus of the cancer risk is due to carbon tetrachloride, chloroform, formaldehyde, hydrazine, and urethane. The screening analysis found that the primary focus of acute health impacts is due to chloroform and sodium hydroxide. The screening analysis found that the primary focus of chronic health impacts is due to formalin, chloroform, formaldehyde, glutaraldehyde, hydrochloric acid, and phosphoric acid. The HRA for the fume hoods assumed that 0.1 of the chemical usage is used during an hour of the year to determine maximum hourly emissions. The HRA for the fume hoods assumed a control efficiency of 95 percent, although actual control efficiency is likely to be 99 percent or better.[19]

[15] Office of Environmental Health Hazards Assessment - Acute, 8-hour, and Chronic Reference Exposure Levels, June 2014**,** http://www.oehha.ca.gov/air/allrels.html

[16] Provides for a speciation faction of 1.3 percent of acrolein per DPM emission rate, http://www.epa.gov////.html.

[17] Office of Environmental Health Hazards Assessment - Acute, 8-hour, and Chronic Reference Exposure Levels, June 2014**,** http://www.oehha.ca.gov/air/allrels.html

[18] Office of Environmental Health Hazards Assessment - Acute, 8-hour, and Chronic Reference Exposure Levels, June 2014**,** http://www.oehha.ca.gov/air/allrels.html

[19] Classification of USEPA / HEPA / ULPA fi lters according to EN 1822-1:2009

Table B-1: Slope Factors and Reference Exposure Levels

Compound	Slope Factor (mg/kg-day)-1	Acute REL	Chronic REL
Formalin	0.021	55	9
Carbon Tetrachloride	0.15	1900	40
Chloroform	0.019	150	300
Coomassie Stain Solution		28000	4000
Cytoseal, W/Toluene		37000	300
Dpx Mounting Medium		22000	700
Ethyl Benzene	0.0087		2000
Ethylene Glycol			400
Formaldehyde	0.021	55	9
Gelcode Blue Stain Reagent			7
Glutaraldehyde			0.08
Hexane (Pract)			7000
Hydrazine	17		0.2
Hydrazine Sulfate	3		
Hydrochloric Acid		2100	9
Manganese			0.09
Methanol		28000	4000
Methylene Chloride	0.0035	14000	400
Monocrotaline	10		
M-Xylene		22000	700
Nitric Acid		86	
Nitrilotriacetic Acid, 99%	0.0053		
O-Phosphoric Acid			7
O-Toluidine	0.18		
Permount		37000	300
Phenol		5800	200
Phenol Chloroform Alcohol	0.019	150	300
Phosphoric Acid			7
Ponceau Mx	0.0045		
Propanol		3200	7000
P-Xylene, 99%		22000	700
Sodium Hydroxide		8	
Triethylamine		2800	200
Trizol		5800	200
Urethane	1		
Wright - Geimsa Stain		28000	400
Xylene		22000	700

CUMULATIVE SOURCES

The BAAQMD's *CEQA Air Quality Guidelines* include standards and methods for determining the significance of cumulative health risk impacts.[20] The method for determining cumulative health risk requires the tallying of health risk from permitted sources and major roadways in the vicinity of a project (i.e., within a 1,000-foot radius of the location of the new project-related receptors), then adding the project impacts to determine whether the cumulative health risk thresholds are exceeded.

BAAQMD has developed a geo-referenced database of permitted emissions sources throughout the San Francisco Bay Area, and has developed the *Stationary Source Risk & Hazard Analysis Tool* for estimating cumulative health risks from permitted sources. Two permitted sources are located within 1,000 feet of the SFGH project impact area. **Table B-2** provides the estimated screening cancer risk, hazard impacts, and the $PM_{2.5}$ concentrations for the cumulative permitted sources.

Table B-2: Cumulative Health Impacts – Permitted Sources

Facility #	Facility Type	Address	Cancer Risk	Hazard Impact (acute/chronic)	$PM_{2.5}$ Concentration
				Screening Results	
3974	San Francisco General Hospital	1001 Potrero Avenue	195	0.27/0.02	0.34
14901	San Francisco General Hospital	1001 Potrero Avenue	16.7	0.01/<0.01	0.03
				Distance Adjustment	
3974	San Francisco General Hospital	1001 Potrero Avenue	10.1	0.06/0.01	0.02
14901	San Francisco General Hospital	1001 Potrero Avenue	0.84	<0.01/<0.01	<0.01

SOURCE: Email from Alison Kirk at BAAQMD on August 27, 2015 - Stationary Source Inquiry Form Request – UCSF General Hospital.

Facility #3974 (Building 10, Room 1118) contains seven large generators and two boilers. Facility #14901 contains two diesel generators. Current emissions information provided for 2014 and BAAMD's screening calculator and distance adjustment multiplier was used to estimate refined results. Information (cancer risks and chronic index) was adjusted for distance from source to receptor, based on BAAQMD's *Distance Adjustment Multiplier for Diesel Internal Combustion Engine* and the *Distance Adjustment Multiplier for Gasoline Dispensing Facilities*.

BAAQMD has also developed a geo-referenced database of roadways throughout the San Francisco Bay Area and has developed the *Highway Screening Analysis Tool* for estimating cumulative health risks from roadways. US 101 is located 300 feet to the east of the maximum exposure individual. **Tables B-3 and B-4** display the health impacts from US 101 for ground level and 20 feet above ground, respectively. BAAQMD *CEQA Air Quality Guidelines* also

[20] Bay Area Air Quality Management District. CEQA Air Quality Guidelines. May 2012. http://www.baaqmd.gov/~/media/Files/Planning%20and%20Research/CEQA/BAAQMD%20CEQA%20Guidelines_Final_May%202012.ashx?la=en

require the inclusion of surface streets within 1,000 feet of the SFGH project with annual average daily traffic of 10,000 or greater. Upon review of nearby roadways, Potrero Avenue meets the criteria. However, 23rd Street, 24th Street, 25th Street, San Bruno Avenue, Utah Avenue, and Vermont Avenue were also included in the analysis; although less than 10,000 annual average daily traffic, these roadways are located adjacent to the project site.[21]

Table B-3: Highway 101 Health Impacts (Ground level)

Distance from Nearest Travel Lane (feet)	Cancer Risk	Acute Impact	Chronic Impact	$PM_{2.5}$ Concentration
10	75.9	0.119	0.073	0.599
25	64.4	0.102	0.062	0.509
50	51.7	0.073	0.050	0.409
75	43.5	0.061	0.042	0.344
100	37.8	0.057	0.036	0.299
200	25.4	0.048	0.024	0.202
300	19.5	0.046	0.019	0.155
400	15.8	0.052	0.015	0.126
500	13.3	0.057	0.013	0.106
750	9.43	0.051	0.009	0.075
1000	7.18	0.037	0.007	0.057

SOURCE: BAAQMD *Highway Screening Analysis Tool*, May 2011.

Table B-4: Highway 101 Health Impacts (20 Feet Above Ground)

Distance from Nearest Travel Lane (feet)	Cancer Risk	Acute Impact	Chronic Impact	$PM_{2.5}$ Concentration
10	40.9	0.086	0.039	0.323
25	40.3	0.079	0.039	0.319
50	37.7	0.061	0.036	0.298
75	34.5	0.053	0.033	0.273
100	31.6	0.051	0.030	0.250
200	23.3	0.043	0.022	0.184
300	18.4	0.043	0.018	0.146
400	15.2	0.049	0.014	0.120
500	12.8	0.055	0.012	0.102
750	9.22	0.050	0.009	0.074
1000	7.05	0.037	0.006	0.056

SOURCE: BAAQMD *Highway Screening Analysis Tool*, May 2011.

[21] Fehr & Peers. *Proposed UCSF Research Building at San Francisco General Hospital Transportation Impact Study*. December 2015, Revised March 2016.

Health Risk Assessment Assumptions

5	Chronic Reference Exposure Level (ug/m3) for DPM	
2.5	Acute Reference Exposure Level (ug/m3) for Acrolien	
1.1	Cancer Potency Slope Factor (cancer risk per mg/kg-day) for DPM	
350	days per year	
25,550	days per lifetime	
1090	95th Percentile Daily Breathing Rates (L/kg-day)	0<2 Years
861	95th Percentile Daily Breathing Rates (L/kg-day)	2<9 Years
745	95th Percentile Daily Breathing Rates (L/kg-day)	2<16 Years
335	95th Percentile Daily Breathing Rates (L/kg-day)	16<30 Years
290	95th Percentile Daily Breathing Rates (L/kg-day)	16<70 Years
0.85	fraction of time at home	0<2 Years
0.72	fraction of time at home	2<16 Years
0.73	fraction of time at home	16<70 Years

Project:	UCSF Research Building
Date:	January 20, 2016
Condition:	Unmitigated
Episode:	Year 1
Alterative:	Project

Exposure Year	Calender Year	Maximum 1-Hour Acrolien Concentration (ug/m3)	Annual PM2.5 Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at home	Cancer Risk
1	2017	0.40	0.37	1,090	10.0	0.85	51.8
2	2018	0.40	0.02	1,090	10.0	0.85	2.52
3	2019	0.03	0.001	745	4.75	0.72	0.06
4	2020	0.03	0.001	745	3.00	0.72	0.04
5	2021	0.03	0.001	745	3.00	0.72	0.04
6	2022	0.03	0.001	745	3.00	0.72	0.04
7	2023	0.03	0.001	745	3.00	0.72	0.04
8	2024	0.03	0.001	745	3.00	0.72	0.04
9	2025	0.03	0.001	745	3.00	0.72	0.04
10	2026	0.03	0.001	745	3.00	0.72	0.04
11	2027	0.03	0.001	745	3.00	0.72	0.04
12	2028	0.03	0.001	745	3.00	0.72	0.04
13	2029	0.03	0.001	745	3.00	0.72	0.04
14	2030	0.03	0.001	745	3.00	0.72	0.04
15	2031	0.03	0.001	745	3.00	0.72	0.04
16	2032	0.03	0.001	745	3.00	0.72	0.04
17	2033	0.03	0.001	335	1.70	0.73	0.01
18	2034	0.03	0.001	335	1.00	0.73	0.01
19	2035	0.03	0.001	335	1.00	0.73	0.01
20	2036	0.03	0.001	335	1.00	0.73	0.01
21	2037	0.03	0.001	335	1.00	0.73	0.01
22	2038	0.03	0.001	335	1.00	0.73	0.01
23	2039	0.03	0.001	335	1.00	0.73	0.01
24	2040	0.03	0.001	335	1.00	0.73	0.01
25	2041	0.03	0.001	335	1.00	0.73	0.01
26	2042	0.03	0.001	335	1.00	0.73	0.01
27	2043	0.03	0.001	335	1.00	0.73	0.01
28	2044	0.03	0.001	335	1.00	0.73	0.01
29	2045	0.03	0.001	335	1.00	0.73	0.01
30	2046	0.03	0.001	335	1.00	0.73	0.01

0.37	Maximum Annual PM2.5 Concentration (ug/m3)
0.3	Significance Threshold (ug/m3)
Yes	Significant?
0.08	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
0.19	Acute Hazard Impact
1	Significance Threshold
No	Significant?
54.9	Cancer Risk (Child)
10	Significance Threshold
Yes	Significant?
2.32	Cancer Risk (Adult)
10	Significance Threshold
No	Significant?
55.0	30-Year Exposure Cancer Risk
10	Significance Threshold
Yes	Significant?

Health Risk Assessment Assumptions

5	Chronic Reference Exposure Level (ug/m3) for DPM	
2.5	Acute Reference Exposure Level (ug/m3) for Acrolien	
1.1	Cancer Potency Slope Factor (cancer risk per mg/kg-day) for DPM	
350	days per year	
25,550	days per lifetime	
1090	95th Percentile Daily Breathing Rates (L/kg-day)	0<2 Years
861	95th Percentile Daily Breathing Rates (L/kg-day)	2<9 Years
745	95th Percentile Daily Breathing Rates (L/kg-day)	2<16 Years
335	95th Percentile Daily Breathing Rates (L/kg-day)	16<30 Years
290	95th Percentile Daily Breathing Rates (L/kg-day)	16<70 Years
0.85	fraction of time at home	0<2 Years
0.72	fraction of time at home	2<16 Years
0.73	fraction of time at home	16<70 Years

Project:	UCSF Research Building
Date:	January 20, 2016
Condition:	Mitigated
Episode:	Year 1
Alterative:	Project

Exposure Year	Calender Year	Maximum 1-Hour Acrolien Concentration (ug/m3)	Annual PM2.5 Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at home	Cancer Risk
1	2017	0.05	0.044	1,090	10.0	0.85	6.12
2	2018	0.05	0.002	1,090	10.0	0.85	0.38
3	2019	0.03	0.001	745	4.75	0.72	0.06
4	2020	0.03	0.001	745	3.00	0.72	0.04
5	2021	0.03	0.001	745	3.00	0.72	0.04
6	2022	0.03	0.001	745	3.00	0.72	0.04
7	2023	0.03	0.001	745	3.00	0.72	0.04
8	2024	0.03	0.001	745	3.00	0.72	0.04
9	2025	0.03	0.001	745	3.00	0.72	0.04
10	2026	0.03	0.001	745	3.00	0.72	0.04
11	2027	0.03	0.001	745	3.00	0.72	0.04
12	2028	0.03	0.001	745	3.00	0.72	0.04
13	2029	0.03	0.001	745	3.00	0.72	0.04
14	2030	0.03	0.001	745	3.00	0.72	0.04
15	2031	0.03	0.001	745	3.00	0.72	0.04
16	2032	0.03	0.001	745	3.00	0.72	0.04
17	2033	0.03	0.001	335	1.70	0.73	0.01
18	2034	0.03	0.001	335	1.00	0.73	0.01
19	2035	0.03	0.001	335	1.00	0.73	0.01
20	2036	0.03	0.001	335	1.00	0.73	0.01
21	2037	0.03	0.001	335	1.00	0.73	0.01
22	2038	0.03	0.001	335	1.00	0.73	0.01
23	2039	0.03	0.001	335	1.00	0.73	0.01
24	2040	0.03	0.001	335	1.00	0.73	0.01
25	2041	0.03	0.001	335	1.00	0.73	0.01
26	2042	0.03	0.001	335	1.00	0.73	0.01
27	2043	0.03	0.001	335	1.00	0.73	0.01
28	2044	0.03	0.001	335	1.00	0.73	0.01
29	2045	0.03	0.001	335	1.00	0.73	0.01
30	2046	0.03	0.001	335	1.00	0.73	0.01

0.04	Maximum Annual PM2.5 Concentration (ug/m3)
0.3	Significance Threshold (ug/m3)
No	Significant?
0.01	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
0.04	Acute Hazard Impact
1	Significance Threshold
No	Significant?
7.10	Cancer Risk (Child)
10	Significance Threshold
No	Significant?
0.27	Cancer Risk (Adult)
10	Significance Threshold
No	Significant?
7.17	30-Year Exposure Cancer Risk
10	Significance Threshold
No	Significant?

Health Risk Assessment Assumptions

5	Chronic Reference Exposure Level (ug/m3) for DPM	
2.5	Acute Reference Exposure Level (ug/m3) for Acrolien	
1.1	Cancer Potency Slope Factor (cancer risk per mg/kg-day) for DPM	
350	days per year	
25,550	days per lifetime	
1090	95th Percentile Daily Breathing Rates (L/kg-day)	0<2 Years
861	95th Percentile Daily Breathing Rates (L/kg-day)	2<9 Years
745	95th Percentile Daily Breathing Rates (L/kg-day)	2<16 Years
335	95th Percentile Daily Breathing Rates (L/kg-day)	16<30 Years
290	95th Percentile Daily Breathing Rates (L/kg-day)	16<70 Years
0.85	fraction of time at home	0<2 Years
0.72	fraction of time at home	2<16 Years
0.73	fraction of time at home	16<70 Years

Project:	UCSF Research Building
Date:	January 20, 2016
Condition:	Unmitigated
Episode:	Year 1
Alternative:	Variant 1

Exposure Year	Calender Year	Maximum 1-Hour Acrolien Concentration (ug/m3)	Annual PM2.5 Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at home	Cancer Risk
1	2017	0.40	0.37	1,090	10.0	0.85	51.8
2	2018	0.40	0.02	1,090	10.0	0.85	2.52
3	2019	0.03	0.001	745	4.75	0.72	0.06
4	2020	0.03	0.001	745	3.00	0.72	0.04
5	2021	0.03	0.001	745	3.00	0.72	0.04
6	2022	0.03	0.001	745	3.00	0.72	0.04
7	2023	0.03	0.001	745	3.00	0.72	0.04
8	2024	0.03	0.001	745	3.00	0.72	0.04
9	2025	0.03	0.001	745	3.00	0.72	0.04
10	2026	0.03	0.001	745	3.00	0.72	0.04
11	2027	0.03	0.001	745	3.00	0.72	0.04
12	2028	0.03	0.001	745	3.00	0.72	0.04
13	2029	0.03	0.001	745	3.00	0.72	0.04
14	2030	0.03	0.001	745	3.00	0.72	0.04
15	2031	0.03	0.001	745	3.00	0.72	0.04
16	2032	0.03	0.001	745	3.00	0.72	0.04
17	2033	0.03	0.001	335	1.70	0.73	0.01
18	2034	0.03	0.001	335	1.00	0.73	0.01
19	2035	0.03	0.001	335	1.00	0.73	0.01
20	2036	0.03	0.001	335	1.00	0.73	0.01
21	2037	0.03	0.001	335	1.00	0.73	0.01
22	2038	0.03	0.001	335	1.00	0.73	0.01
23	2039	0.03	0.001	335	1.00	0.73	0.01
24	2040	0.03	0.001	335	1.00	0.73	0.01
25	2041	0.03	0.001	335	1.00	0.73	0.01
26	2042	0.03	0.001	335	1.00	0.73	0.01
27	2043	0.03	0.001	335	1.00	0.73	0.01
28	2044	0.03	0.001	335	1.00	0.73	0.01
29	2045	0.03	0.001	335	1.00	0.73	0.01
30	2046	0.03	0.001	335	1.00	0.73	0.01

0.37	Maximum Annual PM2.5 Concentration (ug/m3)
0.3	Significance Threshold (ug/m3)
Yes	Significant?
0.08	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
0.19	Acute Hazard Impact
1	Significance Threshold
No	Significant?
54.9	Cancer Risk (Child)
10	Significance Threshold
Yes	Significant?
2.32	Cancer Risk (Adult)
10	Significance Threshold
No	Significant?
55.0	30-Year Exposure Cancer Risk
10	Significance Threshold
Yes	Significant?

Health Risk Assessment Assumptions

5	Chronic Reference Exposure Level (ug/m3) for DPM	
2.5	Acute Reference Exposure Level (ug/m3) for Acrolien	
1.1	Cancer Potency Slope Factor (cancer risk per mg/kg-day) for DPM	
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1090	95th Percentile Daily Breathing Rates (L/kg-day)	0<2 Years
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745	95th Percentile Daily Breathing Rates (L/kg-day)	2<16 Years
335	95th Percentile Daily Breathing Rates (L/kg-day)	16<30 Years
290	95th Percentile Daily Breathing Rates (L/kg-day)	16<70 Years
0.85	fraction of time at home	0<2 Years
0.72	fraction of time at home	2<16 Years
0.73	fraction of time at home	16<70 Years

Project:	UCSF Research Building
Date:	January 20, 2016
Condition:	Mitigated
Episode:	Year 1
Alternative:	Variant 1

Exposure Year	Calender Year	Maximum 1-Hour Acrolien Concentration (ug/m3)	Annual PM2.5 Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at home	Cancer Risk
1	2017	0.00057	0.044	1,090	10.0	0.85	6.12
2	2018	0.0006	0.002	1,090	10.0	0.85	0.38
3	2019	0.03	0.001	745	4.75	0.72	0.06
4	2020	0.03	0.001	745	3.00	0.72	0.04
5	2021	0.03	0.001	745	3.00	0.72	0.04
6	2022	0.03	0.001	745	3.00	0.72	0.04
7	2023	0.03	0.001	745	3.00	0.72	0.04
8	2024	0.03	0.001	745	3.00	0.72	0.04
9	2025	0.03	0.001	745	3.00	0.72	0.04
10	2026	0.03	0.001	745	3.00	0.72	0.04
11	2027	0.03	0.001	745	3.00	0.72	0.04
12	2028	0.03	0.001	745	3.00	0.72	0.04
13	2029	0.03	0.001	745	3.00	0.72	0.04
14	2030	0.03	0.001	745	3.00	0.72	0.04
15	2031	0.03	0.001	745	3.00	0.72	0.04
16	2032	0.03	0.001	745	3.00	0.72	0.04
17	2033	0.03	0.001	335	1.70	0.73	0.01
18	2034	0.03	0.001	335	1.00	0.73	0.01
19	2035	0.03	0.001	335	1.00	0.73	0.01
20	2036	0.03	0.001	335	1.00	0.73	0.01
21	2037	0.03	0.001	335	1.00	0.73	0.01
22	2038	0.03	0.001	335	1.00	0.73	0.01
23	2039	0.03	0.001	335	1.00	0.73	0.01
24	2040	0.03	0.001	335	1.00	0.73	0.01
25	2041	0.03	0.001	335	1.00	0.73	0.01
26	2042	0.03	0.001	335	1.00	0.73	0.01
27	2043	0.03	0.001	335	1.00	0.73	0.01
28	2044	0.03	0.001	335	1.00	0.73	0.01
29	2045	0.03	0.001	335	1.00	0.73	0.01
30	2046	0.03	0.001	335	1.00	0.73	0.01

0.04	Maximum Annual PM2.5 Concentration (ug/m3)
0.3	Significance Threshold (ug/m3)
No	Significant?
0.01	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
0.04	Acute Hazard Impact
1	Significance Threshold
No	Significant?
7.09	Cancer Risk (Child)
10	Significance Threshold
No	Significant?
0.27	Cancer Risk (Adult)
10	Significance Threshold
No	Significant?
7.17	30-Year Exposure Cancer Risk
10	Significance Threshold
No	Significant?

Health Risk Assessment Assumptions

5	Chronic Reference Exposure Level (ug/m3) for DPM	
2.5	Acute Reference Exposure Level (ug/m3) for Acrolien	
1.1	Cancer Potency Slope Factor (cancer risk per mg/kg-day) for DPM	
350	days per year	
25,550	days per lifetime	
1090	95th Percentile Daily Breathing Rates (L/kg-day)	0<2 Years
861	95th Percentile Daily Breathing Rates (L/kg-day)	2<9 Years
745	95th Percentile Daily Breathing Rates (L/kg-day)	2<16 Years
335	95th Percentile Daily Breathing Rates (L/kg-day)	16<30 Years
290	95th Percentile Daily Breathing Rates (L/kg-day)	16<70 Years
0.85	fraction of time at home	0<2 Years
0.72	fraction of time at home	2<16 Years
0.73	fraction of time at home	16<70 Years

Project:	UCSF Research Building
Date:	January 20, 2016
Condition:	Unmitigated
Episode:	Year 1
Alternative:	Variant 2

Exposure Year	Calender Year	Maximum 1-Hour Acrolien Concentration (ug/m3)	Annual PM2.5 Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at home	Cancer Risk
1	2017	0.40	0.37	1,090	10.0	0.85	51.8
2	2018	0.40	0.02	1,090	10.0	0.85	2.58
3	2019	0.03	0.001	745	4.75	0.72	0.06
4	2020	0.03	0.001	745	3.00	0.72	0.04
5	2021	0.03	0.001	745	3.00	0.72	0.04
6	2022	0.03	0.001	745	3.00	0.72	0.04
7	2023	0.03	0.001	745	3.00	0.72	0.04
8	2024	0.03	0.001	745	3.00	0.72	0.04
9	2025	0.03	0.001	745	3.00	0.72	0.04
10	2026	0.03	0.001	745	3.00	0.72	0.04
11	2027	0.03	0.001	745	3.00	0.72	0.04
12	2028	0.03	0.001	745	3.00	0.72	0.04
13	2029	0.03	0.001	745	3.00	0.72	0.04
14	2030	0.03	0.001	745	3.00	0.72	0.04
15	2031	0.03	0.001	745	3.00	0.72	0.04
16	2032	0.03	0.001	745	3.00	0.72	0.04
17	2033	0.03	0.001	335	1.70	0.73	0.01
18	2034	0.03	0.001	335	1.00	0.73	0.01
19	2035	0.03	0.001	335	1.00	0.73	0.01
20	2036	0.03	0.001	335	1.00	0.73	0.01
21	2037	0.03	0.001	335	1.00	0.73	0.01
22	2038	0.03	0.001	335	1.00	0.73	0.01
23	2039	0.03	0.001	335	1.00	0.73	0.01
24	2040	0.03	0.001	335	1.00	0.73	0.01
25	2041	0.03	0.001	335	1.00	0.73	0.01
26	2042	0.03	0.001	335	1.00	0.73	0.01
27	2043	0.03	0.001	335	1.00	0.73	0.01
28	2044	0.03	0.001	335	1.00	0.73	0.01
29	2045	0.03	0.001	335	1.00	0.73	0.01
30	2046	0.03	0.001	335	1.00	0.73	0.01

0.37	Maximum Annual PM2.5 Concentration (ug/m3)
0.3	Significance Threshold (ug/m3)
Yes	Significant?
0.08	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
0.19	Acute Hazard Impact
1	Significance Threshold
No	Significant?
55.0	Cancer Risk (Child)
10	Significance Threshold
Yes	Significant?
2.32	Cancer Risk (Adult)
10	Significance Threshold
No	Significant?
55.1	30-Year Exposure Cancer Risk
10	Significance Threshold
Yes	Significant?

Health Risk Assessment Assumptions

5	Chronic Reference Exposure Level (ug/m3) for DPM	
2.5	Acute Reference Exposure Level (ug/m3) for Acrolien	
1.1	Cancer Potency Slope Factor (cancer risk per mg/kg-day) for DPM	
350	days per year	
25,550	days per lifetime	
1090	95th Percentile Daily Breathing Rates (L/kg-day)	0<2 Years
861	95th Percentile Daily Breathing Rates (L/kg-day)	2<9 Years
745	95th Percentile Daily Breathing Rates (L/kg-day)	2<16 Years
335	95th Percentile Daily Breathing Rates (L/kg-day)	16<30 Years
290	95th Percentile Daily Breathing Rates (L/kg-day)	16<70 Years
0.85	fraction of time at home	0<2 Years
0.72	fraction of time at home	2<16 Years
0.73	fraction of time at home	16<70 Years

Project:	UCSF Research Building
Date:	January 20, 2016
Condition:	Mitigated
Episode:	Year 1
Alternative:	Variant 2

Exposure Year	Calender Year	Maximum 1-Hour Acrolien Concentration (ug/m3)	Annual PM2.5 Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at home	Cancer Risk
1	2017	0.05	0.044	1,090	10.0	0.85	6.12
2	2018	0.05	0.003	1,090	10.0	0.85	0.44
3	2019	0.03	0.001	745	4.75	0.72	0.06
4	2020	0.03	0.001	745	3.00	0.72	0.04
5	2021	0.03	0.001	745	3.00	0.72	0.04
6	2022	0.03	0.001	745	3.00	0.72	0.04
7	2023	0.03	0.001	745	3.00	0.72	0.04
8	2024	0.03	0.001	745	3.00	0.72	0.04
9	2025	0.03	0.001	745	3.00	0.72	0.04
10	2026	0.03	0.001	745	3.00	0.72	0.04
11	2027	0.03	0.001	745	3.00	0.72	0.04
12	2028	0.03	0.001	745	3.00	0.72	0.04
13	2029	0.03	0.001	745	3.00	0.72	0.04
14	2030	0.03	0.001	745	3.00	0.72	0.04
15	2031	0.03	0.001	745	3.00	0.72	0.04
16	2032	0.03	0.001	745	3.00	0.72	0.04
17	2033	0.03	0.001	335	1.70	0.73	0.01
18	2034	0.03	0.001	335	1.00	0.73	0.01
19	2035	0.03	0.001	335	1.00	0.73	0.01
20	2036	0.03	0.001	335	1.00	0.73	0.01
21	2037	0.03	0.001	335	1.00	0.73	0.01
22	2038	0.03	0.001	335	1.00	0.73	0.01
23	2039	0.03	0.001	335	1.00	0.73	0.01
24	2040	0.03	0.001	335	1.00	0.73	0.01
25	2041	0.03	0.001	335	1.00	0.73	0.01
26	2042	0.03	0.001	335	1.00	0.73	0.01
27	2043	0.03	0.001	335	1.00	0.73	0.01
28	2044	0.03	0.001	335	1.00	0.73	0.01
29	2045	0.03	0.001	335	1.00	0.73	0.01
30	2046	0.03	0.001	335	1.00	0.73	0.01

0.04	Maximum Annual PM2.5 Concentration (ug/m3)
0.3	Significance Threshold (ug/m3)
No	Significant?
0.01	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
0.04	Acute Hazard Impact
1	Significance Threshold
No	Significant?
7.16	Cancer Risk (Child)
10	Significance Threshold
No	Significant?
0.27	Cancer Risk (Adult)
10	Significance Threshold
No	Significant?
7.24	30-Year Exposure Cancer Risk
10	Significance Threshold
No	Significant?

Health Risk Assessment Assumptions

5	Chronic Reference Exposure Level (ug/m3) for DPM	
2.5	Acute Reference Exposure Level (ug/m3) for Acrolien	
1.1	Cancer Potency Slope Factor (cancer risk per mg/kg-day) for DPM	
350	days per year	
25,550	days per lifetime	
1090	95th Percentile Daily Breathing Rates (L/kg-day)	0<2 Years
861	95th Percentile Daily Breathing Rates (L/kg-day)	2<9 Years
745	95th Percentile Daily Breathing Rates (L/kg-day)	2<16 Years
335	95th Percentile Daily Breathing Rates (L/kg-day)	16<30 Years
290	95th Percentile Daily Breathing Rates (L/kg-day)	16<70 Years
0.85	fraction of time at home	0<2 Years
0.72	fraction of time at home	2<16 Years
0.73	fraction of time at home	16<70 Years

Project:	UCSF Research Building
Date:	January 20, 2016
Condition:	Unmitigated
Episode:	Year 1
Alternative:	Variant 3

Exposure Year	Calender Year	Maximum 1-Hour Acrolien Concentration (ug/m3)	Annual PM2.5 Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at home	Cancer Risk
1	2017	0.40	0.37	1,090	10.0	0.85	51.8
2	2018	0.40	0.02	1,090	10.0	0.85	2.58
3	2019	0.03	0.001	745	4.75	0.72	0.06
4	2020	0.03	0.001	745	3.00	0.72	0.04
5	2021	0.03	0.001	745	3.00	0.72	0.04
6	2022	0.03	0.001	745	3.00	0.72	0.04
7	2023	0.03	0.001	745	3.00	0.72	0.04
8	2024	0.03	0.001	745	3.00	0.72	0.04
9	2025	0.03	0.001	745	3.00	0.72	0.04
10	2026	0.03	0.001	745	3.00	0.72	0.04
11	2027	0.03	0.001	745	3.00	0.72	0.04
12	2028	0.03	0.001	745	3.00	0.72	0.04
13	2029	0.03	0.001	745	3.00	0.72	0.04
14	2030	0.03	0.001	745	3.00	0.72	0.04
15	2031	0.03	0.001	745	3.00	0.72	0.04
16	2032	0.03	0.001	745	3.00	0.72	0.04
17	2033	0.03	0.001	335	1.70	0.73	0.01
18	2034	0.03	0.001	335	1.00	0.73	0.01
19	2035	0.03	0.001	335	1.00	0.73	0.01
20	2036	0.03	0.001	335	1.00	0.73	0.01
21	2037	0.03	0.001	335	1.00	0.73	0.01
22	2038	0.03	0.001	335	1.00	0.73	0.01
23	2039	0.03	0.001	335	1.00	0.73	0.01
24	2040	0.03	0.001	335	1.00	0.73	0.01
25	2041	0.03	0.001	335	1.00	0.73	0.01
26	2042	0.03	0.001	335	1.00	0.73	0.01
27	2043	0.03	0.001	335	1.00	0.73	0.01
28	2044	0.03	0.001	335	1.00	0.73	0.01
29	2045	0.03	0.001	335	1.00	0.73	0.01
30	2046	0.03	0.001	335	1.00	0.73	0.01

0.37	Maximum Annual PM2.5 Concentration (ug/m3)
0.3	Significance Threshold (ug/m3)
Yes	Significant?
0.08	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
0.19	Acute Hazard Impact
1	Significance Threshold
No	Significant?
55.0	Cancer Risk (Child)
10	Significance Threshold
Yes	Significant?
2.32	Cancer Risk (Adult)
10	Significance Threshold
No	Significant?
55.1	30-Year Exposure Cancer Risk
10	Significance Threshold
Yes	Significant?

Health Risk Assessment Assumptions

5	Chronic Reference Exposure Level (ug/m3) for DPM	
2.5	Acute Reference Exposure Level (ug/m3) for Acrolien	
1.1	Cancer Potency Slope Factor (cancer risk per mg/kg-day) for DPM	
350	days per year	
25,550	days per lifetime	
1090	95th Percentile Daily Breathing Rates (L/kg-day)	0<2 Years
861	95th Percentile Daily Breathing Rates (L/kg-day)	2<9 Years
745	95th Percentile Daily Breathing Rates (L/kg-day)	2<16 Years
335	95th Percentile Daily Breathing Rates (L/kg-day)	16<30 Years
290	95th Percentile Daily Breathing Rates (L/kg-day)	16<70 Years
0.85	fraction of time at home	0<2 Years
0.72	fraction of time at home	2<16 Years
0.73	fraction of time at home	16<70 Years

Project:	UCSF Research Building
Date:	January 20, 2016
Condition:	Mitigated
Episode:	Year 1
Alternative:	Variant 3

Exposure Year	Calender Year	Maximum 1-Hour Acrolien Concentration (ug/m3)	Annual PM2.5 Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at home	Cancer Risk
1	2017	0.05	0.044	1,090	10.0	0.85	6.12
2	2018	0.05	0.003	1,090	10.0	0.85	0.44
3	2019	0.03	0.001	745	4.75	0.72	0.06
4	2020	0.03	0.001	745	3.00	0.72	0.04
5	2021	0.03	0.001	745	3.00	0.72	0.04
6	2022	0.03	0.001	745	3.00	0.72	0.04
7	2023	0.03	0.001	745	3.00	0.72	0.04
8	2024	0.03	0.001	745	3.00	0.72	0.04
9	2025	0.03	0.001	745	3.00	0.72	0.04
10	2026	0.03	0.001	745	3.00	0.72	0.04
11	2027	0.03	0.001	745	3.00	0.72	0.04
12	2028	0.03	0.001	745	3.00	0.72	0.04
13	2029	0.03	0.001	745	3.00	0.72	0.04
14	2030	0.03	0.001	745	3.00	0.72	0.04
15	2031	0.03	0.001	745	3.00	0.72	0.04
16	2032	0.03	0.001	745	3.00	0.72	0.04
17	2033	0.03	0.001	335	1.70	0.73	0.01
18	2034	0.03	0.001	335	1.00	0.73	0.01
19	2035	0.03	0.001	335	1.00	0.73	0.01
20	2036	0.03	0.001	335	1.00	0.73	0.01
21	2037	0.03	0.001	335	1.00	0.73	0.01
22	2038	0.03	0.001	335	1.00	0.73	0.01
23	2039	0.03	0.001	335	1.00	0.73	0.01
24	2040	0.03	0.001	335	1.00	0.73	0.01
25	2041	0.03	0.001	335	1.00	0.73	0.01
26	2042	0.03	0.001	335	1.00	0.73	0.01
27	2043	0.03	0.001	335	1.00	0.73	0.01
28	2044	0.03	0.001	335	1.00	0.73	0.01
29	2045	0.03	0.001	335	1.00	0.73	0.01
30	2046	0.03	0.001	335	1.00	0.73	0.01

0.04	Maximum Annual PM2.5 Concentration (ug/m3)
0.3	Significance Threshold (ug/m3)
No	Significant?
0.01	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
0.04	Acute Hazard Impact
1	Significance Threshold
No	Significant?
7.16	Cancer Risk (Child)
10	Significance Threshold
No	Significant?
0.27	Cancer Risk (Adult)
10	Significance Threshold
No	Significant?
7.24	30-Year Exposure Cancer Risk
10	Significance Threshold
No	Significant?

Health Risk Assessment Assumptions

5	Chronic Reference Exposure Level (ug/m3) for DPM	
2.5	Acute Reference Exposure Level (ug/m3) for Acrolien	
1.1	Cancer Potency Slope Factor (cancer risk per mg/kg-day) for DPM	
350	days per year	
25,550	days per lifetime	
1090	95th Percentile Daily Breathing Rates (L/kg-day)	0<2 Years
861	95th Percentile Daily Breathing Rates (L/kg-day)	2<9 Years
745	95th Percentile Daily Breathing Rates (L/kg-day)	2<16 Years
335	95th Percentile Daily Breathing Rates (L/kg-day)	16<30 Years
290	95th Percentile Daily Breathing Rates (L/kg-day)	16<70 Years
0.85	fraction of time at home	0<2 Years
0.72	fraction of time at home	2<16 Years
0.73	fraction of time at home	16<70 Years

Project:	UCSF Research Building
Date:	January 20, 2016
Condition:	Unmitigated
Episode:	Year 1
Alternative:	Variant 4

Exposure Year	Calender Year	Maximum 1-Hour Acrolien Concentration (ug/m3)	Annual PM2.5 Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at home	Cancer Risk
1	2017	0.42	0.38	1,090	10.0	0.85	53.7
2	2018	0.03	0.001	1,090	10.0	0.85	0.23
3	2019	0.03	0.001	745	4.75	0.72	0.06
4	2020	0.03	0.001	745	3.00	0.72	0.04
5	2021	0.03	0.001	745	3.00	0.72	0.04
6	2022	0.03	0.001	745	3.00	0.72	0.04
7	2023	0.03	0.001	745	3.00	0.72	0.04
8	2024	0.03	0.001	745	3.00	0.72	0.04
9	2025	0.03	0.001	745	3.00	0.72	0.04
10	2026	0.03	0.001	745	3.00	0.72	0.04
11	2027	0.03	0.001	745	3.00	0.72	0.04
12	2028	0.03	0.001	745	3.00	0.72	0.04
13	2029	0.03	0.001	745	3.00	0.72	0.04
14	2030	0.03	0.001	745	3.00	0.72	0.04
15	2031	0.03	0.001	745	3.00	0.72	0.04
16	2032	0.03	0.001	745	3.00	0.72	0.04
17	2033	0.03	0.001	335	1.70	0.73	0.01
18	2034	0.03	0.001	335	1.00	0.73	0.01
19	2035	0.03	0.001	335	1.00	0.73	0.01
20	2036	0.03	0.001	335	1.00	0.73	0.01
21	2037	0.03	0.001	335	1.00	0.73	0.01
22	2038	0.03	0.001	335	1.00	0.73	0.01
23	2039	0.03	0.001	335	1.00	0.73	0.01
24	2040	0.03	0.001	335	1.00	0.73	0.01
25	2041	0.03	0.001	335	1.00	0.73	0.01
26	2042	0.03	0.001	335	1.00	0.73	0.01
27	2043	0.03	0.001	335	1.00	0.73	0.01
28	2044	0.03	0.001	335	1.00	0.73	0.01
29	2045	0.03	0.001	335	1.00	0.73	0.01
30	2046	0.03	0.001	335	1.00	0.73	0.01

0.38	Maximum Annual PM2.5 Concentration (ug/m3)
0.3	Significance Threshold (ug/m3)
Yes	Significant?
0.08	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
0.19	Acute Hazard Impact
1	Significance Threshold
No	Significant?
54.5	Cancer Risk (Child)
10	Significance Threshold
Yes	Significant?
2.41	Cancer Risk (Adult)
10	Significance Threshold
No	Significant?
54.6	30-Year Exposure Cancer Risk
10	Significance Threshold
Yes	Significant?

Health Risk Assessment Assumptions

5	Chronic Reference Exposure Level (ug/m3) for DPM	
2.5	Acute Reference Exposure Level (ug/m3) for Acrolien	
1.1	Cancer Potency Slope Factor (cancer risk per mg/kg-day) for DPM	
350	days per year	
25,550	days per lifetime	
1090	95th Percentile Daily Breathing Rates (L/kg-day)	0<2 Years
861	95th Percentile Daily Breathing Rates (L/kg-day)	2<9 Years
745	95th Percentile Daily Breathing Rates (L/kg-day)	2<16 Years
335	95th Percentile Daily Breathing Rates (L/kg-day)	16<30 Years
290	95th Percentile Daily Breathing Rates (L/kg-day)	16<70 Years
0.85	fraction of time at home	0<2 Years
0.72	fraction of time at home	2<16 Years
0.73	fraction of time at home	16<70 Years

Project:	UCSF Research Building
Date:	January 20, 2016
Condition:	Mitigated
Episode:	Year 1
Alternative:	Variant 4

Exposure Year	Calender Year	Maximum 1-Hour Acrolien Concentration (ug/m3)	Annual PM2.5 Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at home	Cancer Risk
1	2016	0.06	0.057	1,090	10.0	0.85	7.99
2	2017	0.03	0.001	1,090	10.0	0.85	0.23
3	2018	0.03	0.001	745	4.75	0.72	0.06
4	2019	0.03	0.001	745	3.00	0.72	0.04
5	2020	0.03	0.001	745	3.00	0.72	0.04
6	2021	0.03	0.001	745	3.00	0.72	0.04
7	2022	0.03	0.001	745	3.00	0.72	0.04
8	2023	0.03	0.001	745	3.00	0.72	0.04
9	2024	0.03	0.001	745	3.00	0.72	0.04
10	2025	0.03	0.001	745	3.00	0.72	0.04
11	2026	0.03	0.001	745	3.00	0.72	0.04
12	2027	0.03	0.001	745	3.00	0.72	0.04
13	2028	0.03	0.001	745	3.00	0.72	0.04
14	2029	0.03	0.001	745	3.00	0.72	0.04
15	2030	0.03	0.001	745	3.00	0.72	0.04
16	2031	0.03	0.001	745	3.00	0.72	0.04
17	2032	0.03	0.001	335	1.70	0.73	0.01
18	2033	0.03	0.001	335	1.00	0.73	0.01
19	2034	0.03	0.001	335	1.00	0.73	0.01
20	2035	0.03	0.001	335	1.00	0.73	0.01
21	2036	0.03	0.001	335	1.00	0.73	0.01
22	2037	0.03	0.001	335	1.00	0.73	0.01
23	2038	0.03	0.001	335	1.00	0.73	0.01
24	2039	0.03	0.001	335	1.00	0.73	0.01
25	2040	0.03	0.001	335	1.00	0.73	0.01
26	2041	0.03	0.001	335	1.00	0.73	0.01
27	2042	0.03	0.001	335	1.00	0.73	0.01
28	2043	0.03	0.001	335	1.00	0.73	0.01
29	2044	0.03	0.001	335	1.00	0.73	0.01
30	2045	0.03	0.001	335	1.00	0.73	0.01

0.06	Maximum Annual PM2.5 Concentration (ug/m3)
0.3	Significance Threshold (ug/m3)
No	Significant?
0.02	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
0.05	Acute Hazard Impact
1	Significance Threshold
No	Significant?
8.82	Cancer Risk (Child)
10	Significance Threshold
No	Significant?
0.36	Cancer Risk (Adult)
10	Significance Threshold
No	Significant?
8.90	30-Year Exposure Cancer Risk
10	Significance Threshold
No	Significant?

Health Risk Assessment Assumptions

5	Chronic Reference Exposure Level (ug/m3) for DPM	
2.5	Acute Reference Exposure Level (ug/m3) for Acrolien	
1.1	Cancer Potency Slope Factor (cancer risk per mg/kg-day) for DPM	
350	days per year	
25,550	days per lifetime	
1090	95th Percentile Daily Breathing Rates (L/kg-day)	0<2 Years
861	95th Percentile Daily Breathing Rates (L/kg-day)	2<9 Years
745	95th Percentile Daily Breathing Rates (L/kg-day)	2<16 Years
335	95th Percentile Daily Breathing Rates (L/kg-day)	16<30 Years
290	95th Percentile Daily Breathing Rates (L/kg-day)	16<70 Years
0.85	fraction of time at home	0<2 Years
0.72	fraction of time at home	2<16 Years
0.73	fraction of time at home	16<70 Years

Project:	UCSF Research Building
Date:	January 20, 2016
Condition:	Unmitigated
Episode:	Year 1
Alternative:	Variant 5

Exposure Year	Calender Year	Maximum 1-Hour Acrolien Concentration (ug/m3)	Annual PM2.5 Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at home	Cancer Risk
1	2017	0.40	0.37	1,090	10.0	0.85	51.8
2	2018	0.03	0.001	1,090	10.0	0.85	0.23
3	2019	0.03	0.001	745	4.75	0.72	0.06
4	2020	0.03	0.001	745	3.00	0.72	0.04
5	2021	0.03	0.001	745	3.00	0.72	0.04
6	2022	0.03	0.001	745	3.00	0.72	0.04
7	2023	0.03	0.001	745	3.00	0.72	0.04
8	2024	0.03	0.001	745	3.00	0.72	0.04
9	2025	0.03	0.001	745	3.00	0.72	0.04
10	2026	0.03	0.001	745	3.00	0.72	0.04
11	2027	0.03	0.001	745	3.00	0.72	0.04
12	2028	0.03	0.001	745	3.00	0.72	0.04
13	2029	0.03	0.001	745	3.00	0.72	0.04
14	2030	0.03	0.001	745	3.00	0.72	0.04
15	2031	0.03	0.001	745	3.00	0.72	0.04
16	2032	0.03	0.001	745	3.00	0.72	0.04
17	2033	0.03	0.001	335	1.70	0.73	0.01
18	2034	0.03	0.001	335	1.00	0.73	0.01
19	2035	0.03	0.001	335	1.00	0.73	0.01
20	2036	0.03	0.001	335	1.00	0.73	0.01
21	2037	0.03	0.001	335	1.00	0.73	0.01
22	2038	0.03	0.001	335	1.00	0.73	0.01
23	2039	0.03	0.001	335	1.00	0.73	0.01
24	2040	0.03	0.001	335	1.00	0.73	0.01
25	2041	0.03	0.001	335	1.00	0.73	0.01
26	2042	0.03	0.001	335	1.00	0.73	0.01
27	2043	0.03	0.001	335	1.00	0.73	0.01
28	2044	0.03	0.001	335	1.00	0.73	0.01
29	2045	0.03	0.001	335	1.00	0.73	0.01
30	2046	0.03	0.001	335	1.00	0.73	0.01

0.37	Maximum Annual PM2.5 Concentration (ug/m3)
0.3	Significance Threshold (ug/m3)
Yes	Significant?
0.08	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
0.19	Acute Hazard Impact
1	Significance Threshold
No	Significant?
52.6	Cancer Risk (Child)
10	Significance Threshold
Yes	Significant?
2.32	Cancer Risk (Adult)
10	Significance Threshold
No	Significant?
52.7	30-Year Exposure Cancer Risk
10	Significance Threshold
Yes	Significant?

Health Risk Assessment Assumptions

5	Chronic Reference Exposure Level (ug/m3) for DPM	
2.5	Acute Reference Exposure Level (ug/m3) for Acrolien	
1.1	Cancer Potency Slope Factor (cancer risk per mg/kg-day) for DPM	
350	days per year	
25,550	days per lifetime	
1090	95th Percentile Daily Breathing Rates (L/kg-day)	0<2 Years
861	95th Percentile Daily Breathing Rates (L/kg-day)	2<9 Years
745	95th Percentile Daily Breathing Rates (L/kg-day)	2<16 Years
335	95th Percentile Daily Breathing Rates (L/kg-day)	16<30 Years
290	95th Percentile Daily Breathing Rates (L/kg-day)	16<70 Years
0.85	fraction of time at home	0<2 Years
0.72	fraction of time at home	2<16 Years
0.73	fraction of time at home	16<70 Years

Project:	UCSF Research Building
Date:	January 20, 2016
Condition:	Mitigated
Episode:	Year 1
Alternative:	Variant 5

Exposure Year	Calender Year	Maximum 1-Hour Acrolien Concentration (ug/m3)	Annual PM2.5 Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at home	Cancer Risk
1	2017	0.05	0.044	1,090	10.0	0.85	6.12
2	2018	0.03	0.001	1,090	10.0	0.85	0.23
3	2019	0.03	0.001	745	4.75	0.72	0.06
4	2020	0.03	0.001	745	3.00	0.72	0.04
5	2021	0.03	0.001	745	3.00	0.72	0.04
6	2022	0.03	0.001	745	3.00	0.72	0.04
7	2023	0.03	0.001	745	3.00	0.72	0.04
8	2024	0.03	0.001	745	3.00	0.72	0.04
9	2025	0.03	0.001	745	3.00	0.72	0.04
10	2026	0.03	0.001	745	3.00	0.72	0.04
11	2027	0.03	0.001	745	3.00	0.72	0.04
12	2028	0.03	0.001	745	3.00	0.72	0.04
13	2029	0.03	0.001	745	3.00	0.72	0.04
14	2030	0.03	0.001	745	3.00	0.72	0.04
15	2031	0.03	0.001	745	3.00	0.72	0.04
16	2032	0.03	0.001	745	3.00	0.72	0.04
17	2033	0.03	0.001	335	1.70	0.73	0.01
18	2034	0.03	0.001	335	1.00	0.73	0.01
19	2035	0.03	0.001	335	1.00	0.73	0.01
20	2036	0.03	0.001	335	1.00	0.73	0.01
21	2037	0.03	0.001	335	1.00	0.73	0.01
22	2038	0.03	0.001	335	1.00	0.73	0.01
23	2039	0.03	0.001	335	1.00	0.73	0.01
24	2040	0.03	0.001	335	1.00	0.73	0.01
25	2041	0.03	0.001	335	1.00	0.73	0.01
26	2042	0.03	0.001	335	1.00	0.73	0.01
27	2043	0.03	0.001	335	1.00	0.73	0.01
28	2044	0.03	0.001	335	1.00	0.73	0.01
29	2045	0.03	0.001	335	1.00	0.73	0.01
30	2046	0.03	0.001	335	1.00	0.73	0.01

0.04	Maximum Annual PM2.5 Concentration (ug/m3)
0.3	Significance Threshold (ug/m3)
No	Significant?
0.01	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
0.04	Acute Hazard Impact
1	Significance Threshold
No	Significant?
6.95	Cancer Risk (Child)
10	Significance Threshold
No	Significant?
0.27	Cancer Risk (Adult)
10	Significance Threshold
No	Significant?
7.03	30-Year Exposure Cancer Risk
10	Significance Threshold
No	Significant?

Health Risk Assessment Assumptions

5	Chronic Reference Exposure Level (ug/m3) for DPM	
2.5	Acute Reference Exposure Level (ug/m3) for Acrolien	
1.1	Cancer Potency Slope Factor (cancer risk per mg/kg-day) for DPM	
350	days per year	
25,550	days per lifetime	
1090	95th Percentile Daily Breathing Rates (L/kg-day)	0<2 Years
861	95th Percentile Daily Breathing Rates (L/kg-day)	2<9 Years
745	95th Percentile Daily Breathing Rates (L/kg-day)	2<16 Years
335	95th Percentile Daily Breathing Rates (L/kg-day)	16<30 Years
290	95th Percentile Daily Breathing Rates (L/kg-day)	16<70 Years
0.85	fraction of time at home	0<2 Years
0.72	fraction of time at home	2<16 Years
0.73	fraction of time at home	16<70 Years

Project: UCSF Research Building
Date: January 20, 2016
Condition: Generator

Exposure Year	Calender Year	Maximum 1-Hour Acrolien Concentration (ug/m3)	Annual PM2.5 Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at home	Cancer Risk
1	2017	-	-	1,090	10.0	0.85	-
2	2018	0.03	0.001	1,090	10.0	0.85	0.15
3	2019	0.03	0.001	745	4.75	0.72	0.04
4	2020	0.03	0.001	745	3.00	0.72	0.03
5	2021	0.03	0.001	745	3.00	0.72	0.03
6	2022	0.03	0.001	745	3.00	0.72	0.03
7	2023	0.03	0.001	745	3.00	0.72	0.03
8	2024	0.03	0.001	745	3.00	0.72	0.03
9	2025	0.03	0.001	745	3.00	0.72	0.03
10	2026	0.03	0.001	745	3.00	0.72	0.03
11	2027	0.03	0.001	745	3.00	0.72	0.03
12	2028	0.03	0.001	745	3.00	0.72	0.03
13	2029	0.03	0.001	745	3.00	0.72	0.03
14	2030	0.03	0.001	745	3.00	0.72	0.03
15	2031	0.03	0.001	745	3.00	0.72	0.03
16	2032	0.03	0.001	745	3.00	0.72	0.03
17	2033	0.03	0.001	335	1.70	0.73	0.01
18	2034	0.03	0.001	335	1.00	0.73	0.004
19	2035	0.03	0.001	335	1.00	0.73	0.004
20	2036	0.03	0.001	335	1.00	0.73	0.004
21	2037	0.03	0.001	335	1.00	0.73	0.004
22	2038	0.03	0.001	335	1.00	0.73	0.004
23	2039	0.03	0.001	335	1.00	0.73	0.004
24	2040	0.03	0.001	335	1.00	0.73	0.004
25	2041	0.03	0.001	335	1.00	0.73	0.004
26	2042	0.03	0.001	335	1.00	0.73	0.004
27	2043	0.03	0.001	335	1.00	0.73	0.004
28	2044	0.03	0.001	335	1.00	0.73	0.004
29	2045	0.03	0.001	335	1.00	0.73	0.004
30	2046	0.03	0.001	335	1.00	0.73	0.004

0.00	Maximum Annual PM2.5 Concentration (ug/m3)
0.3	Significance Threshold (ug/m3)
No	Significant?
0.00	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
0.01	Acute Hazard Impact
1	Significance Threshold
No	Significant?
0.53	Cancer Risk (Child)
10	Significance Threshold
No	Significant?
0.01	Cancer Risk (Adult)
10	Significance Threshold
No	Significant?
0.58	30-Year Exposure Cancer Risk
10	Significance Threshold
No	Significant?

Health Risk Assessment Assumptions

9	Chronic Reference Exposure Level (ug/m3) for Formalin	
300	Chronic Reference Exposure Level (ug/m3) for Chloroform	
9	Chronic Reference Exposure Level (ug/m3) for Formaldehyde	
0.08	Chronic Reference Exposure Level (ug/m3) for Glutaraldehyde	
9	Chronic Reference Exposure Level (ug/m3) for Hydrochloric Acid	
7	Chronic Reference Exposure Level (ug/m3) for Phosphoric Acid	
150	Acute Reference Exposure Level (ug/m3) for Chloroform	
8	Acute Reference Exposure Level (ug/m3) for Sodium Hydroxide	
0.15	Cancer Potency Slope Factor (cancer risk per mg/kg-day) for Carbon Tetrachloride	
0.02	Cancer Potency Slope Factor (cancer risk per mg/kg-day) for Chloroform	
0.02	Cancer Potency Slope Factor (cancer risk per mg/kg-day) for Formaldehyde	
17.0	Cancer Potency Slope Factor (cancer risk per mg/kg-day) for Hydrazine	
1.00	Cancer Potency Slope Factor (cancer risk per mg/kg-day) for Urethane	
350	days per year	
25,550	days per lifetime	
1090	95th Percentile Daily Breathing Rates (L/kg-day)	0<2 Years
861	95th Percentile Daily Breathing Rates (L/kg-day)	2<9 Years
745	95th Percentile Daily Breathing Rates (L/kg-day)	2<16 Years
335	95th Percentile Daily Breathing Rates (L/kg-day)	16<30 Years
290	95th Percentile Daily Breathing Rates (L/kg-day)	16<70 Years
0.85	fraction of time at home	0<2 Years
0.72	fraction of time at home	2<16 Years
0.73	fraction of time at home	16<70 Years

Project: UCSF Research Building
Date: January 20, 2016
Condition: Fume Hoods

Exposure Year	Calender Year	Maximum 1-Hour Chloroform Concentration (ug/m3)	Maximum 1-Hour Sodium Hydroxide Concentration (ug/m3)	Annual Formalin Concentration (ug/m3)	Annual Chloroform Concentration (ug/m3)	Annual Formaldehyde Concentration (ug/m3)	Annual Glutaldehyde Concentration (ug/m3)	Annual Hydrochloric Acid Concentration (ug/m3)	Annual Phospheric Acid Concentration (ug/m3)	Annual Carbon Tetrachloride Concentration (ug/m3)	Annual Chloroform Concentration (ug/m3)	Annual Formaldehyde Concentration (ug/m3)	Annual Hydrazine Concentration (ug/m3)	Annual Urethane Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at home	Cancer Risk
1	2017	-	-	-	-	-	-	-	-	-	-	-	-	-	1,090	10.0	0.85	-
2	2018	2.06	0.10	1.41E-04	0.03	0.001	2.67E-04	0.002	4.43E-05	2.51E-04	0.03	0.001	9.61E-07	1.41E-05	1,090	10.0	0.85	0.08
3	2019	2.06	0.10	1.41E-04	0.03	0.001	2.67E-04	0.002	4.43E-05	2.51E-04	0.03	0.001	9.61E-07	1.41E-05	745	4.75	0.72	0.02
4	2020	2.06	0.10	1.41E-04	0.03	0.001	2.67E-04	0.002	4.43E-05	2.51E-04	0.03	0.001	9.61E-07	1.41E-05	745	3.00	0.72	0.01
5	2021	2.06	0.10	1.41E-04	0.03	0.001	2.67E-04	0.002	4.43E-05	2.51E-04	0.03	0.001	9.61E-07	1.41E-05	745	3.00	0.72	0.01
6	2022	2.06	0.10	1.41E-04	0.03	0.001	2.67E-04	0.002	4.43E-05	2.51E-04	0.03	0.001	9.61E-07	1.41E-05	745	3.00	0.72	0.01
7	2023	2.06	0.10	1.41E-04	0.03	0.001	2.67E-04	0.002	4.43E-05	2.51E-04	0.03	0.001	9.61E-07	1.41E-05	745	3.00	0.72	0.01
8	2024	2.06	0.10	1.41E-04	0.03	0.001	2.67E-04	0.002	4.43E-05	2.51E-04	0.03	0.001	9.61E-07	1.41E-05	745	3.00	0.72	0.01
9	2025	2.06	0.10	1.41E-04	0.03	0.001	2.67E-04	0.002	4.43E-05	2.51E-04	0.03	0.001	9.61E-07	1.41E-05	745	3.00	0.72	0.01
10	2026	2.06	0.10	1.41E-04	0.03	0.001	2.67E-04	0.002	4.43E-05	2.51E-04	0.03	0.001	9.61E-07	1.41E-05	745	3.00	0.72	0.01
11	2027	2.06	0.10	1.41E-04	0.03	0.001	2.67E-04	0.002	4.43E-05	2.51E-04	0.03	0.001	9.61E-07	1.41E-05	745	3.00	0.72	0.01
12	2028	2.06	0.10	1.41E-04	0.03	0.001	2.67E-04	0.002	4.43E-05	2.51E-04	0.03	0.001	9.61E-07	1.41E-05	745	3.00	0.72	0.01
13	2029	2.06	0.10	1.41E-04	0.03	0.001	2.67E-04	0.002	4.43E-05	2.51E-04	0.03	0.001	9.61E-07	1.41E-05	745	3.00	0.72	0.01
14	2030	2.06	0.10	1.41E-04	0.03	0.001	2.67E-04	0.002	4.43E-05	2.51E-04	0.03	0.001	9.61E-07	1.41E-05	745	3.00	0.72	0.01
15	2031	2.06	0.10	1.41E-04	0.03	0.001	2.67E-04	0.002	4.43E-05	2.51E-04	0.03	0.001	9.61E-07	1.41E-05	745	3.00	0.72	0.01
16	2032	2.06	0.10	1.41E-04	0.03	0.001	2.67E-04	0.002	4.43E-05	2.51E-04	0.03	0.001	9.61E-07	1.41E-05	745	3.00	0.72	0.01
17	2033	2.06	0.10	1.41E-04	0.03	0.001	2.67E-04	0.002	4.43E-05	2.51E-04	0.03	0.001	9.61E-07	1.41E-05	335	1.70	0.73	0.00
18	2034	2.06	0.10	1.41E-04	0.03	0.001	2.67E-04	0.002	4.43E-05	2.51E-04	0.03	0.001	9.61E-07	1.41E-05	335	1.00	0.73	0.00
19	2035	2.06	0.10	1.41E-04	0.03	0.001	2.67E-04	0.002	4.43E-05	2.51E-04	0.03	0.001	9.61E-07	1.41E-05	335	1.00	0.73	0.00
20	2036	2.06	0.10	1.41E-04	0.03	0.001	2.67E-04	0.002	4.43E-05	2.51E-04	0.03	0.001	9.61E-07	1.41E-05	335	1.00	0.73	0.00
21	2037	2.06	0.10	1.41E-04	0.03	0.001	2.67E-04	0.002	4.43E-05	2.51E-04	0.03	0.001	9.61E-07	1.41E-05	335	1.00	0.73	0.00
22	2038	2.06	0.10	1.41E-04	0.03	0.001	2.67E-04	0.002	4.43E-05	2.51E-04	0.03	0.001	9.61E-07	1.41E-05	335	1.00	0.73	0.00
23	2039	2.06	0.10	1.41E-04	0.03	0.001	2.67E-04	0.002	4.43E-05	2.51E-04	0.03	0.001	9.61E-07	1.41E-05	335	1.00	0.73	0.00
24	2040	2.06	0.10	1.41E-04	0.03	0.001	2.67E-04	0.002	4.43E-05	2.51E-04	0.03	0.001	9.61E-07	1.41E-05	335	1.00	0.73	0.00
25	2041	2.06	0.10	1.41E-04	0.03	0.001	2.67E-04	0.002	4.43E-05	2.51E-04	0.03	0.001	9.61E-07	1.41E-05	335	1.00	0.73	0.00
26	2042	2.06	0.10	1.41E-04	0.03	0.001	2.67E-04	0.002	4.43E-05	2.51E-04	0.03	0.001	9.61E-07	1.41E-05	335	1.00	0.73	0.00
27	2043	2.06	0.10	1.41E-04	0.03	0.001	2.67E-04	0.002	4.43E-05	2.51E-04	0.03	0.001	9.61E-07	1.41E-05	335	1.00	0.73	0.00
28	2044	2.06	0.10	1.41E-04	0.03	0.001	2.67E-04	0.002	4.43E-05	2.51E-04	0.03	0.001	9.61E-07	1.41E-05	335	1.00	0.73	0.00
29	2045	2.06	0.10	1.41E-04	0.03	0.001	2.67E-04	0.002	4.43E-05	2.51E-04	0.03	0.001	9.61E-07	1.41E-05	335	1.00	0.73	0.00
30	2046	2.06	0.10	1.41E-04	0.03	0.001	2.67E-04	0.002	4.43E-05	2.51E-04	0.03	0.001	9.61E-07	1.41E-05	335	1.00	0.73	0.00

0.00	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
0.03	Acute Hazard Impact
1	Significance Threshold
No	Significant?
0.30	Cancer Risk (Child)
10	Significance Threshold
No	Significant?
0.00	Cancer Risk (Adult)
10	Significance Threshold
No	Significant?
0.33	30-Year Exposure Cancer Risk
10	Significance Threshold
No	Significant?

APPENDIX E

City of San Francisco, Compliance Checklist Table for Greenhouse Gas Analysis, City Parking Garage Expansion

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Compliance Checklist Table for Greenhouse Gas Analysis: Table 2. Municipal Projects

A. GENERAL PROJECT INFORMATION:

Date: January 19, 2016

Project name: UCSF Research Building and City Parking Garage Expansion at the San Francisco General Hospital (SFGH) and Trauma Center Campus

Case No: N/A

Project address and block and lot: San Francisco General Hospital and Trauma Center Campus, B/C Parking Lot at 23rd Street between Utah and Vermont Streets

Standard to be met (Select one)[1]: LEED Gold /LEED Silver /GreenPoint Rated / Not Applicable / Other (Please Specify): N/A

Compliance Checklist Prepared By: Kathy Jung, Director of Facilities and Capital Planning, San Francisco Department of Public Health

Date: January 15, 2016

Brief Project Description:

The University of California, San Francisco (UC San Francisco or UCSF) is proposing to develop a research building at the Priscilla and Mark Zuckerberg San Francisco General Hospital and Trauma Center Campus (SFGH) on 23rd Street between Vermont and Utah Streets. Additionally, the Parking Authority of the City and County of San Francisco is considering expanding the existing SFGH public parking structure at 2500 24th Street. This checklist is intended to cover the parking garage expansion only, which is under the jurisdiction of the City and County of San Francisco. UCSF will be reviewing the research building relative to its own adopted Greenhouse Gas Reduction Strategy.

[1] Refers to the standard to be met per the San Francisco Green Building Code and Environment Code, Chapter 7. See http://sfdbi.org/administrative-bulletins for latest "AB-093" to determine which standard your project is required to meet, if applicable. Note: ALL municipal projects of greater than 5,000 square feet, including leasehold improvements, are required to meet a minimum of LEED Gold.

The SFGH parking garage, owned and operated by the Parking Authority of the City and County of San Francisco ("Parking Authority"), is located at 2500 24th Street. The Parking Authority would develop the SFGH parking garage expansion. The proposal includes expanding the existing garage to the south to 24th Street (an addition of 307 parking spaces), and possibly adding one floor to the height of the entire structure (220 more parking spaces, for a total addition of 527 parking spaces), potentially with the development of some ground floor retail space on site.

B. COMPLIANCE CHECKLIST TABLE

Instructions: Complete the following table by determining project compliance with the identified adopted regulations and providing project-level details in the "Remarks" column. Projects that do not comply with an ordinance/regulation may be determined to be inconsistent with San Francisco's qualified GHG reduction strategy, although compliance with most ordinance/regulations is not optional. (Continued on next page)

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Table 2. Regulations Applicable to Municipal Projects

Regulation	Requirement	Project Compliance	Remarks
Transportation sector			
Commuter Benefits Ordinance (San Francisco Environment Code, Section 427)	City employees are eligible for pre-tax commuter benefits for transit and vanpool expenses.	X Project Complies ☐ Not Applicable ☐ Project Does Not Comply	
Emergency Ride Home Program	All City employees are automatically enrolled in the San Francisco Emergency Ride Home program.	X Project Complies ☐ Not Applicable ☐ Project Does Not Comply	Not clear if enrollment is automatic. I believe there is an enrollment process.
Healthy Air and Clean Transportation Ordinance, Section 403 (San Francisco Environment	Requires all City officers, boards, commissions and department heads responsible for departments that require transportation to fulfill their official duties to reduce the Municipal Fleet by implementing Transit First policies by: (A) maximizing the use of public transit, including taxis, vanpools, and car-sharing; (B) facilitating travel by bicycle, or on foot; and, (C) minimizing the use of single-occupancy motor vehicles, for travel required in the performance of public duties.	X Project Complies ☐ Not Applicable ☐ Project Does Not Comply	SFGH has worked with SFMTA to develop a robust TDM plan and includes strategies to comply with Transit First policies. A full time TDM position was created.
Healthy Air and Clean Transportation Ordinance (San Francisco Environment Code, Chapter 4, Section 403)	Requires the reduction of the number of passenger vehicles and light-duty trucks in the Municipal Fleet. In addition, requires new purchases or leases of passenger vehicles and light-duty trucks to be the cleanest and most efficient vehicles available on the market.	X Project Complies ☐ Not Applicable ☐ Project Does Not Comply	DPH has reduced vehicle fleet as part of HACTO.

Regulation	Requirement	Project Compliance	Remarks
Biodiesel for Municipal Fleets (Executive Directive 06-02)	Requires all diesel using City Departments to begin using biodiesel (B20). Sets goals for all diesel equipment to be run on biodiesel by 2007 and goals for increasing biodiesel blends to B100.	Project Complies X Not Applicable ☐ Project Does Not Comply	
Clean Construction Ordinance (San Francisco Administrative Code, Section 6.25)	Effective March 2009, all contracts for large (20+ day) City projects are required to: •Fuel diesel vehicles with B20 biodiesel, and •Use construction equipment that meet USEPA Tier 2 standards or best available control technologies for equipment over 25 hp.	X Project Complies ☐ Not Applicable ☐ Project Does Not Comply	Will comply
Bicycle Parking, Showers, and Lockers for City-Owned and Leased Properties (San Francisco Planning Code, Section 155.1-155.4)	Requires bicycle facilities for City-Owned and Leased Properties. Refer to Section 155.2 and 155.3 for requirements by use. Provide short-term and long-term bicycle parking for 5% of total motorized parking capacity each, or meet San Francisco Planning Code Sec 155, whichever is greater. May meet LEED SS 4.2.(CalGreen 5.106.4)	xProject Complies ☐ Not Applicable ☐ Project Does Not Comply	Garage expansion concept has already incorporated this requirement into its planning and total space projections.
Tenant Bicycle Parking in Existing Commercial Buildings Ordinance (San Francisco Environment Code, Chapter 4, Section 402)	The San Francisco Tenant Bicycle Parking in Existing Commercial Buildings Ordinance requires commercial property owners to: (A) Allow tenants to bring their bicycles to their leased space, or (B) Provide secure bicycle parking on-site, or (C) Provide no-cost off-site bike parking access for tenants within 750 feet of the building	x Project Complies ☐ Not Applicable ☐ Project Does Not Comply	SFGH provides multiple bike parking options – bike lockers, bike cages, bike racks. In additional employees are allowed to bring bicycles into their areas of work if there is sufficient space for day to time storage. See attached map.

Regulation	Requirement	Project Compliance	Remarks
Transportation Management Programs (San Francisco Planning Code, Section 163)	Requires new buildings or additions over a specified size (buildings >25,000 sf or 100,000 sf depending on the use and zoning district) within certain zoning districts (including downtown and mixed-use districts in the City's Eastern Neighborhoods and South of Market) to implement a Transportation Management Program and provide on-site transportation management brokerage services for the life of the building.	x Project Complies ☐ Not Applicable ☐ Project Does Not Comply	SFGH has had a TDM plan in place since 2008. It is the responsibility of the TDM program manager position to provide on site transportation management brokerage services.
Energy Efficiency Sector			
Green Building Requirements for City Buildings: Indoor Water Use Reduction (San Francisco Environment Code, Chapter 7)	The LEED Project Administrator shall submit documentation verifying a minimum 30 percent reduction in the use of indoor potable water, as calculated to meet and achieve LEED credit WE3. (Sec. 706)	☐ Project Complies x Not Applicable ☐ Project Does Not Comply	This requirement has been met for the new Replacement Hospital Building (Building No. 25)
Green Building Requirements for City Buildings: (San Francisco Environment Code, Chapter 7)	All municipal new construction and major alteration projects over 5000 square feet must achieve at a minimum LEED® Gold certification. (Sec. 705). As part of the LEED Gold certification requirement, all projects must achieve San Francisco-Specific LEED Credit Requirements for Municipal Construction Projects (Sec. 706). See SFDBI AB-093 Attachment C-8.	x Project Complies ☐ Not Applicable ☐ Project Does Not Comply	This requirement has been met for the new Replacement Hospital Building (Building No. 25) Design team will review and incorporate into their plans.

Regulation	Requirement	Project Compliance	Remarks
Green Building Requirements for City Buildings: Energy Efficient Lighting Retrofit Requirements. (San Francisco Environment Code, Chapter 7)	These requirements (or those in the CCR Title 24, Part 6, or subsequent State standards, whichever are more stringent) shall apply in all cases except those in which a City department is not responsible for maintenance of light fixtures or exit signs. (Sec. 710) Exit Signs; At the time of installation or replacement of broken or non-functional exit signs, all exit signs shall be replaced with light-emitting diode (L.E.D.)-type signs. Edge-lit compact fluorescent signs may be used as replacements for existing edge-lit incandescent exit signs. Fluorescent Fixtures - Mercury Content. The mercury content of each 4-foot or 8-foot fluorescent lamp ("tube" or "bulb") installed in a luminaire shall not exceed 5 mg for each 4-foot fluorescent lamp, or 10 mg for each 8-foot fluorescent lamp. Fluorescent Fixtures - Energy Efficiency. The lamp and ballast system in each luminaire that utilizes one or more 4-foot or 8-foot linear fluorescent lamps to provide illumination in a City-Owned Facility must meet the specified requirements. Exterior Light Fixtures. At the time of installation or replacement of broken or non-functional exterior light fixtures, a photocell or automatic timer shall be installed to prevent lights from operating during daylight hours.		This requirement has been met for the new Replacement Hospital Building (Building No. 25)
Green Building Requirements for City Buildings: Energy Performance (San Francisco Environment Code, Chapter 7)	Varies depending on the use and size of project. Refer to San Francisco Department of Building Inspection Administrative Bulletin 093, Attachment H for applicability.	x Project Complies ☐ Not Applicable ☐ Project Does Not Comply	This requirement has been met for the new Replacement Hospital Building (Building No. 25) Garage project will comply

Regulation	Requirement	Project Compliance	Remarks
Green Building Requirements for City Buildings: Renewable Energy (San Francisco Environment Code, Chapter 7)	The LEED Project Administrator shall confer with SFPUC on renewable energy opportunities for municipal construction projects. The LEED Project Administrator shall submit documentation verifying that either: (A) At least 1 percent of the building's energy costs are offset by on-site renewable energy generation, achieving LEED credit A 2, including any combination of: photovoltaic, solar thermal, wind, biofuel-based electrical systems, geothermal heating, geothermal electric, wave, tidal, or low impact hydroelectric systems, or as specified in Section 25741 of the California Public Resources Code; or, (B) In addition to meeting LEED prerequisite EA 1 Energy performance requirement, achieve a 10 percent compliance margin over Title 24, Part 6, 2013 California Energy Standards. (Sec. 706)	X Project Complies ☐ Not Applicable ☐ Project Does Not Comply	This requirement has been met for the new Replacement Hospital Building (Building No. 25) Garage project will comply as appropriate
Green Building Requirements for City Buildings: Commissioning (San Francisco Environment Code, Chapter 7)	The LEED Project Administrator shall submit documentation verifying that the facility has been or will meet the criteria necessary to achieve LEED credit EA 3.0 (Enhanced Commissioning), in addition to LEED prerequisite EAp1 (Fundamental Commissioning of Building Energy Systems.) (Sec. 706)	X Project Complies ☐ Not Applicable ☐ Project Does Not Comply	This requirement has been met for the new Replacement Hospital Building (Building No. 25) Garage project will comply as appropriate
Waste Reduction Sector			
Green Building Requirements for City Buildings: (San Francisco Environment Code, Chapter 7)	The ordinance requires all construction and/or demolition projects at City-owned facilities and City leaseholds to prepare a Construction and Demolition Debris Management Plan that demonstrates how a minimum of 75% of the material will be diverted from the landfill. The Plan must be approved prior to commencement of the project. Monthly project summaries as well as a final report are required.	X Project Complies ☐ Not Applicable ☐ Project Does Not Comply	This requirement has been met for the new Replacement Hospital Building (Building No. 25) Garage project will comply as appropriate

Regulation	Requirement	Project Compliance	Remarks
Green Building Requirements for City Buildings: Recycling (San Francisco Environment Code, Chapter 7, Sec. 707)	Requires all City departments have adequate, accessible, and convenient recycling, composting and trash areas (interior and exterior) and that these areas are integrated into the design and provided within City-owned facilities and leaseholds. Recycling and composting must be equally convenient as trash. Collection containers must be easily accessible by collection vehicles.	X Project Complies ☐ Not Applicable ☐ Project Does Not Comply	This requirement has been met for the new Replacement Hospital Building (Building No. 25) Garage project will comply as appropriate
Construction and Demolition Debris Recovery Ordinance. (San Francisco Environment Code Chapter 14)	Requires mixed construction and demolition (C&D) debris material in San Francisco to be hauled by a Registered Transporter to a Registered Facility where the material will be processed for recovery from landfill. C&D material can also be source separated at the job site for reuse or recycling. Any full demolition must submit a Demolition Debris Recovery Plan to the Department of the Environment for approval before the Department of Building Inspection will issue a permit.	X Project Complies ☐ Not Applicable ☐ Project Does Not Comply	Will comply
Resource Conservation Ordinance (San Francisco Environment Code, Chapter 5)	This ordinance establishes a goal for each City department to (i) maximize purchases of recycled products and (ii) divert from disposal as much solid waste as possible and appoint at least one person responsible for compliance with the chapter. Each City department shall prepare a Waste Assessment annually. The ordinance requires janitorial contracts to consolidate recyclable materials for pick up. Lastly, the ordinance requires departments to specify the purchase of 30% post-consumer recycled content for all paper products except copier and bond paper. Pursuant to section 506 (a) (3), executive directive 08-02 increased the amount of post-consumer recycled content required for copier and bond paper from 30% to 100%.	X Project Complies ☐ Not Applicable ☐ Project Does Not Comply	DPH complies
Resource Conservation Ordinance (San Francisco Environment Code, Chapter 5)	Sec. 509 Non-PVC Plastics. This ordinance requires non-PVC plastics to be specified in city purchasing and construction projects. Sec. 513 Penalty	X Project Complies ☐ Not Applicable ☐ Project Does Not Comply	Project will comply

Regulation	Requirement	Project Compliance	Remarks
Green Building Requirements for City Buildings: Recycling (San Francisco Environment Code, Chapter 7)	All City departments are required to recycle used fluorescent and other mercury containing lamps, batteries, and universal waste as defined by California Code of Regulations Section 66261.9. (SF Env Code Sec 707)	X Project Complies ☐ Not Applicable ☐ Project Does Not Comply	DPH Complies
Mandatory Recycling and Composting Ordinance (San Francisco Environment Code, Chapter 19)	The mandatory recycling and composting ordinance requires all persons in San Francisco to properly separate their refuse into recyclables, compostables and trash, and requires that the level of service for each facility is sufficient to contain all refuse types generated.	X Project Complies ☐ Not Applicable ☐ Project Does Not Comply	SFGH has, in consultation with the Dept of Environment, implemented programs to comply with this ordinance.
Construction Recycled Content Ordinance (San Francisco Administrative Code, Section 6.4)	Ordinance requires the use of recycled content material in public works projects to the maximum extent feasible and gives preference to local manufacturers and industry.	X Project Complies ☐ Not Applicable ☐ Project Does Not Comply	Will comply
Environment/Conservation Sector			
Street Tree Planting Requirements for New Construction (San Francisco Planning Code Section 138.1)	Planning Code Section 138.1 requires new construction, significant alterations or relocation of buildings within many of San Francisco's zoning districts to plant on 24-inch box tree for every 20 feet along the property street frontage	x Project Complies ☐ Not Applicable ☐ Project Does Not Comply	Will comply

Regulation	Requirement	Project Compliance	Remarks
Green Building Requirements for City Buildings: Enhanced Refrigerant Management (San Francisco Environment Code, Chapter 7)	The LEED Project Administrator shall submit documentation verifying that the project will reduce ozone depletion, while minimizing direct contribution to climate change, achieving LEED credit EA 4. (Sec. 706)	X Project Complies ☐ Not Applicable ☐ Project Does Not Comply	Will comply

Regulation	Requirement	Project Compliance	Remarks
Green Building Requirements for City Buildings: Low Emitting Materials (San Francisco Environment Code, Chapter 7)(Sec. 706)	The LEED Project Administrator shall submit documentation verifying that the project is using low-emitting materials, subject to onsite verification, achieving LEED credits EQ 4.1. EQ 4.2. EQ 4.3. and EQ 4.4 wherever applicable: (A) Adhesives, sealants and sealant primers shall achieve LEED credit EQ 4.1. including compliance with South Coast Air Quality Management District (SCAQMD) Rule 1168. (B) Interior paints and coatings applied on-site shall achieve LEED credit EQ 4.2. including: (i) Architectural paints and coatings shall meet the VOC content limits of Green Seal Standard GS-11. (ii) Anti-corrosive and anti-rust paints applied to interior ferrous metal substrates shall not exceed the VOC content limit of Green Seal Standard GC-03 of 250 g/L. (iii) Clear wood finishes, floor coatings, stains, primers, and shellacs applied to interior elements shall not exceed SCAQMD Rule 1113 VOC content limits. (C) Flooring systems shall achieve LEED credit EQ 4.3 Option 1. including: (i) Interior carpet shall meet the testing and product requirements of the Carpet and Rug Institute Green Label Plus program. (ii) Interior carpet cushioning shall meet the requirements of the carpet and Rug Institute Green Label Program. (iii) Hard surface flooring, including linoleum, laminate flooring, wood flooring, ceramic flooring, rubber flooring, and wall base shall be certified as compliant with the FloorScore standard, provided, However, that 100 percent reused or 100 percent post-consumer recycled hard surface flooring may be exempted from this LEED credit EQ 4.3 requirement. Projects exercising this exemption for hard surface flooring shall otherwise be eligible (or LEED credit EQ 4.3. (D) Interior composite wood and agrifiber products shall achieve LEED credit EQ 4.4 by containing no added urea formaldehyde resins. Interior and exterior hardwood plywood, particleboard, and medium density fiberboard composite wood products shall additionally meet California Air Resources Board Air Toxics Control Measure for Composite Wood (17 CCR 93120 et seq.), by or before the dates specified in those sections. (E) Project sponsors are encouraged to achieve LEED Pilot Credit 2: Persistent Bioaccumulative Toxic Chemicals Source Reduction: Dioxins and Halogenated Organic Compounds. This standard is consistent with Environment Code er 5: Non-PVC Plastics.	X Project Complies ☐ Not Applicable ☐ Project Does Not Comply	Will comply

Regulation	Requirement	Project Compliance	Remarks
Green Building Requirements for City Buildings: (San Francisco Environment Code, Chapter 7)	City-owned facilities and leaseholds are subject to all of the requirements of the Commercial Water Conservation Ordinance (San Francisco Green Building Code (5.103.1.2 Indoor water use reduction), including provisions requiring the replacement of non-compliant water closets and urinals on or before January 1, 2017. (Sec. 709) 1. All water closets (toilets) with a rated flush volume exceeding 1.6 gallons per flush and all urinals with a rated flush volume exceeding 1.0 gallon per flush must be replaced with high-efficiency water closets that use no more than 1.28 gallons per flush and high efficiency urinals that use no more than 0.5 gallons per flush, respectively. 2. Showerheads must use no more than 1.5 gal/ min. In addition, all showerheads in the facility having a maximum flow rate exceeding 2.5 gallons per minute must be replaced with showerheads that use no more than 1.5 gal/ min. 3. All faucets and faucet aerators in the facility with a maximum flow rate exceeding 2.2 gallons per minute are replaced with fixtures having a maximum flow rate not to exceed 0.5 gallons per minute per appropriate site conditions.	x Project Complies ☐ Not Applicable ☐ Project Does Not Comply	Will comply
Stormwater Management Ordinance and Construction Pollution Prevention (San Francisco Environment Code, Chapter 7)(Sec. 706)	For City sponsored projects, the LEED Project Administrator shall submit documentation verifying that a construction project that is located outside the City and County of San Francisco achieves the LEED SS6.2 credit. Construction projects located within the City and County of San Francisco shall implement the applicable stormwater management controls adopted by the San Francisco Public Utilities Commission (the "SFPUC"). All construction projects shall develop and implement construction activity pollution prevention and stormwater management controls adopted by the SFPUC, and achieve LEED prerequisite SSp1 or similar criteria adopted by the SFPUC, as applicable.	☐ Project Complies x Not Applicable ☐ Project Does Not Comply	This requirement has been met for the new Replacement Hospital Building (Building No. 25) Garage project will comply

Regulation	Requirement	Project Compliance	Remarks
Indoor Air Quality (San Francisco Environment Code Chapter 7, Sec. 706)	Indoor Air Quality Management Plan During Construction. The LEED Project Administrator shall submit documentation verifying that the sponsoring City department has prepared and implemented an Indoor Air Quality Management Plan that achieves LEED credit EQ 3.1.	X Project Complies ☐ Not Applicable ☐ Project Does Not Comply	Will comply as appropriate
Indoor Air Quality (San Francisco Environment Code Chapter 7, Sec. 706)	IAQ Management: Before Occupancy. The LEED Project Administrator shall submit documentation verifying that the sponsoring City department has prepared and implemented an Indoor Air Quality Management Plan that achieves LEED credit EQ 3.2.	X Project Complies ☐ Not Applicable ☐ Project Does Not Comply	Will comply as appropriate
Indoor Air Quality (San Francisco Environment Code Chapter 7, Sec. 706)	Indoor Chemical and Pollutant Source Control. The LEED Project Administrator shall submit documentation verifying that the project will minimize and control the entry of pollutants into buildings and later cross contamination of regularly occupied areas, achieving LEED credit EQ 5.	x Project Complies ☐ Not Applicable ☐ Project Does Not Comply	Will comply as appropriate
Indoor Air Quality (San Francisco Environment Code Chapter 7, Sec. 711).	Lead Elimination: Eliminate building materials containing lead.	☐ Project Complies x Not Applicable ☐ Project Does Not Comply	

Regulation	Requirement	Project Compliance	Remarks
Environmentally Preferable Purchasing Ordinance (San Francisco Environment Code, Chapt. 2)	For certain common product categories, the ordinance mandates that City Departments purchase only products listed as "REQUIRED" on the SFApproved.org website, which is maintained by the Department of the Environment.. The items on the SFApproved website meet the most rigorous standards for protecting our health and environment.	☐ Project Complies ☐ Not Applicable ☐ Project Does Not Comply	Will comply as appropriate. Applicable subject matter expert(s) for SFGH Garage Expansion will specify the products that are required on the SFApproved.org website for certain common product categories. Once products are specified by the appropriate subject matter expert(s), Purchasing source those specified products and issue the PO.
Tropical Hardwood and Virgin Redwood Ban (San Francisco Environment Code, Chapter 8)	The ordinance prohibits City departments from procuring, or engaging in contracts that would use the ordinance-listed tropical hardwoods and virgin redwood.	☐ Project Complies X Not Applicable ☐ Project Does Not Comply	
Wood Burning Fireplace Ordinance (San Francisco Building Code, Chapter 31, Section 3111.3)	Bans the installation of wood burning fire places except for the following: •Pellet-fueled wood heater •EPA approved wood heater •Wood heater approved by the Northern Sonoma Air Pollution Control District	☐ Project Complies X Not Applicable ☐ Project Does Not Comply	
Regulation of Diesel Backup Generators (San Francisco Health Code, Article 30)	Requires: •All diesel generators to be registered with the Department of Public Health •All new diesel generators must be equipped with the best available air emissions control technology.	x Project Complies ☐ Not Applicable ☐ Project Does Not Comply	Will comply

Regulation	Requirement	Project Compliance	Remarks
Arsenic-Treated Wood Ordinance (San Francisco Environment Code, Chapt. 13)	For City departments, prohibits the use of arsenic-treated wood for most applications, with the exception of seawater immersion. Details can be found at SFApproved.org/wood	☐ Project Complies x Not Applicable ☐ Project Does Not Comply	