

Addendum to Environmental Impact Report

Addendum Date:

June 28, 2012

Case No.:

2011.0935E

Project Title:

San Francisco Bicycle Plan Project 3-2

Masonic Avenue Bicycle Lanes, Fell to Geary Streets

EIR:

SCL No. 2008032052, certified August 4, 2009

Zoning: Block/Lots: n/a, in public right-of-way n/a, in public right-of-way n/a, in public right-of-way

Lot Sizes: Project Sponsor

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PROJECT DESCRIPTION

Background

The project sponsor, the San Francisco Municipal Transportation Authority (SFMTA), proposes to implement the Masonic Avenue Bicycle Lanes Project (hereafter "Modified Project"). Two "options" for the 3-2 project were studied in the *San Francisco Bicycle Plan Final Environmental Impact Report* (FEIR, Case No. 2007.0347E), referred to as "Project 3-2", "Option 1" and "Option 2" in that document, and were part of the 60 near-term projects analyzed at a project-level in the FEIR. The San Francisco Planning Commission certified the Bicycle Plan EIR on June 25, 2009. On June 26, 2009, the Municipal Transportation Agency (MTA) Board approved 45 of the 60 near-term Bicycle Plan projects; and Project 3-2 was one of these projects.

The motion to certify the FEIR was appealed to the Board of Supervisors. On August 4, 2009 the Board of Supervisors reaffirmed the Planning Commission's certification of the FEIR. Subsequently, the Board of Supervisors passed an Ordinance adopting the 2009 San Francisco Bicycle Plan, which also amended the San Francisco General Plan in connection with the San Francisco Bicycle Plan; adopted environmental findings and findings that the General Plan amendment is consistent with the General Plan and eight priority policies of Planning Code Section 101.1; as well as authorized other acts in connection thereto.

Project Location

The proposed Masonic Avenue Bicycle Lanes Project is located along Masonic Avenue between the intersections of Fell Street (to the south) and Geary Boulevard (to the north), or approximately 8 blocks within the right-of-way of Masonic Avenue, as shown in Figure 1: Project Area Map. The FEIR described this project area in the following manner:

- Segment 1 extends from Fell Street to Hayes Street
- Segment 2 extends from Hayes Street to Grove Street.
- Segment 3 extends from Grove Street o Anza/O'Farrell Streets.
- Segment 4 extends from Anza/O'Farrell Streets to Geary Boulevard.

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Masonic Streetscape Project

Project Area Map

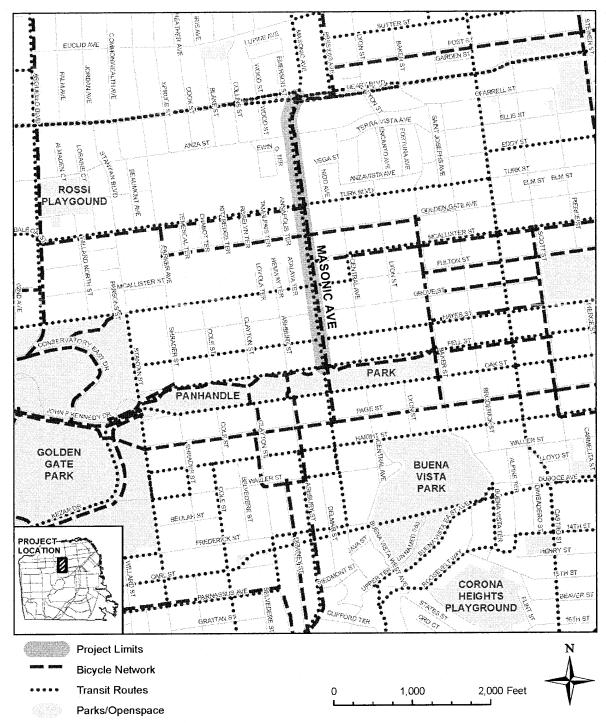


Figure 1: Project Area Map

To aid in the comparison of the FEIR Options 1 and 2 analyzed and the Modified Project designs, the segments along the Masonic Avenue project corridor described below are the same as the four "segments" described in the FEIR. The project location is the same as described for Project 3-2 in the FEIR (pp. IV.B-22 through pp. IV.B-24).

Existing Conditions

The existing street network, as shown in Figure 2: Existing & Bicycle Plan Options Cross Sections is described in the Bicycle Plan FEIR (p. V.A.3-84 and V.A.3-85) as follows:

"Masonic Avenue is a north-south major arterial with a mixture of residential, commercial and institutional uses. There are four travel lanes between Geary Boulevard and Grove Street and additional lanes in both directions between Grove and Fell Streets. Masonic Avenue between Fell Street and Geary Boulevard is part of the MTS Roadway Network and the CMP Network. Traffic volumes are high during the AM and PM peak periods, when parking tow-away restrictions provide additional travel lane capacity."

Existing transit on Masonic Avenue is presented in the Bicycle Plan FEIR (pp. V.A.3, 86) as follows:

"Muni bus line 43 runs in both directions on this segment on Masonic Avenue along the entire length of Project 3-2 with approximately six buses per hour, each way, during the AM and PM peak periods. Muni bus line 31BX runs northbound between Turk Street and Geary Boulevard during the AM peak period with approximately six buses per hour, and southbound during the PM peak period with four buses per hour. Bus stops are located at Hayes Street, Fulton Street, Golden Gate Avenue, Turk Street and Geary Boulevard."

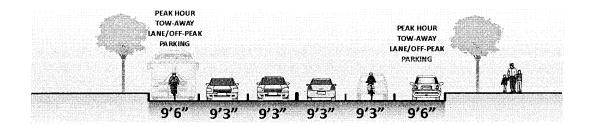
Existing parking, pedestrian, bicycle and loading conditions for Masonic Avenue are presented in the Bicycle Plan FEIR (pp. V.A.3, 87-88) as follows:

"On-street parking is generally permitted on both sides along this corridor, but parking is prohibited on the east side of Masonic Avenue during the AM peak period (7:00 a.m. to

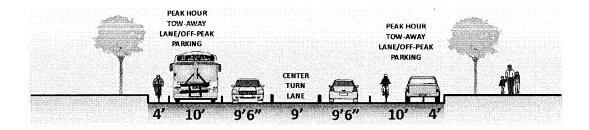
9:00 a.m.) and on the west side during the PM peak period (4:00 p.m. to 6:00 p.m.). Onstreet parking occupancy between Fell Street and Geary Boulevard during the midday varies from approximately 50 percent throughout most of the corridor, particularly on the east side of Masonic Avenue, to approximately 70 to 80 percent on the northern part of the corridor. The corridor has a mixture of residential, commercial and institutional uses. There are four schools along the corridor: Lincoln University on the west side of Masonic Avenue between O'Farrell and Turk Streets, USF on the west side of Masonic Avenue between Anza and Fulton Streets, San Francisco Day School on the east side of Masonic Avenue at Golden Gate Avenue, and City College of San Francisco (CCSF), Adams Campus, on the west side of Masonic Avenue between Grove and Hayes Streets."

"Pedestrian volumes are generally low to moderate along Masonic Avenue, except near the schools during the period before and after school sessions. Pedestrian crosswalks at the intersections of Masonic Avenue with O'Farrell Street, Turk Street, and Golden Gate Avenue are designated as school crossings (yellow markings)."

Masonic Avenue, Typical Section, Looking North EXISTING



Masonic Avenue, Typical Section, Looking North BICYCLE PLAN OPTION 1



Masonic Avenue, Typical Section, Looking North BICYCLE PLAN OPTION 2

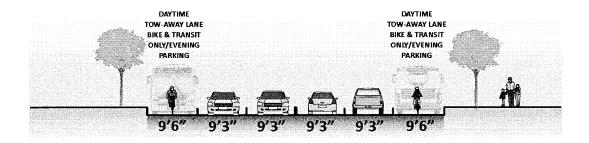


Figure 2: Project 3-2 Existing Conditions & FEIR Bike Plan Options Cross-Sections

"Masonic Avenue is designated as existing Bicycle Route 55 (Class III) in both directions between Fell Street and Geary Boulevard. Existing Bicycle Route 55 intersects existing Bicycle Route 30 (Class I) at the Panhandle Pathway on the south side of Fell Street; existing Bicycle Route 20 (Class II) at McAllister and Turk Streets; and existing Bicycle Route 20 (Class II) at Golden Gate Avenue. Street grades along Project 3-2 generally range from two to five percent, with a nine percent grade between Turk and Fulton Streets. Bicycle volumes on Masonic Avenue are generally low."

"Masonic Avenue has several institutional uses (Lincoln University, San Francisco Day School, USF, CCSF, and Adam Campus) and a few small-scale retail uses. The two larger retail uses at Geary Boulevard and Fulton Street have off-street loading docks to accommodate their deliveries. There is only one on-street yellow commercial freight loading space at the southwest corner of Masonic Avenue and Hayes Street. There are also several white passenger loading zones along both sides of Masonic Avenue. In general truck loading and passenger drop-off activities are accommodated by the on-street parking along Masonic Avenue. No apparent loading shortage (i.e. double parking) was observed during field observations."

Project Characteristics

The Modified Project 3-2 for Masonic Avenue includes two design options, both options, unlike the FEIR Options analyzed, would retain two full-time travel lanes in each direction from Geary Boulevard to Fell Street during peak and off-peak conditions. Compared to existing conditions, the Modified Project designs would remove the rotating AM (northbound) or PM (southbound) peak period travel lane and some parking on both sides of the street to accommodate additional bike facilities (of Class I or Class II design¹), install enhanced bus stops (transit bulbs) at all existing bus stops, move one southbound bus stop from the nearside to the farside of the intersection of Masonic Avenue and Fulton Street (southbound), add corner pedestrian bulbouts at all intersections and include a landscaped center median in portions or all of the center of Masonic Avenue from Fell Street to Geary Boulevard, as described in more detail below. Specific project elements of the Modified Project and how they compare with FEIR Project 3-2 Options 1 and 2 are also presented below.

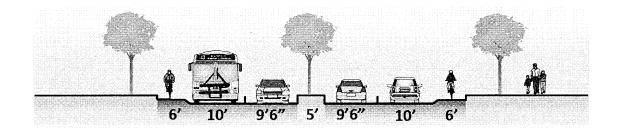
Modified Project 3-2, (Preferred): Boulevard Design: As introduced above, and shown in Figure 3: Modified Project 3-2 Boulevard and Gateway Options, Option 1 Boulevard Design, herein referenced as "Modified Project Boulevard Design" would provide two full-time vehicle travel lanes in each direction from Geary Boulevard to Fell Street, removing parking on both sides of the street and similarly removing the alternating peak hour (northbound in AM peak period; southbound in PM peak period) travel lane; replacing this roadway right-of-way with a separated bike lane (sometimes grade separated, sometimes adjacent but separated (at intersections) and a landscaped center median all along Masonic Avenue. The design would also install transit bulbs at all existing bus stops, relocate one southbound bus stop at Fulton Street from the nearside to the farside of the intersection. The design would also install corner pedestrian bulbouts at all intersections and enhance sidewalks with additional landscaping and wider widths in locations. Left turn restrictions from Masonic Avenue would remain the same as under existing conditions (no left turns during peak periods (7-9 a.m. and 4-7 p.m.) at Hayes, Grove, Fulton, Golden Gate Avenue and Turk Streets). Left turns would continue to be allowed at O'Farrell/Anza

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Bikeways are typically classified as Class I, II or III facilities. "Class I bikeways are bicycle paths with exclusive right-of-way for use by bicyclists or pedestrians. Class II bikeways are bicycle lanes striped with the paved areas of roadways, and established for the preferential use of bicycles, while Class III bikeways are signed bicycle routes that allow bicycles to share streets or sidewalks with vehicles or pedestrians." San Francisco Bicycle Plan FEIR, Volume 1, p. V.A.1-14. This document is available for review at the Planning Department in Case File No. 2007.0347E.

Streets and from Masonic Avenue onto Geary Boulevard. With the exception of an additional PM peak southbound right-turn lane at Fell Street, turning lanes and pockets on Masonic Avenue would remain the same as under existing conditions.

Masonic Avenue, Typical Section, Looking North BOULEVARD OPTION



Masonic Avenue, Typical Section, Looking North GATEWAY OPTION

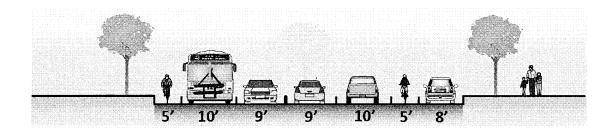


Figure 3: Modified Project 3-2 Cross Sections: Boulevard and Gateway Designs

Similarly, left turns onto Masonic Avenue from side streets would, for the most part, remain the same with the exception of McAllister Street, where left turns would be prohibited by the proposed center median. The Modified Project Boulevard Design also includes the enhancement of the pedestrian plaza located on the southwest corner of Geary Boulevard and Masonic Avenue, including the limitation of the southbound movement west of the plaza from Geary Boulevard to Masonic Avenue to local traffic only. The proposed design of the pedestrian plaza can be seen in **Figure 4: Masonic Avenue/Geary Boulevard Streetscape Improvements**.

Modified Project 3-2: Gateway Design: As introduced above, the Option 2 Gateway Design, herein referenced as "Modified Project Gateway Design" would similarly provide two full-time vehicle travel lanes in each direction from Geary Boulevard to Fell Street, removing parking on the west side of Masonic Avenue and portions of the parking on the east side of Masonic Avenue and removing the alternating peak period travel lane; replacing this roadway right-of-way with Class II bike lanes in each direction, shorter center landscaped medians near certain intersections (Fell Street, Grove Street, McAllister Street, Ewing Terrace, and O'Farrell Street), transit bulbs at existing bus stops, relocating one southbound bus stop at Fulton Street from the near side of the intersection to the farside, enhanced sidewalks with additional landscaping and wider widths in locations, and corner bulbouts at all intersections. Similar to the Boulevard Design, turning lanes and pockets on Masonic Avenue would remain the same as under existing conditions, with the exception of the additional PM peak period right turn onto Fell Street from southbound Masonic Avenue.

The following describes the Modified 3-2 Project designs (Boulevard and Gateway) in comparison to Project 3-2 FEIR Options 1 and 2, presented in segments, similar to pp. IV.B-22 through IV.B-24 of the FEIR.

Segment 1: Fell Street to Hayes Street:

FEIR Option 1: Install Class II bike lanes in both direction by removing one peak hour travel lane in the northbound direction, and removing two travel lanes (one peak hour, one travel lane) in the southbound direction. The FEIR Option 1 retained parking along the west-side of the street and installed a two-way center turn lane in this segment.

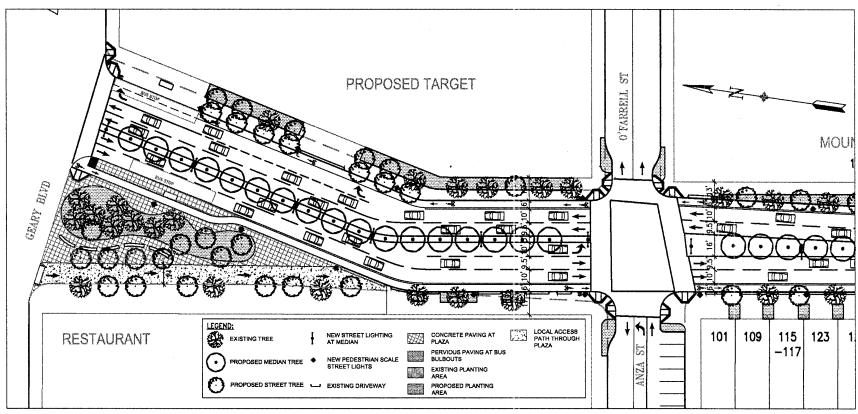
FEIR Option 2: Installed Class II bike lanes in both directions by removing a travel lane in each direction, including removing the tow-away lanes but would not include a center-turn lane. FEIR Option 2 also retained parking along west-side of the street.

As compared to the above two FEIR Options, the Modified Project Boulevard Design and Modified Project Gateway Design would be similar in the northbound direction to FEIR Option 1, but as indicated in the Modified Project description above would retain one additional travel lane in the southbound direction and remove parking on both sides of the street, or approximately five additional spaces more than the FEIR analysis. Additionally, both Modified Project options would include pedestrian bulbouts at both the Fell Street and Hayes intersections, as well as an additional peak-period right-turn lane southbound at the intersection of Masonic Avenue and Fell Street. Both modified design options would include the same length of the proposed center landscaped median from Fell Street to Hayes Street.

Segment 2: Hayes Street to Grove Street:

FEIR Option 1: Install Class II bicycle lanes in both directions along with a center turn vehicle lane, through the removal of one travel lane in each direction, leaving one full-time travel lane in both directions, and leaving one rotating peak period tow-away travel lane (northbound in AM and southbound in PM).

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GEARY BOULEVARD TO O'FARRELL STREET

MASONIC AVENUE STREETSCAPE IMPROVEMENTS BOULEVARD CONCEPT

Figure 4: Masonic Avenue/Geary Boulevard Streetscape Improvements

FEIR Option 2: Install Transit-only/bicycle-only lane from 7 a.m. to 6 p.m weekdays in each direction through the removal of one travel lane in each direction and removing parking on both sides of the street. This option would have added sharrows to represent the Class III nature of the roadway between the hours of six p.m. and seven a.m., weekdays and all day on weekends.

As compared to the two FEIR Options, the Modified Project Boulevard Design and Modified Project Gateway Design would be similar to the operating conditions of the FEIR Option 2 during the weekday daytime hours, which removes parking and the peak-hour tow-away lane, retaining two travel lanes during those daytime weekday hours. The Modified Project Boulevard Design and Modified Project Gateway Design would also add a transit bulb for the northbound and southbound bus stops on the northeast and northwest corners of Masonic Avenue and Hayes Street. Both designs place the bicycle lane to the east of the northbound bus stop, and enhance landscaping, where feasible, in between driveway locations. Similar to FEIR Option 1, the Modified Gateway Design retains parking on the eastside of Masonic Avenue in this segment, or approximately 3 parking spaces.

In this Segment (Hayes Street to Grove Street), the Modified Project Boulevard Design adds a center landscape median along the entire block, while the Modified Project Gateway Design adds a short median leading to the Grove Street intersection.

Segment 3: Grove Street to Anza/O'Farrell Streets:

FEIR Option 1: Similar to Segment 2 above (Class II bike lanes in each direction a center turn lane, and removal of one vehicle travel lane in each direction, retaining the rotating peak-period towaway lane.)

FEIR Option 2: Similar to Segment 2 above (Weekday bus-only/bike-only lane, removal of peak-period towaway travel lanes, and removal of parking on both sides of the street.)

Similar to the above Segment 2 discussion, as compared to the two FEIR Options, the Modified Project Boulevard Design and Modified Project Gateway Design would be similar to the operating conditions of the FEIR Option 2, which removes parking and the peak-hour tow-away lane, retaining two travel lanes, with the exception that the Modified Project Boulevard design would not provide a transit-only lane in each direction. The Modified Project Designs would provide one additional travel lane as compared to FEIR Option 1 which retains one directional peak hour travel/towaway lane (three total vehicle lanes during the peak hours). FEIR Option 2 identified approximately 107 parking spaces would be lost in Segment 3. The Modified Project Boulevard Design would have similar parking removal as FEIR Option 2 for this segment, while the Modified Project Gateway Design would retain some (approximately 55), but not all of the parking spaces along the east side of Masonic Avenue. The Modified Project Boulevard Design and Modified Project Gateway Design would also add corner bulbouts at all the intersections (Grove Street, Fulton Street, McAllister Street, Golden Gate Avenue, Turk Street, Ewing Terrace, and O'Farrell/Anza Streets) in this segment. Left turns from Masonic Avenue onto O'Farrell and Anza Streets would continue to be permitted. Additionally, both Modified Project designs would enhance bus stops on Masonic Avenue by installing transit bulbs at the existing stop locations: northbound nearside of Fulton Street, northbound nearside of Golden Gate Avenue, northbound farside of Turk Street, southbound nearside of Turk Street, westbound farside on Turk Street and southbound farside of Golden Gate Avenue and at the relocated southbound farside at Fulton Street, proposed to be relocated as part of the Modified Project designs.

Both Modified Project designs further place the bicycle lane to the east of this enhanced northbound bus stops and add landscaping, where feasible, to both sides of the street in between driveway locations and other existing plantings. In the southbound direction the southbound bike lane in both Modified Project designs, shares the bus zone/bike lane at the bus stops, similar to the FEIR Option 1 design at bus stops.

In this Segment (Grove Street to O'Farrell/Anza Streets), the Modified Project Boulevard Design adds a center landscape median along the entire distance (approximately 6 blocks) of this segment, except at intersection locations. The Modified Project Gateway Design adds shorter center landscaped medians just north of the Grove Street intersection, through the McAllister Street intersection, leading to the Ewing Terrace and O'Farrell Street/Anza Street intersection. For both Modified Project designs most of the existing permitted vehicle movements would not change, with the exception of the left turn movement from McAllister Street onto southbound Masonic Avenue, which is currently permitted, would be prohibited by the placement of the center median in both Modified Project designs.

Of note in this segment, since the certification of the FEIR, the retail project (Target) east of Masonic Avenue at Geary Boulevard was approved and this proposal includes some transportation improvements, namely: 1) an upgrade and optimization of the signal at Masonic Avenue and Anza/O'Farrell Streets; and 2) signalization of the intersection of Ewing Terrace and Masonic Avenue (now 1-way stop-controlled from Ewing Terrace). These improvements are being implemented separate from the Project 3-2 of the Bicycle Plan, and would not substantially alter the operating conditions on Masonic Avenue.

Segment 4: O'Farrell Street/Anza Street to Geary Boulevard:

FEIR Option 1: Install Class II bicycle lanes in both directions by removing a travel lane in one direction and one parking lane (approximately 15 parking spaces). Extend the right-turn only lane onto Geary Boulevard.

FEIR Option 2: Install Class II bicycle lanes in both directions, by removing parking on both sides of the street (approximately 25 parking spaces). This option keeps one additional travel lane in the southbound of this segment.

As compared to the two FEIR Options, the Modified Project Boulevard Design and Modified Project Gateway Design would be similar to the operating conditions of the FEIR Option 1 with two lanes of travel in both directions and retaining the existing right- and left-turn pockets at Geary Boulevard and at O'Farrell/Anza Street. The turning movements at the two traffic signals on the Masonic Avenue overpass and Geary Boulevard on- and off-ramps would remain the same, including the northbound left turn pocket onto Geary Boulevard from Masonic Avenue and southbound left turns from Masonic Avenue onto the Geary Boulevard on-ramp would remain unpermitted. Unlike FEIR Option 1, both Modified Project Designs would include expanding the pedestrian plaza on the southwest corner of the Masonic Avenue/Geary Boulevard, limiting traffic on this portion of Masonic Avenue to local vehicle and loading traffic, as shown in Figure 4, and removing approximately 10 parking spaces. Other traffic movements including the left turn lanes on the Masonic Avenue overpass on The Modified Project Boulevard Design would have separated bicycle path just west of the bus zone, then grade-separated bicycle lane west of the southbound travel lane and similarly a bicycle lane east of the vehicle travel lanes in the northbound direction. The Modified Project Gateway Option, would have a southbound bicycle lane just west of the vehicle lane, and in the northbound direction a bicycle lane that transitions from east of the travel lanes to between the vehicle thru lanes and right-turn lane at Geary Boulevard. In this Segment, there is an existing center landscaped median which would be expanded to the south for the Modified Project Boulevard Design, and would not change for the Modified Project Gateway Design. For both Modified Project designs the existing permitted vehicle movements would not change. As mentioned above, the left-turn movement/pocket onto O'Farrell Street from Masonic Avenue would not change under this project.

ANALYSIS OF POTENTIAL ENVIRONMENTAL EFFECTS

San Francisco Administrative Code Section 31.19(c)(1) states that a Modified Project must be reevaluated and that "If, on the basis of such reevaluation, the Environmental Review Officer determines, based on the requirements of CEQA, that no additional environmental review is necessary, this determination and the reasons therefore shall be noted in writing in the case record, and no further evaluation shall be required by this Chapter."

CEQA Guidelines Section 15164 provides for the use of an addendum to document the basis of a lead agency's decision not to require a Subsequent or Supplemental EIR for a project that is already adequately covered in an existing certified EIR. The lead agency's decision to use an addendum must be supported by substantial evidence that the conditions that would trigger the preparation of a Subsequent EIR, as provided in CEQA Guidelines Section 15162, are not present.

The Initial Study and the FEIR for the Bicycle Plan evaluated the potential impacts of construction and operation of Project 3-2's two options and found that, with implementation of mitigation measures, both options would result in project-specific and cumulative significant and unavoidable operational impacts to traffic and transit service. All other Project 3-2 impacts were determined to be less than significant with mitigation incorporated as part of the overall Bicycle Plan program.

Since certification of the EIR, no changes have occurred in the circumstances under which the original Project 3-2 options or the project as currently proposed would be implemented, that would change the severity of the project's physical impacts as explained herein, and no new information has emerged that would materially change the analyses or conclusions set forth in the FEIR.

Further, proposed modifications and design refinements to Project 3-2, as demonstrated below, would not result in any new significant environmental impacts, substantial increases in the significance of previously identified effects, or necessitate implementation of additional or considerably different mitigation measures than those identified in the EIR. The effects of the Modified Project would be substantially the same as, and in some cases less than, those reported for Project 3-2 in the Bicycle Plan FEIR. The following discussion provides the basis for this conclusion.

Transportation

Traffic

An intersection Level of Service (LOS) analysis was prepared for the Modified Project design and is summarized below.² Similar to the Bicycle Plan FEIR, this Addendum includes an LOS evaluation for Existing, Existing-plus-Project, 2025 Cumulative, and 2025 Cumulative-plus-Project for the Modified Project designs (Boulevard and Gateway) as provided in **Table 1** through **Table 4** below. The analysis from the Bicycle Plan FEIR and the new analysis presented in this Addendum combined, present existing and cumulative conditions for signalized intersections along the Masonic Avenue corridor between Fell Street and Geary Boulevard. The combined analyses are presented in order to demonstrate that the Modified Project designs would not result in significant traffic impacts that were not previously identified in the Bicycle Plan FEIR.

LOS is a qualitative description of the performance of an intersection based on the average delay per vehicle. Intersection levels of service range from LOS A, which indicates free flow or excellent conditions with short delays, to LOS F, which indicates congested or overloaded conditions with extremely long delays. In San Francisco, LOS A through D are considered satisfactory service levels and LOS E and F conditions are considered unsatisfactory service levels.

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² SFMTA, 2011/2012. See Appendix A of this document for detailed Level of Service calculations.

Four study intersections along Masonic Avenue were analyzed in the Bicycle Plan FEIR (Masonic Avenue/Fell Street, Masonic Avenue/Fulton Street, Masonic Avenue/Turk Street, Masonic Avenue/Geary Boulevard), with two of those intersections (Masonic Avenue/Fulton Street and Masonic Avenue/Turk Street) analyzed for both the AM and PM peak hours. One additional intersection, Masonic Avenue/O'Farrell Street/Anza Street was added for this analysis for the PM peak hour. Considering the AM peak hour analysis first, for Segment 3, which includes the intersections of Masonic Avenue/Fulton Street and Masonic Avenue/Turk Street, the Modified Project Boulevard Design and Modified Project Gateway Design would be similar to the operating conditions of FEIR Option 2 during the weekday daytime hours, which removes parking and the peak-hour tow-away lane, retaining two travel lanes and a transit-only lane in each direction during the daytime weekday hours; and would improve upon the operating conditions of FEIR Option 1, which removes a travel lane in both directions (leaving two travel lanes in the peak hour direction and one travel lane in the non-peak direction). Since the primary differences in two Modified Project designs are the location and length of the center landscaped medians and the design of the bicycle lanes, traffic conditions under the two Modified Project designs operate the same at all studied intersections, Therefore, as shown in Tables 1 through 4, below, the Modified Project Options (Boulevard or Gateway) LOS are presented together for the discussion of the two intersections modeled for the AM peak hour, as compared to the Bicycle Plan FEIR Options. The LOS analysis for the PM peak hour follows, and similarly the Modified Project Options (Boulevard or Gateway) LOS are presented together, as compared to the Bicycle Plan FEIR Options. Cumulative and 2025 Cumulative-Plus-Project scenarios for the Modified Project are presented in Tables 2 and 4 on the following pages.

TABLE 1 WEEKDAY AM PEAK HOUR INTERSECTION OPERATING CONDITIONS EXISTING-PLUS-(MODIFIED) PROJECTS & FEIR BICYCLE PLAN PROJECT 3-2 OPTIONS

	Existing	3 AM	FEIR O _I	otion 1	FEIR Op	tion 2	Modified Project	
Intersection ^a	Average Delay ^b LOS		Average Delay	LOS	Average Delay	LOS	Average Delay	LOS
59. Masonic Avenue/Turk Street	19.8	В	28.1	С	22.8	С	25.8	С
60. Masonic Avenue/Fulton Street	16.1	В	22.0	С	18.6	В	19.7	В

Sources: Wilbur Smith Associates, October 2008; San Francisco Planning Department 2009 and 2010, SFMTA, 2011/2012.

As illustrated in Table 1, average vehicle delays are slightly higher than FEIR Option 2, and lower than FEIR Option 1, and overall the AM peak hour LOS associated with the Modified Project designs (Boulevard or Gateway) do not substantially differ from the LOS reported in the FEIR for the weekday AM peak hour for Project 3-2, Options 1 or 2.

SAN FRANCISCO PLANNING DEPARTMENT

a. Intersection numbering reflects that presented in Bicycle Plan FEIR.

b. Average Delay in seconds per vehicle.

TABLE 2 WEEKDAY AM PEAK HOUR INTERSECTION OPERATING CONDITIONS 2025 CUMULATIVE AND 2025 CUMULATIVE PLUS (MODIFIED) PROJECTS & BICYCLE PLAN PROJECT 3-2 OPTIONS

	2025 C	umula	tive	Cumul Op	ative + otion 1	EIR	Cumul Op	ative + otion 2		Cumulative + Modified Project Designs		
Intersectiona	Average Delay ^b	v/c ^c	LOS	Average Delay	v/c ^c	LOS	Average Delay	v/c ^c	LOS	Average Delay	v/c ^c	LOS
59. Masonic Avenue/ Turk Street	>80	1.32	F	>80	1.92	F	>80	1.38	F	>80	1.57	F
60. Masonic Avenue/ Fulton Street	58.3	-	E	>80 1.58 F		F	>80 1.21 F		>80	1.24	F	

Sources: Wilbur Smith Associates, October 2008; San Francisco Planning Department 2009 and 2010.

- a. Intersection numbering reflects that presented in Bicycle Plan FEIR.
- b. Intersections operating at LOS E or LOS F (unacceptable) conditions highlighted in bold.
- c. v/c = volume to capacity ratio, and is reported for intersections operating at LOS F conditions.

Similarly for the AM peak hour LOS, 2025 Cumulative plus Project conditions, Table 2 demonstrates that the Modified Project designs, in combination with traffic growth assumed to occur through the year 2025, would not substantially differ from the LOS findings reported in the FEIR for Project 3-2, which identified significant 2025 Cumulative Plus Project impacts at the intersections of Masonic Avenue/Turk Street (TR-P3-2a & TR-P3-2b) and Masonic Avenue/Fulton Street (TR-P3-2c & TR-P3-2d) during the AM peak hour for FEIR Option 1 and FEIR Option 2, respectively. No feasible mitigation measures were identified for these impacts, therefore both remained as significant and unavoidable impacts in the FEIR. The Modified Project (Boulevard or Gateway designs) would not worsen the LOS or impacts identified at these intersections during the AM peak hour in the Bicycle Plan FEIR.

TABLE 3
WEEKDAY PM PEAK HOUR INTERSECTION OPERATING CONDITIONS
EXISTING-PLUS-(MODIFIED) PROJECTS & BICYCLE PLAN PROJECT 3-2 OPTIONS

	Existin	g PM	EIR Op	tion 1	EIR Opti	ion 2	Modified Project Designs	
Intersection ^a	Average Delay	LOS	Average Delay	LOS	Average Delay	LOS	Average Delay	LOS
43. Masonic Avenue/Fell Street	24.6	С	68.7	E	55.4	E	22.1	С
44. Masonic Avenue/ Geary Boulevard	38.2	D	48.4	D	38.2	D	48.4	D
59. Masonic Avenue/ Turk Street	19.5	В	47.6	D	20.8	С	23.3	С
60. Masonic Avenue & Fulton Street	15.8	В	28.0	С	18.6	В	21.9	С
Masonic Avenue & O'Farrell/Anza Streets ^c	14.1	В	N/A ^c	N/A	N/A	N/A	19.5	В

Sources: Wilbur Smith Associates, October 2008; San Francisco Planning Department 2009 and 2010, SFMTA, 2011.

- a. Intersection numbering reflects that presented in Bicycle Plan FEIR.
- b. Average Delay in seconds per vehicle.
- c. Intersection was not analyzed as part of the Bicycle Plan EIR, but added for this analysis.

As illustrated in Table 3, the PM peak hour LOS associated with the Modified Project designs (Boulevard or Gateway) are similar to Existing PM peak conditions at Masonic Avenue/O'Farrell/Anza Streets and Masonic Avenue/Fell Street (actually improving on its operation through the addition of an additional southbound right-turn pocket onto Fell Street). At the Masonic Avenue/Geary Boulevard intersections, project conditions are similar to Project 3-2 FEIR Option 1, and at Masonic Avenue/Turk Street and Masonic Avenue/Fulton Street are in between the FEIR Option 1 and Option 2 PM peak LOS operating conditions. The Bicycle Plan FEIR identified significant unavoidable impacts (TR-P3-2e and TR-P3-2f for Project 3-2 Options 1 and 2, respectively) at Masonic Avenue/Fell Street during the PM peak hour, which the Modified Project designs (both Boulevard and Gateway designs) would avoid since LOS operating conditions under the Modified Project would remain acceptable. The Bicycle Plan FEIR identified one mitigation measure (M-TR-P3-2f) for the FEIR Option 2 impact which, by adding four seconds of green time to the northbound and southbound Masonic Avenue directions reduced the impact to a less than significant level. This mitigation measure would not be required under the Modified Project Designs (Boulevard and Gateway) due to acceptable operating conditions at Masonic Avenue and Fell Street, however would be implemented as part of the Bicycle Plan FEIR.

LOS operating conditions under the Modified Project designs during the PM peak hour at the other intersections would be similar to or better than the operating conditions presented for the Bicycle Plan FEIR Options and would remain at acceptable (LOS A-D) operating conditions.

TABLE 4
WEEKDAY PM PEAK HOUR INTERSECTION OPERATING CONDITIONS
2025 CUMULATIVE AND 2025 CUMULATIVE PLUS (MODIFIED) PROJECTS
& BICYCLE PLAN PROJECT 3-2 OPTIONS

	202 Cumula		Cumula FEIR Op		Cumula FEIR Op		Cumulative + Modified Project Designs	
Intersection ^a	Average Delay	LOS	Average Delay	LOS	Average Delay	LOS	Average Delay	LOS
43. Masonic Avenue/Fell Street	27.7 C		78.3 E		64.2	E	24.4	С
44. Masonic Avenue/Geary Boulevard	41.8	D	68.7	E	41.8	D	68.7	Е
59. Masonic Avenue/Turk Street	26.8	С	>80	F	31.0	С	36.0	D
60. Masonic Avenue/Fulton Street	23.1	С	47.0	D	26.6	С	31.9	С
Masonic Avenue & O'Farrell/Anza Streets ^c	27.5	С	N/A ^c	N/A	N/A	N/A	44.2	D

Sources: Wilbur Smith Associates, October 2008; San Francisco Planning Department 2009 and 2010, SFMTA, 2011.

- a. Intersection numbering reflects that presented in Bicycle Plan FEIR.
- b. Intersections operating at LOS E or LOS F (unacceptable) conditions highlighted in bold.
- c. Intersection was not analyzed as part of the Bicycle Plan EIR, but added for this analysis.

Similarly, as illustrated in Table 4, the PM peak hour LOS associated with the Modified Project designs (Boulevard or Gateway) under the 2025 Project plus Cumulative conditions are similar to existing conditions at Masonic Avenue/Fell Street (actually improving on its operation through the addition of another southbound right-turn pocket), are similar to Project 3-2 FEIR Option 1 at Masonic Avenue/Geary Boulevard, and are similar to the FEIR Options PM peak LOS operating conditions at Masonic

Avenue/Turk Street and Masonic Avenue/Fulton Street. Similar to the other intersections, Masonic Avenue/O'Farrell/Anza Street intersection vehicle delay increases under Cumulative plus Modified Project design conditions, however operations would remain at acceptable (LOS A-D) operating conditions.

As shown in Table 4, the Bicycle Plan FEIR identified several significant unavoidable cumulative impacts during the PM peak hour, including for FEIR Option 1 Impact, TR-P3-2g at Masonic Avenue/Fell Street (where LOS degrades from LOS C to LOS E); Impact TR-P3-2i at Masonic Avenue/Geary Boulevard (under FEIR Option 1 degrades from LOS D to LOS E); and Impact TR-P3-2j at Masonic Avenue/Turk Street (under FEIR Option 1 degrades from LOS C to LOS F). One mitigation measure (M-TR-P3-2j) was identified for the impact to the intersection of Masonic Avenue/Turk Street, in which the addition of 10 seconds of green time to the northbound Masonic Avenue direction would improve conditions, but not to a less than significant level, therefore the FEIR Option 1 cumulative impact at Masonic Avenue/Turk Street during the PM peak hour remained significant and unavoidable. Project 3-2 FEIR Option 2 identified one significant cumulative impact at Masonic Avenue/Fell Street during the PM peak hour, but avoided other cumulative traffic impacts during the PM peak hour that were identified under FEIR Option 1. Outside of the one mitigation measure discussed above, no other feasible mitigation measures for the cumulative impacts were identified in the FEIR. The Modified Project designs (Boulevard and Gateway) avoid the significant impacts identified in the Bicycle Plan FEIR at the intersections of Masonic Avenue/Fell Street, and Masonic Avenue/Turk Street, and retain the significant impact identified in the FEIR under Option 1 at Masonic Avenue/Geary Boulevard. However, as shown in Table 4, the delay and LOS under the Modified Project designs would be similar to and not worse than conditions (LOS E at Masonic Avenue/Geary Boulevard) analyzed in the Bicycle Plan FEIR for Project 3-2. Although the Modified Project designs would have a less-than-significant impact at the Masonic Avenue/Turk Street intersection, Mitigation Measure M-TR-P32j would be implemented as part of the Bicycle Plan FEIR, to add an addition 10 seconds of green time to the northbound Masonic Avenue direction and further improve acceptable operating conditions.

As previously discussed, the retail development east of Masonic Avenue at Geary Boulevard would including transportation improvements, namely upgrading the signal and signal timing at Masonic Avenue/O'Farrell Street and signalizing the intersection of Masonic Avenue and Ewing Terrace, that are separate from Project 3-2 and its modified design. Neither modified designs would conflict, impede or be affected by these transportation improvements, and operations at these intersections would likely improve following these improvements.

In conclusion, the Modified Project Boulevard design and the Modified Project Gateway design would result in similar LOS as reported in the FEIR for Options 1 and 2 during the AM peak hour under Existing-plus-Project and 2025 Cumulative plus Project operating conditions, retaining a significant and unavoidable cumulative impacts at the intersections of Masonic Avenue/Turk Street and Masonic Avenue/Fulton Street (TR-P3-2a through TR-P3-2c). During the PM peak hour, the Modified Project designs would reduce the Existing plus Project impacts identified in the FEIR at Masonic Avenue/Fell Street. Similarly under the 2025 Cumulative plus Project PM peak hour conditions, the Modified Project designs would reduce the significant cumulative traffic impacts identified in the FEIR for the Masonic Avenue/Fell Street and Masonic Avenue/Turk Street intersections and would be similar to (significant and unavoidable) the significant cumulative traffic impact identified in the FIER for Masonic Avenue/Geary Boulevard. The Modified Project would not result in a substantial increase in the significance of the average delay or operation at study intersections or other intersections along the project corridor; nor would the Modified Project designs contribute considerably to cumulative effects

that were not already accounted for in the certified Bicycle Plan FEIR. Overall, Modified Project's traffic impacts, similar to the findings reached in the FEIR, would be "potentially significant and unavoidable" (retaining the impacts at Masonic Avenue/Turk Street (AM peak hour); Masonic Avenue/Fulton Street (AM peak hour); and Masonic Avenue/Geary Boulevard, as presented on Matrix 1.2, Summary of Project Level Impacts, on FEIR pg. V.A.3-628.

Transit

As presented in the FEIR, Muni route 43 Masonic runs in both directions on this segment of Masonic Avenue with approximately six buses per hour each way during the peak periods, with two nearside stops and three farside stops for both northbound and southbound directions. In the Bicycle Plan FEIR, Option 1, reducing travel lanes in both directions (in particular to one lane northbound in the PM peak hour), added 6.4 minutes of delay for the northbound direction and 27 seconds of delay in the southbound direction during the PM peak hour under Existing plus Project conditions, resulting in a significant transit delay impact (TR-P3-2m) to the 43 Masonic line in the northbound direction during the PM peak hour. Similarly the FEIR identified a Cumulative transit delay impact (TR-P3-2n) for 43 Masonic in the northbound direction PM peak hour for Option 1 under Cumulative plus Project conditions. No feasible mitigation measures were identified for these two significant FEIR Option 1 project-related transit delay impacts, and they remained significant and unavoidable. FEIR Option 2, by providing a transit/bicycle only lane avoided these significant transit delay impacts.

The Modified Project Boulevard and Gateway design, while not having a dedicated transit lane (as under FEIR Option 2), would retain two travel lanes in both directions during both the AM and PM peak periods. This would represent one additional travel lane in the northbound direction during the PM peak period as compared to FEIR Option 1. Therefore the delay to the 43 Masonic northbound direction during the PM peak hour would improve over FEIR Option 1 in the northbound direction, being similar to Existing Conditions reported in the FEIR for both Modified Options, and would reduce the impact to a less-than-significant level under the Modified Project designs for the 43 Masonic northbound. Similar to FEIR Option 1 and 2, the project-related transit impact to the 43 southbound under both Modified Project designs would remain less-than-significant. The Modified Project designs install enhanced bus stops (transit bulbs) at all existing bus stops which decrease operational delays (that result from buses pulling in and out of traffic), and relocates one southbound bus stop at Fulton Street from the near side to the farside of the intersection, also reducing transit delay. The Modified Project designs, by retaining two travel lanes in each direction, would also improve upon the less than significant delays analyzed for both FIER Option 1 and Option 2 for the 31BX Balboa 'B' Express route. Other elements of the Modified Project designs (center landscaped median, pedestrian bulbouts, and an improved pedestrian plaza at Geary Boulevard) would not substantially alter transit operations along Masonic Avenue, and similar elements were analyzed in the Bicycle Plan FEIR.

Similarly, under Cumulative conditions, the Modified Project designs would improve the operation of the 43 Masonic northbound over FEIR Option 1 such that the delay to transit vehicles would be similar to that experienced without the project under Cumulative conditions, and for both Modified Project designs would therefore reduce the significant cumulative impact identified in the FEIR to a less-than-significant level for the 43 northbound under the Modified Project designs. Similarly, the Modified Project designs transit delay, by retaining two travel lanes in each direction, would be similar to or improve upon the less-than-significant cumulative transit delays analyzed for both FEIR Option 1 and Option 2 for the 31BX Balboa 'B' Express route.

Pedestrians

The Modified Project designs (Boulevard and Gateway) would improve the pedestrian conditions along Masonic Avenue as compared to FEIR Options 1 and 2, through the addition of wider sidewalks, additional landscaping, transit bulbs, pedestrian corner bulbs and the improved pedestrian plaza at Geary Boulevard. Similar to the findings in the FEIR, pedestrian impacts would be less than significant with implementation of the Modified Project designs.

Bicycle

The Modified Project designs would improve upon the time/day limited bicycle lanes included in FEIR Options 1 and 2. Instead the Modified Project designs would provide grade separated or Class II bike lanes along both northbound and southbound Masonic Avenue between Fell Street and Geary Boulevard. Similar to both Options 1 and 2 analyzed in the FEIR, the Modified Project designs could have a beneficial effect of improving roadway conditions and safety for bicyclists, would not adversely affect bicycle operations in the project vicinity.

Parking

This parking discussion for the Modified Project designs supplements the parking conditions in the Bicycle Plan FEIR pp. V.A.3, 386-387 for Project 3-2, which indicate that under Existing Conditions (non-peak hours) there are 150 parking spaces along Masonic Avenue between Fell Street and Geary Boulevard. FEIR Option 1 permanently removes an estimated 15 parking spaces along the corridor. FEIR Option 2 permanently removed 27 on-street spaces, and temporarily (weekdays 7 a.m. to 6 p.m.) removed 115 parking spaces. The Modified Project designs (both Boulevard and Gateway designs) through the removal of the peak period towaway lanes (which is parking during the off-peak periods) results in more permanent removal of parking described as temporarily removed under FEIR Option 2. Parking removal and conditions for each of the Masonic Avenue roadway segments, similar to those discussed in the FEIR, would be as follows.

<u>Segment 1: Fell Street to Hayes Street:</u> As compared to the two FEIR Options, the Modified Project Boulevard Design and Modified Project Gateway Design would retain one additional travel lane in the southbound direction and remove parking on both sides of the street, or approximately five additional parking spaces more than the FEIR analysis.

Segment 2: Hayes Street to Grove Street: As compared to the two FEIR Options, the Modified Project Boulevard Design and Modified Project Gateway Design would be similar to the operating conditions of the FEIR Option 2 during the weekday daytime hours, and would remove 14 parking spaces permanently (not just from 7 am – 6 pm on weekdays as discussed under FEIR Option 2). Similar to FEIR Option 1, the Modified Gateway Design retains parking on the eastside of Masonic Avenue in this segment, or approximately 3 parking spaces.

Segment 3: Grove Street to Anza/O'Farrell Streets: Similar to the Segment 2 discussion, as compared to the FEIR Option 1 and 2, the Modified Project Boulevard Design and Modified Project Gateway Design would be similar to the operating conditions of the FEIR Option 2 during the weekday daytime hours, which temporarily (between the hours of 7 a.m. and 6 p.m.) would remove 107 parking spaces. The Modified Project Boulevard Design would have similar parking removal as FEIR Option 2 for this segment, but on a more permanent basis (not just weekdays 7 a.m. to 6 p.m.) while the Modified Project Gateway Design would retain some (approximately 55), but not all parking spaces along the east side of Masonic Avenue.

<u>Segment 4: O'Farrell Street/Anza Street to Geary Boulevard:</u> FEIR Option 1 in this section would remove parking lane (approximately 15 parking spaces, while FEIR Option 2 would remove parking on both sides of the street (approximately 25 parking spaces). The Modified Project designs would be similar to FEIR Option 2, removing 25 parking spaces, plus would remove approximately 10 additional parking spaces for the redesigned pedestrian plaza just west of Masonic Avenue and Geary Boulevard.

In total the Modified Project Boulevard design would remove most if not all of the 150 parking spaces along Masonic Avenue, including 10 additional parking spaces along the redesigned pedestrian plaza at Geary Boulevard and Masonic Avenue. The Modified Project Gateway design would remove all onstreet parking on the west side of Masonic Avenue retaining some parking, approximately 58 parking spaces, along the east side of Masonic Avenue. The Modified Project Gateway design would have similar removal of approximately 10 parking spaces related to the pedestrian plaza redesign.

Consistent with the findings reported in the FEIR and presented here for informational purposes, implementation of the Modified Project designs would increase parking demand in the area. San Francisco does not consider parking supply as part of the permanent physical environment. Parking conditions are not static, as parking supply and demand varies from day to day, from day to night, from month to month, etc. Hence, the availability of parking spaces (or lack thereof) is not a permanent physical condition, but changes over time as people change their modes and patterns of travel.

Parking deficits are considered to be social effects, rather than impacts on the physical environment as defined by CEQA. Under CEQA, a project's social impacts need not be treated as significant impacts on the environment. Environmental documents should, however, address the secondary physical impacts that could be triggered by a social impact (CEQA Guidelines § 15131(a).). The social inconvenience of parking deficits, such as having to hunt for scarce parking spaces, is not an environmental impact, but there may be secondary physical environmental impacts, such as increased traffic congestion at intersections, air quality impacts, safety impacts, or noise impacts caused by congestion. In the experience of San Francisco transportation planners, however, the absence of a ready supply of parking spaces, combined with available alternatives to auto travel (e.g., transit service, taxis, bicycles or travel by foot) and a relatively dense pattern of urban development, induces many drivers to seek and find alternative parking facilities, shift to other modes of travel, or change their overall travel habits. Any such resulting shifts to transit service in particular, would be in keeping with the City's "Transit First" policy. The City's Transit First Policy, established in the City's Charter Section 8A.115 provides that "parking policies for areas well served by public transit shall be designed to encourage travel by public transportation and alternative transportation."

The transportation analysis accounts for potential secondary effects, such as cars circling and looking for a parking space in areas of limited parking supply, by assuming that all drivers would attempt to find parking at or near the project site and then seek parking farther away if convenient parking is unavailable. Moreover, the secondary effects of drivers searching for parking is typically offset by a reduction in vehicle trips due to others who are aware of constrained parking conditions in a given area. Hence, any secondary environmental impacts which may result from a shortfall in parking in the vicinity of the Modified Project would be minor, and the traffic assignments used in the transportation analysis, as well as in the associated air quality, noise and pedestrian safety analyses, reasonably addresses potential secondary effects.

Loading

As described in the FEIR, page V.A.3-388, the project area consists of predominantly residential uses, with some institutional and retail use along Masonic Avenue. Commercial loading along Masonic Avenue typically occurs on side streets, or within off-street parking areas. There was one on-street commercial loading zone near Hayes Street reported in the FEIR, which under FEIR Option 2 would be removed during daytime hours (7 a.m. – 6 p.m.). Under both Modified Project designs this commercial parking space would be removed (not just weekdays 7 a.m. to 6 p.m as under FEIR Option 2.). Under the Modified Project Gateway Design, some general parking would remain along the east side of Masonic Avenue which could be used for commercial parking, while under Modified Project Boulevard Design parking would be removed. Therefore, under the Modified Project designs commercial loading would more likely utilize side streets. This, similar to the conclusion reached in the FEIR for Project 3-2, would be considered a less-than-significant loading impact associated with implementation of the project as modified.

FEIR Mitigation Measures

As discussed above, and shown in Table 5: Bicycle Plan FEIR Project 3-2 Options 1 & 2 and Modified Project Designs Impacts and Mitigation Measures, the Bicycle Plan FEIR identified transportation impacts and two mitigation measures for Project 3-2, including:

TABLE 5
BICYCLE PLAN FEIR PROJECT 3-2 OPTIONS AND MODIFIED PROJECT DESIGNS
SUMMARY OF IMPACTS & MITIGATION MEASURES

Bicycle Plan FEIR Significant Impacts	FEIR Mitigation Measure	Level of Significance with Mitigation	Modified Project 3-2 Level of Significance
TR-P3-2a: FEIR Option 1 Cumulative (2025) plus Project impact under at Masonic Avenue/Turk Street operating at LOS F during AM peak hour.	No feasible mitigation identified.	SUI	SUI: Intersection operates at LOS F during AM peak hour under Cumulative Conditions with Modified Project designs.
TR-P3-2b: FEIR Option 2 Cumulative (2025) plus Project impact at Masonic Avenue/Turk Street operating at LOS F during AM peak hour.	No feasible mitigation identified.	SUI	SUI: Intersection operates at LOS F during AM peak hour under Cumulative Conditions with Modified Project designs.
TR-P3-2c: FEIR Option 1 Cumulative (2025) plus Project impact at Masonic Avenue/Fulton Street operating at LOS F during AM peak hour.	No feasible mitigation identified.	SUI	SUI: Intersection operates at LOS F during AM peak hour under Cumulative Conditions with Modified Project designs.
TR-P3-2d: FEIR Option 2 Cumulative (2025) plus Project impact at Masonic Avenue/Fulton Street operating at LOS F during AM peak hour.	No feasible mitigation identified.	SUI	SUI: Intersection operates at LOS F during AM peak hour under Cumulative Conditions with Modified Project designs.
TR-P3-2e: FEIR Option 1 Existing plus Project impact at Masonic Avenue/Fell Street operating at LOS E during the PM peak hour.	No feasible mitigation identified.	SUI	LTS: Intersection operation improves to LOS C during PM peak hour under Existing plus Project conditions with Modified Project designs.
TR-P3-2f: FEIR Option 2 Existing plus Project impact at Masonic Avenue/Fell	M-TR-P3-2f: Add four seconds of green time to	LTS	LTS: Intersection operation improves to LOS C during PM peak hour under

Bicycle Plan FEIR Significant Impacts	FEIR Mitigation Measure	Level of Significance with Mitigation	Modified Project 3-2 Level of Significance
Street operating at LOS E during the PM peak hour.	NB & SB Masonic Avenue movements (and away from Fell Street WB movement).		Existing plus Project conditions with Modified Project designs. Modified Project 3-2 would still implement mitigation measure M-TR-P3-2f to further improve operations.
TR-P3-2g: FEIR Option 1 Cumulative (2025) plus Project impact at Masonic Avenue/Fell Street operating at LOS F during the PM peak hour	No feasible mitigation identified	SUI	LTS: Intersection operation improves to LOS C during PM peak hour under Cumulative plus Project conditions with Modified Project designs.
TR-P3-2h: FEIR Option 2 Cumulative (2025) plus Project impact at Masonic Avenue/Fell Street operating at LOS E during the PM peak hour	No feasible mitigation identified	SUI	LTS: Intersection operation improves to LOS C during PM peak hour under Cumulative plus Project conditions with Modified Project Designs.
TR-P3-2i: FEIR Option 1 Cumulative (2025) plus Project impact at Masonic Avenue/Geary Boulevard operating at LOS E during the PM peak hour	No feasible mitigation identified	SUI	SUI: Intersection operates at LOS E during PM peak hour under Cumulative Conditions with Modified Project designs
TR-P3-2j: FEIR Option 1 Cumulative (2025) plus Project impact at Masonic Avenue/Turk Street operating at LOS F during the PM peak hour	M-TR-P3-2j: Add ten seconds of green time to NB Masonic Avenue direction (and away from Turk Street EB movement	SUI	LTS: Intersection operation improves to LOS D during PM peak hour under Cumulative plus Project conditions with Modified Project designs. Modified Project 3-2 would still implement mitigation measure M-TR-P3-2j to further improve operations.
TR-P3-2m: FEIR Option 1 Existing plus Project transit delay impact for the 43 northbound during the PM peak hour	No feasible mitigation identified	SUI	LTS: Transit delay improves with the Modified Project designs.
TR-P3-2n: FEIR Option 1 Cumulative (2025) plus Project transit delay impact for the 43 northbound during the PM peak hour	No feasible mitigation identified	SUI	LTS: Transit delay improves with the Modified Project designs.

As discussed above in more detail, the mitigation measures address significant traffic and transit impacts for Existing-plus-Project and Project-plus-Cumulative 2025 conditions along the Masonic Avenue project corridor as presented in the CEQA Findings adopted by the Planning Commission and in Table 1 through Table 4 of this Addendum. Most of the mitigation measures indicate no feasible mitigations were available, with the exception of mitigation at intersections (M-TR-P3-2f and M-TR-P3-2j), which could be implemented as part of the Bicycle Plan FEIR, although under Modified Project designs the impact would be reduced to a less-than-significant level.

As discussed above, the Modified Project designs would result in similar or less significant unavoidable traffic impacts as identified in the FEIR for Project 3-2. Significant impacts that are retained, but not made worse, under the Modified Project designs include TR-P3-2c, TR-P3-2d and TR-P3-2i. These impacts were found to be significant and unavoidable, because identified mitigation measures could not be implemented to feasibly reduce impacts to less-than-significant levels while also meeting the primary goals and objectives of the project. In summary, the significance of impacts with the Modified Project designs as indicated for traffic, transit, pedestrians, bicyclists, and loading would generally be the same or less than those described for Project 3-2 Options 1 and 2 reported in the certified FEIR.

Aesthetics

The Modified Project would result in physical changes within the street right-of-way along the project corridor as described in this Addendum's Project Description. In summary, physical changes that may have an effect on the visual setting and aesthetic character of the area include removal of on-street parking, establishment of new bicycle lanes, changes to lane and sidewalk widths, transit bulbs, pedestrian corner bulbs, the proposed median (in sections or along entire corridor), and new landscaping and lighting along the project corridor.

The General Plan indicates that Masonic Avenue is a "Street that Extends the Effect of Public Open Space" as well as a street that is "Important for the Quality of its Views" (General Plan, Urban Design Element, p. I.5.16).

The Modified Project would alter public views currently available from Masonic Avenue, as well as the visual character of the street and its immediate surroundings with the addition of corner bulbouts, pedestrian refuges, street-lighting, street trees along the sidewalks and within a new median, new lane stripping, as well as vehicular and pedestrian signage. The addition of these physical elements to the public realm would not adversely affect the streetscape and would contribute to a greater sense of visual organization associated with their specific functions for pedestrians, bicyclists and motorists than currently exists. For example, bulbouts at corners and the landscaped medians would result in traffic calming and enhanced sight lines for both motorists and pedestrians. Bicycle lanes on the north and south sides of Masonic Avenue would provide a visually delineated path of travel for cyclists as well as for motorists. Trees would add greenery along the edges of the roadway. Trees proposed within the median would contribute to greenery within the roadbed, which is currently characterized primarily by views of large expanses of asphalt. No unique scenic resources would be adversely affected.

Like Project 3-2, FEIR Options 1 and 2, the Modified Project designs would likely include the addition of signs along some of these streets, but such signs would not be excessively large and would not obstruct views or cast perceptible shadows. As described in the Bicycle Plan Initial Study (FEIR Appendix A, p. 54):

"Article 6 of the Planning Code governs signs in the City. Section 603 exempts governmental traffic control signs from the provisions of Article 6. Portions of the Proposed Project would include improvements along designated scenic streets, which are identified in Planning Code Section 608.6. Planning Code Section 608.6 regulates the placement of signs along these designated scenic streets, and states that no general advertising sign and no other sign exceeding 200 square feet in area can be placed along such streets. The Proposed Project would include the addition of street signage. However, any new signs installed as a result of the Proposed Project would be smaller than those regulated under Planning Code Section 608.6. Therefore, there would not be a significant impact with respect to scenic street resources."

The Modified Project's physical features would not affect a scenic vista, nor would it create new sources of substantial light or glare, or cast shadows. Therefore, the Modified Project designs, similar to the Bicycle Plan Initial Study findings, would have no significant impacts with respect to scenic vistas, light, or glare. The project would not affect a "Street that Extends the Effect of Public Open Space" or a street that is "Important for the Quality of its Views" in an adverse or demonstrable manner. Thus, similar to the conclusions reached in the Initial Study for the Bicycle Plan, there would be no significant adverse impacts related to visual character and less-than-significant impact with respect to scenic resources resulting from the project as modified.

Air Quality

The Bicycle Plan FEIR (p. V.B, 22) found that:

"Implementation of the Proposed Project would not result in any new traffic volumes being added to the roadway network; therefore, there would be no change in the intersection volume under project conditions. Hence, intersection volumes stay constant between Existing and Existing plus Project Conditions. Similarly, there is no change in intersection volumes between 2025 Cumulative and 2025 Cumulative plus Project Conditions. However, the reduction of travel lanes at major intersections would increase traffic congestion at some intersections... under Cumulative Plus Project conditions, CO [carbon monoxide] would not exceed the ambient air quality standard and TAC [toxic air contaminants] emissions would be less than existing at all intersections. Therefore implementation and operation of the project would not result in significant adverse air quality impacts."

"Bicycling has no associated emissions and the Proposed Project can reasonably be expected to reduce emissions citywide by shifting a portion of motor vehicle trips to bicycle trips. The Proposed Project could contribute to a new reduction in emissions and thus would have no impact and would not contribute to a cumulative impact... implementation of the Proposed Project does not result in any new automobile trips being added to the roadway network. Under cumulative conditions, with the Proposed Project included, CO and TAC emissions are predicted to decrease."

As illustrated in Table 1 through Table 4 in the Transportation analysis above, the Modified Project Boulevard and Gateway designs would generally be consistent with or improve upon intersection operations at the FEIR study intersections, compared to the delays reported for Project 3-2 Options 1 and 2 in the FEIR. Given the similarity to or reduction of delays expected under Modified Project designs as compared to the Bicycle Plan FEIR traffic analysis, the conclusions reached for the Bicycle Plan Program and Cumulative Conditions in the FEIR in relation to Air Quality impacts would be substantially the same as those for the program that would include the Modified Project. No new or substantially greater air quality impacts would occur.

Archeology

The Initial Study for the Bicycle Plan program determined that the project would have a less-than-significant impact on Archeology, stating on Page 58 of the Initial Study (Appendix A of the Bicycle Plan FEIR):

"The Planning Department found that the Proposed Project may require excavation in places to widen or narrow the roadway in the process of reconfiguring traffic lanes or parking, or to modify, install or remove medians. Excavation would be to a depth no

greater than 24 inches. No project activities were identified that would result in a potential to adversely affect CEQA significant archeological resources."

And Page 59:

"Given the possibility that unanticipated archeological resources may be impacted by the Proposed Project, MEA Standard Archeological Mitigation Measure 1 (Accidental Discovery) will be implemented. With this mitigation measure, the potential of the Proposed Project to affect significant archeological resources would be reduced to a less-than-significant level."

Mitigation Measure 1, from the Bicycle Plan Initial Study, addresses how to treat cultural resources in the case that any are discovered during construction of the Proposed Project. Implementation of Mitigation Measure 1 by the Modified Project designs would similarly be applicable and would reduce potential impacts to archeological resources and human remains to a less-than-significant level.

Water Quality & Runoff

The Initial Study for the Bicycle Plan program determined that the project would have a less-than-significant impact on Hydrology and Water Quality, stating on Page 75 of the Bicycle Plan Initial Study (Appendix A of the Bicycle Plan FEIR):

"The Proposed Project, located within the existing street right-of-way, would not change the amount of impervious surface area substantially, or alter the drainage pattern for the affected streets significantly. There are elements of the Proposed Project that would involve minor excavation and grading; however, the Proposed Project would generally replace paved surfaces with paved surfaces, with the exception of trees along streets and sidewalks. In the case of removed trees, some areas that are currently not paved might be paved over and rendered impervious, adding to stormwater runoff. These effects would be limited to small areas and would not be expected to significantly change runoff patterns."

The Modified Project designs would, consistent with the above description, either replace existing pavement with new pavement, or generally decrease the amount of impervious surface along the Masonic Avenue Corridor by adding in additional permeable landscaping elements. Similarly, although more specific designs of the median elements and pedestrian plaza are included with the Modified Project (Gateway and Boulevard) designs than as described in the Project 3-2 Options analysis in the Bicycle Plan FEIR(pp. IV.B-22 through IV.B-24), the design elements are similar to other projects analyzed in the FEIR, such as Projects 4-4, 5-6, 5-10 and potential elements analyzed under the Long-Term Improvement Projects in the FEIR. During construction, there would be a temporary increase in the potential for erosion and transport of soil particles during any excavation. The Modified Project design construction would be required to comply with all local water quality requirements, including stormwater control measures to reduce potential erosion impacts during construction and runoff would be directed to the City's combined stormwater/wastewater system and would be treated to standards contained in the City's NPDES Permit prior to discharge. Therefore, the Modified Project designs would not substantially degrade hydrology and water quality, and impacts on water quality would be less than significant, consistent with the analysis and conclusions made in the Bicycle Plan FEIR Initial Study.

Other Issues

The Initial Study for the Bicycle Plan program determined that for the following topics, any environmental effects associated with the Program and its individual projects would either be insignificant or would be reduced to a less-than-significant level by implementation of the mitigation measures included in as part of the program: land use, population and housing, noise, air quality, recreation, utilities and service systems, public services, biological resources, geology and soils, hydrology and water quality, hazards and hazardous materials, mineral and energy resources, and agricultural resources. The FEIR did not discuss these issues further. The Initial Study, including the significance conclusions reached therein, remains applicable to the Modified Project designs and all mitigation and improvement measures from the Initial Study and the FEIR would be applied to the Modified Project, as appropriate, unless the impact was reduced to a less-than-significant level, as previously described.

CONCLUSION

Based on the foregoing, the Department concludes that the analyses conducted and the conclusions reached in the FEIR certified on June 25, 2009 remain valid, and that no supplemental environmental review is required for the proposed project modifications. The Modified Project would not cause new significant impacts not identified in the FEIR, or result in a substantial increase in the severity of previously identified significant impacts, and no new mitigation measures would be necessary to reduce significant impacts. No changes have occurred with respect to circumstances surrounding the original project that would cause significant environmental impacts to which the modified Project 3-2 would contribute considerably, and no new information has been put forward which shows that the modified project would cause significant environmental impacts. Therefore, no supplemental environmental review is required beyond this addendum.

I do hereby certify that the above determination has been made pursuant to State and Local requirements.

DATE Jun 28, 2012

Bill Wycko, Environmental Review Officer for John Rahaim, Director of Planning

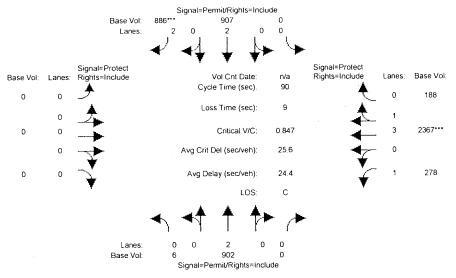
cc: James Shahamiri, San Francisco Municipal Transportation Agency, MTA Livable Streets
Bulletin Board / Master Decision File
Distribution List

APPENDIX A

TRAFFIX OUTPUT INTERSECTION LEVEL OF SERVICE CALCULATIONS

Level Of Service Computation Report 2000 HCM Operations (Base Volume Alternative) Future+Project PM (Mod. Opt 1)

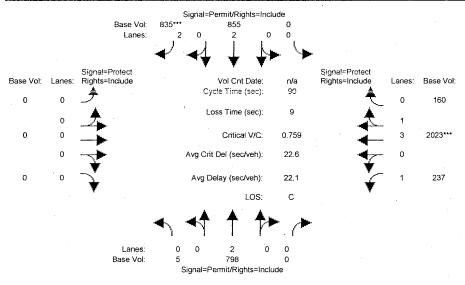
Intersection #43: Masonic/Fell



Movement:	L - T - R			South Bound L - T - R			L -	- T	- R	L -	\mathbf{T}	- R
Min. Green: Y+R:	38 4.0	38 4.0	0 4.0	0 4.0	38 4.0	38 4.0	0 4.0	0 4.0	0 4.0	15 4.0	43 4.0	43
Volume Module	•						1					
Base Vol:	6	902	0	0	907	886	0	0	0		2367	188
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	902	0	0	907	886	0	0	0		2367	188
User Adj:	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
PHF Volume:	6	949	0	0	955	933	0	0	. 0		2492	198
Reduct Vol:	0	0	0	0	0	. 0	. 0		0	_	0	0
Reduced Vol:	6	949	0	0	955		0			293		198
PCE Adj:	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
FinalVolume:	6	949	0		955	933	0	0	0		2492	198
				I		I.						
Saturation F.												
Sat/Lane:		1900	1900			1900		1900	1900			1900
Adjustment:				1.00		0.68		1.00	1.00	0.78		0.82
Lanes:			0.00		2.00	2.00		0.00	0.00	1.00		
Final Sat.:	, 22	3342		0		2599	0		0	1477		491
Capacity Ana				0 00	0 07	0.20	0 00	0.00	0.00	0.20	n 40	0.40
<pre>Vol/Sat: Crit Moves:</pre>	0.28	0.28	0.00	0.00	0.27	0.36 ****	0.00	0.00	0.00	0.20	****	0.40
Green Time:	38.0	38.0	0.0	0.0	38.0	38.0	0.0	0.0	0.0	43.0	43.0	43.0
	0.67		0.00	0.00	0.64	0.85	0.00	0.00	0.00	0.41	0.84	0.84
Delay/Veh:		23.5	0.0	0.0	22.7	31.7	0.0	0.0	0.0	17.1	23.5	23.5
User DelAdj:			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	22.7	31.7	0.0	0.0	0.0	17.1	23.5	23.5
LOS by Move:			А	А	С	С	А	A	А	В	С	С
HCM2kAvgQ:			0	0	io	13	0	0	0	5	21	19
Note: Queue			the n	umber	of ca	rs per	lane	•				

Level Of Service Computation Report 2000 HCM Operations (Base Volume Alternative) Existing+Project PM (Mod. Opt 1)

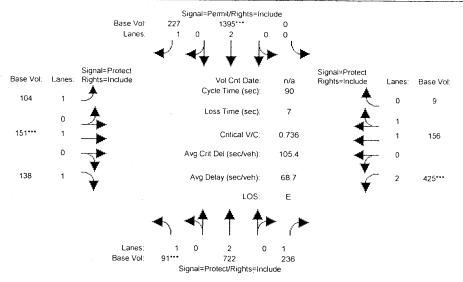
Intersection #43: Masonic/Fell



Approach: Movement:	$\mathbf{F}_{\mathbf{r}}$	- T	- R	L ·	- T	- R	L ·	- T	- R	L ·	- T	- R
Min. Green: Y+R:	38 4.0	38 4.0	0 4.0	0 4.0	38 4.0	38 4.0	0 4.0	0 4.0	0 4.0	15 4.0	43 4.0	43 4.0
Volume Module							Ī		- 1	1		1
Base Vol:	5	798	0	. 0	855	835	0	. 0	. 0	237	2023	160
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:	5	798	0	0	855	835	0	0	0	237	2023	160
User Adj:	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:	5	840	0	0	900	879	0	0	0	249	2129	168
Reduct Vol:	0	. 0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	5	840	0	0	900	879	0	0	0	249	2129	168
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
FinalVolume:			0	0	900	879		. 0	0		2129	168
	•									1		
Saturation F												
		1900		1900		1900		1900	1900		1900	1900
Adjustment:			1.00	1.00		0.68		1.00	1.00		0.88	0.82
Lanes:			0.00	0.00		2.00		0.00	0.00		3.69	0.31
Final Sat.:			Ü		3538.	2599		0	0		6179	489
Capacity Anal						1			1			1
Vol/Sat:			0.00	0 00	0 25	0.34	0 00	0.00	0.00	0 17	0.34	0.34
Crit Moves:	0.25	0.23	0.00	0.00	0.23	****	0.00	0.00	0.00	0.17	****	0.54
,	38.0	38 0	0.0	0 0	38.0	38.0	0.0	0.0	0.0	43.0	43 0	43.0
	0.60		0.00	0.00		0.80	0.00		0.00	0.35		0.72
Uniform Del:			0.0		20.1	22.7	0.0	0.0	0.0	14.8	t	18.7
IncremntDel:		1.8	0.0	0.0		6.2	0.0	0.0	0.0		1.4	1.4
InitQueuDel:			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adi:			0.00	0.00		1.00	0.00		0.00	1.00		1.00
Delay/Veh:			0.0		22.0	28.9	0.0	0.0	0.0	16.2		20.2
User DelAdj:			1.00	1.00		1.00	1.00		1.00	1.00		1.00
AdjDel/Veh:			0.0	0.0		28.9	0.0	0.0	0.0	16.2		20.2
LOS by Move:		C		A		C C	A	Α.	A		C	C
HCM2kAvaO:	10		0	0		12	0		0	4		14
Note: Queue r			_				•	•	9	•		
	F				30	I						

Level Of Service Computation Report 2000 HCM Operations (Base Volume Alternative) Future+Project PM (Mod. Opt 1)

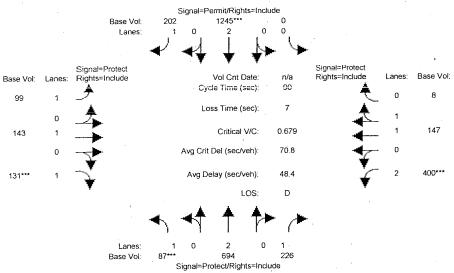
Intersection #44: Masonic/Geary



Approach: Movement:	L	- T	- R	L	- T	- R	L	- T	- R	T.	~ T	- R
Y+R:	19 4.0	56 4.0	,56 4.0	33 4.0	33 4.0	33 4.0	11 4.0	27 4.0	27 4.0	11 4.0	27 4.0	27 4.0
Volume Modul	p.			,-					,			!
Base Vol:	91	722	236	0	1395	227	104	151	138	425	156	9
Growth Adj:	1.00		1.00		1.00	1.00		1.00	1.00		1.00	1.00
Initial Bse:		722	236		1395	227	104	151	138		. 156	9
User Adj:	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
PHF Volume:	96	760	248	0	1468	239	109	159	145		164	9
Reduct Vol:	0	0	0	0	0	0	0	0	0			0
Reduced Vol:			248	0	1468	239	109	159	145	447	164	9
PCE Adj:			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
FinalVolume:			248		1468	239	109		145		164	9
Catalian D												
Saturation F. Sat/Lane:			1000	1000	1000							
	1900		1900		1900	1900		1900	1900		1900	1900
Adjustment: Lanes:	1.00		0.78	1.00		0.83		0.98	0.83		0.92	0.92
Lanes: Final Sat.:			1.00 1477		2.00	1.00		1.00	1.00		1.89	0.11
					3538	1583	1/69	1862	1583	3432	3318	191
Capacity Anal	lvsis	Modul	e:									
Vol/Sat:			0.17	0.00	0.42	0.15	0 06	0 09	. n ng	0 13	0.05	0.05
Crit Moves:	***				***	0.10	0.00	****	0.05	****	0.05	0.03
Green Time:	16.9	49.5	49.5	0.0	32.6	32.6	9.9	24.1	24.1	10.2	24.4	24.4
Volume/Cap:	0.29	0.39	0.31	0.00	1.15	0.42	0.56	0.32	0.34	1.15		0.18
Delay/Veh:	37.4	13.6	13.3	0.0	108	26.5	53.8	31.3	32.1	137.0		28.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00
AdjDel/Veh:	37.4		13.3		108	26.5	53.8	31.3	32.1	137.0		28.7
_				А	F	С	D	С	С	·F	С	С
HCM2kAvgQ:	2		4	0	40	6	4		4	14	2	2
Note: Queue	report	ed is	the n	umber	of ca	rs per	lane.					

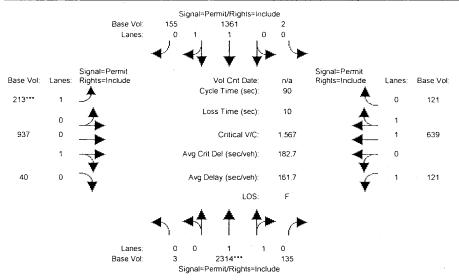
Level Of Service Computation Report 2000 HCM Operations (Base Volume Alternative) Existing+Project PM (Mod. Opt 1)

Intersection #44: Masonic/Geary



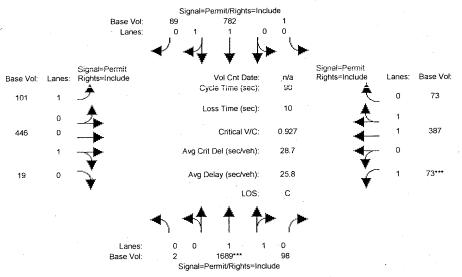
			Olgitar i	1010001109	110.000							
Approach:	No	rt.h Bo	und	Soi	ıth Bo	und	Εā	ast Bo	und	₩e	st Bo	und
Movement:		ייף	_ R	т	- T	- R	T	- Т	- R	L -	- T	- R
	!			1		1	·		!	1		
		56	56	33	33	33	11.	. 27	27	11	27	2.7
Y+R:			4.0				4.0	4.0	4.0	4.0	4.0	4.0
1 TK.	1			1		1						
Volume Module			. 1	1		,	'					
Base Vol:		694	226	0	1245	202	99	143	131	400	147	8
Growth Adj:			1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00
Initial Bse:			226		1245	202	99	143	131	400	147	8
User Adj:	1 00	1 00	1.00	1.00		1.00		1.00	1.00	1.00		1.00
PHF Adj:	1.00	0.05	0.95	0.95		0.95			0.95	0.95		0.95
			238		1311	213	104	151	138	421		8
PHF Volume:						213				421		0
Reduct Vol:	0	0	0	-					138	421		8
Reduced Vol:			238		1311	213	104					1.00
PCE Adj:	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		
FinalVolume:	92	731	238	0	1311	213		151		421		8
Saturation Fl											1000	1000
Sat/Lane:		1900	1900	1900		1900		1900	1900	1900		1900
Adjustment:	0.93	0.93	0.78	1.00		0.83		0.98	0.83	0.90		0.92
Lanes:				0.00	2.00	1.00		1.00	1.00		1.90	0.10
Final Sat.:	1769	3538	1477	0		1583		1862	1583	3432		181
									1	[
Capacity Anal	Lysis	Modul	e:									
Vol/Sat:	0.05	0.21	0.16	0.00		0.13	0.06	0.08	0.09		0.05	0.05
Crit Moves:	****				****				****	****		
Green Time:	16.9	49.1	49.1	0.0	32.1	32.1	10.0	24.1	24.1		24.7	24.7
Volume/Cap:	0.28	0.38	0.30	0.00	1.04	0.38	0.53	0.30		1.04		0.17
Uniform Del:	35.1	13.2	12.5	0.0	32.5	24.1	42.4	29.5	29.7	44.5	27.9	
IncremntDel:		0.6	0.9	0.0	35.6	1.9	9.7	1.6	2.0	54.9	0.4	0.4
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Delay/Veh:				0.0		26.0	52.1	31.1	31.7	99.4	28.3	28.3
User DelAdj:	1 00	1 00	1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	37 1	13 7			68.1		52.1		31.7	99.4	28.3	28.3
LOS by Move:			В	A		20.0 C		C.		F	С	С
HCM2kAvqQ:	2	7		0	30		4		4		2	2
Note: Queue 1	-anort	ted is	the n			rs ner	lane				_	·
Note: Queue i	-ebor	rea 15	CHE II	UIII) G L	OI Ca	TO POI	Tune.	•				

Level Of Service Computation Report 2000 HCM Operations (Base Volume Alternative) Future+Project AM (Mod. Opt 1)



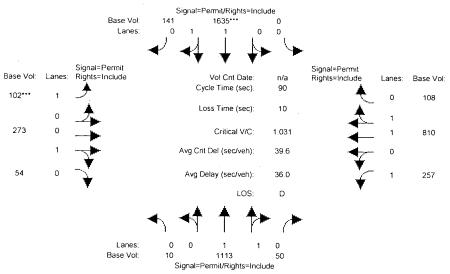
Approach: Movement:	North Bound Sc L - T - R L			Soi L	uth Bo	ound - R	E d	ast Bo	ound - R	₩. L ·	ound - R	
Min. Green:	53	53	53	53	53	53	27	27	27	27	27	27
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0		4.0	
Volume Module												
Base Vol:	3	2314	135	.2	1361	155	213	937	40	12.1	639	121
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	3	2314	135	2	1361	155	213	937	40	121	6.39	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:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	3	2436	142	2	1433	163	224	986	42	127	673	127
Reduct Vol:	0	0	0	0	0	0	0	. 0	0	0	0	0
Reduced Vol:	3	2436	142	2	1433	163	224	986	42	127	673	127
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
PCE Adj: 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:			142	2	1433	163	224	986	42	127	673	127
Saturation Fl	ow Mo	odule	•									
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.90	0.90	0.90	0.81	0.81	0.81	0.19	0.99	0.99	0.15	0.93	0.93
Lanes:	0.01	1.88	0.11	0.01	1.79	0.20	1.00	0.96	0.04		1.68	0.32
Final Sat.:				4.	2761	314	352	1811	77	281	2962	561
Capacity Anal												
Vol/Sat:				0.52	0.52	0.52	0.64	0.54	0.54	0.45	0.23	0.23
Crit Moves:		* * * *					****					
Green Time:		53.0	53.0	53.0	53.0	53.0	27.0	27.0	27.0	27.0	27.0	27.0
Volume/Cap:			1.28	0.88		0.88		1.82			0.76	0.76
Uniform Del:			18.5	15.8	15.8	15.8		31.5	31.5		28.5	28.5
IncremntDel:1			130.7	5.4	5.4	5.4	537.2	374	373.8		3.2	3.2
InitOueuDel:			0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Delay Adj:			1.00	1.00		1.00		1.00	1.00	1.00		1.00
Delay/Veh: 1			149.2	21.2			568.7		405.3			31.7
User DelAdj:			1.00	1.00		1.00		1.00	1.00	1.00		1.00
AdjDel/Veh: 1			149.2	21.2					405.3			31.7
LOS by Move:				Z 1 . Z			F			512.5 F	C C	C.
HCM2kAvgQ:			72	22			22		86	11	-	12
Note: Queue r											12	14
, ,	-1-01		11		J. 00	PC	10	•				

Level Of Service Computation Report 2000 HCM Operations (Base Volume Alternative) Existing+Project AM (Mod. Opt 1)



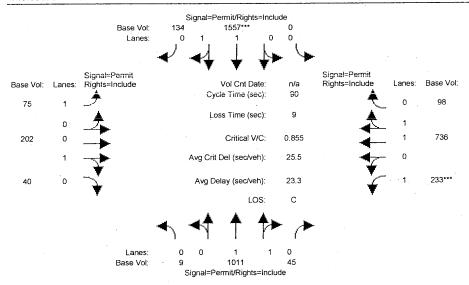
Approach:	L - T - R			South Bound L - T - R			Ea L	ast Bo - T	und R	W∈ L ~	est Bo	ound - R
Min. Green:	53	53	53	53	53	53	27	27	27	27	27	27
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0		4.0			4.0	4.0
,				1								
Volume Module	e:											
Base Vol:		1689	98			89	101		19	73	387	73
Growth Adj:			1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Initial Bse:			98	1	782	89	101	446	19	73	387	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
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:	2	1778	103	. 1	823	94	106	469	20	77	407	77
Reduct Vol:		0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	2	1778	103	1	823	94	106	469	20	77	407	77
PCE Adj:			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
FinalVolume:	2	1778		1		94	106		20	77	407	77
				1								
Saturation F	low Mo	odule:										
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.90	0.90	0.90	0.89	0.89	0.89	0.40	0.99	0.99	0.15	0.93	0.93
Lanes:			0.11	0.01	1.79	0.20	1.00		0.04	1.00	1.68	0.32
Final Sat.:	4	3229	187	4			756			281		559
Capacity Ana.	lysis	Modul										
Vol/Sat:	0.55	0.55	0.55	0.27	0.27	0.27	0.14	0.26	0.26		0.14	0.14
Crit Moves:		****								***		
Green Time:	53.0	53.0	53.0	53.0	53.0	53.0	27.0	27.0	27.0	27.0		27.0
Volume/Cap:	0.94	0.94	0.94	0.46	0.46	0.46	0.47	0.86	0.86	0.91	0.46	0.46
Uniform Del:			16.9	10.4	10.4	10.4	25.7	29.8	29.8	30.3	25.6	25.6
IncremntDel:	8.8	8.8	8.8	0.2	0.2	0.2	1.5	13.0	13.0	68.8	0.3	0.3
InitOueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
Delay/Veh:			25.8	10.6	10.6	10.6	27.2	42.8	42.8	99.2	25.9	25.9
User DelAdj:			1.00	1.00	1,.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	25.8	25.8	25.8	10.6	10.6	10.6	27.2	42.8	42.8	99.2	25.9	25.9
LOS by Move:				В	В	В	С	D	D		С	, C
HCM2kAvgQ:			26	7	7	7	3	16	16	5	6	6
Note: Queue	report	ted is	the n	umber	of ca	rs per	lane					

Level Of Service Computation Report 2000 HCM Operations (Base Volume Alternative) Future+Project PM (Mod. Opt 1)



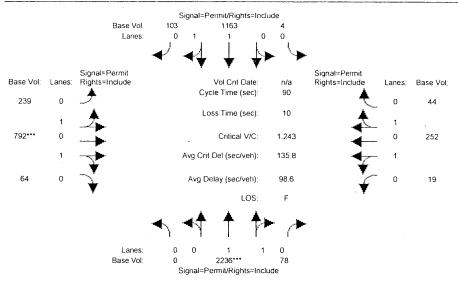
			-	_								
Approach:	No	rth Bo	und	So	uth Bo	und	E	ast Bo	ound	W	est Bo	ound
Movement:			- R			- R		- T	- R	L	- T	
				1								
Min. Green:	49	49	49	49	49	49	31	31	31	31	31	31
Y+R:		4.0			4.0			4.0	4.0	4.0	4.0	4.0
		-										
Volume Module	⊖:											·
Base Vol:	10	1113	50	0	1635	141	102	273	54	257	810	108
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	1113	50	0	1635	141	102	273	54	257	810	108
	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:		1172	53	0	1721	148	107	287	57	271	853	114
	0		0	0	0	0	0	0	0	0	0	0
Reduced Vol:	11	1172	53	0	1721	148	107	287	57	271	853	114
	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	1172.	53	0	1721	148	107	287	57	271	853	114
Saturation Fl	low Mo	odule:										,
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.76	0.76	0.76	1.00	0.94	0.94	0.14	0.98	0.98		0.93	0.93
Lanes:	0.02	1.90	0.08	0.00	1.84	0.16	1.00	0.83	0.17	1.00	1.76	0.24
Final Sat.:	25	2751	124	0	3284	283	274	1547	306		3128	417
			1									
Capacity Anal	lysis	Modul	e:									,
Vol/Sat:	0.43	0.43	0.43	0.00	0.52	0.52	0.39	0.19	0.19	0.38	0.27	0.27
Crit Moves:					* * * *		****					
Green Time:	49.0	49.0	49.0	0.0	49.0	49.0	31.0	31.0	31.0	31.0	31.0	31.0
Volume/Cap:	0.78	0.78	0.78	0.00	0.96	0.96	1.14	0.54	0.54		0.79	0.79
Delay/Veh:	18.9	18.9	18.9	0.0	32.4	32.4	164.6	24.7	24.7	122.5		30.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00
AdjDel/Veh:	18.9	18.9		0.0	32.4	32.4	164.6	24.7		122.5		30.2
LOS by Move:			В	А	С	С	F	С	C	F	C	C
HCM2kAvgQ:	14	14	14	0	25	25	7	8	8		15	15
Note: Queue r	eport	ed is	the n	umber			lane.		Ŭ			10
	-					1						

Level Of Service Computation Report 2000 HCM Operations (Base Volume Alternative) Existing+Project PM (Mod. Opt 1)



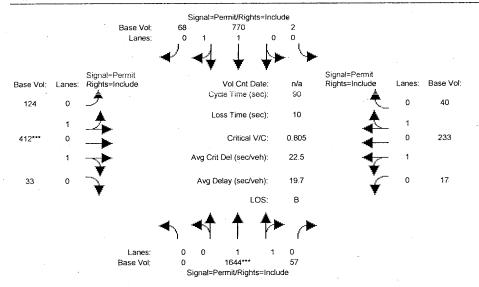
Approach: Movement:	No:	rth Bo - T	und - R	Son	uth Bo	ound - R	E	ast Bo - T	ound - R	West Bound T T - R		
Min. Green:	49	49	49	49	49	. 49	31	31	31	31	31	31
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Modul						104	2.5	000	4.0	222	726	98
		1011		0			75		40	233	736	1.00
Growth Adj:					1.00	1.00		1.00	1.00	233	736	98
Initial Bse:		1011	45		1557	134	7.5	202	40	1.00		1.00
User Adj:	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
PHF Volume:	9	1064	47		1639	141	- 79		42	245	775	103
Reduct Vol:			_	.0		0	0		0	0	0	0
Reduced Vol:				. 0		141	79		42		775	103
PCE Adj:	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
FinalVolume:	9		47		1639	141	79		42		775	103
Saturation F.								•				
		1900	1900			1900		1900	1900	1900		1900
Adjustment:				1.00		0.94		0.98	0.98	0.48		0.93
Lanes:						0.16		0.83	0.17	1.00		0.24
Final Sat.:	27	2981	133		3284					.906		417
Capacity Ana												
Vol/Sat:	0.36	0.36	0.36	0.00		0.50	0.23	0.14	0.14	0.27	0.25	0.25
Crit Moves:					****					***		
Green Time:	50.0	50.0	50.0	0.0		50.0		31.0	31.0	31.0		31.0
	0.64		0.64		0.90	0.90		0.40	0.40			0.72
Uniform Del:	13.8	13.8	13.8	0.0	17.7	17.7		22.4		26.5		25.7
IncremntDel:	0.8	0.8	0.8	0.0	5.9	5.9	15.3	0.4	0.4	12.4		2.1
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Delay/Veh:	14.7	14.7	14.7	0.0	23.7	23.7	40.6	22.8	22.8	38.9	27.8	27.8
User DelAdj:			1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:			14.7	0.0		23.7	40.6	22.8		38.9	27.8	27.8
LOS by Move:				А	С	С	D	С	C	D	С	С
HCM2kAvgQ:				0		21	3	5	5	8	12	12
Note: Queue				umber	of ca	rs per	lane					
-	^					=						

Level Of Service Computation Report 2000 HCM Operations (Base Volume Alternative) Future+Project AM (Mod. Opt 1)



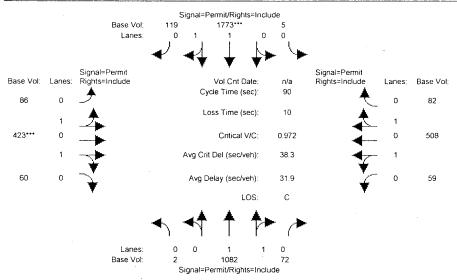
Movement:	L ·	- T	- R	L	South Bound L - T - R			- T	- R	West Bound L - T - R			
										28		28	
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0		
Volume Module												1	
	0	2236	78	4	1163	103	239	792	64	19	252	44	
Growth Adj:			1.00		1.00	1.00		1.00		1.00		1.00	
Initial Bse:		2236	78	4	1163	103	239	792		19	252	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:	0.95	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	2354	82	4	1224	108	252	834	67	20	265	46	
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0	
Reduced Vol:	0	2354	82	4	1224	108	252	834	67	20	265	46	
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:				4		108		834		20		46	
Saturation Fi	low Mo	odule	:										
Sat/Lane:		1900	1900		1900	1900	1900	1900	1900	1900	1900	1900	
Adjustment:			0.95	0.78		0.78	0.71	0.71	0.71	0.64	0.64	0.64	
Lanes:						0.16		1.45	0.12	0.12	1.60	0.28	
Final Sat.:				9		242				146		338	
Capacity Ana.													
Vol/Sat:	0.00		0.68	0.45	0.45	0.45	0.43			0.14	0.14	0.14	
		****						****					
Green Time:			52.0		52.0	52.0		28.0		28.0		28.0	
Volume/Cap:			1.17	0.78		0.78		1.37		0.44		0.44	
Uniform Del:			19.0	14.6		14.6		31.0	31.0	24.7		24.7	
IncremntDel:		83.6	83.6	2.3			174.8		174.8	0.4		0.4	
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Delay Adj:	0.00		1.00		1.00	1.00		1.00	1.00	1.00		1.00	
Delay/Veh:				16.9			205.8		205.8	25.2		25.2	
User DelAdj:			1.00	1.00		1.00	1.00		1.00	1.00		1.00	
AdjDel/Veh:			102.6						205.8	25.2		25.2	
LOS by Move:				В	В	В	F	_	F	С	С	C	
HCM2kAvgQ:			60	14	14	14			39	4	4	4	
Note: Queue	cepor	ted is	s the n	umber	of ca	rs per	Lane	•					

Level Of Service Computation Report 2000 HCM Operations (Base Volume Alternative) Existing+Project AM (Mod. Opt 1)



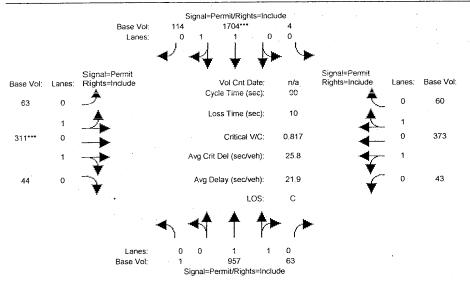
Movement:	L.	- T	- R	L -	- T	R	L	- T	- R	West Bound L - T - R		
									1	28	28 28	
Min. Green: Y+R:	4.0	52 4.0				4.0	28 4 N	4.0	4.0		.0 4.0	
	1											
Volume Module				•								
Base Vol:	0	1644	57	2.	770	68	124	412	33		33 40	
Growth Adj:	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00 1.		
Initial Bse:			57	2	770	68	124	412	33	17 2	33 40	
User Adj:			1.00	1.00		1.00		1.00	1.00	1.00 1.		
PHF Adj:	0.95	0.95	0.95	0.95		0.95	0.95	0.95	0.95	0.95 0.		
PHF Volume:		1731	60	2	811	72	131	434	35		45 42	
Reduct Vol:		-	0	0		0 .	0	0	0	=	0 0	
Reduced Vol:			60	2		72	131		35		45 42	
PCE Adj:			1.00	1.00		1.00		1.00	1.00	1.00 1.		
MLF Adj:			1.00	1.00		1.00		1.00	1.00	1.00 1.		
FinalVolume:	0	1731	60	2		72	131		35		45 42	
Saturation F.				1000	1000	1000	1000	1000	1000	1000 10	00 1900	
Sat/Lane:						1900		1900	1900	1900 19		
Adjustment:			0.95		0.90	0.90		0.72	0.72	0.84 0.		
Lanes:			0.07		1.83	0.16		1.45	0.12	0.12 1.		
Final Sat.:	. 0	3472	120	٠, 8	3122	276		1995	160	188 25		
Capacity Anal	lucic	Modul	1	1			1					
Vol/Sat:			0.50	0.26	0.26	0.26	0 22	0 22	0.22	0.10 0.	10 0.10	
Crit Moves:			0.50	0.20	0.20	0.20	0.22	****	0.22	0.10 0.	10 0.10	
Green Time:			52.0	52.0	52 0	52.0	28.0	28.0	28.0	28.0 28	.0 28.0	
Volume/Cap:			0.86	0.45		0.45		0.70	0.70	0.31 0.		
Uniform Del:			16.0	10.8		10.8		27.3	27.3	23.6 23		
IncremntDel:			4.0	0.2	0.2	0.2		2.6	2.6		.2 0.2	
InitQueuDel:			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 0	.0 0.0	
Delay Adj:			1.00	1.00		1.00		1.00	1.00	1.00 1.	00 1.00	
Delay/Veh:			20.0	11.0		11.0		29.9	29.9	23.8 23		
User DelAdj:			1.00	1.00		1.00		1.00	1.00	1.00 1.	00 1.00	
AdjDel/Veh:			20.0	11.0		11.0		29.9	29.9			
LOS by Move:	А	В		В	В		C	С	С	C	СС	
HCM2kAvqQ:	0	24		7			9		.9		3 3	
Note: Queue				umber	of ca	ars per	lane					
	*					-						

Level Of Service Computation Report 2000 HCM Operations (Base Volume Alternative) Future+Project PM (Mod. Opt 1)



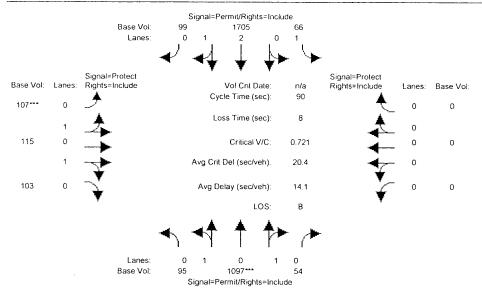
Approach:	North Bound So				ath Bo	ound	Ea	ast Bo	ound				
Movement:	L ·	- T	- R	L ·	- T	- R	L ·	- T	- R	L -	- T	- R	
							•						
			-	-		54	-			26		26	
Y+R:		4.0	_			4.0						4.0	
Volume Module									1				
	2	1082	72	5	1773	119	86	423	60	59	508	82	
Growth Adj:			1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Initial Bse:		1082	72		1773	119	86	423	60	59	508	82	
User Adi:	_		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	
PHF Volume:		1139	76	5	1866	125	91	445	63	62	535	86	
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0	
Reduced Vol:	2	1139	76	- 5	1866	125	91	445	63	62	535	86	
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:			76		1866	125	91		63		535	86	
						·			1	1			
Saturation F	low Mo	odule:											
Sat/Lane:	1900			1900		1900		1900	1900	1900	1900	1900	
Adjustment:			0.89	0.89		0.89		0.57	0.57		0.70	0.70	
Lanes:						0.12		1.49	0.21		1.57	0.25	
Final Sat.:			211		3176		328		228		2082	336	
Capacity Anal													
Vol/Sat:	0.36	0.36	0.36	0.59	0.59	0.59	0.28	0.28	0.28	0.26	0.26	0.26	
Crit Moves:	r 4 0	F4 0	54 0	F 4 0		F 4 0				06.0	0.0	0.6.0	
	54.0		54.0		54.0	54.0		26.0	26.0	26.0		26.0	
	0.60		0.60		0.98	0.98		0.96	0.96	0.89		0.89	
Delay/Veh:			11.8		32.7	32.7 1.00		57.0	57.0 1.00	43.0		43.0	
User DelAdj: AdjDel/Veh:					32.7	32.7				1.00		1.00	
LOS by Move:		11.8	11.8 B	32.7 C	32.7 C	32.7 C	57.U E	57.0	57.0 E	43.0 D		43.0	
-	11	11	11	28	28	28	13	E 13	13	13	D 13	D	
Note: Queue 1									13	13	13	13	
Note. Queue 1	rebor	Lea IS	CHE II	umber	OI Ca	ro her	Talle.	•					

Level Of Service Computation Report 2000 HCM Operations (Base Volume Alternative) Existing+Project PM (Mod. Opt 1)



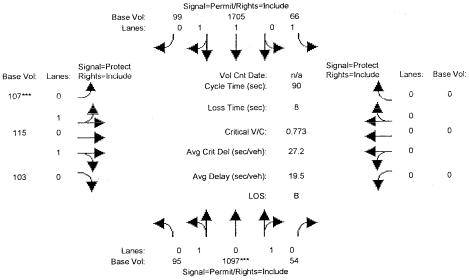
Movement:	<u>T.</u> .	- T	- R	T. ·	- Т	- ' R	· L ·	- T	- R	West Bound L - T - R		
Min. Green: Y+R:	54 4.0	54 4.0	54 4.0	54 4.0	54 4.0	54 4.0	26 4.0	26 4.0	26 4.0	26 26 4.0 4.0	5 26 0 4.0	
Volume Module						1						
		957	63	4	1704	114	63	311	44	43 373	3 60	
Growth Adj:			1.00		1.00	1.00	1.00	1.00	1.00	1.00 1.00	1.00	
Initial Bse:			63	4	1704	114	63	311	44	43 373	3 60	
User Adj:			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:	1	1007	66	4	1794	120	66	327	46	45 393		
Reduct Vol:	0	0	0	0	0	0	0	0	0	0 (0	
Reduced Vol:			66	4	1794	120	66	327	46	45 393		
PCE Adj:			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	
FinalVolume:	1	1007	66				66			45 . 393		
									1			
Saturation F												
Sat/Lane:				1900	1900	1900	1900	1900	1900			
Adjustment:	0.90	0.90	0.90	0.90	0.90		0.70		0.70			
Lanes:	0.01	1.87					0.30		0.21			
Final Sat.:	3	3202					403		282	279 2423		
Capacity Ana	lysis	Modul	e:									
Vol/Sat:	0.31	0.31	0.31	0.56		0.56	0.16		0.16	0.16 0.16	0.16	
Crit Moves:					****			****				
Green Time:	54.0	54.0	54.0		54.0	54.0			26.0	26.0 26.0		
Volume/Cap:		0.52	0.52	0.94		0.94		0.57	0.57	0.56 0.56		
Uniform Del:	10.5	10.5	10.5	16.4		16.4	27.2		27.2	27.2 27.2		
IncremntDel:	0.3	0.3	0.3	8.8	8.8	8.8	1.0	1.0	1.0	0.8 0.8		
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 0.0		
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00 1.00		
Delay/Veh:	10.8	10.8	10.8	25.2	25.2	25.2	28.3		28.3	28.0 28.0		
User DelAdj:	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00 1.00		
AdjDel/Veh:				25.2		25.2	28.3		28.3	28.0 28.0		
LOS by Move:	В	В			С	С	С	. C.	С	C (
HCM2kAvgQ:	9	9	9		26	26	6		6	7	7	
Note: Queue	eport	ed is	the n	umber	of ca	rs per	lane.					

Level Of Service Computation Report 2000 HCM Operations (Base Volume Alternative) Existing PM



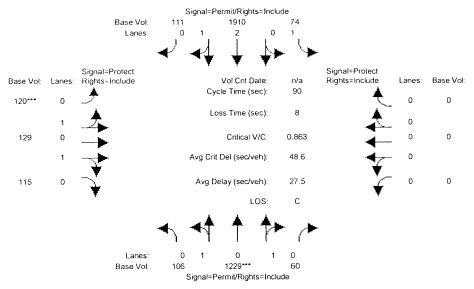
Street Name:	No:	rth Bo	Maso	nic	ith Bo	und	ast Bo	An	Anza West Bound			
Movement:	L ·	- T	- R	ь.	- Т	- R	L ·	- T	- R	L -	- T	- R
Min. Green:												
Y+R:												
	1.0		1				1		1	1	4.0	4.0
Volume Module			'	1		,	1		ı	ļ		ľ
Base Vol:	95	1097	54	66	1705	99	107	115	103	0	0	0
Growth Adj:					1.00	1.00		1.00			1.00	
Initial Bse:	95	1097	54	66	1705	99	107	115	103	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:	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 Volume:	95	1097	54	66	1705	99	107	115	103	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	Q	. 0	0
Reduced Vol:	95	1097	54	66	1705	99	107					0
PCE Adj:			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:			54	66	1705	99	107	115	103	0	0	0
Saturation Fl	Low Mo	odule:										
Sat/Lane:				1900		1900		1900		1900	1900	1900
Adjustment:				0.16	0.90	0.90	0.86	0.86	0.86	1.00	1.00	1.00
Lanes:					2.84	0.16	0.66	0.71	0.63	0.00	0.00	0.00
Final Sat.:						282			1036			
Capacity Anal	-											
Vol/Sat:			0.56	0.22	0.35	0.35		0.10	0.10	0.00	0.00	0.00
Crit Moves:							****					
Green Time:				58.0		58.0		24.0		0.0		0.0
Volume/Cap:			0.86	0.35		0.54		0.37		0.00		0.00
Delay/Veh:				8.4		8.9		27.1		0.0		0.0
User DelAdj:				1.00		1.00		1.00		1.00		1.00
AdjDel/Veh:								27.1		0.0		0.0
LOS by Move:	В	В	В			A	С	C	С	A		Α
HCM2kAvgQ:				, 1					4	0	0	0
Note: Queue r	report	ted is	the n	umber	of ca	rs per	lane	-				

Level Of Service Computation Report 2000 HCM Operations (Base Volume Alternative) Existing+Project PM (Mod. Opt 1)



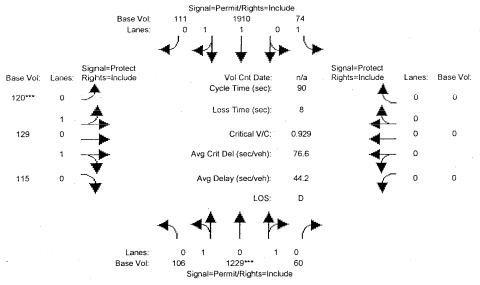
			Oignai	r ormerng.	no moiado								
Street Name:			Masc							.za		,	
Approach:	No:	rth Bo	und	Soi	uth Bo	und	E.	ast Bc	und	We	est Bo	und	
Movement:	Ъ.	- T	- R	L ·	- T	- Ř	L	– T	- R	. i	- T	- K	
										1			
Min. Green:		56	56	56	56	56	24	24	24	1 0	. 0	0	
Y+R:	4.5	4.5	4.5	4.5	4.5	4.5	5.0	5.0	5.0	4.0	4.0	4.0	
Volume Module		1007	E 4	66	1705	99	107	115	103	0	0	0	
		1097			1.00	1.00		1.00	1.00		1.00	1.00	
Growth Adj:				1.00		99	107			0		0	
Initial Bse:			54						1.00		1.00	1.00	
User Adj:	1.00	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
PHF Adj:			1.00		1.00	1.00		1.00		1.00		0	
PHF Volume:	95	1097	54		1705	99 0	107	112		0		0	
Reduct Vol: Reduced Vol:	0	0	0	0	0	0			. 100	0			
				66		99							
PCE Adj:			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		
FinalVolume:	95	1097	54	66	1705	99	107	115	103	. 0		0	
										(
Saturation F	low M	odule:						1000	1000	1000	1000	1000	
Sat/Lane:	1900	1900	1900			1900		1900	1900		1900	1900	
Adjustment:				0.17		0.94			0.86		1.00	1.00	
Lanes:	0.15	1.76	0.09	1.00	1.89	0.11			0.63			0.00	
Final Sat.:	157	1813	89	321	3385	197		1156		. 0		. 0	
Capacity Ana				0 01	0 50	0 50	0 10	0 10	0.10	0 00	0 00	0.00	
Vol/Sat:			0.60	0.21	0.50	0.50	****	0.10	0.10	0.00	0.00	0.00	
Crit Moves:				500	F 0 0	F 0 0		04.0	24.0	0.0	0 0	0.0	
Green Time:					58.0	58.0		24.0	24.0			0.00	
Volume/Cap:			0.94		0.78	0.78		0.37			0.00		
Uniform Del:			14.4	7.2		11.5		26.9	26.9	0.0		0.0	
IncremntDel:			12.8	0.9		1.8		0.3	0.3	0.0		0.0	
InitQueuDel:			0.0			0.0		0.0	0.0	0.0		0.0	
Delay Adj:	1.00	1.00	1.00		1.00	1.00		1.00	1.00		0.00	0.00	
Delay/Veh:			27.2	8.1		13.3		27.1	27.1	0.0	0.0	0.0	
User DelAdj:					1.00	1.00		1.00	1.00		1.00	1.00	
AdjDel/Veh:	27.2	27.2	27.2	8.1		13.3		27.1		0.0		0.0	
LOS by Move:	С	С	С			В						A	
HCM2kAvgQ:	1,8	18	18	1		17			4	0	,0	0	
Note: Queue	repor	ted is	the r	umber	of ca	rs per	lane						

Level Of Service Computation Report 2000 HCM Operations (Base Volume Alternative) Future without Project PM



Street Name: Approach:	Noi	rth Boi	Maso: und	nic Sou	ıth Bo	ound	Anza East Bound West Bound					
Movement:	L -	- Т	- R	L -	- T	- R	L -	- T	- R	L -		
Min. Green:	56	56	56	56	56	56	24	24	24	0		0
Y+R:		4.5				4.0						
Volume Module												
Base Vol:		1229	60	74	1910	111	120	129	115	0	0	0
Growth Adj:			1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00
Initial Bse:			60		1910	111	120	129	115	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
PHF Adj:			1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
	106		60		1910	111	120	129	115	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	106	1229	60	74	1910	111	120	129	115	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:			60	74				129	115	-	0	0
Saturation F	low Mo	odule:										
		1900			1900	1900	1900	1900			1900	1900
Adjustment:			0.54		0.90	0.90		0.86			1.00	1.00
Lanes:			0.09		2.84	0.16		0.71		0.00		0.00
Final Sat.:			89		4863	283		1159	1034	0	0	0
	-											
Capacity Anal				0 00	0 20	0 20	0 11	0 11	0 11	0 00	0 00	0 00
Vol/Sat:			0.67	0.32	0.39	0.39	****	0.11	0.11	0.00	0.00	0.00
Crit Moves:			FO 0	FO 0	FO 0	FO 0		04.0	24.0	0 0	0 0	0 0
Green Time:			58.0		58.0	58.0		24.0	24.0 0.42	0.0	0.00	0.0
-	1.05		1.05		0.61 9.4	0.61 9.4		27.2	27.2	0.00	0.00	0.00
Uniform Del: IncremntDel:			16.0 38.0	8.4	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.0
					0.0		0.0	0.0	0.0	0.0	0.0	0.0
InitQueuDel:		0.0	0.0 1.00	0.0	1.00	0.0 1.00		1.00	1.00		0.00	0.00
Delay Adj:				11.2	9.7	9.7		27.6	27.6	0.0	0.00	0.00
Delay/Veh: User DelAdj:			54.0 1.00		1.00	1.00		1.00	1.00	1.00		1.00
AdjDel/Veh:			54.0	11.2	9.7			27.6	27.6	0.0	0.0	0.0
		54.U D	54.U D	11.2 B	9.7 A	9.7 A	27.0 C		27.6 C	0.0 A		0.0 A
LOS by Move: HCM2kAvgO:	ر 27		27	1		11		5	5	0	0	A 0
Note: Queue :				_			-	-	J	U		U
Note. Queue .	rehor	ceu is	CITE II	mmer	01 00	rro her	10116	-				

Level Of Service Computation Report 2000 HCM Operations (Base Volume Alternative) Future+Project PM (Mod. Opt 1)



Street Name: Approach:					uth Bo	ound	East Bound			Anza West Bound		
Movement:	ىل	- T	- R	L ·	- T	- R	L	- T	- R	L -	- T	- R
Min. Green: Y+R:	56 4.5	56 4.5	56 4.5	56 4.5	56 4.5	56 4.5	24 5.0	24 5.0	24 5.0	0 4.0	0 4.0	0 4.0
Volume Module												
Base Vol:			60	74	1910	111	120	129	115	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:	106	1229	60	74	1910	111	120	129	115	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
PHF Adj:	1.00	1.00		1.00		1.00		1.00	1.00	1.00		1.00
PHF Volume:	106	1229		74		111	120			-	-	0
Reduct Vol:	0	0	0	0	0				0			0
Reduced Vol:							120		115			
PCE Adj:	1.00	1.00	1.00			1.00		1.00	1.00			
MLF Adj:						1.00		1.00	1.00			
FinalVolume:									115			
Saturation F	•								1			
Sat/Lane:				1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:						0.94		0.86	0.86		1.00	
Lanes:						0.11			0.63			
Final Sat.:	144	1672	82			197	1079	1159	1034	0	0	0
Capacity Anal	lysis	Modul	e:									
Vol/Sat:			0.73	0.29	0.56	0.56		0.11	0.11	0.00	0.00	0.00
Crit Moves:							****					
Green Time:			58.0			58.0			24.0			0.0
Volume/Cap:			1.14	0.45		0.88		0.42	0.42	0.00		0.00
Delay/Veh:			8.9.4	10.1		17.2		27.6		0.0	0.0	0.0
User DelAdj:			1.00	1.00		1.00	1.00		1.00			1.00
AdjDel/Veh:				10.1		17.2		27.6		0.0		0.0
LOS by Move:			F			В		C	C	A	A 0	A
HCM2kAvgQ:				1					5	Ü	U	0
Note: Queue	report	.ea is	the n	mber	or ca	ıs per	Tane.	•				