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Notice of Transmittal

Planning Department Response to the Appeal of Community Plan Exemption for 1515 South Van Ness Avenue Project

DATE: March 14, 2017

TO: Angela Calvillo, Clerk of the Board of Supervisors

FROM: Lisa M. Gibson, Acting Environmental Review Officer – (415) 575-9032
Chris Kern, Senior Environmental Planner – (415) 575-9037
Melinda Hue, Environmental Coordinator – (415) 575-9041

RE: File No. 161001, Planning Department Case No. 2014.1020ENV – Appeal of the Community Plan Exemption for the 1515 South Van Ness Avenue Project. Block/Lot: 6571/008, 001, and 001A

HEARING DATE: To be determined

Pursuant to Board of Supervisors Motion M16-176 adopted December 6, 2017, the Planning Department is providing additional information and analysis regarding whether the proposed project at 1515 South Van Ness Avenue would result in new significant effects, or effects of greater severity than were already analyzed and disclosed in the Final Environmental Impact Report for the Eastern Neighborhoods Rezoning and Area Plans with regard to whether the proposed project would cause social or economic changes such as displacement or gentrification that would result in physical impacts to the environment, either cumulatively or at the project-specific level, within the geographic area of the Calle 24 Latino Cultural District. Attached are:

- March 14, 2017, appeal response memorandum
- Appendix A - Socio-Economic Effects of Market-Rate Development on the Calle 24 Latino Cultural District, San Francisco, CA, February 2017, prepared by Amy Herman, ALH Urban & Regional Economics.
- Appendix B - Eastern Neighborhoods / Mission District Transportation and Demographic Trends, January 2017, prepared by Fehr & Peers.

These files are being provided to the Clerk of the Board for distribution to the appellants, project sponsor, and Board of Supervisors by the Clerk of the Board.

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APPEAL OF COMMUNITY PLAN EXEMPTION 1515 SOUTH VAN NESS AVENUE PROJECT

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RE: File No. 161001, Planning Department Case No. 2014.1020ENV – Appeal of the Community Plan Exemption for the 1515 South Van Ness Project. Block/Lot: 6571/008, 001, and 001A

PROJECT SPONSOR: Peter Schellinger, LMC San Francisco Holdings, LLC – (415) 975-4982

APPELLANT: J. Scott Weaver, Law Office of J. Scott Weaver, on behalf of the Calle 24 Latino Cultural District Community Council – (415) 317-0832

HEARING DATE: To be determined

ATTACHMENTS: Appendix A – Socio-Economic Effects of Market-Rate Development on the Calle 24 Latino Cultural District, San Francisco, CA

Appendix B – Eastern Neighborhoods / Mission District Transportation and Demographic Trends

1 INTRODUCTION

This memorandum and the attached documents are supplements to the Planning Department's (the "Department") October 17, 2016 and November 7, 2016 responses to letters of appeal to the Board of Supervisors (the "Board") regarding the Department's issuance of a Community Plan Exemption ("CPE") under the Eastern Neighborhoods Rezoning and Area Plan Final Environmental Impact Report ("Eastern

Neighborhoods PEIR or PEIR")[1] in compliance with the California Environmental Quality Act ("CEQA") for the 1515 South Van Ness Avenue project.

On September 12, 2016, J. Scott Weaver, on behalf of the Calle 24 Latino Cultural District Community Council ("the appellant"), filed an appeal of the Planning Department's CEQA determination for the proposed project. On October 17, 2016, the Planning Department provided a response to the CEQA appeal. On October 14, 2016 a supplemental appeal letter was filed by the appellant and the Planning Department provided a supplemental response on November 7, 2016.

On November 15, 2016, the Board of Supervisors held a hearing on the appeal of the CPE and pursuant to Board of Supervisors Motion M16-176 adopted December 6, 2017, the Planning Department is providing additional information and analysis regarding whether the proposed project at 1515 South Van Ness Avenue would result in new significant effects, or effects of greater severity than were already analyzed and disclosed in the Eastern Neighborhoods PEIR with regard to whether the proposed project would cause social or economic changes such as displacement or gentrification that would result in physical impacts to the environment, either cumulatively or at the project-specific level, within the geographic area of the Calle 24 Latino Cultural District.[2]

The decision before the Board is whether to uphold the Planning Department's determination that the proposed project is exempt from further environmental review (beyond what was conducted in the CPE Checklist) pursuant to CEQA section 21083.3 and CEQA Guidelines section 15183[3] and deny the appeal, or to overturn the Department's CPE determination for the project and return the CPE to the Department for additional environmental review.

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[1] The Eastern Neighborhoods Rezoning and Area Plan Final EIR (Planning Department Case No. 2004.0160E), State Clearinghouse No. 2005032048) was certified by the Planning Commission on August 7, 2008. The project site is within the Eastern Neighborhoods Rezoning and Area Plan project area.

[2] The Calle 24 Latino Cultural District is the area bound by Mission Street to the west, Potrero Street to the East, 22nd Street to the North and 25th Street to the South, including the 24th Street commercial corridor from Bartlett Street to Potrero Avenue.

[3] 14 Cal. Code of Reg. Section 15000 *et seq,* (CEQA Guidelines). The CEQA Guidelines are state regulations, developed by the California Office of Planning and Research and adopted by the California Secretary for Resources. They are "prescribed by the Secretary for Resources to be followed by all state and local agencies in California in the implementation of the California Environmental Quality Act." (CEQA Guidelines Section 15000.)

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2 EXECUTIVE SUMMARY

This memorandum addresses concerns about gentrification of the Calle 24 Latino Cultural District and related displacement of existing residents and local businesses. The Planning Department acknowledges that gentrification and displacement are occurring in the Mission District and other San Francisco neighborhoods, and is devoting substantial resources aimed at addressing these socioeconomic issues with the community, Planning Commission, elected leaders, and City partners to undertake a series of policy and implementation efforts. However, these socioeconomic effects are generally beyond the scope of the CEQA[4] environmental review process. Under CEQA, socioeconomic effects may be considered only to the extent that a link can be established between anticipated socioeconomic effects of a proposed action and adverse physical environmental impacts.

CEQA mandates streamlined review for projects like the 1515 South Van Ness Avenue project that are consistent with the development density established by existing zoning, community plan, or general plan policies for which an environmental impact report ("EIR") was certified. Accordingly, additional environmental review for such projects shall not be required except to examine whether there are project-specific significant impacts that are peculiar to the project or its site. Pursuant to CEQA Guidelines section 15183(a): "This streamlines the review of such projects and reduces the need to prepare repetitive environmental studies." As such, the additional analysis presented in this memorandum is limited to examining whether the project would cause or contribute to socioeconomic effects that would in turn lead to significant physical impacts beyond those identified in the Program EIR certified for the adoption of the Eastern Neighborhoods Rezoning and Area Plans ("Eastern Neighborhoods PEIR").

The Eastern Neighborhoods PEIR included an extensive analysis of the socioeconomic effects of the area plans and rezoning generally concluding that: (1) the rezoning would have secondary socioeconomic effects, (2) these effects would be more severe without the rezoning, and (3) these socioeconomic effects would not in turn lead to significant physical environmental impacts. The PEIR identifies improvement measures to address less than significant effects of potential displacement of some neighborhood-serving uses. Thus, the concerns about the socioeconomic effects of development under the area plans and rezoning are not new and were not overlooked by the plan-level EIR.

The Planning Department worked with ALH Urban & Regional Economics to prepare analyses of retail supply and demand, commercial and residential displacement, as well as a review of the relevant academic literature to evaluate whether gentrification and displacement of existing residents or businesses can be attributed to market-rate residential and mixed-use development under the Eastern

[4] California Environmental Quality Act (CEQA), Public Resources Code Section 21000 *et seq*.

Neighborhoods rezoning and area plans. Neither these analyses nor the literature establishes empirical evidence supporting the position that market-rate development under the rezoning and area plans is responsible for residential or commercial displacement.

The department also conducted additional analysis to evaluate whether the proposed project would cause or contribute to significant impacts on the physical environment related to population growth, such as transportation, air quality, and greenhouse gas emissions, beyond those identified in the Eastern Neighborhoods PEIR. This analysis, like that previously provided in the community plan exemption ("CPE") prepared for the project, is based on current data and modelling and uses the Planning Department's latest environmental impact analysis standards and methodologies. The analysis includes a report prepared by transportation consultant Fehr & Peers assessing transportation and demographic trends in the Mission District. This analysis shows that cumulative impacts on traffic congestion are the same or slightly less severe than anticipated in the Eastern Neighborhoods PEIR. In addition, current data provided by the San Francisco Municipal Transportation Agency ("SFMTA") show that transit capacity on most lines serving the Eastern Neighborhoods is better than previously anticipated. This is due largely to SFMTA's implementation of a number of major transportation system improvements that were assumed to be infeasible at the time that the Eastern Neighborhoods PEIR was certified. Thus, there is no evidence that transportation and related air quality, greenhouse gas, and other impacts in the Eastern Neighborhoods plan areas are substantially more severe than the Eastern Neighborhoods PEIR disclosed.

In conclusion, the Planning Department's determination that the 1515 South Van Ness Avenue project would not result in new or substantially more severe significant effects on the physical environment than were already disclosed in the Eastern Neighborhoods PEIR is valid. The department therefore recommends that the Board reject the appeal and uphold the department's CEQA determination in accordance with CEQA section 21080.3 and CEQA Guidelines section 15183.

3 BACKGROUND

The central issues raised by the appellant focus on gentrification of the Mission and displacement of both Mission residents and local small businesses.[5] As discussed in this supplemental appeal response, these socioeconomic issues, while real, are largely beyond the scope of CEQA environmental impact analysis.

Because the intent of CEQA is to provide information about the physical environmental impacts of a proposed action, public agencies have very limited authority under CEQA to address the non-physical effects of an action, such as social or economic effects, through the CEQA environmental review process.

The basic purposes of CEQA are to[6]:

1. Inform governmental decision makers and the public about the potential, significant environmental effects of proposed activities.
2. Identify the ways that environmental damage can be avoided or significantly reduced.
3. Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible.
4. Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

These objectives are achieved through the preparation of informational reports for review by the public and adoption by public agencies. A public agency's adoption of a CEQA environmental review document (e.g., certification of a final environmental impact report or adoption of a community plan evaluation) is the agency's determination that the informational requirements of CEQA have been satisfied, but is neither a judgement of the merits of the subject project, nor an approval of the project itself. Rather, the adoption of a CEQA document is an agency's determination that the document provides sufficient information about the potential environmental effects of a project to inform subsequent discretionary actions on the project, such as consideration of whether to grant a conditional use permit for the project.

The focus of CEQA is on *physical* environmental impacts, such as impacts of a project on air quality, water quality, or wildlife habitat. CEQA Guidelines section 15131(a) states:

> Economic or social effects shall not be treated as significant effects on the environment. An EIR may trace a chain of cause and effect from a proposed decision on a project through anticipated economic or social changes resulting from the project to physical changes caused in turn by the economic or social changes. The intermediate economic or social changes need not be analyzed in any detail greater than necessary to trace the chain of cause and effect. The focus of the analysis shall be on the physical changes.

Moreover, CEQA section 21082.2 states, in part:

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[5] *Gentrification* is a process associated with increased investment in existing neighborhoods and the related influx of residents of higher socioeconomic status and increased property values. The effects of gentrification on residential, cultural, social, and political displacement have been the subject of substantial economic and planning research and analysis in the U.S. since at least the 1970s.

[6] CEQA Guidelines section 15002.

(a) The lead agency shall determine whether a project may have a significant effect on the environment based on substantial evidence in light of the whole record.
(b) The existence of public controversy over the environmental effects of a project shall not require preparation of an environmental impact report if there is no substantial evidence in light of the whole record before the lead agency that the project may have a significant effect on the environment.
(c) Argument, speculation, unsubstantiated opinion or narrative, evidence which is clearly inaccurate or erroneous, or evidence of social or economic impacts which do not contribute to, or are not caused by, physical impacts on the environment, is not substantial evidence. Substantial evidence shall include facts, reasonable assumptions predicated upon facts, and expert opinion supported by facts.

[Emphasis added.]

CEQA Guideline section 15360 defines the term *environment* as follows:

> "Environment" means the physical conditions which exist within the area which will be affected by a proposed project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historical or aesthetic significance. The area involved shall be the area in which significant effects would occur either directly or indirectly as a result of the project. The "environment" includes both natural and man-made conditions.

Neither the CEQA statute nor the CEQA Guidelines provide an express definition of non-physical effects such as social or economic effects. However, the Planning Department understands non-physical social and economic effects under CEQA to include for example changes in demographics, changes in property ownership or occupancy, and changes in the types of retail businesses in a neighborhood. Such changes are not impacts on the physical environment as defined in CEQA Guidelines section 15360.

Recognizing that CEQA is not an effective or appropriate tool for managing the socioeconomic changes affecting the Mission and other San Francisco neighborhoods, the Planning Department is devoting substantial resources outside of the CEQA process towards this end. The Department is working with the community, Planning Commission, elected leaders, and City partners to undertake a series of policy and implementation efforts aimed at addressing socioeconomic issues. While economic displacement is a citywide phenomenon, the Department recognizes the heightened effects are acutely felt in communities of color, families, and neighborhoods that have historically been havens for immigrants and others seeking opportunity or freedom. The Department is at work on its Racial and Ethnic Equity Action Plan to train staff on these issues, and has been especially engaged in efforts with District 9 former Supervisor Campos and the Mayor's Office to preserve the viability of the Latino community in the Mission, including the Mission 2016 Interim Zoning Controls, and Calle 24 Special Use District, which is developing commercial controls to help preserve the commercial character of the LCD, and 24th Street in particular.

The most robust effort to date, the Mission Action Plan 2020 ("MAP2020") is a major and unprecedented collaboration between the City family and Mission community organizations and residents. MAP2020 has involved an ongoing dialogue with community members, City agencies, and elected leaders over the past two years. The Department has taken an innovative approach to building a set of broad strategies to preserve, strengthen and protect existing residents, community services, local businesses, and the Mission's unique character. The most significant of these efforts is to provide nearly 1,000 affordable housing units in the neighborhood. The Planning Commission endorsed MAP2020 on March 2, 2017, and the Department will continue to work with the Board to advance its specific strategies through legislation in the spring and summer of 2017.

In addition, the Planning Department is undertaking a broader socioeconomic analysis of displacement and gentrification issues citywide with a focus on equity. City staff acknowledges that such an analysis is beyond the scope of environmental review under CEQA, but wish to inform decision-makers and the public that the Planning Department is working to address the socioeconomic issues of affordability, economic displacement, and gentrification through land use planning and policy efforts.

4 APPROACH TO ANALYSIS

The analysis provided in this memorandum examines whether the proposed project would cause, either individually or cumulatively, socioeconomic changes within the Calle 24 Latino Cultural District that would in turn lead to significant physical environmental impacts beyond those identified in the Eastern Neighborhoods PEIR. The analysis consists of three parts.

The first part of this analysis examines whether the proposed project would *cause* gentrification or displacement, either individually or cumulatively. It is not enough under CEQA to show only that economic or social changes are occurring in the project area. Rather, the analysis must examine whether the project, either individually or in combination with other past, present, and reasonably foreseeable future projects, would cause these socioeconomic effects. The analysis need proceed further only if it establishes, based on substantial evidence, that the proposed project would cause the socioeconomic effects claimed by the appellant.

If the analysis determines that the project would cause gentrification or displacement, either individually or cumulatively, then the analysis must consider the second question: Would the economic or social effects attributable to the project result in a significant adverse physical impact on the environment? Changes in the types of businesses, cost of housing, or demographics in a project area are not considered physical environmental impacts under CEQA. These are examples of social and economic effects, not physical environmental impacts. As stated above, the focus of CEQA is on physical environmental impacts. Examples of physical impacts that could be linked to social or economic effects include impacts on transportation and related air quality, greenhouse gas, and noise impacts where such impacts are a direct or indirect result of social or economic changes.

Finally, if the analysis traces a chain of cause and effect establishing that the proposed project would result in significant adverse physical environmental impacts as a direct or indirect result of socioeconomic changes, the analysis must consider whether such impacts would constitute new or substantially more severe significant impacts than were identified in the Eastern Neighborhoods PEIR.

Because the proposed project is consistent with the development density established for the project site under the Eastern Neighborhoods area plans and rezoning, consideration of the potential socioeconomic impacts of the proposed project must be limited to significant physical impacts that are peculiar to the project or the project site in accordance with CEQA section 21083.3 and CEQA Guidelines section 15183.

CEQA Guidelines section 15183 states, in part:

> (a) CEQA mandates that projects which are consistent with the development density established by existing zoning, community plan, or general plan policies for which an EIR was certified shall not require additional environmental review, except as might be necessary to examine whether there

are project-specific significant effects which are peculiar to the project or its site. This streamlines the review of such projects and reduces the need to prepare repetitive environmental studies.

(b) In approving a project meeting the requirements of this section, a public agency shall limit its examination of environmental effects to those which the agency determines, in an initial study or other analysis:

(1) Are peculiar to the project or the parcel on which the project would be located,

(2) Were not analyzed as significant effects in a prior EIR on the zoning action, general plan, or community plan, with which the project is consistent,

(3) Are potentially significant off-site impacts and cumulative impacts which were not discussed in the prior EIR prepared for the general plan, community plan or zoning action, or

(4) Are previously identified significant effects which, as a result of substantial new information which was not known at the time the EIR was certified, are determined to have a more severe adverse impact than discussed in the prior EIR.

Accordingly, the analysis below examines whether socioeconomic effects of the proposed project would result in significant adverse impacts on the physical environment that:

- Are peculiar to the project or the parcel on which the project would be located
- Were not analyzed as significant effects in the Eastern Neighborhoods PEIR
- Are potentially significant off-site impacts and cumulative impacts which were not discussed in the Eastern Neighborhoods PEIR, or
- Are previously identified significant effects which, as a result of substantial new information which was not known at the time the Eastern Neighborhoods PEIR was certified, are determined to have a more severe adverse impact than discussed in the PEIR

5 EASTERN NEIGHBORHOODS PLAN-LEVEL SOCIOECONOMIC EFFECTS

To evaluate whether socioeconomic effects that might be caused or exacerbated by the proposed project would result in new or more severe significant environmental impacts than were previously identified in the Eastern Neighborhoods PEIR, it is necessary to first review how such effects are addressed in the PEIR. The Eastern Neighborhoods PEIR included a thorough analysis of the socioeconomic effects of the rezoning and area plans. Specifically, the Population, Housing, Business Activity, and Employment section of the PEIR examines whether adoption of the area plans and rezoning would cause or substantially contribute to gentrification and the displacement of existing residents and businesses in the Eastern Neighborhoods plan areas, and if so, whether such effects would result in significant adverse

impacts on the physical environment[7]. A socioeconomic impact study prepared as a background report to the PEIR[8] provides the basis for this analysis.

The PEIR determined that the adoption and implementation of the area plans and rezoning would induce substantial growth and concentration of population in San Francisco. In fact, one of the four citywide goals that serve as the "project sponsor's objectives" for the Eastern Neighborhood Rezoning and Area Plans is:

> *Increase Housing*: To identify appropriate locations for housing in the City's industrially zoned land to meet a citywide need for more housing, and affordable housing in particular.

Notably, unlike other sections of the PEIR that base their analysis on *projected* growth through 2025, the Population, Housing, Business Activity, and Employment section considers the *total* housing supply potential of up to 26,500 new housing units on undeveloped parcels and soft sites under the rezoning. The analysis of potential gentrification and displacement effects in the PEIR is based on this full build out scenario, which assumes substantially greater population growth than the 2025 projections used to assess potential impacts on transportation, air quality and other growth-related impacts on the physical environment.[9]

The PEIR determined that the increase in population expected as a secondary effect of the rezoning and area plans would not, in itself, result in adverse physical effects, and would serve to advance some key City policy objectives, such as decreasing the air quality impacts of development by coordination of land use and transportation decisions (General Plan Air Quality Element Objective 3); provision of new housing, especially permanently affordable housing, in appropriate locations that meets identified housing needs and takes into account the demand for affordable housing created by employment demand (Housing Element Objective 1); encouragement of higher residential density in areas adjacent to downtown, in underutilized commercial and industrial areas proposed for conversion to housing, and in neighborhood commercial districts where higher density will not have harmful effects, especially if the higher density provides a significant number of units that are affordable to lower income households (Housing Element Policy 1.1); identification of opportunities for housing and mixed-use districts near downtown and former industrial portions of the City (Housing Element Policy 1.2); identification of opportunities for housing and mixed use districts near downtown and former industrial portions of the City (Housing Element Policy 1.3); establishment of public transit as the primary mode of transportation in San Francisco and as a means through which to guide future development and improve regional mobility and air quality (Transportation Element Objective 11); and giving first priority to improving transit service throughout the city, providing a convenient and efficient system as a preferable alternative to automobile use (Transportation Element Objective 20).

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[7] City and County of San Francisco, *Eastern Neighborhoods Rezoning and Area Plans, Final EIR,* p. 175-252, August 7, 2008.

[8] Hausrath Economics Group, *San Francisco's Eastern Neighborhoods Rezoning – Socioeconomic Impacts,* March 29, 2007.

[9] City and County of San Francisco, *Eastern Neighborhoods Rezoning and Area Plans, Final EIR,* p. 240-241, August 7, 2008.

Moreover, the PEIR concluded that implementation of the plans would result in more housing options and a broader range of housing prices and rents, compared to conditions under the No-Project scenario. The PEIR determined that the rezoning and area plans could result in a better match between housing supply and demand in San Francisco than would otherwise be the case without the rezoning while potentially providing benefits such as a reduction in traffic and vehicle emissions if San Francisco workers could live closer to their jobs. The PEIR anticipated that the population increase expected from the rezoning could also generate economic growth by increasing demand for neighborhood-serving retail and personal services, although some existing businesses could be displaced by other businesses that might better serve new residents. The PEIR also determined that the additional population would increase demand for other City services (parks, libraries, health care and human services, police and fire protection, schools, and childcare).[10]

Second, the PEIR determined that none of the proposed rezoning options would result in the direct displacement of residents, given that the rezoning would not lead to the demolition of existing residential development and would result in a substantial increase in residential units throughout the plan areas. As stated above, the PEIR determined that the rezoning would result in less displacement because of housing demand than otherwise expected under the No-Project scenario, because the addition of more new housing in the Eastern Neighborhoods would provide some relief for housing market pressures without directly affecting existing residents.

However, the PEIR recognized that residential displacement is not solely a function of housing supply, and that adoption of the area plans and rezoning could result in indirect, secondary effects on neighborhood character—through gentrification—that could result in some displacement of existing residents over time. The PEIR disclosed that the replacement of former industrial uses with housing could result in gentrification of existing nearby residential areas and displacement of lower income households. The PEIR also observed, however, that the rezoning could help to ameliorate the potential effects of residential displacement by increasing the supply of affordable dwelling units sized to accommodate families.

The PEIR also disclosed that as a result of the rezoning and area plans, the real estate market would favor residential, retail, and other higher-value uses, leading to PDR displacement, either to other locations in the city or outside San Francisco, and to some business closures. While this was an existing trend prior to adoption of the area plans and rezoning, the PEIR anticipated that this trend would accelerate in areas rezoned for non-PDR uses. The PEIR further anticipated that displacement of PDR businesses would result in some San Franciscans, including Eastern Neighborhoods residents, with limited education, skills, and language abilities losing opportunities for local, higher wage jobs, which in turn could increase demand for affordable housing in San Francisco.

The PEIR concluded that adoption and implementation of the area plans and rezoning would not create a substantial demand for additional housing in San Francisco, or substantially reduce the housing supply. As stated above, the PEIR determined that adoption of the area plans and rezoning would not substantially increase the overall economic growth potential in San Francisco and would not result in

[10] Ibid. p. 240-250

substantially more primary employment growth than otherwise expected in the city or the region, because most of the employment growth that would result from new housing in the Eastern Neighborhoods would be in neighborhood-serving retail and services, which are employment categories that tend to respond to increased population, not employment that precedes or leads to population growth.

Instead, the PEIR determined that implementation of the rezoning and area plans would increase the housing supply potential in the Eastern Neighborhoods and citywide, compared to conditions under the No-Project scenario without implementation of the proposed rezoning and area plans. The PEIR determined that by increasing housing supply relative to demand, more housing choices, and more (relatively) affordable housing units would be developed than without the rezoning, and that the Inclusionary Affordable Housing Program would require below-market-rate units to be developed in conjunction with market-rate projects. Therefore, housing prices and rents for both new and existing housing would generally be lower than would be the case with the more limited housing supply potential in these areas under the prior zoning and continuation of existing market trends. Additionally, the PEIR determined that the area plans and rezoning would reduce pressure to convert existing rental housing stock to relatively affordable for-sale housing (such as through condominium conversions and the tenants-in-common process), compared to No-Project conditions.

Still, the PEIR anticipated that for-sale housing in the Eastern Neighborhoods (and citywide) is likely to remain too expensive for most residents, underscoring the importance of providing and maintaining below-market-rate housing. A possible secondary impact of the area plans and rezoning would be a reduction in the number of sites where City-funded and other subsidized affordable housing units could be built, particularly on new development sites. The PEIR determined however, that maintaining the previous less-restrictive zoning would result in continued increase in land values in the Eastern Neighborhoods, which would also result in elimination of potential affordable housing sites, albeit on a more *ad hoc* basis. Nevertheless, the PEIR included Improvement Measure D-2: Affordable Housing Production and Retention, to reduce the less-than-significant physical effects of potential displacement of existing residents as a secondary effect of the rezoning.

The PEIR also determined that the rezoning would result in economic impacts that could displace existing neighborhood-serving businesses because, despite potential increases in business activity, some smaller, marginally profitable, and locally owned businesses would be likely to be displaced as economic conditions change, landlords begin to increase commercial rents, and more strongly capitalized businesses seek to locate in higher-priced neighborhoods. The PEIR identified improvement measures that could reduce the less-than-significant physical effects of potential displacement of neighborhood serving uses (i.e., Improvement Measure D-1: Support for Local, Neighborhood-Serving Businesses; Improvement Measure D-2: Affordable Housing Production and Retention; Improvement Measure D-3: Affordable Housing Sites; Improvement Measure D-4: Support for PDR Businesses; Improvement Measure D-5: Support for PDR Workers). The PEIR also notes that physical environmental impacts resulting from the growth under the rezoning and area plans are addressed under the relevant sections of the PEIR, such as transportation, air quality, noise, parks and open space, and public services.[11]

[11] Ibid p. 239

In summary, the Eastern Neighborhoods PEIR identified the potential effects of the rezoning and area plans on housing supply and affordability, gentrification, displacement, locally owned businesses, and PDR use, and evaluated whether these socioeconomic effects would result in significant impacts on the physical environment consistent with the requirements of CEQA. The appellant's contention that these socioeconomic effects represent new information or changed circumstances that the Eastern Neighborhoods PEIR failed to consider is therefore incorrect.

6 PROJECT-LEVEL SOCIOECONOMIC EFFECTS

The proposed project at 1515 South Van Ness Avenue would demolish a 31,680-square-foot, production, distribution, repair (PDR) building with a surface parking lot. The building was vacated in December 2015 by McMillan Electric, an electrical contractor business that has since moved to a new location at 1950 Cesar Chavez Street in San Francisco. The proposed project would include the demolition of the existing building and the construction of a five- to six-story, 55- to 65-foot-tall (up to 75 feet tall with roof-top equipment), approximately 180,300-square-foot mixed-use building.

The proposed building would consist of 118 market rate and 39 below market rate residential units (25 percent affordable) and approximately 1,080 square feet of retail uses. The proposed project would also include six ground floor trade shop spaces ranging from 630 to 760 square feet each (approximately 4,200 square feet total). The spaces are anticipated to be retail units with some reserved space for goods production (e.g., jewelry making, bag making, ceramics). Because it would not directly displace any existing residents, the proposed project would not result in any related socioeconomic effects.

The appellant contends, however, that even in the absence of direct displacement the project would have indirect displacement effects on existing residents and businesses as a result of gentrification pressures in the Calle 24 Latino Cultural District. As discussed above, the Eastern Neighborhoods PEIR analyzed the possibility that the increase in market rate housing anticipated under the area plans and rezoning could result in indirect displacement of existing residents and businesses as a secondary effect of gentrification and found that these socioeconomic effects would not result in significant physical environmental impacts. Because, as discussed in Section 5 above, the Eastern Neighborhoods PEIR identified potential cumulative gentrification and displacement effects of development under the rezoning and area plans, any such effects attributable to the proposed project would not be peculiar to the project or its site.

In the appellant's letter, the argument that market rate development may cause displacement through gentrification in the Latino Cultural District is primarily supported in two ways. The appellant asserts that displacement of "mom and pop Latino owned and operated concerns" with "high end restaurants, clothing and accessory stores, and personal trainer gyms and yoga studios," (p. 6 of October 14, 2016 Supplemental Appeal Letter) along Valencia Street was caused by new market rate development. The appellant also argues that a research brief by UC Berkeley's Institute for Governmental Studies ("IGS") supports the position that market rate development causes displacement.

6.1 COMMERCIAL GENTRIFICATION

The first part of the appellant's argument—the assertion that the project would contribute to or accelerate the "Valenciazation" (p. 6) of the Calle 24 District—is presented only as a theoretical possibility, without empirical evidence as to the causes of the changes along Valencia Street. The transition of Valencia Street to a regional shopping, dining, and entertainment destination has been underway at least since the early 2000s, predating the recent uptick in residential development in the corridor. The types of "gentrifying" businesses cited by the appellants, such as "high end restaurants, clothing and accessory stores, and personal trainer gyms and yoga studios," have been in operation along Valencia Street since well before the adoption of the Mission Area Plan. For example, the French bistro Garcon opened in 2005, the flagship store of the Weston boutique has been on Valencia Street since 2003, and the Yoga Tree studio opened in 2002. During the five-year period preceding the opening of Garcon (2001-2005), the number of market-rate units on Valencia increased by 108 (2.5% above the number of units in 2001) while the housing stock citywide expanded by 3.4%. While it is clear that the mix of businesses along Valencia has changed in recent decades, there is no evidence that market rate residential development caused the displacement of "mom and pop" businesses with upscale shopping and dining establishments.

The relatively slow pace of residential development on Valencia (compared to the rest of the city) is also evident over a longer time period. Market rate units along Valencia Street increased by 318 between 2001 and 2015, or roughly 7.9 percent, while the growth of market rate units citywide during the same period has been roughly 9.1 percent. A 2015 report by the City's Office of Economic Analysis finds, through the analysis of census microdata, that 97 percent of all high-income households new to San Francisco move into existing housing.[12] As the stock of new market rate housing units on the Valencia corridor has only expanded by roughly 0.5 percent each year over the past 15 years, it is more likely that the shift towards higher end retail along the corridor was caused by an influx of higher income residents into the existing housing stock. Therefore, appellant's position that new market rate units caused the changes in that corridor and that the project would contribute to a similar process in the Calle 24 District is not supported by empirical evidence.

Although the appellant does not provide evidence in support of the contention that the proposed project would lead to the displacement of Latino-owned businesses, the Planning Department engaged ALH Urban & Regional Economics to evaluate the potential effects of new development under the Eastern Neighborhoods rezoning and area plans on existing businesses in the Calle 24 District.[13] The results of this analysis are summarized below, and the full report is attached as Appendix A.

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[12] City and County of San Francisco Office of the Controller, "Potential Effects of Limiting Market-Rate Housing in the Mission", September 10, 2015.

[13] Amy Herman, ALH Urban & Regional Economics, *Socio-Economic Effects of Market-Rate Development on the Calle 24 Latino Cultural District, San Francisco, CA*, February 2017.

ALH found that there is little existing literature or study of commercial gentrification effects of new development, but cites a 2016 case study analysis in New York City, which indicates that: "The results of gentrification are mixed and show that gentrification is associated with both business retention and disruption."[14] The study further found that most businesses stay in place, and "displacement is no more prevalent in the typical gentrifying neighborhood than in non-gentrifying neighborhoods."[15] The study concludes that: "The fact that displacement is not systematically higher in New York City's gentrifying neighborhoods bodes well for cities experiencing less aggressive gentrification; however, cities with less vibrant neighborhood retail markets could be more vulnerable to gentrification-induced displacement."[16] These findings are similar to the conclusions in the Eastern Neighborhoods PEIR as discussed in Section 5 above.

Based on this study, ALH suggests that it is reasonable to conclude that commercial displacement is no more likely to occur in the Calle 24 District than in other San Francisco neighborhoods not experiencing gentrification. ALH also notes that the study suggests that opportunity exists for neighborhoods to gain quality-of-life services through new businesses and retain more businesses under conditions of gentrification, perhaps due to new and increased spending power locally, recognizing, however, that in "neighborhoods where services grow and/or change, the new products, price points, or cultural orientation could be more alienating than useful for incumbent residents."[17]

ALH observes that this latter point is similar to the appellant's concern about the "Valenciazation" of the Calle 24 District. However, as discussed above, the changes in the commercial character of the Valencia Street corridor occurred during a period with a limited amount of new market rate development on or near Valencia Street. This suggests that other factors may be more directly associated with commercial gentrification in the Mission than market rate residential development. Thus, in the absence of evidence, and supported by the limited existing academic literature, ALH does not accept the appellant's premise that market rate residential development causes gentrification of commercial space.

Nevertheless, at the Planning Department's direction, ALH conducted an analysis of the effects of development anticipated under the Eastern Neighborhoods rezoning and area plans on retail supply and demand within the Calle 24 District. The results of this analysis are summarized below, and the complete analysis is presented in Appendix A.

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[14] Rachel Meltzer, *Gentrification and Small Business: Threat or Opportunity?*, Cityscape: A Journal of Policy Development and Research, Volume 18, Number 3, 2016, page 57. See https://www.huduser.gov/portal/periodicals/cityscpe/vol18num3/index.html.

[15] Ibid.

[16] Ibid p. 80.

[17] Ibid.

ALH's analysis considers entitled projects and projects in the pipeline (i.e., projects with filed permit applications but not yet approved) within a three to four block radius of the Calle 24 District. ALH conservatively estimates[18] demand for retail services that could be generated by new residential development within this study area. Although the focus of the appellant's concern is on market rate development, the analysis estimates retail demand of all residential development, both market rate and below market rate.

ALH estimates that new residential development within the study area would generate demand for a total of 34,400 square feet of neighborhood-oriented retail and commercial space, representing 3.6 percent of the existing approximately 480,000 square feet of commercial base within the Calle 24 District. The largest share of the total demand includes services, followed by grocery stores (food and beverage stores), and restaurants and bars (food services and drinking places). The remaining increments are relatively small, all less than 4,000 square feet. ALH notes that a large portion of this demand comprises grocery store demand, which could help support the Grocery Outlet store currently under construction at 1245 South Van Ness, the location of the defunct DeLano's Market closed since 2010, as well as other existing small markets in the area. ALH also observes that because residents of new development within the study area would not likely shop and dine exclusively within the Calle 24 District, some portion of new demand for neighborhood-oriented services would be expressed outside of the study area.

New development under the Eastern Neighborhoods rezoning and area plans would create a total of approximately 30,400 square feet of net new retail space within the study area. Thus, there is essentially equilibrium between the amount of neighborhood-oriented retail demand and net new retail space resulting from anticipated development within the study area. Because not all neighborhood-oriented demand is likely to be expressed for only the retail space in the Calle 24 District, there would likely be a relative surplus of net new neighborhood-oriented retail space relative to new demand. ALH therefore concludes that demand for retail services generated by new residential development within the study area would not result in substantial pressure on the existing retail base in the Calle 24 District.

This commercial displacement finding is reinforced by analysis regarding the existing balance between retail supply and demand in the Calle 24 District as well as the larger Mission District as a whole. As noted above, the Calle 24 District is estimated to have 480,000 square feet of retail space. The Mission District has 3,022,780 square feet of retail space.[19] Demand analysis for existing households in the Mission and Calle 24 District indicates that both areas are characterized by retail attraction, meaning they attract more retail sales, or demand, than is supportable by their population bases (see Exhibits 10 through 13 of

[18] The ALH retail demand estimate is considered conservative for purposes of this analysis because assumptions made in the analysis (e.g., average household income and spending patterns) are more likely to result in overestimation rather than underestimation of the actual retail demand that could be generated.

[19] San Francisco Planning Department, *Mission Area Plan Monitoring Report: 2011- 2015,* Table 2.1.1, page 9.

Appendix A). The demand analysis for each area was prepared using the same methodology and assumptions as for the Calle 24 District pipeline households.

The retail demand analyses are summarized in **Table 1**, which indicates that for the Mission as a whole, residents are estimated to generate total retail demand for 1.1 million square feet, with just under 500,000 square feet of this amount comprising neighborhood-oriented demand. Comparable figures for existing Calle 24 District households are 325,500 square feet of total demand, including 141,500 square feet of neighborhood-oriented demand.

Table 1: Retail Inventory and Demand
Mission and Calle 24 Latino Cultural District

		Square Feet Supported		Supply Multiplier	
Area	**Retail Inventory**	**Total**	**Neighborhood Oriented**	**Total**	**Neighborhood Oriented**
Mission District	3,022,780	1,134,500	493,200	2.7	6.1
Calle 24 District	480,000	325,500	141,500	1.5	3.4

Sources: San Francisco Planning Department, *Mission Area Plan Monitoring Report: 2011-2015*, Table 2.1.1, page 9
ALH Urban & Regional Economics

These demand estimates indicate that the supply of retail in the Mission as a whole and the Calle 24 District outstrip locally-generated demand. In the Mission, the total retail supply is more than 2.5 times the amount of retail supportable by its residents. In the Calle 24 District, the figure is smaller at 1.5 times, but is still strongly suggestive of retail attraction, meaning that the existing retail base is attracting clientele from a broader geographic area. This is especially the case considering that neighborhood-oriented demand is only a small subset of total demand, with the supply of neighborhood-oriented businesses in both areas greatly exceeding demand for neighborhood retail.

The San Francisco Controller's Office peer reviewed the ALH report, and concurred with its conclusions, stating: "There is no reason to believe that development in the pipeline would increase commercial rents in the neighborhood, considering that new development in the pipeline would raise the neighborhood's supply of commercial space, as well as demand."[20]

In summary, neither the relevant literature, nor the available evidence support the appellant's contention that the proposed project would result, either individually or cumulatively, in commercial gentrification within the Calle 24 Latino Cultural District.

6.2 RESIDENTIAL DISPLACEMENT

ALH reviewed numerous studies and papers to identify the existing published research that best address the relationships between housing production, housing cost, and displacement. Based upon this review

[20] City and County of San Francisco, Office of the Controller, *Review of ALH Socioeconomics Report,* February 22, 2017.

of the literature and related studies, five papers stand out in regards to their consideration of this issue. These papers were authored by state and local policy analysts as well as urban planning academics, and include the following:

Mac Taylor, Legislative Analyst, California Legislative Analyst's Office, "California's High Housing Costs: Causes and Consequences," March 17, 2015. http://www.lao.ca.gov/reports/2015/finance/housing-costs/housing-costs.pdf

Mac Taylor, Legislative Analyst, California Legislative Analyst's Office, "Perspectives on Helping Low-Income Californians Afford Housing," (February 2016). http://www.lao.ca.gov/Reports/2016/3345/Low-Income-Housing-020816.pdf

City and County of San Francisco, Office of the Controller-Office of Economic Analysis, "Potential Effects of Limiting Market-Rate Housing in the Mission," (September 10, 2015). http://sfcontroller.org/sites/default/files/FileCenter/Documents/6742-mission_moratorium_final.pdf

Miriam Zuk, Karen Chapple, "Housing Production, Filtering and Displacement: Untangling the Relationships," University of California, Berkeley, Institute of Governmental Studies Research Brief (May 2016). http://www.urbandisplacement.org/sites/default/files/images/udp_research_brief_052316.pdf

Paavo Monkkonen, Associate Professor Urban Planning, University of California Los Angeles, "Understanding and Challenging Opposition to Housing Construction in California's Urban Areas," Housing, Land Use and Development Lectureship & White Paper, December 1, 2016. http://uccs.ucdavis.edu/uccs-crre-housing-policy-brief-white-paper

Appendix A includes a synopsis of the findings from each of these studies most specifically addressing housing production and housing costs, with an emphasis, if possible, on rental housing, as this is most applicable to the Calle 24 District and San Francisco.

The findings from the five studies identified above support the conclusion that housing production does not result in increased costs of the existing housing base, but rather helps suppress existing home prices and rents. In addition, through filtering[21], new home development makes other units available for households with lower incomes than those occupying newer units, although the rate at which this filtering occurs can vary, depending upon the housing market dynamics. Further, the studies find that both market-rate and affordable housing development help to suppress price appreciation and reduce displacement, with affordable housing having double the protective effect of market-rate housing,

[21] *Filtering* is the process by which the cost of older market rate housing stock is suppressed through the increased availability of newer market rate development.

although the rate at which this occurs in small, localized areas requires further analysis to best understand the relationship between development, affordability, and displacement at the local level.

The appellant references one of the studies reviewed by ALH (the Zuk and Chapple brief) in the September 12, 2016 appeal letter to argue that the proposed project would cause displacement. However, as further discussed in Appendix A, the Zuk and Chapple brief does not support this conclusion. As the appellant's letter itself highlights, the brief stresses the importance of building both market rate and subsidized housing in order to ease displacement pressures at the regional scale. The report finds "that market-rate housing built in the 1990s significantly reduces the incidence of displacement from 2000 to 2013",[22] and states further: "These findings provide further support for continuing the push to ease housing pressures by producing more housing at all levels of affordability throughout strong-market regions."[23] Another way of phrasing these findings is that if the project was not built, displacement pressures in the city and region would increase, as the project includes both market rate and affordable units, both of which have an attenuating effect on displacement, according to the study. Zuk and Chapple find that the effect at finer grained scales (such as the census block group level) is "insignificant"[24], meaning that neither a positive nor a negative impact could be detected. Thus, the Zuk and Chapple brief does not support the appellant's contention that development like the proposed project causes displacement.

The San Francisco Controller's Office concurred with ALH's analysis, stating: "There is no reason to believe that new housing increases the market rents of vacant rental units or the sales prices of for-sale units."[25]

In addition to ALH's review of the relevant research, the Planning Department undertook exploratory analysis to test the proposition that market rate development has caused displacement at a finer grained scale (the census tract) in San Francisco over the past 15 years and has similarly found no clear cause and effect relationship. A statistical simple correlation analysis between new units added between 2000 and 2015 by census tract and eviction notices served between 2011 and 2015 shows only a weak *negative* correlation, that is census tracts with *more* development saw *fewer* evictions.[26][27] This analysis uses the

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[22] Miriam Zuk & Karen Chapple, *Housing Production, Filtering and Displacement: Untangling the Relationships*, University of California, Berkeley, Institute of Governmental Studies Research Brief (May 2016), page 6.

[23] Ibid p. 3.

[24] Ibid p. 7.

[25] City and County of San Francisco, Office of the Controller, *Review of ALH Socioeconomics Report,* February 22, 2017.

[26] The Planning Department analyzed both "no fault" and "for cause" evictions, since "for cause" evictions currently make up a majority of all cases. This relationship holds for both types of evictions.

frequency of eviction notices as an appropriate proxy and indicator for overall displacement pressure. In order to detect whether new market rate housing "signals" the desirability of neighborhoods and attracts high-income residents in a later period, staff correlated eviction notices given between 2011 and 2015 with new market rate units built during four periods (2001 to 2005, 2006 to 2010, 2011 to 2015, and 2001 to 2015). Each showed a weak and non-statistically significant correlation between evictions and new development and a very low "goodness of fit", meaning that to the extent that a correlation exists, new market rate development explains very little of the variability of evictions across neighborhoods. In the absence of a statistically significant correlation between these two variables, the causal relationship between new market rate development and evictions/displacement claimed by the appellants is extremely speculative (if not unlikely) and is not supported by any empirical evidence in the record.

6.3 CONCLUSION

Neither the relevant published research nor available data support the appellant's contention that the proposed project would result, either individually or cumulatively, in indirect displacement of existing residents or businesses as a secondary effect of gentrification. Moreover, even if the proposed project could have these effects, this would not represent a new or more severe impact that is peculiar to the project or its site because the Eastern Neighborhoods PEIR included a detailed analysis of this topic. Finally, to the extent that the proposed project would cause or contribute to gentrification or displacement effects identified in the Eastern Neighborhoods PEIR, these socioeconomic effects would not in and of themselves constitute environmental impacts under CEQA.

7 PHYSICAL ENVIRONMENTAL IMPACTS

Pursuant to CEQA Guidelines section 15131(a): "[a]n EIR may trace a chain of cause and effect from a proposed decision on a project through anticipated economic or social changes resulting from the project to physical changes caused in turn by the economic or social changes. The intermediate economic or social changes need not be analyzed in any detail greater than necessary to trace the chain of cause and effect. The focus of the analysis shall be on the physical changes." Accordingly, the following analysis examines the appellant's claim that the proposed project would result in *physical* changes to the environment as a consequence of gentrification and displacement that were not analyzed as significant effects in the Eastern Neighborhoods PEIR.

As discussed above, the Eastern Neighborhoods PEIR determined that adoption and implementation of the area plans and rezoning would result in economic impacts that could potentially displace existing

[27] This analysis standardized evictions in census tracts across the city by dividing them by the total number of rental units in the census tract in order to compare relative rates of evictions between tracts and not to compare absolute numbers of evictions, since tracts with greater amounts of rental housing would be assumed to have a proportionately greater absolute number of evictions.

businesses and residents, and identifies improvement measures that could reduce the less-than-significant physical effects of potential displacement of neighborhood serving businesses and residents. Although the PEIR did not establish a causal link between potential displacement effects and significant physical environmental impacts, the PEIR did identify physical environmental impacts related to growth under the area plans and rezoning. The PEIR analyses the physical environmental impacts caused by growth anticipated under the area plans and rezoning in the relevant resource topic sections, such as transportation, air quality, noise, and parks and open space.

The appellant claims that the proposed project would cause or contribute to socioeconomic effects that would in turn cause significant physical environmental impacts beyond those identified in the Eastern Neighborhoods PEIR. Specifically, the appellant contends that the proposed project, through gentrification and displacement, would have significant cumulative impacts on land use, recreation and open space, traffic, transit, health and safety, air quality, and greenhouse gasses, and on aesthetic, historic, and cultural aspect of the Calle 24 Latino Cultural District. Since, as shown above, there is no evidence to support the appellant's claim that the proposed project would cause or contribute to gentrification or displacement effects, it follows that there is also no evidence to establish a causal link between gentrification and displacement and physical environmental impacts beyond those identified in the Eastern Neighborhoods PEIR. Notwithstanding the above, the following analysis tests the appellant's claims by examining whether, regardless of the cause, physical impacts are occurring within the Calle 24 Latino Cultural District beyond those anticipated in the Eastern Neighborhoods PEIR.

7.1 TRANSPORTATION

Pursuant to the requirements of CEQA section 21083.3 and CEQA Guidelines section 15183, the CPE checklist prepared for the 1515 South Van Ness Avenue project evaluates whether the proposed project would result in significant impacts on transportation, either individually or cumulatively, beyond those identified in the Eastern Neighborhoods PEIR.[28] This analysis is supported by a 293-page project-specific transportation impact study, that evaluates the project-level and cumulative impacts of the proposed project on traffic, transit, bicycle and pedestrian safety, loading, and emergency services and access.[29] Contrary to the appellant's contentions, the project-specific transportation impact analysis does not rely on "outdated" information. Instead, the analysis uses the latest transportation models, forecasting, and impact assessment methodologies, incorporating up-to-date transportation, population, growth, and demographic data to evaluate the effects of the proposed project on both existing and 2040 cumulative transportation conditions. Based on this analysis, the CPE determines that the proposed project would not result in significant impacts on transportation beyond those identified in the Eastern Neighborhoods PEIR.

[28] San Francisco Planning Department, *1515 South Van Ness Avenue Project Community Plan Exemption Checklist*, pp. 18-29, July 12, 2016.

[29] Fehr & Peers, *1515 South Van Ness Avenue Transportation Impact Study*, January 2016.

Even though the analysis provided in the CPE fully satisfies the requirements of CEQA and no further analysis of the transportation impacts of the proposed project is required, the Planning Department worked with transportation consultants at Fehr & Peers to explore the appellant's claims that the proposed project would cause or contribute to new or substantially more severe transportation impacts than were identified in the Eastern Neighborhoods PEIR due to new information or changed circumstances not previously considered. This analysis compares the transportation impacts anticipated in the Eastern Neighborhoods PEIR with up-to-date transportation impact data and models. As summarized below and further detailed in Appendix B, the results of this analysis demonstrate that current transit and traffic conditions are generally better than the Eastern Neighborhoods PEIR anticipated would be the case by this time. The PEIR anticipated there would be less transit capacity and correspondingly higher capacity utilization (crowding) on the Muni lines serving the Mission and estimated that a slightly higher percentage of new trips would be made by private vehicles than current data demonstrate. In addition, while the Mission has undergone significant demographic and economic change, residents on average still own around the same number of vehicles, and use non-auto modes at similar rates as they did prior to adoption of the rezoning and area plans.

7.1.1 Transit

The Eastern Neighborhoods PEIR determined that population growth under the rezoning and area plans would result in significant cumulative impacts on transit. Specifically, the PEIR anticipated that daily transit trips between 2000 and 2025 would increase by approximately 254,000 trips or about 20 percent over baseline conditions within San Francisco as a whole and by approximately 28,000 daily trips or approximately 38 percent in the Eastern Neighborhoods. The PEIR determined that without increases in peak-hour capacity, population growth in the Eastern Neighborhoods would result in significant cumulative impacts on transit capacity. The PEIR identified Mitigation Measures E-5 through E-11 to address impacts and transit capacity. These measures call for:

- Transit corridor improvements (e.g., along Mission Street between 14th and Cesar Chavez streets, 16th Street between Mission and Third streets, Bryant Street or other parallel corridor between Third and Cesar Chavez streets, a north-south corridor through portions of SoMa west of Fifth Street, and service connecting Potrero Hill with SoMa and downtown)
- Implementing service recommendations from the Transit Effectiveness Project, Better Streets Plan and Bicycle Plan when available and as feasible
- Providing additional funding for Muni maintenance and storage facilities
- Increasing passenger amenities, such as expanded installation of the Next Bus service and new bus shelters
- Expanding use of transit preferential street technologies to prioritize transit circulation, and
- Expanding the Transportation Demand Management program to promote the use of alternate modes of transportation.

The PEIR determined that while these measures would reduce operating impacts and improve transit service within the Eastern Neighborhoods, the adverse effects to transit could not be fully mitigated. Also, given the inability to determine the outcome of the Transit Effectiveness Program, Better Streets Plan, Bicycle Plan, and other plans and programs that were in process at the time that the PEIR was

certified and uncertainty regarding future funding of these plans and programs, the PEIR determined that the feasibility of these mitigation measures could not be assured. Thus, the PEIR determined that cumulative impacts on transit under the rezoning and area plans would be significant and unavoidable.

Since the certification of the Eastern Neighborhoods PEIR, the City has implemented many of the plans, programs, and improvements identified in Eastern Neighborhoods PEIR Mitigation Measures E-5 through E-11 as summarized below.

In compliance with a portion of Mitigation Measure E-5: Enhanced Transit Funding, the City adopted impact fees for development in Eastern Neighborhoods that go towards funding transit and complete streets projects. In addition, the Board of Supervisors approved amendments to the San Francisco Planning Code, referred to as the Transportation Sustainability Fee (Ordinance 200-154, effective December 25, 2015).[1] The fee updated, expanded, and replaced the prior Transit Impact Development Fee, which is in compliance with portions of Mitigation Measure E-5: Enhanced Transit Funding. With respect to Mitigation Measures E-5: Enhanced Transit Funding and Mitigation Measure E-11: Transportation Demand Management, on February 7, 2017 the Board of Supervisors adopted amendments to the planning code, referred to as the Transportation Demand Management Program.[2] Additionally, SFMTA has sought grants through local Proposition A funds directly supporting the 14 Mission Rapid Project, the Potrero Avenue Project for the 9 San Bruno and 9R San Bruno Rapid routes (currently under construction), and the 16th Street Transit Priority Project for the 22 Fillmore (expected construction between 2017 and 2020). The SFMTA also pursued funding from the Federal Transit Administration and the Metropolitan Transportation Commission for the transit corridor projects for the 14 Mission along Mission Street and for the 22 Fillmore along 16th Street. In compliance with all or portions of Mitigation Measure E-6: Transit Corridor Improvements, Mitigation Measure E-7: Transit Accessibility, Mitigation Measure E-9: Rider Improvements, and Mitigation Measure E-10: Transit Enhancement, the SFMTA is implementing NextBus, Customer First, and the Transit Effectiveness Project, which was approved by the SFMTA Board of Directors in March 2014. There are about 850 NextBus displays throughout the City with strong coverage throughout the Mission District. Customer First improved lighting and shelters at stops. The Transit Effectiveness Project is now called Muni Forward and includes system-wide review, evaluation, and recommendations to improve service and increase transportation efficiency.

In addition, Muni Forward also includes transit service improvements to various routes with the Eastern Neighborhoods Plan area the service improvements include the creation of new routes such as the implementation of Route 55 on 16th Street between the intersection of 16th and Mission Streets and Mission Bay, changes to route alignment such as for the 27 Bryant, the elimination of underused existing

[1] Two additional files were created at the Board of Supervisors for TSF regarding hospitals and health services, grandfathering, and additional fees for larger projects: see Board file nos. 151121 and 151257.

[2] San Francisco Board of Supervisors. 2017. BOS File 160925. Available online at https://sfgov.legistar.com/LegislationDetail.aspx?ID=2830460&GUID=EFCB06B2-19CB-4777-B3A5-1638670C3A2C accessed February 21, 2017. Additional information is available at the Planning Department web page for TDM at http://sf-planning.org/shift-transportation-demand-management-tdm accessed February 21, 2017.

routes or route segments, changes to the frequency and hours of transit service, changes to the transit vehicle type on specific routes, and changes to the mix of local/limited/express services on specific routes. Many of the service improvements analyzed as part of Muni Forward in the Transit Effectiveness Project EIR have been implemented, but some are receiving further study.

Mitigation Measure E-7 also identifies implementing recommendations of the Bicycle Plan and Better Streets Plan. As part of the San Francisco Bicycle Plan, adopted in 2009, a series of minor, near-term, and long-term bicycle facility improvements are planned within the Eastern Neighborhoods, including along 2nd Street, 5th Street, 17th Street, Townsend Street, Illinois Street, and Cesar Chavez Street. The minor improvements consist of a toolkit of treatments implemented on an as-needed basis to support bicycling in the city such as shared lane markings called sharrows and the provision of bicycle parking within the public right-of-way including bicycle racks on sidewalks and on-street bicycle corrals. Most near-term improvements have been implemented as indicated above. With the implementation of bicycle facilities as part of the Bicycle Plan and envisioned as part of the 2013 Bicycle Strategy, San Francisco has experienced an increase in bicycle ridership. Since 2006, the SFMTA has conducted annual bicycle counts during peak commute hours at various intersections throughout the city.[30] While the bicycle counts at any one intersection may fluctuate from year to year, the most recent counts from 2015 demonstrate that the overall the number of bicyclists in the city, including in the Mission District, have increased over the counts from 2008, when the Eastern Neighborhoods PEIR was certified. For example, at the intersection of 17th and Valencia Streets in the p.m. peak there were 485 cyclists in 2008 compared with 1,219 in 2015, and at the intersection of 23rd Street and Potrero Avenue in the p.m. peak there were 50 cyclists in 2008 compared with 106 in 2015.

The San Francisco Better Streets Plan, adopted in 2010, describes a vision for the future of San Francisco's pedestrian realm and calls for streets that work for all users. The Better Streets Plan requirements were codified in section 138.1 of the planning code and new projects constructed in the Eastern Neighborhoods Plan area are subject to varying requirements, dependent on project size.

Another effort which addresses transit accessibility, Vision Zero, was adopted by various City agencies in 2014. Vision Zero focuses on building better and safer streets through education, evaluation, enforcement, and engineering. The goal is to eliminate all traffic fatalities by 2024. Vision Zero projects within the Eastern Neighborhoods Plan areas include pedestrian intersection treatments along Mission Street from 18th to 23rd streets, the Potrero Avenue Streetscape Project from Division to Cesar Chavez streets, and the Howard Street Pilot Project, which includes pedestrian intersection treatments from 4th to 6th streets.

Overall, compared to the transit service analyzed in the Eastern Neighborhoods PEIR, current transit service has increased by 8 percent in the a.m. peak hour, 14 percent during midday, and 6 percent in the p.m. peak hour. As a result, the significant impacts identified in the Eastern Neighborhoods PEIR on transit capacity have not materialized. The following analysis compares the impacts on transit capacity anticipated in the Eastern Neighborhoods PEIR with current and projected future transit conditions in light of the transit system improvements described above.

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[30] SFMTA. 2009-2016. Bike Reports Available online at https://www.sfmta.com/about-sfmta/reports/bike-reports. Accessed February 21, 2017.

The SFMTA Board has adopted an 85-percent capacity utilization performance standard for transit vehicle loads, meaning that Muni transit lines should operate at or below 85 percent of transit vehicle capacity. This performance standard more accurately reflects actual operations and the likelihood of "pass-ups" (i.e., vehicles not stopping to pick up more passengers). The Planning Department applies this standard as a CEQA threshold of significance for determining peak period transit demand impacts to the SFMTA lines. **Table 2** shows the capacity utilization for the 11 Muni lines serving the Eastern Neighborhoods plan areas under the 2000 CEQA baseline and the 2025 no project and with project cumulative scenarios as reported in the Eastern Neighborhoods PEIR. The last two columns of the table show 2013 capacity utilization on these same lines based on SFMTA data and the SF-CHAMP[31] 2040 cumulative scenario based on current model inputs. As shown in **Table 2**, capacity utilization on the Muni bus and light rail lines serving the Eastern Neighborhoods is generally lower than the PEIR baseline conditions, and the anticipated 2040 cumulative conditions are better than the anticipated 2025 cumulative conditions.

[31] The San Francisco Chained Activity Modeling Process ("SF-CHAMP") is a regional travel demand model designed to assess the impacts of land use, socioeconomic, and transportation system changes on the performance of the local transportation system. The San Francisco County Transportation Authority developed SF-CHAMP to reflect San Francisco's unique transportation system and socioeconomic and land use characteristics. It uses San Francisco residents' observed travel patterns, detailed representations of San Francisco's transportation system, population and employment characteristics, transit line boardings, roadway volumes, and the number of vehicles available to San Francisco households to produce measures relevant to transportation and land use planning. Using future year transportation, land use, and socioeconomic inputs, the model forecasts future travel demand.

Table 2: Muni Capacity Utilization at Maximum Load Point
Weekday PM Peak Hour Inbound/Outbound

Line	EN PEIR 2000 Baseline	EN 2025 No Project	EN 2025 Option A	EN 2025 Option B	EN 2025 Option C	SFMTA Fall 2013	SF-CHAMP 2040
9-San Bruno	**94%/110%**	**120%/151%**	**134%/151%**	**135%/149%**	**148%/165%**	57%/68%	61%/84%
12-Folsom	**94%**/30%	**109%**/42%	**112%**/42%	**113%**/41%	**120%**/52%	73%/57%	N/A[1]
14-Mission	47%/**86%**	60%/**113%**	62%/**113%**	63%/**112%**	69%/**122%**	49%/40%	39%/76%
22-Fillmore	82%/85%	**95%/102%**	**98%/102%**	**100%/101%**	**107%/109%**	61%/58%	68%/83%
26-Valencia	26%/76%	33%/**89%**	33%/**89%**	33%/**90%**	35%/**94%**	N/A[2]	N/A[2]
27-Bryant	**86%**/57%	**111%**/78%	**118%**/78%	**119%**/77%	**126%**/84%	60%/46%	63%/55%
33-Stanyan	68%/56%	**87%**/74%	**89%**/74%	**91%**/73%	**97%**/81%	53%/42%	63%/55%
48-Quintara	**87%**/72%	**112%/94%**	**113%/94%**	**115%/93%**	**119%/100%**	57%/65%	67%/63%
49-Van Ness-Mission	73%/**93%**	85%/**112%**	**89%/112%**	**91%/111%**	**100%/121%**	48%/47%	N/A[3]
53-Southern Heights	27%/31%	34%/44%	35%/44%	35%/43%	37%/48%	N/A[4]	N/A[4]
67-Bernal Heights	67%/68%	**86%/88%**	**87%/88%**	**87%/88%**	**88%/88%**	15%/46%	22%/66%

[1] Under Muni-Forward, the 12-Folsom may be replaced by the 10 Sansome on a portion of the route and by the 27 Bryant on the remainder of the route.
[2] The 26-Valencia route was eliminated in December 2009.
[3] The 49-Van Ness-Mission will change to limited stop/rapid service at the time that the Van Ness BRT service commences.
[4] The 53-Southern Heights route was eliminated in December 2009.

Bold text denotes significant impact based on exceedance of 85-percent capacity utilization significance threshold.

Sources:
Eastern Neighborhoods PEIR p. 282
San Francisco Planning Department, *Transit Data for Transportation Impact Studies*, May 15, 2015.
SFCTA, *SF-CHAMP model run for Central Corridor 2040 Cumulative Scenario*, November 12, 2013.

In conclusion, as a result of substantial increases in transit capacity, the cumulative impacts on transit resulting from growth under the Eastern Neighborhoods rezoning and area plans is *less* severe rather than more severe than anticipated in the PEIR. As such, it is evident that the demographic changes occurring in the Mission have not resulted in significant impacts on transit service that were not anticipated in the Eastern Neighborhoods PEIR. Therefore, the proposed project would not result in significant impacts, either individually or cumulatively, on transit beyond those identified in the PEIR.

7.1.2 Traffic Congestion

At the time that the Eastern Neighborhoods PEIR was certified in 2008, the Planning Department considered increased traffic congestion as measured by the level of service metric to be a physical environmental impact under CEQA. However, in 2013, the state legislature amended CEQA adding Chapter 2.7: Modernization for Transportation Analysis of Transit Oriented Infill Projects. Accordingly, CEQA section 21099(b)(1) requires that the State Office of Planning and Research (OPR) develop revisions to the state CEQA Guidelines establishing criteria for determining the significance of transportation impacts of projects that promote the "reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses." CEQA section 21099(b)(2) states that upon certification of the revised CEQA Guidelines for determining transportation impacts pursuant to

section 21099(b)(1), automobile delay, as described solely by level of service (LOS) or similar measures of vehicular capacity or traffic congestion, shall not be considered a significant impact on the environment under CEQA.

In January 2016, OPR published for public review and comment a *Revised Proposal on Updates to the CEQA Guidelines on Evaluating Transportation Impacts in CEQA*[32] (proposed transportation impact guidelines) recommending that transportation impacts for projects be measured using a vehicle miles traveled ("VMT") metric. VMT measures the amount and distance that a project might cause people to drive, accounting for the number of passengers within a vehicle.

OPR's proposed transportation impact guidelines provides substantial evidence that VMT is an appropriate standard to use in analyzing transportation impacts to protect environmental quality and a better indicator of greenhouse gas, air quality, and energy impacts than automobile delay. Acknowledging this, San Francisco Planning Commission Resolution 19579, adopted on March 3, 2016:

- Found that automobile delay, as described solely by LOS or similar measures of vehicular capacity or traffic congestion, shall no longer be considered a significant impact on the environment pursuant to CEQA, because it does not measure environmental impacts and therefore it does not protect environmental quality.
- Directed the Environmental Review Officer to remove automobile delay as a factor in determining significant impacts pursuant to CEQA for all guidelines, criteria, and list of exemptions, and to update the Transportation Impact Analysis Guidelines for Environmental Review and Categorical Exemptions from CEQA to reflect this change.
- Directed the Environmental Planning Division and Environmental Review Officer to replace automobile delay with VMT criteria which promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses; and consistent with proposed and forthcoming changes to the CEQA Guidelines by OPR.

Planning Commission Resolution 19579 became effective immediately for all projects that had not received a CEQA determination as of March 3, 2016, and for all projects that have previously received CEQA determinations, but require additional environmental analysis. Therefore, the CPE for the proposed project does not consider whether the proposed project would have significant impacts either individually or cumulatively on traffic congestion as measured by LOS. Instead, in accordance with CEQA section 21099 and Planning Commission Resolution 19579, the CPE evaluates whether the proposed project would result in significant impacts on VMT. As stated in the CPE checklist, the proposed project would not have a significant impact either individually or cumulatively on VMT. As noted above, this analysis uses the latest transportation models and impact assessment methodologies, incorporating up-to-date transportation, population, growth, and demographic data to evaluate the effects of the proposed project on both existing and 2040 cumulative transportation conditions. Based on this analysis, the CPE concludes that the project would not have a significant impact on traffic that is peculiar to the project or the project site, and that no further environmental review of the project's effects

[32] This document is available online at: https://www.opr.ca.gov/s_sb743.php.

on traffic congestion is required in accordance with CEQA section 21083.3 and CEQA Guidelines section 15183.

Even though, as discussed above, the CPE establishes that the proposed project would not have significant impacts either individually or cumulatively related to increased VMT, the following analysis further examines the appellant's contentions that the project would have substantially more severe impacts on traffic than were identified in the Eastern Neighborhoods PEIR.

7.1.3 Travel Behavior

The appellant contends, as part of the September 12, 2016 appeal letter, that gentrification and displacement that the proposed project would contribute to are resulting in increased traffic due to "reverse commutes," stating:

> "The PEIR did not anticipate the "advanced gentrification" of the neighborhood, along with the extensive displacement of Latino families and businesses, the reverse commute to distant areas, and that impact on greenhouse gas emissions and on traffic congestion… Due to the unexpected rise in rents throughout the Bay Area, displaced residents are now required to commute distances as far as Vallejo and Tracy, distances was [sic] not contemplated in the PEIR for the Eastern Neighborhoods."

As presented in Appendix B and summarized below, updated local and regional transportation modeling, census data, and traffic counts at representative intersections in the Mission do not support the appellant's claim that increased commute distances by displaced workers is causing significant cumulative transportation impacts beyond those anticipated under the Eastern Neighborhoods PEIR.

Many factors affect travel behavior, including land-use density and diversity, design of the transportation network, access to regional destinations, distance to high-quality transit, development scale, demographics, and transportation demand management. Typically, low-density development located in areas with poor access to non-private vehicular modes of travel generate more automobile travel compared to development located in urban areas, where a higher density mix of land uses and travel options other than private vehicles are available. Given these travel behavior factors, San Francisco has a lower ratio of VMT per household than the San Francisco Bay Area regional average.

The San Francisco County Transportation Authority uses the SF-CHAMP model to estimate VMT by private automobiles and taxis for different land use types. The SF-CHAMP model assigns all predicted trips within, across, and to or from San Francisco onto the roadway network and the transit system by mode and transit carrier for a particular scenario. For example, the 2040 SF-CHAMP model run assigns trips to and from each of the 981 transportation analysis zones across San Francisco based on the land use development that is projected. Trips that cross San Francisco, but do not have an origin or destination in the city are projected using inputs from the regional transportation model. SF-CHAMP models travel behavior based on the following inputs:

- Projected land use development (based on the Planning Department's pipeline) and population and employment numbers – as provided by the Planning Department, based on the Association

of Bay Area Governments ("ABAG") Projections (currently the Projections 2013 (Sustainable Communities Strategy).

- Observed behavior from the California Household Travel Survey 2010-2012
- Census data regarding automobile ownership rates and county-to-county worker flows
- Observed vehicle counts and transit boardings.

Neither SF-CHAMP nor the regional travel model[33] explicitly link low-income workers living in one area with lower paying jobs in another area, or high-income workers with high-paying jobs for that matter; this level of analysis is generally considered to be more fine-grained than is appropriate for regional travel forecasts. Instead, household-job links are established using existing research on typical commute patterns and distances, including the distribution of workers living in a given area who travel longer distances to work, and so forth[34]. Based on the model inputs, which as noted above include development in the Planning Department's pipeline, both regional average and local San Francisco VMT is expected to decrease in the future.

Regardless of the model assumptions, some households will move from San Francisco and have increased commute distances, while others may change jobs and have decreased commute distances. However, the model indicates that overall aggregate regional growth is expected to reduce the average distance that a typical worker travels between home and work. The Transportation Authority estimates that existing average VMT per household is 17.2 for the region and 7.0 for the project area (Transportation Analysis Zone 133). VMT per household is expected to decrease to 16.1 for the region and to 6.2 for the project area by 2040[35]. Employment data shows that the share of Bay Area residents living more than 10 miles from their employer increased from 2004 to 2014; over the same period, the absolute number of individuals living more than 10 miles from their employer also increased. As such, a larger number of individuals are likely driving alone to work across longer distances. This does not, however, translate into a higher share of individuals driving alone to work; the regional drive alone commute modeshare is at its lowest point since 1960, based on census data. Moreover, the Eastern Neighborhoods PEIR anticipated traffic impacts due to increased vehicle trips associated with population growth.

The Eastern Neighborhoods PEIR determined that increased vehicle trips resulting from population growth and development under the rezoning and area plans would result in level of service impacts at representative intersections in the Mission. Of the 13 study intersections in the Mission, the PEIR determined that significant LOS impacts would occur at three intersections during the weekday p.m. peak hour under rezoning Option A, five under Option B, and four under Option C. The PEIR also

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[33] SF-CHAMP is built using the regional travel model, and adding additional detail to TAZs located within San Francisco.

[34]For additional detail on the process of developing the travel model, see the MTC documentation at: http://mtcgis.mtc.ca.gov/foswiki/Main/Development

[35] Schwartz, Michael, Coper, Drew, *Quantification of Impacts under CEQA following new guidelines from the Governor's Office of Planning and Research*, February 2016. San Francisco Planning Department, *1515 South Van Ness Avenue Project Community Plan Exemption Checklist*, p. 21, July 12, 2016.

determined that three additional intersections in the Mission would operate at unacceptable levels of service under both the no project and each of the three rezoning options by 2025.

To test the appellant's assertion that traffic conditions in the Mission are worse than anticipated in the PEIR, Fehr & Peers worked with Planning to select four of the intersections studied in the Mission for the Eastern Neighborhoods PEIR and conduct one-day p.m. peak hour turning movement counts in December 2016[36]. In order to present a representative count of vehicles, these intersection counts do not include Mission Street due to the installation of bus-only lanes (which act to divert some private vehicle traffic from Mission Street) in 2015. These counts were then compared to the level of traffic expected in the PEIR based on the total change in housing units constructed in the Mission from 2011 to 2015. Full turning movement volumes and estimated calculations are included in Appendix B.

As shown in Appendix B, on average, observed traffic volumes in 2016 were around 5 to 10 percent *lower* than expected in the Eastern Neighborhoods PEIR and the percentage of estimated development completed; this indicates traffic volumes similar to or slightly below PEIR projections[37]. At three of the four intersections counted, total traffic volume had in fact decreased from the 2000 baseline count data. The exception is at 16th Street and South Van Ness, where there was an increase in traffic volume traveling northbound and southbound. This likely reflects shifts from other north/south streets such as Mission Street that have seen changes in their roadway configurations that were not anticipated by the analysis in the Eastern Neighborhoods PEIR.

7.1.4 Private Car Ownership and Driving Rates in the Mission

The appellant contends that gentrification and displacement are also resulting in increased traffic and related impacts because higher income correlates with higher private car ownership and driving rates. Again, available evidence does not support the underlying premise that the proposed project would cause or contribute to gentrification or displacement in the first place. Moreover, the appellant's claim that the rate of private car ownership in the Mission has increased, and that this is causing significant cumulative traffic and greenhouse gas impacts beyond those anticipated under the Eastern Neighborhoods PEIR is not supported by the available evidence.

Partially due to the in-migration of higher income earners, the median household living in the Mission in 2014 has a significantly higher income than the median household living there in 2000. Median annual income increased from around $67,000 to around $74,000 during that time (in 2014 inflation-adjusted dollars). This reflects the migration patterns partially discussed above, as well as some level of general increases in incomes over that time. The same pattern can be seen by examining the share of all households with incomes above $100,000, which has more than doubled from 2000 to 2014.

[36] While vehicle counts are typically not taken in December due to changes in travel patterns during that time, schedule constraints necessitated immediate counts. Counts were collected on a weekday with average weather, while area schools were still in session.

[37] Projected traffic volumes for EIR Option A (at 30% complete) and the No Project scenario were similar to those for Option C, and were on average higher than the observed 2016 traffic volumes.

However, although the typical household has a higher income, automobile availability on a per capita basis has not increased over the same period. The same percentage of households have zero cars available (39 percent to 40 percent of households), and the average number of vehicles available per household has remained nearly constant over that same period. Similarly, the share of Mission residents commuting to work by driving alone has also remained steady, at 25 percent to 29 percent. Due to population growth, this does result in more vehicles and more people driving alone compared to in 2000; however, the Eastern Neighborhoods PEIR transportation impact analysis accounted for this growth, and as discussed above, observed traffic volumes in 2016 were around 5 to 10 percent lower on average than expected in the Eastern Neighborhoods PEIR.

In addition to census data, the Planning Department has conducted three case studies at residential developments built in the past ten years in the Mission neighborhood. These sites are located at 2558 Mission Street, 555 Bartlett Street, and 1600 15th Street. Each building consists of newer, market-rate housing, although 555 Bartlett Street and 1600 15th Street each include between 15 and 20 percent onsite below market rate units. Surveys at these sites were conducted in 2014 and 2015 during the extended a.m. and p.m. peak hours, and consisted of intercepting individuals at all project entrances and exits to inquire about their mode choice. In addition, person counts and vehicle counts were conducted at all entrances. Results from these surveys are shown by site in **Table 4**.

Table 3: Comparison of Shifts in Income and Automobile Travel Indicators Mission Residents

Year	Median Household Income (2014 Dollars)	Average Household Income (2014 Dollars)	Share of Households with Income Above $100,000 (nominal)	Share of Commuters Driving Alone to Work	Share of Households with Zero Cars Available	Vehicles Available per Household
2000	$67,000	$81,000	15%	29 %	39%	0.85
2004 - 2009	$70,000	$98,000	31%	25 %	40%	0.82
(% Change from 2000)	+ 4%	+21%	+ 106%	- 14%	<1%	-3%
2009 – 2014	$74,000	$109,000	40%	27 %	40%	0.82
(% Change from 2000)	+ 10%	+35%	+ 166%	- 7%	<1%	-3%

Source: Decennial Census, 2000, Tables H044, P030, DP3; American Community Survey, 5-year averages, 2009 & 2014, Tables S1901, S0802, B25044; Fehr & Peers, 2016.

Table 4: Observed Mode Splits at Residential Developments in the Mission

Address	Drive Alone	Carpool	Walk	Taxi / TNC	Bike	SF Muni	BART	Private Shuttle
1600 15th St[1] (596 total person trips)	19%	15%	33%	4%	5%	7%	16%	2%
555 Bartlett Street[2] (183 total person trips)	25%	28%	19%	3%	6%	4%	14%	1%
2558 Mission Street[3] (288 total person trips)	13%	13%	38%	8%	1%	7%	17%	4%

[1] Survey conducted August 13, 2014.

[2] Survey conducted August 27, 2014.

[3] Survey conducted July 9, 2015.

Based on trips made between 7 a.m. – 10 a.m. and 3 p.m. – 7 p.m. on a typical weekday in the summer. Total number of trips represented all counted person trips; response rates to survey varied between sites. Final percentages are imputed from survey responses and vehicle counts.

Source: SF Planning, 2015; Fehr & Peers, 2016

The three sites showed a drive alone mode share that ranged from 13 percent to 25 percent, all of which are below the average drive alone commute mode for the area (of around 27 percent; see **Table 3**). The total auto mode share (drive alone + carpool + taxi/TNC) ranges from 34 percent to 56 percent of all trips, which is similar to the total auto mode share for all trips as modeled by SF-CHAMP (ranging from 31 percent to 53 percent for key transportation analysis zones in the Mission).[38] Thus, the available evidence demonstrates that new or substantially more severe impacts on the Latino Cultural District are not occurring as a result of increased private vehicle ownership.

7.1.5 Commuter Shuttles

The appellant states that the increase in commuter shuttles since the Eastern Neighborhoods PEIR was certified constitutes substantial new information and/or changed circumstances that "render the current PEIR obsolete," stating in the October 14, 2016 supplemental appeal letter:

[38] SF-CHAMP auto mode share is based on the Central SoMa 2012 Baseline model run; the presented mode shares are for the analysis zones where each of the case study developments is located.

> "The PEIR did not anticipate the impact of tech shuttles from a traffic standpoint, nor from that of the demand for housing. The specter of living within a few blocks of a free ride to work has caused many tech employees to move to areas where the shuttles stop – predominantly in the Mission. As such we have high earning employees exacerbating the already high demand for housing. The anti-eviction mapping project has documented the connection between shuttle stops and higher incidences of no fault evictions."

CEQA Guidelines section 15183(b)(4) provides that in conducting the streamlined environmental review mandated for projects that are consistent with the development density established under an adopted community plan or zoning, a public agency must limit its examination of environmental effects to those which the agency determines are previously identified significant effects which, as a result of substantial new information which was not known at the time the EIR was certified, are determined to have a more severe adverse impact than discussed in the prior EIR. Accordingly, the increase in the use of commuter shuttles since the certification of the Eastern Neighborhoods PEIR is relevant only to the extent that the proposed project, either individually or cumulatively, would result in more severe adverse impacts than were identified in the Eastern Neighborhoods PEIR because of the increase in shuttles. Thus, whether or not commuter shuttles cause or exacerbate displacement as the appellant contends, which is a matter of substantial debate[39], is not relevant to determining if the proposed project would have new or more severe impacts on the physical environment than previously identified. Nevertheless, by increasing the supply of both market rate and below market rate housing, the proposed project along with other housing development under the Eastern Neighborhoods rezoning and area plans would serve to alleviate market pressures from any increased demand for housing attributable to commuter shuttles. Regardless, as discussed above, any such effects are socioeconomic in nature, and are not in and of themselves significant impacts on the physical environment.

7.1.5.1 San Francisco Commuter Shuttle Program

The number of privately operated shuttles in San Francisco has grown in recent years. Numerous employers, educational institutions, medical facilities, office buildings, and transportation management associations offer shuttle service to their employees, students, and clients. Some development projects are required to provide shuttle services as part of their conditions of approval (and the impacts of their shuttle services are considered within the development project's environmental review), and an employer may comply with San Francisco's Commuter Benefits Ordinance and the Bay Area's Commuter Benefits Program by offering a free commute shuttle to employees. The majority of the commuter shuttles are closed systems that provide service to a specific population and are not open to the general public. Most shuttles are provided for free to employees (or students, tenants, etc.). There are two distinct markets within the shuttle sector: those that operate within San Francisco (intra-city) and those that operate between San Francisco and another county (inter-city regional). Shuttles support local San Francisco and regional goals by decreasing single occupancy vehicle trips, vehicle miles traveled, and private vehicle ownership.

[39] According to rider surveys conducted as part of the environmental review for SFMTA's Commuter Shuttle Program, only 5 percent of shuttle riders would move closer to their jobs if shuttles were unavailable.

Prior to August 2014, San Francisco did not regulate commuter shuttle activity on city streets. Shuttles operated throughout the city on both large arterial streets, such as Van Ness Avenue and Mission Streets, and smaller residential streets. Shuttles loaded and unloaded passengers in a variety of zones, including passenger loading (white) zones, Muni bus stops (red) zones, and other vacant curb space. When curb space was unavailable, shuttles often would load or unload passengers within a travel lane. The lack of rules and guidelines for where and when loading and unloading activities were permitted, and the lack of vacant space in general, resulted in confusion for shuttle operators and neighborhood residents, inconsistent enforcement, and real and perceived conflicts with other transportation modes.

To address these issues, in January 2014, the SFMTA Board of Directors approved an 18-month pilot program to test sharing of designated Muni zones and establish permitted commuter shuttle-only passenger loading (white) zones for use by eligible commuter shuttles that paid a fee and received a permit containing the terms and conditions for use of the shared zones. The pilot program began in August 2014, and created a network of shared stops for use by Muni and commuter shuttle buses that applied to participate, and restricted parking for some hours of the day in certain locations to create passenger loading (white) zones exclusively for the use of permitted commuter shuttles.

Based on information collected through the pilot program, SFMTA developed and adopted a Commuter Shuttle Program effective February 2016. As required under CEQA, the Planning Department conducted a detailed evaluation of the potential environmental effects of the Commuter Shuttle Program prior to its adoption.[40] The environmental review for the shuttle program concluded that the program would not have significant environmental impacts, including impacts on traffic, transit, bicycles, pedestrians, loading, air quality, greenhouse gas emissions, and noise. According to this review, the availability of commuter shuttles:

- Reduces the number of commuters who drive alone to work
- Reduces regional VMT
- Reduces regional emissions of ROG, PM_{10}, and $PM_{2.5}$
- Increases regional NOx emissions, but not in excess of the applicable CEQA significance threshold
- Reduces greenhouse gas emissions
- Increases health risk from exposure to diesel exhaust, but not in excess of the applicable CEQA significance thresholds
- Increases traffic noise but not in excess of applicable CEQA significance thresholds

Thus, the available evidence demonstrates that the increased use of commuter shuttles has not resulted in new or substantially more severe significant impacts on transportation than previously identified in the Eastern Neighborhoods PEIR.

[40] San Francisco Planning Department, Case No. 2015-007975ENV, October 22, 2015.

7.1.6 Parking

In accordance with CEQA section 21099 parking shall not be considered in determining if a project has the potential to result in significant environmental effects, provided the project meets all of the following three criteria:

a) The project is in a transit priority area;

b) The project is on an infill site; and

c) The project is residential, mixed-use residential, or an employment center.

The proposed project meets each of the above three criteria and thus, the appellant's concerns regarding impacts of the proposed project on parking are not subject to review under CEQA.

7.1.7 Conclusion

Based on the evidence and analysis presented above, the transportation impacts resulting from planned growth under the Eastern Neighborhoods rezoning and area plans appear to be less severe than expected in the Eastern Neighborhoods PEIR. Therefore, socioeconomic effects of the proposed project would not result in an increase in the severity of previously identified significant impacts on transportation as a result of substantial new information that was not known at the time the Eastern Neighborhoods PEIR was certified.

7.2 AESTHETIC IMPACTS

In accordance with CEQA section 21099 – Modernization of Transportation Analysis for Transit Oriented Projects – aesthetics shall not be considered in determining if a project has the potential to result in significant environmental effects, provided the project meets all of the following three criteria:

a) The project is in a transit priority area;

b) The project is on an infill site; and

c) The project is residential, mixed-use residential, or an employment center.

The proposed project meets each of the above three criteria and thus, the environmental review for the proposed project does not consider aesthetic effects.

7.3 HISTORIC AND CULTURAL IMPACTS

The Calle 24 Latino Cultural District is the area bound by Mission Street to the west, Potrero Street to the East, 22nd Street to the North and 25th Street to the South, including the 24th Street commercial corridor from Bartlett Street to Potrero Avenue. The district is defined as a region and community linked together by similar cultural or heritage assets, and offering a visitor experiences that showcase those resources.[41]

[41] Garo Consulting for the Calle 24 Latino Cultural District Community Council, Calle 24 Latino Cultural District Report on the Community Planning Process Report, December 2014. http://www.calle24sf.org/wp-content/uploads/2016/02/LCD-final-report.pdf, accessed June 8, 2016.

The district hosts longstanding activities, traditions, or organizations that have proven to bridge more than one generation, or approximately 25 years. Cultural heritage assets identified within the district fall under the following themes: cultural events; arts and culture - installations and public art, organizations and venues, and retail; religion; services and non-profits; food and culinary arts; and parks. Cultural heritage assets as such are not eligible for designation to local, state, and national historical resource registries. Cultural heritage assets may be associated with a physical property, but they are immaterial elements that are not eligible for listing on local, state, and federal registries of historic properties, and thus are not considered historical resources under CEQA or state or local landmarking law. Therefore, any effects that the proposed project might have on the cultural heritage assets within the Calle 24 Latino Cultural District (assuming those assets are not linked to a physical eligible historical resource) would be considered social or economic effects, and not impacts on the physical environment.

The appellant incorrectly characterizes economic and social effects as physical environmental impacts, stating, in the October 14, 2016 supplemental appeal letter:

> "Here, the cumulative impacts of the proposed project and other projects poses the risk of accelerated Valenciazation [sic] of the LCD. Here, mom and pop Latino owned and operated concerns are at risk of being replaced by high end restaurants, clothing and accessory stores, and personal trainer gyms and yoga studios. This is a change in the physical environment…"

As discussed above in Section 5.1 Commercial Gentrification, the appellant's claim that the proposed project would cause or contribute to commercial gentrification is not supported by empirical evidence. However, even if the project would lead to such effects, this would not constitute a physical environmental impact. The replacement of existing retail businesses with other retail businesses that the appellant claims the project would cause may constitute a change in the character of the 24th Street commercial corridor. Contrary to the appellant's assertion, such a change is an economic and social effect that shall not be treated as a significant effect on the environment per CEQA Guidelines section 15131(a) (see Section 3.0 Approach to Analysis above).

7.4 GREENHOUSE GAS IMPACTS

The appellant claims that the proposed project would cause or contribute to displacement of lower income residents leading to increased transportation impacts, which in turn would result in significant greenhouse gas impacts that were not identified in the Eastern Neighborhoods PEIR. As discussed above, the appellant's claim that the proposed project would cause displacement that would lead to new or more severe transportation impacts is not supported by the available evidence. As such, there is no basis for the appellant's assertions regarding greenhouse gas impacts.

Moreover, unlike the PEIR, which was certified prior to the addition of greenhouse gas impacts to the Planning Department's CEQA initial study checklist, the CPE includes an assessment of the proposed project's greenhouse gas emissions. This analysis uses the Planning Department's current greenhouse gas impact assessment methodology, which evaluates projects for conformity with San Francisco's *Strategies*

to Address Greenhouse Gas Emissions.[42] The analysis presented in the CPE demonstrates that the proposed project would not result in a significant impact either individually or cumulatively due to greenhouse gas emissions not previously identified in the Eastern Neighborhoods PEIR. The appellant has not shown that this determination is not supported by substantial evidence.

7.5 AIR QUALITY IMPACTS

The appellant claims that the proposed project would cause or contribute to displacement of lower income residents leading to increased transportation impacts, which in turn would result in significant air quality impacts that were not identified in the Eastern Neighborhoods PEIR. As discussed above, the appellant's claim that the proposed project would cause displacement that would lead to new or more severe transportation impacts is not supported by the available evidence. As such, there is no basis for the appellant's assertions regarding air quality impacts.

The CPE evaluates whether the proposed project would result in significant impacts on air quality beyond those identified in the Eastern Neighborhoods PEIR. This analysis applies current air quality regulations and modelling to update the analysis conducted for the Eastern Neighborhoods PEIR. As presented in the CPE checklist, this up-to-date, project-specific analysis demonstrates that the proposed project would not result in new or more severe impacts on air quality than previously identified in the Eastern Neighborhoods PEIR. The appellant has not shown that this determination is not supported by substantial evidence.

8 CONCLUSION

The Planning Department agrees with the appellant that the Mission is undergoing socioeconomic changes that are affecting existing residents, local small businesses, employment, and the character of the Mission community. The department is actively engaging with the community, the Board of Supervisors, the Mayor's Office, and other City departments in initiatives designed to ease the socioeconomic pressures on the community. These efforts include the 2016 Mission Interim Controls, the Calle 24 Special Use District, MAP2020, and a broader citywide analysis of socioeconomic trends.

However, the Planning Department disagrees with the appellant's position that development under the Eastern Neighborhoods rezoning and area plans such as the 1515 South Van Ness Avenue project are responsible for residential or commercial displacement. As shown in the above analysis, the appellant's contention that the proposed project would cause or contribute to socioeconomic effects that would in turn result in significant impacts on the physical environment that were not previously identified in the Eastern Neighborhoods PEIR is contrary to the evidence. Based on the available data and expert opinion presented in the academic literature, it appears that the fundamental causes of gentrification and displacement in the Mission and elsewhere in San Francisco are likely related to broader economic and social trends, such as the mismatch between the supply and demand for housing at all levels, the strength of the regional economy, low unemployment, high wages, favorable climate, and a preference for urban

[42] San Francisco Planning Department, *Strategies to Address Greenhouse Gas Emissions in San Francisco,* November 2010. Available at http://sfmea.sfplanning.org/GHG_Reduction_Strategy.pdf, accessed March 3, 2016.

lifestyles and shorter commutes. These issues are clearly beyond the scope and reach of the environmental review process for individual projects under CEQA.

Finally, the issues raised by the appellant are not new. The Population, Housing, Business Activity, and Employment section of the Eastern Neighborhoods PEIR included a thorough analysis of these issues, examining, among other things, whether development under the rezoning and area plans would cause or contribute to gentrification or displacement. The impacts of growth afforded under the rezoning and area plans on the physical environment are evaluated and disclosed in both the plan level and project level CEQA documents under the relevant resource topics such as transportation, air quality, noise, parks and open space, and public services. The appellant has not demonstrated that the department's CEQA determination for the 1515 South Van Ness Avenue project is not supported by substantial evidence. The Planning Department therefore recommends that the Board reject the appeal and uphold the department's CEQA determination for the proposed project in accordance with CEQA section 21080.3 and CEQA Guidelines section 15183.

Appendix A

Socio-Economic Effects of Market-Rate Development on the Calle 24 Latino Cultural District, San Francisco, CA

Socioeconomic Effects of Market-Rate Development on the Calle 24 Latino Cultural District, San Francisco, CA

Prepared for:

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Re: Socioeconomic Effects of Market-Rate Development on the Calle 24 Latino Cultural District, San Francisco, CA

Dear Mr. Kern:

ALH Urban & Regional Economics (ALH Economics) is pleased to present this report addressing several issue areas associated with new market rate residential development in San Francisco's Calle 24 Latino Cultural District (LCD). The issue areas were identified and discussed in collaboration with the San Francisco Planning Department, and the research and findings are intended to complement materials the City Planning Department is preparing pursuant to a Board of Supervisor's November 2016 request.

It has been a pleasure working with you on this project. Please let me know if there are any questions or comments on the analysis included herein.

Sincerely,

Amy L. Herman
Principal

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INTRODUCTION

There are many market-rate residential apartment projects proposed in San Francisco's Mission District, and specifically within the Calle 24 Latino Cultural District (LCD). Locally, some concern has been raised about the adequacy of environmental analysis prepared for these projects, specifically regarding socioeconomic impacts, such as residential and commercial displacement, as well as housing cost impacts.

The City and County of San Francisco Planning Department is preparing a response to these concerns, and ALH Urban & Regional Economics (ALH Economics) was engaged as a technical expert to evaluate certain related issues. In collaboration with the Planning Department and at their direction, ALH Economics prepared the following:

- analysis of residential pipeline (e.g., the project and cumulative projects) impacts on commercial gentrification;
- an overview of pricing trends in San Francisco's rental housing market; and
- review of literature on the relationship between housing production and housing costs as well as gentrification and residential displacement.

ALH Economics also identified and reviewed court cases addressing the relevancy of socioeconomic impacts to CEQA.

The report includes a summary of the literature review findings, with a detailed literature overview included in an appendix. Another appendix includes an introduction to ALH Economics and the firm's qualifications to prepare this report. The founder of ALH Economics has been actively involved in preparing economic-based analysis for environmental documents and EIRS for well over ten years, and has been involved in environmental analysis pertaining to over 50 urban development projects throughout the San Francisco Bay Area and the State of California.

SUMMARY OF FINDINGS AND CONCLUSION

The detailed study findings are presented in the following report sections. Summary findings for each major topic are below, including a general conclusion for the overall research and analysis effort.

Pipeline Impacts on Commercial Gentrification. Research and analysis associated with the Pipeline residential projects in or near the LCD finds that the amount of neighborhood-oriented retail demand is unlikely to result in commercial market shifts, such as the displacement of existing commercial establishments. The amount of neighborhood-oriented demand generated by residents of the pipeline projects in and near the LCD (e.g., 34,400 square feet) is approximately equivalent to the amount of net retail space planned in those projects (e.g., 30,447 square feet). It is therefore not a likely result that commercial gentrification would result from pressure exerted on the existing retail base in the LCD, as this pressure is not anticipated to occur from the Pipeline projects. Thus, there is no basis to suggest that any existing commercial establishments will be displaced because of the Pipeline projects in the LCD or near the LCD.

Retail supply and demand analysis for the Mission and the LCD demonstrate that both areas are regional shopping destinations, providing more retail supply than can be supported by their residents.

This indicates three issues: (1) broad socioeconomic change is a greater influence on commercial uses than is the immediate population of the neighborhood; (2) new residential development in the LCD plays an insignificant role in influencing the overall commercial make-up of the district, as the commercial base is supported by a local as well as a regional clientele; and (3) that changes in occupancy within the existing housing stock likely have a much greater impact on the neighborhood-oriented commercial base than residents of new residential development.

Residential Displacement. The City of San Francisco has experienced strong apartment rent increases over the past 20 years. Over this time, average rents for investment grade properties with 50 or more units increased at an annual average rate of 5.5%. The inflation-adjusted annual increase over this time was 2.9%. Thus, rents increased at a rate of 2.6% per year over inflation. In 2016, market-rate apartment rents in San Francisco tapered off, characterized by relatively flat increases in rental rates overall, with some neighborhood variability. Historic market trends suggest that increases in rents will continue to occur; however, many San Franciscans live in rent-controlled apartments and are insulated from short-term annual increases that occur. Moreover, during 2016, the San Francisco entered a slower period of rent increases, including relative to nationwide trends in rent appreciation.

ALH Economics reviewed academic and related literature to probe whether market-rate apartment production in the LCD will impact rents of existing properties, thereby making housing less affordable for existing residents. The findings generally coalesce in the conclusion that housing production does not result in increased costs of the existing housing base, but rather helps suppress existing home prices and rents. In addition, through filtering, new home development makes other units available for households with lower incomes than those occupying newer units. Further, the studies find that both market-rate and affordable housing development help to suppress price appreciation and reduce displacement, although the rate at which this occurs in small, localized areas requires further analysis to best understand the relationship between development, affordability, and displacement at the local level.

ALH Economics reviewed additional literature on the topic of gentrification, addressing the causal relationship between market rate residential development and gentrification and displacement. In general, these studies indicate that experts in the field appear to coalesce around the understanding that there is weak causation between gentrification and displacement, with some experts concluding that the ability for residents to relocate or move (i.e., mobility rates) are not distinguishable between neighborhoods experiencing gentrification and neighborhoods not experiencing gentrification. The literature further demonstrates that displacement can occur without gentrification, and that displacement is not inevitable, with public policy tools available to stabilize communities. Some studies also suggest that in some instances, existing low-income households in a gentrifying neighborhood may benefit from gentrification because of neighborhood improvements perceived to be of value and increased housing satisfaction. The overall conclusion resulting from the literature review is that the evidence in the academic literature does not support the concern that gentrification associated with new LCD market-rate development will cause displacement. The findings overwhelmingly suggest that while some displacement may occur, it is not the inevitable result of gentrification, and that many factors influence whether or not displacement occurs.

Socioeconomic Effects in CEQA Analysis. Socioeconomic effects are not routinely included in EIR's prepared for projects pursuant to CEQA. CEQA does not require analysis of socioeconomic issues such as displacement, gentrification, environmental justice, or effects on "community character." There are very few court rulings on this topic, with the limited relevant cases suggesting very few instances where significant physical changes in the environment have been linked to social or

economic effects. As there are few examples of whether this has occurred, this suggests there is limited reason to anticipate that residential development in the Calle 24 LCD will result in socioeconomic impacts necessary to analyze under CEQA. Thus, case review does not demonstrate the significant physical impact required under CEQA to warrant further review.

General Conclusion. In conclusion, the evidence included in this report, resulting from the research and literature review, indicates that the socioeconomic impacts identified and discussed are policy considerations that do not meet the level of physical impacts required to warrant review and analysis under CEQA.

II. PIPELINE IMPACTS ON COMMERCIAL GENTRIFICATION

ISSUE OVERVIEW

Concern has been raised about the ***commercial*** gentrification impacts of new residential development in the Calle 24 Latino Cultural District LCD, both individually and cumulatively. This includes concern that existing small businesses will be replaced by upscale corporate-owned businesses, and concern about the vulnerability of non-profits that are on month-to-month tenancies. There is little existing literature or study of commercial gentrification effects of new development, however, a 2016 study published by Rachel Meltzer, Assistant Professor of Urban Policy at the Milano School of International Affairs, Management, and Urban Policy at The New School, cited that case study analysis in New York City indicated that "[t]he results of gentrification are mixed and show that gentrification is associated with both business retention and disruption."[1] Meltzer further found that most businesses stay in place, and "displacement is no more prevalent in the typical gentrifying neighborhood than in nongentrifying neighborhoods."[2] These are findings derived from citywide analysis of business displacement and replacement in New York City, and from three neighborhoods with both gentrifying and nongentrifying census tracts. These neighborhoods are East Harlem, Astoria, and Sunset Park. While the results vary by neighborhood, Meltzer concludes by stating that "[t]he fact that displacement is not systematically higher in New York City's gentrifying neighborhoods bodes well for cities experiencing less aggressive gentrification; however, cities with less vibrant neighborhood retail markets could be more vulnerable to gentrification-induced displacement."[3]

The Mission District, specifically the LCD, is a vibrant neighborhood retail market, characterized by a high proportion of Latino-oriented retailers, restaurants, and services, but also other ethnic restaurants, book stores, food markets, general merchandise stores/housewares stores, beauty/nail salons, jewelry stores, laundromats, and a variety of other neighborhood-oriented businesses, with only a limited number of commercial vacancies. Based on Meltzer's paper, it is therefore reasonable to conclude that this vibrancy suggests that commercial displacement is no more likely to occur in the LCD where gentrification is presumed to be occurring than in other San Francisco neighborhoods not experiencing gentrification. Meltzer suggests that opportunity exists for neighborhoods to gain quality-of-life services through new businesses and retain more businesses under conditions of gentrification, perhaps due to new and increased spending power locally. Meltzer also recognizes, however, that in "neighborhoods where services grow and/or change, the new products, price points, or cultural orientation could be more alienating than useful for incumbent residents."[4]

This latter point is similar to concerns expressed regarding the potential for new development in the LCD to result in changes similar to what has been seen in the Valencia Street Corridor – a commercial area that has experienced significant change in past decades. As demonstrated by City of San Francisco research, the change in the Valencia Street Corridor occurred despite the relative lack of new residential development, which suggests that other factors may be more directly associated with

[1] Rachel Meltzer, "Gentrification and Small Business: Threat or Opportunity?," Cityscape: A Journal of Policy Development and Research, Volume 18, Number 3, 2016, page 57. See https://www.huduser.gov/portal/periodicals/cityscpe/vol18num3/index.html.
[2] Ibid.
[3] Ibid, page 80.
[4] Ibid.

commercial gentrification in San Francisco than new area residential development. Thus, based on the evidence presented and existing academic literature, ALH Economics does not agree that new residential development causes gentrification of commercial space.

In reaching this conclusion, ALH Economics examined the potential for neighborhood-oriented retail and commercial demand generated by the Pipeline projects in the LCD, and other projects near the LCD whose residents could potentially generate retail and services demand in the LCD. The analysis estimates the amount of space likely to be supported by the Pipeline households, and assess if this could result in a change of the composition of the commercial base in the LCD. As noted previously, this commercial base currently includes a high proportion of Latino-oriented retailers, restaurants, and services, but also includes other ethnic restaurants, book stores, food markets, general merchandise store/housewares stores, beauty and nail salons, jewelry stores, laundromats, a variety of other neighborhood-oriented businesses, and a limited number of commercial vacancies.

The analysis finds that the amount of neighborhood-oriented retail demand is unlikely to result in commercial market shifts. The Pipeline projects will instead be increasing the retail base, eliminating risk of pressure on the existing commercial base. Thus, there is no basis to suggest that existing commercial establishments will be displaced because of the Pipeline projects in or near the LCD.

RESIDENTIAL PIPELINE

San Francisco's Development Pipeline for 2016 Q3[5] was examined to identify proposed residential projects in and near the LCD. Projects were identified based on their location and approval status, including number of net new units, both market rate and affordable, and net new retail space included in the project. Specifically, the following type of projects are included:

- Projects that have filed applications, but are still under review
- Projects that have received Planning/DBI entitlements but have not yet broken ground
- Project that are under construction

Projects in the LCD were identified based on the LCD's boundaries, while other projects near but outside the LCD were identified within about a 3-4-block radius of the LCD's boundaries. There may be yet other projects close to this area, but to assess demand for neighborhood-oriented retail and services this analysis focuses on projects in the greatest proximity to the LCD. The projects and their net unit counts and net new retail square footage are listed in Table 1 on the following page.

Information extracted from the Development Pipeline, and supplemented by the Planning Department, indicates a total of 1,019 net new housing units. This includes 705 market rate units, comprising 298 in the LCD and 407 near the LCD, and 314 affordable housing units, comprising 158 in the LCD and 156 near the LCD (i.e., 35% affordable in the LCD and 28% affordable near the LCD, totaling 31% affordable overall). Most of the affordable housing units are rental, but a small number are owner units. In total, there are 456 units planned in the LCD and 563 units planned near the LCD. In addition, these projects include 10,735 net new square feet of retail space in the LCD and another 19,712 square feet near the LCD. This is a total of 30,447 square feet of net new retail space.

This residential pipeline reflects a significant increase over past housing production in the Mission District. Based upon the City's Housing Inventory reports, a total of 2,132 net new housing units were

[5]See https://data.sfgov.org/dataset/SF-Development-Pipeline-2016-Q3/k7mk-w2pq for the database.

built in the Mission between 2001 and 2015. This is equivalent to an average of 143 units per year.[6] The specific share of these units in and around the LCD is indeterminate, but this low number for the Mission suggests the LCD had a much lower amount of development in this timeframe, which likely contributed to rising rents due to limited supply. With so more units planned on a relative basis, rents could contribute to soften as they did in 2016 (see next report section on rent trends).

Table 1. Pipeline Projects
By Location, Approvals Status, Type of Housing Units, and Net New Retail

	Housing Unit Composition					
	Market	Affordable		Senior		Net New
Project Status and Location	Rate	Rental	Owner	Affordable	Total	Retail
LCD Projects						
Entitled						
2600 Harrison St	20	0	0	0	20	0
Non-entitled						
1296 Shotwell St	0	0	0	96	96	0
2675 Folsom St	94	23	0	0	117	0
1515 South Van Ness Ave	118	39	0	0	157	5,241
2782 Folsom St	4	0	0	0	4	0
3314 Cesar Chavez St (1)	50	0	0	0	50	1,740
2799 24th Street	7	0	0	0	7	-269
3357 26th Street	5	0	0	0	5	4,023
Sub Total LCD Projects	*298*	*62*	*0*	*96*	*456*	10,735
Projects Near but Outside the LCD						
Entitled						
1198 Valencia St	43	0	6	0	49	5,050
1050 Valencia St	12	0	0	0	12	1,900
2000 Bryant Street	191	3	0	0	194	1,087
Non-entitled						
2070 Bryant Street (2)	0	0	136	0	136	0
2632 Mission St	14	0	2	0	16	7,766
1278 - 1298 Valencia St	35	0	0	0	35	3,737
2918 Mission St	48	7	0	0	55	-500
3620 Cesar Chavez St	24	0	0	0	24	672
3659 20th St	5	0	0	0	5	0
3700 20th St	1	0	0	0	1	0
606 Capp St	18	2	0	0	20	0
987 Valencia St	8	0	0	0	8	0
2610 Mission	8	0	0	0	8	0
Sub Total Projects Near LCD	*407*	*12*	*144*	*0*	*563*	19,712
Total Pipeline	**705**	**74**	**144**	**96**	**1,019**	**30,447**

Sources: San Francisco Development Pipeline, 2016, Q3; City and County of San Francisco Planning Department; and ALH Urban & Regional Economics.
(1) Affordable unit count as yet unknown.
(2) Unit range 99-136. Analysis assumes 136. Analysis also conservatively assumes units will be owner units, but the tenure has not yet been determined.

[6] See San Francisco Planning Department, "San Francisco Housing Inventory for years 2001 through 2015.

Approach to Estimating Residential Retail Demand

ALH Urban & Regional Economics prepared a neighborhood retail spending analysis, or demand analysis, for the Pipeline's households. This spending analysis takes into consideration average household income, the percent of household income spent on retail goods, prospective spending in the retail categories used by the State of California Board of Equalization (which collects and reports business count and taxable sales data by retail category), generalized store sales per square foot for these categories, percent of category spending assumed to be directed to neighborhood shopping outlets, and an adjustment for service demand relative to retail demand.

Average household incomes for the Pipeline projects were estimated based on estimated average rents for the market rate units and maximum income requirements for the affordable units, and percent of household income spent on housing. Since most of the Pipeline projects are planned and are not in lease up phase, project rents for all units are not available. However, preliminary pricing and unit mix for the proposed Axis Development Group project at 2675 Folsom Street, which includes 40% 2+ bedroom units, indicates average monthly rents of $4,100 for market rate units.[7] To support the analysis, this rate is assumed for all the identified market rate Pipeline apartment units. This assumption and the assumption for all the planned Pipeline units by location and type are presented in Exhibit 1. For the affordable rental units (excluding the senior units), households are assumed to comprise a 3-person household at 55% of Area Median Income (AMI). This results in an annual household income assumption of $53,300 for 2016. The assumption for the senior households is $41,450 a year, which is the 55% of AMI income for 1-Person households for 2016. This may be high, and thus conservative for the purpose of this analysis, as approximately 20% of the affordable senior housing units will be targeted to formerly homeless individuals. Finally, the affordable owner units are assumed to be occupied by 4-person households at 80% of AMI. This annual household figure is $86,150.

The average household income for the market rate units is assumed to be three times the annual rent requirement, which is a standard housing cost to income convention. This results in annual household incomes of $148,000 for the market rate units. In San Francisco, the rent burden is often much greater, but the analysis ***conservatively*** assumes a multiple of three, thus resulting in higher incomes and higher spending potential than would result from the assumption of a greater housing cost burden. In like manner, the rents or monthly mortgage payments for the affordable units are assumed to comprise one-third the household incomes, divided over a 12-month period. Thus, rents or mortgage payments are equivalent to $1,481 to $2,393 per month. These figures might be conservative because they do not consider utility or other monthly costs, and because of the unlikely one-third of income spent on housing costs assumption.

The amount households spend on retail goods varies by household income. Date published by the U.S. Bureau of Labor Statistics, 2015 Consumer Expenditures Survey, provides information regarding

[7] Provided to ALH Urban & Regional Economics. The market rate rent is generally consistent with average San Francisco rents for investment-grade properties. Through most of 2016, rents averaged approximately $2,830 for a studio, $3,370 for a one-bedroom unit, $3,620 to $4,715 for a two-bedroom unit, and $4,580 for a three-bedroom unit, with an overall average of $3,570. These rates are pursuant to RealAnswers, a real estate resource that tracks apartment rents in major markets.

household spending on retail based upon income. This information is presented in Exhibit 2, pursuant to upon ALH Economics estimates of the percentage of income spent on retail goods based on the type of retail goods tracked by the California State Board of Equalization (BOE). As an example, households in the $40,000 to $49,999 annual income range, with an average household income of $44,568, are estimated to spend 40% of income on retail goods. Extrapolating all the percentages of income spent on retail matched to the average household income per category results in percent of income spending estimates on retail for the Pipeline projects. The results range from 26% of income for the market rate units to 42% for the senior affordable rental units. These estimates are included in Exhibit 1 with the estimates of monthly rent and average household incomes.

Household and Pipeline Demand Estimates

Based upon the household income and percent of income spent on retail estimates Exhibit 1 also includes estimates of per household and total demand for retail pursuant to dollars spent. These figures total per household retail spending ranging from $19,900 for the households in the affordable rental units to $39,100. For the purpose of these projections, the market-rate units are assumed to operate at 95% occupancy and the affordable units at 100% occupancy.[8] Therefore, given the occupancy assumptions, the total demand comprises $14.0 million for the households in the Pipeline LCD units and $19.3 million for the households in the Pipeline near LCD households. The grand total is $33.3 million in retail demand. Notably, this is demand for all retail sales, not just neighborhood-oriented retail, which is the more comparable to the type of retail goods located in the LCD.

As a proxy for total household spending patterns (e.g., all retail, not exclusively neighborhood-oriented retail), Pipeline residents are assumed to make retail expenditures consistent with statewide taxable sales trends for 2014 converted to estimated total sales (adjusting for select nontaxable sales, such as a portion of food sales). Using California as a benchmark is more appropriate than San Francisco because the City of San Francisco is a significant retail attraction community, and thus using San Francisco's sales pattern as a baseline would distort typical household spending patterns. The results, presented in Exhibit 3, indicate that assumed household spending by the major retail categories tracked by the BOE ranges from a low of 5.2% on home furnishings & appliances to a high of 17.1% on food & beverage stores (e.g., grocery stores). Other key categories include 13.5% on general merchandise (e.g., department and discount stores), 12.2% on food services & drinking places (e.g., restaurants and bars), and 12.4% on other retail, which includes drug stores, electronics, health and personal care, pet supplies, electronics, sporting goods, and others. As noted, not all these sales represent neighborhood-oriented shopping goods. By retail category, assumptions on the share of sales made at neighborhood-oriented outlets were developed to hone in on anticipated demand for neighborhood shopping outlets. These assumptions by category are presented in Table 2, on the following page.

[8] Per RealAnswers, a research group that tracks San Francisco apartment rents, in 2016 the apartment occupancy rate among investment grade properties is 95.3%, which rounds to 95%.

Table 2. Assumed Percentage of Pipeline Residents Spending at Neighborhood-Oriented Outlets

Retail Cateogry	Percent Assumed Neighborhood-Oriented
Motor Vehicle & Parts Dealers	0%
Home Furnishings & Appliances	50%
Building Materials & Garden Equipment	10%
Food & Beverage Stores	80%
Gasoline Stations	0%
Clothing & Clothing Accessories	25%
General Merchandise Stores	25%
Food Services & Drinking Places	75%
Other Retail Group (6)	33%

Source: ALH Urban & Regional Economics.

These assumptions are based upon an understanding of the nature of the retail shopping experience, such as comparison versus convenience goods, and the type of goods sold in retail outlets. Based upon the pattern of estimated spending and the percent neighborhood-oriented assumptions, the overall analysis assumes that 36% of retail spending by Pipeline households comprises neighborhood-oriented spending.

The aggregated retail demand estimates for the occupied LCD and near LCD pipeline households were converted to supportable square feet based upon the following: industry average assumptions regarding store sales performance; an adjustment to allow for a modest vacancy rate; and an allocation of additional space for services, such as banks, personal, and business services. The industry resource of Retail Maxim was relied upon to develop per square foot sales estimates. This resource prepares an annual publication that culls reports for numerous retailers and publishes their annual retail sales on a per square foot basis. Select adjustments including inflation were made to result in 2016 sales estimates. The resulting sales per square foot figures, presented in Exhibit 4, range from a low of $309 per square foot for general merchandise stores to a high of $669 per square foot for food and beverage stores (e.g., grocery stores). A 5% vacancy factor reflects a vacancy allowance to allow for market fluidity. The resulting space estimates were adjusted to comprise support for neighborhood-oriented retail outlets, based upon the assumptions per category. Finally, the analysis assumes 15% of retail space will be occupied by uses whose sales are not reflected in the major BOE categories, yet which require commercial space. This typically includes service retail, such as finance, personal, and business services, and is based on general retail occupancy observations. While 36% of overall retail spending is assumed to comprise support for neighborhood outlets, a factor of 75% was incorporated for services to recognize the more neighborhood orientation of these services.

The Pipeline projects include those located in the LCD and those located near but not in the LCD, typically within a 3-4 block radius. Much of the neighborhood-oriented demand generated by LCD households could be directed at commercial operations located in the LCD, but some could also be directed to commercial operations within walking distance of the LCD or beyond, and thus outside the LCD. This includes the net new retail space planned in the Pipeline projects. In like manner, some of the neighborhood-oriented demand generated by households near but outside the LCD could be directed to commercial operations in the LCD. However, the majority of demand generated by these households could most likely be directed to commercial operations located elsewhere instead of the LCD, including in their own projects as these Pipeline projects also include planned net new retail space. Hence, only a portion of the neighborhood-oriented demand generated by any of the Pipeline

households is likely to be directed to businesses located in the LCD, with other demand directed towards businesses in other neighborhoods, including within walking distance of the Pipeline households.

LCD Pipeline Projects Neighborhood-Oriented Retail and Service Findings. The demand findings for the Pipeline projects in the LCD indicate estimated support for 14,500 square feet of neighborhood-serving retail and commercial space (see Exhibit 5). The level of demand generated by the two largest market-rate projects includes the following: the 117-unit proposed project by Axis Development Group at 2675 Folsom Street with 4,100 square feet (see Exhibit 8) and the 157-unit proposed project by Lennar at 1515 South Van Ness with 5,300 square feet (see Exhibit 8). This means the remaining, smaller Pipeline LCD projects are estimated to generate demand for 5,100 square feet in neighborhood-serving retail and commercial space. As noted, the majority of this demand could be directed within the LCD, especially to the net new retail planned as part of the Pipeline projects, but some portion could likely be directed to other neighborhood-oriented businesses outside the LCD, thus not all the 14,300 square feet of demand may be directed at LCD establishments.

Near LCD Pipeline Projects Neighborhood-Oriented Retail Findings. The retail demand findings for the near LCD Pipeline projects indicate estimated support for 19,900 square feet of neighborhood-serving retail and commercial space (see Exhibit 8). This includes projects located outside the boundaries of the LCD, emanating in most directions. Much of this demand will be directed toward commercial operations near these projects and other adjoining areas, including the net new retail space planned as part of the near the LCD projects, with only a portion likely directed toward LCD operations. Thus, only a portion of the 19,900 square feet of demand could comprise demand for retail and services located in the LCD.

POTENTIAL IMPACTS ON COMMERCIAL GENTRIFICATION

The estimated composition of the neighborhood-oriented retail and commercial space demand generated by the Pipeline is presented in Exhibit 9, and summarized below in Table 3. The figures total 25,493 square feet of retail space, 8,900 square feet of service space, resulting in a rounded total of 34,400 square feet. The largest share of the total demand includes services, followed by grocery stores (food and beverage stores) and restaurants and bars (food services and drinking places). The remaining increments are relatively small, all less than 4,000 square feet. These are relatively small amounts of space, especially considering that these are total demand estimates, only a subset of which could be specifically directed to establishments located in the LCD. Moreover, a large portion of this demand comprises grocery store demand, which could help support the Grocery Outlet store currently under construction in the LCD at 1245 South Van Ness, the location of the defunct DeLano's Market closed since 2010, as well as other existing small markets in the area.

Table 3. Pipeline Projects Neighborhood-Oriented Commercial Square Feet of Demand

Retail Category	Square Feet Supported (1) LCD	Near LCD	Total
Motor Vehicles and Parts	0	0	0
Home Furnishings and Appliances	1,140	1,566	2,705
Building Materials and Garden Equip.	289	397	686
Food and Beverage Stores	3,018	4,146	7,164
Gasoline Stations	0	0	0
Clothing and Clothing Accessories	662	909	1,571
General Merchandise Stores	1,615	2,219	3,834
Food Services and Drinking Places	2,667	3,664	6,331
Other Retail Group	1,349	1,853	3,202
Subtotal	10,739	14,754	25,493
Additional Service Increment	3,749	5,151	8,900
Total	14,489	19,905	34,393
Total Rounded to Nearest 100	**14,500**	**19,900**	**34,400**
Net New Retail Planned	**10,735**	**19,712**	**30,447**

Sources: Exhibits 5, 8, and 9; and Table 1.

The summary in Table 3 also includes the net new retail space planned in the LCD and near the LCD. As noted earlier, this totals 10,735 square feet in the LCD and 19,712 square feet near the LCD, for a combined total of 30,447 square feet. ***As these figures indicate, there is almost equilibrium between the amount of neighborhood-oriented retail demand and the net new amount of planned retail space in Pipeline projects in both the LCD and near the LCD.*** Given that not all neighborhood-oriented demand is likely to be expressed for only the retail space in the identified areas, this likely signifies a relative surplus of net new neighborhood-oriented retail space in the LCD and Near LCD. Thus, ***it is not a likely result that commercial gentrification would result from pressure exerted on the existing retail base in the LCD, as this pressure is not anticipated to occur from the Pipeline projects.*** This supports our earlier assumption that there is a lack of evidence to support the premise that new residential development causes gentrification of commercial space.

Moreover, even without the net new addition of retail space in the Pipeline projects the amount of neighborhood-oriented demand is relatively insignificant given the volume of retail in the LCD. Pursuant to review of the City's Land Use database, which identifies square footage of building area by type by city block, ALH Economics estimates that the LCD has approximately 480,000 square feet of retail space.[9] If, say, 75% of the LCD demand and 33% of the Near LCD demand were specifically directed to LCD establishments, this would equate to just about 17,500 square feet of space, or 3.6% of the existing commercial base in the LCD. This is a relatively small increment of the existing space, and unlikely to be a sufficient share to result in commercial market shifts. However, this analysis is moot, as the Pipeline projects will instead be increasing the retail base, therefore eliminating any risk of pressure on the existing commercial base. ***Thus, there is no basis to suggest that any existing commercial establishments will be displaced because of the Pipeline projects in the LCD or near the LCD.***

[9]See https://data.sfgov.org/Housing-and-Buildings/Land-Use/us3s-fp9q for the database.

This commercial displacement finding is reinforced by analysis regarding the existing balance between retail supply and demand in the LCD as well as the Mission District. As noted above, the LCD is estimated to have 480,000 square feet of retail space. The Mission District has 3,022,780 square feet of retail space.[10] Demand analysis for existing households in the Mission and LCD indicates that both areas are characterized by retail attraction, meaning they attract more retail sales, or demand, than is supportable by their population bases. This is demonstrated by the analysis in Exhibits 10 through 13, with Exhibit 10 presenting the household counts and weighted average household incomes for area households in 2015.[11] These household counts and average household incomes are 15,062 and $103,551 in the Mission, respectively, and 4,083 and $109,587 in the LCD, respectively. The demand analysis for each area was prepared using the same methodology and assumptions as for the LCD pipeline households, with Exhibit 11 estimating total retail demand and Exhibits 12 and 13 distributing these sales across retail categories and converted to supportable space.

The retail demand analyses are summarized in Table 4, which indicates that for the Mission as a whole, residents are estimated to generate total retail demand for 1.1 million square feet, with just under 500,000 square feet of this amount comprising neighborhood-oriented demand. Comparable figures for existing LCD households are 325,500 square feet of total demand, including 141,500 square feet of neighborhood-oriented demand.

Table 4. Mission and LCD Retail Inventory and Total and Neighborhood-Oriented Commercial Square Feet of Demand

Area	Retail Inventory	Square Feet Supported (1)		Supply Multiplier	
		Total	Neighborhood-Oriented	Total	Neighborhood-Oriented
Mission District	3,022,780	1,134,500	493,200	2.7	6.1
LCD	480,000	325,500	141,500	1.5	3.4

Sources: "Mission Area Plan Monitoring Report: 2011- 2015," Prepared by the City and County of San Francisco Planning Department, Table 2.1.1, page 9; Exhibits 12 and 13; and ALH Urban & Regional Economics.

These demand estimates indicate that the supply of retail in the Mission as a whole and the LCD outstrip locally-generated demand. In the Mission, the total retail supply is more than 2.5 times the amount of retail supportable by its residents. In the LCD, the figure is smaller at 1.5 times, but is still strongly suggestive of retail attraction, meaning that the existing retail base is attracting clientele from a broader geographic area. This is especially the case when one considers that neighborhood-oriented demand is only a small subset of total demand, with the supply of neighborhood-oriented businesses in both areas greatly exceeding demand for neighborhood retail.

[10] See "Mission Area Plan Monitoring Report: 2011- 2015," Prepared by the City and County of San Francisco Planning Department, Table 2.1.1, page 9. This figure was generated by the Planning Department pursuant to analysis of the City's Land Use Database, which can be found at: https://data.sfgov.org/Housing-and-Buildings/Land-Use/us3s-fp9q.

[11] The household count and income figures for the LCD are derived from a procedure that estimates the area demographics based upon the percentage share of each constituent census tract located in the LCD. These shares were estimated by ALH Economics based upon the visual overlap of the LCD physical boundary with the census tract boundaries.

This analysis demonstrates that the Mission and the LCD are both regional shopping destinations, and that broad socioeconomic change (i.e., citywide, regionally) is a greater influence on commercial uses than is the immediate population of the neighborhood, which can only support a portion of the existing commercial space on its own. Because the existing commercial base in the LCD exceeds the demand from existing residents and is largely supported by persons living beyond the LCD, new residential development within the LCD does not determine its overall commercial make-up. Furthermore, since the existing housing stock comprises the vast majority of all housing units, it is quite likely that changes in occupancy of existing housing units have a much greater impact on the commercial base than residents of new residential development.

III. RESIDENTIAL DISPLACEMENT

OVERVIEW OF RENTAL HOUSING MARKET TRENDS

The following is a brief overview of the historic trends for rental housing in San Francisco. It is based on a review of available databases for tracking rents and provides background context on the existing market, in which the planned market rate rental units in the LCD will be delivered.

Over time, research shows that in San Francisco and across the nation, apartment rents are consistently rising. The occurrence of rising rents, therefore, is not a new phenomenon and appears to occur irrespective of individual market changes. In San Francisco, the increase in housing market costs has trended not in a straight line but more in a "boom and bust" pattern. In San Francisco, the data show that there are often years of strong price and rent increases, followed by periods of slow rent increases or even price and rent declines.

The Association of REALTORS has tracked these trends in San Francisco for the for-sale market and RealAnswers, a data information company (previously named RealFacts, Inc.), has tracked these trends generally for the San Francisco apartment market, including for the past 20 years. RealAnswers, however, only includes "investment grade" properties with 50 or more units, which, as of December 2016, is 24,066 units, or about 11% of San Francisco's rental housing stock.[12] This is only a portion of San Francisco's rental stock, likely represents the highest quality units, and would probably not include units influenced by San Francisco's rent control provision. For this reason, rental trends exemplified by these units are likely reasonably representative of overall trends impacting newer market-rate rental stock in San Francisco. Rents cited by RealAnswers would not, however, be representative of what most San Franciscans pay in rent as it does not capture San Francisco's large number of rental units that are subject to rent control.

Exhibit 14 shows the average investment grade apartment rents by unit type annually from 1996 to 2016. During this 20-year period, San Francisco's rents increased at an average annual rate of 5.5%. In absolute terms, this represents a near tripling of rents, from an average of $1,235 in 1996 to $3,571 in 2016. The Consumer Price Index for the San Francisco-Oakland-San Jose increased at an annual average rate of 2.9% from 1996 to 2016.[13] Thus, rents increased at a rate of 2.6% per year over inflation. During this time, there were some boom periods (1996-1997, 1999-2000, 2010-2014), as well as a few bust years (2000-2003 and 2008-2010); however, rents continued to trend upward over time.

In early 2016, a local resident recorded the listings for unfurnished apartments in the San Francisco Chronicle on the first Sunday in April for each year starting in 1948 through 2001 and using data from Craigslist from 2001 through mid-2016. A graphical depiction of these data is included in the graph on the following page. This graph indicates an upward trend in rents and an average annual rent increase of 6.6% (not adjusted for inflation). [14] While these data are not from a controlled study, they further support earlier observations and analysis that in San Francisco there has been a steady pattern of rental rate increases over an extended time period.

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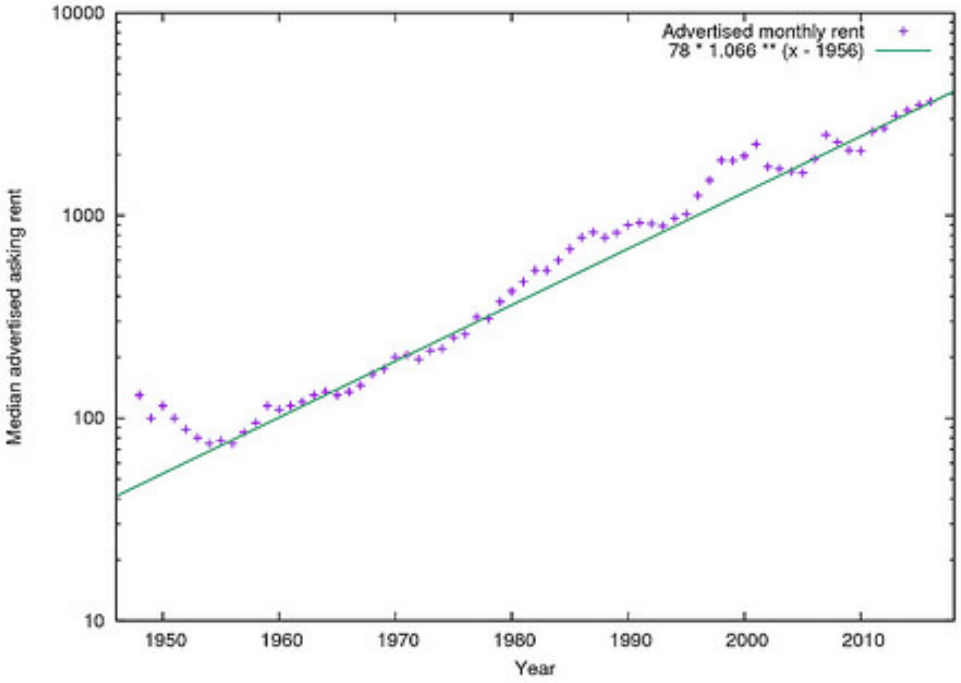
[12] Based on a count of approximately 220,500 rental units in 2014 per City and County of San Francisco estimates.

[13] Source: U.S. Department of Labor, Bureau of Labor Statistics; San Francisco-Oakland-San Jose Consumer Price Index, All Items, 1982-1984=100 for All Urban Consumers. November 15, 2016.

[14] https://experimental-geography.blogspot.com/2016/05/employment-construction-and-cost-of-san.html



Currently, as shown by the RealAnswers data in Exhibit 14, San Francisco appears to be entering once again into a bust period with the rate of recent rent increases for investment grade units slowing down. In 2014, average rent increased 10% over the prior year, followed by an 8.6% increase in 2015 and a 0.4% increase in 2016. This recent slowdown in the rental market for investment grade rental units represented is mirrored in other rental real estate sources, including Zumper, a rental real estate web site, which reports that rents for one-bedroom units citywide declined by 4.9% in 2016.[15]

Yardi Systems, Inc., a company that monitors 50+-unit apartment complexes nationally with a survey called the Yardi Matrix, also reported a recent slowdown in rent increases in San Francisco, with a 0.4% increase in 2016, matching the RealAnswers data trend.[16] Pursuant to the Yardi Matrix, the 2016 rental rate increase in San Francisco was a fraction of the 4.0% national rental rate increase, based on 119 markets, and was actually the second lowest rate of increase nationally, surpassing only Houston, which indicated an actual rent decline.[17] This varies somewhat from historical trends, wherein over just the past eight years, the unadjusted rate of increase in San Francisco rents was 4.8% (per data presented in Exhibit 14), compared to the year over year national rate of increase of 2.3% over the same time period reported by the Yardi Matrix.[18] Thus, San Francisco's current market rate

[15] https://www.zumper.com/blog/2016/12/san-francisco-prices-decreased-4-9-in-2016/, as reported in http://sf.curbed.com/2016/12/21/14039464/rent-prices-san-francisco-2016-bayview

[16] http://www.multifamilyexecutive.com/property-management/rent-trends/yardi-moderating-rent-trends-belie-strong-year-of-growth_o

[17] Ibid.

[18] http://www.multifamilyexecutive.com/property-management/rent-trends/yardi-moderating-rent-trends-belie-strong-year-of-growth_o

residential rental market is experiencing a marked deviation from local and comparative historical trends. Despite the recent slowdown in rental rate increases, however, San Francisco has maintained its position as ***the most expensive market in the country*** with a one-bedroom rent of $3,330 per month.[19]

Looking at the neighborhood level, Zumper found that ***most*** neighborhoods experienced a decline in rents in 2016, but that median rents for one-bedroom units in Bayview increased 11.5% and rents in the Mission increased less than 5%. This increase in rents in the Mission is lower than the increases measured in 2015, which were 5% to 10% for one- bedroom units.[20]

Based on evidence reviewed, San Francisco rents have tapered off, with 2016 characterized by relatively flat increases in rental rates overall, averaging declines in some neighborhoods and modest increases in others, such as the Mission District. Increases in rents will continue to occur based on historic market trends and irrespective of the market dynamics at any specific point in time, but at this moment in time the San Francisco market appears to be entering a slower period of rent increases. As noted above, however, many San Franciscans live in rent-controlled apartments and are insulated from short-term annual increases that occur.

HOUSING PRODUCTION IMPACTS ON HOUSING COSTS

The following probes whether market-rate housing production in the LCD will result in making housing less affordable for existing residents. It is based on review of existing literature on the subject as well as independent research on the subject. The focus is on the impact of market-rate housing apartment production on rents of existing properties.

Existing Literature

ALH Urban & Regional Economics reviewed many studies and papers to identify the resources that best address the question of the impact of housing production on pricing. The resources found to be among the most relevant to this question include studies on several topics, including understanding the dynamics for pricing, increasing the availability of affordable housing, and understanding the relationship between home production and displacement. Based upon this review of the literature and related studies, five papers (including document links) stand out in regards to their consideration of this issue. These papers were authored by state and local policy analysts as well as urban planning academics, and include the following:

1. Mac Taylor, Legislative Analyst, California Legislative Analyst's Office, "California's High Housing Costs: Causes and Consequences," March 17, 2015.
http://www.lao.ca.gov/reports/2015/finance/housing-costs/housing-costs.pdf

2. Mac Taylor, Legislative Analyst, California Legislative Analyst's Office, "Perspectives on Helping Low-Income Californians Afford Housing," (February 2016).
http://www.lao.ca.gov/Reports/2016/3345/Low-Income-Housing-020816.pdf

[19] https://www.zumper.com/blog/2016/12/zumper-national-rent-report-december-2016/
[20] https://www.zumper.com/blog/2015/12/see-how-san-francisco-rent-prices-changed-in-2015-2/

3. City and County of San Francisco, Office of the Controller-Office of Economic Analysis, "Potential Effects of Limiting Market-Rate Housing in the Mission," (September 10, 2015). http://sfcontroller.org/sites/default/files/FileCenter/Documents/6742-mission_moratorium_final.pdf

4. Miriam Zuk, Karen Chapple, "Housing Production, Filtering and Displacement: Untangling the Relationships," University of California, Berkeley, Institute of Governmental Studies Research Brief (May 2016).
http://www.urbandisplacement.org/sites/default/files/images/udp_research_brief_052316.pdf

5. Paavo Monkkonen, Associate Professor Urban Planning, University of California Los Angeles, "Understanding and Challenging Opposition to Housing Construction in California's Urban Areas," Housing, Land Use and Development Lectureship & White Paper, December 1, 2016.
http://uccs.ucdavis.edu/uccs-crre-housing-policy-brief-white-paper

The findings from the five studies reviewed below generally coalesce in the conclusion that housing production does not result in increased costs of the existing housing base, but rather helps suppress existing home prices and rents. In addition, through filtering, new home development makes other units available for households with lower incomes than those occupying newer units, although the rate at which this filtering occurs can vary, depending upon the housing market dynamics. Further, the studies find that both market-rate and affordable housing development help to suppress price appreciation and reduce displacement, although the rate at which this occurs in small, localized areas requires further analysis to best understand the relationship between development, affordability, and displacement at the local level.

Following is a brief synopsis of the cited studies with a focus on housing production and housing costs, emphasizing where possible on rental housing, as this is most applicable to the current projects in the pipeline in the San Francisco's LCD in the Mission. The key findings of each study are highlighted.

California Legislative Analyst's Office

March 2015 Study. Taylor's March 2015 study has the stated purpose of providing the State Legislature with an overview of the state's complex and expensive housing markets, including multifamily apartments. The study addresses several questions, including what has caused housing prices to increase so quickly over the past several decades and assessing how to moderate this trend. This study is focused on statewide and select county trends, and especially focuses on coastal metro areas, which includes San Francisco.

As a way of setting the framework, and as an example of how housing prices in California are higher than just about anywhere else in the country, the study demonstrates that California's average rent is about 50% higher than the rest of the country, and that housing prices are 2.5 times higher than the national average. As a major finding, regarding how building less housing than people demand drives high housing costs, the study cites the following:

> "California is a desirable place to live. Yet not enough housing exists in the state's major coastal communities to accommodate all of the households that want to live there. In these areas, community resistance to housing, environmental policies, lack of fiscal incentives for local governments to approve housing, and limited land constrains

> new housing construction. A shortage of housing along California's coast means households wishing to live there compete for limited housing. This competition bids up home prices and rents. Some people who find California's coast unaffordable turn instead to California's inland communities, causing prices there to rise as well. In addition to a shortage of housing, high land and construction costs also play some role in high housing prices."[21]

The study makes many findings, including pertaining to the impacts of affordable housing programs, but specifically addresses how building less housing than people demand drives high housing costs, citing that the competition resulting from a lack of housing where people want to live bids up housing costs. While the study concludes that the relationship between growth of housing supply and increased housing costs is complex and affected by other factors, such as demographics, local economics, and weather, it concludes that statistical analysis suggests there remains a strong relationship between home building and prices. A major study finding presented in the paper indicates that:

> "after controlling for other factors, if a county with a home building rate in the bottom fifth of all counties during the 2000s had instead been among the top fifth, its median home price in 2010 would have been roughly 25 percent lower. Similarly, its median rent would have been roughly 10 percent lower."[22]

Thus, the Taylor study concludes, as a result of conducting statistical analysis, that ***a relationship exists between increasing home production and reducing housing costs, including home prices and apartment rents.***

February 2016 Study. In response to concerns about housing affordability for low-income households following release of his 2015 study, Taylor's February 2016 follow-up study offers additional evidence that facilitating more private housing development in the state's coastal urban communities would help make housing more affordable for low-income Californians. As cited by Taylor:

> "Existing affordable housing programs assist only a small proportion of low-income Californians. Most low-income Californians receive little or no assistance. Expanding affordable housing programs to help these households likely would be extremely challenging and prohibitively expensive. It may be best to focus these programs on Californians with more specialized housing needs—such as homeless individuals and families or persons with significant physical and mental health challenges.
>
> Encouraging additional private housing construction can help the many low-income Californians who do not receive assistance. Considerable evidence suggests that construction of market-rate housing reduces housing costs for low-income households and, consequently, helps to mitigate displacement in many cases. Bringing about more private home building, however, would be no easy task, requiring state and local policy makers to confront very challenging issues and taking many years to come to fruition. Despite these difficulties, these efforts could provide significant widespread benefits: lower housing costs for millions of Californians."[23]

[21] Mac Taylor, "California's High Housing Costs: Causes and Consequences," March 17, 2015, page 3.
[22] Ibid, page 12.
[23] Mac Taylor, "Perspectives on Helping Low-Income Californians Afford Housing," February 2016, page 1.

In this paper, Taylor presents evidence that construction of new, market-rate housing can lower housing costs for low-income households. Highlights of this evidence are as follows:

- Lack of supply drives high housing costs, such that increasing the supply of housing can alleviate competition and place downward pressure on housing costs;
- Building new housing indirectly adds to the supply of housing at the lower end of the market, because a) housing becomes less desirable as it ages; and b) as higher income households move from older, more affordable housing to new housing the older housing becomes available for lower income households (e.g., filtering).

Further, Taylor cites that the lack of new construction can slow the process of older housing becoming available for lower-income households, both owners and renters. Taylor additionally presents analysis demonstrating that when the number of housing units available at the lower end of a community's housing market increases, growth in prices and rents slows. This is demonstrated by comparative analysis of rents paid by low-income households in California's slow growth coastal urban counties and fast growing urban counties throughout the U.S., especially with regard to comparative rent burden as a share of income.

Finally, ***Taylor's paper concludes that more private development is associated with less displacement.***[24] Taylor cites that his analysis of low-income neighborhoods in the Bay Area suggests a link between increased construction of market-rate housing and reduced displacement. Specifically, his study found that between 2000 and 2013, census tracts with an above-average concentration of low-income households that built the most market-rate housing experienced considerably less displacement. Further, his findings show that displacement was more than twice as likely in low-income census tracts with little market-rate housing construction (bottom fifth of all tracts) than in low-income census tracts with high construction levels (top fifth of all tracts).[25] Taylor theorizes that one factor contributing to this finding is that Bay Area inclusionary housing policies requiring the construction of new affordable housing could be mitigating displacement, but that market-rate housing construction continues to appear to be associated with less displacement *regardless* of a community's inclusionary housing policies.[26] In communities without inclusionary housing policies, in low-income census tracts where market-rate housing construction was limited, Taylor also found displacement was more than twice as likely than in low-income census tracts with high construction levels.[27] This relationship between housing development and displacement remains statistically valid even after accounting for other economic and demographic factors.

City and County of San Francisco, Office of Economic Analysis

In 2015, Supervisors Mark Farrell and Scott Wiener requested the Office of Economic Analysis (OEA) to prepare a report on the effects of a temporary moratorium, and an indefinite prohibition, on market-rate housing in the Mission District of San Francisco, pursuant to an 18-month moratorium being put on the November 2015 ballot. Accordingly, a report was prepared focusing on the effects of such actions on the price of housing, the City's efforts to produce new housing at all income levels, eviction pressures, and affordable housing. It also explores if there are potential benefits of a

[24] Taylor defines a census tract as having experienced displacement if (1) ifs overall population increased and its population of low-income households decreased or (2) its overall population decreased and its low-income population declined faster than the overall population (see Taylor, page 13).
[25] Ibid, page 9.
[26] Ibid.
[27] Ibid, page 10.

moratorium, such as reducing tenant displacement, discouraging gentrification, preventing nearby existing housing from becoming unaffordable, and preserving sites for permanently affordable housing.

The primary focus of this study is on addressing the impacts of a moratorium on the availability and provision of affordable housing, on which the study finds that a temporary moratorium would:

> "lead to slightly higher housing prices across the city, have no appreciable effect on no-fault eviction pressures, and have a limited impact on the city's ability to produce affordable housing during the moratorium period. At the end of the moratorium, these effects would be reversed, through a surge of new building permits and construction, and there would be no long-term lasting impacts of a temporary moratorium." [28]

In other words, the study found that suppressing residential production results in increasing the cost of the existing housing stock. In a similar vein, the study states:

> "market rate housing construction drives down housing prices and, by itself, increases the number of housing units that are affordable."[29]

Another study conclusion included finding no evidence that anyone would be evicted so that market-rate housing could be built in the Mission over the next 18 to 30 months as none of the identified planned housing units included in the analysis would require the demolition of any existing housing units.[30] Finally, and perhaps most on point regarding market-rate housing production impacts on pricing, the study stated:

> "We further find no evidence that new market-rate housing contributes to indirect displacement in the Mission, by driving up the value of nearby properties. On the contrary, both in the Mission and across the city, new market rate housing tends to depress, not raise, the value of existing properties." [31]

This finding regarding price impacts was the result of statistical modeling, with a statistically significant result indicating that ***new market-rate housing did not make nearby housing more expensive in San Francisco during the 2001-2013 period***.[32]

University of California Berkeley, Institute of Governmental Studies

The cited study by Zuk, Ph.D., Director and Senior Researcher, and Chapple, Ph.D., Professor of City and Regional Planning, both with the Center for Community Innovation at UC Berkeley's Institute of Governmental Studies, builds on other studies prepared by the authors addressing gentrification in the Bay Area region. The purpose of this research brief is to add to the discussion on the importance of subsidized and market-rate housing production in alleviating the current housing crisis, and to especially probe the relationship between housing production, affordability, and displacement. This study specifically expands on the analysis prepared by Taylor in "Perspectives on Helping Low-Income

[28] City and County of San Francisco, Office of the Controller-Office of Economic analysis, "Potential Effects of Limiting Market-Rate Housing in the Mission," September 10, 2015, page 1.
[29] Ibid, page 28.
[30] Ibid.
[31] Ibid.
[32] Ibid page 26.

Californians Afford Housing" (February 2016), wherein Taylor's study was performed using a data set compiled by Zuk and Chapple for their Urban Displacement Project. Specifically, Zuk and Chapple seek to test the reliability of Taylor's findings taking into consideration yet one more additional variable, e.g., production of subsidized housing. Zuk and Chapple also seek to determine if Taylor's noted regional trends regarding the impact of housing production on housing costs and displacement hold up at the more localized neighborhood level.

In general, Zuk and Chapple's findings largely support the argument that building more housing reduces displacement pressures, and agree that "market-rate development is important for many reasons, including reducing housing pressures at the regional scale and housing large segments of the population."[33] They advance the understanding of this trend by concluding that market-rate housing production is associated with reduced displacement pressures, but find that subsidized housing production has more than double the impact of market-rate units. They further find that, through filtering, market-rate housing production is associated with near term higher housing cost burdens for low-income households, but with longer-term lower median rents.

Zuk and Chapple further probe the question of housing production, affordability, and displacement at the local level, including case study analysis of two San Francisco block groups in SOMA. Their findings at this granular geographic level are inconclusive, from which they conclude that "***neither the development of market-rate nor subsidized housing has a significant impact on displacement. This suggests that indeed in San Francisco, and by extension similar strong markets, the unmet need for housing is so severe that production alone cannot solve the displacement problem.***"[34] They further cite that drilling down to local case studies, they "see that the housing market dynamics and their impact on displacement operate differently at these different scales"[35] and that detailed analysis is needed to clarify the complex relationship between development, affordability, and displacement at the local level.[36]

Paavo Monkkonen, PhD., University of California Los Angeles

Monkkonen's study is itself a review of other studies, summarizing key study findings and using the information to shape state policy recommendations to address housing affordability. The key topic of Monkkonen's study is that housing in California is unaffordable to most households, and that limited construction relative to robust job growth is one of the main causes. Monkkonen, an Associate Professor of Urban Planning at the UCLA Luskin School of Public Affairs, says it best in summing up the purpose of his study and highlights of his findings, as follows:

> "Housing affordability is one of the most pressing issues facing California. In the intense public debate over how to make housing affordable, the role of new supply is a key point of contention despite evidence demonstrating that supply constraints — low-density zoning chief among them — are a core cause of increasing housing costs. Many California residents resist new housing development, especially in their own neighborhoods. This white paper provides background on this opposition and a set of policy recommendations for the state government to address it. I first describe how

[33] Miriam Zuk, Karen Chapple, "Housing Production, Filtering and Displacement: Untangling the Relationships," University of California, Berkeley, Institute of Governmental Studies Research Brief (May 2016), page 4.
[34] Ibid, page 7.
[35] Ibid, page 10.
[36] Ibid, page 1.

> limiting new construction makes all housing less affordable, exacerbates spatial inequalities, and harms the state's economic productivity and environment. I then discuss the motivations for opposing more intensive land use, and clarify the way the role of new housing supply in shaping rents is misunderstood in public debates."[37]

Monkkonen states that "constraining the supply of housing increases rents."[38] He cites academic studies from the 1970s and 1980s that found a significant impact of restrictive zoning on housing prices and more sophisticated studies from the 2000s and 2010s that demonstrate that regulations such as historic preservation and low-density zoning increase prices. He states that higher housing prices help homeowners through increased equity, but hurt renters, which tend to have lower incomes than existing homeowners. He further cites studies that found that limiting population growth through low-density zoning (as a means of limiting housing production) hampers economic productivity because it restricts the labor pool, pushing people out and preventing newcomers.

Monkkonen states that through filtering, new housing units can improve overall housing affordability at the metropolitan level. He further states that if no new housing stock is available in desirable locations that high-income residents will renovate and occupy older housing that might otherwise by inhabited by lower-income residents. Thus, he concludes that "[t]he prevention of new construction cannot guarantee that older housing will remain affordable."[39] He further states that the filtering process is a "crucial element to stave off increases in housing rents," and cites several studies from 2008 and later that demonstrate that "housing markets with more responsive supply mechanisms experience less price growth and are able to capture the economic benefits of a booming economy."[40] Monkkonen cites the Zuk and Chapple finding that these metropolitan scale trends may be less pronounced at the neighborhood level, depending upon the nature of the new housing built. But he also reinforces their finding that ***increasing the supply of market-rate housing and, more importantly, affordable housing, reduces displacement. In conclusion, Monkkonen states "Not building housing in some parts of the city pushes the pressure for development, along with any negative impacts, to neighborhoods with fewer resources to resist."***[41]

Applied San Francisco Research and Findings

To further probe the question of the impacts of housing production on housing costs at the local level, especially apartment rents, ALH Urban & Regional Economics strove to identify readily available data points local to San Francisco, the Mission District, and the LCD. These data points focused on residential unit production and rental price time series trends.

A consistent and thorough source of a time series of housing production data includes the City of San Francisco Housing Inventory reports, prepared by the San Francisco Planning Department on an annual basis. These reports track net unit production by neighborhood, with the potential to create a time series of data extending back more than a decade. There are yet other sources of data regarding San Francisco's residential inventory, including the American Community Survey, an annual publication of the U.S. Census Bureau, which samples annual trend data and presents estimated data points, such as the number of occupied rental units in San Francisco by census tract, which can then

[37] Paavo Monkkonen, "Understanding and Challenging Opposition to Housing Construction in California's Urban Areas," December 1, 2016, page 1.
[38] Ibid, page 5.
[39] Ibid page 6.
[40] Ibid.
[41] Ibid, page 7.

be aggregated into neighborhoods, or approximations thereof. The American Community Survey samples data and then presents information annually; however, the annual data most resemble a running average, with each year's data presentation comprising an average of the cited year and several prior years. Thus, the data are more of an amalgamation than an annual accounting, and as referenced, are based on sampling rather than a more comprehensive census, which still only occurs every 10 years, with the last one occurring in 2010.

There are also several sources of information on apartment rents. In addition to estimating occupied rental units, the American Community Survey also presents information on median rent by census tract as well as the number of units available for rent within select rental price bands, such as $0 - $499, $500-$999, $1,000-$1,499, $1,500- $1,999, and $2,000+. The rent range band tops out at $2,000+, thus there is no way to generate an estimated average rent without developing an assumption regarding the average unit rent in the $2,000+ range. Another, less localized source, includes the City of San Francisco annual Housing Inventory reports, which include a time series of data regarding average rents for two-bedroom apartments in San Francisco, with some Bay Area comparison. Similar data are included on average prices for 2-bedroom homes, in San Francisco and the Bay Area. In addition, data information companies such as RealAnswers track apartment rents over time, with RealAnswers in particular providing a reliable time series of average rents by unit type and all units. However, this data source is not comprehensive, as it focuses on larger, investment grade properties, with a minimum 50-unit count.

ALH Economics compiled a time series of unit production data in San Francisco from 2006 onward from the City's annual Housing Inventory reports. This included all net units produced by neighborhood. ALH Urban & Regional Economics also compiled a time series of the number of occupied rental units from 2010 onward for San Francisco, the census tracts defining the Mission District, and thus also the census tracts that most correspond with the LCD, pursuant to the American Community Survey (ACS).[42] Median and average rents for these occupied units were also compiled from the American Community Survey from 2010 onward. In addition, a time series of San Francisco apartment rents was prepared based on the Housing Inventory reports as well as RealAnswers, with the latter tracking prices and price changes for a 20-year period, from 1996 to 2016.

ALH Economics prepared several analyses looking at housing production data and apartment rents, in San Francisco, the Mission District, and the LCD. The purpose of these analyses was to identify any relationships between the amount or rate of housing production and the change in apartment rental rates. One analysis in particular examined median rent changes per the ACS and associated changes in occupied housing units. Housing unit changes tracked by the ACS and the City of San Francisco were both examined. In addition, rent changes in San Francisco overall were examined relative to overall housing production rates, not just by City subarea.

The results of the analyses comparing local housing production and apartment rent trends were inconclusive. ***No specific trends were identified for the City or the Mission District and LCD suggesting that housing production has an impact on apartment rents, including increases in rent or rent suppression.*** While not the result of a rigorous study, this finding does not conflict with the conclusions of the above-cited studies on housing production and costs, such as Mac Taylor, et. al. for the California Legislative Analyst's Office. As demonstrated by the reviewed studies, a more detailed analysis evaluating many other variables is needed to determine if there is a relationship between

[42] To support this analysis, the census tracts comprising the LCD were identified. For census tracts only partially in the LCD, estimates were prepared regarding the percentage of each census tract's housing units that are located in the LCD.

housing production (specifically apartments) and apartment rents. Variables that measure changes in the local economy, such as jobs, wages, and unemployment, should be included. Conducting a more rigorous analysis on a sub-city (e.g., neighborhood) basis is challenging because of the difficulty in developing a time series of reliable rent data for market-rate units by sub-area. If possible, however, these data would be superior to use of the ACS rent data to evaluate these issues because of complications around what the ACS data are measuring, especially in San Francisco. Among these complications, two major constraints include the following:

- Rents are self-reported, thus there is reliance upon the person being surveyed to report accurate information; and
- Many San Francisco rental units are subject to rent control, thus reported rents are suppressed by the inclusion of rent control units and will always result in under reporting of market rate rent increases.

Because of the limitations in the data, the ALH Economics analysis of the impacts of housing production on housing costs in San Francisco, the Mission District, and LCD is inconclusive and does not add to the existing literature findings. While further analysis is needed at the micro-level, the existing literature does demonstrate that at the metropolitan level, market-rate housing production, as well as affordable housing production, helps suppress existing home prices and rents and increases the number of housing units available to households with lower incomes.

GENTRIFICATION AND DISPLACEMENT LITERATURE SURVEY OVERVIEW

ALH Economics identified and reviewed many papers comprising the academic and associated literature on gentrification. These papers study and address many aspects of gentrification, some of which include defining gentrification because how one defines gentrification impacts how it is analyzed as well as the effects and consequences of gentrification, housing development and affordability, as well as its relationship to urban poverty and other aspects of urban development. The primary purpose of this review was to identify papers that most succinctly or directly address the relationship between market rate residential development and gentrification and displacement to assist ALH Economics in evaluating the question of does market rate residential development ***cause*** gentrification and displacement?

ALH Economics identified 11 papers or articles that provide a succinct and germane discussion on the topic. A detailed and thorough discussion and literary review of each of these papers is included in Appendix C. While there are many other studies and articles that analyze gentrification and displacement, and seek to find a relationship between the two phenomena, the cited articles not only provide a representative sampling and discussion of other papers and associated commentaries, but provide a solid overview and analysis of the subject by leading experts in the field.

Based on review of these studies, as summarized in the Appendix C literature review, extensive analysis has been conducted for more than the past decade exploring causation between gentrification and displacement. In general, leading experts in the field appear to coalesce around the understanding that there is weak causation between gentrification and displacement, with some experts concluding that the ability for residents to relocate or move (i.e., mobility rates) are not distinguishable between neighborhoods experiencing gentrification and neighborhoods not experiencing gentrification. The literature further demonstrates that displacement can occur without gentrification, and that displacement is not inevitable, with ***public policy tools*** available to stabilize communities. Moreover, some studies also suggest that in some instances, existing low-income

households in a gentrifying neighborhood may benefit from gentrification because of neighborhood improvements perceived to be of value and increased housing satisfaction.

The overall conclusion reached from conducting this literature review is that the concern that gentrification associated with new market-rate development in the LCD will cause displacement ***is not supported by the evidence in the academic literature***. The findings overwhelmingly suggest that while some displacement may occur, it is not the inevitable result of gentrification, and that many factors influence whether or not displacement occurs.

IV. APPLICATION OF SOCIOECONOMIC EFFECTS IN CEQA ANALYSIS

Socioeconomic effects are not routinely included in EIR's prepared for projects pursuant to CEQA. Generally speaking, CEQA does not require analysis of socioeconomic issues such as displacement, gentrification, environmental justice, or effects on "community character." Most specifically, the CEQA Guidelines state that:

> "[e]conomic or social effects of a project shall not be treated as significant effects on the environment."[43] CEQA defines the "[e]nvironment" as "*physical* conditions,"[44] and impacts analyzed under CEQA must be "related to a physical change."[45]

Under the CEQA guidelines, however, ***physical changes*** to the environment caused by a project's economic or social effects are secondary impacts that should be included in an EIR's impact analysis ***if they are significant***.[46] There are very few rulings on this topic. The most oft-cited case focuses on urban decay in the context of an existing shopping center and, specifically, on whether project impacts would lead to a downward spiral of store closures and long-term vacancies, thus causing or contributing to urban decay.[47]

Beyond the requirement to assess the potential to cause urban decay where evidence suggests this result could occur, courts have issued limited rulings on the issue of socioeconomic impacts in the context of CEQA. One such case involves the effects of school overcrowding and property value impacts.[48]

These cases suggest very few instances where physical changes in the environment have been linked to social or economic effects. The courts position finding that questions of community character are

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[43] CEQA Guidelines, § 15131, subd. (a)
[44] Pub Res Code §21060.5 (emphasis added); Guidelines, §15360.
[45] Guidelines, §15358(b).
[46] CEQA Guidelines §15064(e)
[47] The primary case is Bakersfield Citizens for Local Control v City of Bakersfield (2004) 124 CA4th 1184, 1215, which requires EIRs to examine the potential for projects, primarily shopping center projects, to cause or contribute to urban decay if certain conditions are met, but does not establish that such decay will necessarily result from new development. Other related cases include Anderson First Coalition v City of Anderson (2005) 130 CA4th 1173, in which the court upheld an EIR for a Walmart supercenter against a challenge that the EIR did not adequately evaluate the project's potential to cause urban decay in the city's central business district; and Gilroy Citizens for Responsible Planning v City of Gilroy (2006) 140 CA4th 911, in which the court upheld the city's determination that it was unnecessary for an EIR for a shopping center project to examine urban decay effects because evidence in the record supported the city's conclusion that ongoing loss of business in the downtown commercial district would occur with or without development of the shopping center.
[48] These case is Gray v County of Madera (2008) 167 CA4th 1099, 1121. The court upheld an EIR against a claim of economic impact because no evidence supported the assertion that potential reduction in property values of neighboring lands would have physical environmental consequences.

not a CEQA issue further supports this conclusion.[49] Even the State Legislature has ruled that social or economic effects are not CEQA issues as evidenced by the frequent introduction of bills by members to amend CEQA to permit analysis of socioeconomic issues and the continued failure of these bills being enacted into law.[50]

Thus, the issue of socioeconomic impacts in the context of CEQA is limited to where those impacts result in significant physical environmental impacts. As there are few examples of whether it has occurred, this suggests there is limited reason to anticipate that residential development in the Calle 24 LCD will result in socioeconomic impacts necessary to analyze under CEQA. In conclusion, the evaluation does not demonstrate the significant physical impact required under CEQA to warrant further review. The evidence cited above, as well as research and literature review conducted by ALH Economics, supports this conclusion.

[49] Representative cases include Preserve Poway v. City of Poway (2016) 245 Cal. App. 4th 560, 581, regarding a new housing development replacing an equestrian center, in which case the Court of Appeal re-affirmed that CEQA does not "include such psychological, social, or economic impacts on community character;" and Cathay Mortuary, Inc. v. San Francisco Planning Com. (1989) 207 Cal.App.3d 275, 280, in which case the Court of Appeal rejected the argument that relocating a traditional Chinese mortuary to make way for a new park would be disruptive to the community, stating that the argument was not "related to any environmental issue."

[50] See, e.g., SB 731 of 2013 (would have added to CEQA a requirement to study "economic displacement"; died in the Assembly in 2014); SB 115 of 1999 (Ch. 690, Stats. 1999) (an earlier version of this bill would have directed OPR to recommend revisions to CEQA that would require analysis of environmental justice; the bill was specifically amended before passage to eliminate this requirement); SB 1113 of 1997 (bill to require environmental justice impacts under CEQA vetoed by Governor), AB 3024 of 1992 (similar bill vetoed), AB 937 of 1991 (similar bill vetoed).

ASSUMPTIONS AND GENERAL LIMITING CONDITIONS

ALH Urban & Regional Economics has made extensive efforts to confirm the accuracy and timeliness of the information contained in this study. Such information was compiled from a variety of sources, including interviews with government officials, review of City and County documents, and other third parties deemed to be reliable. Although ALH Urban & Regional Economics believes all information in this study is correct, it does not warrant the accuracy of such information and assumes no responsibility for inaccuracies in the information by third parties. We have no responsibility to update this report for events and circumstances occurring after the date of this report. Further, no guarantee is made as to the possible effect on development of present or future federal, state or local legislation, including any regarding environmental or ecological matters.

The accompanying projections and analyses are based on estimates and assumptions developed in connection with the study. In turn, these assumptions, and their relation to the projections, were developed using currently available economic data and other relevant information. It is the nature of forecasting, however, that some assumptions may not materialize, and unanticipated events and circumstances may occur. Therefore, actual results achieved during the projection period will likely vary from the projections, and some of the variations may be material to the conclusions of the analysis.

Contractual obligations do not include access to or ownership transfer of any electronic data processing files, programs or models completed directly for or as by-products of this research effort, unless explicitly so agreed as part of the contract.

APPENDIX A: ALH URBAN & REGIONAL ECONOMICS QUALIFICATIONS

FIRM INTRODUCTION

ALH Urban & Regional Economics (ALH Economics) is a sole proprietorship devoted to providing urban and regional economic consulting services to clients throughout California. The company was formed in June 2011. Until that time, Amy L. Herman, Principal and Owner (100%) of ALH Economics, was a Senior Managing Director with CBRE Consulting in San Francisco, a division of the real estate services firm CB Richard Ellis. CBRE Consulting was the successor firm to Sedway Group, in which Ms. Herman was a part owner, which was a well-established urban economic and real estate consulting firm acquired by CB Richard Ellis in late 1999.

ALH Economics provides a range of economic consulting services, including:

- fiscal and economic impact analysis
- CEQA-prescribed urban decay analysis
- economic studies in support of general plans, specific plans, and other long-range planning efforts
- market feasibility analysis for commercial, housing, and industrial land uses
- economic development and policy analysis
- other specialized economic analyses tailored to client needs

Ms. Herman's clients have included numerous cities and redevelopment agencies throughout California, transportation agencies, medical and educational institutions, nonprofits, commercial and residential developers, and many of the top Fortune 100 companies. Since forming ALH Economics, Ms. Herman's client roster includes California cities, major universities, environmental consulting firms, commercial developers, and law firms. A select list of ALH Economics clients include the University of California at Berkeley; the University of California at Riverside; LSA Associates; Raney Planning and Management, Inc.; During Associates; Lamphier-Gregory; Gresham Savage Nolan & Tilden, PC; California Gold Development Corporation; Environmental Science Associates (ESA); Arcadia Development Co.; Catellus Development Corporation; Sedgwick LLP; First Carbon Solutions - Michael Brandman Associates; City of Concord; Hospital Council of Northern and Central California; Howard Hughes Corporation dba Victoria Ward, LLC; Signature Flight Support Corporation; Blu Homes, Inc.; Ronald McDonald House; Infrastructure Management Group, Inc.; Equity One Realty & Management CA, Inc.; Remy Moose Manley; Orchard Supply Hardware; Office of Community Investment and Infrastructure as Successor Agency to the Redevelopment Agency of the City and County of San Francisco; City of Los Banos; Dudek; City of Tracy; Bay Area Rapid Transit District; Eagle Commercial Partners, LLC; City of Dublin; China Harbour Engineering Company; Alameda County Community Development Agency; Golden State Lumber; SimonCRE; Public Storage; Cross Development LLC; Alameda County Fair; and Group 4 Architecture, Research + Planning, Inc.

PRINCIPAL INTRODUCTION

Ms. Amy Herman, Principal of ALH Economics, has directed assignments for corporate, institutional, non-profit, and governmental clients in key service areas, including fiscal and economic impact analysis, commercial market analysis, economic development and

redevelopment, location analysis, strategic planning, and policy analysis. During her career spanning almost 35 years, Ms. Herman has supported client goals in many ways, such as to demonstrate public and other project benefits, assess public policy implications, and evaluate and maximize the value of real estate assets. In addition, her award-winning economic development work has been recognized by the American Planning Association, the California Redevelopment Association, and the League of California Cities.

Ms. Herman's clients have included a range of cities and redevelopment agencies throughout California, medical and educational institutions, commercial and residential developers, and many of the top Fortune 100 companies. She holds a Master of Community Planning degree from the University of Cincinnati and a Bachelor of Arts degree in urban policy studies from Syracuse University.

Prior to forming ALH Economics, Ms. Herman worked for 20 years as an urban economist with Sedway Group and then CBRE Consulting's Land Use and Economics practice. Her prior professional work experience included 5 years in the Real Estate Consulting Group of the now defunct accounting firm Laventhol & Horwath (L&H), preceded by several years with the real estate consulting firm Land Economics Group, which was acquired by L&H. During the course of her career Ms. Herman has established a strong professional network and client base providing access to contacts and experts across a wide spectrum of real estate and urban development resources. A professional resume for Ms. Herman is presented on the following pages.

During her tenure with CBRE Consulting Ms. Herman developed a strong practice area involving the conduct of urban decay analyses as part of the environmental review process. This includes projects with major retail components as well as land uses, such as office development, R&D development, sports clubs, and sports facilities. A review of Ms. Herman's experience with these types of studies follows.

EXPERIENCE CONDUCTING URBAN DECAY STUDIES

Description of Services

The Principal of ALH Economics, Amy L. Herman, has performed economic impact and urban decay studies for dozens of retail development projects in California, as well as other land uses. These studies have generally been the direct outcome of the 2004 court ruling *Bakersfield Citizens for Local Control ("BCLC") v. City of Bakersfield* (December 2004) 124 Cal.App.4th 1184, requiring environmental impacts analyses to take into consideration the potential for a retail project as well as other cumulative retail projects to contribute to urban decay in the market area served by the project. Prior to the advent of the Bakersfield court decision, Ms. Herman managed these studies for project developers or retailers, typically at the request of the host city, or sometimes for the city itself. Following the Bakersfield decision, the studies have most commonly been directly commissioned by the host cities or environmental planning firms conducting Environmental Impact Reports (EIRs) for the projects. Studies are often conducted as part of the EIR process, but also in response to organized challenges to a city's project approval or to Court decisions ruling that additional analysis is required.

The types of high volume retail projects for which these studies have been conducted include single store developments, typically comprising a Walmart Store, The Home Depot, Lowe's Home Improvement Warehouse, or Target store. The studies have also been conducted for

large retail shopping centers, typically anchored by one or more of the preceding stores, but also including as much as 300,000 to 400,000 square feet of additional retail space with smaller anchor stores and in-line tenants.

The scope of services for the retail urban decay studies includes numerous tasks. The basic tasks common to most studies include the following:

- defining the project and estimating sales for the first full year of operations;
- identifying the market area;
- identifying and touring existing competitive market area retailers;
- evaluating existing retail market conditions at competitive shopping centers and along major commercial corridors in the market area;
- conducting retail demand, sales attraction, and spending leakage analyses for the market area and other relevant areas;
- forecasting future retail demand in the market area;
- researching the retail market's history in backfilling vacated retail spaces;
- assessing the extent to which project sales will occur to the detriment of existing retailers (i.e., diverted sales);
- determining the likelihood existing competitive and nearby stores will close due to sales diversions attributable to the project;
- researching planned retail projects and assessing cumulative impacts; and
- identifying the likelihood the project's economic impacts and cumulative project impacts will trigger or cause urban decay.

Many studies include yet additional tasks, such as assessing the project's impact on downtown retailers; determining the extent to which development of the project corresponds with city public policy, redevelopment, and economic development goals; projecting the fiscal benefits relative to the host city's General Plan; forecasting job impacts; analyzing wages relative to the existing retail base; and assessing potential impacts on local social service providers. Further, much of this approach and methodology is equally applicable to the other land uses for which urban decay studies are prepared.

Representative Projects

Many development projects for which Ms. Herman has prepared economic impact and urban decay studies are listed below. These include projects that are operational, projects under construction, projects approved and beyond legal challenges but not yet under construction, and project currently engaged in the public process. By category, projects are listed alphabetically by the city in which they are located.

Projects Operational

- Alameda, Alameda Landing, totaling 285,000 square feet anchored by a Target (opened October 2013), rest of center opening starting in 2015
- American Canyon, Napa Junction Phases I and II, 239,958 square feet, anchored by a Walmart Superstore, prepared in response to a Court decision; project opened September 2007
- Bakersfield, Gosford Village Shopping Center, totaling 700,000 square feet, anchored by a Walmart Superstore, Sam's Club, and Kohl's; Walmart store opened March 18, 2010, Sam's Club and Kohl's built earlier

- Bakersfield, Panama Lane, Shopping Center, totaling 434,073 square feet, anchored by a Walmart Superstore and Lowe's Home Improvement Warehouse; Walmart store opened October 2009, Lowe's store built earlier
- Bakersfield, Silver Creek Plaza, anchored by a WinCo Foods, totaling 137,609 square feet, opened February 28, 2014
- Carlsbad, La Costa Town Square lifestyle center, totaling 377,899 square feet, anchored by Steinmart, Vons, Petco, and 24 Hour Fitness, opened Fall 2014
- Citrus Heights, Stock Ranch Walmart Discount Store with expanded grocery section, 154,918 square feet; store opened January 2007
- Clovis, Clovis-Herndon Shopping Center, totaling 525,410 square feet, anchored by a Walmart Superstore, opened March 2013
- Concord, Lowe's Commercial Shopping Center, totaling 334,112 square feet, anchored by a Lowe's Home Improvement Warehouse and a national general merchandise store; EIR Certified December 2008 with no subsequent legal challenge; store opened January 2010
- Dublin, Persimmon Place, 167,200 square feet, anchored by Whole Foods, opened 2015
- Gilroy, 220,000-square-foot Walmart Superstore, replaced an existing Discount Store; store opened October 2005, with Discount Store property under new ownership planned for retail redevelopment of a 1.5-million-square-foot mall
- Gilroy, Lowe's Home Improvement Warehouse, 166,000 square feet; store opened May 2003
- Hesperia, Main Street Marketplace, totaling 465,000 square feet, anchored by a Walmart Superstore and a Home Depot, Walmart under construction, opened September 2012
- Madera, Commons at Madera, totaling 306,500 square feet, anchored by a Lowe's Home Improvement Warehouse; project opened July 2008
- Oakland, Safeway expansion, College & Claremont Avenues, 51,510 square feet total, comprising a 36,787 square-foot expansion, opened January 2015
- Oakland, Rockridge Safeway expansion and shopping center redevelopment (The Ridge), including total net new development of 137,072 square feet, opened September 2016
- Rancho Cordova, Capital Village, totaling 273,811 square feet, anchored by a Lowe's Home Improvement Warehouse; phased project opening, January 2008 – July 2008
- San Jose (East San Jose), Home Depot Store, 149,468 square feet; store opened October 2007
- San Jose, Lowe's Home Improvement Warehouse (redevelopment of IBM site), up to 180,000 square feet, store opened March 2010
- San Jose, Almaden Ranch, up to 400,000 square feet, anchor tenant Bass Pro Shop opened October 2015
- Sonora, Lowe's Home Improvement Warehouse, 111,196 square feet; store opened December 2010
- Victorville, The Crossroads at 395, totaling 303,000 square feet, anchored by a Walmart Superstore, opened May 2014
- Victorville, Dunia Plaza, totaling 391,000 square feet, anchored by a Walmart Superstore and a Sam's Club, replacing existing Walmart Discount Store, opened September 2012
- West Sacramento, Riverpoint Marketplace, totaling 788,517 square feet, anchored by a Walmart Superstore, Ikea, and Home Depot; phased openings beginning March 2006

- Willows, Walmart Superstore totaling 196,929 square feet, replacing existing Walmart Discount Store (subsequently scaled back to a 54,404-square-foot expansion to existing 86,453-square-foot store), opened March 2012
- Walnut Creek, The Orchards at Walnut Creek, mixed-use project including up to 225,000 square feet of retail space, opened September 2016
- Woodland, Home Depot Store, 127,000 square feet; store opened December 2002
- Yuba City, Walmart Superstore, 213,208 square feet, replacing existing Discount Store; store opened April, 2006. Discount Store site backfilled by Lowe's Home Improvement Warehouse

Projects Under Construction

- Concord, Veranda Shopping Center, a 375,000-square foot center anchored by a Whole Foods 365 Market, Movie Theater, and upscale apparel retail, anticipated opening 2017
- Folsom, Lifetime Fitness Center, a 116,363-square-foot fitness center including an outdoor leisure and lap pool, two water slides, whirlpool, outdoor bistro, eight tennis courts, outdoor Child Activity Area, and outdoor seating, opening anticipated early 2017
- Oroville, Walmart Superstore, 213,400 square feet, replacing existing Walmart Discount Store, broke ground in 2015
- Sacramento Entertainment and Sports Center, mixed-use entertainment complex with 682,500 square feet of retail space
- San Francisco, Warriors Arena, groundbreaking January 2017

Projects Approved and Beyond Legal Challenges

- Bakersfield, Bakersfield Commons, totaling 1.2 million square feet of lifestyle retail space and 400,000 square feet of community shopping center space (project engaged in revisioning)
- Bakersfield, Crossroads Shopping Center, totaling 786,370 square feet, anchored by a Target
- Fairfield, Green Valley Plaza, totaling 465,000 square feet
- Fresno, Fresno 40, totaling 209,650 square feet
- Kern County, Rosedale and Renfro, totaling 228,966 square feet, anchored by a Target
- Novato, Hanna Ranch, mixed-use project including 44,621 square feet of retail space, 21,190 square feet of office space, and a 116-room hotel
- Sacramento, Delta Shores, 1.3- to 1.5-million square feet, anchored by a lifestyle center (groundbreaking on transportation improvements April 2013)
- San Francisco, Candlestick Point, 635,000 square feet of regional retail and Hunters Point, with two, 125,000-square-foot neighborhood shopping centers (urban decay study not part of the legal challenge)

Projects In Progress/Engaged in the Public Process

- Chico, Walmart expansion, expansion of an existing Walmart store plus addition of three development parcels including a fueling station, restaurant, and retail space
- Davis, Davis Innovation Center, an innovation center with 4.0 million square feet of planned space, including tech office, laboratory, R&D, assembly, industrial flex space, ancillary retail space, and a hotel.
- Davis, Mace Ranch Innovation Center, an innovation center with 2,654,000 square feet of planned space, including research, office, R&D, manufacturing, ancillary retail, and hotel/conference center
- Folsom, Westland-Eagle Specific Plan Amendment, Folsom Ranch, a 643-acre portion of the larger 3,585-acre Folsom Ranch Master Plan area including 977,000 square feet of retail space, along with residential, office, and industrial space
- Lincoln, Village 5 Specific Plan, area including 8,200 residential units, 3.1 million square feet of commercial retail space, 1.4 million square feet of office space, a 100-room hotel, and a 71-acre regional sports complex
- Pleasanton, Johnson Drive Economic Development Zone, including 189,037 square feet of new general retail space, 148,000 square feet of club retail space, and a 150- or 231-room hotel.
- Roseville, Hotel Conference Center, a 250-room hotel with a 20,000-square-foot conference facility and a 1,200-seat ballroom
- Sacramento, Land Park Commercial Center, proposed commercial center with a 55,000-square-foot relocated and expanded full service Raley's grocery store and pharmacy and seven freestanding retail buildings comprising 53,980 square feet
- Tracy, Tracy Hills Specific Plan, Specific Plan area including 5,499 residential units, 875,300 square feet of commercial retail space, 624,200 square feet of office space, and 4,197,300 square feet of industrial space

ALH | ECON

ALH Urban & Regional Economics

PROFESSIONAL PROFILE

AMY L. HERMAN
PRINCIPAL

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Berkeley, California

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OTHER CLIENTS

- Alameda County Fair
- Arcadia Development Company
- Blu Homes, Inc.
- Environmental Science Associates
- First Carbon Solutions
- General Electric Company
- Gresham Savage Nolan & Tilden
- Kaiser Permanente
- Lawrence Berkeley National Laboratory
- Lennar
- City of Los Banos
- Merlone Geier Partners
- Michael Brandman Associates
- Mills Corporation
- City of Mountain View
- Port of San Francisco
- The Presidio Trust
- Pulte Homes
- Ronald McDonald House
- Santa Clara Valley Transportation Authority
- City of Santa Rosa
- Shea Properties
- Sheppard Mullin Richter & Hampton LLP
- Simon Property Group
- The Sobrato Organization
- Southbay Development
- City of Sunnyvale
- Sunset Development Co.
- Westfield Corporation

Amy L. Herman, Principal of ALH Urban & Regional Economics, has provided urban and regional consulting services for approximately 35 years. During this time she has been responsible for directing assignments for corporate, institutional, non-profit, and governmental clients in key service areas, including fiscal and economic impact analysis, economic development and redevelopment, feasibility analysis, location analysis, strategic planning, policy analysis, and transit-oriented development. Her award-winning economic development work has been recognized by the American Planning Association, the California Redevelopment Association, and the League of California Cities.

Prior to forming ALH Urban & Regional Economics in 2011, Ms. Herman's professional tenure included 20 years with Sedway Group, inclusive of its acquisition by CB Richard Ellis and subsequent name change to CBRE Consulting. Her prior professional work experience includes five years in the Real Estate Consulting Group of the now defunct accounting firm Laventhol & Horwath (L&H), preceded by several years with the land use consulting firm Land Economics Group, which was acquired by L&H.

Following are descriptions of select consulting assignments managed by Ms. Herman.

ECONOMIC IMPACT ANALYSIS

University of California. Conducted economic impact studies and frequent updates for five University of California campuses: Berkeley, Davis, Riverside, San Francisco, and San Diego. Prepared models suitable for annual updates by campus personnel.

Various EIR Firms. Managed numerous assignments analyzing the potential for urban decay to result from development of major big box and other shopping center retailers. The analysis comprises a required Environmental Impact Report component pursuant to CEQA.

Hospital Council of Northern and Central California. Prepared an analysis highlighting the economic impacts of hospitals and long-term care facilities in Santa Clara County. The analysis included multiplier impacts for hospital spending, county employment, and wages. Completed a similar study for the Monterey Bay Area Region.

Howard Hughes Corporation. Managed economic impact and fiscal impact analysis for a large-scale master planned development in Honolulu, including residential, commercial, and industrial land uses.

FISCAL IMPACT ANALYSIS

Stanford Management Company and Stanford Hospitals. Managed numerous assignments involving fiscal impact analysis for planned facilities developed by Stanford Management Company or Stanford Hospitals, including a satellite medical campus in Redwood City, a hotel and office complex in Menlo Park, and expansion of the hospital complex and the Stanford School of Medicine in Palo Alto.

Office of Community Investment and Infrastructure as Successor Agency to the Redevelopment Agency of the City and County of San Francisco. Managed financial analysis estimating the tax payments in lieu of property taxes associated with UCSF development of medical office space in the former Mission Bay Redevelopment Project area.

City of Concord. Structured and managed fiscal impact analysis designed to test the net fiscal impact of multiple land use alternatives pertaining to the reuse of the 5,170-acre former Concord Naval Weapons Station, leading to possible annexation into the City of Concord, California.

Bay Area Rapid Transit District. Completed economic impact analysis of BART's operations in the San Francisco Bay Area region.

San Francisco Mayor's Office of Economic Development. Conducted fiscal and economic impact analysis of redevelopment and expansion of San Francisco's Parkmerced residential community, including assessing the project's impacts on the San Francisco Municipal Transportation Agency.

AMY L. HERMAN
Principal

ECONOMIC DEVELOPMENT AND PUBLIC FINANCE

Infrastructure Management Group. Contributed to due diligence analysis of the proposed Transbay Transit Center to support evaluation of requested bond loan adjustment requests to support project construction.

City of Santa Monica. As a subconsultant to the City's land use consulting firm, conducted research and analysis exploring potential assessment district and other public finance options for financing key improvements in an older industrial area transitioning to a mixed use community.

Catellus/City of Alameda. Prepared a retail leasing strategy for Alameda Landing, a regional shopping center planned on the site of the former U.S. Navy's Fleet Industrial Supply Center in Alameda.

City of San Jose. Prepared a study analyzing the costs and benefits associated with creating a bioscience incentive zone in the Edenvale industrial redevelopment area.

City of Palo Alto. Conducted a retail study targeting six of Palo Alto's retail business districts for revitalization, including the identification of barriers to revitalization and recommended strategies tailored to the priorities established for each of the individual target commercial areas.

East Bay Municipal Water District. Managed economic, demographic, and real estate data analysis in support of developing market-sensitive adjustments to long-term water demand forecasts.

DEVELOPMENT FEASIBILITY

PCR Services Corporation. Analyzed the retail supportability of the planned mixed-use development of the UTC/Rocketdyne site in the Warner Center area of Los Angeles

ChevronTexaco. Conducted a regional market analysis of an 8,400-acre oil field retired from active oil production in the New Orleans, Louisiana metropolitan area.

City of San Jose. Managed alternative City Hall location analysis, focused on recommending a long-term occupation strategy for the City. Following relocation of City Hall conducted a study examining the feasibility of redeveloping the City's former City Hall location and nearby parking facilities for residential, retail, and civic land uses.

General Motors Corporation. Managed reuse studies for closed manufacturing facilities in Indiana (250 acres, 14 sites) and New Jersey (80 acres). Studies focused on the long term reuse and redevelopment potential of the closed manufacturing sites.

CORPORATE LOCATION ANALYSIS

Toyota Motor Corporation. Conducted a location analysis study for a distribution facility in the San Francisco Bay Area, designed to minimize travel time distance to the majority of area dealerships.

Cisco Systems. Managed multiple corporate location studies for Cisco Systems, headquartered in San Jose, California. These studies focused on the formulation of both a regional and a North American location strategy.

Starbucks Coffee Company. Directed analysis examining alternative locations for a new coffee roasting plant in the Western United States. A variety of economic, business, and labor market data were collected. The roasting plant was successfully sited in Sparks, Nevada.

Sacramento Regional Transportation District (RTD). Managed a consultant team assisting the RTD in planning for its immediate and long-term administrative office space needs, and in developing a strategy for maximizing the value of the existing RTD complex.

Hines. Managed comparative analysis highlighting business and employee costs associated with business locations in three competitive Bay Area locations.

AMY L. HERMAN
Principal

EDUCATION

- Ms. Herman holds a Bachelor of Arts degree in urban studies, magna cum laude, from Syracuse University. She also holds a Master of Community Planning degree from the University of Cincinnati. She has also pursued advanced graduate studies in City and Regional Planning at the University of California at Berkeley.

VOLUNTEER ACTIVITIES

- Volunteer (Past President and Vice President), Rebuilding Together (formerly Christmas in April), East Bay - North
- Volunteer (Past President), Diablo Pacific Short Line, 501 (c)(3) Portable Modular Train Organization
- Volunteer (Past Secretary), Swanton Pacific Railroad, Santa Cruz County, California
- Volunteer, Redwood Valley Railway, Tilden Regional Park, California

APPENDIX B: EXHIBITS

Exhibit 1
Entitled and Non-entitled Residential Pipeline Projects In or Near the LCD
Total Estimated Income and Spending on Retail from New Project Households
2016 Dollars

Residential Land Use	Average Monthly Rent Assumption (1)	Estimated Average Household Income (2)	Number of Households (3)	Percent Income Spent on Retail (4)	Per Household Retail Spending (5)	Total Retail Demand (5)
Project						
Axis - Market Rate	$4,100	$148,000	89	26%	$39,100	$3,476,200
Axis - Affordable Rental (6)	$1,481	$53,300	23	37%	$19,900	$458,400
Subtotal			*112*			$3,934,600
Other LCD Projects						
Entitled Market Rate	$4,100	$148,000	19	26%	$39,100	$742,100
Entitled Affordable Rental (Senior) (7)	NA	$41,450	96	42%	$17,600	$1,686,800
Not Entitled Market Rate	$4,100	$148,000	176	26%	$39,100	$6,874,400
Not Entitled Affordable Rental (6)	$1,481	$53,300	39	37%	$19,900	$777,300
Subtotal			*330*			$10,080,600
Total LCD						$14,015,200
Near LCD Projects						
Entitled Market Rate	$4,100	$148,000	233	26%	$39,100	$9,100,700
Entitled Affordable Rental (6)	$1,481	$53,300	3	37%	$19,900	$59,800
Entitled Affordable Owner (8)	$2,393	$86,150	6	32%	$27,900	$167,400
Not Entitled Market Rate	$4,100	$148,000	154	26%	$39,100	$6,015,100
Not Entitled Affordable Rental (6)	NA	$53,300	9	37%	$19,900	$179,400
Not Entitled Affordable Owner (8)	$2,393	$86,150	138	31%	$27,000	$3,732,000
Subtotal			543			$19,254,400
Total (8)		**--**	**985**	**--**	**--**	**$33,269,600**

Source: Axis Development Group; 2016 Maximum Monthly Rent by Unit Type, Unadjusted Area Median Income (AMI) for HUD Metro Fair Market Rent Area (HMFA) that contains San Francisco; and ALH Urban & Regional Economics.

(1) Market rate rents are based on the estimated average for the Axis project at 2675 Folsom, because rent projections are available for this planned project and none of the other projects at the time this analysis was prepared.
(2) Households are assumed to spend one-third of annual household income on rent, thus incomes are estimated to comprise three times the annualized rent. This is a conservative assumption, as the rent burden for many San Francisco households is much greater.
(3) Assumed to comprise occuppied housing units, allowing for a stabilized vacancy rate. Market-rate units are assumed to operate at 5% vacancy. Affordable units are assumed to experience no vacancy.
(4) Percent of income spent on retail is based on analysis of the U.S. Bureau of Labor Statistics Consumer Expenditure Survey, summarized in Exhibit 2, which demonstrates that as income increase the percent of income spent on retail decreases. The selected percentages by project were identified based upon interpolation of the findings summarized in Exhibit 2.
(5) Figures rounded to the nearest $1,000.
(6) Households are assumed to spend one-third of annual household income on rent, thus incomes are estimated to comprise three times the annualized rent. The affordable rental units are assumed to be rented to 3-person households at 55% of Area Median Income (AMI). The corresponding annual household income for 2016 is $53,300.
(7) Assumes a 1-person household at 55% of AMI.
(8) Assumes a 4-person household at 80% of AMI.
(9) Totals do not match Table 1 because a vacancy rate is assumed for market-rate projects. Totals are rounded.

Exhibit 2
Household Income Spent on Retail (1)
United States
2015

Characteristic	All Consumer Units	Household Income Range							
		$15,000 to $29,999	$30,000 to $39,999	$40,000 to $49,999	$50,000 to $69,999	$70,000 to $99,999	$100,000 to $149,999	$150,000 to $199,999	$200,000 and more
Average HH Income	$69,627	$22,263	$34,746	$44,568	$59,293	$83,413	$119,828	$170,277	$314,010
Amount Spent on Retail (2)	$21,689	$12,777	$16,130	$17,611	$20,811	$26,436	$33,284	$40,780	$50,660
Percent Spent on Retail (3)	31%	57%	46%	40%	35%	32%	28%	24%	16%

Sources: Table 1203. Income before taxes: Annual expenditure means, shares, standard errors, and coefficient of variation, Consumer Expenditure Survey, 2015, U.S. Bureau of Labor Statistics; and ALH Urban & Regional Economics.

(1) Includes retail categories estimated to be equivalent to the retail sales categories compiled by the State of California, Board of Equalization.
(2) Includes the Consumer Expenditures categories of: food; alcoholic beverages; laundry and cleaning supplies; other household products; household furnishings and equipment; apparel and services; vehicle purchases, cars and trucks, new; vehicle purchases, cars and trucks, used; vehicle purchases, other vehicles; gasoline and motor oil; 1/2 of maintenance and repairs (as a proxy for taxable parts); drugs; medical supplies; audio and visual equipment and services; pets, toys, hobbies, and playground equipment; other entertainment supplies, equipment, and services; personal care products and services; and reading; tobacco products and smoking supplies.
(3) Percentages may be low as some expenditure categories may be conservatively undercounted by ALH Economics.

Exhibit 3
State of California Board of Equalization Taxable Retail Sales Estimate by Retail Category
2014
(in $000s)

Type of Retailer	Total Taxable Sales (1)	State of California Taxable Sales Adjusted to Total Retail	Percent of Total	Percent Assumed Neighborhood-Oriented (2)
Motor Vehicle & Parts Dealers	$73,232,242	$73,232,242	14.3%	0%
Home Furnishings & Appliances	$26,557,730	$26,557,730	5.2%	50%
Building Materials & Garden Equipment	$31,299,110	$31,299,110	6.1%	10%
Food & Beverage Stores	$26,298,414	$87,661,380 (3)	17.1%	80%
Gasoline Stations	$55,733,384	$55,733,384	10.9%	0%
Clothing & Clothing Accessories	$36,822,241	$36,822,241	7.2%	25%
General Merchandise Stores	$52,013,855	$69,351,807 (4)	13.5%	25%
Food Services & Drinking Places	$67,864,614	$67,864,614	13.2%	75%
Other Retail Group (6)	$50,014,587	$63,733,757 (5)	12.4%	33%
Total (7)	**$419,836,177**	**$512,256,264**	**100%**	**NA**

Sources: California State Board of Equalization (BOE), "Taxable Sales in California (Sales & Use Tax) during 2014; U.S. Economic Census, "Retail Trade: Subject Series - Product Lines: Product Lines Statistics by Kind of Business for the United States and States: 2007"; and ALH Urban & Regional Economics.

(1) Taxable sales are pursuant to reporting by the BOE.

(2) Assumption prepared by ALH Urban & Regional Economics.

(3) Sales for Food and Beverage Stores have been adjusted to account for non-taxable sales; only 30.0% of all food store sales are estimated to be taxable.

(4) Sales for General Merchandise Stores have been adjusted to account for non-taxable food sales, since some General Merchandise Store sales include non-taxable food items. ALH Urban & Regional Economics estimates that at least 25% of General Merchandise sales are for grocery items that are also non-taxable. This estimate is based on analysis of the 2007 U.S. Economic Census, which attributes approximately 26% of General Merchandise Stores sales to food.

(5) Sales for Other Retail Group have been adjusted to account for non-taxable drug store sales, since drug store sales are included in the Other Retail Group category. ALH Urban & Regional Economics estimates that 33.0% of drug store sales are taxable, based on discussions with the California BOE and examination of U.S. Census data. In California, drug store sales in 2014 represented approximately 13.51% of all Other Retail Group sales. ALH Urban & Regional Economics applied that percentage and then adjusted upward for non-taxable sales.

(6) Other Retail Group includes drug stores, electronics, health and personal care, pet supplies, gifts, art goods and novelties, sporting goods, florists, electronics, musical instruments, stationary and books, office and school supplies, second-hand merchandise, and miscellaneous other retail stores.

(7) Totals may not add up due to rounding.

Exhibit 4
Calculation of Sales Per Square Foot Estimates
Select Retail Stores and Store Types
2010 Through 2013, and 2016 Projected (1)

Store or Category (2)	2010		2011		2012		2013		Average
	In 2010$'s	In 2016$'s	In 2011$'s	In 2016$'s	In 2012$'s	In 2016$'s	In 2013$'s	In 2016$'s	In 2016$'s
Apparel									
Apparel - Specialty	$405	$463	$447	$494	$472	$512	$451	$483	$488
Women's' Apparel	$365	$417	$455	$502	$515	$559	$473	$506	$496
Shoe Stores	$371	$424	$454	$501	$487	$528	$475	$508	$491
Ross Dress for Less	$324	$370	$195	$215	$195	$212	$362	$387	$296
Kohl's	$229	$262	$215	$237	$209	$227	$190	$203	$232
Discount Stores	$196	$224	$212	$234	$213	$231	$202	$216	$226
Target	$282	$322	$290	$320	$304	$330	$297	$318	$323
Wal-Mart	$422	$482	$499	$551	$456	$495	$376	$402	$483
Department Stores Category	$252	$288	$276	$305	$274	$297	$285	$305	$299
Sears	$206	$236	$205	$226	$210	$228	$161	$172	$216
Domestics Category	$294	$336	$288	$318	$268	$291	$300	$321	$316
Furniture Category	$198	$226	$290	$320	$361	$392	$449	$480	$355
Average of Domestics & Furniture	$246	$281	$289	$319	$315	$341	$375	$401	$336
Neighborhood Center Category									
Supermarkets	$535	$612	$533	$589	$575	$624	$611	$654	$619
Specialty/Organic	$510	$583	$658	$727	$698	$757	$756	$809	$719
Drug Stores	$724	$828	$657	$726	$667	$724	$629	$673	$737
Rite Aid	$421	$481	$560	$618	$549	$596	$556	$595	$573
CVS	$802	$917	$806	$890	$883	$958	$875	$936	$925
Restaurants Category	$429	$490	$496	$548	$480	$521	$486	$520	$520
Casual Dining	$431	$493	$578	$638	$563	$611	$567	$607	$587
Fast Food Chains	$431	$493	$507	$560	$492	$534	$543	$581	$542
Home Improvement	$269	$308	$278	$307	$287	$311	$301	$322	$312
Auto - DIY Stores (3)	$205	$234	$218	$241	$220	$239	$217	$232	$237
Other Retail Categories									
Accessories	$778	$889	$978	$1,080	$1,191	$1,292	$1,032	$1,104	$1,091
HBA, Home Fragrances	$541	$619	$474	$523	$531	$576	$519	$555	$568
Electronics & Appliances	$686	$784	$1,171	$1,293	$821	$891	$946	$1,012	$995
Office Supplies	$263	$301	$270	$298	$262	$284	$283	$303	$296
Sports	$226	$258	$239	$264	$252	$273	$253	$271	$267
Pet Supplies	$185	$212	$188	$208	$218	$237	$234	$250	$227
Book Superstores	$180	$206	$247	$273	$210	$228	$189	$202	$227
Toys	$320	$366	$333	$368	$312	$338	$220	$235	$327
Music Superstores	$318	$364	$317	$350	$314	$341	$292	$312	$342
Gifts, Hobbies & Fabrics	$124	$142	$136	$150	$137	$149	$151	$162	$151
Average of Other Retail Categories	$362	$414	$435	$481	$425	$461	$412	$441	$449

Sources: Retail MAXIM, "Alternative Retail Risk Analysis for Alternative Capital" 2011, 2012, 2013, and 2014 (all publications present figures in the prior year dollars); United States Bureau of Labor Statistics Consumer Price Index - All Urban Consumers; and ALH Urban & Regional Economics.

(1) Figures are adjusted to 2016 pursuant to the Annual and latest 2016 CPI Index for all urban consumers.
(2) Includes industry-and category-representative stores.
(3) Average reflects a four-year trend.

Exhibit 5
Pipeline Projects in the LCD
Supportable Square Feet of Commercial Space from Project Households
2016 Dollars

Retail Category	Total Retail Demand (1)	Sales Per Sq. Ft. (2)	Supportable Sq. Ft.		
			Amount (3)	Vacancy Adjusted (4)	Neighborhood-Oriented (5)
Motor Vehicles and Parts	$2,003,615	$800 (6)	2,505	2,636	0
Home Furnishings and Appliances	$726,613	$336	2,165	2,279	1,140
Building Materials and Garden Equip.	$856,336	$312	2,745	2,889	289
Food and Beverage Stores	$2,398,393	$669	3,584	3,772	3,018
Gasoline Stations	$1,524,851	NA (7)	N/A (7)	N/A (7)	0
Clothing and Clothing Accessories	$1,007,447	$401	2,515	2,647	662
General Merchandise Stores	$1,897,448	$309	6,137	6,460	1,615
Food Services and Drinking Places	$1,856,758	$550	3,378	3,556	2,667
Other Retail Group	$1,743,739	$449	3,883	4,087	1,349
Subtotal	$14,015,200	--	26,912	28,328	10,739
Additional Service Increment (15% of total) (9)	N/A	N/A	4,749	4,999	3,749 (8)
Total	**N/A**	**N/A**	**31,661 (10)**	**33,327**	**14,489**
Total Rounded to Nearest 100			**31,700**	**33,300** (11)	**14,500**

Source: ALH Urban & Regional Economics.

="(1) See "&'E1. Rents, Income, Retail Spen'!B3&" for the amount of estimated retail sales demand from the Pipeline projects' households located in the LCD and Exhibit 3 for the percentage distrubtion by category."
(2) These figures reflect achievable sales per square foot estimates for each respective retail category except as noted. The figures reflect general industry averages as well as national averages reported in the Retail MAXIM publication "Alternative Retail Risk Analysis for Alternative Capital." See Exhibit 4.
(3) Reflects the estimated supportable square feet of retail for each category.
(4) Includes a 5% vacancy allowance for all categories of retail space.
(5) See assumptions by retail category presented in Table 2.
(6) The cited source for sales per square foot, Retail Maxim (see Exhibit 4), does not include sales figures for auto dealers. Sales figures for auto parts stores are included, and average $237 per square foot. However, auto dealer sales greatly outweigh these sales in the overall category. Such sales are typically very high, especially relative to the amount of building area required to support their sales. For analytical purposes ALH Urban & Regional Economics assumes such sales are high, and overall average $800 for the category.
(7) Gasoline sales are highly volatile, and gasoline stations do not typically require large increments of built space. Therefore, estimates for gasoline stations are excluded from this analysis.
(8) Assumes 75% of service space is neighborhood-oriented, including banks, insurance, copy services, etc.
(9) Includes an allocation of 15% of space to accommodate service retail, such as banks, personal, and business services.
(10) Excludes Gasoline Stations.
(11) Reflects the total amount of retail space supportable by 100% of the estimated households.

Exhibit 6
Axis Development Group, 2675 Folsom Street
Supportable Square Feet of Commercial Space from Project Households
2016 Dollars

Retail Category	Total Retail Demand (1)	Sales Per Sq. Ft. (2)	Supportable Sq. Ft.		
			Total Amount (3)	Vacancy Adjusted (4)	Neighborhood-Oriented (5)
Motor Vehicles and Parts	$562,491	$800 (6)	703	740	0
Home Furnishings and Appliances	$203,988	$336	608	640	320
Building Materials and Garden Equip.	$240,406	$312	771	811	81
Food and Beverage Stores	$673,320	$669	1,006	1,059	847
Gasoline Stations	$428,084	NA (7)	N/A (7)	N/A (7)	0
Clothing and Clothing Accessories	$282,829	$401	706	743	186
General Merchandise Stores	$532,686	$309	1,723	1,814	453
Food Services and Drinking Places	$521,263	$550	948	998	749
Other Retail Group	$489,534	$449	1,090	1,147	379
Subtotal	$3,934,600	--	7,555	7,953	3,015
Additional Service Increment (15% of total) (9)	N/A	N/A	1,333	1,403	1,053 (8)
Total	**N/A**	**N/A**	**8,888 (10)**	**9,356**	**4,067**
Total Rounded to Nearest 100			**8,900**	**9,400 (11)**	**4,100**

Source: ALH Urban & Regional Economics.

(1) See Exhibit 1 for the amount of estimated retail sales demand from the Pipeline projects' households and Exhibit 3 for the percentage distribution by category.
(2) These figures reflect achievable sales per square foot estimates for each respective retail category except as noted. The figures reflect general industry averages as well as national averages reported in the Retail MAXIM publication "Alternative Retail Risk Analysis for Alternative Capital." See Exhibit 4.
(3) Reflects the estimated supportable square feet of retail for each category.
(4) Includes a 5% vacancy allowance for all categories of retail space.
(5) See assumptions by retail category presented in Table 2.
(6) The cited source for sales per square foot, Retail Maxim (see Exhibit 4), does not include sales figures for auto dealers. Sales figures for auto parts stores are included, and average $237 per square foot. However, auto dealer sales greatly outweigh these sales in the overall category. Such sales are typically very high, especially relative to the amount of building area required to support their sales. For analytical purposes ALH Urban & Regional Economics assumes such sales are high, and overall average $800 for the category.
(7) Gasoline sales are highly volatile, and gasoline stations do not typically require large increments of built space. Therefore, estimates for gasoline stations are excluded from this analysis.
(8) Assumes 75% of service space is neighborhood-oriented, including banks, insurance, copy services, etc.
(9) Includes an allocation of 15% of space to accommodate service retail, such as banks, personal, and business services.
(10) Excludes Gasoline Stations.
(11) Reflects the total amount of retail space supportable by 100% of the estimated households.

Exhibit 7

Lennar, 1515 South Van Ness Boulevard
Supportable Square Feet of Commercial Space from Project Households
2016 Dollars

Retail Category	Total Retail Demand (1)	Sales Per Sq. Ft. (2)	Supportable Sq. Ft.		
			Total Amount (3)	Vacancy Adjusted (4)	Neighborhood-Oriented (5)
Motor Vehicles and Parts	$736,510	$800 (6)	921	969	0
Home Furnishings and Appliances	$267,096	$336	796	838	419
Building Materials and Garden Equip.	$314,781	$312	1,009	1,062	106
Food and Beverage Stores	$881,626	$669	1,317	1,387	1,109
Gasoline Stations	$560,521	NA (7)	N/A (7)	N/A (7)	0
Clothing and Clothing Accessories	$370,328	$401	924	973	243
General Merchandise Stores	$697,484	$309	2,256	2,375	594
Food Services and Drinking Places	$682,527	$550	1,242	1,307	980
Other Retail Group	$640,982	$449	1,427	1,502	496
Subtotal	$5,151,854	--	9,892	10,413	3,948
Additional Service Increment (15% of total) (9)	N/A	N/A	1,746	1,838	1,378 (8)
Total	**N/A**	**N/A**	**11,638 (10)**	**12,251**	**5,326**
Total Rounded to Nearest 100			**11,600**	**12,300 (11)**	**5,300**

Source: ALH Urban & Regional Economics.

(1) See Exhibit 1 for the amount of estimated retail sales demand from the Pipeline projects' households and Exhibit 3 for the percentage distribution by category.
(2) These figures reflect achievable sales per square foot estimates for each respective retail category except as noted. The figures reflect general industry averages as well as national averages reported in the Retail MAXIM publication "Alternative Retail Risk Analysis for Alternative Capital." See Exhibit 4.
(3) Reflects the estimated supportable square feet of retail for each category.
(4) Includes a 5% vacancy allowance for all categories of retail space.
(5) See assumptions by retail category presented in Table 2.
(6) The cited source for sales per square foot, Retail Maxim (see Exhibit 4), does not include sales figures for auto dealers. Sales figures for auto parts stores are included, and average $237 per square foot. However, auto dealer sales greatly outweigh these sales in the overall category. Such sales are typically very high, especially relative to the amount of building area required to support their sales. For analytical purposes ALH Urban & Regional Economics assumes such sales are high, and overall average $800 for the category.
(7) Gasoline sales are highly volatile, and gasoline stations do not typically require large increments of built space. Therefore, estimates for gasoline stations are excluded from this analysis.
(8) Assumes 75% of service space is neighborhood-oriented, including banks, insurance, copy services, etc.
(9) Includes an allocation of 15% of space to accommodate service retail, such as banks, personal, and business services.
(10) Excludes Gasoline Stations.
(11) Reflects the total amount of retail space supportable by 100% of the estimated households.

Exhibit 8
Entitled and Non-entitled Residential Pipeline Projects In or Near the LCD
Supportable Square Feet of Commercial Space from Project Households
2016 Dollars

Retail Category	Total Retail Demand (1)	Sales Per Sq. Ft. (2)	Supportable Sq. Ft.		
			Amount (3)	Vacancy Adjusted (4)	Neighborhood-Oriented (5)
Motor Vehicles and Parts	$2,752,612	$800 (6)	3,441	3,622	0
Home Furnishings and Appliances	$998,237	$336	2,975	3,131	1,566
Building Materials and Garden Equip.	$1,176,453	$312	3,771	3,969	397
Food and Beverage Stores	$3,294,967	$669	4,924	5,183	4,146
Gasoline Stations	$2,094,875	NA (7)	N/A (7)	N/A (7)	0
Clothing and Clothing Accessories	$1,384,054	$401	3,455	3,637	909
General Merchandise Stores	$2,606,757	$309	8,431	8,875	2,219
Food Services and Drinking Places	$2,550,857	$550	4,641	4,886	3,664
Other Retail Group	$2,395,589	$449	5,334	5,615	1,853
Subtotal	$19,254,400	--	36,972	38,918	14,754
Additional Service Increment (15% of total) (9)	N/A	N/A	6,524	6,868	5,151 (8)
Total	**N/A**	**N/A**	**43,496 (10)**	**45,785**	**19,905**
Total Rounded to Nearest 100			**43,500**	**45,800** (11)	**19,900**

Source: ALH Urban & Regional Economics.

(1) See Exhibit 1 for the amount of estimated retail sales demand from the Pipeline projects' households located near the LCD and Exhibit 3 for the percentage distribution by category.
(2) These figures reflect achievable sales per square foot estimates for each respective retail category except as noted. The figures reflect general industry averages as well as national averages reported in the Retail MAXIM publication "Alternative Retail Risk Analysis for Alternative Capital." See Exhibit 4.
(3) Reflects the estimated supportable square feet of retail for each category.
(4) Includes a 5% vacancy allowance for all categories of retail space.
(5) See assumptions by retail category presented in Table 2.
(6) The cited source for sales per square foot, Retail Maxim (see Exhibit 4), does not include sales figures for auto dealers. Sales figures for auto parts stores are included, and average $237 per square foot. However, auto dealer sales greatly outweigh these sales in the overall category. Such sales are typically very high, especially relative to the amount of building area required to support their sales. For analytical purposes ALH Urban & Regional Economics assumes such sales are high, and overall average $800 for the category.
(7) Gasoline sales are highly volatile, and gasoline stations do not typically require large increments of built space. Therefore, estimates for gasoline stations are excluded from this analysis.
(8) Assumes 75% of service space is neighborhood-oriented, including banks, insurance, copy services, etc.
(9) Includes an allocation of 15% of space to accommodate service retail, such as banks, personal, and business services.
(10) Excludes Gasoline Stations.
(11) Reflects the total amount of retail space supportable by 100% of the estimated households.

Exhibit 9
Entitled and Non-entitled Residential Pipeline Projects In or Near the LCD
Supportable Square Feet from Project Households
2016 Dollars

Retail Category	Total Retail Demand (1)	Sales Per Sq. Ft. (2)	Supportable Sq. Ft.		
			Amount (3)	Vacancy Adjusted (4)	Neighborhood-Oriented (5)
Motor Vehicles and Parts	$4,756,228	$800 (6)	5,945	6,258	0
Home Furnishings and Appliances	$1,724,850	$336	5,140	5,410	2,705
Building Materials and Garden Equip.	$2,032,789	$312	6,515	6,858	686
Food and Beverage Stores	$5,693,359	$669	8,507	8,955	7,164
Gasoline Stations	$3,619,726	NA (7)	N/A (7)	N/A (7)	0
Clothing and Clothing Accessories	$2,391,501	$401	5,970	6,284	1,571
General Merchandise Stores	$4,504,204	$309	14,569	15,335	3,834
Food Services and Drinking Places	$4,407,615	$550	8,020	8,442	6,331
Other Retail Group	$4,139,328	$449	9,217	9,702	3,202
Subtotal	$33,269,600	--	63,883	67,245	25,493
Additional Service Increment (15% of total) (9)	N/A	N/A	11,274	11,867	8,900 (8)
Total	**N/A**	**N/A**	**75,157 (10)**	**79,112**	**34,393**
Total Rounded to Nearest 100			**75,200**	**79,100** (11)	**34,400**

Source: ALH Urban & Regional Economics.

(1) See Exhibit 1 for the amount of estimated retail sales demand from the Pipeline projects' households and Exhibit 3 for the percentage distribution by category.
(2) These figures reflect achievable sales per square foot estimates for each respective retail category except as noted. The figures reflect general industry averages as well as national averages reported in the Retail MAXIM publication "Alternative Retail Risk Analysis for Alternative Capital." See Exhibit 4.
(3) Reflects the estimated supportable square feet of retail for each category.
(4) Includes a 5% vacancy allowance for all categories of retail space.
(5) See assumptions by retail category presented in Table 2.
(6) The cited source for sales per square foot, Retail Maxim (see Exhibit 4), does not include sales figures for auto dealers. Sales figures for auto parts stores are included, and average $237 per square foot. However, auto dealer sales greatly outweigh these sales in the overall category. Such sales are typically very high, especially relative to the amount of building area required to support their sales. For analytical purposes ALH Urban & Regional Economics assumes such sales are high, and overall average $800 for the category.
(6) Gasoline sales are highly volatile, and gasoline stations do not typically require large increments of built space. Therefore, estimates for gasoline stations are excluded from this analysis.
(8) Assumes 75% of service space is neighborhood-oriented, including banks, insurance, copy services, etc.
(9) Includes an allocation of 15% of space to accommodate service retail, such as banks, personal, and business services.
(10) Excludes Gasoline Stations.
(11) Reflects the total amount of retail space supportable by 100% of the estimated households.

Exhibit 10
Households and Mean Household Income
2015
Mission District and Latino Cultural District (LCD)

Geographic Area		Households	Mean Household Income 2015
Mission District Census Tracts (1)			
177		756	$112,144
201		2,910	$71,117
208		2,663	$107,806
209		1,823	$86,878
228.01		1,939	$136,756
228.03		1,610	$117,145
229.01		1,434	$97,385
229.02		794	$133,584
229.03		1,133	$108,556
Total/Weighted Average		**15,062**	**$103,551**
LCD (2)	**%**		
209	40%	302	$86,878
228.03	50%	805	$117,145
229.01	100%	1,434	$97,385
229.02	100%	794	$133,584
229.03	66%	748	$108,556
Total		**4,083**	**$109,587**

Sources: US Census American Community Survey, "S1901: Income in the Past 12 Months (In 2015 Inflation-Adjusted Dollars) 2011-2015"; City and County of San Francisco Board of Supervisors, "Displacement in the Mission District," dated October 2, 2015, page 8; "Calle24_CompletesPipeline_16_12_6" and Census Tract Lookup Finder for California by OHSPD; and ALH Urban & Regional Economics.

(1) The census tract boundaries for the Mission District Neighborhood per the report by the City and County of San Francisco Board of Supervisors, "Displacement in the Mission District," dated October 2, 2015.

(2) The census tract percentages for the LCD portion of the Mission District per ALH Urban & Regional Economics using, "Calle24_CompletesPipeline_16_12_6" and Census Tract Lookup Finder for California by OHSPD. Percentages comrpise ALH Economics assumptions.

Exhibit 11
Mission District and LCD
Total Estimated Income and Spending on Retail from Existing Area Households
2016 Dollars

Area	Estimated Average Household Income		Number of Households (1)	Percent Income Spent on Retail (3)	Per Household Retail Spending (4)	Total Retail Demand (4)
	2015 (1)	2016 (2)				
Mission	$103,551	$107,769	15,062	29%	$31,700	$477,080,800
LCD	$109,587	$114,051	4,083	29%	$33,500	$136,872,400

Source: US Census American Community Survey, "S1901: Income in the Past 12 Months (In 2015 Inflation-Adjusted Dollars) 2011-2015"; United States Department of Labor, Consumer Price Index - All Urban Consumers; and ALH Urban & Regional Economics.

(1) See Exhibit 10 for estimated 2015 household incomes.
(2) Incomes are inflated from 2015 to 2016 pursuant to a CPI adjustment for All Urban Consumers from July 2015 to July 2016. The CPI factors are 238.654 for July 2015 and 248.375 for July 2016, resulting in a 1.04073 inflation rate.
(3) Percent of income spent on retail is based on analysis of the U.S. Bureau of Labor Statistics Consumer Expenditure Survey, summarized in Exhibit 2, which demonstrates that as income increase the percent of income spent on retail decreases. The selected percentages by project were identified based upon interpolation of the findings summarized in Exhibit 2.
(4) Figures rounded to the nearest $1,000.

Exhibit 12
Mission District
Supportable Square Feet of Commercial Space from Households in the Mission District
2016 Dollars

Retail Category	2016 Total Retail Demand (1)	Sales Per Sq. Ft. (2)	Supportable Sq. Ft.		
			Amount (3)	Vacancy Adjusted (4)	Neighborhood-Oriented (5)
Motor Vehicles and Parts	$68,203,552	$800 (6)	85,254	89,742	0
Home Furnishings and Appliances	$24,734,072	$336	73,705	77,584	38,792
Building Materials and Garden Equip.	$29,149,872	$312	93,429	98,346	9,835
Food and Beverage Stores	$81,641,874	$669	121,994	128,414	102,732
Gasoline Stations	$51,906,300	NA (7)	N/A (7)	N/A (7)	0
Clothing and Clothing Accessories	$34,293,742	$401	85,605	90,110	22,528
General Merchandise Stores	$64,589,577	$309	208,911	219,906	54,976
Food Services and Drinking Places	$63,204,506	$550	115,003	121,056	90,792
Other Retail Group	$59,357,306	$449	132,175	139,132	45,913
Subtotal	$477,080,800	--	916,075	964,290	365,567
Additional Service Increment (15% of total) (9)	N/A	N/A	161,660	170,169	127,627 (8)
Total	**N/A**	**N/A**	**1,077,735 (10)**	**1,134,458**	**493,194**
Total Rounded to Nearest 100			**1,077,700**	**1,134,500** (11)	**493,200**

Source: ALH Urban & Regional Economics.

(1) See Exhibit 11 for the amount of estimated retail sales demand from Mission District Households and Exhibit 3 for the percentage distribution by category.
(2) These figures reflect achievable sales per square foot estimates for each respective retail category except as noted. The figures reflect general industry averages as well as national averages reported in the Retail MAXIM publication "Alternative Retail Risk Analysis for Alternative Capital." See Exhibit 4.
(3) Reflects the estimated supportable square feet of retail for each category.
(4) Includes a 5% vacancy allowance for all categories of retail space.
(5) See assumptions by retail category presented in Table 2.
(6) The cited source for sales per square foot, Retail Maxim (see Exhibit 4), does not include sales figures for auto dealers. Sales figures for auto parts stores are included, and average $237 per square foot. However, auto dealer sales greatly outweigh these sales in the overall category. Such sales are typically very high, especially relative to the amount of building area required to support their sales. For analytical purposes ALH Urban & Regional Economics assumes such sales are high, and overall average $800 for the category.
(7) Gasoline sales are highly volatile, and gasoline stations do not typically require large increments of built space. Therefore, estimates for gasoline stations are excluded from this analysis.
(8) Assumes 75% of service space is neighborhood-oriented, including banks, insurance, copy services, etc.
(9) Includes an allocation of 15% of space to accommodate service retail, such as banks, personal, and business services.
(10) Excludes Gasoline Stations.
(11) Reflects the total amount of retail space supportable by 100% of the estimated households.

Exhibit 13
LCD
Supportable Square Feet of Commercial Space from Households in the LCD
2016 Dollars

Retail Category	2016 Total Retail Demand (1)	Sales Per Sq. Ft. (2)	Supportable Sq. Ft.		
			Amount (3)	Vacancy Adjusted (4)	Neighborhood-Oriented (5)
Motor Vehicles and Parts	$19,567,301	$800 (6)	24,459	25,746	0
Home Furnishings and Appliances	$7,096,097	$336	21,146	22,258	11,129
Building Materials and Garden Equip.	$8,362,971	$312	26,804	28,215	2,822
Food and Beverage Stores	$23,422,697	$669	34,999	36,842	29,473
Gasoline Stations	$14,891,691	NA (7)	N/A (7)	N/A (7)	0
Clothing and Clothing Accessories	$9,838,725	$401	24,560	25,852	6,463
General Merchandise Stores	$18,530,468	$309	59,936	63,090	15,773
Food Services and Drinking Places	$18,133,097	$550	32,994	34,730	26,048
Other Retail Group	$17,029,352	$449	37,920	39,916	13,172
Subtotal	$136,872,400	--	262,818	276,650	104,880
Additional Service Increment (15% of total) (9)	N/A	N/A	46,380	48,821	36,616 (8)
Total	**N/A**	**N/A**	**309,198 (10)**	**325,471**	**141,495**
Total Rounded to Nearest 100			**309,200**	**325,500** (11)	**141,500**

Source: ALH Urban & Regional Economics.

(1) See Exhibit 11 for the amount of estimated retail sales demand from LCD Households and Exhibit 3 for the percentage distribution by category.
(2) These figures reflect achievable sales per square foot estimates for each respective retail category except as noted. The figures reflect general industry averages as well as national averages reported in the Retail MAXIM publication "Alternative Retail Risk Analysis for Alternative Capital." See Exhibit 4.
(3) Reflects the estimated supportable square feet of retail for each category.
(4) Includes a 5% vacancy allowance for all categories of retail space.
(5) See assumptions by retail category presented in Table 2.
(6) The cited source for sales per square foot, Retail Maxim (see Exhibit 4), does not include sales figures for auto dealers. Sales figures for auto parts stores are included, and average $237 per square foot. However, auto dealer sales greatly outweigh these sales in the overall category. Such sales are typically very high, especially relative to the amount of building area required to support their sales. For analytical purposes ALH Urban & Regional Economics assumes such sales are high, and overall average $800 for the category.
(7) Gasoline sales are highly volatile, and gasoline stations do not typically require large increments of built space. Therefore, estimates for gasoline stations are excluded from this analysis.
(8) Assumes 75% of service space is neighborhood-oriented, including banks, insurance, copy services, etc.
(9) Includes an allocation of 15% of space to accommodate service retail, such as banks, personal, and business services.
(10) Excludes Gasoline Stations.
(11) Reflects the total amount of retail space supportable by 100% of the estimated households.

Exhibit 14
Average Rents And Vacancy Trends - Investment Grade Apartments (1)
San Francisco
1996 - 2016

Year	Monthly Rents: Studio	1 Bed/ 1 Bath	2 Bed/ 1 Bath	2 Bed/ 2 Bath	3 Bed/ 2 Bath	Average Rent	Average Vacancy
Monthly Rents							
1996	$940	$1,182	$1,239	$1,555	$1,563	$1,235	2.4%
1997	$1,054	$1,322	$1,416	$1,799	$1,808	$1,402	3.1%
1998	$1,161	$1,456	$1,560	$1,891	$2,015	$1,531	2.3%
1999	$1,251	$1,585	$1,656	$2,019	$2,294	$1,663	2.4%
2000	$1,544	$2,011	$2,327	$2,709	$3,147	$2,180	1.4%
2001	$1,512	$1,960	$2,332	$2,600	$3,111	$2,130	5.1%
2002	$1,314	$1,741	$1,979	$2,299	$2,826	$1,867	5.9%
2003	$1,262	$1,622	$1,875	$2,225	$2,878	$1,768	5.2%
2004	$1,267	$1,646	$1,821	$2,277	$2,679	$1,778	6.5%
2005	$1,334	$1,700	$1,885	$2,382	$2,643	$1,835	3.9%
2006	$1,439	$1,799	$1,930	$2,635	$2,390	$1,958	4.0%
2007	$1,586	$1,988	$2,192	$2,954	$2,610	$2,175	5.1%
2008	$1,723	$2,152	$2,359	$3,242	$2,702	$2,368	4.4%
2009	$1,584	$2,010	$2,258	$3,001	$2,812	$2,262	4.4%
2010	$1,595	$2,052	$2,149	$3,011	$2,902	$2,243	6.3%
2011	$1,894	$2,330	$2,403	$3,379	$2,983	$2,472	3.9%
2012	$2,136	$2,642	$2,735	$3,713	$3,024	$2,727	4.7%
2013	$2,327	$2,832	$3,135	$4,064	$3,652	$2,976	4.5%
2014	$2,575	$3,119	$3,379	$4,270	$4,082	$3,275	4.4%
2015	$2,839	$3,366	$3,607	$4,666	$4,322	$3,557	4.8%
2016	$2,831	$3,372	$3,621	$4,713	$4,582	$3,571	4.7%
1996-2016 Average							4.3%
Percent Change							
1996-1997	12.1%	11.8%	14.3%	15.7%	15.7%	13.5%	
1997-1998	10.2%	10.1%	10.2%	5.1%	11.4%	9.2%	
1998-1999	7.8%	8.9%	6.2%	6.8%	13.8%	8.6%	
1999-2000	23.4%	26.9%	40.5%	34.2%	37.2%	31.1%	
2000-2001	-2.1%	-2.5%	0.2%	-4.0%	-1.1%	-2.3%	
2001-2002	-13.1%	-11.2%	-15.1%	-11.6%	-9.2%	-12.3%	
2002-2003	-4.0%	-6.8%	-5.3%	-3.2%	1.8%	-5.3%	
2003-2004	0.4%	1.5%	-2.9%	2.3%	-6.9%	0.6%	
2004-2005	5.3%	3.3%	3.5%	4.6%	-1.3%	3.2%	
2005-2006	7.9%	5.8%	2.4%	10.6%	-9.6%	6.7%	
2006-2007	10.2%	10.5%	13.6%	12.1%	9.2%	11.1%	
2007-2008	8.6%	8.2%	7.6%	9.7%	3.5%	8.9%	
2008-2009	-8.1%	-6.6%	-4.3%	-7.4%	4.1%	-4.5%	
2009-2010	0.7%	2.1%	-4.8%	0.3%	3.2%	-0.8%	
2010-2011	18.7%	13.5%	11.8%	12.2%	2.8%	10.2%	
2011-2012	12.8%	13.4%	13.8%	9.9%	1.4%	10.3%	
2012-2013	8.9%	7.2%	14.6%	9.5%	20.8%	9.1%	
2013-2014	10.7%	10.1%	7.8%	5.1%	11.8%	10.0%	
2014-2015	10.3%	7.9%	6.7%	9.3%	5.9%	8.6%	
2015-2016	-0.3%	0.2%	0.4%	1.0%	6.0%	0.4%	
Average Annual Growth Rate							
	5.7%	5.4%	5.5%	5.7%	5.5%	5.5%	

Sources: RealAnswers; and ALH Urban & Regional Economics.

(1) Database characteristics as of 2016 YTD December, including 77 complexes (all over 50 units) with a total of 24,066 units.

APPENDIX C: GENTRIFICATION AND DISPLACEMENT LITERATURE OVERVIEW

IDENTIFIED REPRESENTATIVE LITERATURE

ALH Economics reviewed numerous papers or articles that address gentrification and residential displacement. While there are many papers or articles that are germane to the question of the relationship between the two phenomena, ALH Economics identified 11 that provide a solid overview and analysis of the subject by leading experts in the field as well as a representative sampling and discussion of other papers and associated commentaries. In some cases, the most relevant portion of the paper is the literature review, as this portion summarizes numerous other studies that also grapple with the question of the relationship between gentrification and displacement. In order of publication date, the specific papers reviewed for this purpose (and document links), include the following:

1. Lance Freeman and Frank Braconi, "Gentrification and Displacement: New York City in the 1990s", *American Planning Association. Journal of the American Planning Association;* Winter 2004; 70, 1; ProQuest Direct Complete, page 39. http://www.astudentoftherealestategame.com/wp-content/uploads/2010/09/Freeman%2520and%2520Braconi%25202004%2520Gentrification%2520in%2520NY.pdf

2. Terra McKinnish, Randall Walsh, Kirk White. "Who Gentrifies Low-Income Neighborhoods?" National Bureau of Economic Research Working Paper 1403 (May 2008). http://www.nber.org/papers/w14036

3. Ingrid Gould Ellen, Katherine M. O'Regan, "How Low Income Neighborhoods Change: Entry, Exit, and Enhancement," Regional Science and Urban Economics, Volume 41, Issue 2 (March 2011). http://www.sciencedirect.com/science/article/pii/S0166046211000044 (abstract)

4. Silva Mathema, "Gentrification: An Updated Literature Review," Poverty & Race Research Action Council (October 2013). http://prrac.org/pdf/Gentrification_literature_review_-_October_2013.pdf

5. Harvard University, Kennedy School of Government, Shorenstein Center on Media Politics and Public Policy, "Gentrification, Urban Displacement and Affordable Housing: Overview and Research Roundup," (August 2014). http://journalistsresource.org/studies/economics/real-estate/gentrification-urban-displacement-affordable-housing-overview-research-roundup

6. Joe Cortright, "How *Governing* got it wrong: The problem with confusing gentrification and displacement," *Cityobservatory.org* Commentary (June 2, 2015). http://cityobservatory.org/how-governing-got-it-wrong-the-problem-with-confusing-gentrification-and-displacement/ [*comments on Governing Magazine, "The 'G' Word: A Special Series on Gentrification" (February 2015)* http://www.governing.com/topics/urban/gov-gentrification-series.html]

7. Richard Florida, "The Complicated Link Between Gentrification and Displacement," *Citylab* (Atlantic Magazine), September 8, 2015. http://www.citylab.com/housing/2015/09/the-complicated-link-between-gentrification-and-displacement/404161/

8. University of California, Berkeley, "Urban Displacement Project," (funded by the U.S. Department of Housing and Urban Development for the Bay Area Regional Prosperity Plan and the California Air Resources Board) (December 2015). http://www.urbandisplacement.org/sites/default/files/images/urban_displacement_project_-_executive_summary.pdf

9. Miriam Zuk, Karen Chapple, "Housing Production, Filtering and Displacement: Untangling the Relationships," University of California, Berkeley, Institute of Governmental Studies Research Brief (May 2016). http://www.urbandisplacement.org/sites/default/files/images/udp_research_brief_052316.pdf

10. Lei Ding, Jackelyn Hwang, Eileen Divringi, "Gentrification and Residential Mobility in Philadelphia," Discussion Paper: Federal Reserve Bank of Philadelphia, (September 2016). https://www.philadelphiafed.org//media/communitydevelopment/publications/discussion-papers/discussion-paper_gentrification-and-residential-mobility.pdf?la=en

11. Derek Hyra, "Commentary: Causes and Consequences of Gentrification and the Future of Equitable Development Policy," *Cityscape*, Volume 18, Number 3, Office of Policy Development and Research, U.S. Department of Housing and Urban Development, pp. 169-177 (November 2016). https://www.huduser.gov/portal/periodicals/cityscpe/vol18num3/index.html

As noted, there are many other studies and articles that analyze gentrification and displacement, and seek to find a relationship between the two phenomena. The cited articles, with summary reviews following, are considered a representative sampling of some of these papers and associated commentaries.

REPRESENTATIVE LITERATURE REVIEW

The 11 representative articles are summarized below, in order of their publication. In many cases, excerpts are provided directly from the studies, as this comprises the most succinct and direct method of presenting the study findings. It should be noted that much of the concern in the literature regarding gentrification pertains to impacts on lower-income or disadvantaged households and/or ethnic minorities, and thus the findings are often presented in this context. Accordingly, these findings may not be directly transferable to a residential district such as the LCD, with its strong Latino character and likely high proportion of rent controlled units. However, in the absence of studies conducted specific to these characteristics, the following studies provide general insight into what the academic community is finding regarding the relationship between gentrification and displacement.

1. Lance Freeman, Columbia University, and Frank Braconi, then Executive Director of Citizen Housing and Planning Council, New York City, 2004.

This article is one of the most oft-cited papers in the literature about gentrification and displacement. It was authored in 2004 by Lance Freeman, Ph.D., then Assistant Professor in the Urban Planning Department of the Graduate School of Architecture, Planning, and Preservation at Columbia University, and Frank Braconi, then Executive Director of the Citizen Housing and Planning Council in New York City, a nonpartisan policy research organization focusing on housing, planning, and economic development issues in city, state, and federal politics.

This paper presents findings on a study of gentrification and displacement in New York City in the 1990s. Freeman and Braconi conducted the study to advance the research findings on the relationship between residential displacement and gentrification, citing various results from prior studies with disparate and inconclusive findings regarding the relationship between the two phenomena. Using New York City as their subject, Freeman and Braconi set out to study the following:

> "To discern how gentrification is related to displacement, we examined the relationship between residence in a gentrifying neighborhood and residential mobility among disadvantaged households. If gentrification increases displacement, all other things being equal, we should observe higher mobility rates among disadvantaged households residing in gentrifying neighborhoods than among those residing elsewhere in the city."[51]

The statistical analysis completed by Freeman and Braconi included many variables on housing and demographic characteristics, as well as neighborhood classifications. There are many findings from this study, with some particularly germane to San Francisco, given the market presence of rent control, in both New York City and San Francisco. Some of the verbatim findings of the study, are as follows:

- "Rent stabilization is by far the more common form of rent regulation in New York City. Our results indicate that poor tenants in such units are insignificantly less likely to exit than those in unregulated units. Rent stabilization does appear, however, to substantially reduce the odds that a less-educated household will move from their dwelling unit during any given time period. ….. We also tested in our regressions a variable interacting residence in a rent-regulated unit and in a gentrifying area and found that it was not significant. This indicates that while rent regulation tends to decrease tenant mobility, it does not do so more in gentrifying areas than in others."[52]

- "We found that increases in rent are indeed related to the probability of a household moving. But as was the case with the seven gentrifying neighborhoods, these increases were associated with a *lower* probability of moving rather than a higher one."[53]

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[51] Lance Freeman and Frank Braconi, "Gentrification and Displacement: New York City in the 1990s", American Planning Association. Journal of the American Planning Association, Winter 2004, page 42.
[52] Ibid, page 45.
[53] Ibid, page 48.

- "Gentrification has typically been depicted as a process of higher socioeconomic households displacing disadvantaged households. Indeed, some have defined gentrification as this type of displacement… The assumption behind this view is that displacement is the principal mechanism through which gentrification changes the socioeconomic character of a neighborhood. The results presented here, …., suggest that a rethinking of the gentrification process is in order. Insofar as many of the other reasons people change residence (marriage or divorce, change of job, want a bigger unit, want to own, etc.) would not be expected to diminish as their neighborhood gentrifies, the reduced mobility rates we find in gentrifying neighborhoods are inconsistent with a process dependent on the massive displacement of disadvantaged residents. Rather, demographic change appears to occur primarily through normal housing succession and may even be slowed by a below-normal rate of exit by existing residents."[54]

There are other findings of this and subsequent studies on gentrification by Freeman. Some of these findings are included in the summaries below of other studies, many of which include literature reviews. However, in their conclusion, Freeman and Braconi state the following:

> "Our analysis indicates that rather than speeding up the departure of low-income residents through displacement, neighborhood gentrification in New York City was actually associated with a lower propensity of disadvantaged households to move. These findings suggest that normal housing succession is the primary channel through which neighborhood change occurs. Indeed, housing turnover may actually be slowed by the reduced mobility rates of lower-income and less-educated households. The most plausible explanation for this surprising finding is that gentrification brings with it neighborhood improvements that are valued by disadvantaged households, and they consequently make greater efforts to remain in their dwelling units, even if the proportion of their income devoted to rent rises."[55]

2. Terra McKinnish, University of Colorado at Boulder: Randall Walsh, University of Colorado at Boulder; and Kirk White, Duke University, 2008

In May 2008, three academics prepared a working paper for the National Bureau of Economic Research. These academics include Terra McKinnish, Ph.D., Professor of Economics at the University of Colorado at Boulder, Randall Walsh, Ph.D., Assistant Professor of Economics at the University of Colorado at Boulder (now Associate Professor of Economics at University of Pittsburgh, Department of Economics), and Kirk White, Ph.D., now Economist in the Business Economic Research Group, Center for Economic Studies (formerly of the USDA and US Census Bureau).

This paper uses confidential Census data, specifically the 1990 and 2000 Census Long Form data, to study the demographic processes underlying the gentrification of low-income urban neighborhoods during the 1990's. In contrast to previous studies, the analysis is conducted at the more refined census-tract level with a narrower definition of gentrification and more closely matched comparison neighborhoods. The analysis is also richly disaggregated by demographic characteristic, uncovering differential patterns by race, education, age, and family structure that would not have emerged in the more aggregate analysis in previous studies. The areas included in the study were the 72 Consolidated Metropolitan Statistical

[54] Ibid.
[55] Ibid, page 51.

Areas in the United States with populations of at least 500,000 in 1990, and thus includes a national sample.

The results provide no evidence of disproportionate displacement of low-education or minority householders in gentrifying neighborhoods.[56] But the study did find evidence that gentrifying neighborhoods disproportionately retain black householders with a high school degree. More specifically, "The bulk of the increase in average family income in gentrifying neighborhoods is attributed to black high school graduates and white college graduates. The disproportionate retention and income gains of the former and the disproportionate in-migration of the latter are distinguishing characteristics of gentrifying U.S. urban neighborhoods in the 1990's."[57]

This paper also included a literature review, with the authors citing that the literature most related to their study is that pertaining to the link between gentrification and out-migration in low-income neighborhoods. For this purpose, they review three specific studies, pertaining to 2002 analysis of Boston by Vigdor, a 2004 study by Freeman and Braconi in New York City, and a 2005 analysis by Freeman of a sample of U.S. neighborhoods. Of the Vigdor study, the authors state "He finds no evidence that low-income households are more likely to exist the current housing unit if they are located in a gentrifying zone."[58] Of the Freeman and Braconi study they cite that "Identifying seven neighborhoods in Manhattan and Brooklyn that gentrified during the 90's, they find that low-income households in the gentrifying neighborhoods were less likely to move than low-income households in non-gentrifying neighborhoods."[59] Finally, of the 2005 Freeman study, which extended the preceding work to a sample of U.S. neighborhoods, and thus required a broader definition of gentrification for study purposes, they state "He gain finds little evidence that gentrification is associated with displacement of low-income households."[60] Thus, in conclusion regarding this portion of their literature review, the authors cite the following: "This literature investigates whether there is empirical evidence to support the widely held belief that gentrification causes the displacement of low-income minorities from their neighborhoods. The most recent studies, although constrained by data limitations, find little evidence of displacement."[61]

3. Ingrid Gould Ellen and Katherine M. O'Regan, NYU, Wagner Graduate School and Furman Center, 2011

In March 2011 Ingrid Gould Ellen, Ph.D., and Katherine M. O'Regan, Ph.D., published an article on gentrification and displacement in the journal Regional Science and Urban Economics. At the time, Ellen was the Paulette Goddard Professor of Urban Policy and Planning and Director of the Urban Planning Program, NYU and O'Regan was Professor of Public Policy and Planning at NYU's Wagner Graduate School of Public Service (Regan is now Assistant Secretary for Policy Development and Research at the U.S. Department of Housing and Urban Development). The research in this paper was conducted while the authors were Special Sworn Status researchers of the U.S. Census Bureau at the New York Census Research Data Center.

The purpose of this paper was to examine whether the economic gains experienced by low-income neighborhoods in the 1990s followed patterns of classic gentrification, i.e., through the in-migration of higher income white, households, and out migration (or displacement) of the

[56] Terra McKinnish, Randall Walsh, Kirk White. "Who Gentrifies Low-Income Neighborhoods?" National Bureau of Economic Research, Working Paper 1403, May 2008, page 3.
[57] Ibid, page 2.
[58] Ibid, page 4.
[59] Ibid.
[60] Ibid, page 5.
[61] Ibid, page 4.

original lower income, usually minority residents, spurring racial transition in the process.[62] An abstract of this paper, published on-line, cites the following summary finding:

> "Using the internal Census version of the American Housing Survey, we find no evidence of heightened displacement, even among the most vulnerable, original residents. While the entrance of higher income homeowners was an important source of income gains, so too was the selective exit of lower income homeowners. Original residents also experienced differential gains in income and reported greater increases in their satisfaction with their neighborhood than found in other low-income neighborhoods. Finally, gaining neighborhoods were able to avoid the losses of white households that non-gaining low income tracts experienced, and were thereby more racially stable rather than less."

Further, as cited in the study findings, Ellen and O'Regan state:

> "The picture our analyses paint of neighborhood change is one in which original residents are much less harmed than is typically assumed. They do not appear to be displaced in the course of change, they experience modest gains in income during the process, and they are more satisfied with their neighborhoods in the wake of the change. To be sure, some individual residents are undoubtedly hurt by neighborhood change; but in aggregate, the consequences of neighborhood change — at least as it occurred in the 1990s — do not appear to be as dire as many assume."[63]

4. Silva Mathema, Poverty & Race Research Action Council, 2013

In October 2013, while a Research Associate with the Poverty & Race Research Action Council in Washington, D.C., Silva Mathema, Ph.D., prepared an updated literature review on gentrification, with a focus on the theories and realities of gentrification. Upon reviewing close to 30 cited papers on many aspects of gentrification, Mathema provides the following summary of recent gentrification research:

> "Some studies have found little to no evidence of gentrification-induced displacement and laud gentrification for promoting urban revival and development (Betancur 2011). Using American Housing Survey's data on residential turnover, Ellen and O'Regan (2011) did not find increased displacement of vulnerable original residents in neighborhoods that experienced large economic gains during the 1990s. They also did not observe any drastic change in racial composition of the neighborhoods in the 1990s. This finding is significant because gentrification is usually associated with exodus of low-income minority residents from transitioning neighborhoods. In fact, there was increase in level of neighborhood satisfaction among original residents in growing neighborhoods. Similarly, Freeman's (2009) research suggests that gentrification does not impact neighborhood level diversity negatively. Likewise, McKinnish (2010), analyzing the census tract data, found no evidence of displacement among minority households in gentrifying neighborhoods. In fact, he suggested that

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[62] http://www.sciencedirect.com/science/article/pii/S0166046211000044.

[63] See paper excerpt cited in: https://journalistsresource.org/studies/economics/real-estate/gentrification-urban-displacement-affordable-housing-overview-research-roundup

these diverse neighborhoods were attractive to middle class black families who were likely to move into these areas." [64]

Mathema concludes by recognizing that gentrification has received renewed attention from policymakers, and states that localities experiencing such transformations will "need to be cognizant of the main players, the state of gentrification, and historical and racial context of the neighborhood, to be able to design programs that aim to promote social justice and equitable development in the gentrifying neighborhoods."[65]

5. Harvard Shorenstein Center Project, 2014

In 2014 the Harvard Shorenstein Center Project published an overview and research roundup on gentrification, urban displacement, and affordable housing. The roundup includes an overall summary of the literature prepared by the Center along with links and synopses of a selection of eight studies on gentrification and its effects, a few of which included analysis of displacement.

The Center's overall summary references that the first longitudinal studies quantifying trends in gentrification generally found that low-income resident displacement due to gentrification was limited. They state the following about Lance Freeman's 2005 study:

> "In 2005, Lance Freeman of Columbia University published an influential nationwide study that found that low-income residents of gentrifying urban neighborhoods were only slightly more likely to leave than those in non-gentrifying neighborhoods — 1.4% versus a 0.9%."[66]

They further indicated, however, that in 2008 Freeman indicated that more research was needed, and that "The empirical evidence [on gentrification] is surprisingly thin on some questions and inconclusive on others."[67]

This roundup cites other study findings, such as the following:

- "Recent studies of neighborhood change have examined other effects of gentrification on low-income residents. Research published in 2010 and 2011 found evidence that gentrification could boost income for low-income residents who remained and also raised their level of housing-related satisfaction.

- Even if the proportion of low-income residents displaced by gentrification is low, research indicates that the aggregate number displaced can be high and the consequences of displacement particularly harmful. A 2006 study estimated that about 10,000 households were displaced by gentrification each year in New York City.

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[64] Silva Mathema, "Gentrification: An updated Literature Review," Poverty & Race Research Action Council, October 2013, page 3.
[65] Ibid, page 5.
[66] Harvard University, Kennedy School of Government, Shorenstein Center on Media Politics and Public Policy, "Gentrification, Urban Displacement and Affordable Housing: Overview and Research Roundup," August 2014.
[67] Ibid.

> Follow-up interviews found that among those displaced, many ended up living in overcrowded apartments, shelters or even became homeless."[68]

These somewhat contrary statements indicate the literature is at odds, with limited definitive results. Toward this end, the roundup states:

> "The major studies on gentrification share several important limitations: They have not consistently examined the fate of displaced low-income residents; they do not look at the effects of gentrification over multiple decades; and most use data from the 1980s and 1990s — preceding major increases in rental prices throughout the 2000s and before the Great Recession. There is also no consensus on how to measure gentrification, so existing studies may be missing important demographic transitions in U.S. neighborhoods."[69]

6. Joseph Cortwright, City Commentary, cityobservatory.org, 2015

Economic Analyst Joseph Cortright, President and Principal Economist of Impressa, a Portland-based consulting firm specializing in metropolitan economies, knowledge-based industries, and education policy, recently authored an on-line commentary addressing the confusion between gentrification and displacement. This commentary was in response to a series on gentrification published by Governing Magazine in February 2015.

In his commentary, Cortright states that:

> "There's precious little evidence that there has been, in the aggregate, any displacement of the poor from the neighborhoods *Governing* flags as "gentrifying." If there were displacement, you'd expect the number of poor people in these neighborhoods to be declining. In fact, nationally, there are more poor people living in the neighborhoods that they identify as "gentrifying" in 2013 than there were in 2000. *Governing's* gentrifying neighborhoods have gained poor AND nonpoor residents according to Census data. And even after "gentrifying," these neighborhoods still have higher poverty rates, on average, than the national average.
>
> Careful academic studies of gentrifying neighborhoods, by Columbia's Lance Freeman and the University of Colorado's Terra McKinnish, show that improving neighborhoods actually do a better job of hanging on to previous poor and minority residents than poor neighborhoods that don't improve. The University of Washington's Jacob Vigdor has estimated that even when rents go up, existing residents generally attach a value to neighborhood improvements that more than compensates for the higher costs." [70]

Cortright further addresses other study findings, pertaining to poverty and gentrification, but these are separate from the discussion regarding the relationship between displacement and gentrification.

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[68] Ibid.
[69] Ibid.
[70] Joe Cortright, "How *Governing* got it wrong: The problem with confusing gentrification and displacement," *Cityobservatory.org* Commentary, June 2, 2015.

7. Richard Florida, Martin Prosperity Institute at the University of Toronto and Global Research Professor at New York University, 2015

Richard Florida, Ph.D., Professor of Business and Creativity, Rotman School of Management, University of Toronto, authored a commentary on gentrification and displacement in 2015 in CityLab, an on-line publication of The Atlantic Magazine. This commentary pertains to an August 2015 review of gentrification, displacement, and the role of public investment, published by the Federal Reserve Bank of San Francisco, and authored by academics from UC Berkeley and UCLA, but also includes summaries of other study findings regarding gentrification and displacement. Florida begins by citing some of the findings of Lance Freeman of Columbia University, including the first study cited in this section. Florida states the following about Freeman's work:

> "Perhaps the foremost student of gentrification and displacement is Lance Freeman of Columbia University. His 2004 study with Frank Braconi found that poor households in gentrifying neighborhoods of New York City were less likely to move than poor households in non-gentrifying neighborhoods. This of course may have to do with the fact that there are less poor households in gentrifying neighborhoods to begin with. Still, the authors concluded that "a neighborhood could go from a 30% poverty population to 12% in as few as 10 years without any displacement whatsoever." In a subsequent 2005 study, Freeman found that the probability that a household would be displaced in a gentrifying neighborhood was a mere 1.3 percent. A follow-up 2007 study, again with Braconi, examined apartment turnover in New York City neighborhoods and found that the probability of displacement declined as the rate of rent inflation increased in a neighborhood. Disadvantaged households in gentrifying neighborhoods were actually 15 percent less likely to move than those in non-gentrifying households.
>
> And, in a 2009 study, Freeman found that gentrifying neighborhoods are becoming more racially diverse by tracking neighborhood change from 1970-2000 (although he does note that cities overall are becoming more diverse as well). Freeman also discovered that changes in educational diversity were the same for both gentrifying and non-gentrifying areas. Ultimately, while some residents were displaced from 1970-2000, gentrifying neighborhoods were generally more diverse when it came to income, race, and education as opposed to non-gentrifying neighborhoods." [71]

Florida also references findings that suggest gentrification can reduce displacement. Specifically, he states:

> "Counterintuitively, several studies have even found that gentrification can in some cases reduce displacement. Neighborhood improvements like bars, restaurants, waterfronts, or extended transit can and sometimes do encourage less advantaged households to stay put in the face of gentrification. A 2006 study found that displacement accounted for only 6 to 10 percent of all moves in New York City due to housing expenses, landlord harassment, or displacement by private action (e.g. condo conversion) between 1989 and 2002. A 2011 study concluded that neighborhood income gains did not significantly predict household exit rates. What did predict

[71] Richard Florida, "The Complicated Link Between Gentrification and Displacement," *Citylab* (Atlantic Magazine), September 8, 2015.

outmigration was age, minority status, selective entry and exit, and renting as opposed to buying."[72]

In further discussing study findings, Florida cites that "Indeed, displacement is becoming a larger issue in knowledge hubs and superstar cities, where the pressure for urban living is accelerating. These particular cities attract new businesses, highly skilled workers, major developers, and large corporations, all of which drive up both the demand for and cost of housing. As a result, local residents - and neighborhood renters in particular - may feel pressured to move to more affordable locations." This Florida comment followed general reference to findings from the Urban Displacement Project at UC Berkeley, which has authored many articles about gentrification, and sought to develop indicators that would identify census tracts in the Bay Area that are at risk of displacement and/or gentrification. In particular, Florida provides a link to a paper written by one of his colleagues, which seeks to distill some of the Urban Displacement Project findings (see http://www.citylab.com/housing/2015/08/mapping-gentrification-and-displacement-in-san-francisco/402559/). The author of this document, Tanvi Misra, who is a CityLab colleague of Florida's, summarizes Karen Chapple of the Urban Displacement Project's findings as follows, demonstrating the complex relationship between gentrification and displacement:

"Displacement can be physical (as building conditions deteriorate) or economic (as costs rise). It might push households out, or it might prohibit them from moving in, called exclusionary displacement. It can result from reinvestment in the neighborhood — planned or actual, private or public — or disinvestment.

Thus, displacement is often taking place with gentrification nowhere in plain sight. In fact, stable neighborhoods at both the upper and lower ends of the income spectrum are experiencing displacement."[73]

See a review below regarding some of the findings from the Urban Displacement Project.

8. University of California, Berkeley, Urban Displacement Project, 2015

The Urban Displacement Project at the University of California at Berkeley is research and action initiative of UC Berkeley in collaboration with researchers at UCLA, community based organizations, regional planning agencies and the State of California's Air Resources Board. The project aims to understand the nature of gentrification and displacement in the Bay Area and Southern California. The studies prepared by this project have spawned a great many papers, both by the Urban Displacement Project and by others commenting on its findings and analyzing its datasets. This paper, in particular, is an Executive Summary including a succinct literature review, summary of case studies, brief comment on anti-displacement policy analysis, and summary methodology overview. This paper states that "As regions across California plan for and invest in transit oriented development, in part as a response to SB 375 and the implementation of their Sustainable Communities Strategies, communities are increasingly concerned about how new transit investment and related new development will affect the lives of existing residents, particularly low-income communities of color."[74] Thus, the

[72] Ibid.
[73] See http://www.citylab.com/housing/2015/08/mapping-gentrification-and-displacement-in-san-francisco/402559/).
[74] University of California, Berkeley, "Urban Displacement Project," December 2015, page 1.

Urban Displacement Project "analyzed the relationship between transit investment and neighborhood change, identifying factors that place neighborhoods at risk of displacement and mapping Bay Area neighborhoods according to levels of risk."[75]

The Urban Displacement Project defines gentrification as the influx of capital and higher-income, higher-educated residents into working-class neighborhoods, and says it has already transformed about 10% of Bay Area neighborhoods, with displacement, which can be physical or economic, occurring in 48% of Bay Area neighborhoods.[76] The Urban Displacement Project indicates that displacement, whether physical or economic, may result from disinvestment as well as investment, and thus is often taking place in the absence of visible gentrification.

This paper cites several key study findings from the Urban Displacement Project.

- Regionally, there has been a net gain in 94,408 low-income households between 2000 and 2013. However, there has been a concurrent loss of almost 106,000 naturally-occurring affordable housing units (where low-income people pay 30% or less of their income on rent).
- More than half of low-income households, all over the nine-county region, live in neighborhoods at risk of or already experiencing displacement and gentrification pressures.
- The crisis is not yet half over: More tracts are at risk of displacement in the future compared to those already experiencing it (in other words, the number of tracts at risk of displacement are 123% higher than the numbers already experiencing it).
- Still, more than half of neighborhoods in the nine-county Bay Area are quite stable, or just becoming poorer.
- In low-income areas, this is due to a combination of subsidized housing production, tenant protections, rent control and strong community organizing.
- Displacement extends far beyond gentrifying neighborhoods: The Bay Area's affluent neighborhoods have lost slightly more low-income households than have more inexpensive neighborhoods – a story of exclusion.
- We are losing "naturally occurring" affordable housing in neighborhoods often more quickly than we can build new housing.
- There is no clear relationship or correlation between building new housing and keeping housing affordable in a particular neighborhood.[77]

Notably, this paper identifies "exclusionary displacement" as what occurs when households are prohibited from moving in.

Beyond these key findings, this Executive Summary includes a summary literature review. This literature review does not shed much light on the question of displacement's relationship to gentrification, other than citing that despite analytic challenges in measuring displacement, "most studies agree that gentrification at a minimum leads to exclusionary displacement and may push out some renters as well."[78] However, this paper provides a few comments on case studies performed for nine Bay Area neighborhoods, and presents these additional findings (among others):

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[75] Ibid.
[76] Ibid.
[77] Ibid, page 2.
[78] Ibid, page 3.

- Gentrification may not precede displacement. Gentrification is often assumed to be a precursor to residential displacement, yet in many of our cases we found that displacement precedes gentrification and that the two processes are often occurring simultaneously.

- Gentrification and displacement are regional. Although gentrification and displacement are often seen as a neighborhood or local phenomenon, our cases show that they are inherently linked to shifts in the regional housing and job market.

- Despite continued pressures and much anxiety, many neighborhoods that expected to be at risk of displacement — such as East Palo Alto, Marin City and San Francisco's Chinatown — have been surprisingly stable, at least until 2013, the most recent year with available data. This is likely due to a combination of subsidized housing production, tenant protections, rent control and strong community organizing.

- Policy, planning and organizing can stabilize neighborhoods. Many of the cases have shown remarkable stability, largely due to strengths of local housing policy, community organizing, tenant protections and planning techniques.

This Executive Summary concludes with the following statement: "Even though many Bay Area neighborhoods are at risk of displacement or exclusion, such change is not inevitable. Subsidized housing and tenant protections such as rent control and just-cause eviction ordinances are effective tools for stabilizing communities, yet the regional nature of the housing and jobs markets has managed to render some local solutions ineffective."[79]

9. Miriam Zuk and Karen Chapple, University of California, Berkeley, Institute of Governmental Studies, 2015

This research brief provides a summary of research into the relationship between housing production, filtering, and displacement based on analysis of an extensive dataset for the San Francisco Bay Area developed by the Urban Displacement Project at UC Berkeley. It was prepared by Zuk, Ph.D., Director and Senior Researcher, and Chapple, Ph.D., Professor of City and Regional Planning, both with the Center for Community Innovation at UC Berkeley's Institute of Governmental Studies. The study's findings regarding the impacts of market rate housing production on housing costs are discussed in a separate chapter in this report (see Chapter V. Housing Production Impacts on Housing Costs). However, the findings in this article also have relevancy to the question of the relationship between gentrification and displacement.

To the extent that new housing development can be construed as gentrification, the summary findings of this study are as follows:

- "At the regional level, both market-rate and subsidized housing reduce displacement pressures, but subsidized housing has over double the impact of market-rate units.

- Market-rate production is associated with higher housing cost burden for low-income households, but lower median rents in subsequent decades.

[79] Ibid, page 4.

- At the local, block group level in San Francisco, neither market-rate nor subsidized housing production has the protective power they do at the regional scale, likely due to the extreme mismatch between demand and supply. Although more detailed analysis is needed to clarify the complex relationship between development, affordability, and displacement at the local scale, this research implies the importance of not only increasing production of subsidized and market-rate housing in California's coastal communities, but also investing in the preservation of housing affordability and stabilizing vulnerable communities."[80]

In brief, this study appears to conclude that at the local level in San Francisco, the relationship between gentrification and displacement is indeterminate, and deserving of additional analysis to best probe the relationship.

10. Lei Ding, Federal Reserve Bank of Philadelphia, Jackelyn Hwang, Princeton University, and Eileen Divringi, Federal Reserve Bank of Philadelphia, 2016

This academic paper was prepared for the Federal Reserve Bank of Philadelphia in September 2016 by the following authors: Lei Ding, Ph.D., Community Development Economic Advisor, Community Development Studies & Education Department of the Federal Reserve Bank of Philadelphia; Jackelyn Hwang, Ph.D., Postdoctoral Research Fellow at Princeton University (forthcoming Assistant Professor of Sociology at Stanford University, September 2017); and Eileen Divringi, Community Development Research Analyst in the CDS&E Department of the Federal Reserve Bank of Philadelphia.

This paper also includes an extensive literature review section, with a topic specifically focused on gentrification and residential displacement, siting that residential displacement has been a central point of contention surrounding gentrification. In framing the review, the authors state:

> "As neighborhoods gentrify and new residents of a higher socioeconomic status relative to incumbent residents move in and housing values and rents rise, housing and living costs may lead less advantaged incumbent residents to move out of the neighborhood against their will. Most existing studies on the population composition of gentrifying neighborhoods find that demographic changes take place at the aggregate neighborhood level. This implies that long-term, less advantaged residents are indeed moving out of the neighborhood. Further, anecdotal accounts show that residents move out of gentrifying neighborhoods by choice or through eviction as landlords increase rents, property taxes increase as local home values and rents rise, or because developers offer existing residents relatively large cash sums and then renovate the properties for larger profits (Newman and Wyly, 2006; Freeman, 2005). Few studies, however, have examined the moves of individual residents in gentrifying neighborhoods to support this."[81]

The authors then proceed to review approximately ten studies exploring different aspects of the issue, many of which were cited by other authors reviewed above, as well as in this current analysis. While each study has its strengths and weaknesses, and unique data constraints, the authors conclude this literature review by stating:

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[80] Miriam Zuk, Karen Chapple, "Housing Production, Filtering and Displacement: Untangling the Relationships," University of California, Berkeley, Institute of Governmental Studies Research Brief May 2016, page 1.

[81] Lei Ding, Jackelyn Hwang, Eileen Divringi, "Gentrification and Residential Mobility in Philadelphia," Discussion Paper: Federal Reserve Bank of Philadelphia, September 2016, page 3.

> "Overall, existing studies generally do not find evidence of elevated rates of mobility among less advantaged residents compared with similar residents in low-income neighborhoods that do not gentrify. The findings suggest that residential moves from gentrifying neighborhoods reflect normal rates of housing turnover among less advantaged residents and that the neighborhood-level demographic changes are largely due to the in-migration of high socioeconomic status residents."

Some of the perceived weaknesses in these studies, or alternate explanations for not detecting higher mobility rates, are among the reasons the authors conducted their study, examining residential mobility in Philadelphia from 2002 – 2014. As noted by the authors in the study conclusions:

> "This case study of Philadelphia leverages a unique data set to shed light on the heterogeneous consequences of gentrification on residential mobility patterns. Our findings contribute to debates on gentrification and displacement by uncovering important nuances of residential mobility associated with the destinations of movers, vulnerable subpopulations, the pace of gentrification, and economic cycles. Previous studies have not explored these important dimensions of gentrification nor have they examined these patterns as gentrification has grown and expanded relative to its past since the late 1990s.
>
> We find that gentrifying neighborhoods in Philadelphia, especially those in the more advanced stages of gentrification, have higher mobility rates on average compared with nongentrifying neighborhoods, but these movers are more likely to be financially healthier residents moving to higher-quality neighborhoods. Consistent with other recent studies of mobility and gentrification (Ellen and O'Regan, 2011; Freeman, 2005; McKinnish et al., 2010), we generally do not find that more vulnerable residents in gentrifying neighborhoods have elevated rates of mobility. As discussed earlier, Philadelphia has a number of distinct features that may mitigate the pace of residential displacement, such as its high vacancy rates and property tax assessment practices. It is also possible that displacement among vulnerable residents has not yet occurred during the study period or could be better observed when more comprehensive data are available. The slightly higher mobility rates among low-score residents in neighborhoods already in the more advanced stages of gentrification lend support for this. It is also possible that we do not observe displacement occurring within census tracts, but, if this is the case, localized moves, though still costly, among vulnerable residents in gentrifying census tracts may have less negative consequences for these residents who would still be proximate to the increased amenities that come with gentrification (McKinnish et al., 2010).
>
> When more vulnerable residents move from gentrifying neighborhoods, however, they are more likely than their counterparts in nongentrifying neighborhoods to move to neighborhoods with lower incomes than the neighborhoods from where they move. These results suggest that gentrification redistributes less advantaged residents into less advantaged neighborhoods, contributing to the persistence of neighborhood disadvantage. Therefore, even though we do not observe higher mobility rates among these groups, the results still demonstrate that gentrification can have negative residential consequences for these subpopulations." [82]

[82] Ibid, pages 42 and 43.

11. Derek Hyra, American University, 2016

In this paper published in November 2016, Hyra, Ph.D., an Associate Professor in the Department of Public Administration and Policy at American University, cites that the causes and consequences of gentrification, e.g., an influx of upper-income people to low-income areas, are complex and multilayered.[83] He further states that perhaps the most controversial gentrification topic is its residential displacement consequences.[84] However, he cites that there is near empirical consensus that "mobility rates among low-income people are equivalent in gentrifying versus more stable low-income neighborhoods."[85] In supporting this statement he cites no less than six studies conducted between 2004 and 2015 (several of which are also cited herein). Hyra believes this should not be interpreted as evidence gentrification is not related to a shrinking supply of affordable housing units, but rather that low-income people tend to move at a high rate from all neighborhood types. While Hyra believes understanding the relationship between gentrification and residential displacement is critical, he believes other important gentrification consequences exist, and he spends the balance of his short paper on exploring other potential consequences, such as political and cultural displacement, and discussing potential future research questions. These research questions and investigations include exploring the role of race in supply and demand-side gentrification explanations, as well as future investigations and governmental policy reforms to increase the changes that low- and moderate-income people benefit from the process of gentrification, such as providing affordable housing opportunities and supporting community-led organizations.[86]

[83] Derek Hyra, "Commentary: Causes and Consequences of Gentrification and the Future of Equitable Development Policy," November 2016, page 170.
[84] Ibid, page 171.
[85] Ibid.
[86] Ibid, page 173.

Appendix B

Eastern Neighborhoods / Mission District Transportation and Demographic Trends

FEHR PEERS

January 12, 2017

Chris Kern
Senior Environmental Planner
1650 Mission Street, Suite 400
San Francisco, CA 94103

Subject: **Eastern Neighborhoods / Mission District Transportation and Demographic Trends**

Dear Chris:

Fehr & Peers has prepared this letter summarizing key transportation trends that have occurred since the adoption of the Eastern Neighborhoods Plan in August 2008, focusing on the Mission District. Specifically, San Francisco Planning staff identified three key questions regarding the transportation analysis prepared for the Eastern Neighborhoods Plan environmental review process and subsequent effects on the transportation network due to new development:

- If new construction based on the Eastern Neighborhoods Plan results in displacement of lower income workers, do these workers then move to distant suburbs and increase the number of automobile commute trips and regional VMT compared to the Eastern Neighborhoods Plan EIR?
- Does new housing in the Eastern Neighborhoods plan area attract higher income residents, who own more cars and are therefore adding additional automobile trips than were accounted for in the Eastern Neighborhoods Plan EIR?
- Do commuter shuttles have transportation impacts not considered in the Eastern Neighborhoods Plan EIR?

Overall, Fehr & Peers has found that the Eastern Neighborhoods Plan EIR took a fairly conservative approach to transportation analysis and findings. The EIR generally estimated that a slightly higher percentage of new trips would be made by private vehicles than recent traffic counts as well as census travel survey data would suggest are occurring. On a more detailed level, Fehr & Peers found that while the Mission has undergone significant demographic and economic

change, residents on average still appear to own around the same number of vehicles, and use non-auto modes at similar rates as in the period from 2000 – 2009.[1]

With regards to the effects of potential displacement of lower-income households, data tracking individuals or households who move out of the neighborhood is not available, limiting our ability to state with certainty whether displacement of lower income workers is leading those same workers to increase their vehicle travel. Collecting this data would require a long-term focused survey effort on a different horizon that which is available for the preparation of this letter report .

In absence of this data, Fehr & Peers has conducted an analysis and review of the regional models used to develop the travel demand estimates for the Eastern Neighborhoods Plan EIR and, more generally, the role that they play in planning/CEQA efforts. This review of the travel model focuses on available data, and how that data can be used to answer the questions posed above. The regional model uses available data, such as existing mode share, trends in travel time to work, and current research on travel behavior to assess how changes in population or employment affect vehicle travel on our transportation facilities. The growth in households and jobs included in the model is based on regional and local planning efforts such as Plan Bay Area, City general plans, and specific plans such as the Eastern Neighborhoods Plan.

The growth in the share of households and jobs located in dense, urban areas (as planned for in Plan Bay Area and the Eastern Neighborhoods Plan) is expected to generally decrease regional vehicle miles traveled per capita between now and 2040. In the short term, the distance between Bay Area residents and their places of employment has increased slightly from 2004 to 2014; this has not, however, been accompanied by a similar increase in the share of regional commuting by single-occupant vehicle.

In addition to these demographic and economic variables, several new technologies and programs have affected transportation in the Eastern Neighborhoods area. Commuter shuttles to campuses in the Peninsula and South Bay have grown in amount and ridership, and some members of the community are concerned they may be negatively affecting traffic or public transit operations. Fehr & Peers has not found any evidence that their effects have not been contained in the envelope of traffic effects analyzed in the Eastern Neighborhoods Plan EIR.

[1] Fehr & Peers has attempted to maintain consistency across data sources. Census data is used from the 2000 decennial census, and from the 2004 – 2009 and 2009 – 2014 five-year average reports of the American Community Survey. Non-Census data may use other base years.

With regards to non-automotive travel, Planning and SFMTA have both undertaken substantial citywide efforts to encourage non-auto modes of travel, including MuniForward and Planning's Transportation Sustainability Program (TSP); these provide mechanisms for encouraging shifts to sustainable modes of travel, although it is still too early in their implementation to provide detailed analysis on their efficacy. These programs would be expected to have the effect of decreasing overall vehicular travel, and perhaps increasing transit ridership.

Background and Literature on Factors Surrounding Travel Behavior

While this letter focuses on the interplay between jobs and housing and the effect that relationship has on local and regional travel patterns, these elements are only one potential factor in individual travel behavior. Regional traffic and travel patterns are the combination of many different factors that influence individual decisions; these factors include items related to the built environment, local land use, regional distributions of housing and jobs, household socioeconomic factors, roadway network design and capacity, and availability of alternative transportation services such as transit.

When used in travel demand models, these variables can be sorted into four groups: socioeconomic characteristics, travel options, local land use characteristics, and regional land use characteristics, all of which influence total regional travel[2]. The below narrative discusses how these complicated factors are reflected in the variables selected for use in the regional model; these variables rely on data that is readily available, and broad enough for regional use. Many other individual circumstances are not reflected in the model, even though they may influence decisions with respect to residential location, employment, and household formation. Instead, the model focuses on the outcomes of these decisions, and uses past trends to predict future changes in variables that can more easily be included in the model. The following is a summary of some of the factors used in modeling travel behavior, and definitions or explanations of each for reference.

Socioeconomic Characteristics

For modeling purposes, several variables are used as proxies for socioeconomic characteristics that influence travel. These variables include the number of workers and non-workers in each

[2] Hu, H., Choi, S., Wen, F., Walters, G., & Gray, C. J. (2012, February). Exploring the Methods of Estimating Vehicle Miles of Travel. In *51th Annual Meeting of the Western Regional Science Association*.

household, the age of household members, and median household income. Generally, larger households make more trips by all modes; people between ages 16 – 64 are more likely to drive, and higher income individuals are more likely to own a car; as such, analysis areas with populations meeting these characteristics tend to generate a larger number of vehicle trips in the model. Other individual traits, including English proficiency, ability to obtain a driver's license, and ability or disability may also influence travel decisions at this level, but are too generalized to be included in a regional travel demand model, despite their importance to individual decisions.

Travel Options

Travel options variables include considerations of transit access, transit quality, and access to a vehicle. Each of these factors can determine the mode an individual chooses to make a given trip. Generally, individuals will choose the most efficient mode among those that they have access to. Efficiency can include considerations such as cost, estimated travel time, comfort, wait times, or convenience, among other concerns. In travel models, these factors are considered through proxy variables such as car ownership, distance from transit, and the frequency at which nearby transit operates.

Local Land Use and Built Environment

Local land use variables include variables often referred to as "the D's": density of jobs and housing, diversity of land uses, design of roadway facilities and the urban environment, and similar elements. These factors help to create urban environments that are more walkable, and tend to have a lower automobile modeshare[3]. The academic literature surrounding the effects of land use on transportation choices has shown fairly consistently that dense, mixed-use neighborhoods with strong regional access have the lowest levels of vehicle trip-making.[4] When used in travel models, these are usually translated into measures of density for a given area, such as the number of dwelling units or jobs per acre.

Regional Land Use and Built Environment

Regional land use patterns determine travel patterns mostly as a function of where people live versus places they typically travel to; the most common example of this is the relationship

[3] Cervero, R., & Kockelman, K. (1997). Travel demand and the 3Ds: density, diversity, and design. *Transportation Research Part D: Transport and Environment*, *2*(3), 199-219.

[4] Ewing, R., & Cervero, R. (2010). Travel and the built environment: a meta-analysis. *Journal of the American planning association*, *76*(3), 265-294.

between a person's home and workplace. Regional accessibility, such as the availability of longer distance transportation options (including regional transit such as BART and Caltrain, as well as freeways and major arterials) also plays a key role in transportation decisions. Ongoing jobs-housing imbalances have been shown to have a substantial effect on the distance households travel to work, while regional accessibility (as measured by the mix of destinations easily accessible by a household) also tends to encourage non-auto trips[5,6,7].

Number of Long-Distance Commute Trips

In addressing the question of whether the new residential construction in the Eastern Neighborhoods plan displaces lower income workers and therefore leads to longer commute trips from distant suburbs, Fehr & Peers focused on available data which includes regional data on inter-county commutes, and data showing the regional distance between a worker's home and workplace. While speculation exists that individuals that move out of the Mission commute longer distances to existing jobs, the literature on job change following residential relocation is very limited. As such, it cannot be ascertained whether individuals moving from the Mission to outlying areas keep or change their job location.

In addition to the potential for longer commute trips, households moving from the Mission to areas with fewer non-auto transportation options may increase their use of private vehicles for non-work trips. This increase in trips may be offset by individuals who move into denser neighborhoods and then use private vehicles less often, particularly if new housing growth is concentrated in these denser neighborhoods.

As an example of how residential location affects commute patterns, **Table 1** summarizes the number of commuters who both live and work in the same Bay Area County, the number who live and work in different counties and drive alone to work, and the median rent by county to serve as a proxy for cost of living. Counties that have a lower than average share of residents who drive alone to work in another county are Santa Clara County, Sonoma County, and San Francisco County, while counties with the largest share of residents who drive alone to work in another county are San Mateo, Contra Costa, and Solano Counties.

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[5] Ewing, R. (1995). Beyond density, mode choice, and single-purpose trips. *Transportation Quarterly*, *49*(4), 15-24.

[6] Levinson, D. M. (1998). Accessibility and the journey to work. *Journal of Transport Geography*, *6*(1), 11-21.

[7] Cervero, R. (1996). Jobs-housing balance revisited: trends and impacts in the San Francisco Bay Area. *Journal of the American Planning Association*, *62*(4), 492-511.

Based on these figures, we would assume that a net movement of households from San Francisco to counties such as Contra Costa County and Solano County without a corresponding movement in jobs would result in a higher share of individuals driving longer distances to work. However, job and housing growth projections prepared by ABAG indicate that population growth will be concentrated in areas that, in general, have fewer individuals driving alone to work across county lines.[8]

TABLE 1: COMMUTERS LIVING AND WORKING IN DIFFERENT COUNTIES, 2010[1]

County	Employed Residents	Residents Working in Same County	Percentage Working in Same County	Drove Alone to Another County for Work	Percentage Drive Alone to Another County	2010 Median Rent[2]
Santa Clara	817,000	712,000	87%	85,000	10%	$1,471
Sonoma	226,000	188,000	83%	29,000	13%	$1,227
San Francisco	432,000	331,000	77%	68,000	16%	$1,446
Napa	62,000	48,000	77%	12,000	19%	$1,218
Alameda	693,000	468,000	68%	142,000	20%	$1,233
Marin	121,000	79,000	65%	29,000	24%	$1,563
Contra Costa	466,000	281,000	60%	121,000	26%	$1,311
San Mateo	349,000	205,000	59%	101,000	29%	$1,525
Solano	184,000	109,000	59%	55,000	30%	$1,199
Grand Total	**3,350,000**	**2,421,000**	**72%**	**642,000**	**19%**	**$1,353**

1. VitalSigns does not provide data prior to 2010.
2. Median rents are based on self-reported rents paid by current residents across a variety of unit types, and do not reflect the rent accepted by new residents. Amounts shown are adjusted for inflation to 2014 dollars.
Source: Metropolitan Transportation Commission VitalSigns, 2016; Fehr & Peers, 2016

To study the total *future* change in vehicle trips and vehicle miles traveled due to demographic shifts and changing development patterns, a travel model is typically employed studying conditions both with and without a demographic change.

[8] ABAG projections are taken from Plan Bay Area 2013.

Fehr & Peers performed a brief review of the model data used in developing the future year VMT and travel forecasts used for CEQA purposes, and found that they do account for changes in the number of households by income level, as well as changes in the number of jobs throughout the region. Travel models are used to forecast future year conditions, as well as changes in traffic due to major land use changes (such as the adoption of the Eastern Neighborhoods Plan). These models are designed to use research on current travel patterns to estimate how changes in roadway configurations, population locations, and jobs can affect vehicle travel as well as travel by other modes. The San Francisco specific model, SF-CHAMP, uses the same data as the regional model, but reassigns growth within San Francisco to reflect local planning efforts. Individual model runs can provide estimates of traffic levels on individual roadways, and as noted above are often used for portions of the traffic and VMT analyses prepared for CEQA purposes.

In order to provide these estimates, SF-CHAMP estimates travel behavior at the level of transportation analysis zones (TAZs). There are 981 TAZs within San Francisco that vary in size from single city blocks in the downtown core, to multiple blocks in outer neighborhoods, to even larger geographic areas in historically industrial areas like the Hunters Point Shipyard. It also includes zones outside of San Francisco, for which it uses the same geography as the current MTC Model: "Travel Model One". For each TAZ, the model estimates the travel demand based on TAZ population and employment assumptions developed by the Association of Bay Area Governments (ABAG). Essentially, the model does its best to represent average travel choices and patterns of "people" (the daytime service population) that represent all travelers making trips to and from each TAZ the entire day[9].

Neither SF-CHAMP nor the regional travel model explicitly link low-income workers living in one area with lower paying jobs in another area, or high-income workers with high-paying jobs for that matter; this level of analysis is generally considered to be more fine-grained than is appropriate for regional travel forecasts. Instead, household-job links are established using existing research on typical commute patterns and distances, including the distribution of workers living in a given area who travel longer distances to work, and so forth. Future concentrations of jobs and housing are based on the most recent regional planning documents prepared by ABAG.

Regardless of the model assumptions, some households will move from San Francisco and have increased commute distances, while others may change jobs and have decreased commute

[9] Kosinski, Andy. (2016, April). VMT Analysis for 2675 Folsom Street, Case No 2014-000601. 2675 Folsom Street Transportation Impact Analysis Project Record

distances. However, the model does indicate that overall aggregate regional growth is expected to help reduce the average distance that a typical worker travels between home and work. The SFCTA has estimated that existing average VMT per household is 17.2 for the region and 8.4 in San Francisco. The regional VMT per household is expected to decrease to approximately 16 7.5 by the year 2040[10]. Employment data shows that the share of Bay Area residents living more than ten miles from their employer increased from 2004 to 2014 (See **Table 2**); over the same period, the absolute number of individuals living more than ten miles from their employer also increased. As such, a larger number of individuals are likely driving alone to work across longer distances. This does not, however, translate into a higher share of individuals driving alone to work; the regional drive alone commute modeshare is at its lowest point since 1960, based on census data.

TABLE 2: DISTANCE FROM HOME CENSUS BLOCK TO WORK CENSUS BLOCK[1], BAY AREA RESIDENTS, 2004 - 2014

Distance	2004[2]		2014	
	Number of Workers	Share of Workers	Number of Workers	Share of Workers
Less than 10 miles	1,507,000	52%	1,600,000	47%
10 to 24 miles	800,000	27%	944,000	28%
25 to 50 miles	351,000	12%	445,000	13%
Greater than 50 miles	255,000	9%	390,000	12%
Drive-Alone Commute Modeshare	79%		76%	

1. LEHD data uses payroll and other labor information; distances may not represent an employee's typical workplace, but rather the location of their employer's office for labor reporting purposes.
2. 2004 base year is used due to data from 2000 not being available
Source: Longitudinal Employer-Household Dynamics, 2016; MTC VitalSigns, 2016; Fehr & Peers, 2016

Vehicle Trip Rates and Demographics of New Residents

While data are unavailable for households moving away from the Mission, a look at ACS data shows some insight on households that have recently moved to the Mission from elsewhere.

[10] Schwartz, Michael, Coper, Drew. (2016, February). Quantification of Impacts under CEQA following new guidelines from the Governor's Office of Planning and Research. And Kosinski, Andy. (2016, April). VMT Analysis for 2675 Folsom Street, Case No 2014-000601. 2675 Folsom Street Transportation Impact Analysis Project Record

Around 15 percent of Mission residents had moved within the past year; of these, around half moved to the Mission from outside of San Francisco (**Table 3**). New residents, particularly those moving from outside of California, tend to have higher incomes than existing residents.

TABLE 3: MIGRATION STATUS OF MISSION RESIDENTS[1] IN PAST YEAR AND MEDIAN INDIVIDUAL INCOME

Year		Did not move in past year	Moved; within San Francisco	Moved; from different county in CA	Moved; from different state	Moved; from abroad
2004-2009	% of Residents	86%	9%	2%	2%	1%
	Median Income (2014 Dollars)	$37,000	$40,000	$32,000	$40,000	$15,000
2009 -2014	% of Residents	86%	8%	3%	2%	1%
	Median Income (2014 Dollars)	$35,000	$43,000	$32,000	$76,000	$46,000

1. Census data for Mission residents includes Census tracts 177, 201, 202, 207, 208, 209, 210, 228.01, 228.03, 229.01, and 229.02.
Source: ACS Table S0701, 5-year averages, 2004-2009, 2009-2014; Fehr & Peers, 2016

Generally, higher income households tend to have more vehicles per household, and also tend to drive more (See **Table 4**). However, a preliminary look at trends studied in the Census and American Community Survey (ACS) indicate that this effect has had a minimal effect on overall vehicular use in the Mission district from 2000 to 2014.

TABLE 4: DRIVE ALONE MODESHARE BY INCOME GROUP, MISSION RESIDENTS[1] (2009- 2014)

Worker Earnings	% Driving Alone to Work
<$15,000	16%
$15,000 – $25,000	21%
$25,000 - $50,000	24%
$50,000 – $75,000	28%
>$75,000	29%
Average, All Incomes	**27%**

1. Census data for Mission residents includes Census tracts 177, 201, 202, 207, 208, 209, 210, 228.01, 228.03, 229.01, and 229.02.
Source: ACS Table S1901, 5-year averages, 2009-2014; Fehr & Peers, 2016

Partially due to the in-migration of higher income earners shown in **Table 3**, the median household living in the Mission in 2014 has a significantly higher income than the median household living there in 2000 (see **Table 5**). Median annual income increased from around $67,000 to around $74,000 during that time period (in 2014 inflation-adjusted dollars). This reflects the migration patterns partially discussed above, as well as some level of general increases in incomes over that time. The same pattern can be seen by examining the share of all households with incomes above $100,000, which has more than doubled from 2000 to 2014.

However, although the typical household has a higher income, vehicles per househols has not increased over the same time period. The same percentage of households have zero cars (39 – 40 percent of households), and the average number of vehicles per household has remained nearly constant over that same period. Similarly, the share of Mission residents commuting to work by driving alone has also remained steady, at 25 – 29 percent. Due to population growth, this does result in more vehicles and more people driving alone compared to in 2000; however, this growth is in line with past trends, and does not exceed the level of vehicle travel projected in the Eastern Neighborhoods EIR, as discussed below.

In addition to census data, Planning has conducted three case studies at residential developments built in the past ten years in the Mission Neighborhood. These sites are located at 2558 Mission Street, 555 Bartlett Street, and 1600 15th Street. Each building consists of newer, largely market-rate housing, although 555 Bartlett Street and 1600 15th Street each have between 15 and 20 percent of units set aside as below market rate housing. Surveys at these sites were conducted during the extended AM and PM peak hours, and consisted of intercepting individuals at all project entrances and exits to inquire about their mode choice. In addition, person counts and vehicle counts were conducted at all entrances. Results from these surveys are shown by site in **Table 6**.

TABLE 5: COMPARISON OF SHIFTS IN INCOME AND AUTOMOBILE TRAVEL INDICATORS, MISSION RESIDENTS[1]

Year	Median Household Income (2014 Dollars)	Average Household Income (2014 Dollars)	Share of Households with Income Above $100,000 (nominal)	Share of Commuters Driving Alone to Work	Share of Households with Zero Cars Available	Vehicles Available per Household
2000	$67,000	$81,000	15%	29 %	39%	.85
2004 - 2009	$70,000	$98,000	31%	25 %	40%	.82
(% Change from 2000)	+ 4%	+21%	+ 106%	- 14%	<1%	-3%
2009 – 2014	$74,000	$109,000	40%	27 %	40%	.82
(% Change from 2000)	+ 10%	+35%	+ 166%	- 7%	<1%	-3%

1. Census data for Mission residents includes Census tracts 177, 201, 202, 207, 208, 209, 210, 228.01, 228.03, 229.01, and 229.02.
Source: American Community Survey, Tables B25044, B08130, S1901, 5-year averages, 2004 – 2009 and 2009 - 2014 ; Decennial Census, Tables H044, P030, DP3, 2000; Fehr & Peers, 2016

TABLE 6: OBSERVED MODE SPLITS AT RESIDENTIAL DEVELOPMENTS IN THE MISSION

Address	Drive Alone	Carpool	Walk	Taxi / TNC	Bike	SF Muni	BART	Private Shuttle
1600 15th St (162 market rate units, 40 BMR units, 596 total person trips)	19%	15%	33%	4%	5%	7%	16%	2%
555 Bartlett Street (49 market rate units, 9 BMR units, 183 total person trips)	25%	28%	19%	3%	6%	4%	14%	1%
2558 Mission Street (114 market rate units, 288 total person trips)	13%	13%	38%	8%	1%	7%	17%	4%

Based on trips made between 7AM – 10AM and 3PM – 7PM on a typical weekday in the summer. Total number of trips represented all counted person trips; response rates to survey varied between sites. Final percentages are imputed from survey responses and vehicle counts.

Source: SF Planning, 2015; Fehr & Peers, 2016

The three sites showed a drive alone modeshare that ranged from 13 percent to 25 percent, all of which are below the average drive alone commute mode for the area (of around 27 percent; see **Table 5**). The total auto modeshare (drive alone + carpool + taxi/TNC) ranges from 34 percent to 56 percent of all trips, which is similar to the total auto modeshare for all trips as modeled by SF-CHAMP (ranging from 31 percent to 53 percent for key transportation analysis zones in the Mission).[11]

Transit Modeshare Over Time

The share of Mission residents commuting via transit has remained fairly steady from 2000 to 2014, based on ACS journey to work data (see **Table 7**). Transit modeshare has decreased slightly in recent years, from a high of 46 percent in 2004 – 2009; most of this shift has been to bicycling and "other means" (which may include trips made by TNC). This fluctuation is well within a typical margin of error, and includes a period of decreased Muni transit service during the Great Recession; service was restored in 2015.

[11] SF-CHAMP auto modeshare is based on the Central SoMa 2012 Baseline model run; the presented modeshares are for the analysis zones where each of the case study developments are located.

TABLE 7: MISSION RESIDENT TRANSIT MODESHARE TRENDS, 2000 – 2014 (COMMUTE TRIPS ONLY)				
Year	**Total Transit Modeshare**	**Muni Bus or Rail[1]**	**BART[2]**	**Caltrain[3]**
2000	42%	24%	16%	1%
2004 – 2009	46%	29%	16%	1%
2009 – 2014	44%	24%	18%	3%

1. "Bus or trolley bus" and "Streetcar or trolley car" categories
2. "Subway or elevated" category
3. "Railroad" category

Source: ACS 2014; Fehr & Peers, 2016

Expected and Observed Peak Hour Vehicle Traffic Growth

The Eastern Neighborhoods Transportation Impact Study (TIS) and EIR analyzed several intersections within the Mission District. Fehr & Peers worked with Planning to select four of these intersections and conduct one-day PM peak hour turning movement counts in December 2016[12]; these intersection counts do not include Mission Street due to the installation of bus-only lanes (which act to divert some private vehicle traffic from Mission Street) in 2015. These counts were then compared to the expected level of traffic growth based on the total change in housing units constructed in the Mission from 2011 – 2015. Full turning movement volumes and estimated calculations are included in **Attachment A**.

Overall, the current level of reported development from the Eastern Neighborhoods Monitoring Report was estimated to represent around 65 percent of background, no project growth (based on progress from 2000 baseline year to 2016 relative to the 2025 projections), and around 10 percent complete[13] for the growth projected under EIR Option C. While the preferred alternative does not precisely match any of the three options set forth in the EIR, Fehr & Peers selected Option C for comparison purposes as it showed the highest level of residential growth in the Mission. **Table 8** shows a summary of observed and estimated traffic volumes for the intersections analyzed.

[12] While vehicle counts are typically not taken in December due to changes in travel patterns during that time, schedule constraints necessitated immediate counts. Counts were collected on a weekday with average weather, while area schools were still in session.

[13] Estimate of 10 percent complete includes 25 percent of estimated increase in housing units and 4 percent of estimated increase in non-residential square footage from the 2000 baseline. This does not include the reduction in total PDR square footage.

On average, observed traffic volumes in 2016 were around 5 - 10 percent lower than expected based on the Eastern Neighborhoods EIR and the percentage of estimated development complete[14]. At three of the four intersections counted, total traffic volume had in fact decreased from the 2000 baseline count data. The exception is at 16th Street and South Van Ness, where there was an increase in traffic volume traveling northbound and southbound. This likely reflects shifts from other north/south streets such as Mission Street that have seen changes in their roadway configurations that were not anticipated by the analysis in the Eastern Neighborhoods Plan. The observed traffic counts also include only one day of count data, which introduces a chance that the observations are not representative; however, traffic volumes at urban intersections tend to be fairly stable with respect to the amount of peak hour traffic. Overall, this reflects that the Eastern Neighborhoods TIS and EIR took a fairly conservative approach to modeling the levels of local traffic generated by the changes in land use allowed by the Plan.

TABLE 8: COMPARISON OF OBSERVED AND ESTIMATED TRAFFIC VOLUMES AT MISSION INTERSECTIONS

Intersection	2000 Baseline Total Volume	2025 Option C Projected Volume	2016 To Date Projected Volume[1]	2016 Observed Volume	Net Difference (2016 Observed – 2016 Projected)	% Difference
Guerrero / 16th	2,704	2,895	2,729	2,628	-101	-4%
S. Van Ness / 16th	2,513	2,682	2,534	2,692	158	6%
Valencia / 16th	1,848	2,168	1,885	1,572	-313	-17%
Valencia / 15th	2,287	2,438	2,311	1,913	-398	-17%
				Average	-164	-7%

1. 2016 to date projected volume is derived from the 2000 baseline volume plus 10 percent of Option C added project trips. Actual completed development analyzed in Option C amounts to 25% of studied residential units, and 4% of non-residential new development.
Source: Fehr & Peers, 2016; Eastern Neighborhoods TIS, 2008

[14] While not shown in Table 8, projected traffic volumes for EIR Option A (at 30% complete) and the No Project scenario were similar to those for Option C, and were on average higher than the observed 2016 traffic volumes.

Policy and Program Changes since Adoption of Eastern Neighborhoods Plan

The above analysis represents a look at how 2016 compares to conditions considered in the Eastern Neighborhoods Plan TIS and EIR. However, since the adoption of the Eastern Neighborhoods Plan, the City has embarked on several projects and programs designed to better accommodate sustainable growth. Future transportation investments are anticipated to align with these goals, and include a focus on transit capital and operational investments, bicycle infrastructure, and pedestrian safety. Many of these improvements may be financed by fees collected from new developments.

San Francisco Bicycle Plan

The 2009 San Francisco Bicycle Plan was adopted shortly after the adoption of the Eastern Neighborhoods Plan. It identifies specific bicycle route improvement projects, and is intended to foster a safe and interconnected bicycle network that supports bicycling as an attractive alternative to driving. This plan identified sixty total bicycle projects and bicycle route improvements, several of which are located within the Eastern Neighborhoods Plan area. In the Mission, this includes facilities on 17th Street and 23rd Street, as well as potential long-term improvements on Shotwell Street and Capp Street.

Better Streets Plan

The Better Streets Plan, adopted in 2010, includes streetscape policies and guidelines that outline streetscape requirements for new development, as well as generally guide the design of new street improvement projects. It seeks to enhance the pedestrian environment, and includes guidelines for width and design of sidewalks, crosswalks, and general enhancements to the pedestrian environment, including street trees, lighting, and other elements. New developments are expected to bring relevant streetscape elements near their project into compliance with the Better Streets Plan as part of the development review process.

Muni Forward

Muni Forward is an adopted plan following the findings of the Transit Effectiveness Project (TEP). The TEP was an in-depth planning process that sought to evaluate and enhance the Muni system; in 2014, the SFMTA Board of Directors adopted many of these recommendations, which included an overall 12 percent increase in Muni service citywide. Major projects affecting the Mission include the installation of red bus-only lanes on Mission Street, as well as service improvements

on the 14 and 14R buses, which provide a key connection for Mission residents to sites along the Mission Street corridor.

Vision Zero

Vision Zero, adopted in 2014, represents an action plan for building better and safer streets, with the goal of having zero traffic fatalities by the year 2024. This goal utilizes a "safe systems" approach to protect people from serious injury or death when a crash occurs by creating safe roads, slowing speeds, improving vehicle design, educating people, and enforcing existing laws. Part of this process includes identifying high injury corridors, where people are more likely to experience serious injury or death as a result of automobile collisions. Guerrero Street, Valencia Street, Mission Street, South Van Ness Avenue, Harrison Street, 15th Street, 16th Street, 17th Street, 24th Street, Cesar Chavez Street, and segments of 18th Street and Dolores Street are all included in the Vision Zero High Injury Network. High priority projects to address these issues in the Mission include the installation of bus-only lanes on Mission Street, as well as installation of pedestrian countdown signals at key intersections on Guerrero Street and S. Van Ness Avenue.

Propositions A and B (2014)

In 2014, San Francisco voters passed Propositions A and B, both of which provided additional funding for transportation projects, almost all of which was designated for transit, pedestrian, and bicycle improvements. Proposition A authorized $500 million in general obligation bonds for transportation infrastructure needs citywide. Funds were earmarked for specific project types that focused on transit, bicycle, and pedestrian improvements, including construction of transit-only lanes and separated bikeways, transit boarding islands, escalator upgrades, new pedestrian signals, sidewalk improvements, and Muni maintenance facilities. Proposition B required that the City's contributions to SFMTA increase based on population growth, including both the daytime and night-time populations. Additionally, Proposition B required the 75 percent of any population-based increase be used to improve Muni service, and 25 percent be used for improving street safety.

Transportation Sustainability Program

The Transportation Sustainability Program (TSP) reflects plans to adopt smart planning and investment practices to improve and expand on the existing transportation system. They include requiring new developments to adopt comprehensive transportation demand management (TDM) programs (anticipated to be in effect early 2017) in order to reduce the number of trips

made by automobile, as well as adoption of the new Transportation Sustainability Fee for new developments, and environmental review guidance that prioritizes smart growth in the form of infill development near quality transit service.

Commuter Shuttle Program

The SFMTA implemented a formal Commuter Shuttle Program in 2014 to regulate how long-distance commuter shuttles utilize public roadways and public curb space, including bus stops. An October 2015 review found that the program was eligible for a categorical exemption (Case No. 2015-007975ENV). The analysis used for this determination also examined the total number of shuttles and shuttle stop incidents. This study found that shuttle vehicles would remain less than 10 percent of vehicles traveling on arterials with shuttle stop locations, and that this increase was not expected to substantially affect traffic operations on arterial roadways. As shown in **Table 8**, current levels of traffic within the Mission remain below expected volumes based on the amount of development completed under the Eastern Neighborhoods Plan.

On-Demand Smartphone Ride Companies

At the time of the Eastern Neighborhoods EIR, transportation network companies (TNCs) such as Lyft, Uber, and Chariot did not exist. In recent years, this method of transportation has grown significantly. However, many details regarding how these companies fit into the larger transportation picture in San Francisco is unclear. To date, no holistic study has examined whether TNC users are making trips they would not otherwise make, or substituting a Lyft or Uber ride for either a public transit trip or private vehicle trip. Based on the surveys conducted at newer residential developments, the combination of Taxi and on-demand / smartphone-based transportation represents between three and eight percent of all trips. These trips have not led to growth in traffic at Eastern Neighborhoods study intersections that exceed what was predicted, based on actual intersection-level counts, and can reasonably be considered to fall within the envelope of transportation effects identified in the Eastern Neighborhoods EIR.

Sincerely,

FEHR & PEERS

Eric Womeldorff, P.E.
Principal

Teresa Whinery
Transportation Planner

Attached:

Attachment A

Option A Percent Complete

	CIE	Medical	Office	PDR	Retail	Visitor	Residential
Net Change, 2011 - 2015	-25,211	15,200	108,400	-206,311	40,119	0	506
EN Option A Plan Total (Delta from Baseline)	104,400	37,200	422,021	-448,753	114,000	0	782
Progress	-24%	41%	26%	46%	35%	100%	65%

Progress: Non-Residential & Non-PDR	20%
Progress: Residential	65%
Percent Complete, Option A	**40%**

Option C Percent Complete

	CIE	Medical	Office	PDR	Retail	Visitor	Residential
Net Change, 2011 - 2015	-25,211	15,200	108,400	-206,311	40,119	0	506
EN Option C Plan Total (Delta from Baseline)	609,480	49,448	2,214,011	-3,370,350	598,323	10,274	2,054
Progress	-4%	31%	5%	6%	7%	0%	25%

Progress: Non-Residential & Non-PDR	4%
Progress: Residential	25%
Percent Complete, Option C	**10%**

No Project Percent Complete

	CIE	Medical	Office	PDR	Retail	Visitor	Residential
Net Change, 2011 - 2015	-25,211	15,200	108,400	-206,311	40,119	0	506
EN CNP Total (Delta from Baseline)	134,700	36,900	551,400	-513,185	144,000	1	420
Progress	-19%	41%	20%	40%	28%	100%	120%

Progress: Non-Residential & Non-PDR	16%
Progress: Residential	120%
Rounded Estimate Complete, No Project	**70%**
Time Estimate Complete, No Project (2016 - 2000) / (2025 - 2000)	**64%**

Attachment A - Turning Movement (Option A)

		2000 Baseline	2025 NP	2025 Option A	2016 NP Estimate	2016 Option A To Date Estimate	Intersection Level Total Estimate	2016 Count	Intersection Level Observed	Change from To-Date Estimate	% of Estimated Traffic
	NBL	73	81	86	78	78	2,789	16	2,628	-161	
	NBT	649	721	761	695	694		599			
	NBR	60	67	72	64	65		52			80%
	SBL	50	52	53	51	51		10			
	SBT	748	784	760	771	753		815			
	SBR	43	45	44	44	43		76			106%
	EBL	16	17	18	17	17		8			
	EBT	301	314	305	309	303		291			
	EBR	61	64	68	63	64		64			95%
	WBL	81	87	87	85	83		55			
	WBT	537	572	571	559	551		521			
16th & Guerrero	WBR	85	91	91	89	87		121			97%
	NBL	0	0	0	0	0	2,591	70	2,692	101	
	NBT	530	578	567	561	545		656			
	NBR	96	104	104	101	99		67			123%
	SBL	0	0	0	0	0		65			
	SBT	575	587	616	583	591		689			
	SBR	39	40	42	40	40		44			126%
	EBL	0	0	0	0	0		9			
	EBT	448	476	474	466	458		295			
	EBR	52	64	74	60	61		71			72%
	WBL	0	0	0	0	0		7			
	WBT	674	727	728	708	696		653			
S. Van Ness & 16th	WBR	99	106	105	103	101		66			91%

	NBL	59	63	71	62	64	2,018	39	1,572	-446	
	NBT	442	480	535	466	479		417			
	NBR	0	0	0	0	0		0			84%
	SBL	0	0	0	0	0		2			
	SBT	549	553	557	552	552		407			
	SBR	199	218	224	211	209		162			75%
	EBL	0	0	0	0	0		0			
	EBT	0	0	0	0	0		0			
	EBR	0	0	0	0	0		0			100%
	WBL	73	104	108	93	87		54			
	WBT	443	632	655	564	528		396			
Valencia & 16th	WBR	83	118	123	105	99		95			76%
	NBL	49	50	51	50	50	2,376	40	1,913	-463	
	NBT	398	433	497	420	438		323			
	NBR	73	74	78	74	75		71			77%
	SBL	70	74	77	73	73		43			
	SBT	499	530	535	519	513		364			
	SBR	50	53	54	52	52		48			71%
	EBL	28	30	29	29	28		36			
	EBT	318	336	334	330	324		272			
	EBR	65	69	67	68	66		44			84%
	WBL	58	62	63	61	60		52			
	WBT	604	647	645	632	620		549			
Valencia & 15th	WBR	75	80	81	78	77		71			89%

Sources:

2000 Baseline: Eastern Neighborhoods Plan TIS

2025 NP: Eastern Neighborhoods Plan TIS

2025 + Opt. A: Eastern Neighborhoods Plan TIS

2025 + Opt. B: Eastern Neighborhoods Plan TIS

2016 NP Estimate: = (2000 Baseline) + [(2025 NP) - (2000 Baseline)] * [(2016 - 2000) / (2025 - 2000)]

2016 Opt. A Estimate: = (2000 Baseline) + [(2025 Opt. A) - (2000 Baseline)] * (Opt. A % Complete)

2016 Opt. C Estimate: = (2000 Baseline) + [(2025 Opt. C) - (2000 Baseline)] * (Opt. C % Complete)

Attachment A - Turning Movement (Option C)

		2000 Baseline	2025 NP	2025 Option C	2016 NP Estimate	2016 Option C To Date Estimate	Intersection Level Total Estimate	2016 Count	Intersection Level Total Count	Change from To-Date Estimate	% of Estimated Traffic
	NBL	73	81	87	78	74	2,729	16	2,628	-101	
	NBT	649	721	776	695	662		599			
	NBR	60	67	72	64	61		52			84%
	SBL	50	52	52	51	50		10			
	SBT	748	784	772	771	750		815			
	SBR	43	45	44	44	43		76			107%
	EBL	16	17	18	17	16		8			
	EBT	301	314	301	309	301		291			
	EBR	61	64	70	63	62		64			96%
	WBL	81	87	88	85	82		55			
	WBT	537	572	585	559	542		521			
16th & Guerrero	WBR	85	91	92	89	86		121			98%
	NBL	0	0	0	0	0	2,534	70	2,692	158	
	NBT	530	578	589	561	536		656			
	NBR	96	104	107	101	97		67			125%
	SBL	0	0	0	0	0		65			
	SBT	575	587	598	583	577		689			
	SBR	39	40	41	40	39		44			130%
	EBL	0	0	0	0	0		9			
	EBT	448	476	457	466	449		295			
	EBR	52	64	78	60	55		71			74%
	WBL	0	0	0	0	0		7			
S. Van Ness &	WBT	674	727	741	708	681		653			
16th	WBR	99	106	108	103	100		66			93%

	NBL	59	63	69	62	60	1,885	39	1,572	-313	
	NBT	442	480	518	466	450		417			
	NBR	0	0	0	0	0		0			89%
	SBL	0	0	0	0	0		2			
	SBT	549	553	583	552	552		407			
	SBR	199	218	230	211	202		162			76%
	EBL	0	0	0	0	0		0			
	EBT	0	0	0	0	0		0			
	EBR	0	0	0	0	0		0			100%
	WBL	73	104	99	93	76		54			
	WBT	443	632	603	564	459		396			
Valencia & 16th	WBR	83	118	113	105	86		95			88%
	NBL	49	50	53	50	49	2,311	40	1,913	-398	
	NBT	398	433	477	420	406		323			
	NBR	73	74	79	74	74		71			82%
	SBL	70	74	77	73	71		43			
	SBT	499	530	550	519	504		364			
	SBR	50	53	55	52	51		48			73%
	EBL	28	30	29	29	28		36			
	EBT	318	336	326	330	319		272			
	EBR	65	69	67	68	65		44			85%
	WBL	58	62	63	61	59		52			
	WBT	604	647	657	632	609		549			
Valencia & 15th	WBR	75	80	82	78	76		71			90%

Sources:

2000 Baseline: Eastern Neighborhoods Plan TIS

2025 NP: Eastern Neighborhoods Plan TIS

2025 + Opt. A: Eastern Neighborhoods Plan TIS

2025 + Opt. B: Eastern Neighborhoods Plan TIS

2016 NP Estimate: = (2000 Baseline) + [(2025 NP) - (2000 Baseline)] * [(2016 - 2000) / (2025 - 2000)]

2016 Opt. A Estimate: = (2000 Baseline) + [(2025 Opt. A) - (2000 Baseline)] * (Opt. A % Complete)

2016 Opt. C Estimate: = (2000 Baseline) + [(2025 Opt. C) - (2000 Baseline)] * (Opt. C % Complete)