

**Socioeconomic Effects of 2918 Mission
Street Market-Rate Development**

Prepared for:

**The City and County of San Francisco
Planning Department**

Prepared by:



ALH Urban & Regional Economics

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June 14, 2018

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

Re: Socioeconomic Effects of Market-Rate Development Associated with 2918 Mission Street Project, 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 Mission District, specifically at 2918 Mission Street. 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 the entitlement process for the 2918 Mission Street project.

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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I. INTRODUCTION AND SUMMARY OF FINDINGS AND CONCLUSION

INTRODUCTION

RRTI, Inc. is proposing development of a 75-unit multifamily apartment project with ground floor retail space at 2918 Mission Street, the site of a current laundromat. The Calle 24 Latino Cultural District Council (appellant) is appealing decisions of the Planning Commission made on November 23, 2017 regarding the proposed project. Among the many reasons cited for the appeal, the appellant believes that the CEQA findings did not consider potential impacts due to gentrification and displacement to businesses, residents, and nonprofits within the LCD, which is a defined sub-area within San Francisco's Mission District.

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, especially regarding socioeconomic impacts, such as residential and commercial displacement, as well as housing cost impacts.

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. For the purpose of some of the analysis, two areas of interest associated with the 2918 Mission Street project were defined. These include a one-half mile radius around the site, in order to capture the most likely area for pedestrian-oriented activity and neighborhood retail demand, and an additional one-quarter mile radius area, whose new residents could also provide some additional demand for commercial space near the 2918 Mission Street project site.

Pipeline Impacts on Commercial Gentrification. Research and analysis associated with pipeline residential projects within three-quarter miles of the planned 2918 Mission Street project finds that the amount of neighborhood-oriented retail demand generated by new residents is unlikely to result in

commercial market shifts, such as the displacement of existing commercial establishments. Pipeline residential projects include the following: projects that have filed applications, but are still under review; projects that have received Planning/DBI entitlements but have not yet broken ground; and projects that are under construction.

The amount of demand for neighborhood-oriented retail generated by residents of the Pipeline projects within the three-quarter mile radius - equivalent to 30,300 square feet of new retail space - is close to the amount of net retail space planned in those projects (38,528 square feet). As a point of comparison, the Mission District is estimated to have 3.0 million square feet of retail space, and the one-half mile area around 2918 Mission Street has 1.4 million square feet of retail space. It is therefore not a likely result that commercial gentrification would result from pressure exerted by current Pipeline projects on the existing retail base in the one-half mile radius around 2918 Mission Street. Thus, there is no basis to support the claim that existing commercial establishments will be displaced as a result of increased demand for retail from new residents moving into the Pipeline projects in the areas surrounding the 2918 Mission Street project.

Retail supply and demand analysis for the Mission as a whole and the one-half mile radius around the 2918 Mission Street project demonstrates that both areas are regional shopping destinations, providing more retail supply than can be supported by their residents. ***This is especially pronounced for the Mission District as a whole.*** This indicates three issues: (1) regional socioeconomic change and broad trends in the retail industry are greater influences on these commercial uses than is the composition of the immediate population of the neighborhood; (2) new residential development in the areas play a relatively insignificant role in influencing the overall commercial make-up of the districts, as the commercial bases are 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 given the scale of the existing stock relative to new development.

Residential Displacement. The City of San Francisco has experienced strong apartment rent increases over the past 20+ years. From 1996 to 2016, average rents at larger complexes 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 began to slow citywide, with some sources reporting a modest rental decline. This slowdown in rental rate growth continued through 2017 and into 2018. At the neighborhood level, the results have been more variable depending upon availability and relative rent levels. Historic market trends suggest that increases in rents will continue to occur, albeit modestly in the near-term. However, 71% of San Francisco's market-rate rentals are rent-controlled, with the residents insulated from short-term annual increases that occur.¹

ALH Economics reviewed case study as well as academic and related literature to probe whether market-rate apartment production at and around 2918 Mission Street 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 increases in home prices and rents in existing buildings. Failure to increase housing stock to accommodate demand resulting from job growth and a generally increasing population will result in greater competition for existing housing, with higher income households outbidding lower income households and otherwise exerting upward price pressure on existing housing. Further, the studies find that both market-rate and affordable housing

¹ This percentage is pursuant to City of San Francisco Planning Department research currently in progress.

development help to suppress price appreciation and reduce displacement, although the rate at which this occurs in very small, localized areas requires further analysis to best understand the relationship between development, affordability, and displacement at the highly localized 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 and associated literature does not support the concern that gentrification associated with new 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 EIRs 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 at or around 2918 Mission Street 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 DISPLACEMENT

ISSUE OVERVIEW AND LITERATURE REVIEW

The appellant is concerned about the *commercial* displacement impacts of new residential development in the Mission District and at 2918 Mission Street, 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.

The academic community is increasingly exploring issues and questions associated with commercial gentrification and displacement. Even in the past 1.5 years academic literature has surfaced with increasing frequency exploring different aspects of commercial gentrification, such as its relationship to transit-oriented development or changes in consumer demand. Yet, in the words of Karen Chapple, a key academic from UC Berkeley, and associated researchers and colleagues at UCLA, “commercial gentrification is largely understudied.”² This statement pertains to a September 2017 Chapple et.al. study probing the linkages between transit-oriented development and commercial gentrification, that includes a literature review of other studies that probe and discuss different aspects of commercial gentrification, including causation and effects.

Some, but not all, of the studies referenced in the Chapple September 2017 paper directly or indirectly address the impact of changing neighborhood demographics on commercial gentrification. Some of these include other studies authored by Chapple, et. al., among other authors. The cited findings most germane to residential development or changing demographic impacts on commercial development are mixed, with one summary statement in the Chapple paper as follows: “it is difficult to unpack the mechanism by which commercial gentrification relates to residential gentrification (if it does at all).”³ Yet another summary statement in this paper, based upon Chapple et. al.’s findings from case studies in Oakland and Los Angeles, California, is: “Proximity to a transit station is likely not associated with commercial gentrification. More important factors that *may* (emphasis added) relate to commercial gentrification are the demographic characteristics of a neighborhood, particularly the percent of non-Hispanic black, foreign-born, and renter residents, as well as overall population density. In some contexts, residential gentrification *may* (emphasis added) lead to commercial gentrification.”⁴

In a 2016 paper published in “Cityscape,” R. Meltzer, Assistant Professor at the New School, discusses how the process of commercial gentrification can occur through changes in consumer demand.⁵ In this paper, Meltzer theorizes that changes in the consumer base brought about by residential gentrification may lead to changes in both the business environment and local patrons. Meltzer

² Karen Chapple & Anastasia Loukaitou-Sideris, et. al., “Transit-Oriented Development & Commercial Gentrification: Exploring the Linkages,” September 2017, page 8.

See https://www.urbandisplacement.org/sites/default/files/images/commercialgentrificationreport_9-7-17.pdf

³ Ibid.

⁴ Ibid., page 4.

⁵ Meltzer, R. (2016). Gentrification and small business: Threat or opportunity? *Cityscape*, 18(3), 57-85. <https://www.huduser.gov/portal/periodicals/cityscpe/vol18num3/article3.html>

additionally discusses how increasing property values may halt new business startups and put existing operations out of businesses if revenue gains do not keep pace with appreciation. This pressure, however, can take a long time to occur, since commercial leases are structured on a more long-term basis than residential leases, with less potential for near-term appreciation than residential leases. Also in this paper, Meltzer further demonstrates through analysis of New York City business micro-data that chain stores are more likely to replace displaced businesses in gentrifying neighborhoods than in other neighborhoods not experiencing gentrification. While this finding in New York City may or may not be transferrable to other communities, the Mission District and other San Francisco neighborhoods are well-protected from this potential displacement trend as a result of San Francisco's extensive controls on formula retail. These controls effectively prohibit many chain store operations; thus San Francisco's policy tools minimize the threat of this type of commercial displacement in San Francisco.

While the Mission District and San Francisco are well protected from the threat of chain stores displacing existing commercial businesses, K. Chapple and R. Jacobus in 2009 wrote a paper discussing how retail reinvestment might lead to neighborhood revitalization.⁶ In this paper, Chapple and Jacobus showed that changes in the demographic composition of San Francisco Bay Area residential neighborhoods resulted in significant shifts in the mix of commercial establishments, with some establishments providing products and services less tailored to neighborhood demand. However, they also indicate this process could result in stiffer competition, resulting in lower prices for consumers, which could comprise a positive outcome for neighborhood residents. Thus, Chapple and Jacobus found that commercial changes resulting from gentrification, and potentially leading to displacement, can also be characterized as neighborhood or retail revitalization.

Some research studies have findings regarding the type of businesses that are more susceptible to commercial displacement. One such study was prepared by R. Meltzer and S. Capperis in 2016 and published in "Urban Studies."⁷ In this study, Meltzer and Capperis created a business typology using four categories of businesses, including necessary, discretionary, frequent, and infrequent. In their typology, necessary establishments are businesses that fulfill every day, immediate needs of residents, such as grocery stores and hardware stores. Discretionary establishments provide more luxury or recreational goods that enhance quality of life. Frequent stores provide goods or services that are frequently consumed and/or perishable, for which short travel times are essential to their appeal, and include establishments like banks, laundromats, and pharmacies, while infrequent establishments attract demand from outside the local neighborhood, providing goods such as furniture, clothing, and recreational goods.

The summary findings of this Meltzer and Capperis paper indicate that frequent and necessary establishments contribute to a neighborhood's well-being by serving a broad market that cuts across income classes, while infrequent and discretionary goods offer "local luxuries" catering to only one, high income group. The findings indicated that frequent and necessary establishments had higher retention rates than discretionary and infrequent ones, suggesting they are "less susceptible to shocks and changes in consumer demand."⁸ As stated by Chapple et. al., "the implications of these

⁶ Chapple, K., & Jacobus, R. (2009). Retail Trade as a Route to Neighborhood Revitalization. In M.A. Turner, H. Wial, & H. Wolman (Eds.), *Urban and Regional Policy and its Effects* (Vol. II, pp. 19-68). Washington, D.C.: Brookings Institutions Press.

<http://www.rjacobus.com/resources/archives/Retail%20Trade%20Proof.pdf>

⁷ Meltzer, R., & Capperis, S. (2016). Neighbourhood differences in retail turnover: Evidence from New York. *Urban Studies*, 0042098016661268. <https://doi.org/10.1177/0042098016661268>

⁸ Chapple and Jacobus, page 10.

distinctions is that decreasing shares of frequent and necessary establishments or increasing shares of discretionary and infrequent establishments could indicate commercial gentrification.”⁹

In their 2017 paper, Chapple et. al. state that only a few studies have explored the impacts of commercial gentrification, producing mixed results. For example, with regard to a paper published by R. Meltzer and J. Schuetz in 2012,¹⁰ a paper written by L. Freeman and F. Braconi in 2004,¹¹ and other previously referenced works, they state:

- “In a study of neighborhood retail change in residentially-gentrifying neighborhoods of New York City, Meltzer and Schuetz (2012) found that retail access improved at a notably higher rate in low-value neighborhoods that ‘experienced upgrading or gentrification’, as ‘low-income neighborhoods have lower densities of both establishments and employment, smaller average establishment size, and less diverse retail composition’ and ‘fewer chain stores and restaurants, somewhat contrary to conventional wisdom’.”¹²
- “Interviewing residents of changing New York neighborhoods, Freeman and Braconi (2004) found that most lauded the return of supermarkets and drugstores, rather than lamenting the invasion of restaurants and expensive boutiques. The authors argued that if this does not lead to widespread displacement, gentrification can help to ‘increase socioeconomic, racial, and ethnic integration’ in both resident and commercial areas.”¹³
- “Some argue that under certain conditions, commercial changes associated with gentrification may benefit local businesses. If transit investments, for example, result in increased pedestrian traffic from transit riders and station-area development, this could lead to more patrons for nearby businesses, higher sales, and more employees in commercial districts.”¹⁴
- “Commercial districts may also benefit from forces associated with residential gentrification. As a neighborhood’s consumer income and population density increase, business sales may also increase because of more customers and/or more disposable incomes (Meltzer, 2016). However, even if changes to a local consumer base result in neighborhood economic development, the benefits for businesses could be outweighed by the rising rents and operating costs. In addition, different tastes and a different socio-demographic composition of a new consumer base could result in stagnant or falling sales for certain existing businesses (Ibid.)”¹⁵

Despite the research findings identified and summarized in the Chapple et. al. September 2017 study, in somewhat of a summary statement of the state of the current literature and their own findings regarding the TOD and commercial gentrification linkage, Chapple et. al. state “The relationship

⁹ Ibid.

¹⁰ Meltzer, R. & Schuetz, J. (2012) Bodegas or Bagel Shops? Neighborhood Differences in Retail and Household Services. *Economic Development Quarterly*, 26(1), 73-94. <https://doi.org/10.1177/089124211430328>

¹¹ Freeman, L., & Braconi, F. (2004). Gentrification and Displacement New York City in the 1990s. *Journal of the American Planning Association*, 70(1), 39-52. <https://doi.org/10.1080/019443604089076337>

¹² Chapple and Jacobus, page 10.

¹³ Ibid.

¹⁴ Ibid.

¹⁵ Ibid.

between residential and commercial gentrification also needs further exploration. The results of this study are rather mixed, and it is not clear when and where one type of gentrification follows the other, or which comes first. We suspect that there may not be a universal pattern, and this relationship may change from one neighborhood to the other.”¹⁶ For example, in discussing their qualitative case study research in Oakland, Chapple et. al. indicate that survey responses from some businesses “suggest that rent increases - more than changing consumer preferences - may be a factor driving displacement of businesses.”¹⁷ Yet in their literature review summary, they indicate “In short, the academic literature has only just begun to explore commercial gentrification. Much about the phenomenon is not yet fully understood, including what kind of effects commercial gentrification can be expected to have to area employees, consumers, and residents.”¹⁸

ALH Economics reached out to Rachel Meltzer of the New School to discuss some of her research findings and overall oeuvre with regard to commercial displacement and gentrification. The primary purpose of this outreach was to discuss Meltzer findings reported on by ALH Economics in a prior report prepared for the San Francisco Planning Department associated with another residential project appeal in the Mission District. In that report, ALH Economics extrapolated a finding from Meltzer’s above-referenced 2016 study, based on case study analysis in three New York neighborhoods, and applied the finding directly to the Mission District. This finding pertained to a conclusion presented by Meltzer, 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.”¹⁹ ALH Economics then directly applied this statement to the Mission District (specifically the LCD sub-area), stating that it was 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.

In discussion with Meltzer, ALH Economics now recognizes that the reported finding comprised an average effect, and that Meltzer’s findings vary by neighborhood. Thus, it may not be reasonable to apply an aggregated finding to a specific neighborhood not included as part of Meltzer’s study. Meltzer indicated that neighborhood-based findings are more idiosyncratic and qualitatively nuanced than the citywide average effect, and she suggested an individual case study in her analysis might be a better match to the Mission District than the aggregated New York City effect. This case study is the Sunset Park neighborhood in southwest Brooklyn, which has a predominant Hispanic and Asian population base and is a commercial shopping destination. However, the Sunset Park neighborhood has other characteristics that are not well-matched with the conditions in the Mission District, such as large swaths of land zoned for manufacturing, and the attraction of big chain stores to this manufacturing section, such as Home Depot and Costco. Thus, ALH Economics believes the findings specific to the Sunset Park neighborhood are not apt for the Mission District.

ALH Economics engaged in a generalized discussion with Meltzer, covering a range of topics relevant to her research on commercial displacement and gentrification. Some of what was discussed included San Francisco’s formula retail store controls, which are not present in the communities Meltzer studies, and how these controls would likely mitigate against the worst displacement effects she sees in some of her research. The discussion also included a brief reference to a study prepared by Meltzer on gentrification’s impacts on local employment and its nuanced findings, including questioning if there

¹⁶ Ibid, page 5.

¹⁷ Ibid., page 74.

¹⁸ Ibid, page 15.

¹⁹ Meltzer, 2016, page 80.

is an upside to the introduction of new businesses, bringing employment opportunities not already present in a neighborhood. Melzer indicated this study also probed the nature of a “local” job, and if there are circumstances where there was a bump up in local jobs, the type of businesses that tended to hire more locally, and if they were good paying and representative of upward mobility. The discussion with Meltzer did not end with any specific conclusions reached regarding commercial gentrification and displacement, and applicability to the Mission District. However, the conversation highlighted that there are many nuanced questions and findings that continue to provide strong fodder for continuing research on the topics.

IMPLICATIONS OF LITERATURE REVIEW

The Mission District, including areas near 2918 Mission Street, is a varied commercial shopping district, characterized by a high proportion of Latino-oriented retailers, restaurants, and services, but also other restaurants catering to a variety of personal incomes as well as bars, 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. Other commercial tenants in the general area, several blocks from the 2918 Mission Street development site, such as along Valencia Street, where there is a wider array of commercial operations, including more upscale eateries, boutiques, food purveyors, and accessory stores.

Valencia Street exemplifies the type of commercial gentrification discussed in some of the research papers summarized above, comprising a commercial area that has experienced significant change in past decades, including retail upscaling. In a previous Mission District residential project appeal, the appellants claimed that new residential development in the Mission District would result in the type of gentrification that occurred on Valencia Street. As demonstrated by research conducted by the City of San Francisco Planning Department, , however, the change in the Valencia Street Corridor occurred *in the absence* of intense new residential development, which suggests that other factors aside from residential development and the influx of a changing population base may be more directly associated with commercial gentrification in this area. The example of Valencia Street is relevant because of its proximity to the project and location within the Mission District. This most comparable and potent nearby example of commercial gentrification happened without and prior to significant new market-rate residential construction in the corridor. In fact, some of the most significant and transformative recent new housing construction on Valencia Street was Valencia Gardens (bet 14th and 15th), a very large 100% BMR project, which replaced the distressed and blighted older public housing development on that site. Thus, based on the Valencia Street evidence presented and the above academic literature summary, there is not clear evidence that new residential development in and of itself will cause gentrification of commercial space, including in the areas around the 2918 Mission Street project.

To further probe this analytically, ALH Economics examined the potential for neighborhood-oriented retail and commercial demand generated by the Pipeline projects within one-half mile of 2918 Mission Street, as well as an additional one-quarter mile radius, whose residents could potentially generate retail and services demand near 2918 Mission Street. The analysis estimates the amount of space likely to be supported by the Pipeline households and assesses if this could result in a change of the composition of the commercial base within one-half mile of 2918 Mission Street. As noted previously, this commercial base currently includes a high proportion of Latino-oriented retailers, restaurants, and services, but also includes a wide variety of other restaurants, book stores, food markets, general merchandise store/housewares stores, beauty and nail salons, jewelry stores,

laundromats, a variety of other neighborhood-oriented businesses, some more upscale food and retail establishments, and a limited number of commercial vacancies.

To summarize the following findings, the analysis finds that the amount of neighborhood-oriented retail demand generated by the identified Pipeline projects 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, ALH Economics concludes that existing commercial establishment displacement is unlikely to occur as a result of the residential development Pipeline in or near 2918 Mission Street.

RESIDENTIAL PIPELINE

San Francisco's Development Pipeline for the fourth quarter of 2017²⁰ was examined to identify proposed residential projects near 2918 Mission Street. 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
- Projects that are under construction

The Pipeline projects reflected in the analysis include projects of 7 or more net dwelling units. This threshold was selected because, as of the date of the Pipeline report, it matched the San Francisco Planning Department's definition of moderate to large projects, which require a preliminary project assessment (PPA).²¹

Projects near 2918 Mission Street were identified based on a radius of one-half mile from the site, while other projects near but outside this area were identified within an additional one-quarter mile radius. These geographies were selected because of their walkability, with sites within one-half mile of 2918 Mission Street deemed very walkable for general shopping purposes, while the walkability of sites in the additional area could partially overlap with this primary one-half mile radius area. There may be yet other projects close to these areas, but to assess demand for neighborhood-oriented retail and services this analysis focuses on projects in the greatest proximity to 2918 Mission Street. The projects, their net unit counts, and net new retail square footage are listed in Table 1 on the following page. The Pipeline project locations are mapped in Map 1, which indicates size range of project by location relative to the 2918 Mission Street project site. Summaries of the net unit counts and retail square footages are presented below in Table 2.

²⁰See <https://data.sfgov.org/dataset/SF-Development-Pipeline-2016-Q3/k7mk-w2pg> for the database.

²¹ The PPA requirement was modified on April 13, 2018 to apply to projects of 10 or more dwelling units.

Table 1
Pipeline Projects Net New Units (1)
Projects Within One-Half Mile and Three-Quarter Miles of 2918 Mission Street
By Location, Approvals Status, Type of Housing Units, and Net New Retail

Project Location and Status	Total Net Units	Market Rate	Affordable Housing Units (2)			Affordability Target	Net New Retail Sq. Ft.
			Rental	Owner	Total		
One-Half Mile Radius Projects							
<i>Entitled</i>							
1515 SOUTH VAN NESS AV	157	138	19	0	19	90% AMI;	1,451
2675 FOLSOM ST	117	98	19	0	19	90% AMI;	0
1296 SHOTWELL ST	94	0	94	0	94	30% AMI; 60% AMI;	0
1198 VALENCIA ST	49	43	0	6	6	90% AMI;	5,050
3620 CESAR CHAVEZ ST	24	24	0	0	0		672
2600 HARRISON ST	20	20	0	0	0		0
Sub Total Projects	461	323	132	6	138		7,173
<i>Non-entitled</i>							
2918 MISSION ST (3)	75	67	8	0	8	50% AMI; 55% AMI	6,651
3314 CESAR CHAVEZ ST	50	50	0	0	0		1,740
1278 - 1298 VALENCIA ST	35	35	0	0	0		0
3230 & 3236 24TH ST	21	21	0	0	0		4,150
606 CAPP ST	20	20	0	0	0		0
2632 MISSION ST	16	16	0	0	0		7,766
2610 MISSION ST	8	8	0	0	0		0
3310 MISSION ST	8	8	0	0	0		0
856 CAPP ST	8	8	0	0	0		0
981 - 987 VALENCIA ST	8	8	0	0	0		0
Sub Total Projects	249	241	8	0	8		20,307
Total One-Half Mile Radius	710	564	140	6	146		27,480
Projects Within Additional One-Quarter Mile Radius (4)							
<i>Entitled</i>							
No projects meet the minimum threshold of 7 net units							
<i>Non-entitled</i>							
793 SOUTH VAN NESS AV	73	62	NA	NA	11	NA	4,577
2300 HARRISON ST	9	9	0	0	0		2,950
2410 MISSION ST	8	8	0	0	0		0
2799 24TH ST	7	7	0	0	0		-269
Sub Total Projects	97	86	0	0	11		7,258
Total Pipeline	807	650	140	6	157		34,738

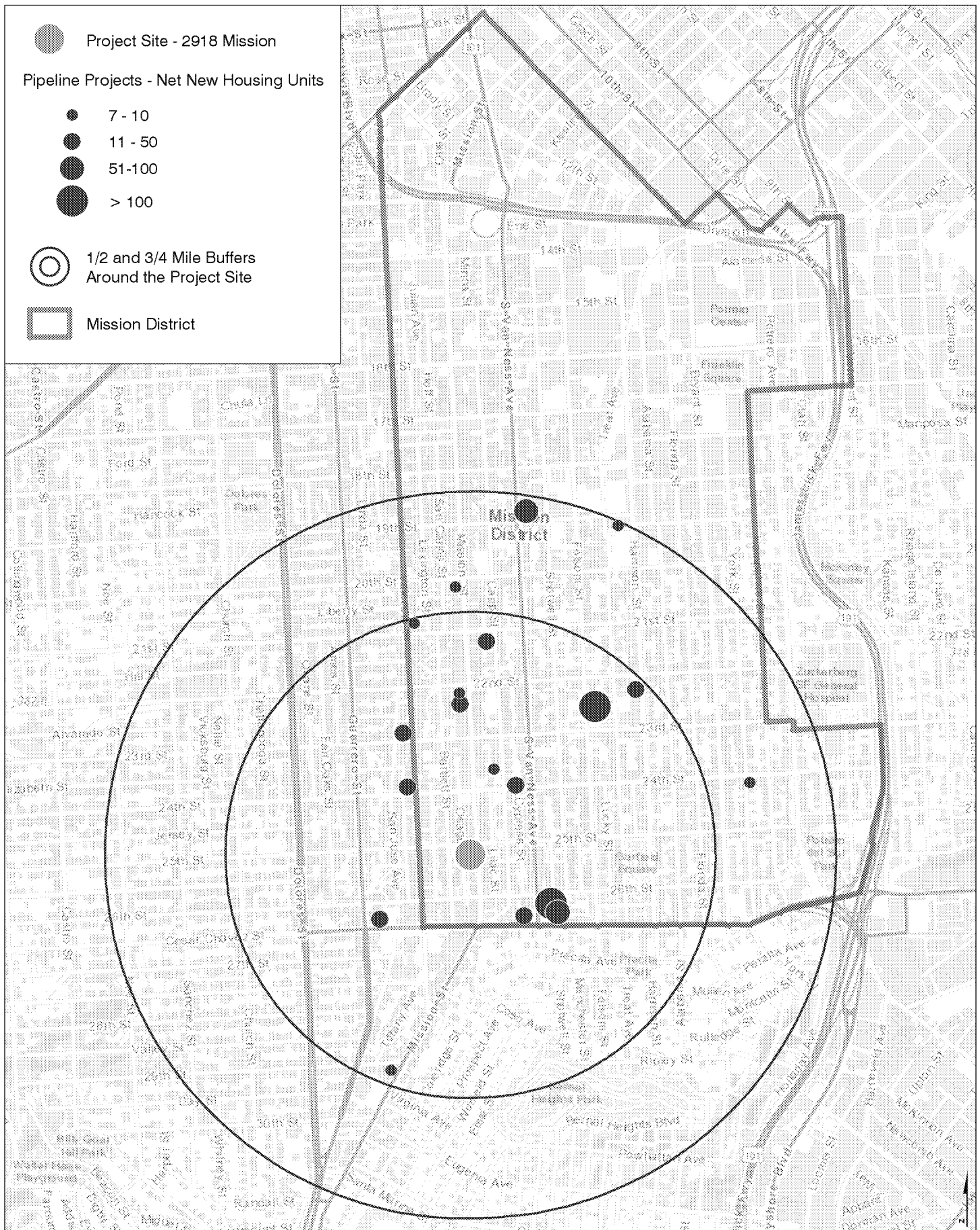
Sources: San Francisco Development Pipeline, 2017, Q4; City and County of San Francisco Planning Department; RRT Partners LLC; and ALH Urban & Regional Economics.

(1) This pipeline includes projects of 7 or more net dwelling units. This threshold was selected because it matches the San Francisco Planning Department's definition of moderate to large projects at the time the pipeline was assembled, which require a preliminary project assessment (PPA). That threshold was subsequently changed to 10 in April 2018.

(2) All available information from the San Francisco Development Pipeline is provided. Unless otherwise noted, the analysis assumes the tenure of all units is rental.

(3) Project information provided by RRT Partners LLC.

(4) The geography reflected by these projects is another 1/4 mile radius beyond the 1/2 mile radius around 2918 Mission Street. Thus, this area extends out up to 3/4 miles from 2918 Mission Street.



Information extracted from the Development Pipeline indicates a total of 807 net new housing units. This includes 650 market rate units, comprising 564 in the one-half mile radius and 86 in the additional one-quarter mile radius. The Pipeline projects additionally include 146 affordable housing units in the one-half mile radius and 11 in the one-quarter mile radius, totaling 157 units overall. These comprise 21% of all units in the one-half mile radius and 11% of units in the additional one-quarter mile radius, for a cumulative total of 19% of all units. Most of the affordable housing units are rental, but a small number are owner units. In total, there are 710 units planned in the one-half mile radius and 97 units planned in the additional one-quarter mile radius.

Table 2
Summary of Pipeline Projects Net New Units and Net New Retail Sq. Ft.

Project Location and Status	Total Net Units	Units by Type		Net New Retail Sq. Ft.
		Market Rate	Affordable	
One-Half Mile Radius Projects				
Entitled	461	323	138	7,173
Non-entitled	249	241	8	20,307
Total	710	564	146	27,480
Projects Within Additional One-Quarter Mile Radius (4)				
Entitled	0	0	0	0
Non-entitled	97	86	11	7,258
Total	97	86	11	7,258
Total Pipeline	807	650	157	34,738

Source: See Table 1.

In addition, these projects include 27,480 net new square feet of retail space in the one-half mile radius and another 7,258 square feet in the additional one-quarter mile radius. This is a total of 34,738 square feet of net new retail space.

This residential pipeline reflects potential interest in new housing production in the Mission District. However, because of the nature of development and the development process in San Francisco, the pipeline units may not all be developed. Moreover, the timing of development is uncertain, such that only a portion of the Pipeline units that are built will be delivered to the market in any given year.

For context, based upon the City's Housing Inventory reports, a total of 2,379 net new housing units were built in the Mission between 2001 and 2017. This is equivalent to an average of 140 units per year,²² and boosted the Mission District's housing units by 9.9% over 2010.²³ In comparison, the City as a whole gained 41,935 net new housing units between 2001 and 2017,²⁴ comprising a total boost of 11.4%.²⁵ These figures indicate that new housing development in the Mission since 2010 slightly

²² See San Francisco Planning Department, "San Francisco Housing Inventory for years 2001 through 2017. Reports can be found at: <http://sf-planning.org/citywide-policy-reports-and-publications>.

²³ Per the City's Housing Inventory for 2010 the Mission District had an estimated 24,001 housing units in 2010. See http://default.sfplanning.org/publications_reports/2010_Housing_Inventory_Report.pdf.

²⁴ See San Francisco Planning Department, "San Francisco Housing Inventory for years 2001 through 2017. Reports can be found at: <http://sf-planning.org/citywide-policy-reports-and-publications>.

²⁵ Per the City's Housing Inventory for 2010 the City had an estimated 368,346 housing units in 2010. See http://default.sfplanning.org/publications_reports/2010_Housing_Inventory_Report.pdf.

lagged the City of San Francisco as a whole. However, these rates of development likely did not keep pace with housing demand, resulting in strong rental rate surges annually since 2010, softening only recently beginning in 2016 (see next report section on rent trends).

PIPELINE RETAIL DEMAND

Approach to Estimating Residential Retail Demand

ALH Urban & Regional Economics prepared a generalized 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 percent of household income spent on housing. For the affordable units, incomes are based on the maximum income per the % of AMI expectations per project.

Since the Pipeline projects are planned and not in lease up phase, project rents for the market-rate units are not available. In addition, unit counts by number of bedrooms are also not available. Therefore, as this is a generalized analysis, one overall average market-rate rental rate is assumed for the Pipeline projects. This rate is \$4,500, which is the median asking rent for San Francisco rental units in April 2018 as compiled by Zillow.²⁶

Exhibit 1 presents the monthly rent assumptions for all the planned Pipeline market-rate apartments. The average household income for the market-rate rental 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 \$162,000 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. For the market-rate owner units, for the lack of any further unit information, the analysis includes a generic assumption of \$430,000 annual household income, based upon a March 2018 median San Francisco home sale price of \$1.3 million as noted by Zillow²⁷ and the assumption that annual household income is one-third the housing price.

For the affordable units, the analysis assumes the maximum household income by percent of AMI, and where unit information is lacking, assumes an average three-person household. These assumptions are explained in the footnotes to Exhibit 1, and result in average annual household income estimates ranging from \$48,800 for the 2918 Mission Street project to \$95,000 for two other projects.

The amount households spend on retail goods varies by household income. Data published by the U.S. Bureau of Labor Statistics, 2016 Consumer Expenditures Survey, provides information regarding household spending on retail based upon income. This information is presented in Exhibit 2, pursuant to ALH Economics estimates of the percentage of income spent on retail goods based on the type of

²⁶ See <https://www.zillow.com/research/data/>, accessed June 6, 2018.

²⁷ Ibid.

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 are 25% of income for the market rate units and 31% to 39% for the affordable 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 by type of housing unit. The findings are summarized below in Table 3.

Table 3
Summary of Pipeline Projects Net New Units Household Spending on Retail

Project Location	Number of Households	Total Annual Retail Demand
One-Half Mile Radius Projects	682	\$27,914,800
Projects Within Additional One-Quarter Mile Radius	93	\$3,688,600
Total Pipeline	775	\$31,603,400

Source: See Exhibit 1.

The annual per household retail spending figures range from a low of \$19,200 for some of the households in the affordable rental units to \$45,000 for the market-rate ownership units. For the purpose of these projections, the market-rate units are assumed to operate at 95% occupancy and the affordable units at 100% occupancy.²⁸ Therefore, given the occupancy assumptions, the total demand comprises \$27.9 million for the households in the one-half mile radius Pipeline units and \$3.7 million for the households in the additional one-quarter mile radius Pipeline households. The grand total is \$31.6 million in retail demand. Notably, this is demand for all retail sales, not just neighborhood-oriented retail, which is the type of retail demand one would most expect these households to exhibit for area retail.

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 2016 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 5.6% on home furnishings & appliances to a high of 17.2% on food & beverage stores (e.g., grocery stores). Other key categories include 12.0% on general merchandise (e.g., department and discount stores), 14.6% on food services & drinking places (e.g., restaurants and bars), and 13.1% on other retail, which includes drug stores, electronics,

²⁸ Per RealAnswers, a research group that tracks San Francisco apartment rents, in 2016 the apartment occupancy rate among investment grade properties was 95.3%, which rounds to 95%. This is the most recent standardized information available on rental vacancy rate in San Francisco.

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 4, below.

Table 4. Assumed Percentage of Pipeline Residents Spending at Neighborhood-Oriented Outlets

Retail Category	Percent Assumed Neighborhood-Oriented
Motor Vehicle & Parts Dealers	0%
Home Furnishings & Appliances	15%
Building Materials & Garden Equipment	10%
Food & Beverage Stores	80%
Gasoline Stations	0%
Clothing & Clothing Accessories	20%
General Merchandise Stores	20%
Food Services & Drinking Places	75%
Other Retail Group (6)	20%

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, the increasing incidence of online shopping, 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 33% of retail spending by Pipeline households comprises neighborhood-oriented spending. This percentage is largely influenced by the high proportion of food and beverage sales and food services and drinking place sales anticipated to comprise neighborhood-oriented purchases.

The aggregated retail demand estimates for the one-half mile radius and additional one-quarter mile radius 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 2018 sales estimates. The resulting sales per square foot figures, summarized from data presented in Exhibit 4, range from a low of \$310 per square foot for general merchandise stores to a high of \$671 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. For service-oriented retail, the analysis assumes neighborhood-oriented

demand comprises 75% of total service demand. This assumption recognizes the strong neighborhood orientation of these services.

The Pipeline projects include those located in the one-half mile radius and those located in the additional one-quarter mile radius. Much of the neighborhood-oriented demand generated by households within the one-half mile radius could be directed at commercial operations located in that area, but some could also be directed to commercial operations within walking distance of the area or beyond, and thus outside the one-half mile radius. This includes the net new retail space planned in the Pipeline projects. In like manner, some of the neighborhood-oriented demand generated by households in the additional one-quarter mile radius could be directed to commercial operations in the one-half mile radius. However, the majority of demand generated by these households could most likely be directed to commercial operations located elsewhere instead of the one-half mile radius, 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 one-half mile radius, with other demand directed towards businesses in other neighborhoods, including within walking distance of the Pipeline households.

One-half Mile Radius Pipeline Projects Neighborhood-Oriented Retail and Service Findings. The demand findings for the Pipeline projects in the one-half mile radius indicate estimated support for 25,500 square feet of neighborhood-serving retail and commercial space (see Exhibit 5). The level of demand generated by the 2918 Mission Street Project is only 2,500 square feet (see Exhibit 6). This means the remaining, other Pipeline one-half mile radius projects are estimated to generate demand for 23,200 square feet in neighborhood-serving retail and commercial space. As noted, the majority of this demand could be directed within the one-half mile radius, 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 one-half mile radius, thus not all the 25,500 square feet of demand may be directed at one-half mile radius establishments.

Additional One-Quarter Mile Pipeline Projects Neighborhood-Oriented Retail Findings. The retail demand findings for the Pipeline projects within an additional one-quarter mile of 2918 Mission Street will generate estimated support for 3,400 square feet of neighborhood-serving retail and commercial space (see Exhibit 7). This includes projects within one-half and three-quarter miles of 2918 Mission Street, 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 additional one-quarter mile radius projects, with only a portion likely directed toward one-quarter mile radius operations. Thus, only a portion of the 3,400 square feet of demand could comprise demand for retail and services located in the one-half mile radius area.

POTENTIAL IMPACTS ON COMMERCIAL GENTRIFICATION

The estimated composition of the neighborhood-oriented retail and commercial space demand generated by the Pipeline projects within the three-quarter mile radius of 2918 Mission Street is presented in Exhibit 8 and summarized below in Table 5. The figures total 20,448 square feet of retail space, 8450 square feet of service space (e.g., service retail, such as finance, personal, and business services), resulting in a rounded total of 28,900 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 3,000 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 one-half mile radius area. Moreover, a large portion of this demand comprises grocery store demand, which could help support the new Grocery Outlet store within the one-half mile area at 1245 South Van Ness, the location of the former DeLano’s Market closed since 2010, as well as other existing small markets in the area.

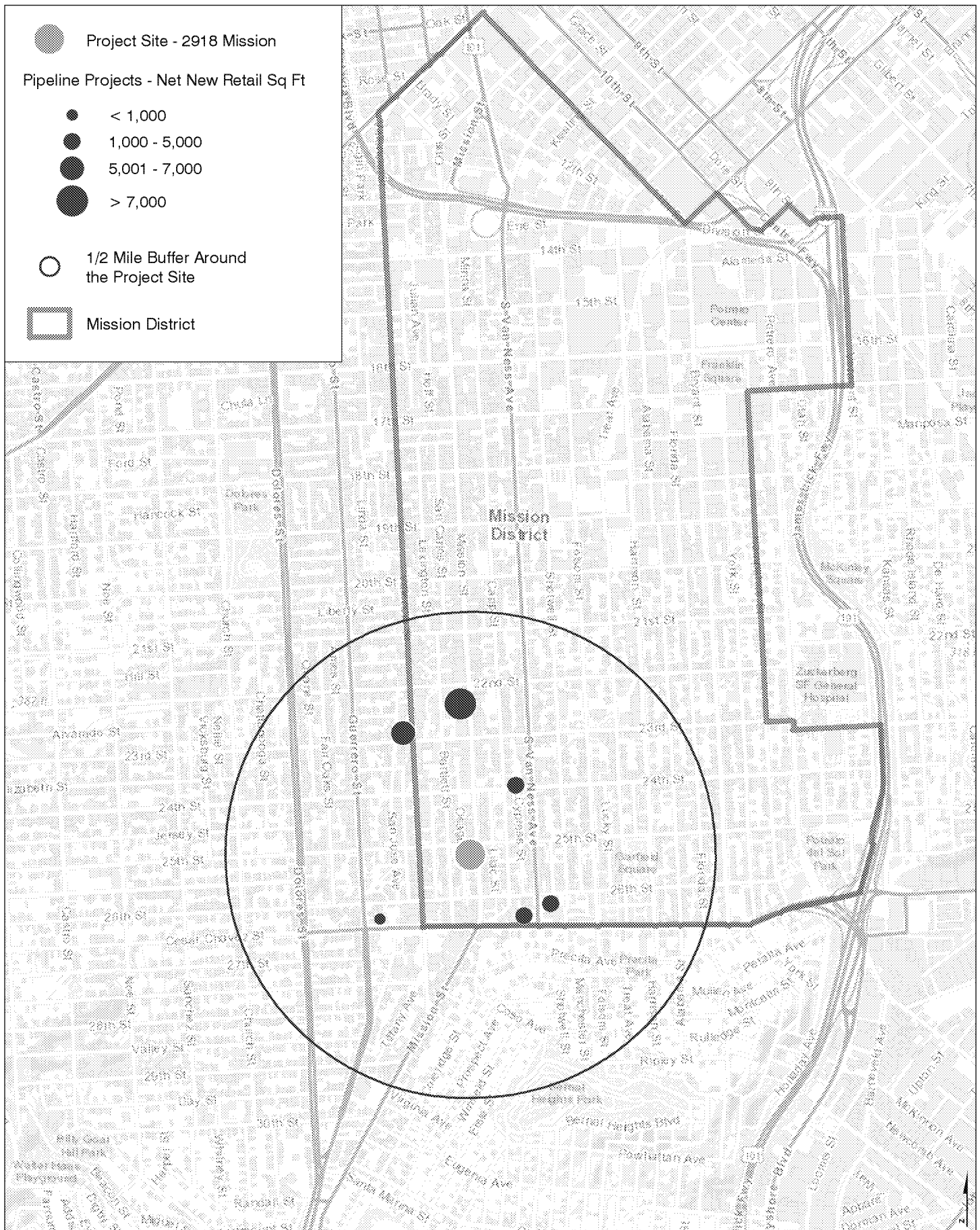
**Table 5. Pipeline Projects Neighborhood-Oriented Retail Demand
One-Half Mile and Three-Quarter Miles Radius Around 2918 Mission St.
Commercial Square Feet of Demand**

Retail Category	Square Feet Supported		Total
	One-Half Mile	Add'l 1/4 Mile	
Motor Vehicles and Parts	0	0	0
Home Furnishings and Appliances	729	96	825
Building Materials and Garden Equip.	616	81	697
Food and Beverage Stores	6,012	794	6,807
Gasoline Stations	0	0	0
Clothing and Clothing Accessories	887	117	1,004
General Merchandise Stores	2,269	300	2,569
Food Services and Drinking Places	5,839	772	6,611
Other Retail Group	1,709	226	1,935
Subtotal	18,061	2,387	20,448
Additional Service Increment	7,464	986	8,450
Total	25,526	3,373	28,899
Total Rounded to Nearest 100	25,500	3,400	28,900
Net New Retail Planned	27,480	7,258	34,738

Sources: Exhibits 5, 7, and 8; and Table 1.

The summary in Table 5 also includes the net new retail space planned in the Pipeline projects in each radius area and total. As noted earlier, this totals 27,480 square feet in the one-half mile area and 7,258 square feet in the additional one-quarter mile area, for a combined total of 34,738 square feet. The geographic distribution of the net new retail space is presented in Map 2, depicting the location of the net new retail space by general size range.

As these figures indicate, there is close to equilibrium between the amount of neighborhood-oriented retail demand and the net new amount of planned retail space in Pipeline projects in the combined areas. 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 these study areas. Thus, ***it is not a likely result that new residential developments in the one-half mile radius around the 2918 Mission Street project would exert pressure on the existing retail base that would lead to displacement of existing tenants.*** This supports our earlier assumption that there is a lack of evidence to support the premise that new residential development causes displacement of existing tenants from the neighborhood’s 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 one-half mile area. 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 one-half mile radius has approximately 1.4 million square feet of retail space.²⁹ If 75% of the one-half mile radius demand and 33% of the additional one-quarter mile radius demand were specifically directed to one-half mile radius establishments, this would equate to just about 20,200 square feet of space, or 1.5% of the existing commercial base in the one-half mile radius. This is a small increment of the existing space, and unlikely to be a sufficient share to result in commercial market shifts. However, as the Pipeline projects will be increasing the retail base, there is no 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 one-half mile radius around the 2918 Mission Street project, or the additional one-quarter mile radius area.***

This commercial displacement finding is reinforced by analysis regarding the existing balance between retail supply and demand in the one-half mile radius area as well as the Mission District. As noted above, the one-half mile area is estimated to have 1.4 million square feet of retail space. The Mission District has 3.0 million square feet of retail space.³⁰ ***Demand analysis for existing households in the Mission indicates that the Mission District is clearly characterized by retail attraction, meaning it attracts more retail sales, or demand, than is supportable by its population base.*** A similar finding could be made for the one-half mile radius area, although not as markedly as for the Mission District. These findings are demonstrated by the analysis in Exhibits 9 through 12, with Exhibit 9 presenting the household counts and weighted average household incomes for area households in 2016.³¹ These household counts and average household incomes are 15,659 and \$110,317 in the Mission, respectively, and 11,275 and \$136,422 in the one-half mile radius, respectively. The demand analysis for each area was prepared using the same methodology and assumptions as for the Pipeline households, with Exhibit 11 estimating total retail demand and Exhibits 11 and 12 distributing these sales across retail categories and converted to supportable space.

The retail demand analyses are summarized in Table 6, which indicates that for the Mission as a whole, residents are estimated to generate total retail demand for 1.2 million square feet, with about 480,000 square feet of this amount comprising neighborhood-oriented demand. Comparable figures for one-half mile radius households are 920,000 square feet of total demand, including about 350,000 square feet of neighborhood-oriented demand.

These demand estimates indicate that the supply of retail in the Mission as a whole outstrips locally-generated demand. In the Mission, the total retail supply is 2.4 times the amount of retail supportable by its residents, and 6.3 times the neighborhood-oriented demand generated by residents. In the one-half mile radius the total supply exceeds the amount supportable by residents, but to a lesser extent

²⁹See <https://data.sfgov.org/Housing-and-Buildings/Land-Use/us3s-fp9q> for the database.

³⁰ 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>.

³¹ The household count and income figures for the one-half mile radius are derived from a procedure that estimates the area demographics based upon the percentage share of each constituent census tract located in the one-half mile radius. These shares were estimated by ALH Economics based upon ArcGIS analysis of the one-half mile area superimposed over area census tracts.

than the Mission District as a whole. Nevertheless, the one-half mile area total retail supply is 1.5 times the amount of retail supportable by its residents, and 3.8 times the neighborhood-oriented demand, suggesting this area as well is also characterized by 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, especially in the Mission District.

Table 6. Mission and LCD Retail Inventory and Total and Neighborhood-Oriented Commercial Square Feet of Demand

Area	Retail Inventory	Square Feet Supported		Supply Multiplier (1)	
		Total	Neighborhood-Oriented	Total	Neighborhood-Oriented
Mission District	3,022,780	1,246,300	479,500	2.4	6.3
One-Half Mile Radius	1,362,900	920,900	354,300	1.5	3.8

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 11 and 12; and ALH Urban & Regional Economics.

(1) This metric comprises retail inventory divided by total square feet of retail supported, or demand. If the metric is ≥ 1.0 then there is a surplus of retail space relative to local demand, thus requiring demand from outside the area to support the retail inventory.

Table 7 presents another way of looking at the supply of retail in the Mission District compared to its resident base and the impact of the Pipeline households. This table identifies the number of Pipeline households, number of Mission District households, and calculates the approximate number of households needed to support the Mission District retail base. This number, which ranges from 37,979 to 98,715, comprises the number of households needed to support the retail if the Mission District captured 100% of all retail demand (37,979 households) or just 100% of the neighborhood-retail portion of demand (98,715). The high estimate of 98,715 households assumes capture of all neighborhood-serving retail. Thus, if some households make neighborhood goods purchases outside the Mission District, this figure would be even higher, which is likely the case.

Table 7. Mission District Retail Support Resident Household Deficits

Characteristic	Figure	
Number of Pipeline Households	775	
Mission District Households	15,659	
Households Needed to Support Mission District Retail (1)	37,979	- 98,715
Mission District Household Deficit to Support Retail	22,320	- 83,056
Pipeline Households as a Percent of Deficit	3.5%	- 0.9%

Sources: Table 3; Exhibit 10; Table 6; and ALH Urban & Regional Economics.

(1) Comprises the number of Mission District households multiplied by 2.4 and 6.3, which are the supply multipliers in Table 6, indicating that the Mission District's retail supply is estimated to be 2.4 times the amount of retail supportable by residents, at 100% of retail spending potential, and 6.3 times the amount of neighborhood-oriented retail supportable by residents.

Given the estimated number of existing Mission District households and the number needed to support the Mission District retail base, the figures in Table 7 indicate that an additional 22,320 to 83,056 households support the Mission District retail base beyond the existing residents. The 775

potential Pipeline households would comprise only 0.9% to 3.5% this amount, indicating that the new Pipeline households will have a very insignificant impact on the Mission District retail base.

The figures in Table 7 are generalized figures, based upon generalized sales assumptions. To the extent sales in the Mission District vary from the assumed levels, then the estimated household counts required to support the retail base will differ. However, the analysis amply demonstrates that the Mission District is clearly a regional shopping destination, as is the one-half mile radius area. Broad citywide and regional socioeconomic change 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 Mission District exceeds the demand from existing residents and is largely supported by persons living beyond the area, new residential development within the Mission 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 at 2918 Mission Street and surrounding areas will be delivered.

San Francisco Apartment Rent Trends

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 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. But overall, the overall trend is one of rising rents.

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.), tracked these trends generally for the San Francisco apartment market for a 20-year period. RealAnswers, however, only included “investment grade” properties with 50 or more units, which, as of December 2016,³² was 24,066 units, or about 11% of San Francisco’s 2016 renter-occupied housing units.³³ 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 13 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 represented 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 2016.³⁴ Thus, rents increased at a rate of 2.6% per year over inflation. During this time, there were some periods of strong rental rate growth (1996-1997, 1999-2000, 2010-2014), as well as a few periods marked by declining rents (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

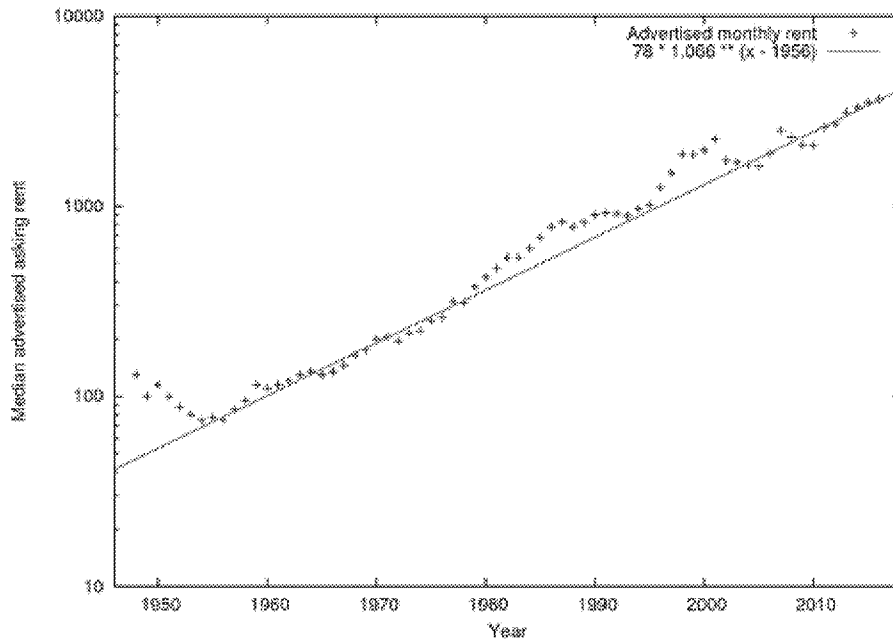
³² RealAnswers ceased operation after this date, thus more current information based on these properties is not available.

³³ Pursuant to the U.S. Census for 2016. See:

<https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=CF>

³⁴ 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.

rent increase of 6.6% (not adjusted for inflation).³⁵ 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.



Sources: Zillow.com; and ALH Urban & Regional Economics.

As shown by the RealAnswers data in Exhibit 13, San Francisco rents experienced a significant change in 2016, when the rate of recent rent increases for investment grade units slowed 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 slowdown in the rental market for the represented investment grade rental units is mirrored in other rental real estate sources, including Zillow, a national real estate and rental marketplace firm that tracks over 450 markets. The graph presented on the following page presents month-over-month rate changes in San Francisco median market rents from January 2014 to March 2018, thus demonstrating the trend beyond 2016. The data presented by Zillow indicate that median rental rates actually decreased overall in 2016. However, in contrast to RealAnswers, Zillow does not track or sample the same units over time. Instead, Zillow reports apartment listings by unit type, and thus comprises a different random set of units every month. As such, the Zillow trend may be less robust than the earlier RealAnswers trend.

As shown by the above graph, median rental rate growth in San Francisco citywide turned negative in January 2016 and continued to be negative throughout the year and into early 2017. Since then, monthly rent growth has been weak – either slightly positive or negative - and has not yet returned to the levels experienced in 2014 and 2015.

³⁵ <https://experimental-geography.blogspot.com/2016/05/employment-construction-and-cost-of-san.html>

San Francisco Metropolitan Area and National Trends

Yardi Systems, Inc., a company that monitors 50+-unit apartment complexes nationally with a survey called the Yardi Matrix, also reports a slowdown in rent increases in the San Francisco metropolitan area, as shown in Table 8 below.

**Table 8. Yardi Matrix
Apartment Rent Growth Statistics**

Year	Year over Year Growth (April)		Projected Growth Year End San Francisco MSA
	San Francisco MSA	United States	
2015	12.5%	4.3%	11.1%
2016	6.5%	6.0%	10.5%
2017	-0.1%	2.0%	3.8%
2018	1.7%	2.4%	2.8%

Sources: "Matrix Monthly, Rent Survey April 2015" by Yardi Matrix; "Matrix Monthly, Rent Survey April 2016" by Yardi Matrix; "Matrix Monthly, Rent Survey April 2017" by Yardi Matrix; "Yardi Matrix Multifamily Monthly, April 2018" by Yardi Matrix; and ALH Urban & Regional Economics.

As Table 8 indicates, year-over-year rent growth in the San Francisco MSA (or metro area),³⁶ which was 12.5% for the year ended April 2015, had declined to 6.5% by April 2016, and was -0.1% as of April 2017. Very modest rent growth has returned in the past year through April 2018, reported at 1.7%.

Nationally, the year-over-year trend in rent growth indicates a different pattern, with 4.3% rental rate growth in 2015, followed by increased rent growth of 6.0% in 2016. Similar to the San Francisco MSA, the rate of rent growth declined in 2017, but was nonetheless positive at 2.0% versus slightly negative in San Francisco. While rent growth both in the San Francisco metro area and overall nationwide were slowing down, the slowdown was more pronounced in San Francisco. As of April 2018, U.S. rent growth continues at a modest pace of 2.4%, moderately higher than that in the San Francisco metro area.

Table 8 also presents Yardi's forecast of rent growth for the calendar year for the San Francisco metro area. As shown, this growth forecast declined from 11.1% in 2015 to 2.8% in 2018. Out of the 30 larger metro areas with 2018 calendar year rent forecasts in the Yardi Matrix Multifamily Monthly April 2018 report, San Francisco ranks 17th, with Sacramento being the top market at a 7.2% projected rent growth for 2018, followed by Phoenix at 5.0%. Washington DC is the lowest at 1.3%.

Neighborhood Trends

Looking at the neighborhood level, Zumper found that, out of the 43 San Francisco neighborhoods included in its report, 25 experienced a rent decrease in median one-bedroom rents from March 2017 to March 2018.³⁷ One neighborhood was flat (West of Twins Peaks), while the remaining 17

³⁶ Defined as the Standard Metropolitan Statistical Area, which includes San Mateo, Marin, Alameda, and Contra Costa counties.)

³⁷ <https://www.zumper.com/blog/2018/03/see-which-sf-neighborhoods-had-the-fastest-growing-rents-this-past-year/>

had a rent increase. In most of these neighborhoods, the rate of increase was less than 5.0%, but five areas did experience an increase in excess of 5.0% (Presidio Heights/Laurel Heights, Lower Haight, Tenderloin, Bayview, and Lower Pacific Heights). The Mission experienced an increase of 1.47% in its median one-bedroom rent. The overall increase citywide in one-bedroom rents is 4%, which follows an overall rent decline in 2016.

In terms of monthly rent amounts reported by Zumper, the Mission, with a median one-bedroom rent of \$3,450, ties with Russian Hill for the 10th most expensive neighborhood in San Francisco. The median one-bedroom rent in the Mission is slightly higher than that for San Francisco overall at \$3,400 as reported in the Zumper National Rent Report: April 2018. This report also provides data on the median rent for a two-bedroom unit in San Francisco at \$4,510. Although this report indicates that year-over-year rent increases citywide were in the low single digits (2.4% and 1.8%, respectively), San Francisco remains the most-expensive rental market in the U.S.³⁸

Based on evidence reviewed, rental rate growth in San Francisco has tapered off since the end of 2015, with either flat or declining rents, depending upon the source and its methodology. In most neighborhoods, such as the Mission District, rent increases have moderated. Although increases in rents will continue to occur based on historic market trends and irrespective of the market dynamics at any specific point in time, the San Francisco market remains in a slower period of rent increases. As noted above, however, City of San Francisco Planning Department analysis indicates that 71% of San Francisco's market-rate rentals are subject to rent control, thus many San Franciscan's are insulated from short-term annual increases that occur.

HOUSING PRODUCTION IMPACTS ON HOUSING COSTS

The following probes whether market-rate housing production at 2918 Mission Street and the surrounding area 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, six papers (including document links) stand out regarding 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>

³⁸ <https://www.zumper.com/blog/2018/03/zumper-national-rent-report-april-2018/>

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>
6. Karen Chapple, Paul Waddell, and Daniel Chatman, with Miriam Zuk, "Developing a New Methodology for Analyzing Potential Displacement," Prepared for the California Air Resources Board and the California Environmental Protection Agency, by the University of California, Berkeley and the University of California, Los Angeles, April 26, 2017. http://www.urbandisplacement.org/sites/default/files/images/arb_tod_report_13-310.pdf

The findings from the six 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 upward pressure on existing home prices and rents. 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. They further indicate that the extensive gentrification observed in Bay Area transit-served neighborhoods over the past 15+ years, including the Mission, was not caused by new development, as relatively limited development occurred during this time period in these neighborhoods.

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 relevant to the 2918 Mission Street project. The key findings of each study are highlighted.

California Legislative Analyst's Office (LAO)

March 2015 Study. The LAO'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.”³⁹

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.”⁴⁰

Thus, the LAO 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 the 2015 study, LAO’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 the LAO:

“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

³⁹ Mac Taylor, California Legislative Analyst’s Office, “California’s High Housing Costs: Causes and Consequences,” March 17, 2015, page 3.

⁴⁰ Ibid, page 12.

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.”⁴¹

In this paper, the LAO 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; and
- 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.

Further, the LAO cites that the lack of new construction can slow the process of older housing becoming available for lower-income households, both owners and renters. The LAO 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, the LAO *paper concludes that more private development is associated with less displacement*.⁴² The LAO cites that the analysis of low-income neighborhoods in the Bay Area suggests a link between increased construction of market-rate housing and reduced displacement. Specifically, the 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, the 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).⁴³ The LAO 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.⁴⁴ In communities without inclusionary housing policies, in low-income census tracts where market-rate housing construction was limited, the LAO also found displacement was more than twice as likely than in low-income census tracts with high construction levels.⁴⁵ This relationship between housing development and displacement remains statistically valid even after accounting for other economic and demographic factors.

⁴¹ Mac Taylor, California Legislative Analyst’s Office, “Perspectives on Helping Low-Income Californians Afford Housing,” February 2016, page 1.

⁴² The LAO defines a census tract as having experienced displacement if (1) its 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 LAO, 2016, page 13).

⁴³ Ibid, page 9.

⁴⁴ Ibid.

⁴⁵ Ibid, page 10.

City and County of San Francisco, Office of Economic Analysis

In 2015, at the request of the Board of Supervisors, the Office of Economic Analysis (OEA) prepared 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 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.”⁴⁶

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.”⁴⁷

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.⁴⁸ Finally, 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.”⁴⁹

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.***⁵⁰

⁴⁶ 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.

⁴⁷ Ibid, page 28.

⁴⁸ Ibid.

⁴⁹ Ibid.

⁵⁰ Ibid page 26.

University of California Berkeley, Institute of Governmental Studies

The cited study by Zuk and Chapple, from 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 the LAO in "Perspectives on Helping Low-Income Californians Afford Housing" (February 2016), wherein the LAO 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 the LAO's findings taking into consideration yet one more additional variable, e.g., production of subsidized housing. Zuk and Chapple also seek to determine if the LAO'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."⁵¹ 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.***"⁵² 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"⁵³ and that detailed analysis is needed to clarify the complex relationship between development, affordability, and displacement at the local level.⁵⁴

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:

⁵¹ 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.

⁵² Ibid, page 7.

⁵³ Ibid, page 10.

⁵⁴ Ibid, page 1.

“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 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.”⁵⁵

Monkkonen states that “constraining the supply of housing increases rents.”⁵⁶ 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 if no new housing stock is available in desirable locations that high-income residents will renovate and occupy older housing that might otherwise be inhabited by lower-income residents. Thus, he concludes that “[t]he prevention of new construction cannot guarantee that older housing will remain affordable.”⁵⁷ He further 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.”⁵⁸ 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.***

Karen Chapple, Paul Waddell, and Daniel Chatman, with Miriam Zuk, University of California, Berkeley and the University of California, Los Angeles, April 26, 2017

This paper is a very extensive and comprehensive review of theory and research regarding the relationship between fixed-rail transit neighborhoods and displacement, using case studies in Los Angeles and the San Francisco Bay Area to examine patterns of neighborhood change in relation to transit proximity. The impetus behind this study is to assess the impact of pursuing more compact, transit-oriented development as a key strategy to achieve greenhouse gas reductions through regional sustainable communities strategies (SCS), in compliance with State of California climate change legislation. As noted in the study’s Executive Summary, “Concern has been raised that such

⁵⁵ Paavo Monkkonen, “Understanding and Challenging Opposition to Housing Construction in California’s Urban Areas,” December 1, 2016, page 1.

⁵⁶ Ibid, page 5.

⁵⁷ Ibid page 6.

⁵⁸ Ibid.

development and investment patterns may result in heightened property values and the displacement of low income households.”⁵⁹

A key objective of the study was to examine “the relationship between fixed-rail transit neighborhoods and displacement in California by modeling past patterns of neighborhood change in relation to transit proximity.”⁶⁰ The report also sought to analyze the relationship between displacement and travel behavior. The many types of variables included in the study’s quantitative and qualitative case study analysis included neighborhood-level data, address-level data, and parcel-level data. The neighborhood-level analysis included variables such as demographic, housing, and socioeconomic characteristics; movement in/out of neighborhood; and public housing unit counts and Section 8 voucher recipients (all neighborhood-level datasets). The address-level analysis included variables such as number of housing units constructed; number of jobs, establishments, and business sales; number of evictions by type; and presence of a rail station. The parcel-level analysis included numerous variables probing changes associated with a plot of land, such as transaction history, land-use changes, new residential structure construction, major renovations, and conversions of apartments to condominiums. These data, along with other data constructs, were inputs to the investigators’ development of proxies to assess different types of displacement (e.g., economic, physical, and exclusionary). The study years represented by the data reflected 2000 to 2013.

A heavy focus of the study was to assess vehicle miles traveled (VMT) among different groups relative to their transit proximity. But in addition, its findings have bearing on the knowledge base associated with residential gentrification and displacement. Aside from the findings associated with VMT, some of the case study findings associated with examining gentrification and displacement in fixed-rail transit neighborhoods included the following:

- “Gentrification in Los Angeles and the Bay Area transit neighborhoods cannot be attributed to new residential development, as the vast majority of transit neighborhoods in both Los Angeles and the Bay Area experienced relatively little residential development from 2000 to 2013. In the Bay Area, over half of market rate residential development occurred in tracts that did not gentrify.”⁶¹

The preceding is a very high-level summary of just one small aspect of a detailed and well-researched study. It is, however, one of the findings most relevant to the issue being addressed by this literature review regarding the relationship between home construction, increasing rents, and displacement.

Case Study Analysis and Findings

This section includes case study analysis and findings that explores the relationship between housing production and market-rate housing costs. The focus of this section is analysis specific to San Francisco, but also includes several additional case studies associated with other areas where rising residential prices relative to housing production has also been explored, either in depth or on a more qualitative basis.

San Francisco. 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

⁵⁹ Karen Chapple, Paul Waddell and Daniel Chatman, with Miriam Zuk, “Developing a New Methodology for Analyzing Potential Displacement,” April 26, 2107, page vi.

⁶⁰ Ibid.

⁶¹ Ibid, page 91.

readily available data points local to San Francisco and the Mission District. 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 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, and this resource ceased operation after 2016. Other sources also provide a time series of data, but do not track the same set of housing units over time, and thus provide informative, but potentially less reliable findings.

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 and the census tracts defining the Mission District, pursuant to the American Community Survey (ACS). 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 Zillow and RealAnswers, with the latter tracking prices and price changes for a 20-year period, but ending in 2016.

ALH Economics prepared several analyses looking at housing production data and apartment rents, in San Francisco and the Mission District. 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 suggesting that housing production has an impact on apartment rents, either increases in rent or rent suppression.*** This finding does not conflict with the conclusions of the above-cited studies on housing production and costs, such as 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 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. For example, Zillow now tracks median rents in San Francisco and several neighborhoods for all rental units as well as units by type (i.e., number of bedrooms). While these data are useful, they are somewhat limited because the sample units comprise a random set of units being marketed at the time of Zillow's survey, and do not comprise a consistent stock of units being sampled over time. 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. For just the Mission District, an estimate published in June 2015 suggested that approximately 68% of units in the Mission census tracts are potentially rent-controlled.⁶²

Because of the limitations in the data, the ALH Economics analysis of the impacts of housing production on housing costs in San Francisco and the Mission District 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.

Other Cities. Many other cities throughout the United States grapple with understanding where displacement is occurring in their city and how gentrification impacts displacement, and explore approaches to mitigate displacement. An oft-cited means of reducing displacement is the creation or preservation of affordable housing, priced to protect the most vulnerable residents. These considerations are often combined with concerns about promoting economic mobility for all, as displacement is deemed less likely to occur if household income grows along with the neighborhood's rising values.

Less common in the reports and studies prepared by or about other cities are findings or strategies regarding how new housing development impacts displacement, or rental rates of existing housing units, which is a core consideration at issue in San Francisco and the Mission District specifically. ALH Economics conducted a search to identify case study examples of cities, journalists, or urbanists that

⁶² Sydney Cespedes, Mitchell Crispell, Christina Blackston, Jonathan Plowman, and Edward Graves, "Community Organizing and Resistance in SF's Mission District, Center for Community Innovation, June 2015, page 6.

broadened their examination or discussions to include the dimensions of new housing development and pricing relative to gentrification, including how to balance revitalization, which is perceived to be positive for communities, with reducing displacement risks. Following are summaries of some of the materials found to most directly include incorporation of new market-rate housing development along with affordable housing development in their analysis and findings.

Seattle. A January 2018 Seattle Times article reported findings that the Seattle region comprising King and Snohomish counties experienced a 48% increase in rents over the previous five years, with Seattle leading the nation in rent hikes in 2016 and early 2017.⁶³ While the annual rent still increased modestly from a year earlier (4.5%), the quarterly average rental rate dropped significantly for the first time this decade, comprising a 2.9% decline in December 2017 compared with the prior quarter. During the same period, the region's vacancy rate grew 0.8%, reaching 5.4% in December 2017, comprising the highest vacancy rate since 2010. Vacancy rates were reported to be higher among the existing apartment stock in neighborhoods experiencing new apartment development. In parallel, the biggest rent decreases were mostly in the popular Seattle neighborhoods experiencing the greatest new construction, with rents dropping more than 6% from the prior quarter in many neighborhoods.

While the surge in rental rates was attributed to strong job and population growth, The Seattle Times article attributed the changing rental market dynamics to the strong growth in rental unit supply, with many new projects under construction and supply growing faster than demand. As a result, some new apartments are remaining vacant. While some longer-term rental rate growth is anticipated for this market, several market analysts anticipate growth will be similar to the rate of inflation, rather than any accelerated market growth. Thus, rental rates in Seattle are anticipated to moderate pursuant to the achievement of relative market equilibrium between supply and demand.

This trend in Seattle suggests that rental unit pricing is influenced negatively by new rental unit construction, i.e., as new production occurs, pricing increases become more moderate or drop, suggesting that new development helps dampen pricing increases and does not result in increased rents elsewhere.

Prior to this recent market trend in Seattle, Sightline.org published a paper in 2016 by Dan Bertolet that focused on Seattle housing market dynamics and displacement.⁶⁴ The paper's purpose was to lay out evidence on displacement in Seattle and assess strategies for community protection from displacement. The author's premise is that "the root cause of displacement is a shortage of homes, and the only real solution is to build lots more housing of all types, to bolster those efforts with public support for those most vulnerable, and to precisely target preservation efforts in places justified by the protection of cultural communities or the opening of economic opportunities." One focus of Bertolet's paper is the distinction between "physical displacement" and "economic displacement," with the former associated with old buildings making way for new ones, and the latter occurring when rising rents force tenants to move elsewhere. The author then indicates the two forms of displacement could precipitate "cultural displacement," when people move because neighbors and culturally related businesses have left the area.

A good portion of Bertolet's efforts was associated with the demolition of low-cost housing as new housing development opportunities arise in Seattle. As this is not a key issue relative to concerns about

⁶³ Mike Rosenberg, Seattle Times (seattletimes.com), "Seattle-area rents drop significantly for first time this decade as new apartments sit empty," January 12, 2018, Updated January 13, 2018.

⁶⁴ Dan Bertolet, Sightline.org, "Displacement: The Gnawing Injustice at the Heart of Housing Crises, What can we actually do about it?," August 10, 2016.

displacement in San Francisco and the Mission District, the following focuses on other aspects of the Bertolet's research and findings more associated with economic displacement, although some of the paper's conclusions and findings are based upon comingling consideration of both types of displacement.

Bertolet makes many statements associated with the impact of housing production on displacement and rent trends. Among these are the following:

- "Legal restrictions on housing construction create a situation in which the need for homes increasingly outstrips the supply of homes available to rent or purchase. And this enforced housing shortage creates a preservation paradox: conservation of existing inexpensive private-market housing Does not reduce displacement. It only rearranges where the displacement happens – and can even increase its occurrence."
- "In a bidding war for scarce homes... the only way everyone can come out with a place to live is if there are enough new dwellings added for everyone who is bidding.... Ultimately, no action is more effective at curtailing displacement across an entire city than creating more housing choices for the diverse families and individuals who need them."
- "In terms of net housing gained versus housing lost, redevelopment is a big win for reversing Seattle's housing shortage and relieving upward pressure on prices caused by unmet demand. More homes to accommodate more families at lower prices is a simple formula for less displacement overall."

After examining data regarding new home development by zone in Seattle, such as commercial zone, neighborhood commercial + midrise zone, etc., versus homes lost to demolition, Bertolet concludes that the data indicate that to minimize overall displacement, Seattle should allow as many kinds of new housing at as high a density as possible given site characteristics. He further indicates that halting development to save existing housing may provide a short-lived benefit for some, but only at the expense of many more times families who will see their rents rise faster. While the context for this comment pertains to preserving homes versus demolition for higher density housing opportunities, this finding could equally pertain to a scenario of restricting versus allowing new residential development.

Bertolet's paper continues with additional discussion regarding rental housing price dynamics, the preservation of affordable housing, the process by which filtering reduces economic displacement both in the short-term and the long-term, the benefits of building more subsidized affordable housing, and the need for consideration of other approaches beyond new housing development to equitably address displacement pressures in some culturally sensitive communities. Specifically, Bertolet states that "Tackling displacement requires a "both/and" approach; build lots and lots of new housing, and provide support for communities most vulnerable to change." Thus, Bertolet recognizes that culturally sensitive communities have unique needs, but that new housing development is critical to the minimization of economic displacement.

Bertolet's paper was written during a period characterized by strong growth in Seattle's rental rates. However, Bertolet's position that net new housing development could relieve upward pressure on prices appears to be borne out by the trends reviewed in the January 2018 Seattle Times article, i.e., declining rental rates coinciding with dramatic increases in new housing supply and associated forecasted modest rental rate growth consistent with inflation.

Denver. In May 2016, Denver's Office of Economic Development (OED) engaged in a study titled "Gentrification Study: Mitigating Involuntary Displacement." This was a far-reaching and multi-faceted

study, that conducted a review of what strategies and tools can be employed to reduce displacement. As part of the study, Denver's OED looked at other cities around the U.S. to see how communities are balancing the benefits of thoughtful development in a way that helps protect the most vulnerable residents and promotes economic mobility for all. Pursuant to the review conducted by Denver's OED of conditions in Denver and practices in other cities such as Portland, Sacramento, Seattle, Los Angeles, and others, the study highlights the following ideas for Denver:

- **Affordable Housing** – Increases in rental and for-sale housing prices outpaced income growth in many households, thus making public investment critical to increase Denver's supply of affordable housing across a wide spectrum of income levels;
- **Middle-Skill Jobs** – Displacement is less likely if household income grows along with the neighborhood's rising values, thus career-directed workforce training is key to helping people get the credentials they need to meet employers' needs;
- **Support Small Business** – Nurturing aspiring and existing small business owners is a powerful economic tool for sustaining healthy, diverse urban neighborhoods;
- **Focus on Vulnerable Neighborhoods** – Armed with the ability to predict where displacement threatens in the new future, both public and private investment can drive future decisions to preserve and protect unique neighborhoods while fueling the development they need to build opportunity, income and jobs.⁶⁵

Denver's OED study puts forth several recommendations, forming a platform for action. These include:⁶⁶

- **There is no single solution** – Gentrification is most often the result of complex market forces, and there is no quick fix for a city to benefit from neighborhood revitalization while completely avoiding the involuntary displacement that gentrification can bring;
- **Investment in affordable housing continues to be a critical need** – This includes creating a funding source, preserving affordable housing, land banking, and fiscal policy and grants to protect existing homeowners; and
- **Access to broader economic opportunity needs to be considered within every public investment** – Including provide technical support to neighborhood businesses, tie business incentives to targeted community engagement, expand awareness and exposure to career-path options, support entrepreneurship, and preserve industrial space for targeted uses with the potential to create middle-skills jobs.

As is clear from these summary points, one major thrust of Denver's approach is to support economic growth, of individuals as well as businesses, as a means of combating displacement. A very succinct statement in the full report addresses this by saying "Investing aggressively in affordable housing is critical, but housing-based strategies must also be paired with strategies to build existing residents' economic capacity. With the right strategies and supports, neighborhood reinvestment offers the potential to create new economic opportunity for existing residents. **Keeping investment out of some**

⁶⁵ Extracted from the Denver Office of Economic Development summary brochure "Gentrification Study: Balancing revitalization, reducing displacement. See <https://www.denvergov.org/content/dam/denvergov/Portals/690/Reports%20and%20Studies/GENT%20STUDY%20051816.pdf> for full study.

⁶⁶ Ibid.

neighborhoods to avoid gentrification while the rest of the city prospers is not a positive strategy for the long-term success of neighborhood residents.”⁶⁷

This statement is supported by the study’s summary of two Brookings Institution studies, one titled “The Anti-Poverty Case for Smart Gentrification” from 2015 and the other titled “Dealing with Neighborhood Change: A Primer on Gentrification and Policy Choices” from 2001. Of these studies, the full Denver report says “Both Brookings studies underline that a policy approach that seeks to simply stop or slow investment will not provide the greatest benefit to a city’s lower-income residents. Rather, policymakers should undertake strategies that allow residents to stay in place as investments in their communities create new economic opportunity. This report recommends strategies to both create greater access to affordable housing in gentrifying neighborhoods, and to create entry points for residents to benefit from new investments in their communities.”⁶⁸

While the thrust of the Denver study is more on how creating opportunities for economic growth can help mitigate displacement, rather than the impact of how other trends such as the development of market-rate housing can help preserve lower cost housing opportunities, this study does suggest that halting development in general is not a productive strategy and does not aid in reducing or minimizing residential displacement. The following section further explores the relationship between gentrification and displacement as addressed in the academic and associated literature.

Dissenting Opinion. The notion that the provision of new housing will help damp down increases in housing costs is not universally accepted. One such example of this dissenting opinion is made clear in a January 2018 article in Britain’s daily newspaper “The Guardian” by Ann Pettifor, a Director of Policy Research in Macroeconomics (PRIME), a network of economists concerned with Keynesian monetary theory and policies. This article, printed in a newspaper and not reviewed or vetted as occurs with academic journal studies, is heavily grounded in discussion about London’s real estate market, especially for houses, and thus is not easily transferrable to a U.S. market like San Francisco. However, the major thrust of Pettifor’s argument is that throughout the UK, increases in housing supply, and a contraction of demand due to a decline in the number of households, has not dampened prices.

To support this statement, Pettifor presents a few scant figures regarding the number of households in the UK, and the number of dwellings. The only housing cost information presented includes an 11% increase in home prices in Ireland in 2006, when more than 90,000 homes were built in a country with 4 million people.⁶⁹ Thus, Pettifor’s discussion is more qualitative than it is quantitative, wherein she states that the key to making housing more affordable in the UK is not to build more, but to stop the flow of cash flooding into expensive areas. She believes that building more without doing this will not reduce prices, and that the market will simply absorb more cash.

The crux of Pettifor’s argument is that speculation in the London property market is fueling stratospheric house price rises, not a shortage of supply, and that this has been exacerbated by government subsidies, tax breaks, and global and non-resident buyers funneling cash into London property.⁷⁰ To stop the flow of cash, Pettifor recommends implementing a tax on property speculation

⁶⁷ “Gentrification Study: Mitigating Involuntary Displacement,” Denver Office of Economic Development, May 2016, page 7.

⁶⁸ Ibid, page 14.

⁶⁹ “Why building more homes will not solve Britain’s housing crisis,” The Guardian, January 27, 2018, by Ann Pettifor.

⁷⁰ Ibid.

and taxing speculative capital flows in and out of Britain, which would create a managed fall in property prices. Pettifor believes the resulting bubble deflation will achieve a more affordable housing market, and that the money getting channeled toward speculative property investment could instead be used to drive investment in capital and social infrastructure to generate growth in productive, skilled, better-paid employment.

Aside from the fact that Pettifor provides no analytical support for her opinions, she promulgates a stance that would require a change in national taxation policy that in her opinion would also cause a largescale decline in property values. Without more substantial information and data, it is not possible for a reader of Pettifor's article to understand how she reached her conclusions. Moreover, the approach she recommends involving a national taxation policy change is not an approach that can be implemented at the local level in the United States, where concerns about the impact of affordable housing supply and market-rate pricing are most acute. Further, the implementation of a policy that would guarantee wholesale property value reduction, such as promoted by Pettifor, does not address the connection between construction costs and pricing, which is not addressed herein but which also factors into the context of pricing for new housing development.

GENTRIFICATION AND DISPLACEMENT LITERATURE SURVEY OVERVIEW

ALH Economics identified and reviewed the academic and associated literature on gentrification. These papers study and address many aspects of gentrification, some of which include defining gentrification, as 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 12 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 at 2918 Mission Street, and the Mission District in general, 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."⁷¹ CEQA defines the "[e]nvironment" as "physical conditions,"⁷² and impacts analyzed under CEQA must be "related to a physical change."⁷³

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*.⁷⁴ 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.⁷⁵

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.⁷⁶

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

⁷¹ CEQA Guidelines, § 15131, subd. (a)

⁷² Pub Res Code §21060.5 (emphasis added); Guidelines, §15360.

⁷³ Guidelines, §15358(b).

⁷⁴ CEQA Guidelines §15064(e)

⁷⁵ 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.

⁷⁶ This 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.⁷⁷ 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.⁷⁸

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 at 2918 Mission Street and its surrounding areas (e.g., the one-half miles and additional one-quarter mile radii) 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.

⁷⁷ 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.”

⁷⁸ 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; Group 4 Architecture, Research + Planning, Inc.; East Bay Community Energy Authority; Claremont Colleges; and Kimco.

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
- Concord, Veranda Shopping Center, a 375,000-square foot center anchored by a Whole Foods 365 Market, Movie Theater, and upscale apparel retail, opened October 2017, with 365 Market opening December 2017
- Dublin, Persimmon Place, 167,200 square feet, anchored by Whole Foods, opened 2015
- 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, opened April 2017
- Fresno, Park Crossing (formerly Fresno 40), totaling 209,650 square feet, July 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
- Oroville, Walmart Superstore, 213,400 square feet, replacing existing Walmart Discount Store, opened April 2017
- Rancho Cordova, Capital Village, totaling 273,811 square feet, anchored by a Lowe's Home Improvement Warehouse; phased project opening, January 2008 – July 2008
- Sacramento, Delta Shores, 1.3- to 1.5-million square feet, anchored by a lifestyle center; phased project opening beginning September 2017
- Sacramento, Downtown Commons, mixed-use entertainment complex with 682,500 square feet of retail space adjoining new Golden 1 Center for the Sacramento Kings; initial tenant 2016, additional tenants beginning November 2017
- 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
- Sonora, Sonora Crossroads, Walmart Discount Store expansion to a Superstore, net increase of 30,000 square feet, groundbreaking May 2017
- 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

- Ukiah, Costco, 148,000-square-foot warehouse membership store, groundbreaking September 2017, completion anticipated Spring 2018
- Warriors Arena, San Francisco, groundbreaking January 2017

Projects in Progress/Engaged in the Public Process

- 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
- 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.
- 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

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
- 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. FEIR completed January 2016 and Certified September 2017
- Fairfield, Green Valley Plaza, totaling 465,000 square feet
- 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. Final EIR completed 2017. Specific Plan Approved January 2018. Groundbreaking anticipated 2019/2020.
- 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
- Roseville, Hotel Conference Center, a 250-room hotel with a 20,000-square-foot conference facility and a 1,200-seat ballroom
- 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)

***Amy L Herman Resume Insert**



AMY L. HERMAN
PRINCIPAL

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SELECT OTHER CLIENTS

- Alameda County Fair
- Arcadia Development Company
- Blu Homes, Inc.
- China Harbor Engineering Company
- Claremont University Consortium
- City of Dublin
- Dudek
- Environmental Science Associates
- Equity One
- First Carbon Solutions
- Gresham Savage Nolan & Tilden
- Howard Hughes Corporation
- Kimco Realty
- City of Los Banos
- LSA Associates
- Michael Brandman Associates
- City of Pleasanton
- The Primary School
- Remy Moose Manley
- Signature Flight Support
- Sunset Development Co.
- Sycamore Real Estate Investments LLC
- Syufy Enterprises
- City of Tracy

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

Alameda County. Prime consultant managing a complex team preparing a Local Development Business Plan for the soon-to-be launched East Bay Community Energy Community Choice Aggregation program for Alameda County. ALH Economics components include economic impact and financial analysis of the local development program components.

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.

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.

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

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.

FISCAL IMPACT ANALYSIS

Stanford Research Park. Analyzed historic and current fiscal contributions generated by the Stanford Research Park real estate base and businesses to the City of Palo Alto, Santa Clara County, and the Palo Alto Unified School District.

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.

Ronald McDonald House. Prepared fiscal impact analysis of expansion plans to more than double the existing facility to better serve families seeking treatment at Lucille Packard Children's Hospital.

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.

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. Prepared as a subconsultant to the District's water resource planning firm.

DEVELOPMENT FEASIBILITY

Alameda County. Managed numerous assignments helping Alameda County achieve its economic development goals for the County's unincorporated areas through surplus site disposition assistance, including market analysis and financial due diligence.

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.

Union City Property Owner. Provided an independent analysis regarding the reasonableness of the City of Union City continuing to reserve a key development area for office and/or R&D development in the context of the General Plan Update.

DCT Management LLC. Performed economic analysis on a proposed change to the Newark Zoning Ordinance regarding permitted industrial uses. The analysis demonstrated the market, fiscal, and economic impacts that could result from the proposed zoning ordinance change.

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.

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 Within One-Half Mile and Three-Quarter Miles of 2918 Mission Street
 Total Estimated Income and Spending on Retail from 2918 Mission Street and Pipeline Households
 2018 Dollars

Residential Land Use	Average Monthly Rent Assumption	Estimated Average Household Income (1)	Number of Households (2)	Percent Income Spent on Retail (3)	Per Household Retail Spending (4)	Total Retail Demand (5)
Project (2918 Mission Street) (6)						
2918 Mission - Market Rate	\$4,500	\$162,000	64	25%	\$41,100	\$2,618,200
2918 Mission - Affordable Rental	NA	\$48,800 (7)	8	39%	\$19,200	\$153,800
<i>Subtotal</i>			72			\$2,772,000
Other One-Half Mile Projects						
Entitled Market Rate Rental (8)	\$4,500	\$162,000	266	25%	\$41,100	\$10,941,600
Entitled Affordable Rental	NA	\$74,600 (9)	132	33%	\$24,900	\$3,288,100
Entitled Market Rate Owner	NA	\$430,000 (10)	41	22%	\$45,000 (11)	\$3,933,100
Entitled Affordable Owner	NA	\$95,900 (12)	6	31%	\$30,100	\$180,600
Not Entitled Market Rate Rental (8)	\$4,500	\$162,000	165	25%	\$41,100	\$6,799,400
Not Entitled Affordable Rental (13)	NA	NA	0	NA	NA	NA
<i>Subtotal</i>			610			\$25,142,800
Total One-Half Mile Radius					\$96,300	\$27,914,800
Projects Within Additional One-Quarter Mile Radius						
Not Entitled Market Rate (8)	\$4,500	\$162,000	82	25%	\$41,100	\$3,360,600
Not Entitled Affordable Rental	NA	\$95,000 (14)	11	31%	\$29,800	\$328,000
<i>Subtotal</i>			93			\$3,688,600
Total (15)		--	775	--	--	\$31,603,400

Sources: Vanguard Properties; 2018 Maximum Income by Household Size, Unadjusted Area Median Income (AMI) for HUD Metro Fair Market Rent Area (HMFA) that contains San Francisco; 2018 Maximum Monthly Rent by Unit Type, Unadjusted Area Median Income (AMI) for HUD Metro Fair Market Rent Area (HMFA) that contains San Francisco; Zillow; and ALH Urban & Regional Economics.

(1) 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.

(2) Assumed to comprise occupied 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.

(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) Comprises the product of estimated annual household income times percent income spent on retail.

(5) Comprises number of households times percent income spent on retail. Figures rounded to the nearest \$1,000.

(6) The market rate unit rents are based on the April 2018 median rent for rental units in the Mission District, per Zillow's monthly multifamily rent trends. For analytical purposes this is deemed a proxy for the cost of the 2918 Mission Street market-rate unit monthly rents. The affordable unit rents are based on the maximum rents per AMI income level by unit type. The unit mix comprises 2 studio units, 3 one-bedroom units, and 3 two-bedroom units.

(7) The affordable units at 2918 Mission Street are assumed to include 2 studio units affordable at 50% of AMI, 3 one-bedroom units affordable at 50% of AMI, 2 two-bedroom unit affordable at 50% of AMI, and 1 two-bedroom unit affordable at 55% of AMI. Household sizes are assumed at 1 for studio units, 2 for one-bedroom units, and 3 for two-bedroom units (i.e., number of bedrooms plus one except for the studio units). Using these assumptions, and the 2018 Maximum Income by Household Size, the average weighted household income is \$48,800.

(8) Market rate rents are based on the April 2018 median rent for rental units in the Mission District, per Zillow's monthly multifamily rent trends. For analytical purposes this is deemed a proxy for the cost of the average new rental unit, regardless of unit type.

(9) The San Francisco Development Pipeline includes three projects with affordable units, two at 90% of AMI and one at 30% and 60% of AMI. The majority of the units are in the project with the lower AMI. ALH Urban & Regional Economics calculated an approximate weighted average AMI across all the units, based upon the limited information available. The conclusion is unit affordability at 70% of AMI, with the household size average 3 persons.

(10) This is a generic assumption prepared by ALH Urban & Regional Economics, based on the household income equal to one-third housing cost and a March 2018 median home sale price in San Francisco of \$1.3 million per Zillow.

(11) Per the formula, this figure would calculate as \$96,300. Conservatively, ALH Urban & Regional Economics reduced this estimate to \$45,000, to allow for a higher spending proportion of income spent for other purposes, such as housing costs.

(12) Assumes 90% of AMI for a 3-person household. The San Francisco Development Pipeline indicates the 90% threshold. The household size assumption was prepared by ALH Urban & Regional Economics.

(13) The units at 2918 Mission Street are the only "not entitled" affordable units in this area.

(14) The affordability level of these units is not specified in the San Francisco Development Pipeline. For analytical purposes they are assumed to be affordable to 90% of AMI, which is consistent with the majority of other area projects with affordable levels. The income level included here corresponds with a 3-person households.

(15) 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
2016

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	\$74,664	\$22,167	\$34,703	\$44,589	\$59,369	\$83,595	\$120,512	\$170,704	\$345,002
Amount Spent on Retail (2)	\$21,411	\$12,614	\$16,512	\$17,949	\$20,648	\$25,238	\$31,377	\$39,324	\$47,687
Percent Spent on Retail (3)	29%	57%	48%	40%	35%	30%	26%	23%	14%

Sources: Table 1203. Income before taxes: Annual expenditure means, shares, standard errors, and coefficient of variation, Consumer Expenditure Survey, 2016, 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
2016
(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	\$84,225,652	\$84,225,652	15.7%	0%
Home Furnishings & Appliances	\$29,910,071	\$29,910,071	5.6%	15%
Building Materials & Garden Equipment	\$35,238,333	\$35,238,333	6.6%	10%
Food & Beverage Stores	\$27,678,056	\$92,260,187 (3)	17.2%	80%
Gasoline Stations	\$43,273,082	\$43,273,082	8.0%	0%
Clothing & Clothing Accessories	\$39,698,156	\$39,698,156	7.4%	20%
General Merchandise Stores	\$48,255,569	\$64,340,759 (4)	12.0%	20%
Food Services & Drinking Places	\$78,494,623	\$78,494,623	14.6%	75%
Other Retail Group (6)	\$55,940,351	\$70,414,309 (5)	13.1%	20%
Total (7)	\$442,713,894	\$537,855,172	100%	NA

Sources: California State Board of Equalization (BOE), "Taxable Sales in California (Sales & Use Tax) during 2016; 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 Sedway Consulting.

(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 2015 represented approximately 12.74% of all Other Retail Group sales. Sedway Consulting 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 2018 Projected (1)

Store or Category (2)	2010		2011		2012		2013		Average In 2018\$'s
	In 2010\$'s	In 2018\$'s	In 2011\$'s	In 2018\$'s	In 2012\$'s	In 2018\$'s	In 2013\$'s	In 2018\$'s	
Apparel									
Apparel - Specialty	\$405	\$464	\$447	\$496	\$472	\$513	\$451	\$483	\$489
Women's' Apparel	\$365	\$418	\$455	\$505	\$515	\$560	\$473	\$507	\$497
Shoe Stores	\$371	\$425	\$454	\$504	\$487	\$529	\$475	\$509	\$492
Ross Dress for Less	\$324	\$371	\$195	\$216	\$195	\$212	\$362	\$388	\$297
Kohl's	\$229	\$262	\$215	\$239	\$209	\$227	\$190	\$204	\$233
Discount Stores	\$196	\$224	\$212	\$235	\$213	\$232	\$202	\$216	\$227
Target	\$282	\$323	\$290	\$322	\$304	\$330	\$297	\$318	\$323
Wal-Mart	\$422	\$483	\$499	\$554	\$456	\$496	\$376	\$403	\$484
Department Stores Category	\$252	\$288	\$276	\$306	\$274	\$298	\$285	\$305	\$299
Sears	\$206	\$236	\$205	\$227	\$210	\$228	\$161	\$172	\$216
Domestics Category	\$294	\$336	\$288	\$320	\$268	\$291	\$300	\$321	\$317
Furniture Category	\$198	\$227	\$290	\$322	\$361	\$392	\$449	\$481	\$355
Average of Domestics & Furniture	\$246	\$282	\$289	\$321	\$315	\$342	\$375	\$401	\$336
Neighborhood Center Category									
Supermarkets	\$535	\$612	\$533	\$591	\$575	\$625	\$611	\$655	\$621
Specialty/Organic	\$510	\$584	\$658	\$730	\$698	\$759	\$756	\$810	\$721
Drug Stores	\$724	\$829	\$657	\$729	\$667	\$725	\$629	\$674	\$739
Rite Aid	\$421	\$482	\$560	\$621	\$549	\$597	\$556	\$596	\$574
CVS	\$802	\$918	\$806	\$894	\$883	\$960	\$875	\$937	\$927
Restaurants Category	\$429	\$491	\$496	\$550	\$480	\$522	\$486	\$521	\$521
Casual Dining	\$431	\$493	\$578	\$641	\$563	\$612	\$567	\$607	\$588
Fast Food Chains	\$431	\$493	\$507	\$562	\$492	\$535	\$543	\$582	\$543
Home Improvement	\$269	\$308	\$278	\$308	\$287	\$312	\$301	\$322	\$313
Auto - DIY Stores (3)	\$205	\$235	\$218	\$242	\$220	\$239	\$217	\$232	\$237
Other Retail Categories									
Accessories	\$778	\$890	\$978	\$1,085	\$1,191	\$1,295	\$1,032	\$1,106	\$1,094
HBA, Home Fragrances	\$541	\$619	\$474	\$526	\$531	\$577	\$519	\$556	\$570
Electronics & Appliances	\$686	\$785	\$1,171	\$1,299	\$821	\$892	\$946	\$1,013	\$998
Office Supplies	\$263	\$301	\$270	\$300	\$262	\$285	\$283	\$303	\$297
Sports	\$226	\$259	\$239	\$265	\$252	\$274	\$253	\$271	\$267
Pet Supplies	\$185	\$212	\$188	\$209	\$218	\$237	\$234	\$251	\$227
Book Superstores	\$180	\$206	\$247	\$274	\$210	\$228	\$189	\$202	\$228
Toys	\$320	\$366	\$333	\$369	\$312	\$339	\$220	\$236	\$328
Music Superstores	\$318	\$364	\$317	\$352	\$314	\$341	\$292	\$313	\$342
Gifts, Hobbies & Fabrics	\$124	\$142	\$136	\$151	\$137	\$149	\$151	\$162	\$151
Average of Other Retail Categories	\$362	\$414	\$435	\$483	\$425	\$462	\$412	\$441	\$450

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

**Entitled and Non-entitled Residential Pipeline Projects Within One-Half Mile of 2918 Mission Street
Supportable Square Feet of Commercial Space
2018 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	\$4,371,330	\$800 (6)	5,464	5,752	0
Home Furnishings and Appliances	\$1,552,339	\$336	4,616	4,859	729
Building Materials and Garden Equip.	\$1,828,877	\$313	5,849	6,157	616
Food and Beverage Stores	\$4,788,324	\$671	7,140	7,515	6,012
Gasoline Stations	\$2,245,882	NA (7)	N/A (7)	N/A (7)	0
Clothing and Clothing Accessories	\$2,060,343	\$489	4,214	4,436	887
General Merchandise Stores	\$3,339,299	\$310	10,777	11,344	2,269
Food Services and Drinking Places	\$4,073,888	\$551	7,396	7,786	5,839
Other Retail Group	\$3,654,518	\$450	8,120	8,547	1,709
Subtotal	\$27,914,800	--	53,576	56,396	18,061
Additional Service Increment (15% of total) (9)	N/A	N/A	9,455	9,952	7,464 (8)
Total	N/A	N/A	63,031 (10)	66,348	25,526
Total Rounded to Nearest 100			63,000	66,300 (11)	25,500

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 6
2918 Mission Street
Supportable Square Feet of Commercial Space from Project Households
2018 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	\$434,082	\$800 (6)	543	571	0
Home Furnishings and Appliances	\$154,151	\$336	458	483	72
Building Materials and Garden Equip.	\$181,611	\$313	581	611	61
Food and Beverage Stores	\$475,491	\$671	709	746	597
Gasoline Stations	\$223,021	NA (7)	N/A (7)	N/A (7)	0
Clothing and Clothing Accessories	\$204,597	\$489	418	441	88
General Merchandise Stores	\$331,600	\$310	1,070	1,126	225
Food Services and Drinking Places	\$404,546	\$551	734	773	580
Other Retail Group	\$362,902	\$450	806	849	170
Subtotal	\$2,772,000	--	5,320	5,600	1,794
Additional Service Increment (15% of total) (9)	N/A	N/A	939	988	741 (8)
Total	N/A	N/A	6,259 (10)	6,589	2,535
Total Rounded to Nearest 100			6,300	6,600 (11)	2,500

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
Entitled and Non-entitled Residential Pipeline Projects Within Additional One-Quarter Mile of 2918 Mission Street
Supportable Square Feet of Commercial Space
2018 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	\$577,618	\$800 (6)	722	760	0
Home Furnishings and Appliances	\$205,123	\$336	610	642	96
Building Materials and Garden Equip.	\$241,664	\$313	773	814	81
Food and Beverage Stores	\$632,719	\$671	943	993	794
Gasoline Stations	\$296,766	NA (7)	N/A (7)	N/A (7)	0
Clothing and Clothing Accessories	\$272,249	\$489	557	586	117
General Merchandise Stores	\$441,248	\$310	1,424	1,499	300
Food Services and Drinking Places	\$538,315	\$551	977	1,029	772
Other Retail Group	\$482,900	\$450	1,073	1,129	226
Subtotal	\$3,688,600	--	7,079	7,452	2,387
Additional Service Increment (15% of total) (9)	N/A	N/A	1,249	1,315	986 (8)
Total	N/A	N/A	8,329 (10)	8,767	3,373
Total Rounded to Nearest 100			8,300	8,800 (11)	3,400

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 8
All Pipeline Projects Within Three-Quarter Miles of 2918 Mission Street
Supportable Square Feet of Commercial Space
2018 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	\$4,948,947	\$800 (6)	6,186	6,512	0
Home Furnishings and Appliances	\$1,757,462	\$336	5,226	5,501	825
Building Materials and Garden Equip.	\$2,070,541	\$313	6,622	6,971	697
Food and Beverage Stores	\$5,421,042	\$671	8,083	8,508	6,807
Gasoline Stations	\$2,542,648	NA (7)	N/A (7)	N/A (7)	0
Clothing and Clothing Accessories	\$2,332,592	\$489	4,771	5,022	1,004
General Merchandise Stores	\$3,780,547	\$310	12,201	12,843	2,569
Food Services and Drinking Places	\$4,612,203	\$551	8,374	8,814	6,611
Other Retail Group	\$4,137,418	\$450	9,193	9,676	1,935
Subtotal	\$31,603,400	--	60,656	63,848	20,448
Additional Service Increment (15% of total) (9)	N/A	N/A	10,704	11,267	8,450 (8)
Total	N/A	N/A	71,360 (10)	75,115	28,899
Total Rounded to Nearest 100			71,400	75,100 (11)	28,900

Source: ALH Urban & Regional Economics.

(1) See Exhibit 1 for the amount of estimated retail sales demand from the Pipeline projects' households located within three-quarter miles of 2918 Mission Street 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
Households and Mean Household Income
2016 (1)
Mission District and One-Half Mile Area Around 2918 Mission St.

Geographic Area/Census Tracts	All Census Tract Households	Area Households	Mean Household Income 2016
<u>Mission District Census Tracts (2)</u>			
177	758	758	\$108,422
201	3,115	3,115	\$78,337
208	2,846	2,846	\$110,843
209	1,894	1,894	\$98,578
228.01	1,947	1,947	\$149,946
228.03	1,570	1,570	\$126,656
229.01	1,540	1,540	\$103,254
229.02	832	832	\$141,679
229.03	1,157	1,157	\$113,577
Total/Weighted Average		15,659	\$110,317
<u>One-Half Mile Area (3)</u>			
	Percent of Census Tract		
253	56%	1,734	969
252	42%	2,117	883
251	1%	1,400	17
229.02 (4)	72%	832	596
228.03 (4)	42%	1,570	657
229.01 (4)	100%	1,540	1,540
228.01 (4)	0%	1,947	4
215	28%	2,580	722
214	29%	1,666	482
211	11%	1,919	210
210	100%	2,165	2,165
209 (4)	100%	1,894	1,894
208 (4)	26%	2,846	729
207	15%	2,656	407
		11,275	\$136,422

Sources: US Census American Community Survey, "S1901: Income in the Past 12 Months (In 2016 Inflation-Adjusted Dollars) 2012-2016"; 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 ACS conducts annual sampling for a running five-year period, and then inflation-adjusts the income numbers to the last calendar year in the sample, which in this case is 2016.
- (2) 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.
- (3) The census tract identification and percentages for the One-Half Mile Area Around 2918 Mission Street per ALH Urban & Regional Economics using ArcGIS. Percentages comprise ALH Economics assumptions.
- (4) Comprise census tracts that overlap with the Mission District. The household count in these tracts comprises 35% of Mission District households. The other census tracts are in other Planning Districts, including Bernal Heights and Central.

Exhibit 10
Mission District and One-Half Mile Radius Around 2918 Mission Street
Total Estimated Income and Spending on Retail from Existing Area Households
2018 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)
	2016 (1)	2018 (2)				
Mission	\$110,317	\$113,930	15,659	29%	\$33,500	\$524,348,700
One-Half Mile Radius (5)	\$136,422	\$140,890	11,275	24%	\$34,400	\$387,445,500

Source: US Census American Community Survey, "S1901: Income in the Past 12 Months (In 2016 Inflation-Adjusted Dollars) 2012-2016"; United States Department of Labor, Consumer Price Index - All Urban Consumers; and ALH Urban & Regional Economics.

(1) See Exhibit 9 for estimated 2016 household incomes.

(2) Incomes are inflated from 2016 to 2018 pursuant to a CPI adjustment for All Urban Consumers from 2016 Annual Average to January 2018. The CPI factors are 240.007 for 2016 and 247.867 for January 2018, resulting in a 1.033 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.

(5) Comprises geographic area with a one-half mile radius around the 2918 Mission Street development site.

Exhibit 11
Mission District
Supportable Square Feet of Commercial Space from Households in the Mission District
2018 Dollars

Retail Category	2018 Total Retail Demand (1)	Sales Per Sq. Ft. (2)	Supportable Sq. Ft.		
			Amount (3)	Vacancy Adjusted (4)	Neighborhood-Oriented (5)
Motor Vehicles and Parts	\$82,110,600	\$800 (6)	102,638	108,040	0
Home Furnishings and Appliances	\$29,158,977	\$336	86,706	91,270	13,690
Building Materials and Garden Equip.	\$34,353,437	\$313	109,872	115,655	11,565
Food and Beverage Stores	\$89,943,374	\$671	134,110	141,169	112,935
Gasoline Stations	\$42,186,420	NA (7)	N/A (7)	N/A (7)	0
Clothing and Clothing Accessories	\$38,701,267	\$489	79,161	83,327	16,665
General Merchandise Stores	\$62,725,052	\$310	202,433	213,087	42,617
Food Services and Drinking Places	\$76,523,488	\$551	138,931	146,243	109,682
Other Retail Group	\$68,646,084	\$450	152,520	160,547	32,109
Subtotal	\$524,348,700	--	1,006,371	1,059,338	339,265
Additional Service Increment (15% of total) (9)	N/A	N/A	177,595	186,942	140,206 (8)
Total	N/A	N/A	1,183,966 (10)	1,246,280	479,472
Total Rounded to Nearest 100			1,184,000	1,246,300 (11)	479,500

Source: ALH Urban & Regional Economics.

(1) See Exhibit 10 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 12

One-Half Mile Radius Around 2918 Mission Street

Supportable Square Feet of Commercial Space from Households Within One-Half Mile Radius of 2918 Mission St.

2018 Dollars

Retail Category	2018 Total Retail Demand (1)	Sales Per Sq. Ft. (2)	Supportable Sq. Ft.		
			Amount (3)	Vacancy Adjusted (4)	Neighborhood-Oriented (5)
Motor Vehicles and Parts	\$60,672,187	\$800 (6)	75,840	79,832	0
Home Furnishings and Appliances	\$21,545,804	\$336	64,068	67,440	10,116
Building Materials and Garden Equip.	\$25,384,033	\$313	81,185	85,458	8,546
Food and Beverage Stores	\$66,459,887	\$671	99,095	104,311	83,449
Gasoline Stations	\$31,171,887	NA (7)	N/A (7)	N/A (7)	0
Clothing and Clothing Accessories	\$28,596,679	\$489	58,492	61,571	12,314
General Merchandise Stores	\$46,348,049	\$310	149,579	157,452	31,490
Food Services and Drinking Places	\$56,543,825	\$551	102,657	108,060	81,045
Other Retail Group	\$50,723,147	\$450	112,698	118,630	23,726
Subtotal	\$387,445,500	--	743,616	782,753	250,686
Additional Service Increment (15% of total) (9)	N/A	N/A	131,226	138,133	103,600 (8)
Total	N/A	N/A	874,842 (10)	920,886	354,286
Total Rounded to Nearest 100			874,800	920,900 (11)	354,300

Source: ALH Urban & Regional Economics.

(1) See Exhibit 10 for the amount of estimated retail sales demand from households within one-half mile of 2918 Mission Street 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
Average Rents And Vacancy Trends - Investment Grade Apartments (1)
San Francisco
1996 - 2016

Year	Monthly Rents					Average Rent	Average Vacancy
	Studio	1 Bed/ 1 Bath	2 Bed/ 1 Bath	2 Bed/ 2 Bath	3 Bed/ 2 Bath		
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 Mission District, 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.”⁷⁹

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.”⁸⁰
- “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.”⁸¹

⁷⁹ 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.

⁸⁰ Ibid, page 45.

⁸¹ 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.”⁸²

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.”⁸³

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

⁸² Ibid.

⁸³ 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.⁸⁴ 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."⁸⁵

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."⁸⁶ 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."⁸⁷ 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."⁸⁸ 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."⁸⁹

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

⁸⁴ Terra McKinnish, Randall Walsh, Kirk White. "Who Gentrifies Low-Income Neighborhoods?" National Bureau of Economic Research, Working Paper 1403, May 2008, page 3.

⁸⁵ *Ibid*, page 2.

⁸⁶ *Ibid*, page 4.

⁸⁷ *Ibid*.

⁸⁸ *Ibid*, page 5.

⁸⁹ *Ibid*, page 4.

original lower income, usually minority residents, spurring racial transition in the process.⁹⁰ 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.”⁹¹

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

⁹⁰ <http://www.sciencedirect.com/science/article/pii/S0166046211000044>.

⁹¹ 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.”⁹²

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.”⁹³

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%.”⁹⁴

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.”⁹⁵

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.

⁹² Silva Mathema, “Gentrification: An updated Literature Review,” Poverty & Race Research Action Council, October 2013, page 3.

⁹³ Ibid, page 5.

⁹⁴ 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.

⁹⁵ Ibid.

Follow-up interviews found that among those displaced, many ended up living in overcrowded apartments, shelters or even became homeless."⁹⁶

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."⁹⁷

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

Economic Analyst Joseph Cortright, President and Principal Economist of Impresa, 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."⁹⁸

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.

⁹⁶ Ibid.

⁹⁷ Ibid.

⁹⁸ 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."⁹⁹

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

⁹⁹ 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.”¹⁰⁰

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.”¹⁰¹

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.”¹⁰² Thus,

¹⁰⁰ Ibid.

¹⁰¹ See <http://www.citylab.com/housing/2015/08/mapping-gentrification-and-displacement-in-san-francisco/402559/>).

¹⁰² University of California, Berkeley, “Urban Displacement Project,” December 2015, page 1.

the 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.”¹⁰³

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.¹⁰⁴ 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.¹⁰⁵

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.”¹⁰⁶ However, this paper provides a few comments on case studies performed for nine Bay Area neighborhoods, and presents these additional findings (among others):

¹⁰³ Ibid.

¹⁰⁴ Ibid.

¹⁰⁵ Ibid, page 2.

¹⁰⁶ 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.”¹⁰⁷

9. Miriam Zuk and Karen Chapple, University of California, Berkeley, Institute of Governmental Studies, 2016

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.

¹⁰⁷ Ibid, page 4.

- Market-rate production is associated with higher housing cost burden for low-income households, but lower median rents in subsequent decades.
- 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."¹⁰⁸

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 Wily, 2006; Freeman, 2005). Few studies, however, have examined the moves of individual residents in gentrifying neighborhoods to support this."¹⁰⁹

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

¹⁰⁸ 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.

¹⁰⁹ Lei Ding, Jackelyn Hwang, Eileen Divringi, "Gentrification and Residential Mobility in Philadelphia," Discussion Paper: Federal Reserve Bank of Philadelphia, September 2016, page 3.

analysis. While each study has its strengths and weaknesses, and unique data constraints, the authors conclude this literature review by stating:

“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.”¹¹⁰

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.¹¹¹ He further states that perhaps the most controversial gentrification topic is its residential displacement consequences.¹¹² 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.”¹¹³ 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.¹¹⁴

¹¹⁰ Ibid, pages 42 and 43.

¹¹¹ Derek Hyra, “Commentary: Causes and Consequences of Gentrification and the Future of Equitable Development Policy,” November 2016, page 170.

¹¹² Ibid, page 171.

¹¹³ Ibid.

¹¹⁴ Ibid, page 173.