

From: [Klein, Nanci](#)
To: [Downtown West Project](#)
Subject: Fw: Beacon Economics Google/Diridon forecast data
Date: Monday, May 18, 2020 10:45:42 AM
Attachments: [WPUSA Google Campus Final Report.pdf](#)

Hi there,

I am sending the public emails, category 1 for Nanci Klein.

Thanks, Tara

Nanci Klein

Assistant Director of Economic Development
Director of Real Estate
City of San Jose
(408) 507-0430 - cell

From: Yilmaz, Bige <bige.yilmaz@sanjoseca.gov>
Sent: Tuesday, February 25, 2020 2:11 PM
To: Walesh, Kim <Kim.Walesh@sanjoseca.gov>; Severino, Lori <Lori.Severino@sanjoseca.gov>; Morales-Ferrand, Jacky <Jacky.Morales-Ferrand@sanjoseca.gov>; Klein, Nanci <Nanci.Klein@sanjoseca.gov>
Subject: Beacon Economics Google/Diridon forecast data

Here is the Beacon Economics Report..

Thank you,
Bige-

From: Klein, Nanci <Nanci.Klein@sanjoseca.gov>
Sent: Thursday, August 29, 2019 1:47 PM
To: Yilmaz, Bige <bige.yilmaz@sanjoseca.gov>; Severino, Lori <Lori.Severino@sanjoseca.gov>
Subject: Fwd: Beacon Economics Google/Diridon forecast data

Thought you'd like that.

Sent from my iPhone

Begin forwarded message:

From: Jeffrey Buchanan <jeffrey@wpusa.org>
Date: August 29, 2019 at 12:04:33 PM PDT

To: "Walesh, Kim" <Kim.Walesh@sanjoseca.gov>, "Klein, Nanci" <Nanci.Klein@sanjoseca.gov>, "Morales-Ferrand, Jacky" <Jacky.Morales-Ferrand@sanjoseca.gov>, chris.burton@sanjoseca.gov, loren.haley@sanjoseca.gov

Subject: Beacon Economics Google/Diridon forecast data

Greetings all:

When we met the other week discussing the housing market impacts of the Google project there was interest in seeing the data from the more thorough analysis conducted by Beacon Economics we summarized in the narrative report. I'm attaching that analysis.

Let me know if you have any additional questions. Look forward to continuing the conversation.

Best,
Jeffrey



Impact of Proposed Downtown San Jose Google Campus on Housing in Santa Clara County and The City of San Jose

MAY 2019

Executive Summary

Google has acquired land in downtown San Jose for a company campus. The new campus would be increase office space in downtown San Jose by 6 million to 8 million square feet and employ about 20,000 people, plus roughly 8,000 contract workers for food service, janitorial services, security services and shuttle driving.

Google's planning for its new San Jose campus occurs at a time when Santa Clara County has experienced several years of rapid growth. Indeed, the county's economy has been among the fastest-growing in California, with job growth averaging 3.8% (36,700 jobs) per year from 2012 to 2017, compared with 2.8% for the state and 1.9% nationally. Over that period, its population has increased 1.2%, yet the housing stock has grown just 1.1%, with multifamily units accounting for about three-fourths of the new stock. With housing additions lagging both population and job growth, housing costs have increased significantly. Both the county's median home price and its average asking rent are among the highest in the state.

Against this economic and housing backdrop, the housing demands of the additional workers on the Google campus would exert pressure on existing owner-occupied and rental housing. In turn, home prices and rents are expected to increase still more. This study evaluates the current state of housing in Santa Clara County and the city of San Jose, and the prospective state of housing if Google succeeds in building its campus. The research emphasizes the likely impact of the campus on the market for rental housing and presents scenarios that may be used to evaluate differential impacts on segments of the population.

This analysis assumes that Google begins construction in about 2023, that parts of the campus be operational as early as 2025 and that the campus will be fully staffed at 20,000 employees and 8,000 contract service workers by 2030. Although the timeline may vary, this report offers a reasonable portrayal of the Google campus impact at the time of build-out.

Key Findings:

- The addition of 20,000 Google staff positions plus 8,000 service worker jobs for a total increase of 28,000 equates to roughly 2.5% of the current base of 1.1 million workers in the county in 2018 and will be closer to 2% of total jobs 10 years from now. By comparison, the county added 19,100 jobs from 2017 to 2018, an increase of 1.8%, and averaged job gains of 18,000 per year from 2005 through 2018.
- According to figures from the Census Bureau, among renting households in Santa Clara County with workers, 42% were rent-burdened in 2017, meaning they spend more than 30% of income on rent. Housing costs are particularly challenging for service workers such as food service employees, janitors, landscape workers and shuttle drivers.

- Two high-level forecasts are developed to frame subsequent detailed housing scenarios. First, a Baseline forecast describes the housing market in the absence of the Google campus. Second, a No-Direct Response forecast describes the impact on rents and home prices if the Google campus is built without any direct housing supply response. Each forecast projects housing stock, rents and home prices from 2024 to 2030.
- Implicit in the Baseline forecast are status quo conditions for the ratio of jobs to housing, the degree of overcrowdedness in the housing stock, commuting patterns and a continuation of trends in rent burdens. Average rent is estimated to increase 38.6% from 2024 to 2030.
- The Google Campus No-Direct Response forecast is an extension of the Baseline forecast, and as such it implies a continuation of trends in the ratio of jobs to housing, overcrowded housing conditions, commuting patterns and rent burdens. Average rent will increase 40.4% over the forecast period, for a differential of 1.8% compared with the Baseline average rent. By 2030 the average monthly rent under this forecast will be 1.3% higher than the Baseline average rent.
- All else being equal, it is estimated that aggregate annual rent for all renting households in Santa Clara County will be roughly \$235 million higher with the No Direct response forecast compared to the Baseline forecast.
- Given the potential impact on rents and renters that may result from the No Direct response outlook, two detailed housing scenarios consider how to meet the needs of the workforce at the Google campus without imposing a large burden on renters. First, the Status Quo Scenario details the mix of housing that would implicitly maintain the current trajectory of rents – as implied by the Baseline forecast -- and the status quo trend for the jobs-to-housing ratio, commuting, rent burdens and overcrowding that would occur if Google campus is met with a status quo housing response. Second, an Alternative Scenario describes housing that would go beyond the status quo and achieve more in-county commuting and a better jobs-to-housing ratio.
- In the Google Status Quo Scenario, it is assumed that supply would increase in response to the additional workforce in a manner consistent with both recent commuting patterns and the recent relationship of jobs to housing units in the county, while maintaining the Baseline forecast trajectory for rents. In this scenario, 14,124 more units would be required. Accounting for current industry-specific commuting trends, 10,114 units would be needed in Santa Clara County, of which 5,519 would be multifamily rentals.

- The Alternative Scenario describes the housing needs that would occur if the Google campus is built and is met with a housing supply response that sets goals for a larger share of in-county workers and a better balance between job growth and new housing. Two assumptions are made: First, that the share of Google workers who live and work in the county increases from the industry average of 71.0% to the countywide average of 85.5%. Second, that sufficient housing is built to achieve the statewide ratio of 1.35 jobs per housing unit rather than the county's status quo of 1.5. Given these assumptions, the requisite number of units would increase to 20,740, of which 17,734 will be in the county, including 9,831 rental units. The scenario calls for 5,284 units in the county that meet the needs of low- and moderate-income households, including 3,639 rental units.
- By design, this scenario is intended to achieve improvements in the jobs-to-housing ratio and the share of workers who live and work in the county. By improving the latter, it implicitly reduces the number of long-distance and super commuters. It may also indirectly improve overcrowding, although this is not a stated goal of this scenario.
- A similar approach was used to analyze the situation in the City of San Jose. According to the Baseline forecast for San Jose, average rent would increase by 22.4% from 2024 to 2030, while the No Response forecast would result in an increase of 24.5%. Across all renters, this equates to an additional \$127.4 million in rent by 2030. For comparison, it has been projected that the City of San Jose is expected to realize annual tax revenues of \$24.8 million once the Google campus has been built out.
- The need to consider the above housing solutions stems from the current and prospective situation for renters in the city and the county. While renters overall spend roughly 28% of their income on rent annually, the share is roughly 36% for Hispanics, Blacks, and Other ethnicities. Other measures, such as the share of households that are rent burdened or severely rent burdened and the degree of overcrowding in the city and county, are symptomatic of a region that has built too little housing in recent years. The arrival of the new Google downtown campus has the potential to contribute to these symptoms, or can improve them, depending on the course of action taken.
- Major cities in the U.S. have experienced the effects of tech companies establishing or expanding facilities in their downtown areas. Displacement of existing households, especially low income households, has been one consequence of these experiences. Efforts to preserve and even expand housing opportunities for existing households vary from city to city, but frequently include requirements that new developments set aside a certain share of units for low income housing. Policies that successfully mitigate the problem of displacement in downtown San Jose will require input from stakeholders, should be informed by relevant data, and should draw from the experience of other cities that have enacted similar policies.

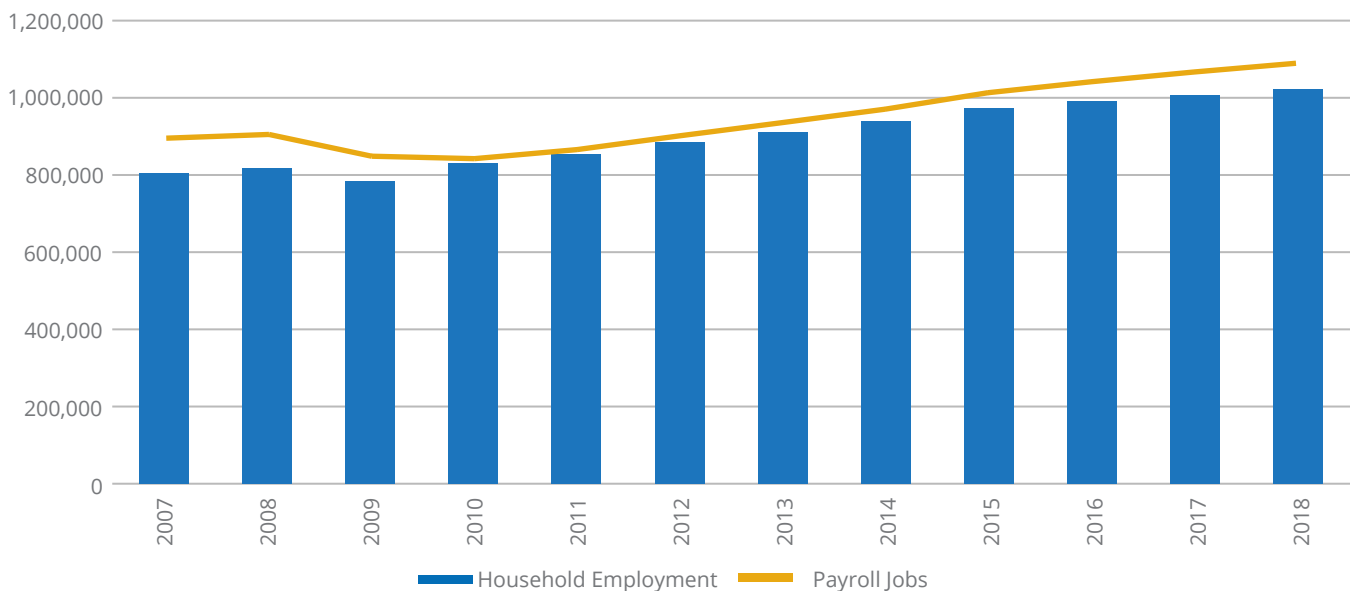
Introduction/Statement of Problem

The City of San Jose and the rest of the Silicon Valley have experienced several years of growth, driven largely by the region's well-known tech sector. Beginning in 2010, the regional economy began its recovery from the Great Recession and subsequent expansion, and stood among the state's leaders in job growth and economic gains.

PAYROLL EMPLOYMENT OUTPACING HOUSEHOLD EMPLOYMENT

Santa Clara County

Source: California Employment Development Department, US Bureau of Labor Statistics; Analysis by Beacon Economics



The region's tech sector has been buoyed by growth in both manufacturing and services. In 2018, jobs in the Computer and Electronic Products Manufacturing industry increased 4.3% from 2017. Over the same period, employment in Information Services increased 8.3%, and Professional, Scientific and Technical Services had several years of substantial gains before slowing to a 0.8% advance in 2018. A number of industries have outpaced the state in job growth, notably in Health Care, Construction, and Leisure and Hospitality.

The income gains have helped drive home prices to new highs, with the median price of an existing single-family home most recently increasing 15.8% year to year in the third quarter of 2018 to \$1.20 million. Apartment rents have also continued to rise, with the third-quarter rent at \$2,600 per month.

AVERAGE WAGE AND PERCENT CHANGE BY OCCUPATION

Santa Clara County

Source: Occupational Employment Survey, Analysis by Beacon Economics

Occupation	Annual Income by Occupation 2017		% Change in Annual Wage 2007-17		
	Mean	Median	First Quartile	Median	Third Quartile
Management	163,380	152,260	19.4%	20.6%	n.a.
Legal	160,530	142,590	30.1%	12.5%	n.a.
Computer and Math	122,900	120,120	23.0%	23.8%	26.4%
Healthcare Prof/Tech	115,280	106,900	15.1%	28.3%	32.4%
Architecture and Eng'r	114,830	110,530	14.6%	21.3%	24.5%
Business and Financial	100,310	89,280	20.1%	26.0%	32.8%
Life, Physical, Social Sci.	93,920	83,740	4.7%	10.3%	12.1%
All Occupations	77,180	57,540	18.3%	20.7%	25.7%
Arts, Ent./Media, Sports	73,050	63,980	12.0%	9.9%	11.4%
Construction and Extraction	65,980	60,860	22.8%	22.2%	21.3%
Protective Service	64,100	43,660	22.1%	29.7%	33.2%
Educ. and Training	62,810	56,110	14.9%	11.2%	7.6%
Installation, Maint., Repair	58,880	54,660	13.3%	15.3%	23.6%
Community and Social Svc.	56,760	51,220	10.7%	8.7%	1.7%
Sales and Related	55,290	38,860	23.7%	11.1%	-3.5%
Office and Admin. Support	48,050	44,860	18.4%	17.7%	21.1%
Production	43,710	38,150	20.1%	17.5%	16.1%
Healthcare Support	43,410	40,070	23.6%	21.4%	26.0%
Trans and Material Moving	38,880	34,580	29.7%	20.4%	16.5%
Building and Grounds Maint.	34,340	30,170	30.4%	30.1%	36.1%
Personal Care and Service	30,050	25,130	24.8%	8.3%	-1.3%
Food Prep. and Serving	29,730	26,040	39.5%	40.9%	39.3%
Farm, Fishing, and Forestry	26,230	23,540	36.6%	45.8%	29.1%

Of course, not every worker can afford a million-dollar home or \$2,600 rent. Indeed, data from the Census Bureau's Occupational Employment Survey show that yearly rent for a typical apartment would consume 40% of the mean annual wage of \$77,180.¹

Wage gains have varied in recent years, both across occupations and within. Although some of the lowest-paid occupations have had the largest percentage gains, their wages fall well below the average for all workers. In particular, although food preparation workers received a nearly uniform 40% raise from 2007 to 2017, the average wage in these occupations is still less than half the average of all workers. This income is in the Extremely Low range of the household income limits for Santa Clara County that are provided annually by California's Department of Housing and Community Development (HCD). Similarly, service occupations such as building and grounds maintenance and transportation occupations pay well below the overall average. The households to which these workers belong often devote a large share of income to housing, as will be discussed in this report.

Against this backdrop of tech-driven growth, Google has acquired land in downtown San Jose for a company campus.² It is expected to increase office space in downtown San Jose by 6 million to 8 million square feet and employ roughly 20,000³ people. Numerous contract workers will provide landscaping, courier services, clerking, general labor, administrative services and customer service. In particular, Working Partnerships USA has estimated that 8,000 contract food service workers, janitors, security guards and shuttle drivers will work on the campus. It is expected that the housing demands of these additional workers will put pressure on the existing stock of owner-occupied and rental housing, and as a consequence, home prices and rents are expected to increase still more.

This study evaluates both the current state of housing in Santa Clara County and San Jose, and the prospective state of housing with the new Google campus operational. In particular, the study examines the likely impact of the campus on the market for rental housing in the county and city and will develop scenarios that may be used to evaluate differential impacts on segments of the population ranging from tech workers to service workers.

¹ This report relies on job and wage data from a number of sources, each of which has its pros and cons. Occupational Employment Survey data presents fairly accurate payroll wages by occupation, but provides no information about the worker's household. On the other hand, the American Community Survey provides self-reported worker income data that includes both payroll workers and self-employed workers, along with data on the characteristics of a worker's household. A third source, the Bureau of Labor Statistics Quarterly Census of Employment and Wages, provides average wage information by industry but not by occupation.

² In addition to the land acquired for its downtown campus, Google has made a number of real estate purchases throughout the South Bay in recent months in anticipation of company growth and the need for additional space.

³ [https:// www.mercurynews.com/2018/11/28/google-village-could-bring-24000-jobs-to-downtown-san-jose-study/](https://www.mercurynews.com/2018/11/28/google-village-could-bring-24000-jobs-to-downtown-san-jose-study/)

This report begins with a brief description of the recent housing market in Santa Clara County. Next, using econometric methods, forecasts of the sale and rental housing markets are developed for the period from 2024 to 2030, which is assumed to be the year the Google campus becomes fully operational. Two high-level scenarios are constructed with the forecast models. Then, two detailed scenarios are developed, using data on the stock of housing and occupational and household characteristics of the region's workers. These detailed scenarios describe possible outcomes in the region's housing market in response to the arrival of the Google campus and its workers. This is followed by an analysis of San Jose and a separate analysis of the downtown area. Finally, the study examines the case of renters in Santa Clara County and San Jose and estimates the effects of increasing rents by income and ethnicity.

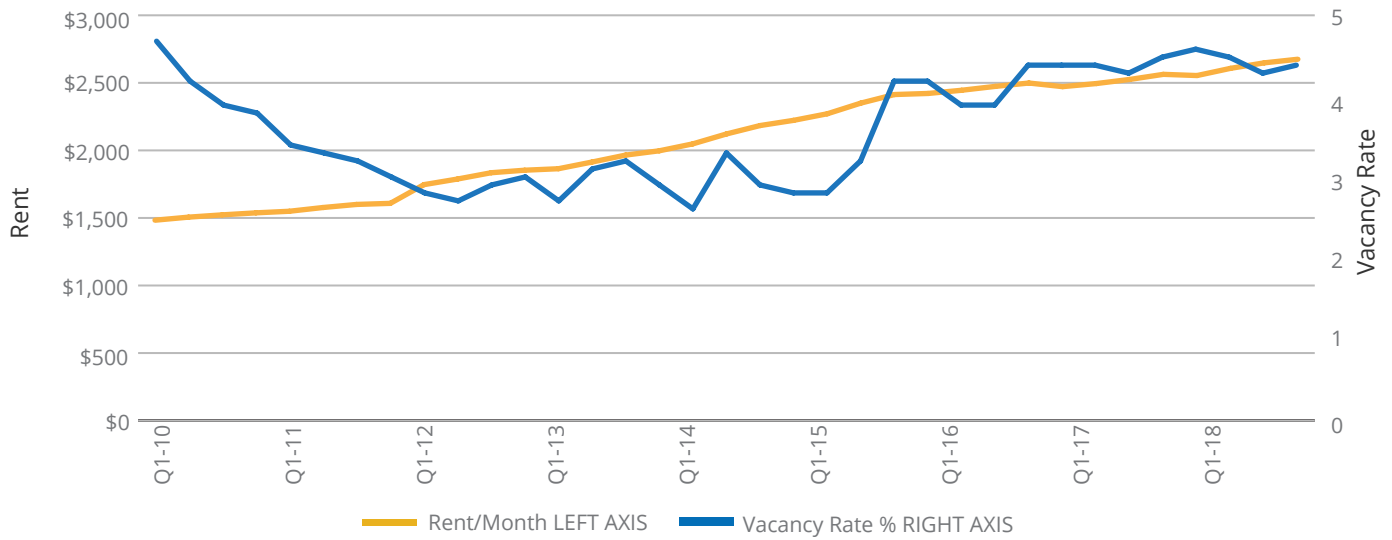
Recent Housing Market Conditions

The Silicon Valley housing market has been driven in recent years by the job and income gains the region has experienced by virtue of sustained high-level growth in key sectors. The median price of an existing single-family home in Santa Clara County has exceeded \$1 million consistently since late 2017, with the median in the fourth quarter of 2018 hitting \$1.20 million, a yearly increase of 15.8%. Sales, however, have shown little deviation from the 10-year average of 13,600 annually despite a booming local economy and a national economy whose expansion will soon become the longest in history. This is due in part to a lean supply of existing homes for sale. The unsold inventory index for existing homes in Santa Clara County was 1.8 months in December 2018, up from a year earlier but still below the long-run average of just over 3 months. Moreover, increases in single-family units through construction have been limited: Despite reaching its highest level since 2006 at 1,950 units, just 1,460 single-family permits on average have been issued annually over the last 10 years, which is equivalent to an annual increase of less than 0.4% of the total housing stock.

Meanwhile, apartment rents continue to rise, with the third-quarter asking rent in Santa Clara County at \$2,600 per month. The vacancy rate has held steady in the mid-4% range since 2016, in part because multifamily units have made up most of the new housing stock in recent years. Indeed, 6,220 multifamily units were permitted in 2018. Although multifamily permits decreased from 7,620 a year earlier, they represent closer to 3% of all multifamily units, meaning that construction has favored multifamily over single-family in recent years.

SANTA CLARA COUNTY RENTAL MARKET

Source: REIS; Analysis by Beacon Economics

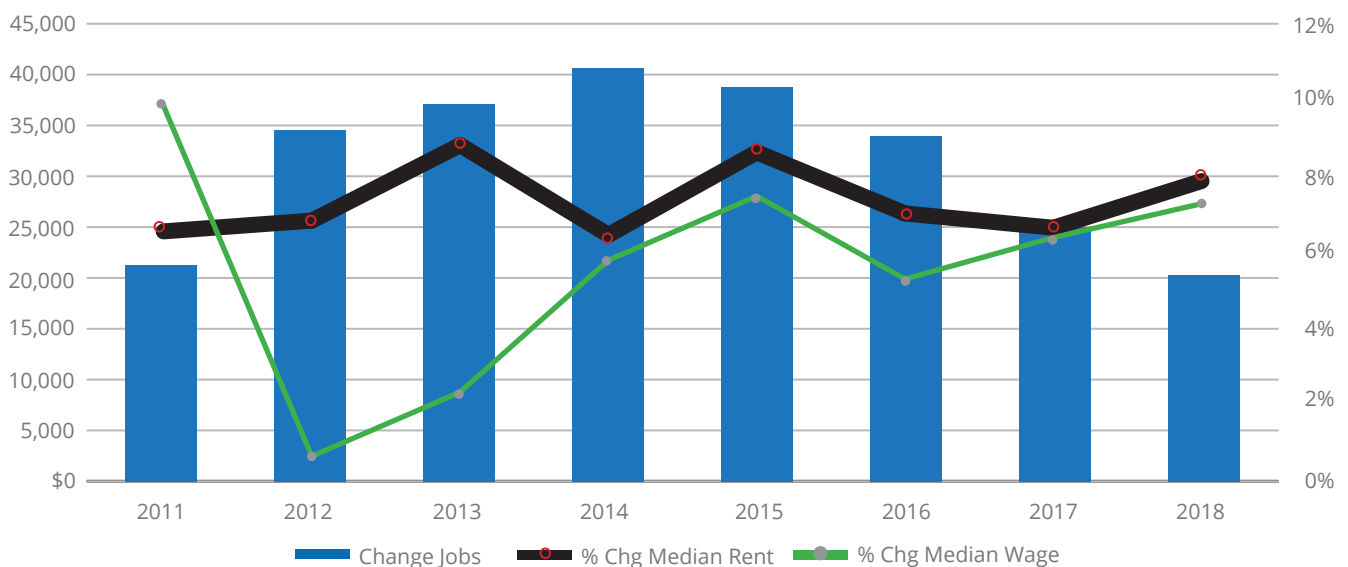


Although the success of the local economy has yielded job and wage growth, it has driven up rents. Indeed, since the current growth phase of the county economy began in 2011, the annual increase in median rent has exceeded the annual percentage increase in the annual median wage. Households that already had significant rent burdens saw their circumstances worsen over this period. In 2018 alone, the median wage increased 7.3% but the median rent rose 7.9%.

RENT INCREASES OUTPACING WAGE INCREASES DURING CURRENT EXPANSION

Source: California Employment Development Department, US Bureau of Labor Statistics, REIS

Analysis by Beacon Economics



New construction has done little to temper recent increases in the cost of housing. According to the 2017 American Community Survey, Santa Clara County had 614,386 occupied housing units in 2017, about two-thirds of which were single-family. Most of the single-family units (78.8%) were owned, and most multifamily units were rented (88.7%). Of the units built each year since 2010, three-fourths were multifamily, but the 6,500 units permitted annually equaled an increase in housing from construction of just over 1%.

SANTA CLARA COUNTY OCCUPIED HOUSING STOCK 2017

Source: U.S. Census Bureau, Analysis by Beacon Economics

Tenure	Single Family	Multi Family	Total
Owned	320,759	23,364	344,123
Rented	86,116	184,147	270,263
TOTAL	406,875	207,511	614,386

Tenure Split by Type of Housing

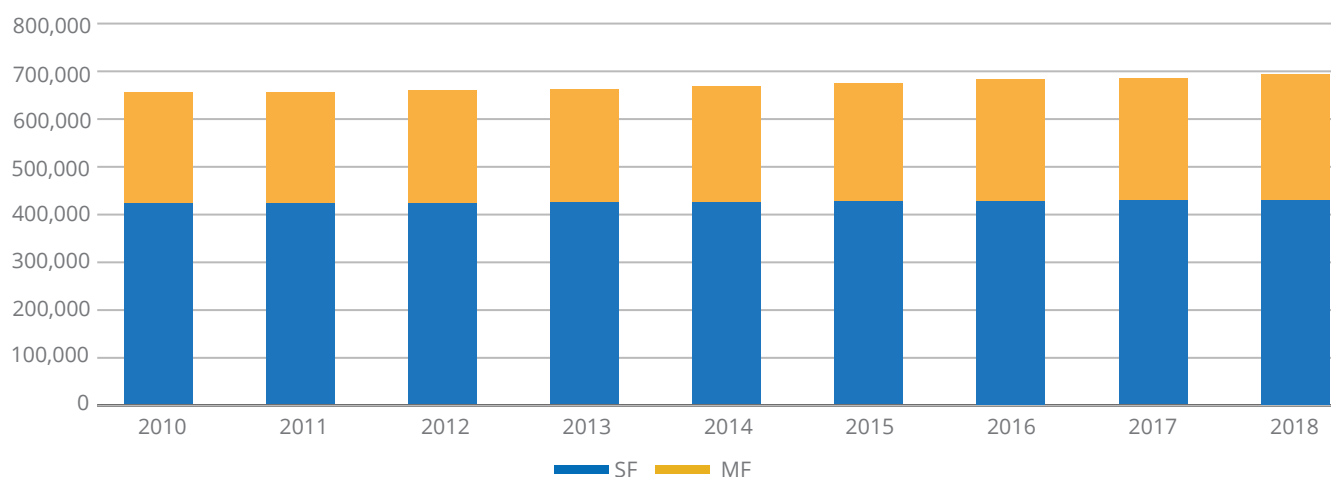
Tenure	Single Family	Multi Family	Total
Owned	78.8%	11.3%	56.0%
Rented	21.2%	88.7%	44.0%
TOTAL	100.0%	100.0%	100.0%

NOTE: Excludes mobile homes, RVs, Boats

Like much of California, however, Santa Clara County has seen new residential construction fall behind its needs. Figures from the California Department of Finance show that the total stock of housing⁴ increased 5.7% from 2010 to 2018, while population increased 9.8%, household employment grew 23.1%, and payroll jobs grew 28.8%.⁵

STOCK OF HOUSING IN SANTA CLARA COUNTY

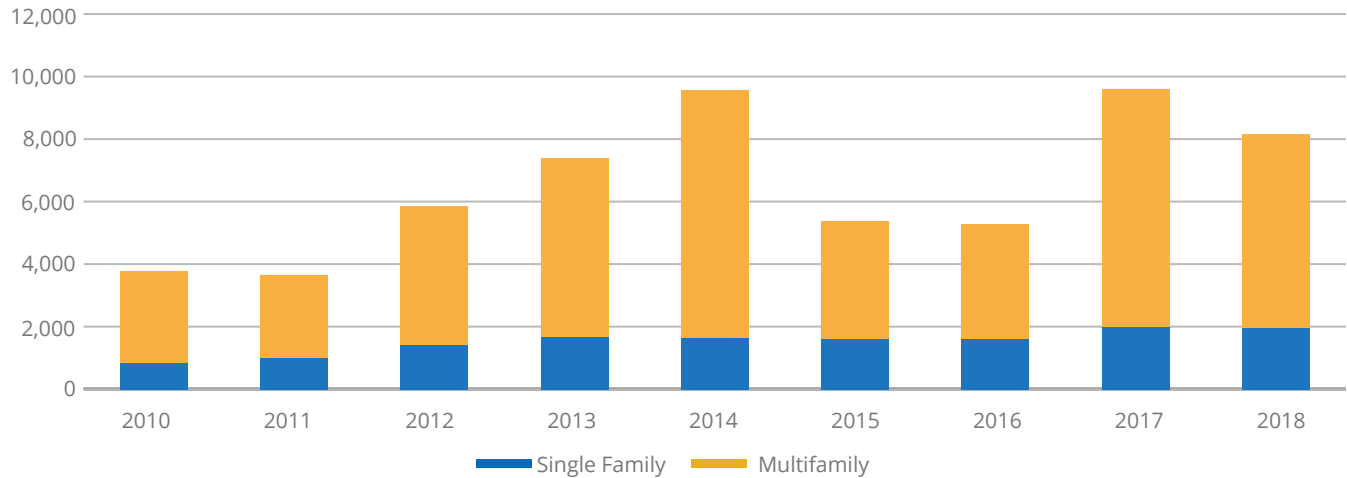
Source: California Dept of Finance, Analysis by Beacon Economics



With home construction lagging the county's needs, homes have had impressive price increases dating to mid-2012, and rents have increased steadily throughout the period.

BUILDING PERMITS BY YEAR, SANTA CLARA COUNTY

Source: Construction Industry Research Board, Analysis by Beacon Economics



In fact, despite the increase in construction over the last two years, the housing situation in the county remains challenging. The county's jobs-to-housing ratio has increased steadily since 2010 and, at 1.53 jobs per unit, is considerably above the average of 1.39 since 2000.⁶ The current (2017) county ratio also is worse than in San Francisco County (1.48), Los Angeles County (1.50) and the state as a whole (1.44). It is fractionally better than in Alameda County (1.52).

AVERAGE WAGE AND PERCENT CHANGE BY OCCUPATION

Santa Clara County

Source: California Employment Development Department, California Department of Finance, Analysis by Beacon Economics

Year	Jobs Housing Ratio	Dynamic Jobs Housing Ratio
2011	1.35	13.87
2012	1.39	8.49
2013	1.42	9.64
2014	1.46	5.70
2015	1.49	4.40
2016	1.51	3.51
2017	1.52	3.68
2018	1.53	2.46

⁴ Housing stock data from the California Department of Finance (DOF) and the Census Bureau's American Community Survey (ACS) are not identical but are roughly the same. The DOF estimated the housing stock in the county at 667,875 units, and the ACS reported 671,151 total units. Of the ACS number, 633,811 were occupied. A total of 19,400 manufactured homes, RVs, boats and similar structures were excluded from the table above, resulting in the total occupied housing count of 614,386.

⁵ Refers to employment among residents of Santa Clara County.

⁶ Measured as the ratio of resident workers to housing units, based on data from the 1-Year 2017 ACS. Alternatively, the ratio may be calculated relative to payroll jobs, which would increase the jobs-to-housing ratio by about 0.1.

In any given year over the period of expansion from 2011 to 2018, the incremental, or dynamic, jobs-to-housing ratio was much higher. Early in the expansion, the dynamic ratio reached 13.87 before decreasing last year to 2.46.

Overcrowding is yet another consequence of job and population growth outpacing the addition of housing. In 2007, 89.2% of rental units in Santa Clara County were classified as not overcrowded, with at least one room per person. By 2017, that share fell nearly four percentage points to 85.3%, while the share of crowded units (1.01 to 1.5 people per room) increased by 1.2 percentage points, and the share of severely overcrowded units doubled from 2.8% to 5.6%. Finally, as described below, rent burdens are considerable. Based on 2017 figures, 48.8% of renters were rent-burdened, meaning that they spend more than 30% of their income on rent.

RENTER OVERCROWDING INCREASING IN SANTA CLARA COUNTY

Source: US Census Bureau, American Community Survey, Analysis by Beacon Economics

Persons Per Room	% in 2007	% in 2017
Less than/equal to 1	89.2%	85.3%
1.01 to 1.5	7.9%	9.1%
At least 1.51	2.9%	5.6%
Total	100.0%	100.0%

In brief, rental housing in Santa Clara County is characterized by high and rising rents, increases in overcrowding and increases in the rental stock that have lagged growth in population and employment for several years running.

Housing Market Forecast for Santa Clara County, 2024 to 2030

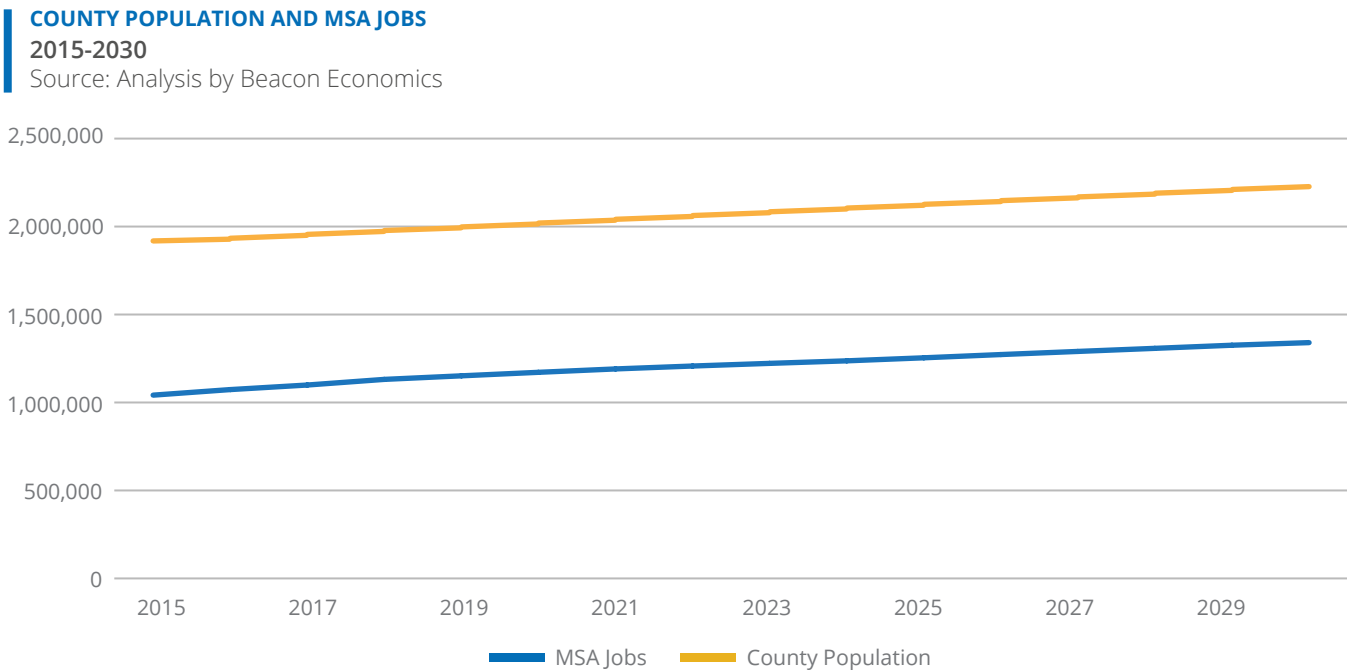
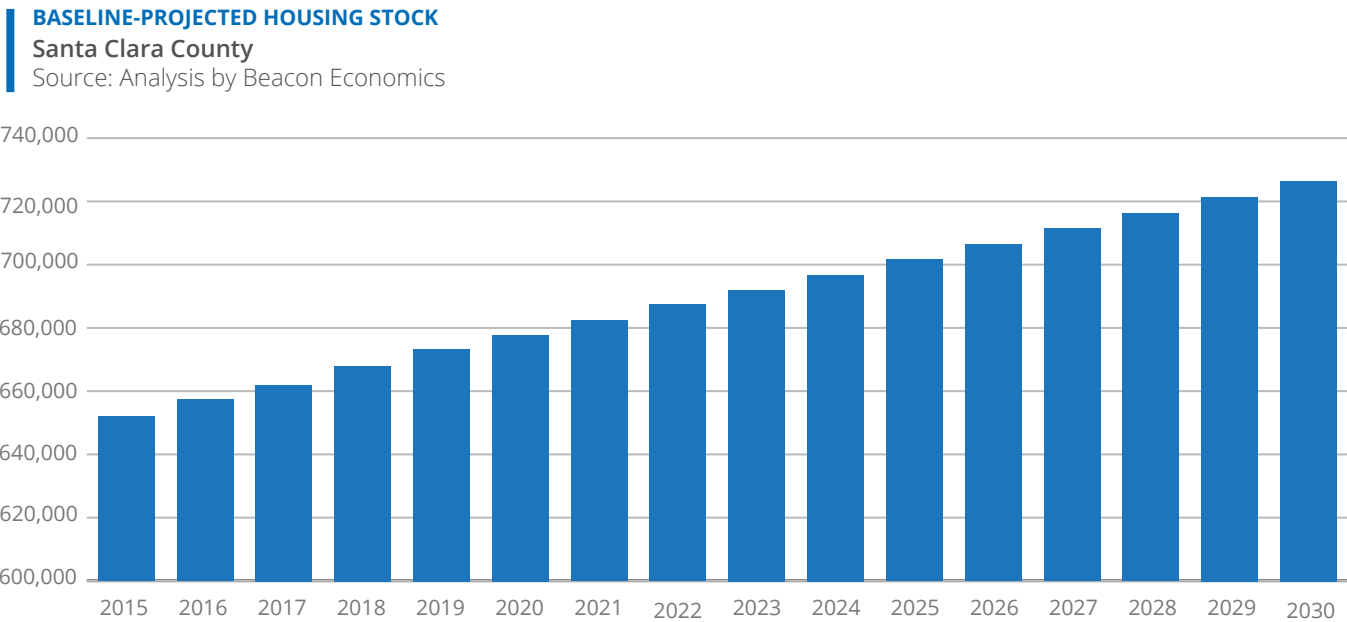
As indicated above, the historical trend shows that Santa Clara County has added housing stock at a slow pace relative to population and employment increases over the last several years. In this section, two forecasts are examined in assessing the impact of the Google campus on the county's for-sale and rental markets. In each case, the time horizon is from 2024 to 2030, a period believed to include construction of the campus and the year it becomes fully operational. The forecasts are predicated on long-run trends in economic and demographic fundamentals and, as such, do not include cyclical fluctuations such as recessions and expansions. Each high-level forecast describes the general direction of the housing stock, rents and home prices that would be expected over the forecast period, first in the absence of the Google project, and second, with the Google project but with no direct housing supply response. The forecasts are described as follows:

- The Baseline forecast describes the housing market in the absence of the new Google campus. It projects the housing stock, rents and home prices from 2024 to 2030. Implicit in the Baseline forecast are status quo conditions for the ratio of jobs to housing, the degree of overcrowdedness in the housing stock, commuting patterns and a continuation of trends in rent burdens. As noted earlier, the jobs-to-housing ratio in the county has risen in recent years as job growth has outpaced new housing, while overcrowding and heavy rent burdens also characterize the current situation.
- The Google Campus No-Direct Response (No Response) forecast describes rents and home prices as Google employment grows but without a direct housing supply response to that increase. This forecast is an extension of the Baseline forecast and, as such, implies a continuation of trends in the ratio of jobs to housing, overcrowded housing conditions, commuting patterns and rent burdens, compounded by the addition of the Google campus workforce.

The forecasts describe the effect of the proposed Google campus on home prices and rents in the extreme case in which recent trends in construction proceed but with no construction occurring directly in response to the campus. The forecasts reflect recent and projected market, economic and demographic fundamentals, which include the stock of housing, population, income growth and employment by major industry. Data on the housing stock for Santa Clara County are available dating to 1991, and data for San Jose begin in 1996. For both the county and the city, an annual time series is used. The forecast methodology uses standard time-series econometric techniques based on historical correlations and forecasts of future economic trends. In general, local forecasts at the city and county level are driven in part by a combination of local variables and “drivers” at the state and national level. High-level forecast scenarios are developed here for Santa Clara County. Similar scenarios for San Jose are discussed below.

Baseline Forecast, No Google Campus

Santa Clara County had about 668,000 housing units in 2018 according to the California Department of Finance. According to the Baseline forecast, the housing stock will grow to 726,400 units by 2030, increasing at an annual average rate of 0.7%.



The Baseline projection depends in part on population and jobs projections over the forecast horizon from 2024 through 2030. The population projection over forecast horizon was based upon California Department of Finance annual estimates through 2015, with the Department's projections applied to the period from 2019 through 2030. Population is projected to grow by 6% from 2024 through 2030 or about one percent per year. The MSA jobs projection was developed by Beacon Economics. Over the period 2024 through 2030, jobs are expected to grow by 8.5% or approximately 1.4% per year.

The Baseline forecast represents the future stock of housing, given forecasts of fundamental demographic and economic indicators over time. Put differently, it represents the outcome from status quo assumptions about recent trends in population and employment growth, the number and mix of permitted units, household size, overcrowding and commuting patterns. It also reflects the outcomes that would be expected, given current land use and economic development policies.

The jobs-to-housing ratio edged up from 1.35 jobs per housing unit in 2011 to 1.53 jobs per unit in 2018. But this trend obscures the impact of insufficient housing production at the margin. Over that period, the region added 191,400 jobs (about 24,000 per year) but only 36,435 housing units (equivalent to roughly 4,600 per year), for a ratio of 5.25. In turn, rents increased 7.3% on average over the period, outpacing the 5.6% increase in average wages, while household size and the degree of overcrowding increased and many workers endured longer commuting times.

This scenario, implies an increase of roughly 17,100 jobs per year from 2024 to 2030. Over the same period, the stock of housing is expected to grow by an average of 4,900 units annually. Based on these forecasts, the incremental jobs-to-housing ratio will be 3.5.

Rent and home price forecasts were also developed for the Baseline forecast. Under the Baseline forecast, the average rent rises from \$3,371 per month in 2024 to \$4,667 in 2030. The average rent is predicted to increase 38.6% from 2024 to 2030. Similarly, the median price of a home is expected to increase 40.5% from 2024 to 2030. This trajectory is predicated on status quo changes in employment, population and the number of housing units.

Google Campus, No Direct Supply Response (No Response) Forecast

In this forecast, Google builds its campus, brings in 20,000 workers, and ancillary activity results in 8,000 contract workers hired, but no new housing construction occurs in direct response to the addition of these workers. According to this forecast, growth in population and jobs exerts pressure on the housing market, but it is constrained in the sense that no new housing results as a direct consequence of Google. The forecast shows the direction of average monthly rent and the median home price expected by 2030. Comparisons

are drawn between this forecast and the previous forecast to better understand the campus' impact on the housing market.

According to the No Response forecast, average monthly rent increases from \$3,371 in 2024 to \$4,730 in 2030, increase of 40.3% compared with 38.4% under the Baseline forecast. By 2030, rent under the No Response forecast would be 1.4% higher than the Baseline forecast. Over the same period, the median home price would rise 42.2%.

With the No Response forecast, Google's staff compete at the margin for housing within the county, driving up home prices and rents over and above what they would be without the additional workers and households. Some of the workers would be drawn from the existing regional and county labor pool and would not move; others would compete successfully for housing in the county; and others would be drawn from the larger region, either hired away from other employers or moving to the area, but not moving to the county.

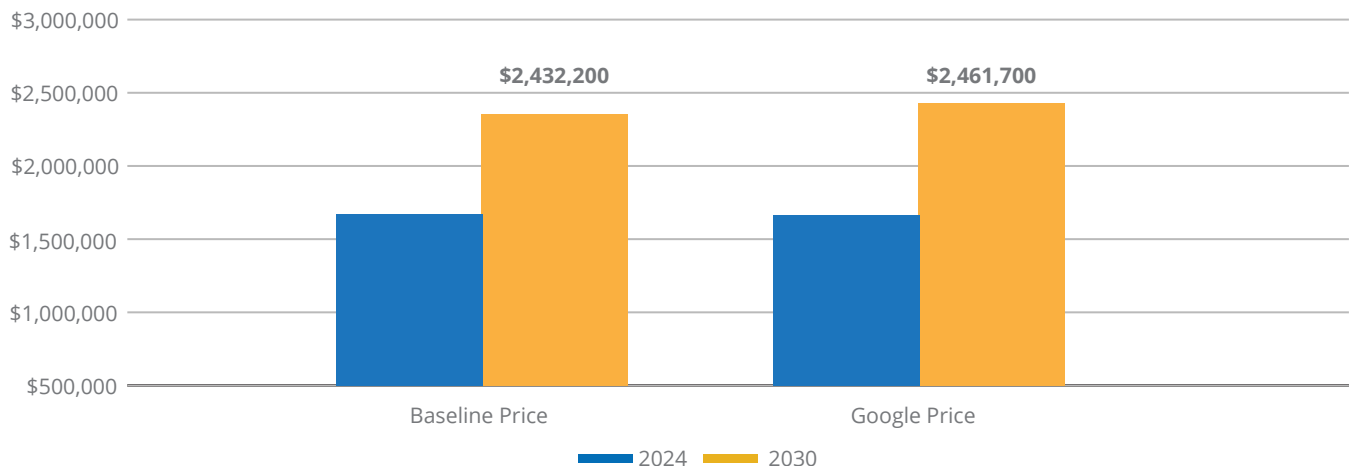
SANTA CLARA CONTRACT RENT BY SCENARIO

Source: Analysis by Beacon Economics

Year	Monthly			Annual			% Change/Yr	
	Baseline	Google	Difference	Baseline	Google No Response	Difference	Baseline	Google No Response
2024	\$3,371.42	\$3,371.42	\$0.00	\$40,457	\$40,457	\$0	--	--
2025	\$3,567.62	\$3,568.08	\$0.46	\$42,811	\$42,817	\$6	5.82%	5.83%
2026	\$3,768.65	\$3,776.13	\$7.47	\$45,224	\$45,314	\$90	5.64%	5.83%
2027	\$3,976.59	\$3,996.41	\$19.83	\$47,719	\$47,957	\$238	5.52%	5.83%
2028	\$4,193.61	\$4,228.22	\$34.61	\$50,323	\$50,739	\$415	5.46%	5.80%
2029	\$4,422.72	\$4,472.48	\$49.76	\$53,073	\$53,670	\$597	5.46%	5.78%
2030	\$4,666.59	\$4,730.38	\$63.79	\$55,999	\$56,765	\$765	5.51%	5.77%

MEDIAN PRICE INCREASE 1.7% GREATER WITH GOOGLE

Source: Analysis by Beacon Economics



One way to quantify the impact of the Google campus on renters is to estimate the total differential rent impact across all renters. If the average rent under the No Response forecast is \$765 per year higher than the Baseline forecast, and assuming 307,000 households in 2030, aggregate rent for Santa Clara County renters would be roughly \$235 million higher under the No Response forecast than the Baseline forecast.⁷

Housing Market Forecast for San Jose, 2024 to 2030

When a large corporation establishes a significant presence in a city, or increases its presence in a significant way, the housing market may be affected in a substantive way. County results cited above estimate the potential impact on rents and home prices that may result from the campus. Similar analysis was performed regarding San Jose.

San Jose was estimated to have 310,278 occupied housing units in 2017, about two-thirds of which were single-family. Most of the single-family units (77.7%) were owned, and most multifamily units were rented (88.3%).

SAN JOSE COUNTY OCCUPIED HOUSING STOCK 2017

Source: U.S. Census Bureau, Analysis by Beacon Economics

Tenure	Single Family	Multi Family	Total
Owned	163,057	11,792	174,849
Rented	46,762	88,667	135,429
TOTAL	209,819	100,459	310,278

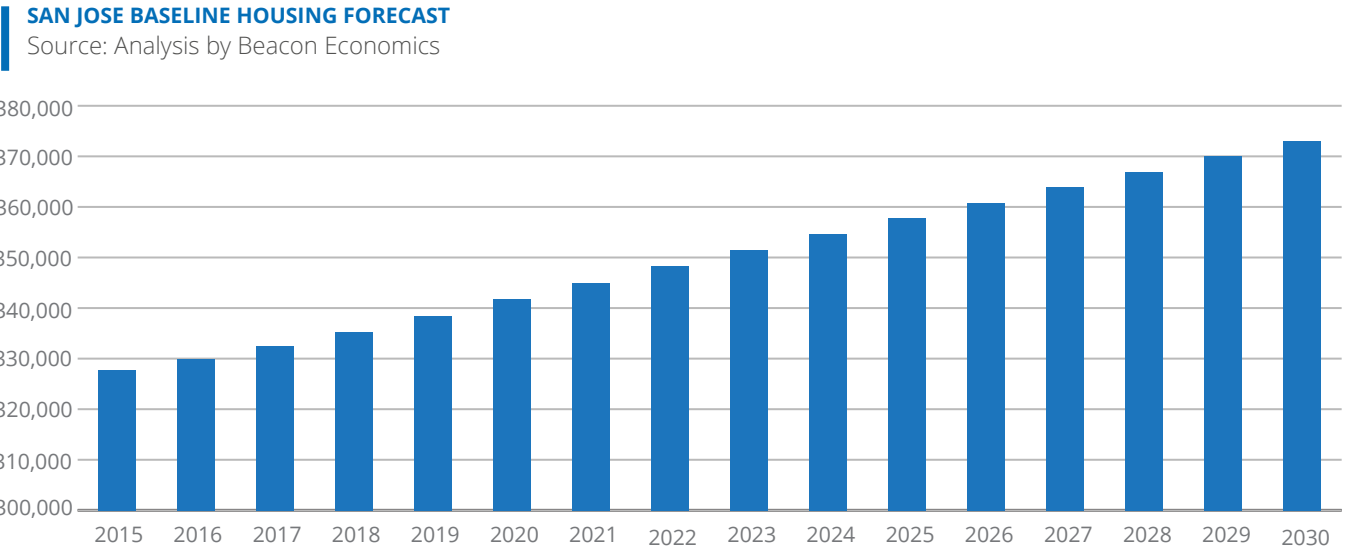
Tenure Split by Type of Housing

Tenure	Single Family	Multi Family	Total
Owned	77.7%	11.7%	56.4%
Rented	22.3%	88.3%	43.6%
TOTAL	100.0%	100.0%	100.0%

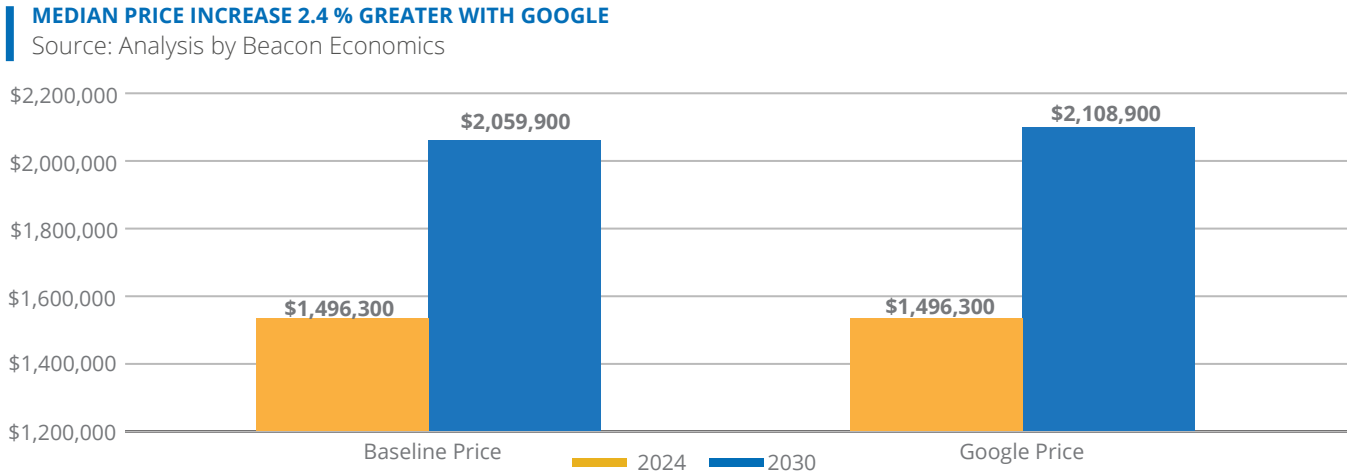
As with the county analysis, baseline forecasts were established for the housing stock, the median home price and average rent. Second, forecasts showed the campus' impact on housing. Home price and rent forecasts were also developed under the above scenarios. The forecasts predict the effect of the campus on home prices and rents under circumstances that closely resemble the current pattern of home construction.

⁷ Beacon projects 726,400 housing units in the county as of 2030. Assuming a vacancy rate of 4% based on the average vacancy rate from 2010 to 2018 and assuming the renter share in 2030 is roughly equal to the 44% share in 2017, there would be about 307,000 units in the rental housing stock.

San Jose had about 335,200 total housing units in 2018, according to the California Department of Finance, including vacant units.⁸ According to the baseline forecast, the housing stock will grow to 373,000 units by 2030, increasing 0.9% annually on average.



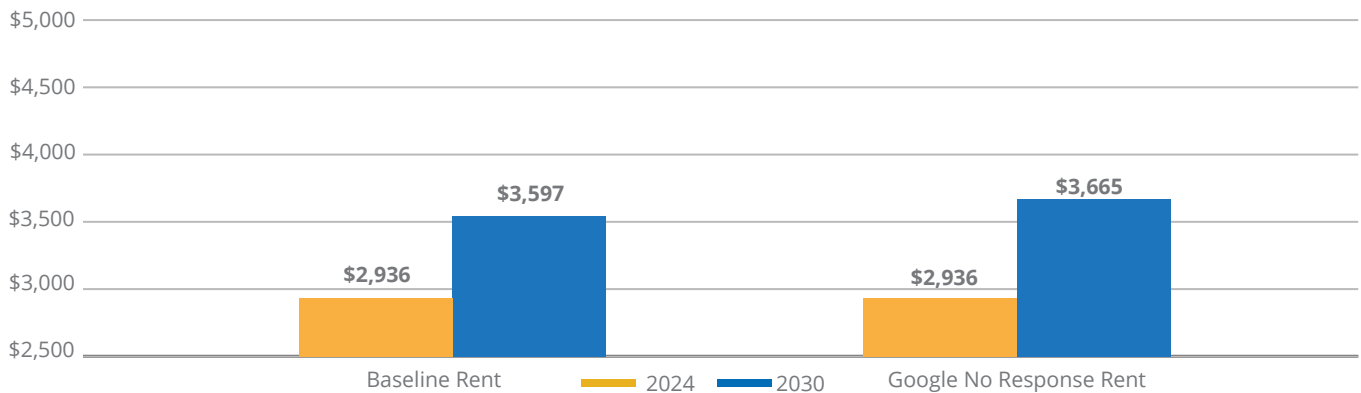
Home price and rent forecasts were also developed for the two scenarios. According to the baseline forecast, the median home price will increase 37.7% from 2024 to 2030. This trajectory is predicated on status quo changes in employment, population and the number of housing units. Similarly, the average monthly rent is predicted to increase 22.4% from 2024 to 2030. In the absence of a direct supply response to the Google campus, however, the median price will increase 40.9% and average rent will increase 24.5% over the period.



⁸ This is roughly the same as the estimated total of 327,000 from the American Community Survey, excluding mobile homes, RVs and boats, and 339,000 if they are included.

RENT INCREASE IS 1.9% GREATER WITH GOOGLE

Source: Analysis by Beacon Economics

**SAN JOSE CONTRACT RENT BY SCENARIO**

Source: Analysis by Beacon Economics

Year	Monthly			Annual			% Change/Yr	
	Baseline	Google	Difference	Baseline	Google No Response	Difference	Baseline	Google No Response
2024	\$2,936	\$2,936	\$0	\$35,232	\$35,232	\$0	--	--
2025	\$3,057	\$3,068	\$11	\$36,684	\$36,816	\$132	4.1%	4.5%
2026	\$3,171	\$3,201	\$30	\$38,052	\$38,412	\$360	3.7%	4.3%
2027	\$3,280	\$3,328	\$48	\$39,360	\$39,936	\$576	3.4%	4.0%
2028	\$3,386	\$3,446	\$60	\$40,632	\$41,352	\$720	3.2%	3.5%
2029	\$3,491	\$3,557	\$66	\$41,892	\$42,684	\$792	3.1%	3.2%
2030	\$3,597	\$3,665	\$68	\$43,164	\$43,980	\$816	3.0%	3.0%

The City of San Jose released estimates of the property tax from the Google campus project, projecting \$24.8 million in additional annual tax revenues for the City of San Jose after full build out of the commercial property. By comparison, with annual rents \$816 higher in 2030 under the No Response scenario compared to the Baseline scenario, aggregate annual rents will be \$127.4 million higher with the No Response scenario compared to the Baseline.⁹

As described above in the county-level analysis, if sufficient housing is built to accommodate the Google campus under status quo assumptions regarding new construction, commuting patterns, household size and the jobs-to-housing ratio, it may be possible to maintain the rent and home price trajectories that are represented by the baseline. Beyond that, if additional efforts were made to increase the share of workers who live and work in the county and increase the housing produced to achieve a better balance between job growth and housing needs, rent and home price would presumably become flatter.

⁹ Beacon projects 372,960 housing units in the city as of 2030. Assuming a vacancy rate of 4% based on the average vacancy rate from 2010 to 2018 and assuming the renter share in 2030 is roughly equal to the 44% share in 2017, there would be about 156,100 units in the rental housing stock in 2030.

Housing Needs Scenarios for Santa Clara County

The above forecasts describe the housing market through 2030 in the absence of the Google campus and with the arrival of the campus but with no direct housing supply response. Clearly, developers will have an interest in building housing for Google workers, but they must work within prevailing land use and economic development policies. This section details housing profiles that may result, based on key assumptions regarding how the county and city respond to the arrival of the campus.

Two detailed scenarios are considered.

- The Google Status Quo Response (Status Quo) scenario describes the real estate development that would occur if campus is met with a housing response that maintains ongoing trends in the jobs-to-housing ratio, commuting patterns, rent burdens and overcrowding. It is characterized by the mix of housing that would correspond to a continuation of these trends.
- The Google Alternative Scenario describes housing that corresponds to a hypothetical effort to go beyond the status quo and achieve improved levels of in-county commuting and the jobs-to-housing ratio.

The detailed scenarios are based on profiles of Google workers and service workers. Workers are described by occupation along with selected household characteristics and commuting behavior. Of particular interest:

- Incomes
- Number and type of housing units
- Jobs per housing unit
- Commuting patterns

This analysis assumes that the labor market from which the Google campus would draw its workers is regional, comprising Santa Clara, San Mateo and Alameda counties. This assumption is consistent with the behavior of workers in large metropolitan areas who tend to disregard political boundaries in choosing where to work; many live in one county and work in another. As such, the worker profiles are derived from American Community Survey data for these three counties, with one exception: cross-county commuting patterns are specific to Santa Clara County. The rationale behind this exception is that increasing the in-county share of workers is a policy target in the scenario analysis that follows.

Google Worker Housing Profile

A profile of Google workers and their housing needs was based on worker and housing information for the NAICS Code 519130 in the region comprising Santa Clara, San Mateo and Alameda counties. This code corresponds to Google's primary activity, Internet Publishing and Broadcasting and Web Search Portals. The profile is based on data from the 2017 American Community Survey.

Many of the occupations are associated with six-figure annual salaries and much higher median household incomes. Despite their relatively high salaries, only 8 of the 14 occupations have more homeowners than renters. Finally, more than half of the workers in each of the occupations shown live and work in their home county.¹⁰ High average home values and high average rents prevail across virtually all of the occupational categories, consistent with general real estate in the county.

The detailed data in this section and the rest of the report draw primarily from the Public Use MicroSample or PUMS microdata of the American Community Survey, which allows greater flexibility in developing cross-tabulations. Estimates generated with PUMS microdata will be slightly different from the pretabulated estimates for the same characteristics published in American FactFinder. These differences are due to the fact that the PUMS files include only about two-thirds of the cases that were used to produce estimates on American FactFinder, as well as additional PUMS edits. More information on the PUMS sample design is available in the Accuracy of the PUMS document.

GOOGLE WORKER PROFILE

Source: U.S. Census Bureau, Analysis by Beacon Economics

Occupation	Median Household Income	Annual Wages	Household Size	Jobs/Housing	Share Renting	Average Rent	% Live/Work in Santa Clara County
Architecture/Engineering	\$357,000	\$253,810	3.1	1.9	36.5	\$2,665	71.1
Arts/Entertainment	\$278,000	\$183,920	3.1	2.1	31.6	\$2,900	57.0
Business/Financial	\$235,000	\$105,410	2.5	2.6	19.9	\$2,791	77.4
Cleaning/Grounds Keeping	\$63,000	\$23,300	3.6	2.4	67.9	\$1,495	76.3
Computer/Mathematical	\$237,700	\$181,910	2.5	1.7	62.7	\$2,643	74.4
Food Prep./Serving	\$88,660	\$28,440	2.7	1.0	65.7	\$1,800	77.1
Install./Maint./Repair	\$100,000	\$30,000	3.3	2.4	46.6	\$1,461	61.6
Legal	\$493,000	\$366,710	2.8	1.3	20.0	\$2,500	65.1
Management	\$333,000	\$256,220	2.7	1.5	32.2	\$2,503	69.9
Office/Administrative	\$158,000	\$93,110	2.0	2.7	50.0	\$2,000	72.5
Protective Service	\$169,810	\$57,440	2.0	2.8	46.2	\$1,532	57.2
Sales	\$300,000	\$225,080	3.1	1.8	58.0	\$2,984	72.0
Science	\$160,000	\$100,280	1.6	1.6	44.2	\$2,200	71.6
Transportation	\$78,000	\$20,800	3.4	2.8	68.1	\$1,569	70.4

¹⁰ For some occupations, data on worker characteristics in NAICS 519130 were limited or missing, and thus were replaced with corresponding county-level data for the same occupations.

Service Worker Housing Profile

A second profile of workers and housing needs was developed for selected occupations that provide services tied to the Google campus. These are food service, janitors, security guards and shuttle drivers.¹¹ Worker and housing information was obtained from the 2017 American Community Survey for these occupations in the three-county region.

SERVICE WORKER PROFILE

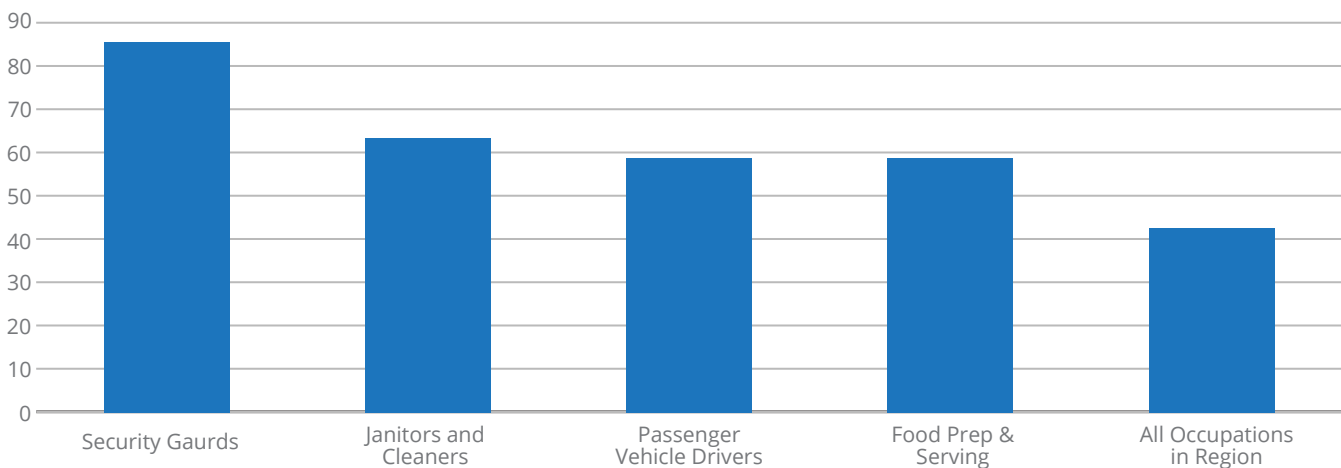
Source: U.S. Census Bureau, Analysis by Beacon Economics

Occupation	Median Household Income	Annual Wages	Household Size	Jobs/Housing	Share Renting	Average Rent	% Live/Work in Santa Clara County
Food Prep & Serving	\$66,400	\$24,150	3.4	3.8	74.8	\$1,574	77.1
Janitors and Cleaners	\$61,500	\$30,720	3.4	2.4	68.6	\$1,540	76.3
Passenger Vehicle Drivers	\$72,620	\$26,420	3.3	1.9	82.3	\$1,649	70.4
Security Guards	\$46,000	\$28,810	2.8	2.8	60.9	\$1,491	57.2

Annual wages in these occupations are lower than the average of all occupations in the region (\$73,900), as are median household incomes. Significant shares of workers in these occupations live and work in their home county. In general, they're more likely than Google staffers to rent. Although rents are generally lower for these workers, over half of these households are rent-burdened, that is, they spend more than 30% of income on housing. By comparison, across all occupations in the region, just 42% spend more than 30% of their incomes on rent. Of course, service workers have relatively lower average wages and relatively higher ratios of jobs to housing than Google occupations, as shown in the previous table.

SHARE SPENDING AT LEAST 30% OF INCOME ON RENT

Source: U.S. Census Bureau, Analysis by Beacon Economics



¹¹ Working Partnerships USA estimated that 8,000 contract workers may be hired at the Google campus, divided as follows: food service (39%), janitors (13%), security guards (39%) and drivers (8%).

With these profiles of the Google workers and the four service worker occupations, it is possible to define housing needs associated with the workforce expected at the proposed campus.

Google Campus Status Quo Scenario

When this scenario is applied to the projected number of Google workers and service workers, we can estimate their housing needs stratified by occupation, commuting patterns, the split between owner-occupied and rent units, and household income. Implicit in this estimate are status quo conditions that include a continuation of housing cost burdens, overcrowding and the current relatively high jobs-to-housing ratio.

The link from the housing forecasts earlier in the report to the estimated housing needs is the jobs-to-housing ratio. Given the distribution of the Google workforce among occupations in the Google worker profile, and given the current jobs-to-housing ratio for each occupation, 11,374 housing units will be needed to accommodate the expected 20,000 positions at the campus.

After accounting for the workers by occupation who live and work in the county, 8,245 units will be needed in the county. Further, by applying the renter/owner shares by occupation to that figure, 4,213 multifamily (rental) units will be needed along with 4,032 single-family (owner-occupied) units.

STATUS QUO HOUSING NEEDS-GOOGLE WORKERS

Source: Analysis by Beacon Economics

Occupation	Share of Total	Number of Workers	Jobs/Housing	Units Needed	Work/ Live in Santa Clara	Units Needed-Commute Adjusted	% Renter	MF Units Needed	SF Units Needed	Median Household Income	Income Category
Cleaning/Grounds Keeping	0.4%	77	2.37	32	76.3%	24	67.9%	16	8	\$63,000	Low
Transportation	0.2%	49	2.76	18	70.4%	13	68.1%	9	4	\$78,000	Low
Food Prep./Serving	0.8%	163	1.00	162	77.1%	125	65.7%	82	43	\$88,660	Moderate
Install./Maint./Repair	0.3%	55	2.38	23	61.6%	14	46.6%	7	7	\$100,000	Moderate
Office/Administrative	3.4%	673	2.65	254	72.5%	184	50.0%	92	92	\$158,000	High
Science	1.6%	319	1.63	195	71.6%	140	44.2%	62	78	\$160,000	High
Protective Service	0.9%	177	2.78	64	57.2%	37	46.2%	17	20	\$169,810	High
Business/Financial	8.4%	1,675	2.57	652	77.4%	505	19.9%	100	405	\$235,000	High
Computer/Mathematical	47.6%	9,515	1.69	5,643	74.4%	4,200	62.7%	2,633	1,567	\$237,700	High
Arts/Entertainment	4.0%	807	2.06	392	57.0%	223	31.6%	70	153	\$278,000	High
Sales	10.4%	2,079	1.76	1,178	72.0%	848	58.0%	491	357	\$300,000	High
Management	13.1%	2,619	1.48	1,764	69.9%	1,233	32.2%	397	836	\$333,000	High
Architecture/Engineering	7.9%	1,572	1.91	824	71.1%	586	36.5%	214	372	\$357,000	High
Legal	1.1%	219	1.27	173	65.1%	113	20.0%	23	90	\$493,000	High
All Google Occupations	100.0%	20,000		11,374		8,245		4,213	4,032	\$242,000	

A similar approach is used to estimate the housing needs of the 8,000 contract service workers. Again, using the jobs-to-housing ratio as the link from the housing forecasts to the estimated housing needs, and given the distribution of the service workers among occupations shown, 2,750 housing units will be needed to accommodate the anticipated 8,000 workers at the campus.

STATUS QUO HOUSING NEEDS-GOOGLE WORKERS

Source: Analysis by Beacon Economics

Occupation	Share of Total	Number of Workers	Jobs/Housing	Units Needed	Live/Work in Santa Clara County	Units Needed-Commute Adjusted	% Renter	MF Units Needed	SF Units Needed	Median Household Income	State Income Level
Security Guards	39.5%	3,158	2.79	1,132	57.2%	648	60.9%	395	253	\$ 46,000	Very Low
Janitors and Cleaners	13.2%	1,053	2.35	448	76.3%	342	68.6%	235	107	\$ 61,500	Low
Food Prep & Serving	39.5%	3,158	3.81	829	77.1%	639	74.8%	478	161	\$ 66,400	Low
Passenger Vehicle Drivers	7.9%	631	1.85	341	70.4%	240	82.3%	198	42	\$ 72,620	Low
Total	100.0%	8,000		2,750		1,869		1,306	563		

After accounting for the share of workers by occupation who live and work in the county, 1,869 units will be needed in the county. Further, by applying the renter/owner shares by occupation to that figure, 1,306 multifamily (rental) units will be needed along with 563 single-family (owner-occupied) units.

When these housing needs are organized by household income, it is possible to stratify housing needs by California Department of Housing and Community Development (HCD) state income limits for 2017. For that year, the department estimated the area median income at \$113,300 and the income limits as follows:

SANTA CLARA COUNTY 2017 INCOME LIMITS (HCD)

Source: California Housing and Community Development, Analysis by Beacon Economics

Income Categories	Lower	Upper
Extremely Low	\$0	\$35,800
Very Low	\$35,800	\$59,700
Low	\$59,700	\$84,900
Moderate	\$84,900	\$135,950
Above Moderate	\$135,000	none

Income limits here correspond to a household of four. In fact, the HCD provides income limit estimates for households ranging from one to eight people. For example, the upper income bound for low-income households ranged from \$59,400 for a one-person household to a high of \$112,500 for an eight-person household, with \$84,900 corresponding to a four-person household.

In all, 14,124 housing units will be needed if the status quo is maintained in terms of jobs-to-housing ratios, commuting patterns and renter/owner shares. Of these, 10,114 will be in Santa Clara County, (5,519 multifamily and 5,595 single-family units). Most of the housing needs are based on the 20,000 staff jobs at the Google campus. Because many of those positions are highly compensated, most of the housing needs (11,139 units) fall in the High Income range.

HOUSING MIX STATUS QUO SCENARIO

Source: Analysis by Beacon Economics

Google Workers	All Units	In County	MF/Rentals	SF
Extremely Low/Very Low Income	0	0	0	0
Low Income	50	37	25	12
Moderate	185	139	89	50
High	11,139	8,069	4,099	3,970
TOTAL	11,374	8,245	4,213	4,032

Service Workers	All Units	In County	MF/Rentals	SF
Extremely Low/Very Low Income	1,132	648	395	253
Low Income	1,618	1,221	911	310
Moderate	0	0	0	0
High	0	0	0	0
TOTAL	2,750	1,869	1,306	563

All Workers	All Units	In County	MF/Rentals	SF
Extremely Low/Very Low Income	1,132	648	395	253
Low Income	1,668	1,258	936	322
Moderate	185	139	89	50
High	11,139	8,069	4,099	3,970
TOTAL	14,124	10,114	5,519	4,595

If met, the housing needs specified here should enable the county to absorb the additional workforce while keeping the median home price and monthly rent on their baseline trajectories. Although this analysis assumes that the new campus would generate 28,000 jobs, it makes no assumptions about whether the workers would be hired from other firms in the county or somewhere else. Regardless, if current patterns prevail in terms of commuting and housing preferences, the county would need 10,114 units to prevent the new campus from driving up prices and rents beyond the baseline trajectory.

Google Campus Alternative Scenario

The estimated housing needs presented thus far assume recent historical patterns of housing occupancy, commuting within the county or to/from another county, and other housing preferences. As such, they represent housing that, if constructed, would keep home prices and rents on the baseline trajectory. However, as described earlier, the county's trend in building housing has severely lagged growth in its population and job base. As such, it would be worthwhile to consider ways to improve the county's homebuilding. In particular, alternatives to the status quo may:

- improve the jobs-housing ratio, meaning that more housing would be built per new job
- improve the current pattern of commuting, that is, increase housing to increase in-county resident workers.

The Alternative Scenario illustrates the implications of setting goals for a larger share of in-county workers and a better balance between job growth and new housing. Two assumptions:

- Recognizing that recent county building trends have been insufficient, sufficient housing will be built to achieve the statewide ratio of 1.35 jobs per housing unit (statewide ratio of 1.35 is based on 10-year trend from 2007-2016) rather than the county's status quo of 1.5.
- Given that the share of workers in Google's industry who live and work in the county is much lower, at 70.4%, than the countywide average, build sufficient housing to achieve the countywide average of 85.5%.

Each of these assumptions is feasible, to the extent that they already prevail, even if they are not found among the likely workers at the Google facility. By achieving these targets for Google workers, the county and city will move incrementally closer to improving housing conditions overall.

Given these assumptions, the requisite total number of units would increase to 20,740, of which 17,734 would be in the county, including 9,831 multifamily and 7,903 single-family units. As before, most of the housing needs are based on the 20,000 staff jobs at the Google campus. As such, a large part of the housing needs (12,450 units) fall in the High Income range. Still, the scenario calls for 5,284 units to meet the needs of low- and moderate-income households, including 3,639 rental units.

HOUSING MIX ALTERNATIVE SCENARIO

Source: Analysis by Beacon Economics

Google Workers	All Units	In County	MF/Rentals	SF
Extremely Low/Very Low Income	0	0	0	0
Low Income	94	81	55	26
Moderate	161	137	84	53
High	14,560	12,450	6,192	6,258
TOTAL	14,815	12,668	6,331	6,337

Service Workers	All Units	In County	MF/Rentals	SF
Extremely Low/Very Low Income	2,339	2,000	1,218	782
Low Income	3,586	3,066	2,282	784
Moderate	0	0	0	0
High	0	0	0	0
TOTAL	5,925	5,066	3,500	1,566

All Workers	All Units	In County	MF/Rentals	SF
Extremely Low/Very Low Income	2,339	2,000	1,218	782
Low Income	3,680	3,147	2,337	810
Moderate	161	137	84	53
High	14,560	12,450	6,192	6,258
TOTAL	20,740	17,734	9,831	7,903

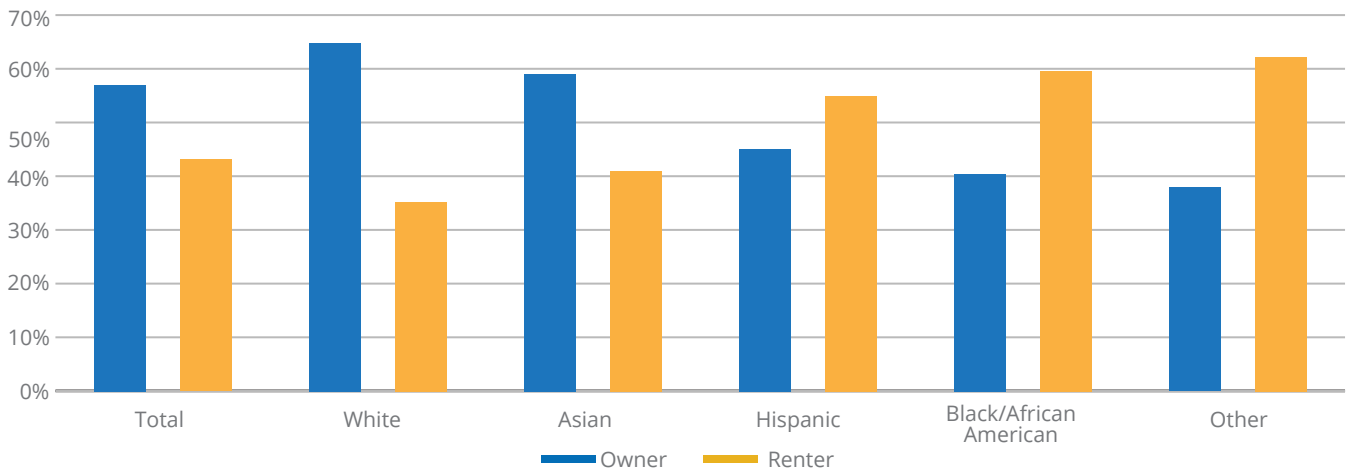
By design, this scenario is intended to achieve improvements in the jobs-to-housing ratio and the share of workers who live and work in the county. By improving the latter, it implicitly reduces the number of long-distance and super-commutes. It may also indirectly improve overcrowding, although this is not a stated goal of this scenario.

Renter Profiles for Santa Clara County and San Jose

With a population of 1.96 million in 2018, Santa Clara County is the sixth-largest county in California. Its median income is among the highest in the state, but rents are also high. This section examines housing burdens for renters in the county, with attention devoted to income and ethnicity.

The county homeownership rate was 57% in 2017, based on the American Community Survey public use micro-sample (PUMS) compared with 55% for the state as a whole. There were 43% renting households in the county. Nearly 90% of rental housing is multifamily with substantial numbers of properties having many units.

SANTA CLARA COUNTY HOUSEHOLDS BY TENURE STATUS
Source: U.S. Census Bureau, Analysis by Beacon Economics



By ethnicity, most white (non-Hispanic) and Asian households own their homes, and most Hispanic, black and other households are renters. There are significant disparities in household income as well, which partly explains the differences in owning versus renting. For example, Asian-Americans’ household income is 19% higher than the median, but their average rent is just 5% above average, while the household income of Hispanics is 28% lower than the overall average, yet their average rent is just 10% below average.

HOUSEHOLD INCOME AND RENT BY ETHNICITY, SANTA CLARA COUNTY
Source: U.S. Census Bureau, Analysis by Beacon Economics

	Median Household Income	Average Rent
Total	\$89,000	\$2,100
White	\$110,000	\$2,300
Asian	\$106,230	\$2,200
Hispanic	\$64,000	\$1,900
Black/African American	\$60,000	\$1,800
Other	\$62,000	\$1,800

As a result, there are considerable differences in rent burdens. While renters on average spend 28% of their income on rent, whites and Asians devote closer to 25% to rent, while the other ethnicities spend roughly 35% on their rent. More than half of Hispanics and African-American households are rent-burdened, and these groups have a much higher incidence of extreme rent burden, meaning that they spend at least 50% of their income on rent.

RENT BURDEN BY ETHNICITY

Source: U.S. Census Bureau, Analysis by Beacon Economics

Race	Average Rent % of Income	Share Rent Burdened 30%+	Share with Extreme Rent Burden 50%+
Total	28.3%	48.8%	25.8%
White	25.1%	44.8%	22.0%
Asian	24.9%	41.8%	22.4%
Hispanic	35.6%	56.5%	28.9%
Black/African American	36.0%	53.2%	33.7%
Other	34.8%	63.2%	35.5%

Even a modest rent increase over time will worsen the rent burden on households, to the extent that their incomes grow more slowly than their rent. From 2007 to 2017, average rent increased by a compound annual average rate of 5.8% overall, with rent increases varying somewhat by ethnicity. Over the same period, average household income increased at a compound annual rate of 5.4%, with growth rates varying from 3.9% for African-American households to 6.4% for Hispanic households.

COMPOUND ANNUAL GROWTH RATES FOR RENTER HOUSEHOLD INCOME AND RENT BY ETHNICITY 2015-2030

Source: Census Bureau, American Community Survey, Analysis by Beacon Economics

Race	Income	Rent
Total	5.4%	5.8%
White	6.0%	5.9%
Asian	5.0%	6.2%
Hispanic	6.4%	5.6%
Black/African American	3.9%	6.1%
Other	3.5%	5.0%

Assuming historical relative changes in rents and incomes by ethnic group are maintained from 2017 to 2030, rent burdens will change, in some cases quite dramatically, with the largest increase occurring among African-American renting households, smaller increases for Other Race and Asian households, and a modest decrease for Hispanic households.

RENT AS % OF INCOME OVER TIME, COUNTY

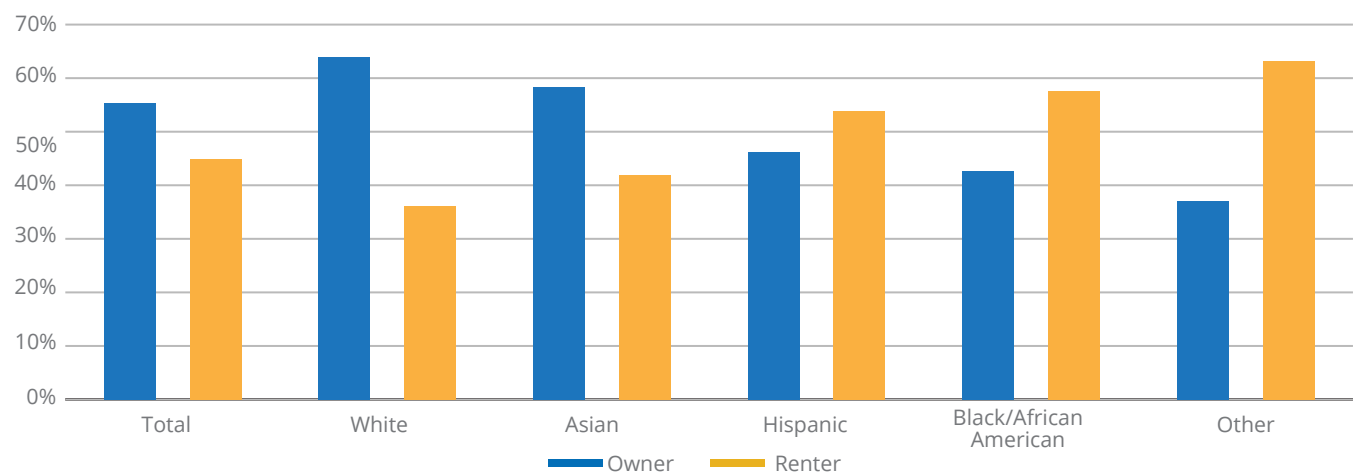
Source: Analysis by Beacon Economics

Race	2017 Average Rent % of Income	2030 Average Rent % of Income
Total	28.3%	29.5%
White	25.1%	24.7%
Asian	24.9%	28.9%
Hispanic	35.6%	32.3%
Black/African American	36.0%	47.1%
Other	34.8%	42.3%

Turning to San Jose, the city is home to 1.05 million residents or just over half the county's population. Homeownership and renter rates vary slightly from the county as a whole, but a majority of whites and Asians are homeowners in the city, while the other ethnic groups are mostly renters.

SAN JOSE HOUSEHOLDS BY TENURE

Source: U.S. Census Bureau, Analysis by Beacon Economics



Similar to the county as a whole, there are considerable differences in income and rent across ethnicities. For example, White household income is 24% higher than the overall median, but their average rent is just 10% higher than the overall average, while the household income of Hispanics is 16% lower than the overall average, yet their average rent is just 5% below the overall average rent.¹²

¹² The tables and analysis that follow omit the Black/African Americans because there are large margins of errors associated with the statistics for this population due to its small sample size.

HOUSEHOLD INCOME AND RENT BY ETHNICITY**San Jose**

Source: U.S. Census Bureau, Analysis by Beacon Economics

	Median Household Income	Average Rent
Total	\$80,000	\$2,000
White	\$99,000	\$2,200
Asian	\$90,000	\$2,100
Hispanic	\$67,000	\$1,900
Black/African American	\$53,020	\$1,900
Other	\$62,000	\$1,800

In general, rent burdens are somewhat more onerous on San Jose residents compared to the county as a whole. Overall, renter households spend 30% of their income on rent, with Whites and Asians slightly below the overall average, and the other groups exceeding the average. The shares of households that are rent burdened and extremely rent burdened are highest among those in the Other category.

RENT BURDEN BY ETHNICITY**San Jose**

Source: U.S. Census Bureau, Analysis by Beacon Economics

Race	Average Rent % of Income	Share Rent Burdened 30%+	Share with Extreme Rent Burden 50%+
Total	30.0%	52.9%	26.5%
White	26.7%	49.8%	22.5%
Asian	28.0%	44.4%	22.9%
Hispanic	34.0%	57.9%	27.0%
Black/African American	43.0%	58.5%	36.2%
Other	34.8%	65.0%	35.3%

Assuming that income and rents in San Jose in the future follow their historical trajectories over the period 2007 through 2017, it is possible to project rent as a share of income in the year 2030 by ethnicity. Household income in San Jose is projected to grow at a compound annual growth rate of 3.0% over the forecast horizon, while average rent is projected to grow by 5.1%. After accounting for variation in income and rent trajectories by ethnicity, it is expected that rent as a share of income will increase overall from 30.0% in 2017 to 39% in 2030. Rent as a share of income will increase across all income groups by 2030. However, because the sample sizes of these ethnic groups for San Jose are much smaller than those of the county, there may be considerable variability in these figures over time.

RENT AS % OF INCOME OVER TIME BY ETHNICITY**San Jose**

Source: Analysis by Beacon Economics

Race	2017 Average Rent % of Income	2030 Average Rent % of Income
Total	30.0%	38.7%
White	26.7%	31.4%
Asian	28.0%	37.1%
Hispanic	34.0%	42.0%
Other	34.8%	52.7%

To the extent that the Google campus and workforce are not met by an adequate housing response, the result at the margin will be that housing will be bid up by higher-income households with the possible, if not likely, displacement of lower-income households that are more heavily represented among minority groups such as Hispanics and those in Other ethnic groups.

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Founded in 2007, Beacon Economics, an LLC and certified Small Business Enterprise (SBE) with the state of California, is an independent research and consulting firm dedicated to delivering accurate, insightful, and objectively-based economic analysis. Leveraging unique proprietary models, vast databases, and sophisticated data processing, the company specializes in services like industry analysis, economic policy analysis, economic impact analysis, and real estate market analysis. Beacon Economics equips its clients with both the data and analysis required to understand the significance of on-the-ground realities and make informed business and policy decisions.

Since 2011, Beacon Economics has conducted multiple comprehensive analyses that have provided reliable and quantifiable data about the economic impacts generated by large events across the nation, as well as internationally. The analyses evaluate major economic impacts associated with the events, examine and define the demographic profile of attendees, and evaluate the fiscal impact of the various events' operations on national, state, and local governments. By combining sampling methods, event financial data, ticketing records, surveys and available economic resources, with current frameworks for studying economic impacts, Beacon Economics estimates the amount of economic activity generated in the local and broader economy by estimating the spending of event participants (staff, event volunteers, ticket purchasers and organizers) during their stay in the affected region.

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