SAN FRANCISCO BAY AREA

STATE OF THE REGION

ECONOMY
POPULATION
HOUSING

2015

Association of Bay Area Governments

Association of Bay Area Governments
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Foreword

This analysis was produced with support from the Association of Bay Area Governments (ABAG) member towns, cities, and counties. The report is intended to provide an evaluation of trends and an understanding of current economic conditions in the nine-county San Francisco Bay Area. The study has been completed at a time when many new resources exist for tracking the economy, including a website designed and hosted by the Metropolitan Transportation Commission (MTC) called Vital Signs, which provides snapshots of trends for a wide range of indicators. Building from these valuable resources, the State of the Region synthesizes information from economic, demographic, and land use indicators to assess how the region is changing and to what degree current strategies toward urban infill are being put into effect and to identify challenges that could be addressed in the regional context to meet the requirements for a sustainable communities strategy for the Bay Area. More detailed information on many of these indicators is available through links on the website hosting this report
http://reports.abag.ca.gov/sotr/2015 and on the Vital Signs website at
http://www.vitalsigns.mtc.ca.gov.

Our special thanks to Kristen Carnarius, David Vautin and Ken Kirkey of MTC, to Stephen Levy of the Center for the Continuing Study of the California Economy, and to Egon Terplan of SPUR for their careful review of all or parts of this document.

Special Note

In April 2016, ABAG updated Table 4.1 “Bay Area Progress in Meeting 2007-2014 Regional Housing Need Allocation (RHNA),” Figure 4.10 “Percent of RHNA Permitted by Income Category,” and Figure 4.11 “Comparison of Proportion of RHNA and Permits Issued by Income Category.” Table 4.1 and Figures 4.10 and 4.11 now all incorporate housing permitting information for the 2007-2014 planning period jurisdictions sent to ABAG after publication of the State of the Region in February, 2015.

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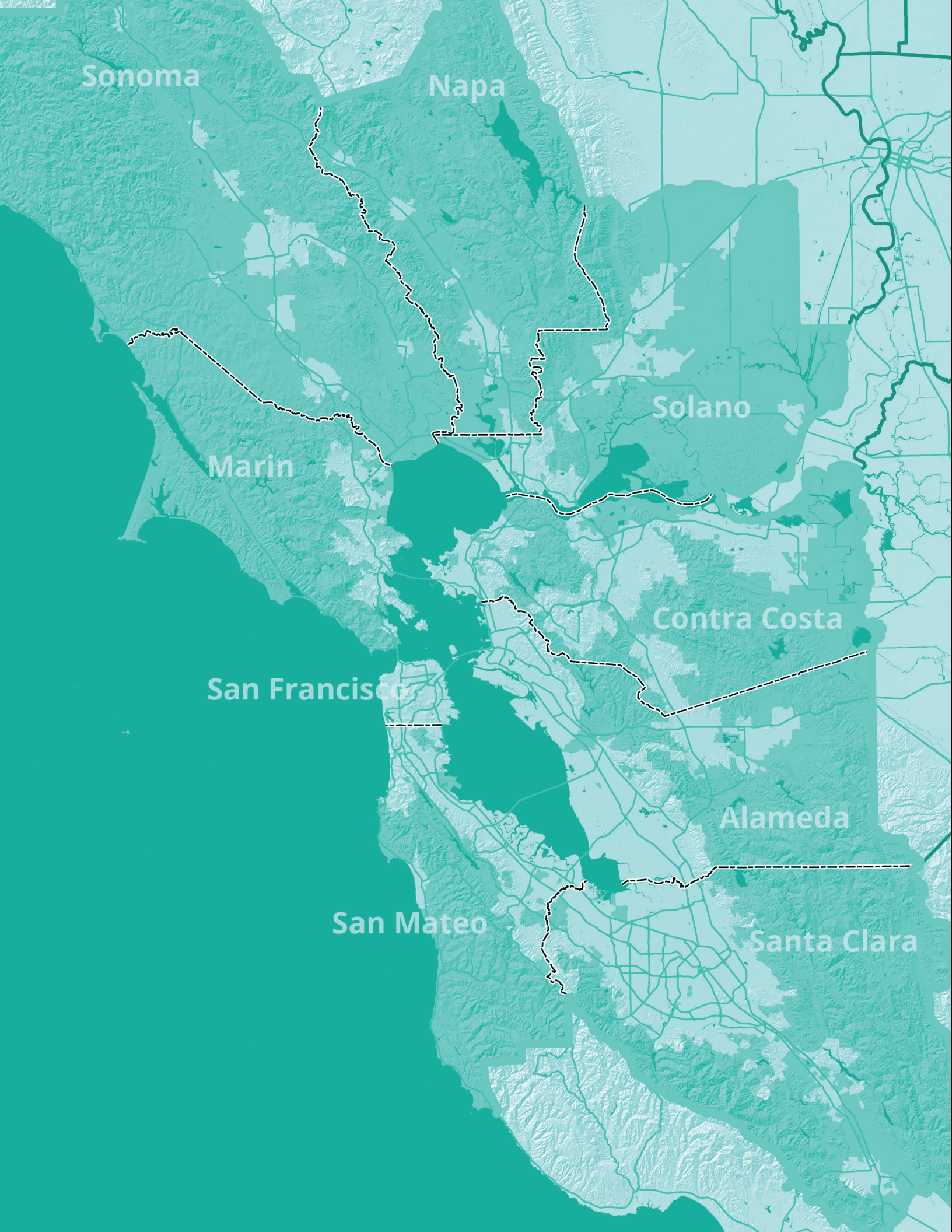
EXECUTIVE SUMMARY


Sonoma
Napa
Solano
Marin
Contra Costa
San Francisco
Alameda
San Mateo
Santa Clara

State of the Region 2015: Economy, Population, Housing

This report examines present conditions in the nine-county San Francisco Bay Area in the context of historic trends and expectations for the future. The report describes the recovery of the economy and identifies driving factors influencing industry expansion, employment opportunities, and income consequences throughout the region. A shifting population is the theme of an analysis of changing demographics generated by continuing foreign immigration, revitalized in-migration of workers seeking opportunities in the region's expanding economy, and a baby-boom population moving into retirement years. A close look at recent housing trends and housing policy shows a shift in the balance of growth from single to multifamily dwellings and from suburban and rural to urban job centers.[1]

The report consists of an introduction, four main sections addressing the regional overview, the economy, the population base, and the housing market, and a concluding section.

[1] *While some of the discussion in this report takes a long term historic context, most focuses on more recent trends. For data on longer term historic trends, visit the MTC Vital Signs web site at http://www.vitalsigns.mtc.ca.gov.*

Section 1: A Strong Recovery in the Region

The first section sets the framework of recent history and expectations. With a 9.8 percent increase in employment and 10.7 percent increase in gross regional product between 2010 and 2013, the Bay Area has outpaced both California and the US in job recovery and expanding output. Population growth has been more moderate, at 3.8 percent between April 2010 and January 2014, while the housing stock has expanded by only 1.4 percent. The sections that follow explain these short term trends in context to help shape longer term expectations.

Section 2: The Economy: Strengths and Consequences

By spring of 2013, the region had regained all of the jobs lost in the 2007 to 2009 recession, while estimates indicate that the jobs lost since the higher peak in 2000 were finally regained by the end of 2014. This rebound has spread unevenly throughout the region, with counties as diverse as San Francisco and Napa each having passed the two previous peaks in employment.

The other seven counties remain below previous peaks, although they are rapidly approaching full recovery. Long term industrial shifts continue, with steady growth occurring in health, social services and education, and leisure and hospitality, resumption of boom growth after a period of volatility in professional and business services and information, and a leveling off of declines in manufacturing employment and financial services. San Francisco has taken the largest share of new professional and technical jobs, Santa Clara the largest share of new information jobs, while the bulk of health and social service and accommodation and food job growth is distribute evenly between San Francisco, the South Bay, and the East Bay.

In all, much of the new growth has gone to sectors and locations that already are areas of competitive advantage for the region. The three fastest growing major occupation categories—computer and mathematical, food preparation, and sales and related occupations—reflect the combination of highly technical, distributive and local serving industry expansion.

Labor force participation—close to 67 percent—is higher than the average for the state or nation, and has ceased its decline from the 2009 peak. The region has a highly educated workforce, and shows signs this high education level will continue well into the future. The majority of the adult age groupings have seen growth in the share that are college educated, and most of the younger adult age groups are better educated than the next older population group. Total personal income growth (the change in the sum of all income across the entire population) has been strong in the region, although, adjusting for inflation, household incomes remain below their 2007 peak, and in six counties remain at or below 1990 levels. The number of jobs in higher wage occupations is growing more quickly than low wage or middle income jobs, while many occupational categories—whether high, middle or low wage—continue to have wages below their 2010 levels. With these trends, the Bay Area is moving in concert with other parts of the nation in seeing rising income inequality.

Section 3: A Diverse and Changing Population

The region's rate of population growth is rebounding from low levels in the previous decade, but remains far below the experience of the 1990s. The character of population growth has changed in several ways, including the location of growth, age composition of the population, and ethnic makeup. The location of growth has shifted from concentrating in the suburban and rural counties in the 1990s and 2000s to focusing on the more urban counties since 2010. Santa Clara, Alameda, and San Francisco counties, the three largest counties in the region, had the fastest rate of population growth between 2010 and 2014, with over one third of the region's population increase occurring in the cities of San Jose, San Francisco, and Oakland. However, Contra Costa County exceeded San Francisco in the number of households added, suggesting a very different age and family composition between the two counties.

Aging is happening unevenly throughout the region. San Francisco is the only one of the nine counties with a decrease in the share of population over 65, while the share is rising steadily in the other eight counties. The median age has dropped since 2007 in San Francisco, Santa Clara, Alameda, and San Mateo counties, but is increasing in the North Bay counties. Marin County has the oldest and most rapidly aging population. The region's population is also diversifying. The share of the population that is non-Hispanic white has dropped from being a majority in 2000 to 41 percent in 2013. The non-Hispanic Asian population has overtaken the Hispanic population as the most rapidly expanding population group. The larger counties with the more urban job centers have significantly higher shares of foreign born residents than the smaller and more suburban counties. The region's growth patterns are further changing with the stronger economy, as fewer people leave the region and more move into the region.

Section 4: Gauging Progress on Housing Goals

Although new housing production has lagged behind population and job growth, new construction and building permits are focusing more on existing job centers than in the recent past, and multifamily units are a growing proportion of new stock. The region's housing stock grew by less than 40,000 between 2010 and 2014, a far slower pace of growth than in the previous two decades. While the pace of construction has yet to reach that of the 2000's, the overall share of housing in the biggest cities has increased: During the 1990s, San Francisco and San Jose accounted for 22 percent of all units added; the following decade, the share was up to 28 percent, while for the period since 2010, the share had risen to 37 percent. Approximately 15,000 of the units added to the region since 2010 were single-family homes, while over 23,000 were multifamily homes. This is a continuation of a steady increase in the multifamily share of new units from 1990 to the present. While single-family units are still built predominately in the more suburban areas, multifamily construction is concentrated not only in the large urban job centers of San Jose, San Francisco, and Oakland, but also in areas that were historically suburban but have added major employment hubs, such as Dublin, Sunnyvale, Fremont, and San Ramon. These trends can be expected to continue in the near future, as reflected by the high share of building permits that are for multifamily projects.

A survey of planning departments shows a large share of new multifamily units are being permitted in priority development areas (PDAs), especially in the more urban parts of the region where the majority of new building permits have been issued.[2] The counties where the majority (or all) of new multifamily units have been permitted outside of PDAs are also counties with very small shares of these units permitted (Marin, Napa, and Solano). Using the Regional Housing Need Assessment Goals as a benchmark, only about one fourth of the region's needed production goals have been met for very low, low, and moderate income housing, compared to over 80 percent for above moderate income housing. The overall numbers are less than in the 1999 to 2006 period—not surprising when comparing two time periods divided into housing boom and bust. With the lag in housing construction and strong economic growth, housing affordability continues to be a major concern for the region. Renters have the highest levels of housing burden, higher rates of growth in housing burden, and greater levels of overcrowding, as measured with census data and using the HUD definition of more than 1.01 occupants per room. While affordability is predictably poor in San Francisco and Santa Clara counties, renter affordability is a challenge even in Alameda, Contra Costa, Marin, Napa, Solano, and Sonoma counties, where more than 50 percent of households pay over 30 percent of their income on housing. Problems of homeowner affordability also show up in both urban and rural pockets throughout the region.

Conclusion: Prospects and Challenges

The San Francisco Bay Area has experienced a decisive economic recovery from the Great Recession (which officially went from fourth quarter 2007 through second quarter 2009) and is poised for expansion. Although employment growth since 2010 has far outpaced recent history or long term expectations, in fact by the end of 2014, the region had just

[2] *A priority development area (PDA) is a locally designated infill area with frequent transit service, where a jurisdiction has decided to concentrate most of its housing and jobs growth for development in the foreseeable future.*

returned to the employment peak of 2000 (the peak of the dot-com bubble). Population and labor force are growing more slowly, not needing to match the pace of employment change because many of the "new" jobs have been filled by existing residents. Nevertheless, household growth continues, increasing the demand for new housing units, while financing for new residential construction from either the private or public sectors is less readily available than in the previous decade.

The region's challenges continue to be related to the interplay of employment change, population shifts, and housing supply.

Key uncertainties include:

- A history of job change driven by innovative but volatile industries.
- Housing and location choices of a changing population: to what degree will an increasingly urban lifestyle be the choice for aging retirees as well as for today's young adults as they begin to form families?
- Meeting the housing needs for a wide spread of income groups: the concentration of occupation growth at both the low and high ends of the wage spectrum means the region will need housing affordable to households at multiple income levels.
- Whether new business centers and residential development will concentrate where transit services exist or can be provided.
- The effects of changing public resources and public policy on the ability of the region to meet the housing demands of growing population and labor force.

INTRODUCTION

Introduction

Plan Bay Area, the Bay Area's combined Sustainable Communities Strategy and Regional Transportation Plan (also referred to as the RTP/SCS), was jointly adopted by the Association of Bay Area Governments (ABAG) Executive Board and the Metropolitan Transportation Commission in July 2013. The ***Plan*** is based on recognition of the critical connections between land use and transportation and creates an ambitious blueprint for a pattern of urban land use that increases infill development, reduces the pace of greenfield development, and brings jobs and housing closer to transit. A major goal is the reduction of greenhouse gas emissions from cars and light-duty trucks.

The *Plan* was adopted at a time when the region was just overcoming the effects of the Great Recession. Despite adopting the *Plan*, many questions remain—Can the region sustain growth while directing development away from green-fields and toward existing areas of urbanization? Will growth in the region be able to sustain all segments of the population, or will persistent poverty and the stress of high housing and travel costs remain for a portion of the population? Given the means to make a choice, will the region's family households with a range of incomes adopt new patterns of urban living in complete communities or will they head back to the suburbs as have earlier generations? Will the style of suburban growth become less vehicle- and more pedestrian-oriented?

This report examines the region's new patterns of growth as the economy once again expands, the composition of the population continues to change, and the housing market responds to evolving needs and demands of households.

The report is divided into five sections. **Section 1** gives a brief overview of how the region's economy, population base and built environment have grown in recent years, covering the strong recovery of employment, changing demographics of the population, and key trends in housing. **Section 2** describes the economy in more depth, focusing on the key sectors and locations of expanding growth and the implications for income distribution.

Section 3 examines the pace of growth and changing age structure of the region's population, as well as the effects of fluctuations in migration on the demographic base. **Section 4** concentrates on the familiar dilemmas of the region's housing market, describing both the economic and policy contexts in which the product types and locations of growth are transforming. Sections 2 to 4 illustrate how the new waves of growth are felt in different parts of the region, the extent to which these growth patterns mirror city and regional expectations, and how these changes are felt by different segments of the population. **Section 5** concludes the report with a summary of conditions, resources, and challenges that will affect future growth.

A STRONG RECOVERY IN THE REGION

1

MODERN LUXURY
115 NEW RESIDENCES
RIGHT TURN ONLY
CASTRO

Section 1

A Strong Recovery in the Region

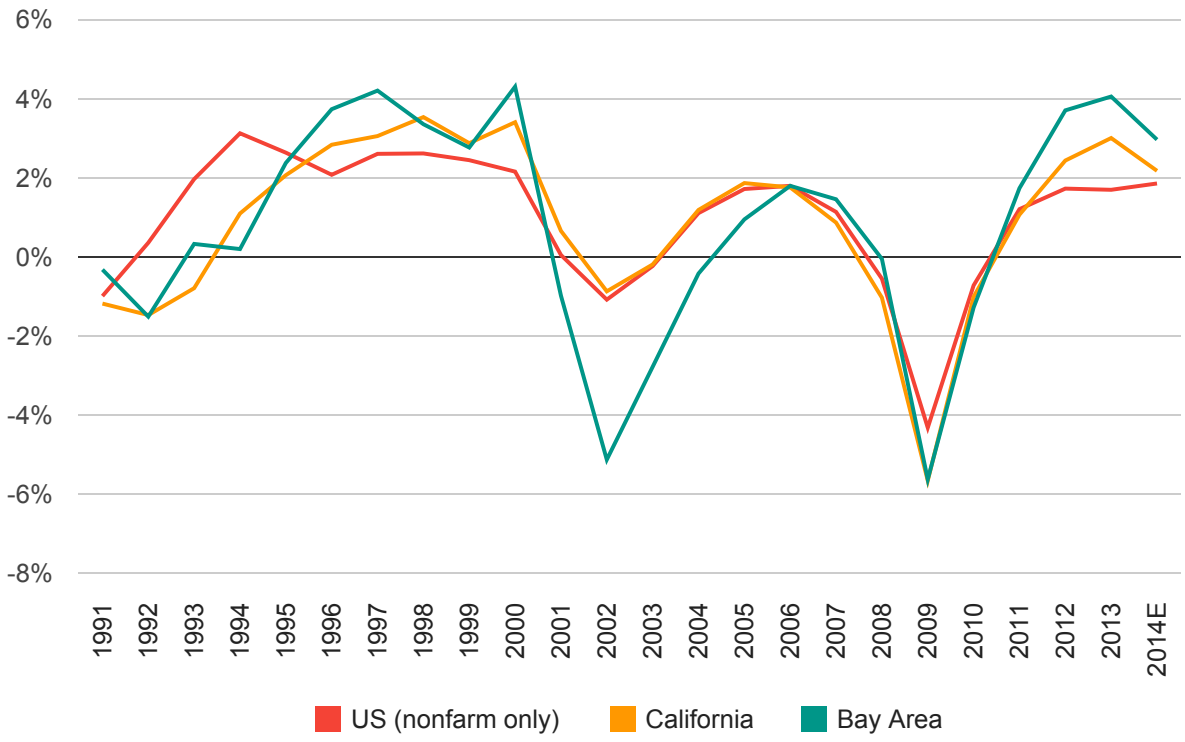
Since 2010, the San Francisco Bay Area has been among the leading regions nationwide in terms of employment, income and population growth. The region's annual average wage and salary employment grew by 9.8 percent between 2010 and 2013, compared to 6.6 percent for California and 4.7 percent for the nation (see ***Figure 1.1***). The Bay Area's real gross regional product expanded by 10.7 percent between 2010 and 2013, compared to growth of 6.6 percent in California and 6.1 percent nationwide.

The California Department of Finance (DOF) estimates show population expanded more slowly, as the region's underemployed population absorbed a portion of the new jobs. Between April 1, 2010 and January 1, 2014, the region's population grew by 270,000, or 3.8 percent, while DOF estimates indicate that housing stock grew by fewer than 40,000 units, or only 1.4 percent. The region's civilian labor force grew by 151,000 or 4.1 percent between 2010 and 2013, while the number of employed residents grew by 281,000 and total wage and salary jobs grew by 307,000. The larger growth in jobs compared to employed residents could indicate either some residents holding more than one job, residents who were commuting out of the region taking a job closer to home, or an increasing number of in-commuters.

These statistics raise questions—and eyebrows. Does the recent strength of jobs imply job growth is accelerating in the long term? If this demand for labor continues, how can industry expansion of this level occur without a matching stimulus to the housing market? Will we able to add sufficiently to the labor force if this housing lag continues?

In fact, the trends for the most recent period are unlikely to presage an economy that will continue to outpace the state and nation, or the region's population and housing growth. Employment trends tend to be far more volatile than population or household trends, as can be seen in *Figure 1.2*. The base year for looking at recent trends (and for ***Plan Bay Area***), 2010, was close to the depths of the impact of the Great Recession on the region's employment. The surge that followed is reminiscent of the period in the mid to late 1990s, when the region's employment base was recovering from a recession tied

FIGURE 1.1 **Rate of Employment Change**
US, California, and Bay Area (1991-2013 and 2014 Estimate)



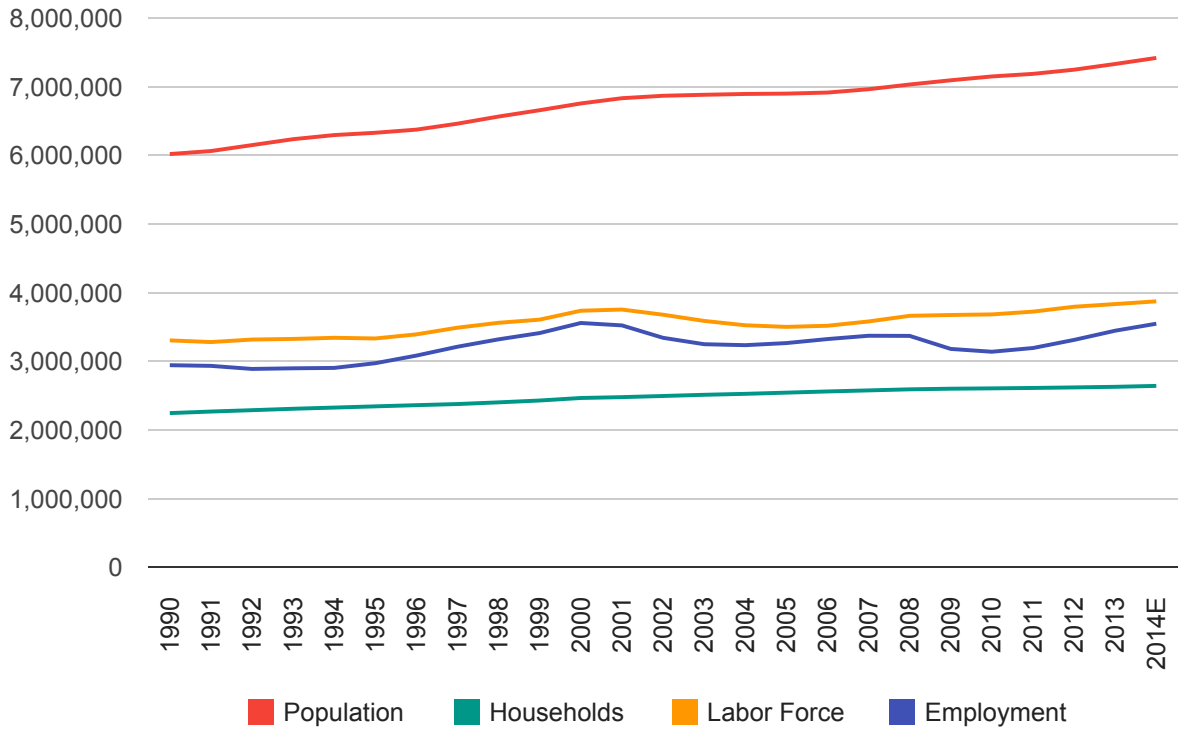
Source: ABAG from California Employment Development Department and US Bureau of Labor Statistics data

to defense realignment and new Internet industries were emerging, with related software and computer design job expansion. Growth at this pace, in part, is catch-up growth from the downturn, largely filling in vacant stores and offices, while history suggests that in the long term a growth surge of this size is unlikely to be sustainable.

Population growth, while responsive to economic cycles through migration flows, has much more dampened shifts because much of growth continues through natural increase. Of the (net) addition of 281,000 Bay Area residents between 2010 and 2013 to the number employed, 131,000 are accounted for by the unemployed returning to work.

The change in households, like population, is relatively slow in responding to economic cycles. Growth is likely to slow during recessions, or in response to tight housing markets, as households double up or young adults avoid forming independent households. Building activity in response to growing demand may lag because of timing of permits or financing, extending the time it takes to construct new units. The following sections describe in more detail the economic, demographic, and housing situation in the region at the start of our next forecasting cycle.

FIGURE 1.2 **Population, Households, Employment, and Labor Force**
(1990-2013 and 2014 Estimate)



Source: ABAG from California Department of Finance data, Tables E-5 and E-8, and from California Employment Development Department

STREET

THE ECONOMY
STRENGTHS AND CONSEQUENCES

2

Section 2

The Economy: Strengths and Consequences

The region has had a strong recovery coming out of the 2007 to 2009 recession, with both job and income growth proceeding at a pace greater than experienced by California or the nation. Job growth has been particularly strong in the region's dominant industries—information and professional and technical services as well as in sectors of growing importance such as accommodation and food services. Yet, these strengths need to be understood in the perspectives of both long term patterns of regional growth and the distribution of growth within different counties and among different occupation and income groups.

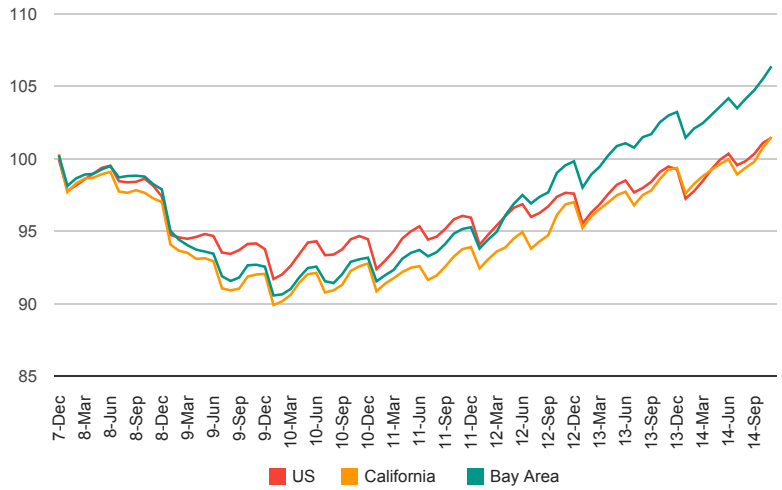
A Closer Look at Recession and Recovery

By spring 2013, the Bay Area had regained all of the jobs lost during the 2007 to 2009 recession, more than a year before a sustainable job recovery had occurred in either California or the United States, as shown in ***Figure 2.1.*** While this growth shows resilience in the region's economic base, the longer term history indicates that the *average* rate of growth is much less—indeed close to zero if 2000 is taken as the base year. Average annual employment in 2013 was still below the annual average for 2000, the peak of the dot-com boom era. We estimate that only in 2014 did the region approach full recovery of jobs lost in the 2001 to 2003 downturn.

This cyclical growth created the illusion of fast growth in different parts of the region at different points in time. A longer term overview shows that these cycles have averaged out to either slow or no growth in most parts of the region for the past decade and a half. ***Figure 2.2*** shows the number of months until job recovery for the two most recent recessions. Bars with lighter shading indicate that the bar indicates the maximum number of months for which data is available, and that jobs were not yet recovered for the county (for that recession) as of June 2014. Among the region's nine counties, only San Francisco and Napa had regained all jobs lost in both the 2001-2003 and 2007-2009 downturns by mid-2014.[3]

San Francisco employment surpassed the fourth quarter 2007 level first at the end of third quarter 2012 and sustainably beginning in first quarter 2013. Napa's employment surpassed fourth quarter 2007 job levels first in second quarter 2012 but sustainably only beginning second quarter 2013. In contrast, Sonoma County employment was still below both 2001 and 2007 peaks by June 2014. Solano and Contra Costa Counties lost relatively small shares of employment in the 2001-2003 recession and were the first to regain those jobs, yet both counties have not yet recovered from job losses since 2007. Alameda, Santa Clara, and San Mateo have each regained jobs lost relative to the 2007 peak, but had job levels remaining

FIGURE 2.1 Job Levels Relative to 4th Quarter 2007 (Previous Peak)
US, California, and Bay Area



Source: ABAG from US Bureau of Labor Statistics data
Note: Data is not seasonally adjusted.December 2007 level is indexed to 100.

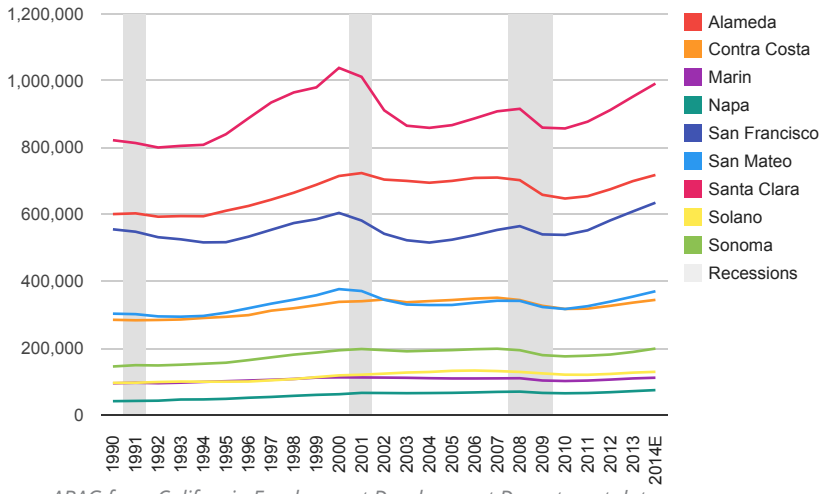
FIGURE 2.2 Months to Recovery
By County, from 2001 and 2007 Recessions

Source: ABAG analysis from US Bureau of Labor Statistics data
Note: A bar with lighter shading indicates county has not yet regained pre-recession jobs.

[3] *Note that some counties have regained jobs lost from the last recession, but not the one before it.*

below the 2001 peak as recently as June 2014. *Figure 2.3* shows actual employment levels in each of the counties from 1990 through 2013, and an estimate for 2014 based on quarterly economic survey data for the first 6 months of the year. The 2014 estimate indicates that by the end of 2014 or sometime in 2015, all counties are likely to be fully recovered from both recessions. The annual percent change in jobs since 2000 range from -0.3 percent in Santa Clara to 1.3 percent in Napa. Taking a longer term perspective, since 1990, the region has added jobs at a rate of 0.8 percent per year, with county rates ranging from between 0.5 percent and 2.5 percent.

FIGURE 2.3 Average Annual Employment
Bay Area Counties (1990-2013 and 2014 Estimate)



Source: ABAG from California Employment Development Department data.

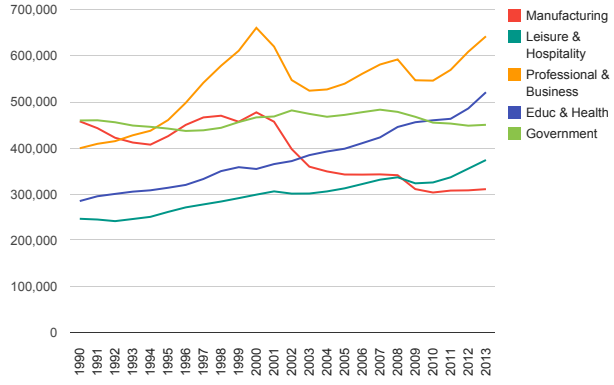
With job recovery, the rate of unemployment has dropped throughout the region. The Bay Area unemployment rate has dropped from an average of 10.6 percent in 2010 to an estimated 5.5 percent in 2014. Our estimates of county unemployment rates for 2014 vary from a low of 4.2 percent in Marin to a high of 7 percent in Solano, which is still below the state-wide estimated average of 7.5 percent.

Industry Change and Restructuring

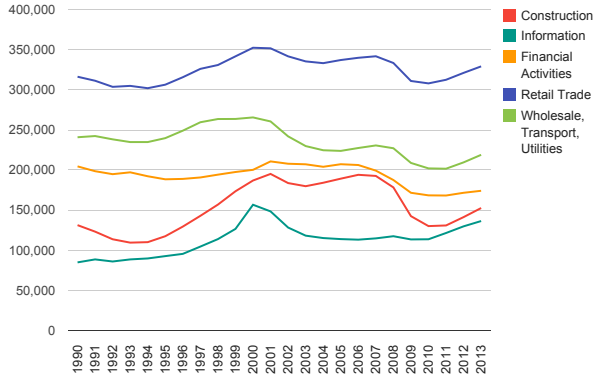
Figure 2.4 shows industry trends in both larger *(2.4a)* and smaller *(2.4b)* employment sectors. The most recent period from 2010 to 2013 has moderated some of the long term shifts in the economy. Manufacturing employment in 2013 was at about two-thirds of the employment level it reached in 2000, but the downward slide has reversed since 2010 for the region as a whole and for all of the nine counties. Job losses in financial activities also leveled off in 2010 and show small levels of increase by 2013.

FIGURE 2.4 Bay Area Industries Wage and Salary Employment
(1990-2013)

a: Larger Sectors



b: Smaller Sectors



Source: ABAG from California Employment Development Department data.

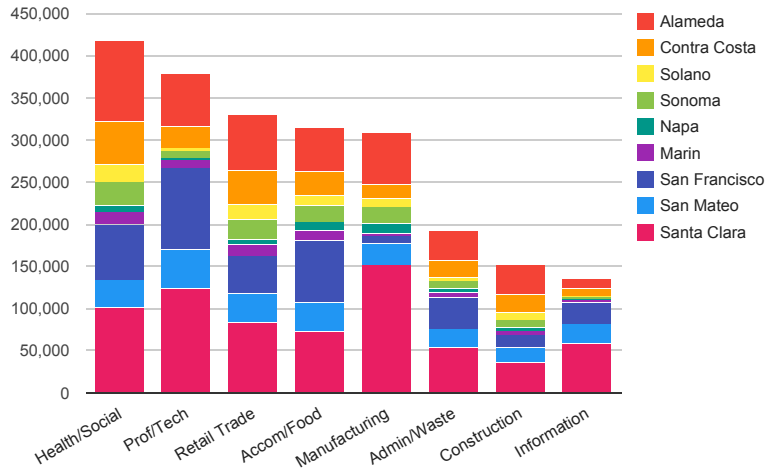
Many of the jobs lost over the long term have been replaced by employment in health and education and leisure and hospitality, two sectors with the steadiest employment growth over the past two and a half decades. These are sectors with large local serving components, although the region also provides specialized medical care and draws tourists statewide, nationally and internationally. Yet, the Bay Area's economy is often characterized by its professional and technical components. Two of the most important "tech-related" sectors, professional and business services and information are also among the most volatile. Both sectors have seen a resumption of long term growth trends, although neither had regained their 2000 peak job levels by 2013. Our estimates show that by the end of 2014, employment in professional and business services would have returned to the previous 2000 peak, while information jobs were still slightly below the peak of the dot-com era.

Several other sectors, after bumpy trajectories for most of the previous decade, have experienced employment growth since 2010. This has been the pattern for retail trade, wholesale trade, and construction. Only the government sector has continued the decline in jobs since 2010, although the pace of decline has slowed.

Figures 2.5 and *2.6* show the distribution of employment and employment change by county for selected sectors with significant amounts of growth.[4] Employment concentration across counties differs by sector, with sectors primarily serving the region's population, such as health and social assistance and retail trade, located close to population centers (and therefore more heavily in the counties with large clusters of residents), while sectors that are primarily developing products heavily used by business or exported beyond the region are located in the counties with the primary business centers. Thus professional and technical services are concentrated most heavily in San Francisco, Santa Clara, and San Mateo Counties, whereas manufacturing is found most heavily in Santa Clara County, but is also disproportionately represented in the wine-growing counties of Napa and Sonoma.

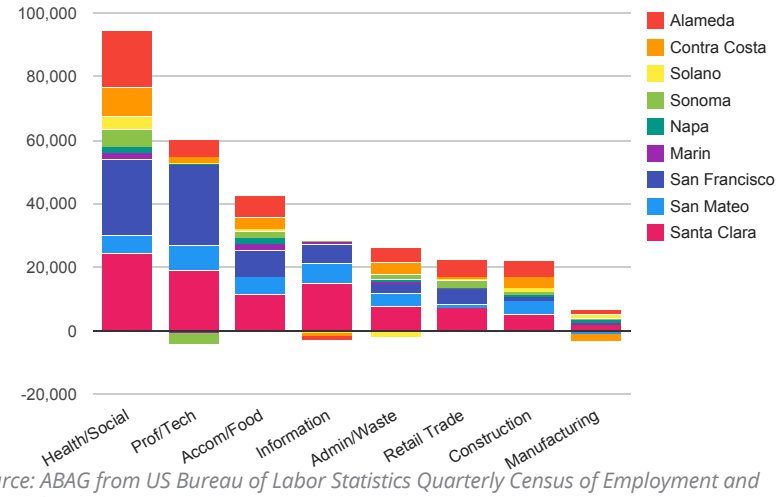
Figure 2.6 ranks sectors by jobs added to the region as well as illustrating where

FIGURE 2.5 Sector Employment by County
(2013)



Source: ABAG from US Bureau of Labor Statistics Quarterly Census of Employment and Wages data

FIGURE 2.6 Employment Change in Selected Sectors by County
(2010-2013)



Source: ABAG from US Bureau of Labor Statistics Quarterly Census of Employment and Wages data

[4] *Sectors discussed for the region as a whole are more aggregated than those discussed by county. It is at this level that the most recent data, provided on a monthly basis, can be aggregated across metropolitan areas. While both sets of data come from the Bureau of Labor Statistics, the data by county is provided at a different level of aggregation, and is updated more slowly. Thus, for example, these charts present data for professional, scientific, and technical services rather than the more aggregated professional and business services shown elsewhere.*

growth has been concentrated. Growth from 2010 to 2013 has tended to further concentrate some of the region's largest sectors. Health and social services accounted for over 30 percent of employment growth between 2010 and 2013 (compared to only 12 percent of employment in 2010). The next largest sector, professional and technical services, accounted for almost one-fifth of employment growth over the period, compared to 12 percent of 2010 jobs. Half of all job growth in the recovery, thus, was in health and social services or professional and business services. Other large shares of job growth were in accommodation and food services (14 percent of growth compared to 10 percent of 2010 jobs) and information services (8.5 percent of growth compared to just over 4 percent of 2010 jobs).

The largest number of net new health and social service and professional, scientific and technical service jobs went to San Francisco between 2010 and 2013. The city-county drew less than its proportional share of jobs in several other sectors. All of the job growth in the information sector went to Santa Clara, San Francisco, San Mateo, and Marin Counties, with the East Bay and the other three North Bay counties losing information jobs over the three-year period. Alameda saw the largest gains in manufacturing jobs, but Contra Costa's loss in manufacturing more than canceled out the gains for the East Bay overall. San Mateo County losses in manufacturing counterbalanced a portion of the gains in Santa Clara and San Francisco, while the four North Bay counties combined added over 2,500 manufacturing jobs.

TABLE 2.1 Sectors with Location Quotients Greater than 1 in 2013
Bay Area and Counties (2013)

	Alameda	Contra Costa	Marin	Napa	San Francisco	San Mateo	Santa Clara	Solano	Sonoma	Bay Area
Agriculture, forestry, fishing, and hunting				▼ 7.670				▼ 1.542	▲ 3.678	
Construction	▲ 1.184	▼ 1.409	▼ 1.158			▲ 1.002		▼ 1.623	▼ 1.185	
Manufacturing	1.012			▲ 1.784			1.675		1.185	
Wholesale trade	▼ 1.230									
Retail trade		1.066	1.100					1.264	1.108	
Professional and technical services	▲ 1.503	1.206	▼ 1.529		▲ 2.607	▲ 1.950	2.020			1.767
Management of companies, enterprises	▲ 1.983	▲ 1.406	▼ 1.264		▲ 2.039					1.259
Educational services	1.128	1.009	1.604		▼ 1.480		▲ 1.715			1.272
Health care and social assistance	▲ 1.057	▲ 1.147	1.033					▲ 1.324	▲ 1.107	
Transportation and warehousing	1.047	ND	ND		ND	ND	ND	ND		
Information		▼ 1.245	1.234		▲ 2.041	▲ 3.065	▲ 2.861			▲ 1.909
Finance and insurance		▼ 1.301	▼ 1.079		▼ 1.391					
Real estate, rental, leasing		1.308	▼ 1.344		1.416	1.100				▼ 1.051
Arts, entertainment, and recreation		1.137	1.505		1.413			▲ 1.762	1.228	1.068
Accommodation and food services			1.165	▲ 1.587	▼ 1.316			1.022	1.112	
Other services, except public administration	▼ 1.095	▼ 1.086	1.558		1.313	1.183			▼ 1.054	▼ 1.048

▼ Location Quotients down 0.1 + since 2005 ▲ Location Quotients up 0.1 + since 2005

Source: ABAG from US Bureau of Labor Statistics data

A location quotient analysis shown in ***Table 2.1*** gives a more detailed look at sector concentration within counties and at the direction of change in concentration over the 2010 to 2013 period. The location quotient shown in this table compares the county's proportion of jobs in the sector with the US proportion of jobs in the sector.[5] Location quotients greater than one (1) show relative concentration of jobs in a sector. ***Table 2.1*** identifies all sectors for which data was available by county that have location quotients greater than one (1).

Although not the largest employer in the information sector, San Mateo County has the highest location quotient with a share of employment in information almost three times higher than the proportion in the nation as a whole. Furthermore, San Mateo, Santa Clara, and San Francisco all gained share in the information sector relative to the nation in the 2010 to 2013 period, as did the region overall.

Six of the nine counties, and the region as a whole, have high concentration

[5] *The location quotients equation for this table is: LQi,j=[Empi,j/TotalEmpj]/[Empi,US/TotalEmpUS]; a location quotient of 1.18 for an industry in a county implies that the county has an 18 percent greater share of jobs in that industry than would be expected were it to have a share proportional to that found in the US as a whole. A location quotient of 3 for an industry in a county implies three times the "expected" level of employment. These location quotients were directly calculated for the project from BLS data, rather than drawn from the BLS web site. This allowed for estimates where data is withheld for key sectors for some counties.*

of jobs in professional and technical services, and Alameda, San Francisco, and San Mateo gained in concentration of jobs in that sector. The region also has a relatively high concentration of management of companies and enterprises, with Alameda, Contra Costa, and San Francisco gaining in concentration of management jobs between 2010 and 2013.

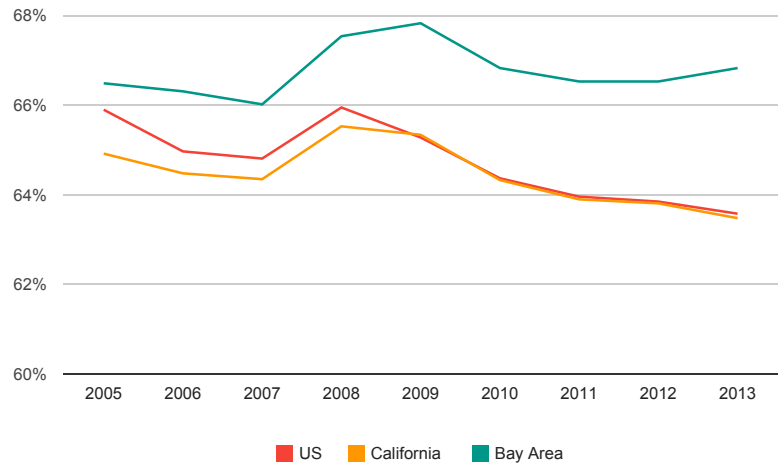
Several sectors are important areas of concentration for counties within the region, without having a location quotient greater than 1 for the region. The agriculture, forestry, fishing and hunting sector is heavily concentrated in Napa County, with a location quotient greater than 7. Solano and Sonoma counties also have relatively high employment concentration in this sector. Napa also has high location quotients in manufacturing (primarily wine making and related products) and in accommodation and food services. The county gained in concentration in manufacturing and accommodations, but not in the agriculture portion of the job base (although this remains the most concentrated industry for any county in the region). Several other counties have relatively high arts, entertainment and recreation location quotients. This concentration grew in Solano County, although this may reflect the stability of the sector, rather than job growth, in the face of the county's continued employment weakness overall. Four of the six counties with high concentrations of employment in construction (Contra Costa, Marin, Solano and Sonoma), lost relative shares in that sector, although all continued to have location quotients above 1. Finally, health and social assistance gained concentration in most of the counties where it was already heavily concentrated.

Changing Labor Force and Workforce Opportunities

The San Francisco Bay Area's resilient economy has affected the region's labor force growth and occupational mix. Interactions between a highly skilled labor force and industry growth has led to a set of factors—highly educated workforce, experienced workers in skilled occupations, and specialized clusters of support workers—that reinforces growth in the mix of industries described in the preceding section.

The region's total labor force (shown earlier in ***Figure 1.2***) has expanded in the long term at close to the rate of population growth, but with fluctuations reflecting much more sensitivity to economic conditions. Based on annual American Community Survey (ACS) data, nationally and statewide, there has been an overall downward trend in the proportion of adults aged 16 and over participating in the labor force, although this trend is much less pronounced for the Bay Area than for the country or state as a whole. As seen in ***Figure 2.7***, nationwide 65.9 percent of US adults were in the labor force in 2005 and again in 2008; in California the percentage rose from 64.9 percent in 2005 to 65.5 percent in 2008, yet both saw the share in the labor force drop to below 64 percent by 2013. The San Francisco Bay Area saw a rise in the proportion in the labor force which continued until 2009, and then dropped, yet the share in the labor force has begun rising again, and is now at almost 67 percent for the region.

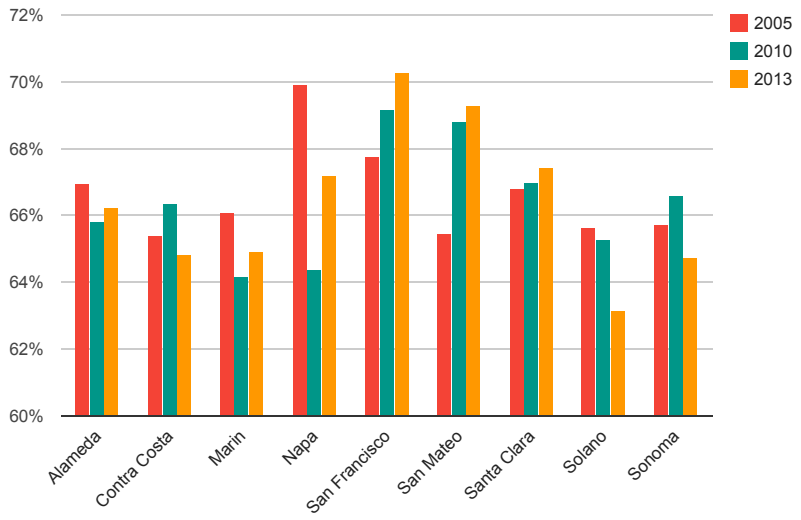
FIGURE 2.7 Percent of Adults in the Labor Force
US, California, and Bay Area (2005-2013)



Source: ABAG from US Bureau of the Census American Community Survey 1-Year Estimates, 2005-2013

The rate of participation in the labor force at the county level sharply distinguishes between those counties with economies driven by the newest social media-based employment boom and those seeing slower recovery in their traditional industries. The proportion in the labor force was highest in San Francisco in 2013—over 70 percent, higher than either of the two previous peaks in 2005 and 2009. The rate of labor force participation also has risen from earlier periods in San Mateo and Santa Clara counties. Alameda, Marin, and Napa each have a higher share in the labor force than in 2010, but lower than in 2005, while Contra Costa, Solano, and Sonoma are each at their lowest participation rates of the three comparison years. (See ***Figure 2.8***)

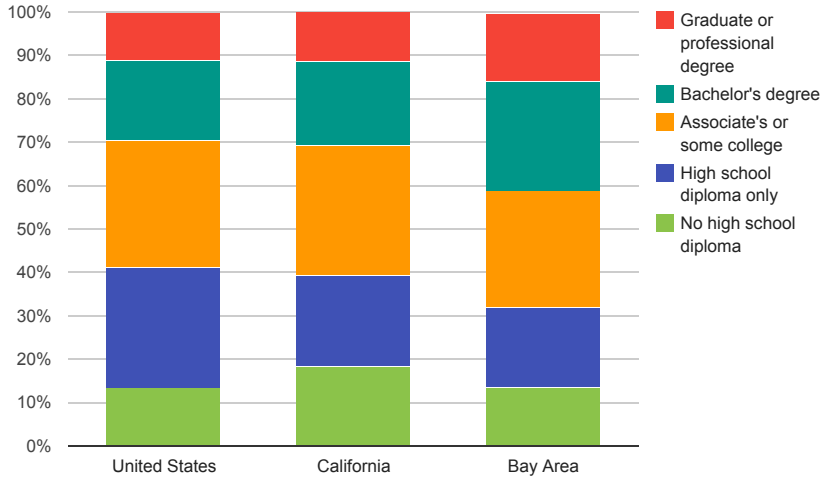
FIGURE 2.8 Percent of Adults in the Labor Force
Bay Area Counties (2005-2013)



Source: ABAG from US Bureau of the Census American Community Survey 1-Year Estimates, 2005-2013

The industry information from the earlier section highlights the importance of a skilled labor force in the region's expanding economy. Recent trends indicate that the Bay Area has the resources to continue this educational advantage. The 2013 ACS shows more than 40 percent of the region's adult population 25 years old or greater with a bachelor's, graduate, or professional degree, compared to close to 30 percent for the US and California. At the other end of preparedness, 12 percent have no high school diploma, just below the nationwide level of 13 percent and well below California's 18 percent. (See ***Figure 2.9***)

FIGURE 2.9 Educational Attainment
Bay Area Compared to US and California (2013)

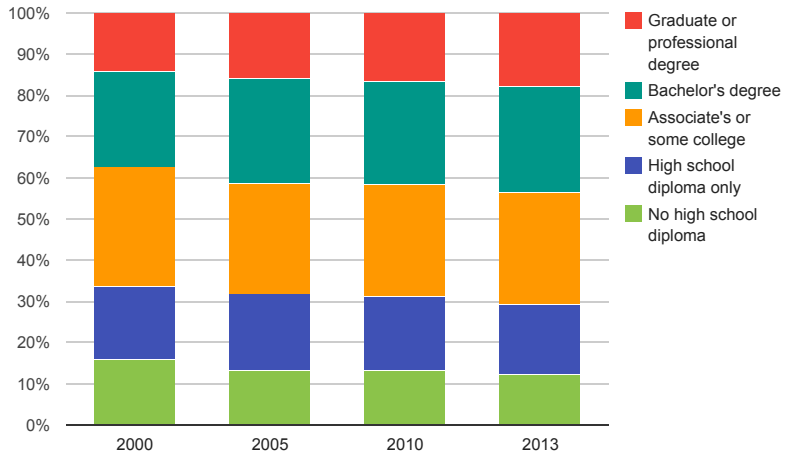


Source: ABAG from US Bureau of the Census American Community Survey 1-Year Estimates, 2013

As diversity in the region grows and the population ages, there is some concern that the Bay Area could gradually lose its academic strength as a less educated population is added to the base and a more educated workforce retires. However, if recent trends continue, the labor force should maintain its share of population that is well educated. *Figure 2.10* shows the college-educated number and share have grown over time in the region, from 2000 to 2013.

Figure 2.11 shows three important trends. First, for every age group, the number with a bachelor's degree or higher grew between 2000 and 2013 (although there was a dip in 2005 for the 25 to 34 year old age group), and second, the percent with a bachelor's degree or higher was greater for 2013 than 2010, 2005, or 2000, for every age group except the 45 to 65 year old group (where the difference is not large). Third, each age group is better educated than the next subsequent older age group, with the exception of the youngest group, which is the most likely to increase share of bachelor's and graduate degrees as they build their "human capital." The concern regarding the loss of educated workers is related not so much to the less educated character of younger workers (they appear to be increasingly well educated) but to the broader problem of overall numbers—as baby boomers retire, then the absolute number of people in the labor force may decrease without in-migration, leading to higher labor costs especially in industries that must compete for experienced and well-educated workers.

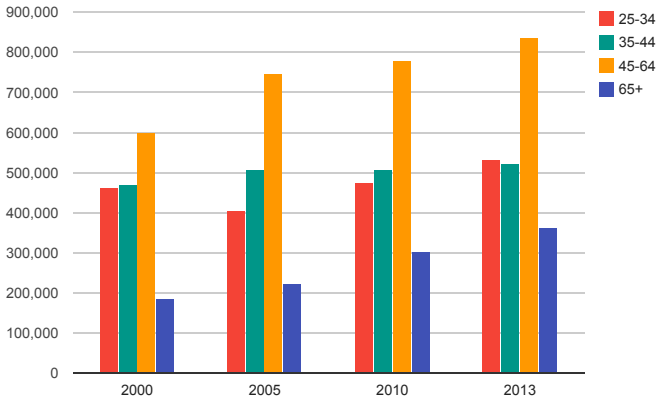
FIGURE 2.10 Educational Attainment over Time
Bay Area (2000, 2005, 2010 and 2013)



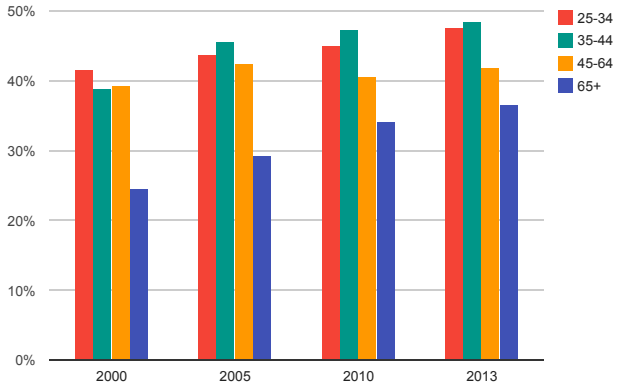
Within the region, the distribution of

FIGURE 2.11 Bachelor's Degree or Higher by Age Group
Bay Area (2000, 2005, 2010, 2013)

a: Number with Bachelor's Degree or Higher by Age Group



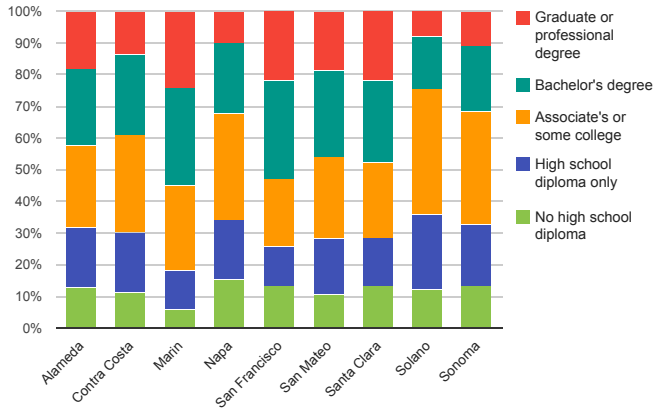
b. Percent with Bachelor's Degree or Higher by Age Group



Source: Bureau of the Census: Census 2000 and American Community Survey 1-Year Estimates

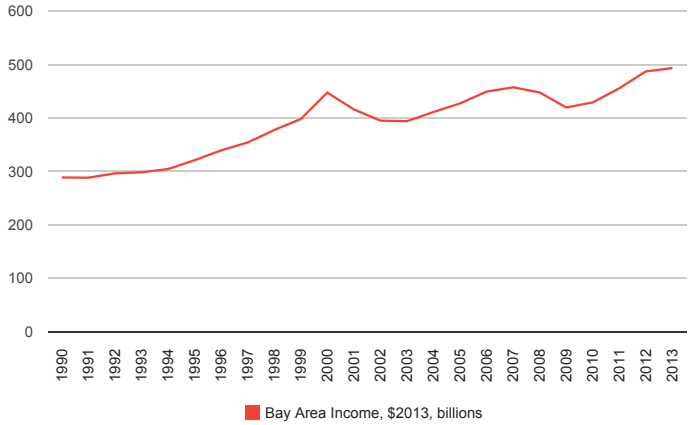
educational attainment among counties to some extent matches the skill levels required by the key industries of each county. The counties with the highest shares of college graduates, Marin, San Francisco, San Mateo, and Santa Clara (*Figure 2.12*), are also the counties with the highest shares of employment in technically-oriented industries. Napa, Solano, and Sonoma, with the highest shares without a college degree, also have the strongest employment in agriculture as well as in tourism-oriented sectors, which have a greater share of low wage jobs which generally do not require advanced education.

FIGURE 2.12 Educational Attainment by County
(2013)



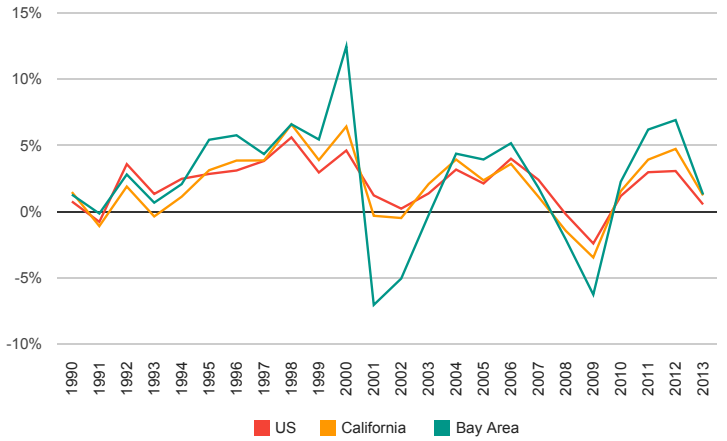
Source: ABAG from US Census Bureau, American Community Survey 1-Year Estimates, 2013

FIGURE 2.13 Bay Area Total Personal Income
(1990 to 2013, Inflation Adjusted to 2013 base)



Source: ABAG from Bureau of Economic Analysis, adjusted for inflation using Bureau of Labor Statitics Consumer Price Index for All Urban Consumers (CPI-U) for San Francisco-Oakland-San Jose, CA

FIGURE 2.14 Percent Change in Total Personal Income
US, California, and Bay Area (inflation adjusted, 1990-2013)



Source: ABAG from Bureau of Economic Analysis, adjusted for inflation using Bureau of Labor Statitics Consumer Price Index for All Urban Consumers (CPI-U) for San Francisco-Oakland-San Jose, CA

Wage, Personal and Household Income Changes

Total personal income trends for the region are consistent with the strong recovery shown in employment. However, both wage and salary income and median household income show that the rising tide may not yet be raising all boats.

Total personal income levels in the Bay Area show a clearer recovery from recessionary periods than did the employment trends, as shown in ***Figure 2.13***.[6] Adjusting for inflation, region-wide total personal income in 2013 was 10 percent above the previous peak in 2007 and 8 percent above the level reached in 2000 from the dot-com boom. As with employment, personal income change has been more volatile in the Bay Area than in the US or California, dropping more precipitously in downturns, but surging with greater strength in upturns, as seen in ***Figure 2.14***.

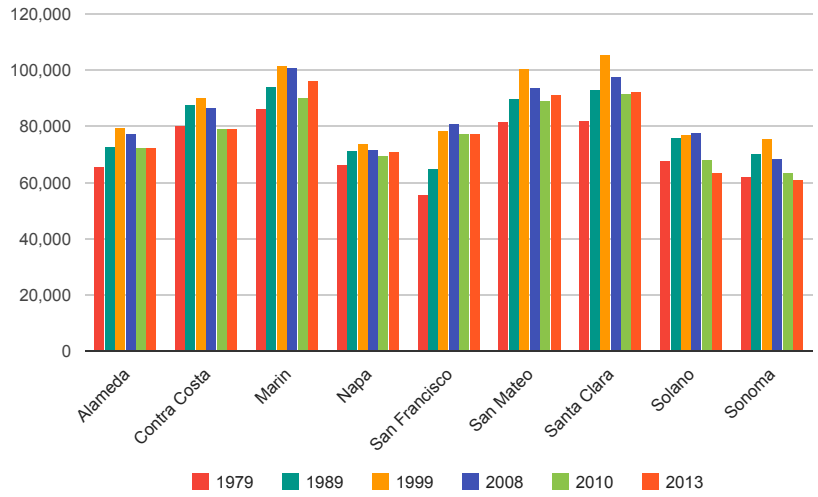
Bay Area households at the

[6] *Total personal income is an indicator of total value gained by residents, as compared to gross regional product, which measures output from the region, but not income generated from that output or gained by residents from output produced outside of the region.*

median income level had a less robust experience than is indicated by the aggregate personal income data. The real growth that occurred for median household income between 1979 and 1989, and between 1989 and 1999 has evaporated in the last decade and a half. In each of the region's nine counties, median household income for 2013 still lagged the previous peak level reached in 1999, 2007, or 2008. Six counties had median household incomes at or below 1989 levels, while three counties, Contra Costa, Solano, and Sonoma, still had inflation-adjusted median incomes close to 1979 levels (see ***Figure 2.15***).[7]

Occupation and wage trends add further nuances to the employment and income picture. This analysis divides occupation categories into low, medium and high, based on whether the occupation-specific wages are 30 percent below the overall average for all occupations (LOW), 30 percent above the overall average (HIGH), or between the two (MIDDLE). Sorting aggregate occupation categories into these three bins and then adding total jobs and calculating average wages shows employment in high wage jobs growing both in the last half of the 2000s decade and since 2010, as shown in ***Figure 2.16***. Middle wage jobs dropped much more sharply than low wage jobs, on a percentage basis, between 2005 and 2010, and, further, recovered more slowly than either high or low wage jobs between 2010 and 2013. Wage growth was stronger before 2010 and the wage decline smaller after 2010 for high wage jobs, while wages in low wage occupations dropped in both of two time periods, with the rate of loss exceeding that of either middle or high wage jobs in 2010 to 2013.

FIGURE 2.15 Median Household Income by County
(Inflation Adjusted to 2013 Base)



Source: ABAG from US Census 1980, Census 1990, Census 2000 and American Community Survey 1-Year Estimates, adjusted for inflation using Bureau of Labor Statistics Consumer Price Index for All Urban Consumers (CPI-U) for San Francisco-Oakland-San Jose, CA

FIGURE 2.16 Employment and Wage Change by Occupation Categories
Table 2.2 shows major occupation

Source: ABAG from California Employment Development Department Occupation and Wage data, adjusted for inflation using Bureau of Labor Statistics Consumer Price Index for All Urban Consumers (CPI-U) for San Francisco-Oakland-San Jose, CA

[7] *Comparisons between American Community Survey and decennial census years are not exact because different survey methodologies were used in the two types of surveys. Small differences may not accurately reflect at which point median incomes were higher.*

TABLE 2.2 Major Occupation Categories Sorted by Wage Level (2013)

Occupational Title	2013 Mean Annual Wage	2013 Total Employment	Employment Change 2010-2013
Management Occupations	142,603	239,950	25,950
Legal Occupations	131,217	32,540	1,760
Computer and Mathematical Occupations	108,803	211,190	36,490
Healthcare Practitioners and Technical Occupations	105,987	157,620	7,140
Architecture and Engineering Occupations	103,899	107,370	10,220
Life, Physical, and Social Science Occupations	90,199	52,280	5,750
Business and Financial Operations Occupations	89,563	230,410	22,660
All High Wage Occupations	**111,192**	**1,031,360**	**109,970**
Arts, Design, Entertainment, Sports, and Media Occupations	67,076	56,560	680
Construction and Extraction Occupations	61,195	116,940	4,360
Education, Training, and Library Occupations	58,758	190,650	8,160
Protective Service Occupations	57,918	67,700	800
Installation, Maintenance, and Repair Occupations	55,579	93,580	-1,080
Community and Social Services Occupations	55,495	47,500	12,990
Sales and Related Occupations	49,548	340,480	33,590
Office and Administrative Support Occupations	44,585	508,850	21,680
All Middle Wage Occupations	**51,656**	**1,422,260**	**81,180**
Production Occupations	40,587	145,140	-3,630
Transportation and Material Moving Occupations	39,398	171,270	5,020
Healthcare Support Occupations	38,628	72,580	-4,250
Building and Grounds Cleaning and Maintenance Occupations	32,213	108,660	8,090
Personal Care and Service Occupations	29,927	85,990	14,170
Farming, Fishing, and Forestry Occupations	26,205	9,460	1,220
Food Preparation and Serving-Related Occupations	24,703	297,550	34,760
All Low Wage Occupations	**32,689**	**890,650**	**55,380**
All Occupations	**64,949**	**3,344,200**	**237,300**

Source: ABAG from California Employment Development Department tables of US Bureau of Labor Statistics Occupational Employment Statistics data

categories sorted by 2013 wage levels as well as the amount of job change at each occupation group from 2010 and 2013. Six occupation groups grew by more than 20,000 jobs each between 2010 and 2013. Computer and mathematical occupations grew by the greatest amount, over 36,000 jobs, closely followed by food preparation and serving related jobs and sales and related occupations. Three of the six leading categories are high

wage, two are middle wage, while one is a low wage category.

The aggregate level data shown in *Table 2.2* does not tell the full story and implications on long term trends should be drawn with caution. There are several ways to measure low, middle and high wage jobs. A more in-depth analysis of the middle wage problem was conducted for the region's economic prosperity strategy, using median hourly wage rather than average annual wage as the measure of earnings, showing somewhat greater disparities between the three job levels.[8]

Table 2.3 shows employment level changes and percent change in wages by metropolitan area within the region, each broken down by high, middle and low wage groups. The largest numbers of jobs were added in the three largest metropolitan districts or metropolitan statistical areas,[9] within high wage jobs, as well as in middle wage jobs in the San Francisco-San Mateo-Redwood City metropolitan division. Wage losses in these categories were lower than in the low and middle wage categories in the smaller metropolitan divisions.

TABLE 2.3 **Occupation and Wage Change by Metro Divisions within the Region**

Metropolitan Division	Wage Grouping	Employment Change	Percent Change in Wages
San Francisco-San Mateo-Redwood City MD	HIGH	39,470	-1.3%
San Jose-Sunnyvale-Santa Clara MSA	HIGH	39,230	-2.5%
San Francisco-San Mateo-Redwood City MD	MIDDLE	39,030	-3.2%
Oakland-Fremont-Hayward MD	HIGH	26,130	-0.6%
San Jose-Sunnyvale-Santa Clara MSA	LOW	18,400	-5.7%
San Francisco-San Mateo-Redwood City MD	LOW	18,240	-3.7%
Oakland-Fremont-Hayward MD	LOW	13,770	-4.4%
Oakland-Fremont-Hayward MD	MIDDLE	12,810	-4.9%
Vallejo-Fairfield MSA	HIGH	4,370	1.0%
Santa Rosa-Petaluma MSA	MIDDLE	2,990	-5.9%
Santa Rosa-Petaluma MSA	LOW	2,870	-6.0%
Napa MSA	LOW	2,360	-7.2%
Napa MSA	MIDDLE	1,680	-9.2%
Vallejo-Fairfield MSA	MIDDLE	1,030	-5.0%
San Jose-Sunnyvale-Santa Clara MSA	MIDDLE	900	-5.9%
Napa MSA	HIGH	730	-13.4%
Santa Rosa-Petaluma MSA	HIGH	40	-4.7%
Vallejo-Fairfield MSA	LOW	-260	-3.8%

Source: ABAG from California Employment Development Department tables of US Bureau of Labor Statistics Occupational Employment Statistics data adjusted for inflation using Bureau of Labor Statistics Consumer Price Index for All Urban Consumers (CPI-U) for San Francisco-Oakland-San Jose, CA

[8] *The most recent update on the data is reported in Levy, Stephen, "Occupation and Industry Job and Wage Trends: Update to the Analysis in the Regional Prosperity Strategy Report," Center for the Continuing Study of the California Economy, January 2, 2015.*

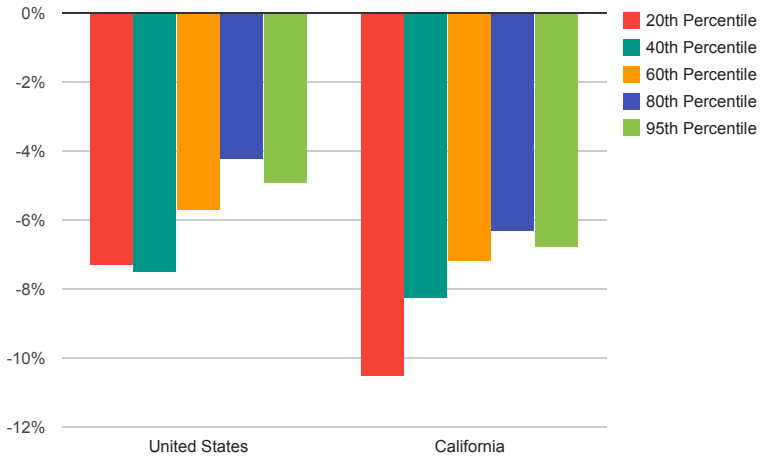
[9] *For statistical purposes, the Bay Area has six metropolitan statistical areas (MSA) or districts (MD) by which some economic data is reported, including the occupations data. These metropolitan areas include: Napa MSA (Napa County), Oakland-Fremont-Hayward MD (Alameda and Contra Costa Counties), San Francisco-San Mateo-Redwood City MD (Marin. San Francisco and San Mateo Counties), San Jose-Sunnyvale-Santa Clara MSA (San Jose and San Benito Counties), Santa Rosa-Petaluma MSA (Sonoma County), and Vallejo-Fairfield MSA (Solano County). San Benito County is a small county of 58,000 population and 15,000 jobs outside of the nine county San Francisco Bay Area. Where possible, this is excluded from Bay Area counts, but it is included with the San Jose-Sunnyvale-Santa Clara MSA where county level data is not available.*

Income Distribution and Poverty

The overall decline in median household income and in wages in many occupations while total personal income is rising indicates that the strength in total personal income growth may come from two factors—an overall growth in population and growth in asset based income, such as returns on investments and rents. Differential rates of change of asset and wage income (as well as retirement income and transfers) can lead to changing shares of population in poverty and changes in income distribution.

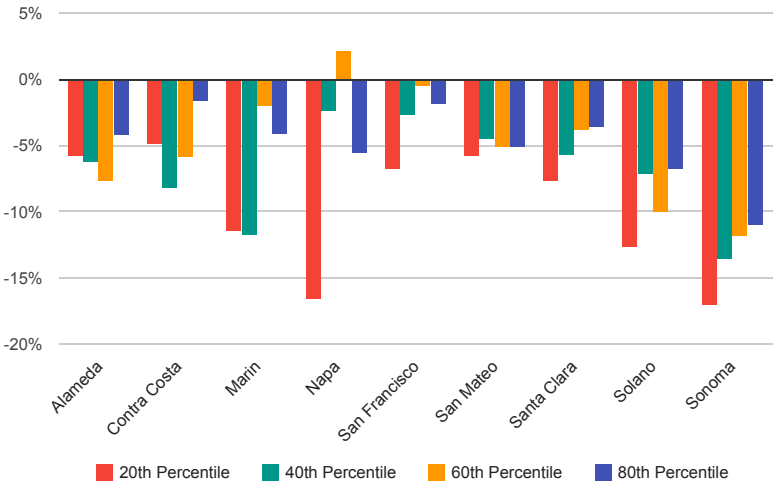
The distribution of income levels by income quintile[10] and the ratio between the highest and lowest quintiles each contribute to the understanding of how income distribution has changed during the recession and recovery, giving an indication of the "spread" between incomes at the bottom and top tiers of the economy. ***Figures 2.17-2.20*** compare changes in income quintile categories, first for 2007 to 2010 and then for 2010 to 2013. Each bar represents the percent change from the earlier period to the later in the top income level of the income category. During the recession (2007-2010), median income dropped for all income categories, from the lowest income 20 percent to the highest. The declines were greater in California than in the US as a whole. Within the Bay Area, the lowest income populations were particularly vulnerable to income losses in the four North Bay counties, while

FIGURE 2.17 Household Income Percent Change by Quintile
US and California (2007 to 2010)



Source: ABAG from US Bureau of the Census American Community Survey data, inflation adjusted with US CPI

FIGURE 2.18 Household Income Percent Change by Quintile
Bay Area Counties (2007 to 2010)



Source: ABAG from US Bureau of the Census American Community Survey 1-Year Estimates, adjusted for inflation using Bureau of Labor Statistics Consumer Price Index for All Urban Consumers (CPI-U) for San Francisco-Oakland-San Jose, CA

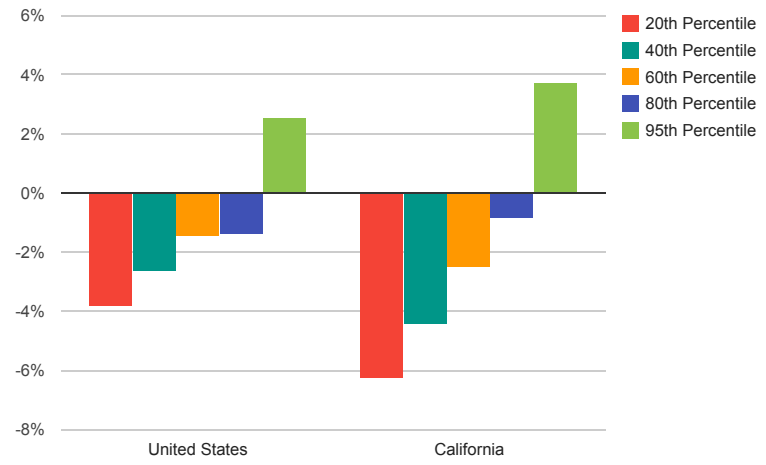
[10] The quintile levels are calculated by sorting households by income level and dividing the households into five income groups in order of income level, identifying the break-points for the 20th, 40th, 60th, 80th, and 95th percentiles.

income losses over all income categories were much lower in San Francisco, San Mateo, and Santa Clara than in the remaining counties.

In the Bay Area, gains and losses are spread unequally, with households in the bottom four quintiles in Marin County seeing rising incomes, and those in the four quintiles in Solano and Contra Costa counties experiencing income losses. For the great majority of counties, the 20th percentile category has the highest losses or lowest gains in household income. In each of the five largest counties, the 80th percentile category has the highest gains or least losses. Trends are a little more randomly distributed among the North Bay counties, but this may reflect a higher degree of statistical uncertainty as the counties and thus survey samples are smaller.

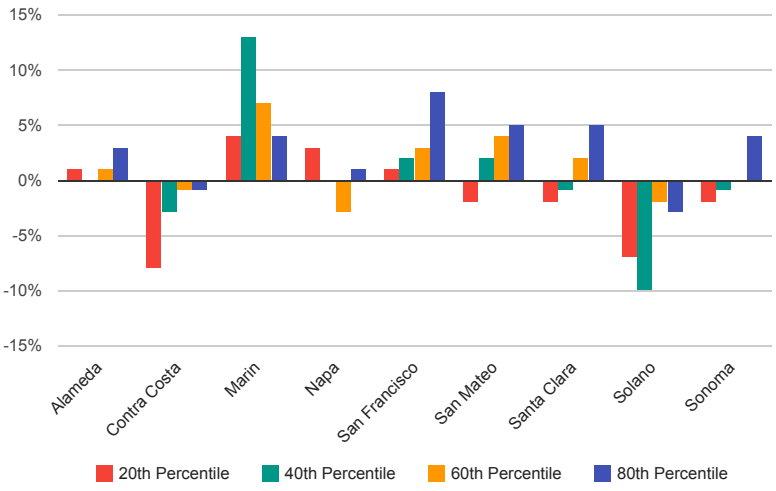
These trends appear to be leading to increasing income inequality, as shown in ***Table 2.4.*** This table shows the ratio between the top income of the 80th percentile and the top income of the 20th percentile. In almost all cases, US, California, and Bay Area counties, the ratio has been rising since 2007. Napa is the only county where the ratio is lower in 2013 than in 2010 (but higher than in 2007). Even so, this trend may mask very different types of situations. Areas with higher ratios may be more diverse in their population base—for example, San Mateo, with a ratio lower than Alameda, Santa Clara, or San Francisco, may be in this circumstance because of less opportunity for lower income households to live in the area. This becomes even more evident comparing the ratio for cities. San Francisco, Berkeley, and Oakland all

FIGURE 2.19 Household Income Percent Change by Quintile
US and California (2010 to 2013)



Source: ABAG from US Bureau of the Census American Community Survey data, inflation adjusted with US CPI

FIGURE 2.20 Household Income Percent Change by Quintile
Bay Area Counties (2010 to 2013)



Source: ABAG from US Bureau of the Census American Community Survey data, adjusted for inflation using Bureau of Labor Statistics Consumer Price Index for All Urban Consumers (CPI-U) for San Francisco-Oakland-San Jose, CA

have very high 80/20 ratios, but these cities have strong affordable housing programs that serve low income households, allowing lower income households to live within each city. In Oakland and Berkeley, the 20th percentile income in 2013 was about $18,500. In contrast, the cities with the lowest 80/20 ratios, Clayton, San Ramon, and Dublin, had both 80th and 20th percentile incomes well above those found in the three most "unequal" cities. (*Tables showing the full ranking by city can be found on our website).*

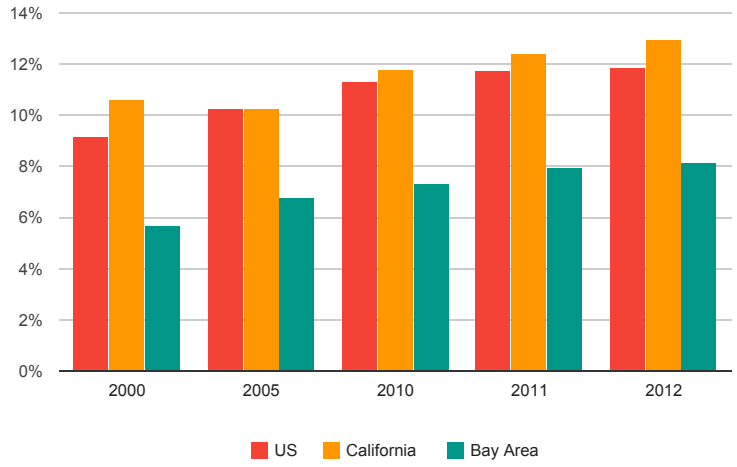
Poverty shows roughly similar overall trends and countywide differences to the income distribution data, as measured by the percent of families earning less than the official Federal poverty level. Using national statistics, the Bay Area as a whole has a smaller share of families in poverty than does California or the nation, but the official US poverty measure[11] does not take into account geographic variation in cost of living, and also does not take into account supplemental cash and noncash income from government programs for low income families. The share of families in poverty in the Bay Area is rising based on the official statistics, although at a slightly slower pace than in the US and California, as shown in ***Figure 2.21***.

TABLE 2.4 Ratio of Income at the 80th Percentile to Income at the 20th Percentile

Area	2007	2010	2013
US	4.7	4.8	5.0
California	4.7	5.0	5.3
Alameda	5.3	5.4	5.5
Contra Costa	4.5	4.6	5.0
Marin	5.3	5.7	5.7
Napa	4.2	4.7	4.6
San Francisco	6.3	6.6	7.1
San Mateo	4.4	4.4	4.7
Santa Clara	4.7	4.9	5.2
Solano	3.8	4.1	4.3
Sonoma	4.1	4.4	4.6

Source: ABAG from US Bureau of the Census American Community Survey 1-Year Estimates

FIGURE 2.21 Poverty Trends in the US, California, and Bay Area



Source: ABAG from US Census 2000 and American Community Survey, 2005-2012

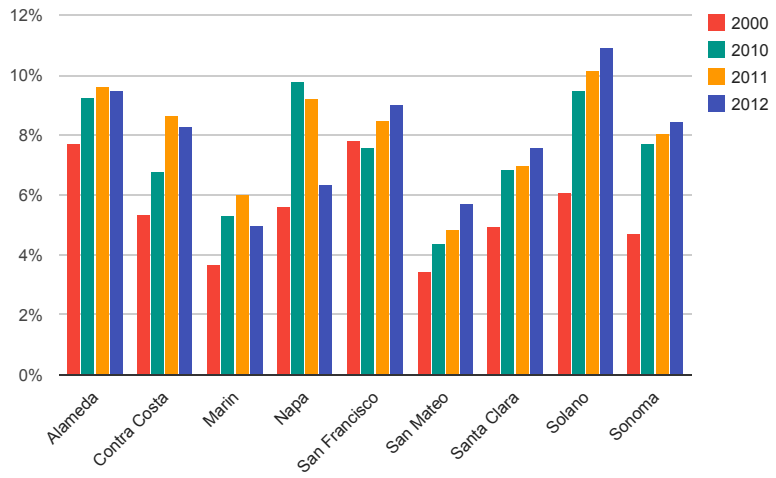
[11] *The data here is reported for families, consistent with how the Census Bureau measures it. Poverty rates for the population as a whole are also frequently reported, and tend to be higher.*

Trends at the county level are consistent with the changes seen in inequality among household incomes. Napa and Marin counties have seen significant drops in the share of people in poverty since 2010, and the East Bay has experienced more modest declines in the poverty rate, as measured using the official standard. Rates have risen in San Francisco, San Mateo, Santa Clara, Solano, and Sonoma (*Figure 2.22*).

The share in poverty is much greater when cost of living and social programs are both taken into account. An alternative measure developed by the Public Policy Institute of California showed rates at close to double the official levels in 2011 for Napa and San Mateo, and at least 50 percent above the official level for most of the other counties (*Figure 2.23*).[12]

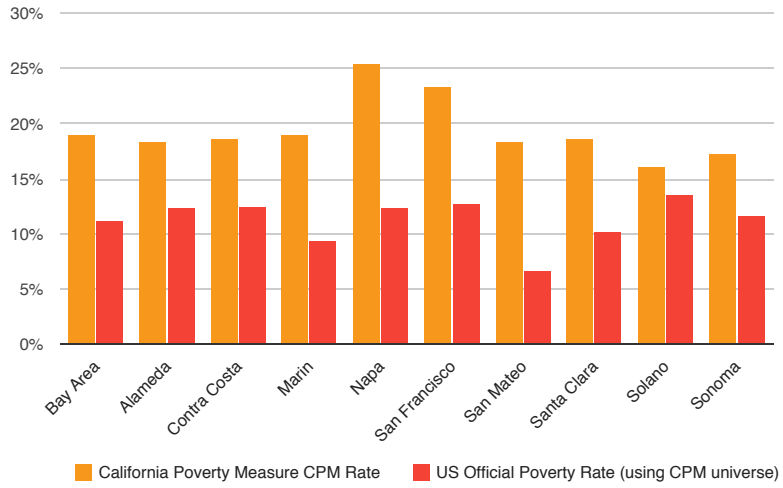
The trends in equity measures for the region and counties should be interpreted recognizing that they do not necessarily represent only changing conditions for individuals over time. These changes may also come with shifts in the population base. Aging and retirement may reduce household income for reasons other than inequitable wages. A changing employment base may draw in new migrants, some of whom are both young and highly paid, others in low-paid informal work, shifting overall ratios of rich to poor in a way different from varying levels of income growth by occupation. The section that follows tracks some of the demographic trends that contribute to the changing economic conditions just described.

FIGURE 2.22 Dissimilar Poverty Trends in the Region's Counties
(2000, 2010, 2011, 2012)



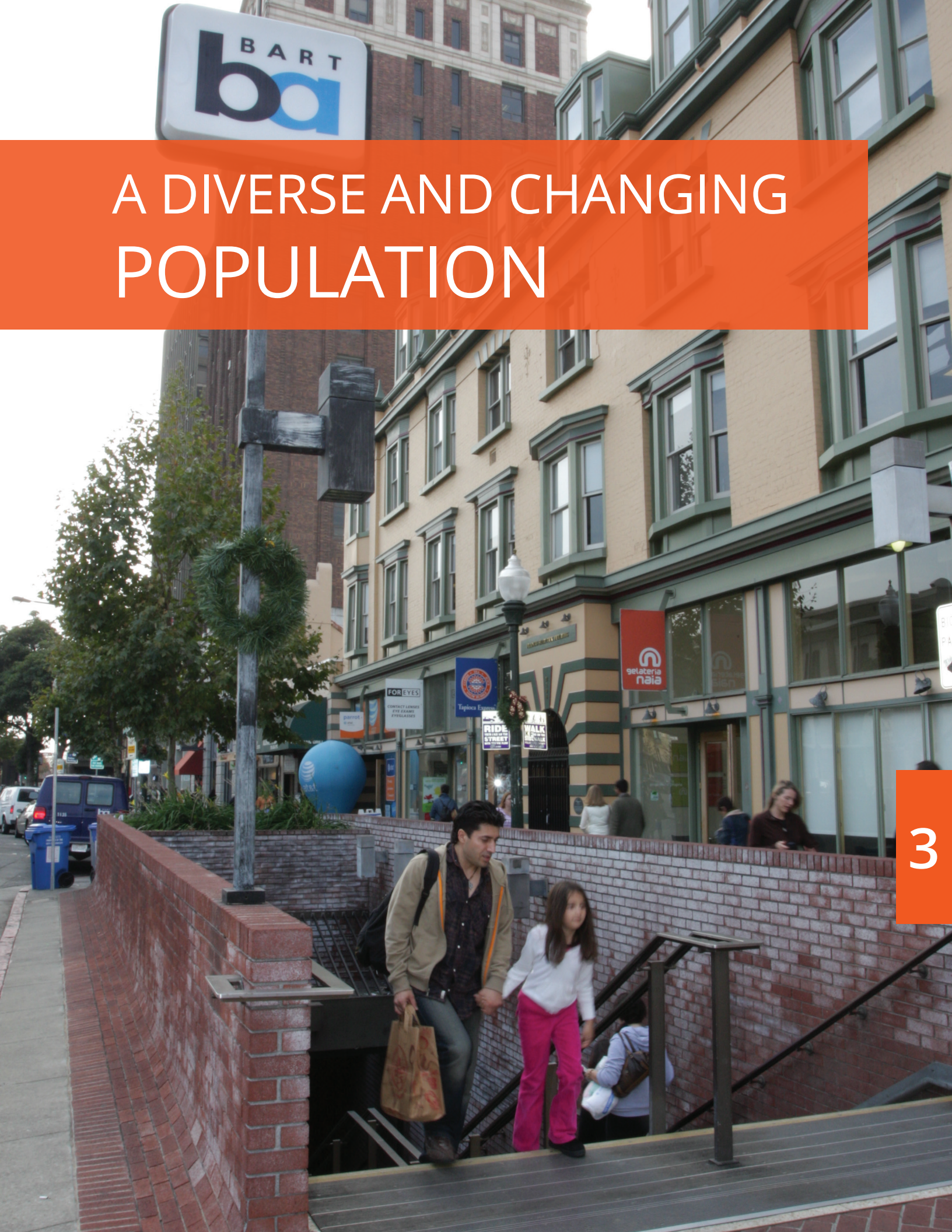
Source: ABAG from US Census 2000 and American Community Survey, 2010-2012

FIGURE 2.23 California Poverty Rate Measure Compared to US Official Poverty Rate
(2011)



Source: ABAG from Public Policy Institute of California data, October 2013

[12] *See Sarah Bohn, Caroline Danielson, Matt Levin, Marybeth Mattingly, Christopher Wimer October 2013. The California Poverty Measure: A New Look at the Social Safety Net. (Public Policy Institute of California; in collaboration with the Stanford Center on Poverty and Inequality).*



A DIVERSE AND CHANGING POPULATION

3

BART
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Section 3

A Diverse and Changing Population

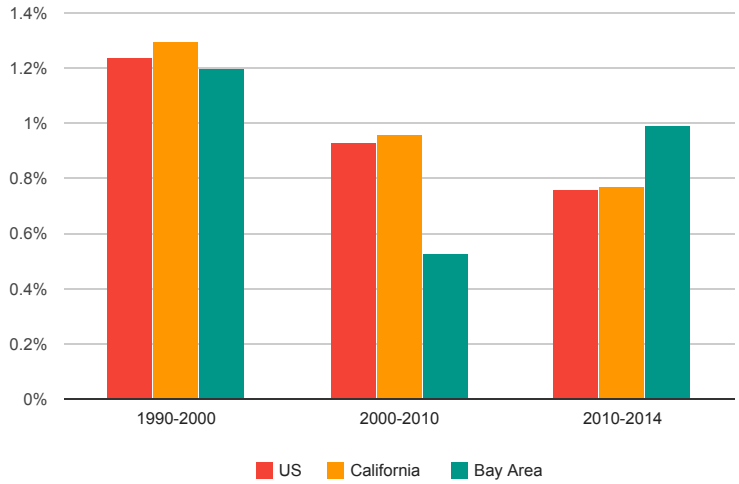
Growth in the region has rebounded from the housing market bubble and collapse that affected many parts of the Bay Area in 2007. The areas hit hardest were those towards the east and farthest from the San Francisco Bay. Those areas had seen housing prices more than double in just a few years prior to the crash. Although the entire region was affected by the subsequent recession, the core that formed the urban corridors around the San Francisco Bay is seeing a renaissance in population growth. The demographic mix of the population is changing in both predictable and less predictable ways, due to the aging of the baby boom generation, the influx of young adults drawn by a vibrant economy, and continued immigration to the region, especially from Asia and Latin America.

Gradual Growth in the Region's Population

The population of the Bay Area has increased by 270,000 since 2010, reaching 7.4 million by 2014 according to the California Department of Finance (DOF). The annual population growth rate of the region in the recent four years (1.0 percent) is higher than the average rate during the first decade of the 2000s (0.5 percent) indicating the lasting attractiveness of the Bay Area to its residents as well as a rebound from the recession. Recent growth trends contrast with earlier periods and with the nation and California, as shown in *Figure 3.1.* Population growth in the region was slightly behind the rapid growth that occurred in the 1990s in California and the nation, and lagged well behind both state and region in the 2000s. Since 2010, population in the Bay Area has grown at a faster rate than in the US or California as a whole.

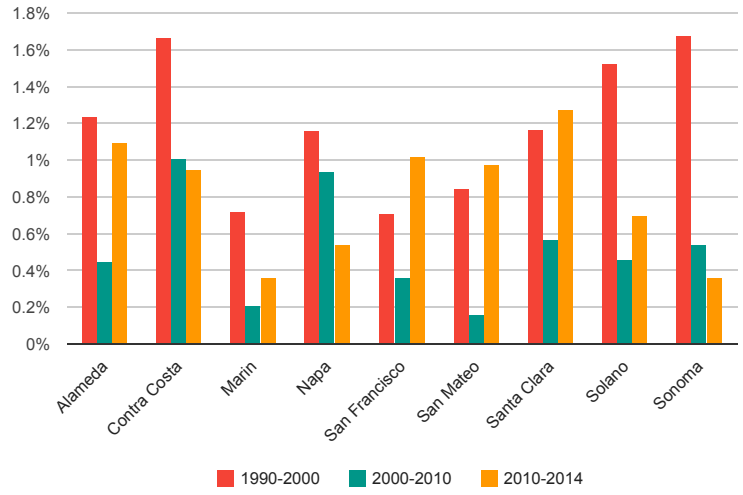
The overall regional trends hide significant shifts in where growth is occurring in the region, as seen in *Figure 3.2.* The fastest growing parts of the region were in the East Bay and North Bay in the 1990s. By the 2000s, the pace of growth had dropped sharply in all counties, but Contra Costa and Napa counties continued to outpace other counties. Since 2010, the more populated counties of Alameda, San Francisco, San Mateo, and Santa Clara have led the region in both rate and level of population growth, while in Sonoma and Napa counties, the pace of growth has slowed further.

FIGURE 3.1 **Average Annual Population Growth Rate**
(1990-2000, 2000-2010, 2010-2014)



Source: ABAG from California Department of Finance Table E-5 and E-8 data

FIGURE 3.2 **Average Annual Population Growth Rate by County**
(1990-2000, 2000-2010, 2010-2014)



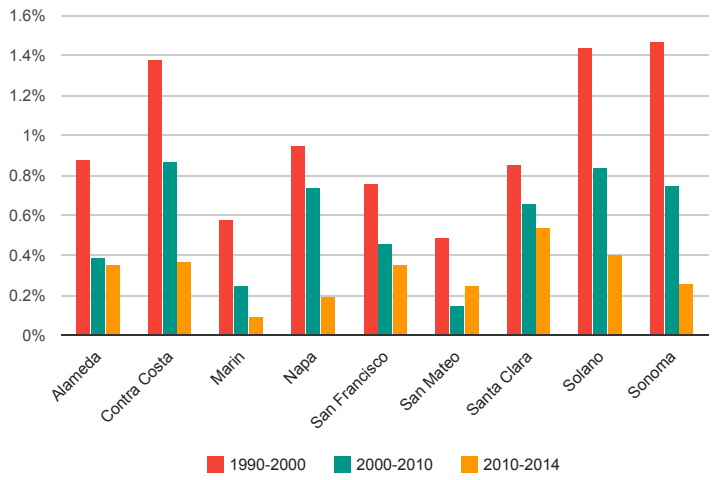
Source: ABAG from California Department of Finance Table E-5 and E-8 data

Much of the new growth is in counties that also have the highest concentrations of jobs. Almost one-third of the region's population increase occurred in Santa Clara County (32 percent), followed by Alameda County (23 percent). San Francisco, with a more constrained housing market, still accounted for 12 percent of the region's population gain, while Contra Costa County, with less of the job growth but greater housing availability attracted 14 percent of the growth. Growth in Marin, Napa, Solano, and Sonoma counties has accounted together for less than 9 percent of the regional growth in total, compared to 17 percent between 2000 and 2010.

Between 2000 and 2010, the Bay Area added 140,300 households, reaching 2,606,300 by April 2010. During this time, Contra Costa County (9.1 percent), Solano County (8.7 percent) and Sonoma County (7.8 percent) had the highest ten-year growth rates in the region. Another 34,400 households were added in the region between April 2010 and January 2014. The three counties that had highest household growth rates from 2010 to 2014 were: Santa Clara (2.0 percent), Solano (1.5 percent) and Contra Costa (1.4 percent). The three counties which had the highest numeric increase were Santa Clara, Alameda, and Contra Costa. These three counties represent over two-thirds of all new households in the region. The shift of Santa Clara to the top spot in rate of growth is a further indicator of efforts of households seeking locations closer to jobs and the efforts of jurisdictions in the county to provide that housing, yet the slow rate of household growth overall signals that household formation continues to lag job and population growth.
See ***Figure 3.3***.

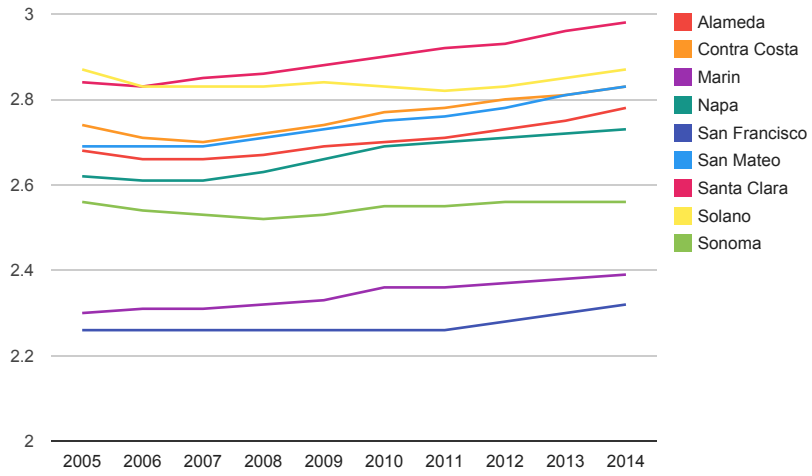
Although household formation has slowed in the current decade, household size has increased. Santa Clara County has the largest average household size of the nine Bay Area counties, passing Solano County in 2005 and steadily increasing since then, as shown in ***Figure 3.4***.
San Francisco's household size was steady through 2010 but has begun rising as the city has become a residence of choice for the expanding young workforce. While most other counties also have seen an increase in household size, two North Bay counties, Sonoma and Solano, have 2013 household sizes equivalent to their 2005 levels.

FIGURE 3.3 Average Annual Growth Rate of Households by County
(1990-2000, 2000-2010, 2010-2014)



Source: ABAG from California Department of Finance Table E-5 and E-8 data

FIGURE 3.4 Household Size by County
(2005-2014)

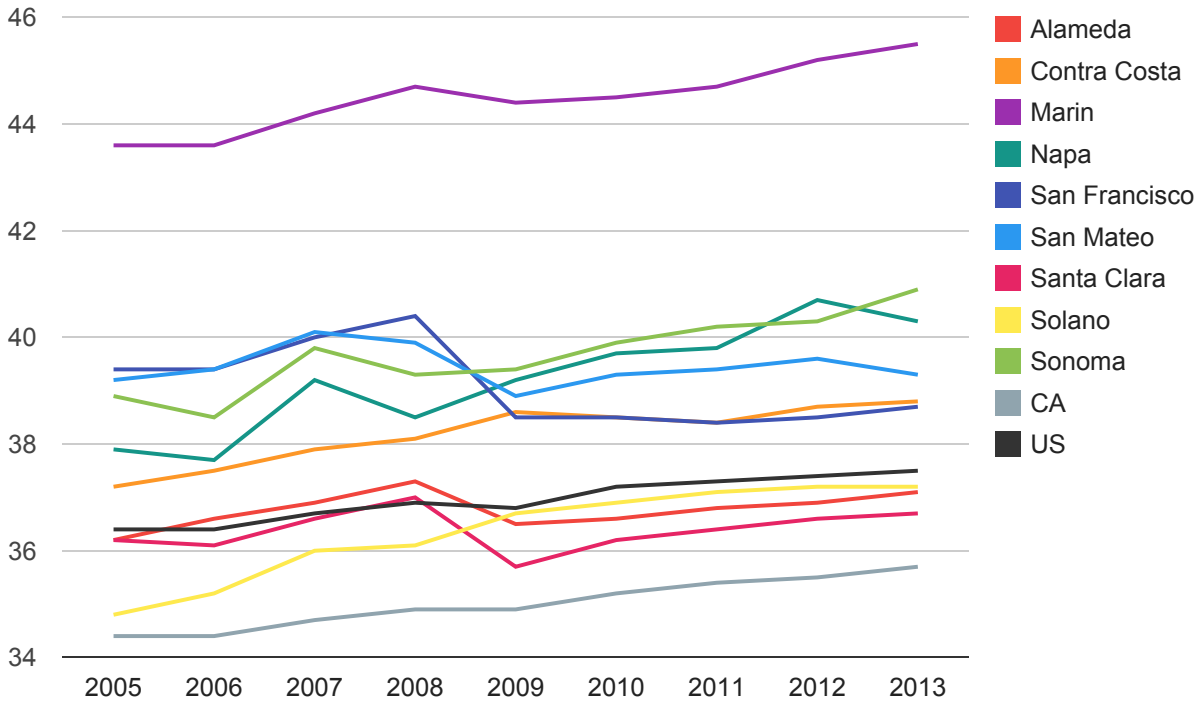


Source: ABAG from California Department of Finance Table E-5 and E-8 data

The Aging of the Region

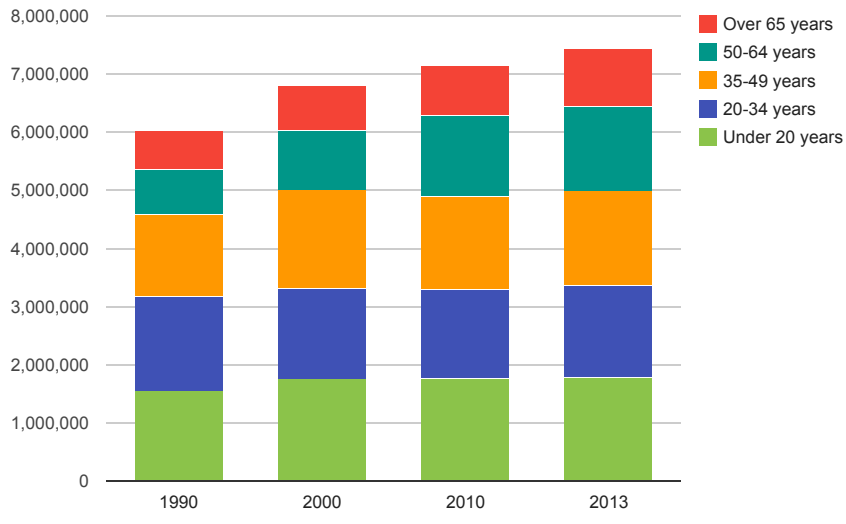
Consistent with nationwide trends, the population is aging. In 2013, the median age of the region was 38 (as estimated with PUMS data), compared to 37.7 in 2010 and 36.6 in 2000, as reported in the Bay Area Census website. The Bay Area's population is older than California's. Population 65 years old and over represented 12.7 percent of the total population in the region in 2013, compared to 11.8 percent of the state, and 13.4 percent of the nation. Population under 20 years old represented 24.4 percent of the region's share, which is less than California at 27.5 percent and the United States at 26.6 percent. Each county has a higher median age than

FIGURE 3.5 **Median Age, Bay Area Counties, California, and the United States**
(2005-2013)



Source: ABAG from US Bureau of the Census American Community Survey 1-Year Estimates, 2005-2013

FIGURE 3.6 **Age Distribution over Time**
(1990, 2000, 2010 and 2013)



Source: ABAG from 1980 Census, 1990 Census, Census 2000, and American Community Survey 1-Year Estimates for 2013

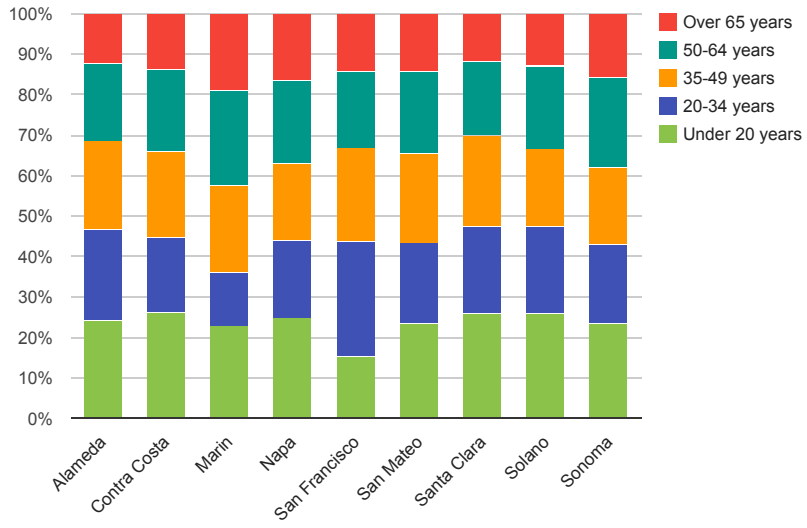
for the state as a whole. Marin County has the highest median age, while Santa Clara's median age became the lowest among all counties in the region beginning in 2009, due to high shares of working aged population and children. Marin County's population has aged particularly rapidly as seen in ***Figure 3.5.*** In contrast, San Francisco is the only county where the median age was lower in 2013 than in 2005.

With a changing age base, population growth since 2000 has been almost entirely in the age groups fifty and over, as shown in ***Figure 3.6***. The 20 to 34 year age group, like other younger age groups, had dropped slightly in 2010 but began increasing again in

the last three years, a sign of renewed job opportunities. The number under 20 grew sharply between 1990 and 2000 but has changed little in the past decade and a half.

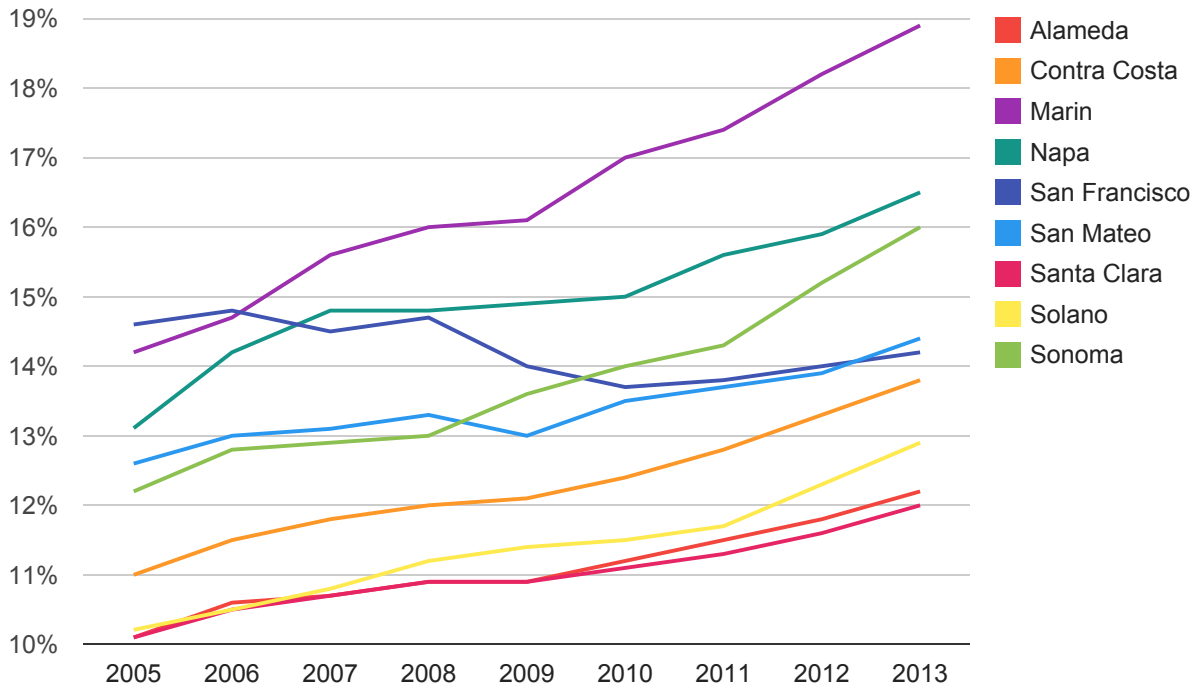
As of 2013, Marin County has the highest percentage of population over 50, as shown in ***Figure 3.7.*** Santa Clara and Alameda counties have the smallest percentage of population 65 years old and over. San Francisco has the largest portion of population between 20 and 29 years old (28 percent), and the smallest portion of population under 20 years old (15 percent). The share of population under 20 for all other counties was between 24 percent and 27 percent in 2013. Growth in the elderly population has been particularly high in Marin County. Only in San Francisco is the share of population 65 and over lower in 2013 than in 2005. See ***Figure 3.8.***

FIGURE 3.7 Age Distribution by County
(2013)



Source: ABAG from US Bureau of the Census American Community Survey 1-Year Estimates

FIGURE 3.8 Percentage of Population 65 and Over by County
(2005-2013)



Source: ABAG from US Bureau of the Census American Community Survey 1-Year Estimates

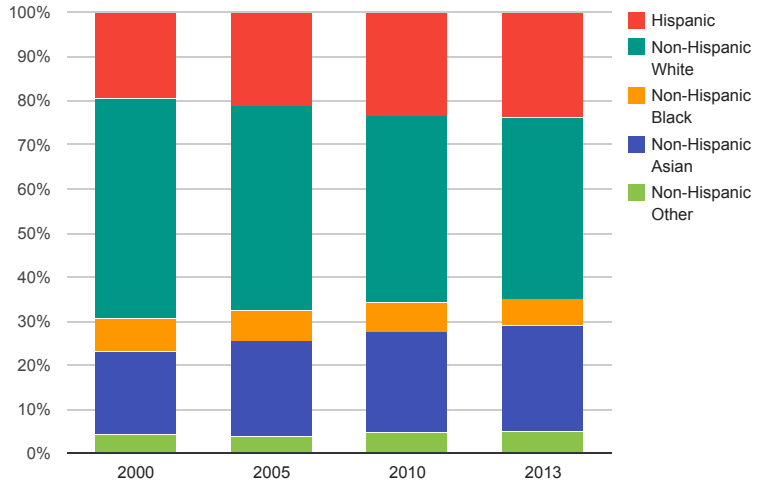
Demographic Shifts in Ethnic Composition

As the region grows, it continues to become more diverse. The non-Hispanic white population represented 52 percent of the total population in 2000, but the share had dropped to 41 percent by 2013 (***Figure 3.9*****).** Nevertheless, this group grew by 28,000 between 2010 and 2013, after shrinking in population size during the previous two decades. The non-Hispanic African American population represented 6 percent of the region's population in 2013, down from 7 percent in 2010. In contrast, the Hispanic population and non-Hispanic Asian each accounted for 24 percent of the total population, experiencing growth rates of 5 percent and 9 percent, respectively, between 2010 and 2013.

The average annual growth rate for the region by ethnic group shows continued strong growth for Asians and Latinos since 2000. The two other major groups (non-Hispanic white and non-Hispanic black) showed some decrease in its share of the total population between 2000 and 2013, with the majority of the population decline between 2000 and 2005 (*Figure 3.10*)**.**

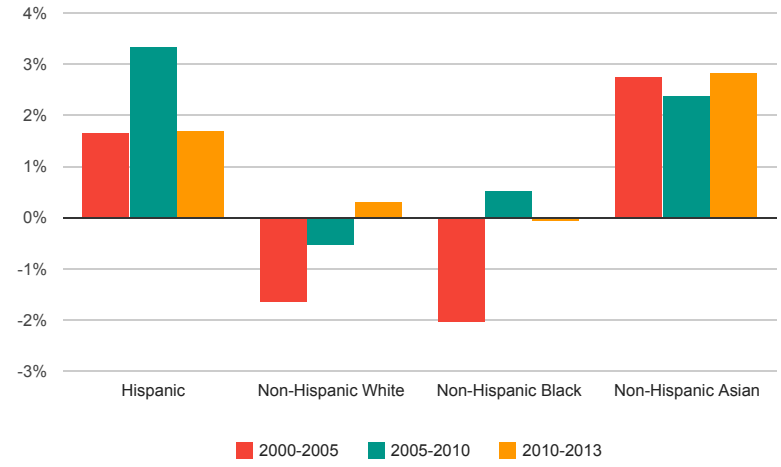
Between 2010 and 2013, Solano County has the highest growth rate in Hispanic population (8 percent), followed by Contra Costa County (7 percent) and Napa and Sonoma counties (6 percent). San Francisco County, with an increase of approximately 9,000 people, has the highest percent increase in non-Hispanic white population (3 percent),

FIGURE 3.9 **Ethnic Composition of the Bay Area**
(2000, 2005, 2010 and 2013)



Source: ABAG from US Census 1980, Census 1990, Census 2000 and American Community Survey 1-Year Estimates

FIGURE 3.10 **Average Annual Growth Rate by Ethnic Group**
(2000-2005, 2005-2010, 2010-2013)

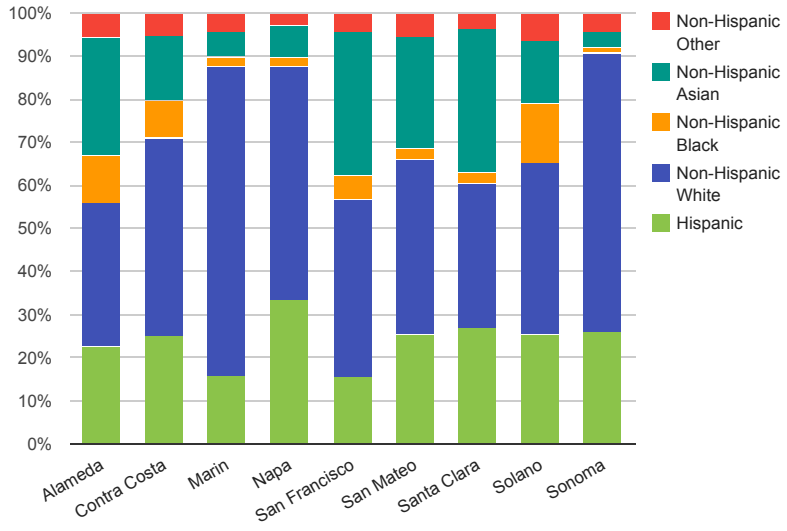


Source: ABAG from US Census and American Community Survey data
NOTE: Non-Hispanic Other is not included in this chart because the volatile changes may be due to shifting definitions rather than overall trends.

and Alameda County ranked second highest, increasing by 8,300 people, or 2 percent from the 2010 non-Hispanic white population level. For the non-Hispanic African American population, Napa County has the highest growth rate (21 percent), followed by Santa Clara County (10 percent), while Marin County lost 15 percent of the 2010 non-Hispanic African American population. Six of the nine counties have a 9 percent or more increase in non-Hispanic Asian population from 2010 to 2013, and among them, Napa County ranked highest (15 percent), followed by Marin County (13 percent) and San Mateo County (11 percent).

As of 2013, Napa has the largest percentage of Hispanic population (33 percent); Marin has the largest percentage of non-Hispanic white population (72 percent); Solano has the highest percentage of non-Hispanic African American population (14 percent); and San Francisco and Santa Clara County have the highest percentage of non-Hispanic Asian population (33 percent). ***Figure 3.11*** shows the full distribution of population by ethnic group in 2013.

FIGURE 3.11 Ethnic Composition of Population in Bay Area Counties
(2013)

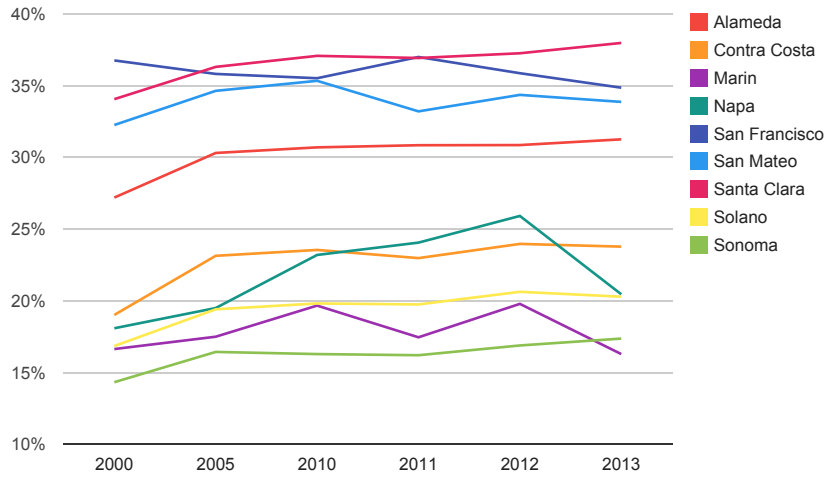


Source: ABAG from US Census and American Community Survey data

Shifting Migration Patterns Reflect Changing Economy

International migration has played a significant role in the growing ethnic diversity and economic dynamism of the region. Regionwide, 30.2 percent of the 2013 population was foreign born, up from 27.4 percent in 2000 and 30.1 percent in 2010. The region has among the largest shares of immigrants in its population nationwide, yet the proportions still vary widely among counties as shown in ***Figure 3.12***. The larger counties of Alameda, San Francisco, San Mateo and Santa Clara have a greater percentage of foreign born—between 31 percent (Alameda) and 38 percent (Santa Clara). The other five Bay Area counties have foreign born populations ranging from 17 percent in Sonoma to 24 percent in Napa.

FIGURE 3.12 Foreign Born by County
(2000, 2005, 2010-2013)



Source: Bureau of the Census: Census 2000 and American Community Survey 1-Year Estimates

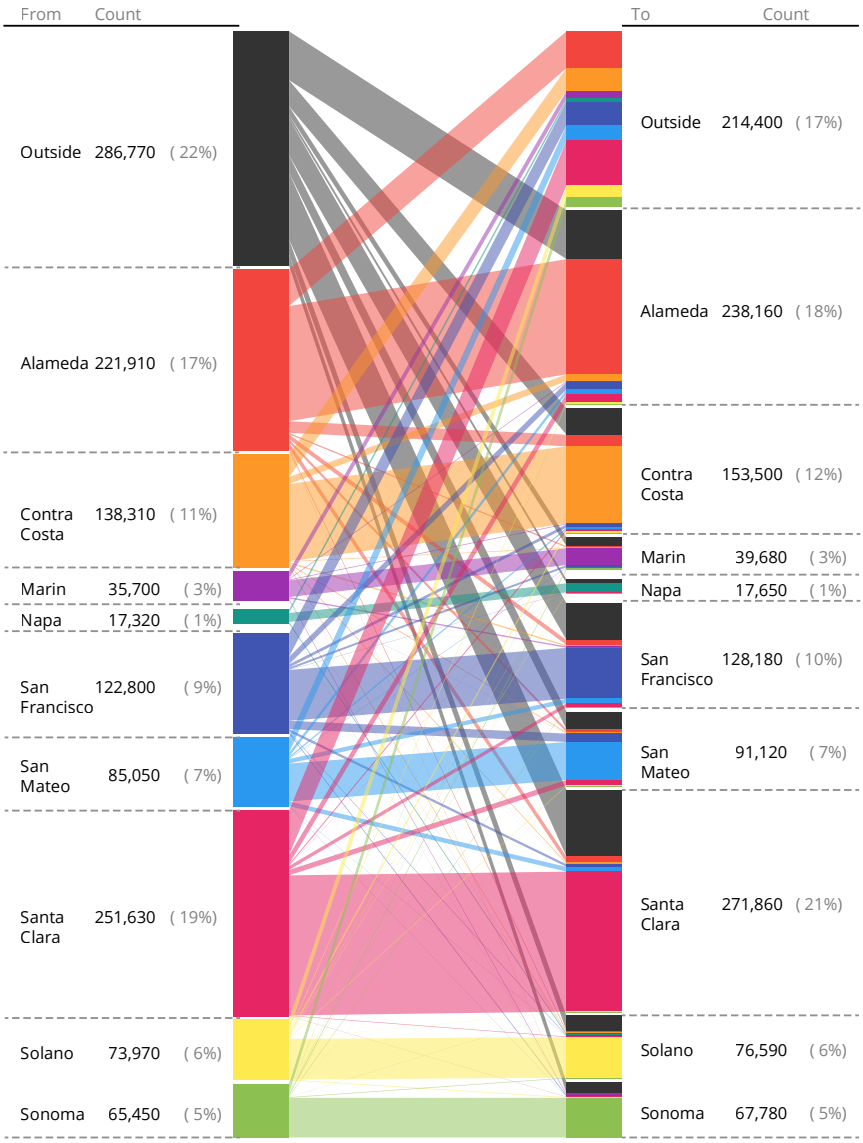
In any one year, a small share of new residents arrive from abroad. On average (since 2010) 84 percent the population remains in the same house

they were living in the year before, while approximately 15 percent lived elsewhere (the remaining 1-2 percent are newborns). Of those who move, most remain in the same county. *Figure 3.13* gives an overview of the close to 800,000 people who moved into their current unit in the past year. A little over 1 in 5 (roughly 4 percent of the total population) came from outside the region. By comparison, 17 percent of movers left the region. In other words, in the 2011 to 2013 period, there was a net migration gain relative to the rest of the country.

Newcomers to the Bay Area go mostly to Santa Clara (28%), Alameda (21%), San Francisco (16%) and Contra Costa (11%) counties, or 71 percent of newcomers (these counties for comparison have 76 percent of the population). Seven or fewer percent of movers from outside the region settle in each of the remaining five counties. Most movers pick a house in the same county, although with substantial regional variation. The share for Alameda, Contra Costa, Santa Clara, Solano and Napa counties is about two thirds. The county where most movers stay is Sonoma (74%), while Marin and San Francisco only see 58% and 51% of their relocating residents pick a new address in the same county. In contrast, since 2010, about three percent of the population has left the region annually, with Marin having the highest share of movers leaving the region rather than relocating in the Bay Area.

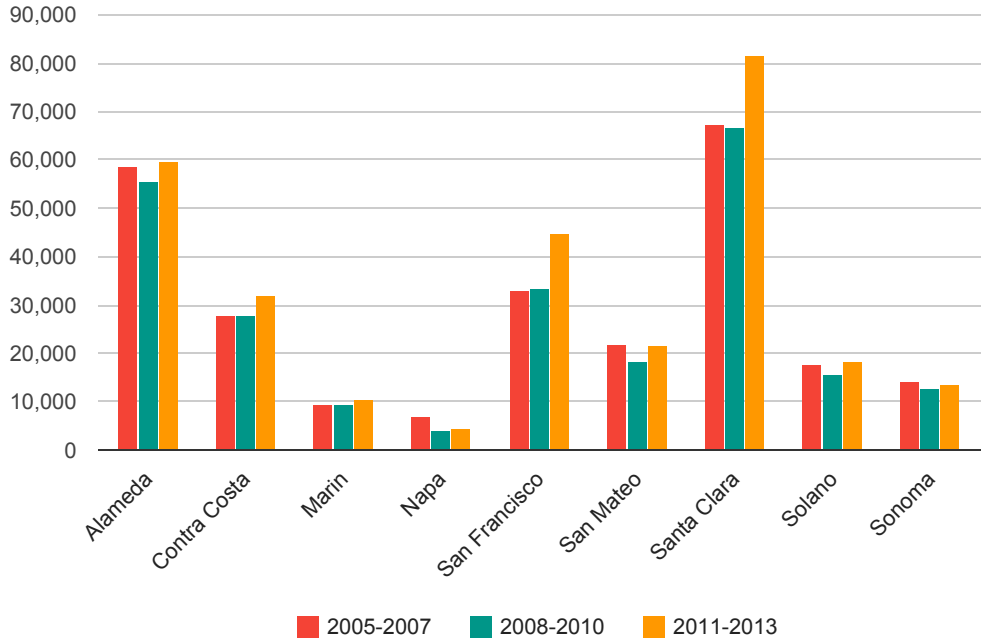
The numbers moving in and out of the region varies over time, as shown in *Figures 3.14* and *3.15*. More people moved to the Bay Area from outside the region in 2011 through 2013 than in the preceding three years for all counties. In four counties, this inward flow was higher than even at the peak of the housing bubble, with the absolute increase greatest in San Francisco and Santa Clara counties. These increased inward flows are matched by decreased outward flows. The numbers of previous residents who had left the region in the past year, annually between 2011 and 2013, has dropped relative to both of the previous economic boom and bust periods in San Francisco, Santa Clara, Alameda, Contra Costa, Solano and Sonoma counties. Only Marin and San Mateo had more people leaving the region in 2011 through 2013 than in either of the previous 3-year periods of 2005-2007 and 2008-2010.

FIGURE 3.13 **Bay Area Moves: Where From? Where to?** (2011-2013)



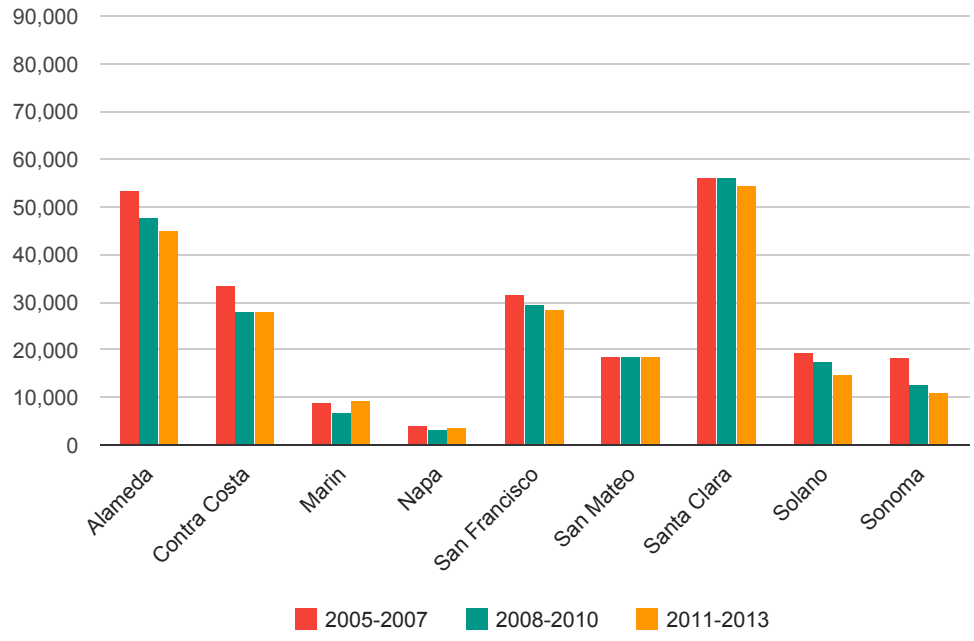
Source: ABAG from US Bureau of the Census American Community Survey PUMS data, 1-year releases, 2011-2013
Note: Chart made adapting NPashaP's BiPartite code: https://github.com/NPashaP/BiPartite

FIGURE 3.14 Persons who Moved into the Bay Area in the Past Year by County
(2005-2007, 2008-2010, 2011-2013)



Source: ABAG from US Bureau of the Census American Community Survey PUMS data, 1-year releases, 2005-2013

FIGURE 3.15 Persons who Moved out of the Bay Area in the Past Year by County
(2005-2007, 2008-2010, 2011-2013)



Source: ABAG from US Bureau of the Census American Community Survey PUMS data, 1-year releases, 2005-2013

Geographic Manifestations of Changing Demographics

Given the amount of new businesses and employment growth in the South Bay, it is not surprising that San Jose has accommodated more of the region's population growth than any other Bay Area city since 2000. Between 2010 and 2014, San Jose accounted for roughly 20 percent of the region's population growth, a number that increased from 14 percent between 2000 and 2010. San Francisco accounted for 8 percent from 2000 and 2010, and 12 percent in the last four years, respectively. Oakland – which lost nearly 9,000 residents between 2000 and 2010 – has rebounded and added over 5 percent of the region's population growth since 2010. The three largest cities in the region combined for one-third of the growth.

Population growth and the composition of that growth are closely tied to household formation and will influence the amount and location of housing demand in the region. The next section tracks trends in the region's housing, affordability, and geographic location patterns.

GAUGING PROGRESS ON HOUSING GOALS

4

OAK COURT

Section 4

Gauging Progress on Housing Goals

The region's housing inventory is beginning to expand again, but the pace of growth lags that of employment and population. Apart from the natural delay due to the time required to build a unit of housing, several characteristics of the post-recession recovery period contributed to this lag. Sharp drops in home prices and high rates of foreclosure made new single-family home construction difficult to achieve coming out of the recession. Stronger rents and job growth centered in the major urban centers led to a quicker recovery of multifamily permits, but shortfalls in both commercial and consumer financing slowed the pace at which permits were translated into units, leaving many entitled units unbuilt for years. Although housing stock has expanded at a slow pace, the location of new construction is shifting relative to earlier periods. Since 2010, housing production has concentrated in urban centers and suburban nodes close to transit stations and corridors. Now that employment levels are starting to reach previous peaks, current trends in prices, affordability, and overcrowding indicate that the region is struggling to provide housing to meet the needs of the growing workforce.

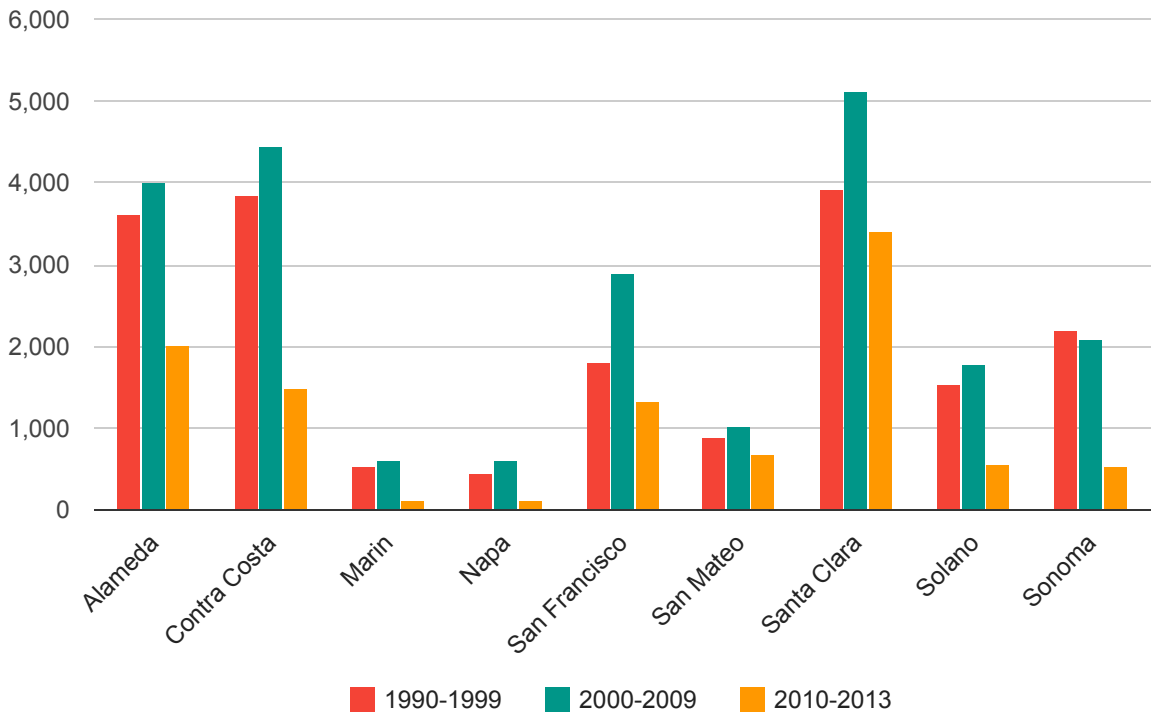
A Long-Term Look at Levels and Occupancy

Total Housing Units Built

The California Department of Finance (DOF) estimates the Bay Area added 38,300 housing units between April 2010 and January 2014. The annual average number of units added during this period (9,600 units per year) is low compared to previous decades, likely in part because of effects of the Great Recession which led to an overhang of available housing and tighter credit markets. From 2000 to 2010, the Bay Area added 231,600 new housing units, for an average of 23,200 per year. During the 1990s, the region averaged 18,700 units per year, or 187,500 for the decade.

Santa Clara, Contra Costa, and Alameda Counties produced the most new units in the region since 2010, as they did in the previous two decades. (***Figure 4.1***). Over time, Bay Area housing growth has increasingly concentrated in a smaller number of jurisdictions, with San Jose and San Francisco specifically taking on a larger share of the region's growth. Between 2010 and the end of 2013, the five jurisdictions with the most new units (San Jose, San Francisco, Dublin, San Ramon, and Sunnyvale) accounted for 51 percent of the total growth, with San Jose and San Francisco together accommodating 37 percent of the total. During the 2000s, 40 percent of the region's new units were added by just five jurisdictions (San Francisco, San Jose, Oakland, Santa Rosa, Brentwood) with San Francisco and San Jose alone accounting for 27 percent of the total. Similarly from 1990 to 2000, 35 percent of the region's new units were added by five jurisdictions (San Francisco, San Jose, Santa Rosa, Antioch, and Fremont), with San Jose and San Francisco accounting for 22 percent of the total. The increasing concentration of units in San Francisco, the South Bay, and the junction of highways 680 and 580 shows housing growth concentrating near major job centers, rather than in more distant (historically less costly) suburban developments.

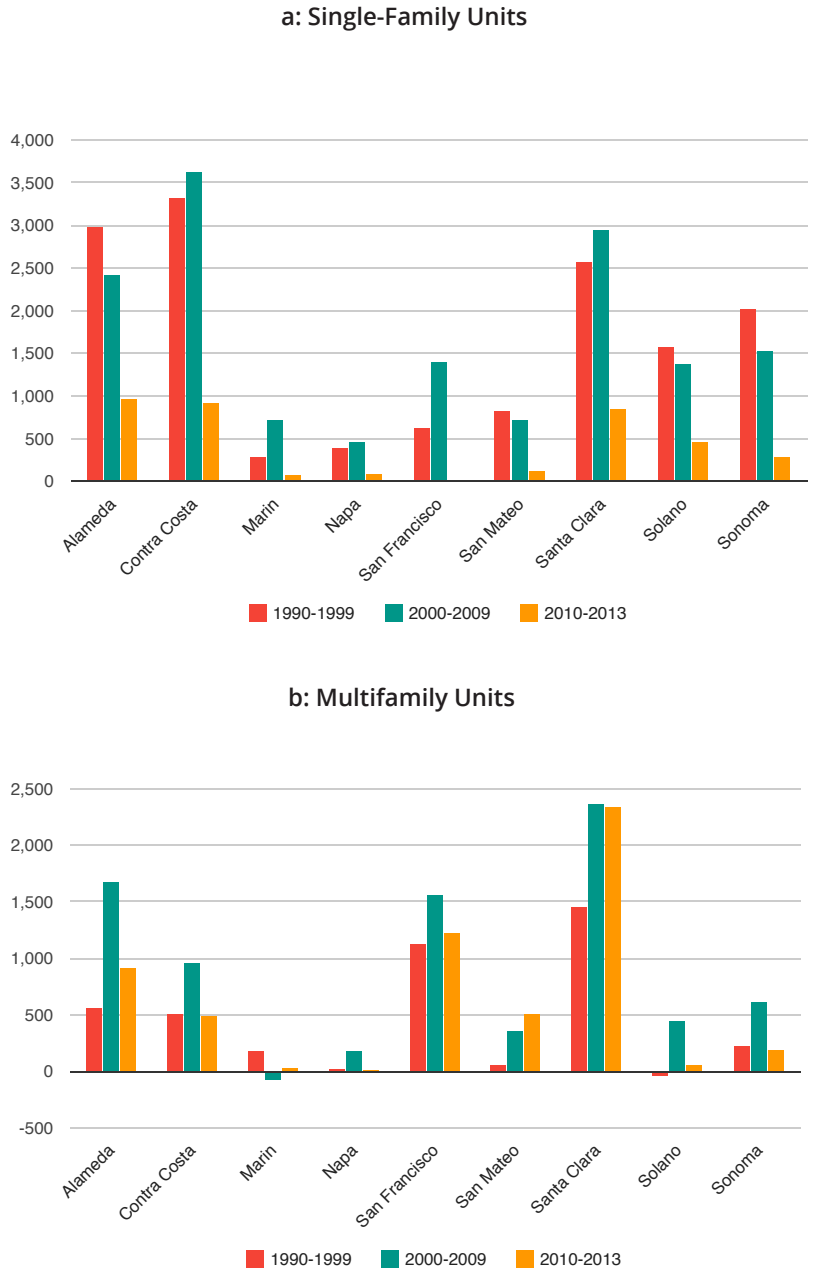
FIGURE 4.1 **Average Units Added per Year by County**
(1990-1999, 2000-2009, and 2010-2013)



Source: ABAG from California Department of Finance Table E-5 and E-8 data

Although the average number of units has dropped overall, there has also been a significant shift in product type, as is shown in ***Figure 4.2***. Santa Clara County, for example, is adding as many multifamily units per year currently as in the previous decade and far more than in the 1990s. At the same time, single-family production has dropped by more than two thirds in the county. San Francisco has virtually come to a standstill on single family additions to stock, although even the "increase" in single-family stock in San Francisco in earlier decades may be an artifact of changing definitions rather than a real increase in units (see note to ***Figure 4.2b***). In contrast, the city is adding more multifamily units per year than in the 1990s although fewer than in the 2000s.

FIGURE 4.2 **Average Annual Change in Housing Stock**
(1990-1999, 2000-2009, and 2010-2013)

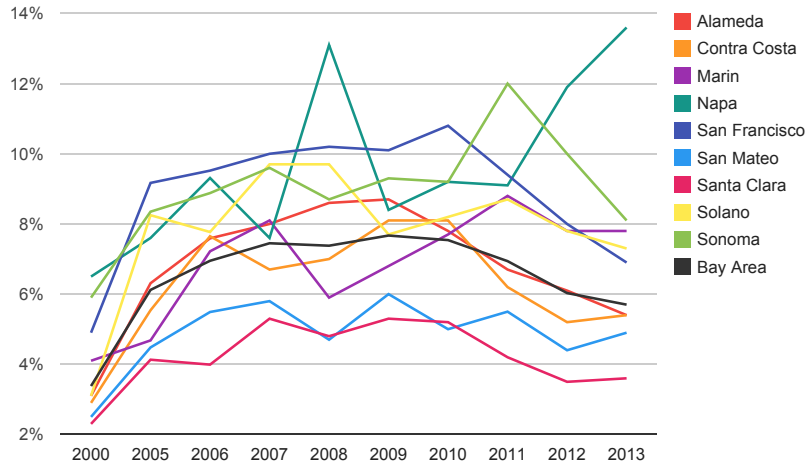


Source: ABAG from California Department of Finance Table E-5 data.
Note: The change in number of units by type is obtained by comparing the stock of respectively single-family and multifamily units from one time period to the next. With each decennial census, the housing stock is fully enumerated and classified by type. While the overall counts are deemed very accurate, the type classification from decade do decade can vary substantially even for the same unit, possibly misrepresenting the distribution of housing unit growth between single-family and multifamily units. For example, the chart implies more than 10,000 new single-family units in San Francisco during the 2000s. This is almost exclusively a classification artifact of the way some multifamily units were reclassified as single family units in the 2010 Census.

Housing Vacancy

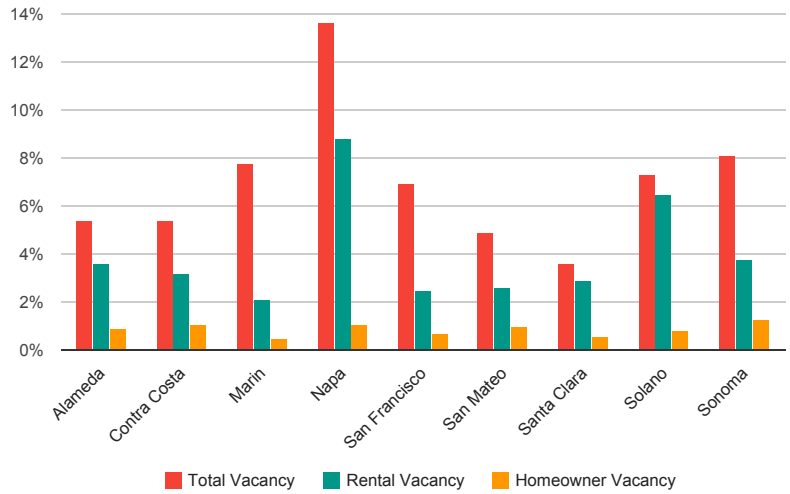
Most counties have seen declining vacancies since 2010, as shown in *Figure 4.3*. Only Napa and Marin counties had higher vacancy rates in 2013 than in 2005, although all vacancies are higher than in 2000, at the peak of the dot-com boom. Napa's vacancy rate rose to 13.6 in 2013, far higher than in any of the other counties. Not surprisingly, with its economic strength, Santa Clara County had the lowest vacancy rate, below 4 percent. San Francisco's relatively high vacancy rate is more surprising. This may be because the ACS measure of total vacancy rates includes seasonal units that are unoccupied or occupied for short temporary periods at the time of the survey, counting these as vacant relative to total stock (but excluding them when rental or homeowner housing alone is considered). This may also account for Napa's relatively high vacancy rate over time. For each county, vacancy rates are lower when considering either homeowner or rental properties alone. As shown in *Figure 4.4*, the difference is particularly evident for San Francisco and Marin Counties, both of which have homeowner and rental vacancy rates close to Santa Clara's very low rates.

FIGURE 4.3 **Vacancy Rate**
San Francisco Bay Area and Counties (2000 and 2005-2013)



Source: ABAG from US Bureau of the Census: Census 2000 and American Community Survey 1-Year Estimates

FIGURE 4.4 **Vacancy Rate by Tenure by County**
(2013)



Source: ABAG from US Bureau of the Census American Community Survey 1-Year Estiames

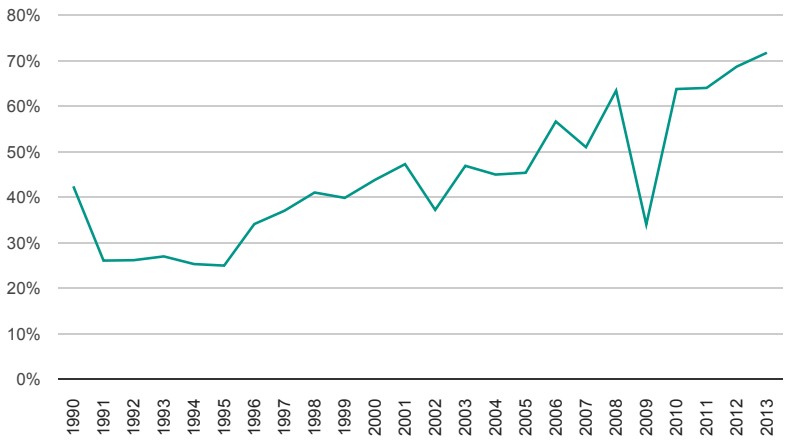
Permit Activity Presages Further Product and Location Shifts

Housing Permit Activity

While data from DOF provides a look at the types of homes built, housing permit data shows what type of growth is expected in the short term, as permits precede construction. Since the 1990s, per ***Figure 4.5***, the proportion of multifamily units permitted in the Bay Area as a whole is trending upward. The dip in 2009 is likely recession related, with uncertainty and tight credit reducing permit levels.

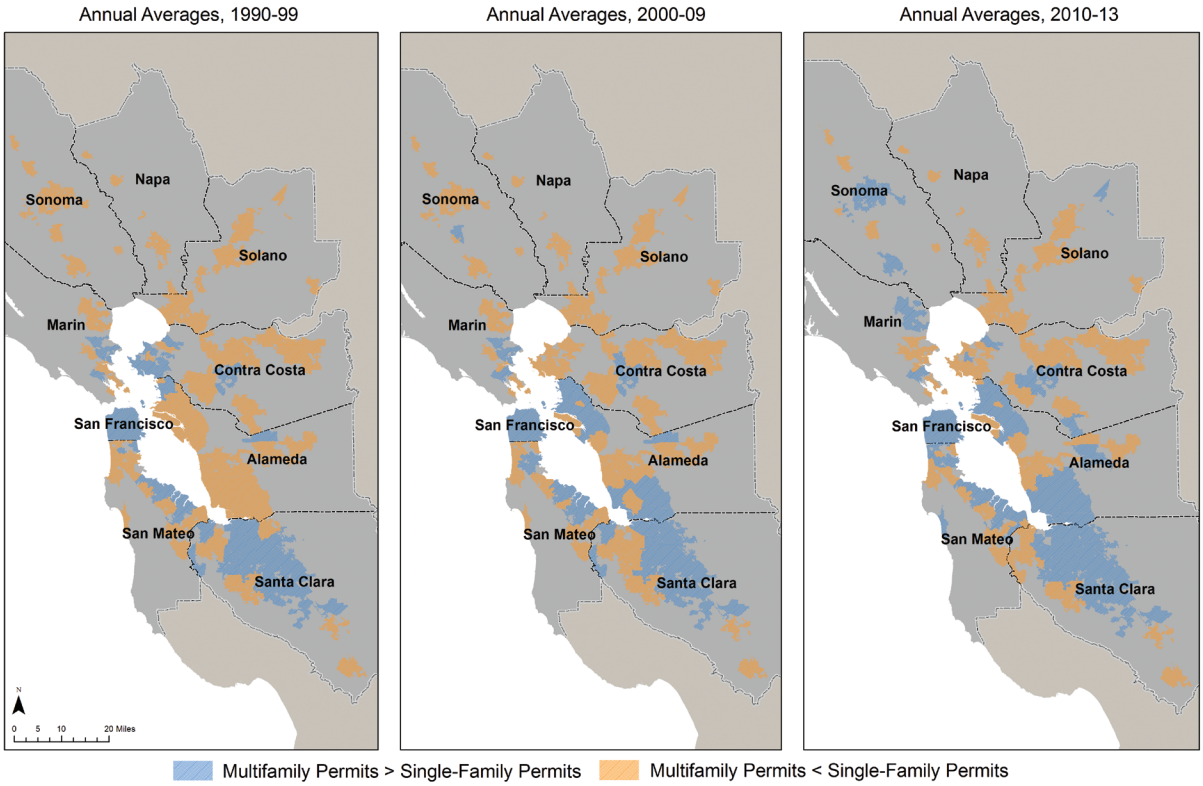
The set of maps in ***Figure 4.6*** shows the shift to multifamily permitting in long-term geographic perspective. Cities that predominantly issue single-family permits in gold and cities that predominantly issue multifamily permits in blue. The increase in the proportion of multifamily units since the 1990s is evident in both suburban and urban areas.

FIGURE 4.5 **Multifamily Units as a Proportion of All Permits Issued**
Bay Area (1990-2013)



Source: ABAG from California Housing Foundation and Construction Industry Research Board data

FIGURE 4.6 **Cities with Greater Proportions of Multifamily than Single-Family Permits**
(1990-2013)



Source: ABAG from California Housing Foundation and Construction Industry Research Board data

An alternative look at the data shows a few counties dominate this shift. *Figure 4.7* highlights the increased concentration of housing growth in the counties closest to the Bay and the growing proportion of multifamily permits in a few other parts of the region. San Francisco, Santa Clara, and San Mateo counties are the only three counties that have not experienced sharp declines in the average number of permitted units in 2010-2013 compared to previous decades, with San Francisco being the only one that has experienced an increase over all time periods. The high shares of multifamily permit activity for all of the large counties in the region suggest that regional growth will continue to concentrate around existing job centers for the near future.

FIGURE 4.7 Average Number of Residential Permits per Year
By County (1990-1999, 2000-2009, 2000-2014)

Source: ABAG from California Housing Foundation and Construction Industry Research Board data

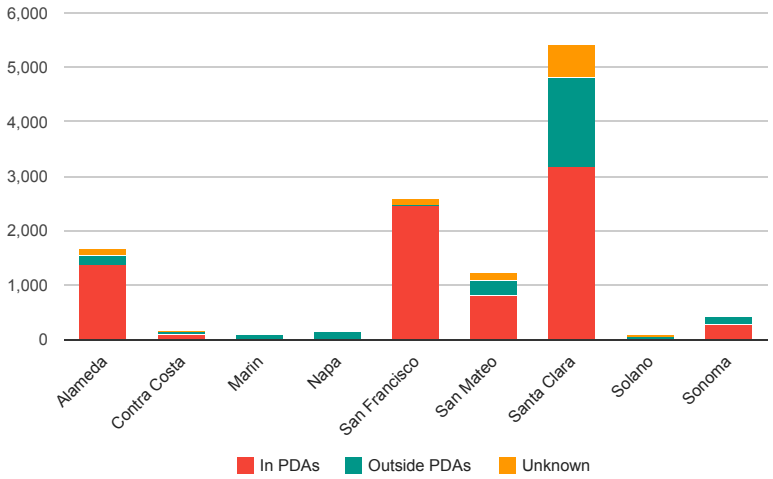
Multifamily Residential Permitting Activity and Priority Development Areas, 2013

In order to understand the degree to which new home development has occurred in the region's adopted priority development areas (PDAs)[13], ABAG collected detailed information from local governments about the specific locations of housing developments permitted in 2013. As shown in Figures 4.8 and 4.9, nearly 70 percent of the 11,800 multifamily units[14] permitted in the Bay Area in 2013 were in PDAs, while 2,600 units (22 percent) were outside of PDAs. ABAG was unable to ascertain the location of the remaining 1,000 units (9 percent). Santa Clara County had the highest number of permits issued for multifamily units within PDAs, followed by San Francisco and Alameda counties.

The more urbanized counties permitted a greater portion of their housing units within PDAs, with San Francisco permitting 94 percent of its housing units in PDAs, followed by Alameda County (83 percent) and San Mateo County (67 percent). Most of the jurisdictions in the areas closest to the Bay permitted a majority of their multifamily units in PDAs, and there were 11 jurisdictions that permitted more than 90 percent of their multifamily units within PDAs.

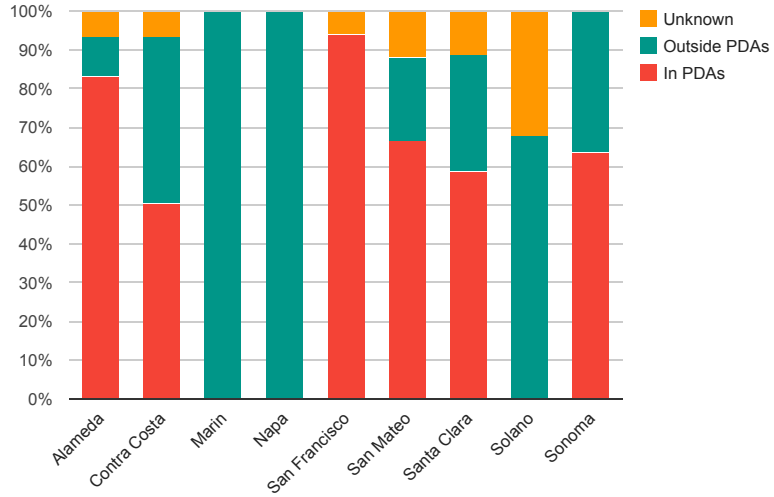
Most North Bay counties permitted the bulk of their multifamily units outside of PDAs, but their total numbers of permits are small compared to all permits in the region. Napa, Marin, and Solano[15] permitted 100 percent of their reported multifamily units outside of PDAs. Sonoma County is the notable exception in the North Bay, permitting 64 percent of its multifamily units in PDAs with the city of Santa Rosa permitting 75 percent of its units in PDAs.

FIGURE 4.8 Bay Area Multifamily Permitting Activity
By County (2013)



Source: ABAG survey of local jurisdictions

FIGURE 4.9 Multifamily Permitting Activity in PDAs as Percent of All Multifamily Permits
By County (2013)



Source: ABAG survey of local jurisdictions

[13] *These are locally designated infill areas with frequent transit service where a jurisdiction has decided to concentrate most of its housing and jobs growth for development in the foreseeable future.*

[14] *ABAG focused its analysis on multifamily units to be consistent with the objective of encouraging higher density housing in PDAs and because there were fewer projects about which the location information was unavailable.*

[15] *The location information was unknown for 32 percent of the units in Solano County.*

Plans and Production toward RHNA Goals

As part of the Regional Housing Need Allocation (RHNA) process, the California Department of Housing and Community Development (HCD) determines the total number of housing units expected to be needed in the Bay Area during the RHNA time period to accommodate projected jobs and population growth. The RHNA process then assigns each jurisdiction in the Bay Area responsibility for permitting a target number of housing units that will be affordable to residents across all income groups, broken into four affordability categories.[16]

California law requires units to be tracked by level of affordability or by the rents or mortgages that will be charged to families within different income categories. Generally a home is considered affordable if it costs no more than 30 percent of a household's annual income. California divides households into four broad income categories each based upon the Area Median Income (AMI): very low income households (making between 0 to 50 percent of AMI), low income households (between 50 and 80 percent of AMI), moderate income households (making between 80 and 120 percent of AMI), and above moderate households (making more than 120 percent of AMI). Jurisdictions are required to track residential permits issued based upon each housing unit's expected affordability level once completed. An evaluation of the permits issued by local governments relative to their RHNA targets provides an

TABLE 4.1 Bay Area Progress in Meeting 2007-2014 Regional Housing Need Allocation (RHNA)[17,18]

County	Very Low			Low			Moderate			Above Moderate			Total		
	RHNA	Permits Issued	Percent RHNA Met	RHNA	Permits Issued	Percent RHNA Met	RHNA	Permits Issued	Percent RHNA Met	RHNA	Permits Issued	Percent RHNA Met	RHNA	Permits Issued	Percent RHNA Met
Alameda	10,017	3,095	31%	7,616	1,699	22%	9,078	1,140	13%	18,226	13,681	75%	44,937	19,615	44%
Contra Costa	6,512	1,353	21%	4,325	1,035	24%	4,996	3,654	73%	11,239	10,758	96%	27,072	16,800	62%
Marin	1,095	250	23%	754	256	34%	977	219	22%	2,056	818	40%	4,882	1,543	32%
Napa	879	135	15%	574	71	12%	713	268	38%	1,539	960	62%	3,705	1,434	39%
San Francisco	6,589	3,920	59%	5,535	1,481	27%	6,754	1,234	18%	12,315	13,468	109%	31,193	20,103	64%
San Mateo	3,588	702	20%	2,581	641	25%	3,038	746	25%	6,531	6,080	93%	15,738	8,169	52%
Santa Clara	13,878	3,798	27%	9,567	2,692	28%	11,007	2,371	22%	25,886	35,962	139%	60,338	44,823	74%
Solano	3,038	283	9%	1,996	481	24%	2,308	1,067	46%	5,643	3,141	56%	12,985	4,972	38%
Sonoma	3,244	715	22%	2,154	826	38%	2,445	1,033	42%	5,807	3,065	53%	13,650	5,639	41%
Total	48,840	14,251	29%	35,102	9,182	26%	41,316	11,732	28%	89,242	87,933	99%	214,500	123,098	57%

The data for table 4.1 was updated in April 2016 to incorporate housing permitting activity reported to ABAG by jurisdictions after publication of this report in February 2015.

Source: ABAG survey of local jurisdictions

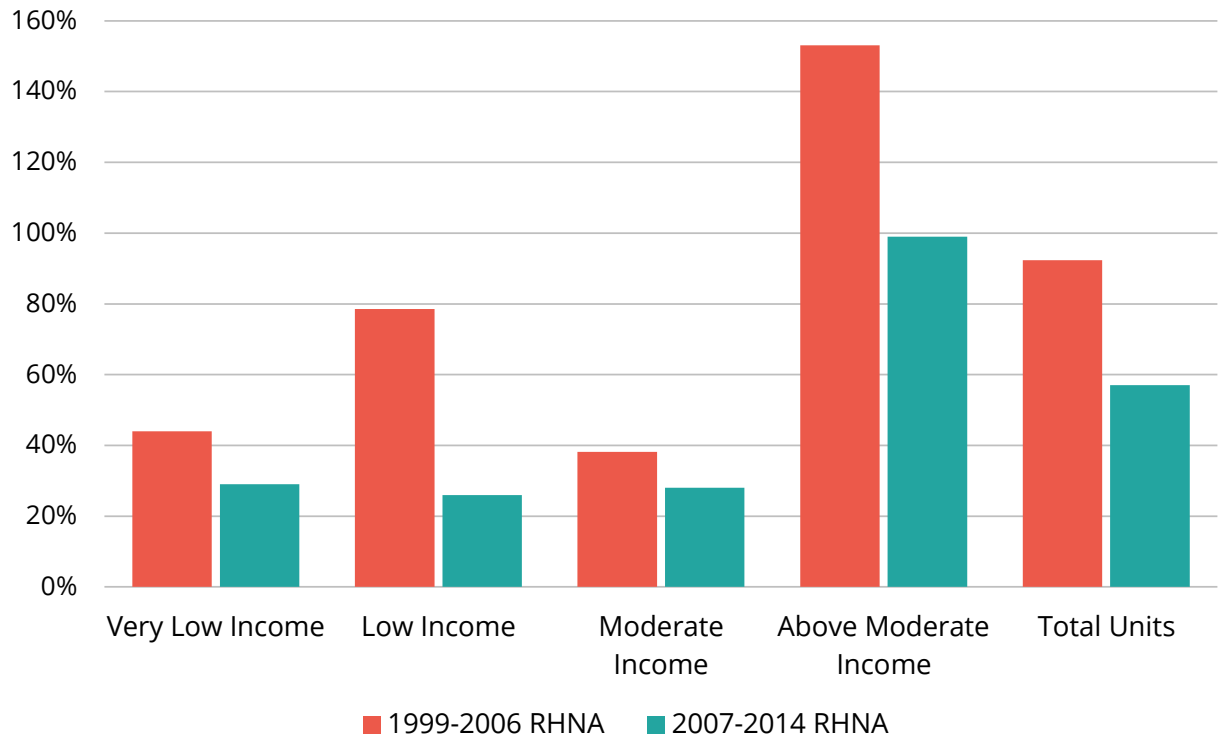
[16] *For more information about the Regional Housing Need Allocation, see http://www.abag.ca.gov/planning/housingneeds*

assessment of how well jurisdictions are doing in meeting the region's housing needs, particularly for affordable housing. The two most recent RHNA periods were 2007-2014 (RHNA 2007-2014) and 1999-2006 (RHNA 1999-2006). Between 2007 and 2014,[18] Bay Area jurisdictions permitted 57 percent of the total need, compared to 92 percent for RHNA 1999-2006). The significant decline in permit activity during the 2007-2014 period is largely a result of the Great Recession.

As shown in ***Table 4.1***, for RHNA 2007-2014, jurisdictions in Santa Clara County permitted the highest percentage of total need (74 percent) followed by San Francisco (64 percent) and Contra Costa Couny (62 percent). Solano County (38 percent) and Marin County (32 percent) permitted the lowest percentage of total need. This differs from the pattern in RHNA 1999-2006, where Contra Costa County permitted 138 percent of its total need, followed by Solano County (99 percent) and Sonoma County (94 percent). For RHNA 1999-2006, the county with the lowest percentage of need permitted was San Mateo, at 63 percent. The East Bay and North Bay counties that have seen particularly large drops in permitting relative to need are also places that were still working through the overhang of units in foreclosure left over from the housing bust that just preceded this decade.

Figure 4.10 compares the percent of the total need in each income

FIGURE 4.10 Percent of RHNA Permitted by Income Category



Source: ABAG survey of local jurisdictions

[17] The data was compiled primarily from Annual Housing Element Progress Reports (APRs) filed by jurisdictions with the California Department of Housing and Community Development (HCD). In some cases, data was compiled using planning documents generated by the jurisdictions (housing elements and permitting information sent to ABAG). APRs are the only source of information pertaining to the affordability levels of housing units permitted within a jurisdiction. Once the total number of housing units permitted is taken into account, some differences arise between APRs and two other commonly used sources for housing permitting data: the Construction Industry Research Board (CIRB) and the US Census. After a lengthy examination it was determined that CIRB and the Census gather data primarily through surveys of local planning and building staff whereas APRs are prepared directly by planning staff and sent to the state. The differences between these sources mostly arise due to who was specifically surveyed in a jurisdiction and whether or not the CIRB and Census researchers relied primarily on a jurisdiction's website for permitting information. As no two data sources possess the same tally of housing units permitted for the Bay Area for the 2007-2014 period, APRs fall within an acceptable margin of error when compared to the Census or CIRB. All this data was sent to local jurisdiction staff for confirmation in December 2014

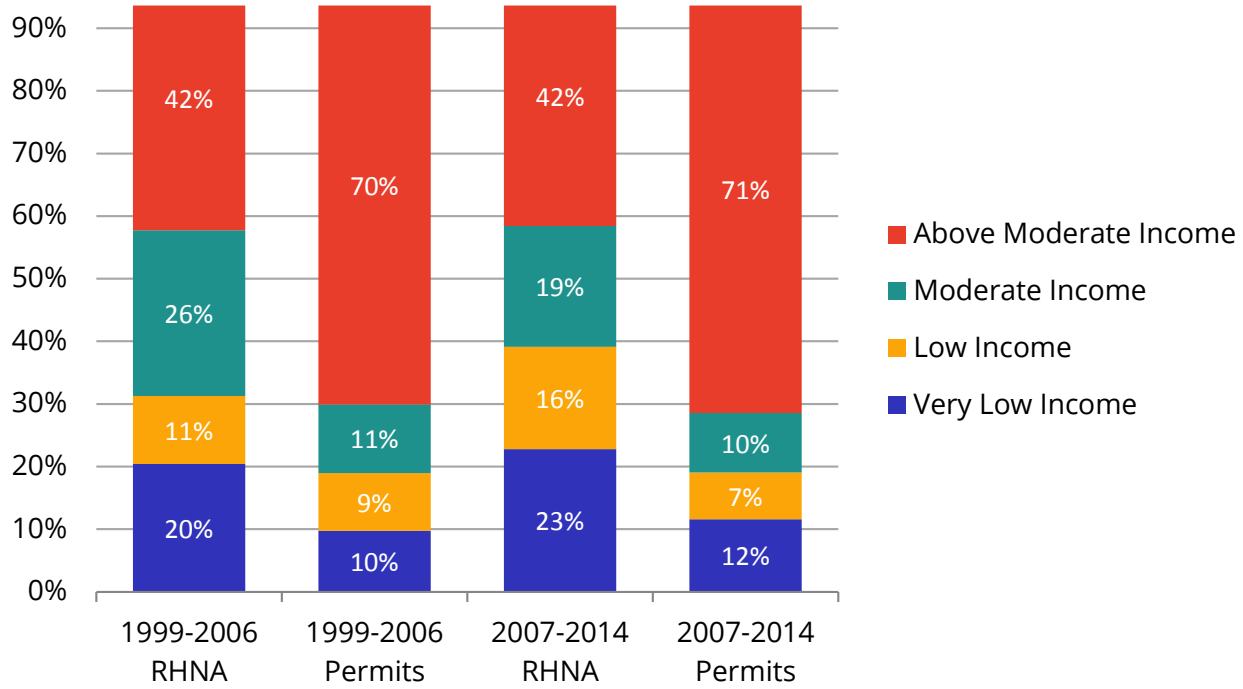
[18] The data was updated in April 2016 to incorporate housing permitting activity reported to ABAG by jurisdictions after publication of this report in February 2015.

category for which local jurisdictions issued permits during both the 1999-2006 and 2007-2014 RHNA periods. For both time periods, jurisdictions were most successful in permitting market-rate units, particularly from 1999-2006, when the permits issued represented 153 percent of the need. Jurisdictions also struggled during both time periods to meet the need for affordable units, particularly those affordable to moderate income households. The ability of local jurisdictions to meet the need for affordable housing was also hampered by the dissolution of Redevelopment Agencies in 2011. Redevelopment agencies provided an estimated $250 million annually to the production of affordable housing in the Bay Area.[19] It is likely that the impact of this loss of funding is not yet reflected in the permit data, since affordable units permitted until 2013 already had their funding in place.

The high share of market-rate units in the permits issued is also demonstrated in ***Figure 4.11***, which compares the share of each income category for RHNA compared to the permits issued by jurisdictions, for both RHNA 1999-2006 and RHNA 2007-2014. The patterns are remarkably consistent for the two time periods, and show that Bay Area jurisdictions are permitting a greater proportion of units affordable to above moderate-income households relative to the need identified in the RHNA.

For RHNA 2007-2014, San Francisco permitted 45 percent of the need for units affordable to both very low- and low-income and 59 percent of its need for units affordable to very low-income households. Following San Francisco, jurisdictions in Sonoma County and Alameda County permitted 29 percent and 28 percent, respectively, of their need for units affordable to both very low- and low-income households. For units affordable to above moderate-income households, jurisdictions in Santa Clara County permitted 139 percent of the allocation, followed by 109 percent in San Francisco, and 96 percent in Contra Costa County.

FIGURE 4.11 Comparison of Proportion of RHNA and Permits Issued by Income Category



The data for figure 4.11 was updated in April 2016 to incorporate housing permitting activity reported to ABAG by jurisdictions after publication of this report in February 2015.

Source: ABAG survey of local jurisdictions

[19] *Former Redevelopment Agencies were previously required to dedicate 20 percent of their tax increment money toward the development of affordable housing. At their peak the California Legislative Analyst's Office estimates that California's Redevelopment Agencies raised $5 billion annually with $1 billion devoted toward affordable housing development. Due to population size ABAG estimates the Bay Area's share of that $1 billion to have been $250 million annually.*

As a comparison, for RHNA 1999-2006 San Francisco stands out for permitting 80 percent of its need for units affordable to very low-income households, and 72 percent when considering units for very low- and low-income households. At 78 percent, jurisdictions in Santa Clara County permitted a higher percentage of very low- and low-income units. In every county in the region, jurisdictions exceeded the number of housing units needed for above moderate-income households.

Loss of Affordable Units

Another challenge to meeting the need for affordable housing is the potential loss of existing units that have deed restrictions to ensure affordability. The California Housing Partnership Corporation (CHPC) has evaluated the deed-restricted affordable housing units in the Bay Area to assess their potential for converting to market-rate housing.[20]

Properties were considered to be at high or very high risk of conversion if they were owned by a for-profit or small non-profit developer and the US Department of Housing and Urban Development (HUD) or Low Income Housing Tax Credit (LIHTC) affordability restrictions were set to expire within the next one year (very high risk) or within the next five years (high risk). *Table 4.2* shows the number of deed-restricted affordable housing units in the region and each county that are at risk of converting to market-rate rents within this time period, or those that likely have already converted.[21]

There are a total of 6,888 affordable housing units in the Bay Area that are at risk of conversion to market-rate housing in the next five years. Most of these units are located in San Francisco and Santa Clara counties. However, relative to other counties, San Mateo has a significantly higher proportion of its deed-restricted affordable units at high and very high risk of conversion.[22]

TABLE 4.2 Deed Restricted Affordable Units at Risk of Converting to Market Rate Product

Alameda	High Risk	Very High Risk	Potentially Converted	Total High, Very High Risk, and Potentially Converted	Percent of Total Deed Restricted Housing Stock
Alameda	309	301	300	910	4%
Contra Costa	243	81	183	507	4%
Marin	0	0	0	0	0%
Napa	0	0	0	0	0%
San Francisco	1,310	435	0	1,745	9%
San Mateo	447	255	52	754	18%
Santa Clara	1,097	485	28	1,610	6%
Solano	95	404	16	515	11%
Sonoma	236	429	182	847	11%
Bay Area	3,737	2,390	761	6,888	7%

Source: ABAG from California Housing Partnership Corporation data

[20] *CHPC's analysis assigned a level of risk for conversion based on the type of organization that owned the property, the existence of rental assistance contracts of insured/subsidized mortgages from the U.S. Department of Housing and Urban Development (HUD) that required affordability restrictions, and the existence of rent or mortgage restrictions through the use of Low Income Housing Tax Credits (LIHTC).*

[21] *Properties where the deed-restriction has expired or will expire within the year, and no data is available about whether the deed-restriction has been renewed.*

[22] *Marin County and Napa County do not have any units that are at high or very high risk of conversion, but Marin has 2,556 units and Napa has 1,463 units that are at very low or low risk of conversion.*

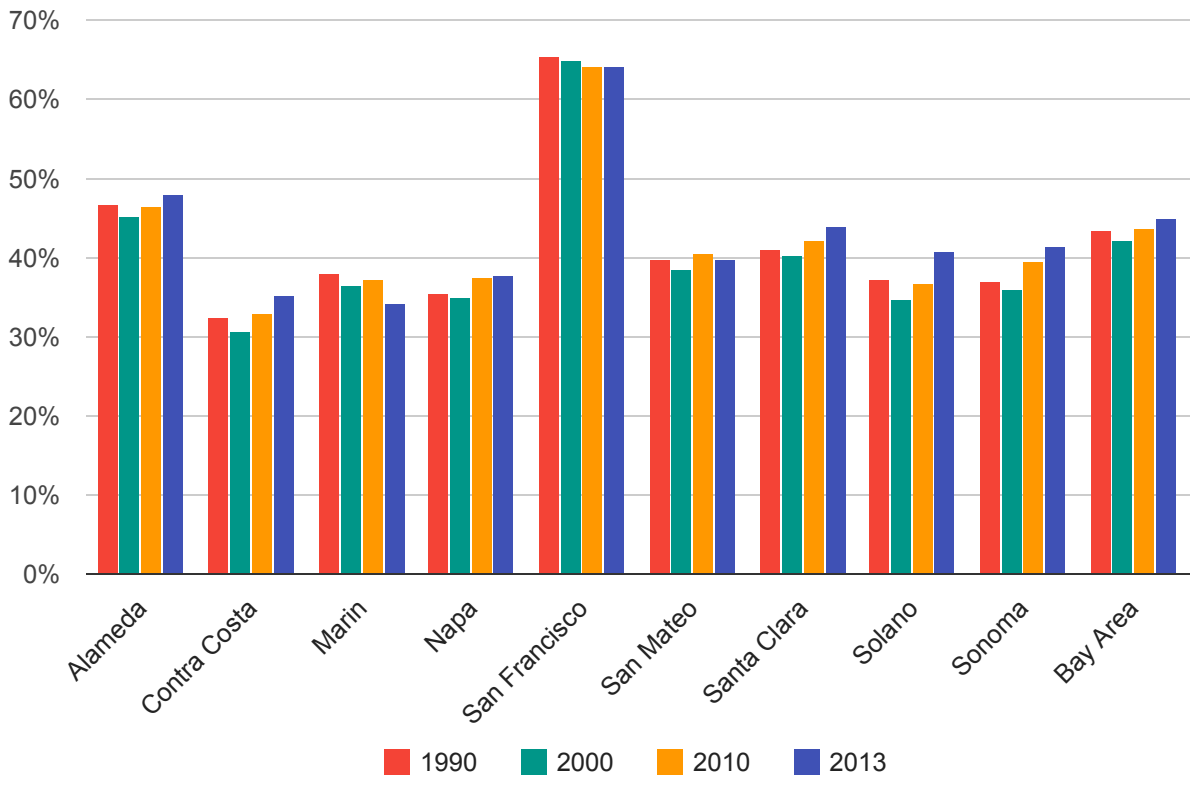
Housing Tenure

According to data from the Census and American Community Survey, from 2010 to 2013, the total owner-occupied units in the region decreased by 7,600 while the number of renter-occupied units increased by 52,700. As a result of these diverging trends, in 2013 there were 1,195,300 renter-occupied units in the Bay Area, which represented 45 percent of the total occupied housing units in the region.

This is the highest proportion of renter-occupied units for the region when compared to data for 1990, 2000, and 2010 (***Figure 4.12***).

Although San Francisco still has the highest proportion of renter-occupied housing in the region, the proportion dropped from 65 percent to 64 percent between 2000 and 2010 and to 63 percent by 2013. Meanwhile, from 2010 to 2013, Solano County (12 percent) and Contra Costa County (9 percent) experienced the largest percentage increase in renter-occupied housing units. Both shifts could be explained by changing circumstances brought about by the Great Recession and its aftermath. In San Francisco, as the for-sale market softened, mortgage rates dropped, and rents held fairly steady, ownership became more affordable on the margin to the city's employed residents. While these effects could also be part of the explanation for housing tenure trends in Solano and Contra Costa, they likely were counterbalanced by the degree of foreclosure and subsequent loss of ownership among residents.

FIGURE 4.12 **Percent of Renter-Occupied Housing Units by County**
(1990, 2000, 2010 and 2013)



Source: ABAG from 1990, 2000, and 2010 Censuses and 2009-2013 American Community Survey 1-Year Estimates

Housing Gets More Expensive — Again

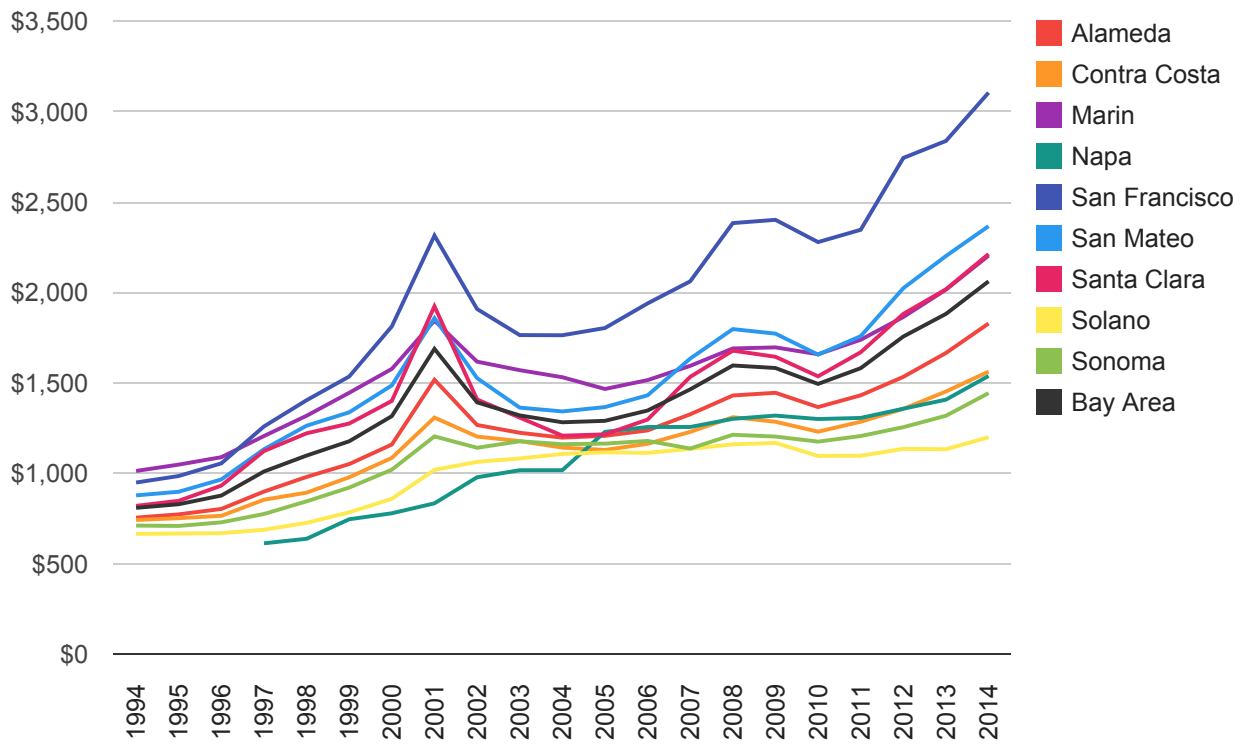
Both rental and sales data show the region's housing market has recovered strongly, as indicated by rent and price increases.[23]

Changes in Rents

With few exceptions, asking rents, the current price someone would need to pay to sign a new lease in the current market, rose sharply throughout the Bay Area for 2010-2014. Rental data from RealFacts for housing complexes with at least 50 units shows that between 2010 and 2014, the average monthly rent in the nine-county Bay Area increased by 38 percent from $1,495 to $2,062 (***Figure 4.13***).[24] The average monthly asking rent for the Bay Area in 2014 is 22 percent higher than the previous peak in 2001 of $1,689 per month. (Effects of such an increase on affordability are discussed in the next section: **Mixed Message from Affordability Measures.**)

For 2010 to 2014, the counties with the greatest growth in employment in technology-related fields have experienced the largest percentage increases in average rents. Rents have increased by 44 percent in Santa Clara County, 43 percent in San Mateo County, 36 percent in San Francisco County, 34 percent in Alameda County and 33 percent in Marin County. In 2014, average monthly asking rents were highest in San Francisco County ($3,105), followed by San Mateo County ($2,367), Santa Clara County ($2,213) and Marin County ($2,204).

FIGURE 4.13 **Average Monthly Rent**
(1994-2014)



Source: ABAG from RealFacts data. Not adjusted for inflation

[23] *Housing prices and rents are not adjusted for inflation because they are a key component within the CPI. As such, it would not be appropriate to use the CPI (or the rental or housing component of the CPI) to adjust housing prices. Instead, we compare median price trends to trends in the Case-Shiller index which, as it is based on same home sales, shows cost relative to the same quality item. The section on affordability further compares the trend in home prices relative to overall income.*

[24] *Calculations are based on data from RealFacts. Rents are not adjusted for inflation as explained above. Data includes only developments with 50 or more units. Not all jurisdictions are represented in the dataset.*

Table 4.3 shows the ten jurisdictions with the highest percentage change in average asking rents from 2010 to 2014, according to data from RealFacts. For this four-year period, there were 37 jurisdictions where average rents increased more than 30 percent and another 20 where average rents increase between 20 to 30 percent.

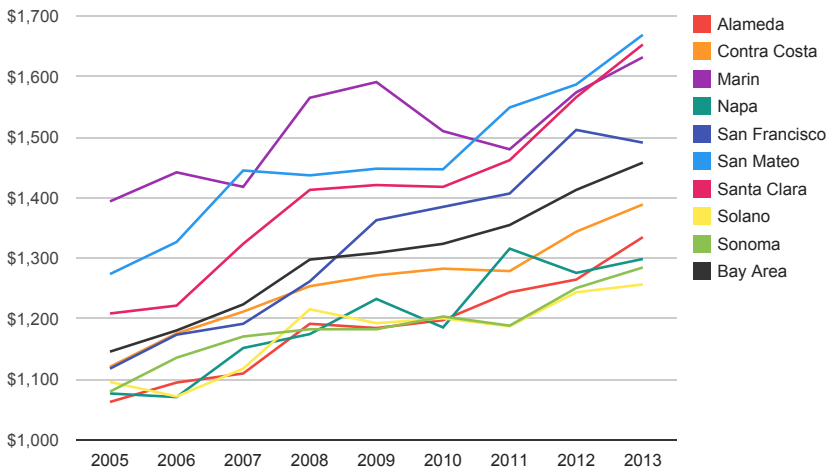
As a complement to the RealFacts data, which represents average asking rents for leases and includes only data for developments with 50 or more units in the current rental market, ACS covers all building sizes and leases signed at any point in time and is thereby not so much an indicator of the current market. The two measures are indicative of different aspects of the market and are not strictly comparable.[25] Their relationship is that today's current market rental rates will shape the overall median rents as measured at a later point in time. As such, the change in current market rents is informative of the direction of the overall cost burden. With these caveats on comparability, median rents are significantly below the average rent calculated from RealFacts. According to ACS, the median gross monthly rent[26] for the Bay Area increased by $134, or 10 percent from 2010 to 2013 (*Figure 4.14*).

TABLE 4.3 Jurisdictions with the Greatest Percentage Change in Average Monthly Rent
Properties with 50 units or more (2010-2014)

Rank	Jurisdiction	County	Increase	Percent Change
1	Mountain View	Santa Clara	$889	58%
2	Los Altos	Santa Clara	$835	55%
3	Sunnyvale	Santa Clara	$740	51%
4	Belmont	San Mateo	$698	50%
5	Redwood City	San Mateo	$841	50%
6	Sausalito	Marin	$850	49%
7	Foster City	San Mateo	$839	48%
8	Palo Alto	Santa Clara	$949	45%
9	Burlingame	San Mateo	$727	45%
10	San Mateo	San Mateo	$762	45%

Source: ABAG from RealFacts data. Not adjusted for inflation

FIGURE 4.14 Median Gross Monthly Rent
(2005-2013)



Source: ABAG from US Bureau of the Census American Community Survey 1-year Estimates

[25] *In addition, the RealFacts data reports average rents while data from ACS reports medians. Typically for measures of cost, averages tend to be higher than medians as they are subject to skewing by the highest rents in the data. This will all other things equal exacerbate the difference between the two measures.*

[26] *Gross rent is the amount of the contract rent plus the estimated average monthly cost of utilities (electricity, gas, and water and sewer) and fuels (oil, coal, kerosene, wood, etc.) if these are paid for by the renter (or paid for the renter by someone else). Gross rent is intended to eliminate differentials which result from varying practices with respect to the inclusion of utilities and fuels as part of the rental payment.*

Over this time period, based on ACS rental data, Santa Clara County experienced the largest increase in median gross monthly rent ($235), followed by San Mateo County ($222), and Alameda County ($137). This corresponds to a 17 percent change in Santa Clara, 15 percent in San Mateo, and 11 percent for Alameda. *Table 4.4* shows the ten jurisdictions with the greatest increase in median gross monthly rent between 2010 and 2013. While cities with the largest increases shown from the RealFacts data are concentrated in San Mateo, Santa Clara and Marin counties, ACS data shows a wider impact of rising rents, with significant increases in dollar amounts and percent found in cities in the East Bay and North Bay as well.

TABLE 4.4 Jurisdictions with the Greatest Increase in Median Gross Monthly Rent
All properties including single family rentals (2010-2013)

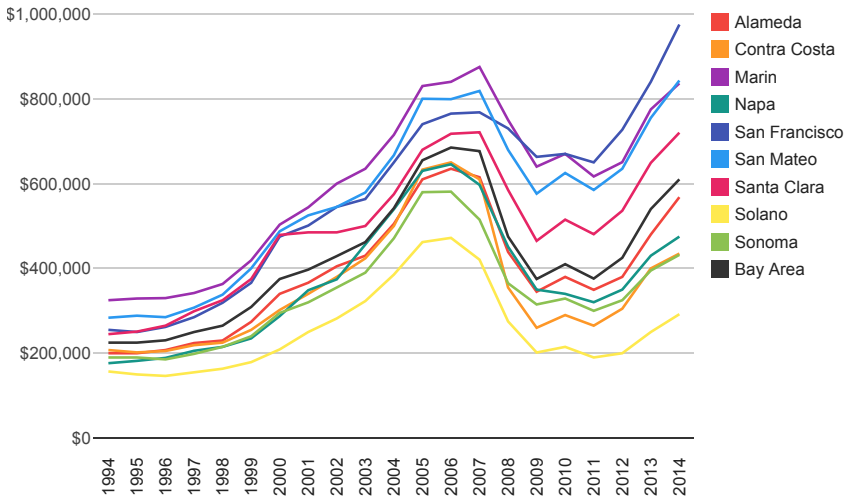
Rank	Jurisdiction	County	Increase	Percent Change
1	Brentwood	Contra Costa	$305	22%
2	Palo Alto	Santa Clara	$293	17%
3	Millbrae	San Mateo	$291	21%
4	Saratoga	Santa Clara	$254	15%
5	Orinda	Contra Costa	$244	13%
6	Larkspur	Marin	$231	15%
7	St. Helena	Napa	$216	16%
8	Martinez	Contra Costa	$209	18%
9	Unincorporated San Mateo County	San Mateo	$209	16%
10	Albany	Alameda	$207	15%

Source: ABAG from US Bureau of the Census American Community Survey 5-Year Estimates for 2010 and 2013

Changes in Sales Prices

Between 2010 and 2014, the median sales price for homes sold in the nine-county Bay Area increased from $410,000 to $610,000—a 49 percent increase over the four-year period (*Figure 4.15*).[27] Over this time period, Contra Costa County experienced the greatest percentage increase in median sales price (50 percent), followed by Alameda County (49 percent), and San Francisco County (46 percent). Even with these significant increases over the past four years, only San Francisco and San Mateo counties have exceeded

FIGURE 4.15 Median Sales Price By County
(1994-2014)



Source: Multiple Listing Service Home Sales Records, calculations by ABAG

[27] *Data from Multiple Listing Service Home Sales Records for all available sales records from January, 1994 through November, 2014. Data is for sales identified as single family residences, townhouses, and coop/condo and excludes sales identified as multifamily, mobile homes, and vacant land. Sales prices are not adjusted for inflation.*

their previous median sales price peaks.[28] In 2014, San Francisco had the highest median sales price at $975,000, which was $207,000 more than its peak in 2007. San Mateo County had the second-highest median sales price in 2014 at $843,000 followed by Marin County at $836,000. Median sales prices in 2014 were more affordable in Solano County ($292,000), Sonoma County ($432,000), and Contra Costa County ($435,000).

In 2014, the five jurisdictions with the highest median sales prices were Atherton, Los Altos Hills, Hillsborough, Ross, and Portola Valley. The five jurisdictions with the lowest median sales prices in 2014 were Vallejo, San Pablo, Rio Vista, Suisun City, and Fairfield.

Table 4.5 lists the ten jurisdictions with the highest percent change in median sales price from 2010 to 2014. Many of the places on this list are "high recovery" cities—where the housing market had experienced a large number of foreclosures, but is now experiencing sales activity in a more normal range once again. Palo Alto is clearly not of that group, but is indicative of the city's strong and changing market for housing.

The median price is a helpful statistic to track the mix of housing over time and relative prices within the region. It is not equivalent to a price index for housing in the region. The Case-Shiller index for the San Francisco Bay Area is based on same-home sales and thus gives a more accurate picture of price trends for a similar quality home. It is also available for homes at different price levels.

Figure 4.16 shows the Case-Shiller index for all homes ("All Sales"), high priced homes ("High Tier") and low priced homes ("Low Tier") over an extended period of time. By this index, home prices have not yet fully recovered in the region from the peak of the housing bubble. Prices at the high end (the blue line) have indeed surpassed the earlier peak, but the previous peak for the lower priced home index was much higher, and relative prices for that segment of the market fell much further and have not recovered. The "recovery" of the median price of homes discussed earlier reflects not only price gains but more sales at the higher end of the market and fewer foreclosure sales.

TABLE 4.5 **Top 10 Jurisdictions[29], Percent Change in Median Sales Price** (2010-2014)

Rank	Jurisdiction	Percent Change, 2010-2014	2014 Median Sales Price	Difference in Median Sales Price
1	San Pablo	313%	$258,000	$195,500
2	Richmond	96%	$308,500	$151,500
3	East Palo Alto	95%	$492,000	$240,000
4	Oakland	79%	$446,750	$196,750
5	Cotati	72%	$412,000	$172,000
6	Palo Alto	70%	$2,084,000	$859,500
7	Unincorporated Contra Costa County	66%	$457,000	$182,000
8	Vallejo	66%	$240,000	$95,000
9	Pittsburg	65%	$305,000	$120,000
10	Suisun City	62%	$275,000	$105,000

Source: Multiple Listing Service Home Sales Records, calculations by ABAG

[28] *The previous peak occurred in 2007 for Marin, San Francisco, San Mateo, and Santa Clara Counties and in 2006 for Alameda, Contra Costa, Napa, Solano, and Sonoma Counties.*

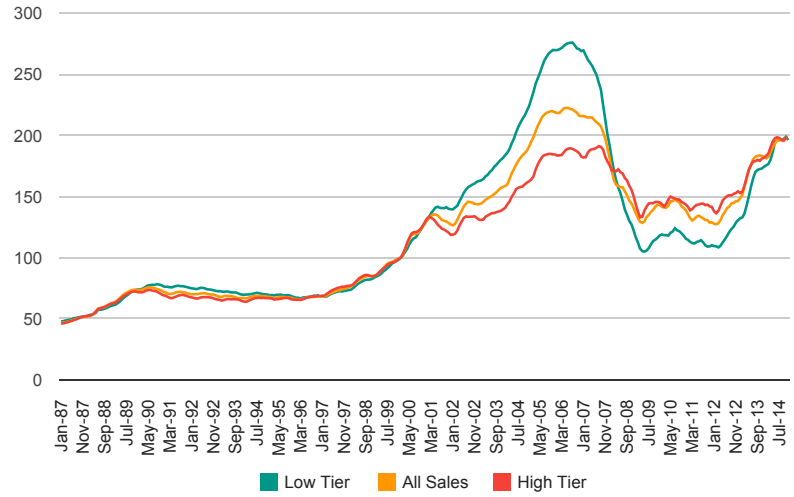
[29] *With a total of at least ten sales between 2010 and 2014.*

Changes in Costs

While the sales price data provides a measure of what is happening in the current for-sale housing market, ACS provides data about changes in the monthly costs[30] that all homeowners throughout the region pay for housing. Between 2010 and 2013, the median monthly costs for homeowners decreased by nine percent, from $2,217 to $2,015 per month. This decrease likely reflects some older homeowners paying off their mortgages, with other homeowners refinancing their existing mortgages to take advantage of historically low rates. As a result of this decrease, the regional median monthly costs for owners has only increased by $62 since 2005, reflecting both lower prices and reduced financing costs (***Figure 4.17***).

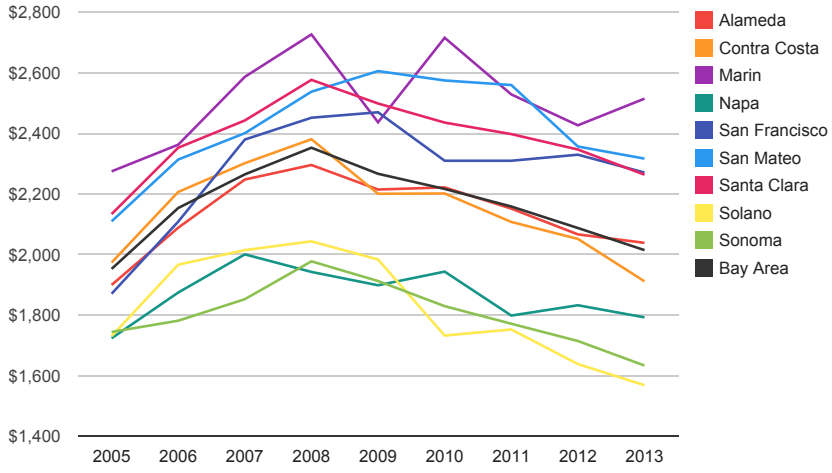
Contra Costa County experienced the greatest percentage decrease in median monthly owner costs (13 percent), followed by Sonoma County (11 percent), and San Mateo County (10 percent). For Contra Costa, Solano, and Sonoma counties, median monthly owner costs in 2013 in were lower than they were in 2005.

FIGURE 4.16 Case-Shiller Home Price Index for the San Francisco Bay Area (January 2000 = 100)



Source: ABAG from S&P Dow Jones Indices LLP downloaded from Federal Reserve Bank of St Louis FRED database

FIGURE 4.17 Median Monthly Owner Costs (2005-2013)



Source: ABAG from US Bureau of the Census American Community Survey 1-Year Estimates

[30] *Selected Monthly Owner Costs are calculated from the sum of payment for mortgages, real estate taxes, various insurances, utilities, fuels, mobile home costs, and condominium fees. Listing the items separately improves accuracy and provides additional detail.*

Table 4.6 shows the ten jurisdictions with the greatest increase in median monthly owner costs between 2010 and 2013. Many more of the places with the highest increases in owner costs are in expensive housing markets where prices have risen, but some North Bay cities in less expensive markets have also felt the effects.

In contrast, *Table 4.7* shows the ten jurisdictions with the greatest decrease in median monthly owner costs over this period. Several of these are in expensive housing markets, but many are in areas of Contra Costa and Solano counties that experienced a high proportion of foreclosures during the Great Recession.

TABLE 4.6 Jurisdictions with the Greatest Increase in Median Monthly Owner Costs
(2010-2013)

Rank	Jurisdiction	County	Increase	Percent Change
1	Belvedere	Marin	$951	32%
2	Burlingame	San Mateo	$564	20%
3	Sausalito	Marin	$539	20%
4	Woodside	San Mateo	$461	13%
5	Colma	San Mateo	$458	22%
6	Palo Alto	Santa Clara	$382	15%
7	Yountville	Napa	$311	33%
8	Larkspur	Marin	$299	13%
9	Albany	Alameda	$298	13%
10	Unincorporated Solano County	Solano	$245	13%

Source: ABAG from US Bureau of the Census American Community Survey 5-Year Estimates

TABLE 4.7 Jurisdictions with the Greatest Decrease in Median Monthly Owner Costs
(2010-2013)

Rank	Jurisdiction	County	Decrease	Percent Change
1	Portola Valley	San Mateo	-$611	-16%
2	Los Altos Hills	Santa Clara	-$592	-15%
3	Tiburon	Marin	-$527	-13%
4	Ross	Marin	-$465	-12%
5	Oakley	Contra Costa	-$415	-18%
6	Brentwood	Contra Costa	-$404	-15%
7	Rio Vista	Solano	-$380	-28%
8	Los Gatos	Santa Clara	-$331	-10%
9	Richmond	Contra Costa	-$331	-17%
10	Antioch	Contra Costa	-$293	-13%

Source: ABAG from US Bureau of the Census American Community Survey 5-Year Estimates

Mixed Message from Affordability Measures

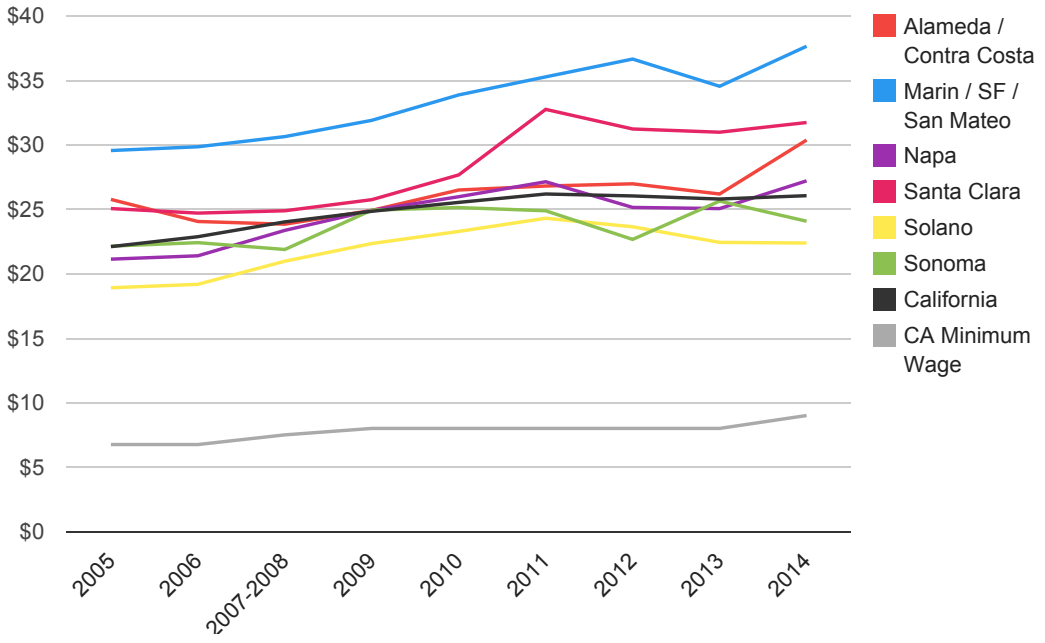
Affordability can be measured in several different ways, depending on which population is being considered and the tenure of the household. Two measures, the housing wage measure of the National Low Income Housing Coalition (NLIHC) and the housing affordability index of the California Association of Realtors (CAR) focus on affordability relative to a transaction at a certain point in time. Measures using ACS data of the share of income households spend on housing provide a broader look at the overall welfare of households within a geographic area. The general picture given by these measures is of worsening affordability for renters and improved affordability for homeowners.

Housing Wage

The National Low Income Housing Coalition (NLIHC) annually calculates the Housing Wage for communities across the United States in order to assess the affordability of rental housing. The Housing Wage is the hourly wage that a household must earn in order to afford a two-bedroom unit at the Fair Market Rent.[31] The purpose of the Housing Wage is to demonstrate the discrepancy between the income needed to afford decent unsubsidized housing and the earnings available to many households.

In the Bay Area, Marin, San Francisco, and San Mateo counties had the highest Housing Wage in 2014 at $37.62 which corresponds to an annual gross income of $78,250.[32] This was followed by Santa Clara County at $31.71 ($65,957 annually) and Alameda and Contra Costa counties, at $30.35 ($63,128 annually). This compares to the California Minimum Wage, which was $9.00 per hour as of July 1, 2014 ($18,720 annually).[33] Although NLIHC cautions against comparing detailed Housing Wage data from one year to the next, ***Figure 4.18*** shows the trends for each county. Although the housing wage dropped in several counties between 2010 and 2014, all of the region's nine counties have housing wages well above the levels for 2005.

FIGURE 4.18 **Housing Wage for 2-Bedroom Fair Market Rent** (2005-2014)



Source: Housing Wage data from National Low Income Housing Coalition, calculations by ABAG. California minimum wage data from California Department of Industrial Relations

[31] *Fair Market Rents are defined by the US Department of Housing and Urban Development. The Housing Wage assumes that households pay no more than 30 percent of their income for housing. More details about the methodology for calculating the Housing Wage are available at: http://nlihc.org/oor.*

[32] *Assuming full-time employment at 40 hours a week, 52 weeks per year.*

[33] *http://www.dir.ca.gov/iwc/minimumwagehistory.htm. The California minimum wage will increase to $10.00 per hour on January 1, 2016.*

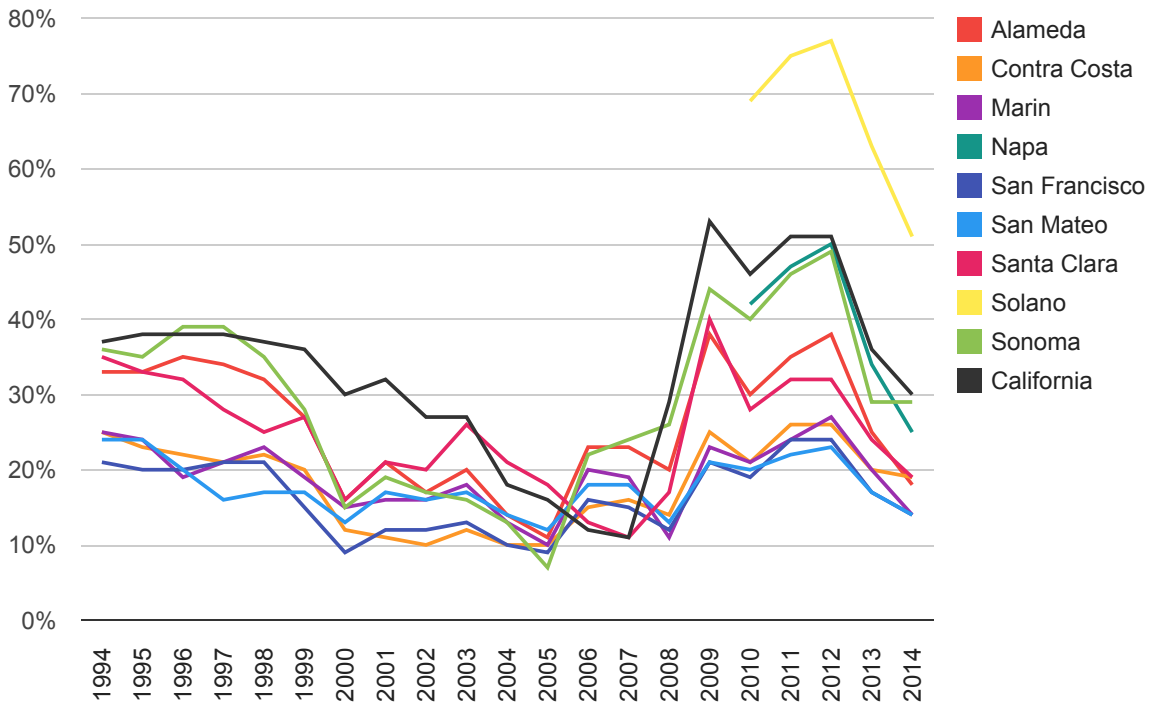
California Association of Realtors' Housing Affordability Index

The California Association of Realtors (C.A.R.) produces a Traditional Housing Affordability Index (HAI)[34] that measures the percentage of households that can afford to purchase the median priced home. *Figure 4.19* shows the changes in the HAI for each county in the Bay Area and California from 1994-2014. With the exception of Solano County, the counties in the region are generally less affordable than the rest of the state. In 2014, Marin, San Francisco, and San Mateo were the least affordable counties in the region with only 14 percent of households able to afford a median-priced home. In contrast, 51 percent of households in Solano County could afford a median-priced home. Sonoma and Napa counties were also relatively more affordable since 29 percent and 25 percent of households, respectively, could afford a median-priced home. As prices have begun to recover, affordability has dropped sharply in all of the nine counties since 2012.

Overpayment in the Bay Area

Housing costs are traditionally considered to be affordable when they are less than 30 percent of household income; households paying 30 percent to 50 percent of their income on housing are considered to be cost burdened, while households paying 50 percent or more of income on

FIGURE 4.19 **California Association of Realtors Housing Affordability Index** (1994-2004)



Source: ABAG from 2nd Quarter data from California Association of Realtors

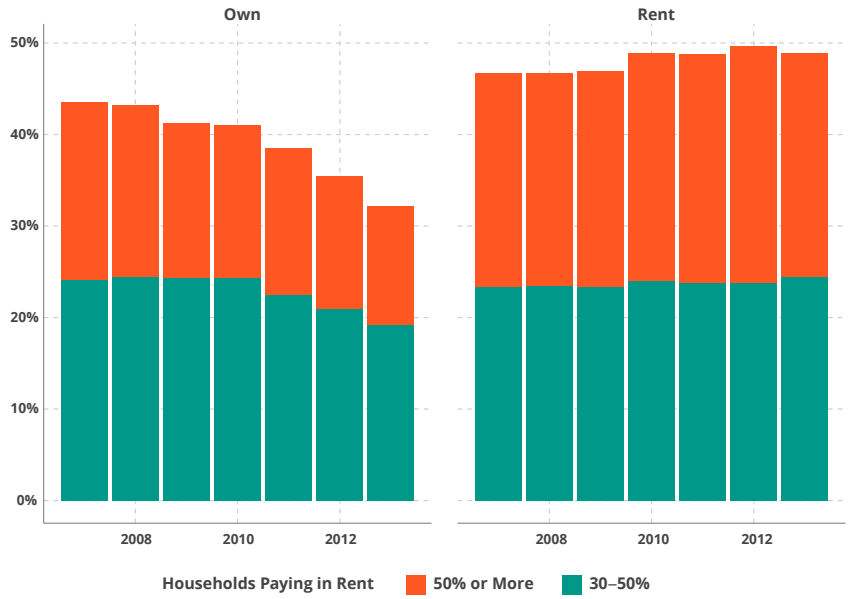
[34] *The index is based on the median price of existing single-family homes sold and traditional assumptions about the costs of financing a home. Affordability is defined as a household paying no more than 30 percent of its income for housing. Data for Napa and Solano counties is only available going back to 2010. Details about the methodology for the HAI are available at: http://www.car.org/marketdata/data/haitraditional/.*

housing are considered to be severely cost burdened.[35] *Figure 4.20* shows the percentage of both owner and renter households paying 30 percent or more of their income on housing. In general, homeowner households have significantly higher incomes than renter households in the Bay Area. The median household income for owners has consistently been nearly double the median household income for renters. In 2013, the average regional median annual income was $104,000 for owners and $52,100 for renters.[36] Nonetheless many homeowners are considered to be overpaying for housing.

Similar to the trends for household incomes, the situation has improved for owners while getting worse for renters. Between 2007 and 2013, the number of owner households that were cost burdened decreased by 22 percent, while the number that were severely cost burdened decreased by 34 percent. In contrast, the number of renter households that were cost burdened increased by 23 percent and the number that were severely cost burdened *increased* by 23 percent. In 2007, 43 percent of owner households (647,300) and 47 percent of renter households (474,000) had housing that was considered to be unaffordable. By 2013, 32 percent of owner households (469,400) and 49 percent of renter households (585,000) had housing that was considered to be unaffordable.

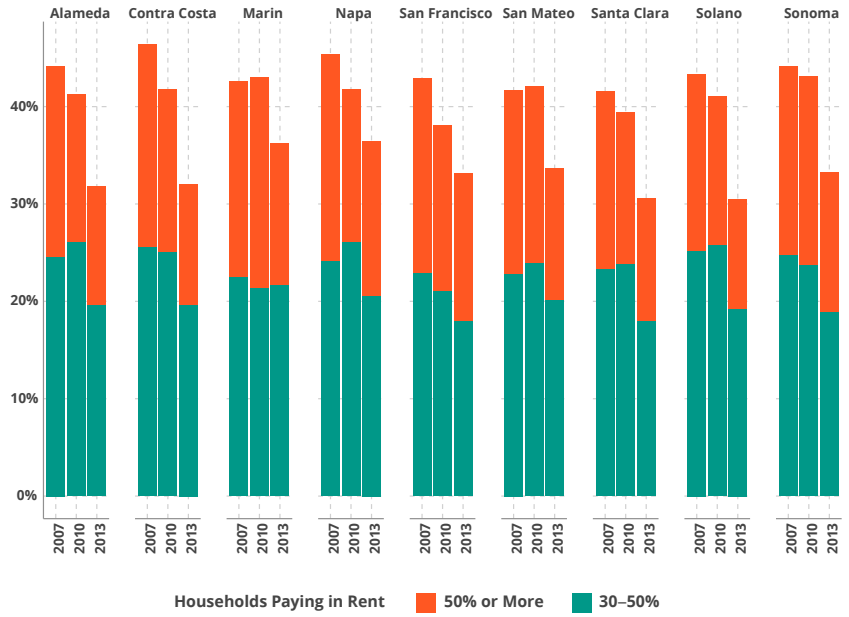
As shown in ***Figure 4.21***, in 2013 Marin County had the highest proportion of cost burdened owner households (22 percent), while Napa and Sonoma tied for the highest proportion of severely cost burdened owner households (16 percent).

FIGURE 4.20 Overpayment in the Bay Area



Source: ABAG from US Bureau of the Census American Community Survey 1-Year Estimates

FIGURE 4.21 Owners Paying 30 Percent or More of Income on Housing by County



Source: ABAG from US Bureau of the Census American Community Survey 1-Year Estimates

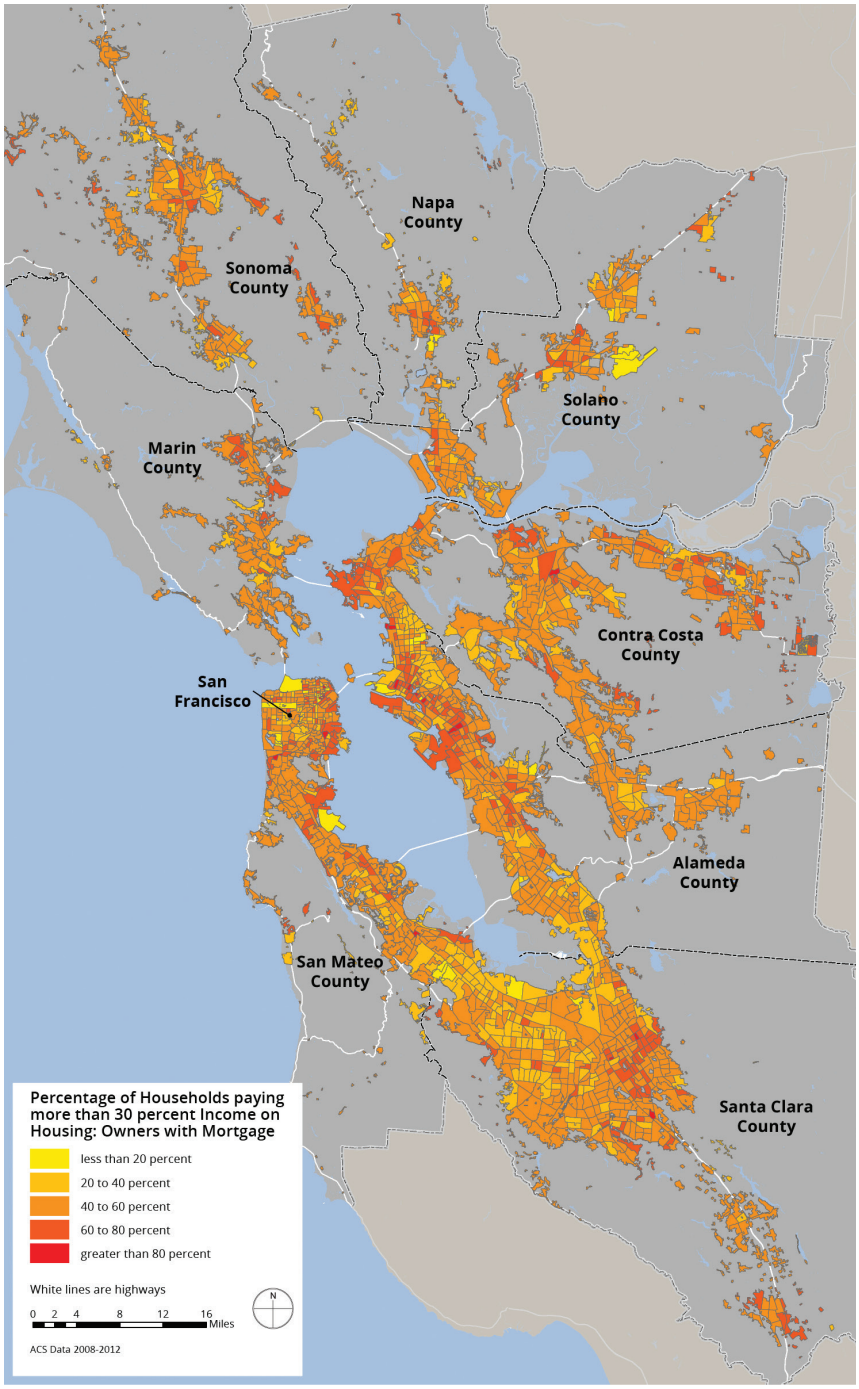
[35] *When discussing the charts below, "cost burdened" and "severely cost burdened" are used as mutually exclusive categories, so the former refers to just the 30 to 50 percent segment, with the latter capturing households paying above 50 percent of household income on the costs of a home.*

[36] *Source: American Community Survey 1-Year Estimates, calculated by ABAG. The average regional median income is the average of the median incomes for the nine counties in the Bay Area.*

Figure 4.22 shows by census tracts in the Bay Area the proportion of owner-occupied households that are paying more than 30 percent of their income for housing, based on ACS five-year data for 2008-2012. The darker areas have the greatest proportion of cost burdened owner households.

Between 2007 and 2013, Solano County had the greatest percentage increase in renter households paying more than 30 percent of income on housing (31 percent additional households over 2007 levels), followed by Alameda County (28 percent), and Contra Costa County and Sonoma County (both 27 percent).[37]

FIGURE 4.22 Percentage of Households Paying More than 30 Percent of Income on Housing, Homeowners with a Mortgage

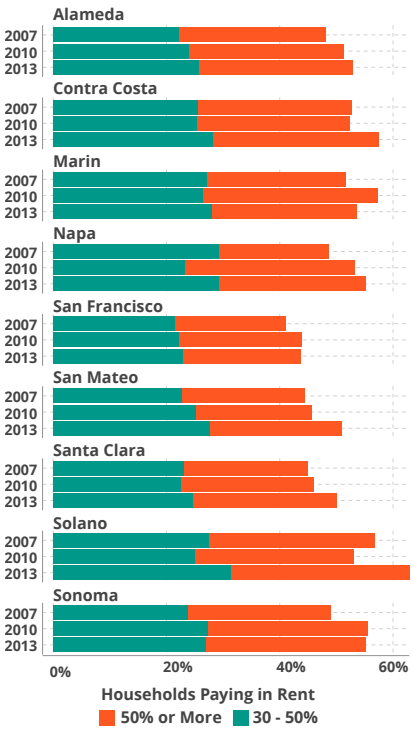


Source: ABAG from US Bureau of the Census American Community Survey 5-Year Estimates, 2008-2012

[37] *Solano County, while seeing a large increase in renter households that are cost burdened, conversely saw the largest decrease (35%) of cost burdened homeowner households. This may be two sides of the same coin—homeowner households paying lower interest rates for mortgages, displaced homeowners and unemployed renters with less income and higher rents.*

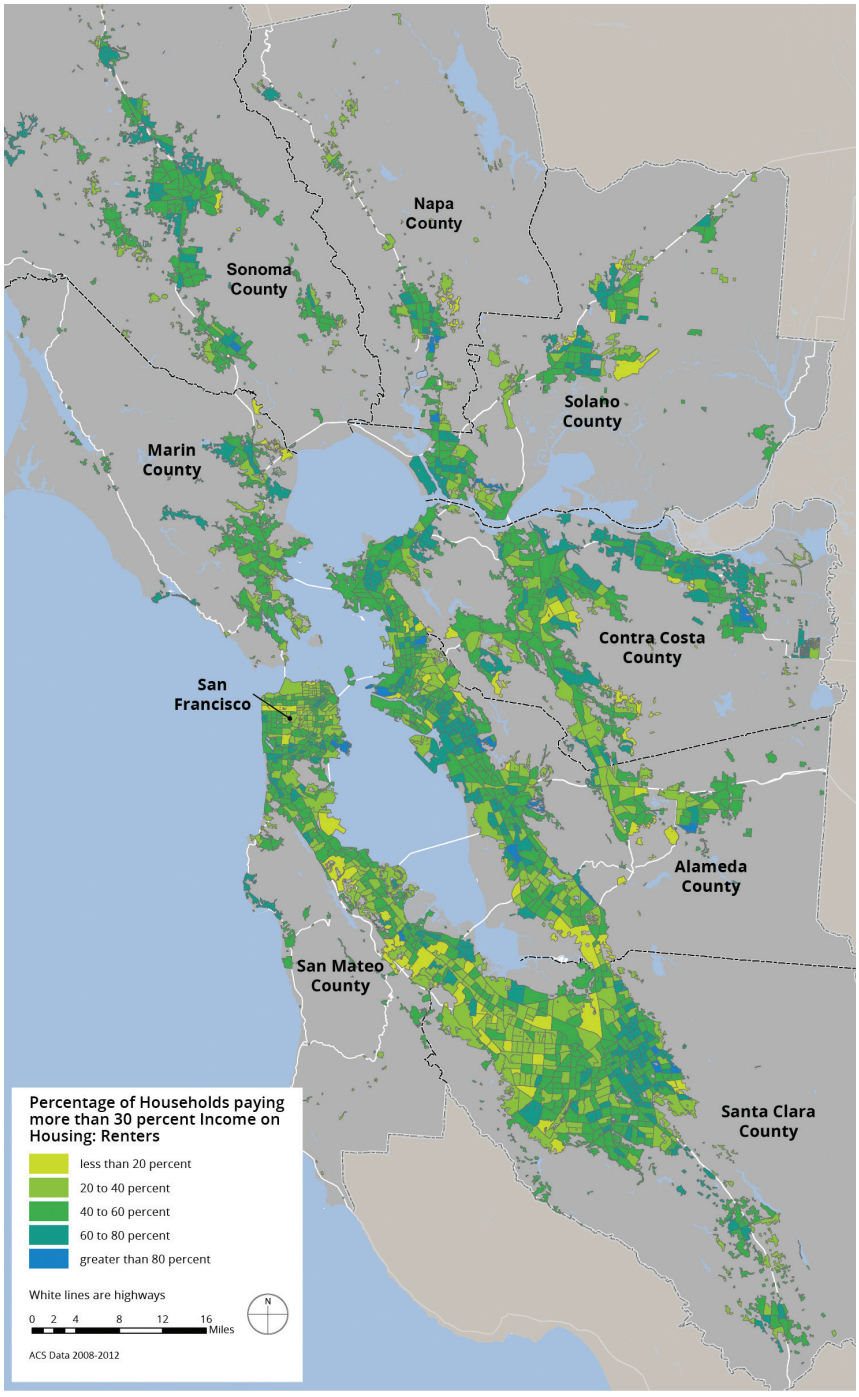
As shown in *Figure 4.23,* in 2013, Solano County had the highest proportion of cost burdened renter households (31 percent) and the highest proportion of severely cost burdened renter households (32 percent). *Figure 4.24* shows the census tracts in the Bay Area where renter-occupied households are paying more than 30 percent of their income for housing, based on ACS five-year data for 2008-2012. The darker areas have the greatest proportion of cost burdened renter households.

FIGURE 4.23
Renters Paying 30 Percent or More of Income on Housing by County



Source: ABAG from US Bureau of the Census American Community Survey 1-Year Estimates

FIGURE 4.24 **Percentage of Renter Households Paying More than 30 Percent of Income on Housing**



Source: ABAG from US Bureau of the Census American Community Survey 5-Year Estimates, 2008-2012

Overcrowding in the Bay Area

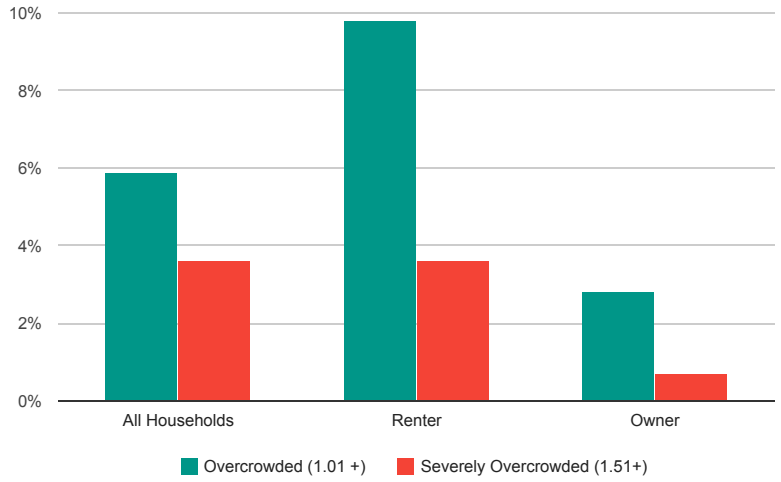
Housing overcrowding, defined by the US Department of Housing and Urban Development (HUD) as more than 1.01 occupants per room in a household, can deteriorate the quality of existing housing stock while also increasing the risk of spreading communicable disease.[38] Overcrowding is not only an important consideration from the perspective of public health and the continued upkeep of quality housing stock, but is also an important feature of family life. Research shows crowding has deleterious effects on children's well-being, with higher levels of stress, poorer personal health, and lesser performance in schools. Alarmingly, these effects persist into adulthood, emphasizing the importance of the measure.[39]

Renter households are more likely than owner-occupied households to experience overcrowding or severe overcrowding (when there are more than 1.51 persons per room). Six percent of all Bay Area households experienced overcrowding in 2013. However, 10 percent of all renter-occupied households were affected, while only 3 percent of owner-occupied households were overcrowded. (***Figure 4.25***.)

Historically, Bay Area counties have experienced overcrowding differently with San Mateo (7.8 percent of all households) and Santa Clara Counties (6.9 percent of all households) generally having the highest rates of overcrowding. Conversely, Sonoma, Contra Costa, Solano and Marin counties have traditionally been the least overcrowded parts of the region. At a jurisdictional level, overcrowding is felt particularly strongly in jurisdictions in Santa Clara and San Mateo counties, as seen with the list of jurisdictions with the highest shares of overcrowding shown in ***Figure 4.26***.

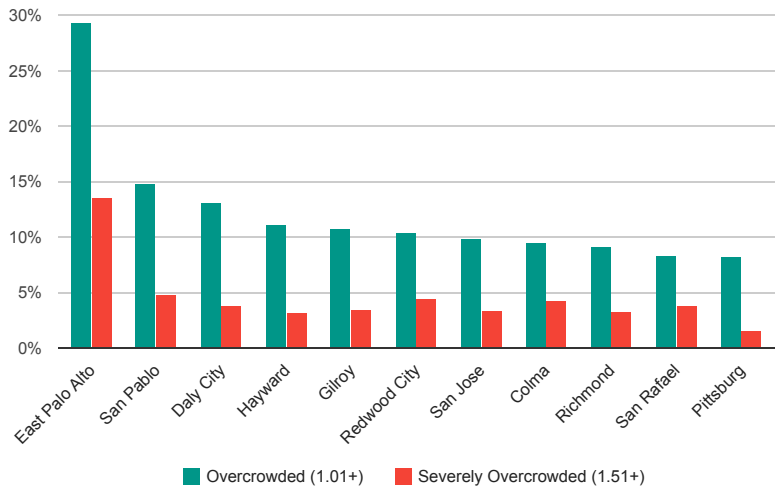
East Palo Alto stands out as the most overcrowded jurisdiction in the Bay Area with 29.3 percent of its occupied households considered overcrowded. Five other jurisdictions primarily in San Mateo and Santa Clara counties have overcrowding rates in excess of

FIGURE 4.25 Bay Area Overcrowded Households
(2013)



Source: ABAG from US Bureau of the Census American Community Survey 1-Year Estimates

FIGURE 4.26 Most Overcrowded Jurisdictions in the Bay Area
(2013)



Source: ABAG from US Bureau of the Census American Community Survey 5-Year Estimates, calculations by ABAG
Note: Severely overcrowded households are included in the overcrowded category.

[38] *US Department of Housing and Urban Development in its report "Measuring Overcrowding in Housing" chose to examine overcrowding through the "prevalence of communicable diseases in overcrowded environments and the effects they have on a child's growth and development" p.2*

[39] *See, e.g. Solari, C. D., & Mare, R. D. (2012). Housing crowding effects on children's wellbeing. Social Science Research, 41(2), 464–76. doi:10.1016/j.ssresearch.2011.09.012*

10 percent. San Rafael, in Marin County, is the only North Bay jurisdiction to be among the top ten overcrowded jurisdictions with an overcrowding rate of 8.3 percent.

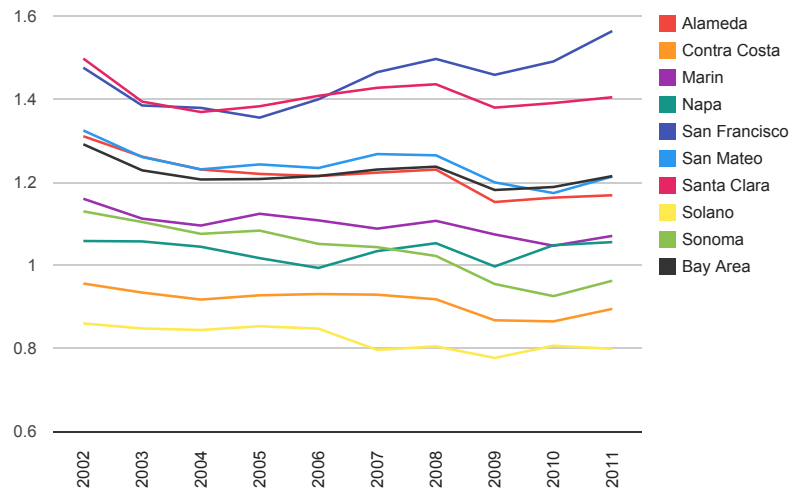
Jobs-Housing Comparisons as Measures of Demand Balance

A key aspect of a Sustainable Communities Strategy is the reduction of greenhouse gas emissions by promoting a land use pattern that helps reduce vehicle miles traveled. One of the key strategies to accomplish this is encouraging housing growth in areas near jobs. This section looks at several simple indicators of the Bay Area's balance between job and housing location.

Ratio of Jobs to Housing Units

The simplest indicator of the relationship between jobs and housing is the ratio of employment to the number of housing units. However, this ratio is not a simple scale with one end positive and, the other end negative. A better reading of the ratio is to use it to identify places that have few jobs relative to housing units (a low ratio relative to the average) as compared to places that have many jobs relative to housing units (a high ratio relative to the average), with the assumption that those communities with a close to average ratio have a better balance.

FIGURE 4.27 Jobs to Housing Ratio, Bay Area Counties (2002-2013)



Source: ABAG from US Bureau of the Census Longitudinal Employer-Household Dynamics and California Department of Finance data

Figure 4.27 shows the jobs/housing ratio for the Bay Area and each of the region's nine counties. The relative positions of the counties for the most part are stable, but the overall ratio clearly varies with economic conditions, dropping as employment dropped after 2008, and now rising in the locations where the economy is recovering most strongly. San Francisco and Santa Clara counties have the highest ratios, but Santa Clara's has stayed much more stable as employment has recovered, while San Francisco's has risen as housing production has lagged.

A closer look at the San Francisco case illustrates how quickly conditions can change for housing markets relative to jobs. Between 2000 and 2010, San Francisco added 29,000 people, the largest number on record for any ten-year period at the time, yet only 2,000 housing units, and even lost jobs. The county's jobs/housing ratio was dropping in that period, and would have come closer to the regional average if the regional average had not also been dropping due to job loss. Rent levels were tempered during this period, although other aspects of the housing bubble delayed a downturn in housing prices for a few years. This improved situation for renters was short lived. Between 2010 and 2013, San Francisco added 32,000 people—more than in the entire decade between 2000 and 2010—while the housing stock grew by just one-sixth of that amount and jobs increased by over 70,000. As a result, the jobs/housing ratio for San Francisco is now higher than in 2002 and diverging from the regional average.

Jobs-Housing Fit

A measure developed by a group at UC Davis offers a more fine grained picture of jobs/housing balance by taking into account affordable housing available to low wage workers.[40] Using the Longitudinal Employer Household Dynamics (LEHD) Origin Destination Employment Statistics Dataset, the measure compares affordable housing by area (as measured by reported housing expenditure in the American Community Survey) with low wage jobs in the workplace (as reported by LEHD). The jobs/housing fit is then the ratio of low wage jobs to affordable housing. A city with a lower ratio has more affordable housing available relative to low wage workers.[41]

Table 4.8 shows the cities with the lowest (less than 2) and highest (greater than 15) jobs/housing fit scores. The cities with the lowest scores are primarily places with both affordable housing and low income jobs, although in the case of Belvedere, the city has very few jobs. The cities with the highest scores are primarily high income residential areas with high priced homes (or, in the case of Colma, very little housing of any type) and a significant share of retail jobs in the employment mix.

Looking at the extensive geography of the region, many jurisdictions with the lowest scores are along the East Bay shore (Oakland, Berkeley, and Hercules). Many of the higher scoring places are along the West Bay shore, the South Bay shore, or the Interstate 680 corridor. Middle scores are clustered in the South Bay and parts of the North Bay. The distribution of scores gives some indication of where additional affordable housing investment would improve the jobs/housing fit.

TABLE 4.8 Jurisdictions with the Greatest Increase in Median Monthly Owner Costs
(2010-2013)

Cities with Jobs-Housing Fit Ratio < 2	
San Pablo	0.98
San Pablo	1.28
Oakland	1.38
Richmond	1.44
Rio Vista	1.52
Hercules	1.64
Cloverdale	1.86
Berkeley	1.95
Oakley	1.96
Belvedere	1.97
Cities with Jobs-Housing Fit Ratio > 15	
San Carlos	15.64
San Ramon	16.04
Pleasanton	21.08
Burlingame	22.21
Lafayette	24.54
Moraga	25.51
Colma	48.41

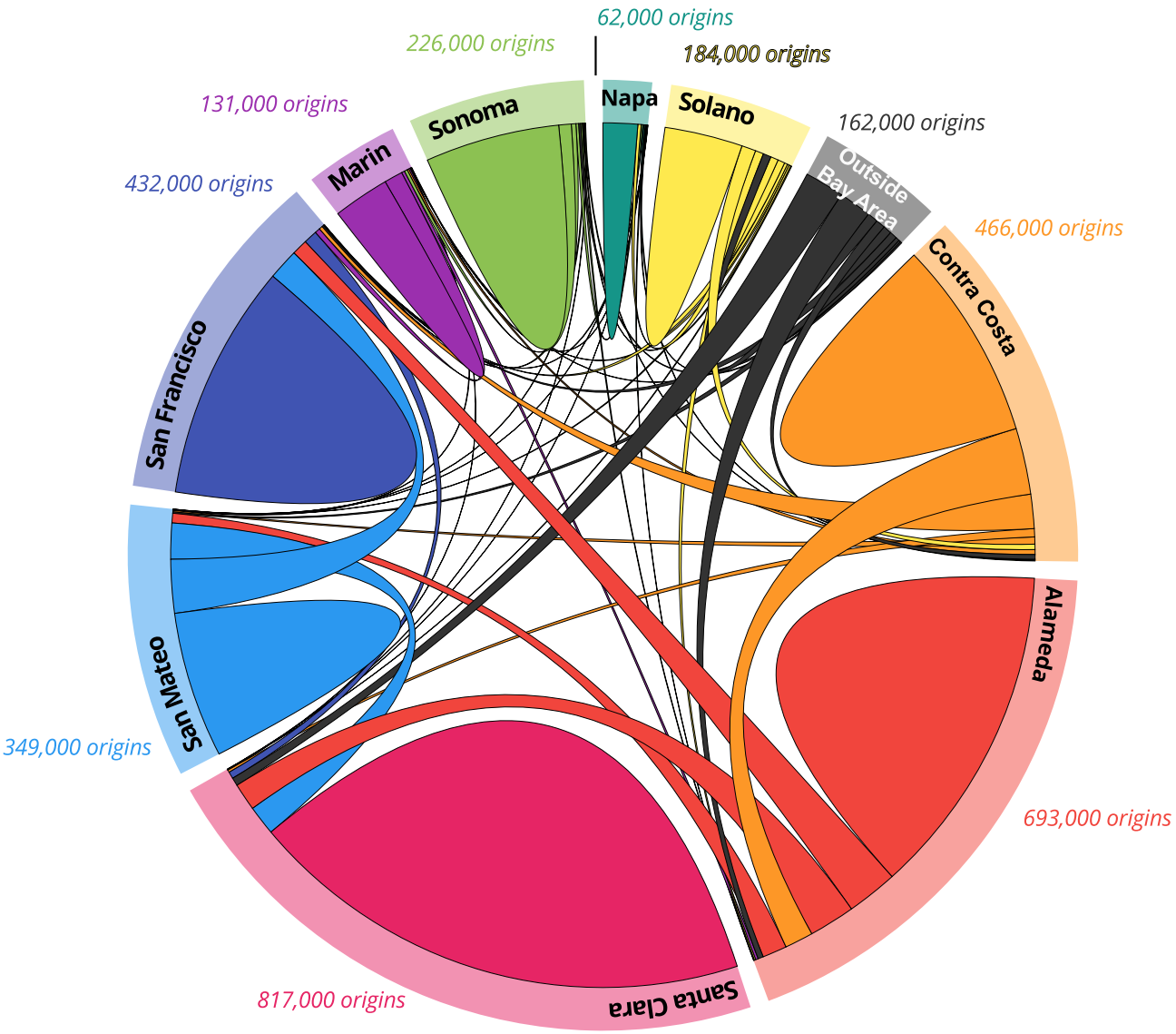
Source: See footnotes 40 and 41

Commute Flows

A third indicator of jobs housing imbalance is the degree of commuting outside of a county. ***Figure 4.28*** illustrates commute flows among counties. The size of the circle slice allocated to a county indicates the relative size of the number of working residents in a county (Alameda 693,000, Contra Costa 466,000, Marin 121,000, Napa 62,000, San Francisco 432,000, San Mateo 349,000, Santa Clara 817,000, Solano 184,000, Sonoma 226,000, as well as 162,000 who live beyond the Bay Area but work in the region). Although not directly shown in the figure, the largest job clusters are in Santa Clara County (916,000), Alameda County (700,000) and San Francisco (591,000). Most residents work within their county of residence, as shown by the arc contained entirely within each county slice. The lines between the slices indicate the flow of residents to workplaces. The lines represent flows of workers in both directions between counties, with the ends sized to indicate the total number of residents driving from the origin to the destination. Lines between counties are the color of the county sending the larger flow. For example, more residents from San Mateo County work in San Francisco than the reverse. For the most part, the largest between-county flows are with neighboring counties (Contra Costa to Alameda, San Mateo to San Francisco and Santa Clara). Santa Clara and San Francisco counties have the largest net inflows of workers in total from all locations, while Contra Costa and Solano counties have the largest net outflows of residents to work in other counties. The chart also shows flows into and out of the region—relatively insignificant compared to flows within the region, but the largest to Alameda and Santa Clara counties. The number of commuters into the region is larger than the than the number of Bay Area residents commuting out of the region. These commute flow patterns are a further indication of where vehicle miles traveled are generated and where further jobs housing balance could be sought.

[40] *Chris Benner and Bidita Tithi (2011), Jobs-Housing Fit Analysis, retrieved from http://mappingregionalchange.ucdavis.edu/jobshousingfit2011*
[41] *A map of Bay Area cities by jobs-housing fit score can be seen at http://mappingregionalchange.ucdavis.edu/node/553*

FIGURE 4.28 **Commute Flows, County of Residence to County of Workplace** (2006-2010)



Source: Computed by ABAG from US Census Bureau, CTPP ACS 2006-2010 release. An interactive version of this chart is available on the companion web site, at http://reports.abag.ca.gov/sotr/2015/
Note: Chart created using Mike Bostock's d3-based chord layout: http://bl.ocks.org/mbostock/4062006

CONCLUSION
PROSPECTS AND CHALLENGES

Section 5

Conclusion: Prospects and Challenges

An in-depth review of recent economic, demographic, and housing trends in the San Francisco Bay Area shows a region with a strong but volatile economic base, a well-educated but aging labor force, a diverse population with widely varying needs and abilities, and communities focused on addressing changing demands for housing but at times struggling to find the resources to satisfy those demands or to balance pressures for new development with demands from constituencies resistant to change.

Key Findings

A Resilient Economy

The region has once again demonstrated resilience in recovering from challenging economic conditions. The economy has moved beyond economic recovery and into expansion. Strong employment growth has brought employment levels back to the peak last reached in 2000, while total personal income is at an all-time high.

A diverse set of industries have contributed to the recovery, with jobs in health and social services, professional and technical services, accommodation and food, and information leading the expansion. This mix of industries has led to growth in demand for occupations ranging from high wage computer and mathematical occupations, to middle wage sales and related occupations, and low wage food preparation jobs.

Going forward, a skilled labor force will continue to be the base of the region's economic prosperity. The aging of the well-educated baby-boomer age cohort has raised concerns over the ability of the region to maintain the skills needed for its existing employment base, but well educated younger age groups will help maintain the region's skill base.

Issues of Equity

Economic growth and prosperity have not spread evenly within the region. Only two of the nine counties, San Francisco and Napa, had surpassed both 2000 and 2007 employment peaks by mid-2014. Despite strong region-wide growth in total personal income and declining unemployment rates, at a household level, incomes are below previous levels in inflation adjusted terms. Indeed, in six of the nine counties, adjusting for inflation, household income is at or below the level of the 1990 census, 25 years ago. While inflation-adjusted average wages have dropped since 2010 for high, middle, and low wage occupations, the decrease has been much greater for low and middle wage jobs than for high-wage occupations.

Income inequality and poverty are rising in most Bay Area counties at a pace similar to California and the US. The share of families in poverty has risen as well in most counties since 2010, dropping only in two of the smaller North Bay counties.

A Growing, Urbanizing, and Aging Population

Regionwide population growth accelerated from the 2000 to 2010 decade, with the strongest increases in the more urban counties of Alameda, San Francisco, San Mateo, and Santa Clara counties. The expanding economy has led to a shift in migration patterns, with fewer people leaving the region and more moving in. The biggest increases in population moving in are found in San Francisco and Santa Clara counties. The biggest decreases in outward migration have occurred in Alameda, Contra Costa, and Sonoma counties.

Virtually all of the net population increase since 2000 (after balancing gains and losses) has been in the age group 50 years and older. This aging population distribution is happening unevenly among counties, with the North Bay counties (Marin, Napa, Solano, and Sonoma) and Contra Costa seeing the largest increases in median age, while the median age, and the share of population over 65 have both dropped in San Francisco.

Housing Growth Has Lagged Job and Population Growth

Housing construction is just beginning to recover from the Great Recession and the end of the housing bubble. Since 2010, the region has added less than 10,000 units per year, about one-half of the rate of construction from previous decades. Most of the recovery in housing has occurred in the multifamily sector. While the workforce is growing in both relatively low-wage and high-wage occupations, the housing market is much less successful at providing units for the low- and middle-income families in the region.

With less rapid expansion in housing, household size is rising, particularly in the counties experiencing the strongest population growth. Nevertheless, overcrowding, which increased during the recession has begun to show signs of decreasing in many parts of the region, perhaps a result of lower unemployment.

The lag in new construction is also contributing to a diverging of the jobs/housing ratio among counties. The ratio has dropped in counties that already had excess housing relative to the workforce and has increased in counties with jobs in excess of the housing available.

Home Prices and Rents are again on the Rise

The housing market has entered a familiar period of rising demand, rising prices, and declining affordability. With a strong economic recovery and lagging housing construction, rents and higher-end housing prices are rising to levels above previous peaks.

Affordability trends differ for owners and renters. Compared to homeowners, a higher share of renters are burdened by high housing costs, as measured by percent of households spending 30 percent or more on housing. Homeowners overall have seen a decrease in the numbers of housing cost-burdened households since 2007, in all counties in the region, while the share of burdened renters has risen, especially in the East Bay and South Bay counties.

Challenges

Looking towards the future, the region's challenges continue to be related to the interplay of employment change, population shifts, and housing supply. Key uncertainties include volatility of leading industries, the distribution of growth among high, middle and low wage jobs, the geographic distribution of the population, housing affordability, resource availability, and public policy decisions.

Innovative but Volatile Industries

The San Francisco Bay Area economy has gone through several cycles of reinvention over the past three decades, with industries ranging from defense to finance to Internet to real estate to social media. The transitions are sometimes rocky, and the people displaced by one downturn are not necessarily those who benefit in the next upturn. These business cycles can be challenging to different locations within the region as the consequences of growth or decline are often spread unevenly.

Changing Wage Distribution of Occupations

The recession brought about a shift in employment opportunities, with job growth concentrated in high wage and low wage occupations. This left limited opportunities for workers starting at the bottom of the wage scale to move into occupations paying a living wage. Growth trends since 2010 show some recovery in middle wage occupation categories, but uncertainties regarding earning power remain as overall wage levels continue to decline for occupations at all ends of the earnings scale.

Housing and Location Choices of a Changing Population

Recent trends suggest that young adults are leading the resurgence of downtown living. However, the preferences of a young adult age group will not necessarily carry over to a twenty-five year pattern of increasing urbanization. Certainly, there is no indication of a large scale shift in preferences across age groups, and once millennials enter the age of typical family formation, the nature of the urban shift will become clearer. The success of infill policies will depend in the long term on an urban lifestyle that attracts aging retirees as well as today's young adults as they begin to form families. Yet for now, developers cannot put enough housing in places like San Francisco commensurate with the population surge there the past few years. While much land is available throughout the region, different types of housing are in demand at different times, and by different segments of the population. Land policy and housing markets will need to be flexible enough to adjust to changing needs.

Meeting the Housing Challenge of Diverse Income Groups

The mix of high wage and low wage occupation growth means the region will need housing for both ends of the spectrum. Jurisdictions have been most successful in providing market rate housing for above moderate income households, while housing needs of middle and low income households are more difficult to address. The region's economy has been restructured in the past as businesses have been unable to keep employees who cannot afford to live in the region. Thus the resilience of the region's economy is closely tied to the characteristics of the housing market.

Public Resources and Public Policy

The future development patterns of the region will be managed by local jurisdictions, but the funding of that development will come from the private sector as well as local, state and federal resources. The sources of those resources were changed by the recession as well as by changing state and national level policies. With the loss of local redevelopment powers, public financing for subsidized housing remains uncertain, but new sources of revenue for housing and infrastructure are emerging, including some revenues related to the management of air quality.

Prospects

The information compiled and interpreted in this report will be the foundation for ABAG's subsequent forecasts of regional growth and patterns of development. Yet regional analysis is not a one-time activity with final conclusions at the end. Instead, it is meant as a resource for future planning activity at the local and regional level. Conditions in the region change daily. The material presented in this study can be used as a metric against which to compare these changes, while the ongoing work by ABAG researchers and other groups in the region will continually refine the information and analysis underlying regional and local planning, development, and community services.

By identifying both regional assets and challenges, the report provides background that can be used as local and regional agencies, businesses, and community organizations assess their options for adapting to a changing business, social and natural environment. Conversations around the strengths and challenges of the Bay Area can lead to the actions necessary to support a livable, healthy, and sustainable region .

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