Chapter 2
The Bay Area in 2040

Karl Nielsen

The Association of Bay Area Governments (ABAG) and the Metropolitan Transportation Commission (MTC) track and forecast the region's demographics and economic trends to inform and guide Plan Bay Area investments and policy decisions. The forecasts highlighted in this chapter reflect the best picture we have of what the Bay Area may look like in 2040, so that today's decisions align with tomorrow's expected transportation and housing needs. These forecasts form the basis for developing the regional land use plan and transportation investment strategy for Plan Bay Area.

This chapter explains the process used to develop the Plan Bay Area growth forecasts, and it describes the most recent planning assumptions used to develop the forecasts, including local general plans and other factors. It also looks at three main demographic categories that informed development of the plan: employment, population and housing.

What the forecasts tell us:

- Between 2010 and 2040, the nine-county San Francisco Bay Area is projected to add 1.1 million jobs, 2.1 million people and 660,000 homes, for a total of 4.5 million jobs, 9.3 million people and 3.4 million homes.

- Substantial shifts in housing preferences are expected as the Bay Area population ages and becomes more diverse.

- As the Bay Area continues to recover from the lingering effects of the Great Recession, certain economic trends and indicators will likely rebound. For example, strong job growth is expected in the professional services, health and education, and leisure and hospitality sectors. Early indicators also suggest that the regional housing market is showing signs of recovery.

Forecasting the Region's Population, Employment and Housing

The Association of Bay Area Governments employed the Center for Continuing Study of the California Economy (CCSCE) to provide national, state and regional employment and population forecasts. The agency also hired Karen Chapple of the University of California, Berkeley, to provide a housing analysis and estimates as inputs to the ABAG housing forecast. The Metropolitan Transportation Commission employed the consulting firm Strategic Economics to provide industry sector locational preferences, which were used as inputs to the ABAG land use forecast and Sustainable Communities Strategy.


Noah Berger

A Four-Step Process

The Association of Bay Area Governments developed the demographic forecasts by following four steps (Figure 1):

1   **Potential job growth:** Job growth by 2040 for the Bay Area was estimated as a share of the U.S. Bureau of Labor Statistics' national growth projections, reflecting the difference in 2010 between national and regional labor force participation in various economic sectors, such as the professional services and retail sectors. This analysis was performed by the Center for Continuing Study of the California Economy.

2   **Potential population and household growth:** The job growth forecast determines the population and number of households, as well as household income levels. ABAG, in consultation with CCSCE, translated the Bay Area job growth projection into labor force, total population and household forecasts. These forecasts were based on labor force participation rates and the number of persons per household by age and race cohorts.

3   **Housing production:** ABAG, in consultation with Prof. Karen Chapple at UC Berkeley, estimated regional housing production by 2040 based on past housing production levels, projected household income, and new policies and programs to support housing production in Priority Development Areas (PDAs).

4   **Feasible job, population and household growth:** ABAG adjusted for housing production limitations by 2040 that influence the number of workforce households that can be accommodated in the region. These housing production limitations, in turn, limit job growth in the region and reduce total population growth.

Figure 1 Four-Step Process for Developing Bay Area Demographic Forecasts

| ①	②	③	④
Job Growth Forecast	Labor Force, Population and Household Growth Forecasts	Housing Production Forecast	Household Growth, Job Growth and Population Growth Forecasts Adjusted for Housing Production Limitations
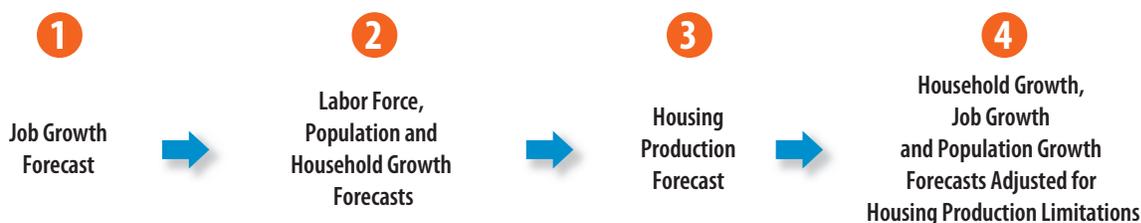
Assumptions

The overall regional growth forecast for Plan Bay Area relies on the following main assumptions:

- The Bay Area and national economies will be healthy, with an average unemployment rate of 5 percent or less and reasonably sufficient housing production for the workforce.

- A stronger link will be made between jobs and housing in locations sought by the workforce.

- Adjustments to the job growth forecast are needed to account for the region's expected level of housing production given historic trends and the constraints of an infill growth development pattern.

- The region will continue to receive historical levels of public funding for housing production.

For additional technical information on the regional forecasting methodology and distribution, see the *Forecast of Jobs, Population and Housing*, listed in Appendix 1.

Snapshot of the Bay Area, 2010–2040

By 2040 the San Francisco Bay Area is projected to add 2.1 million people, increasing total regional population from 7.2 million to 9.3 million, an increase of 30 percent or roughly 1 percent per year. This growth means the Bay Area will continue to be California's second-largest population and economic center. Two major demographic changes shape the forecast of household and job growth: the increase in the senior population and the increase in the Latino and Asian populations. The number of jobs is expected to grow by 1.1 million between 2010 and 2040, an increase of 33 percent. During this same time period the number of households is expected to increase by 27 percent to 700,000, and the number of housing units is expected to increase by 24 percent to 660,000. (See Table 1.) While robust, this projected rate of growth is actually slower than other metropolitan regions in California and also is slower than the Bay Area's pace of growth in the 1970s and 1980s.
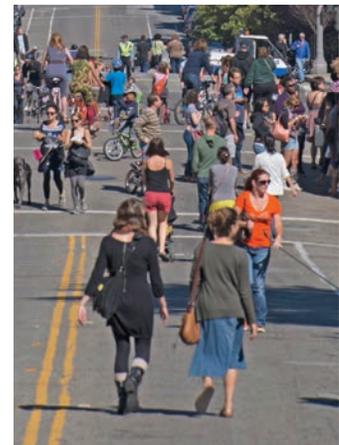
Karl Nielsen

Table 1 Bay Area Population, Employment and Housing Projections, 2010–2040

Category	2010	2040	Growth 2010–2040	Percent Change 2010–2040
Population	7,151,000	9,299,000	2,148,000	+30%
Jobs	3,385,000	4,505,000	1,120,000	+33%
Households	2,608,000	3,308,000	700,000	+27%
Housing Units	2,786,000	3,446,000	660,000	+24%

Source: ABAG, Jobs-Housing Connection Strategy *(2012)*

Figure 2 **Bay Area Population by Age, 2010 and 2040**
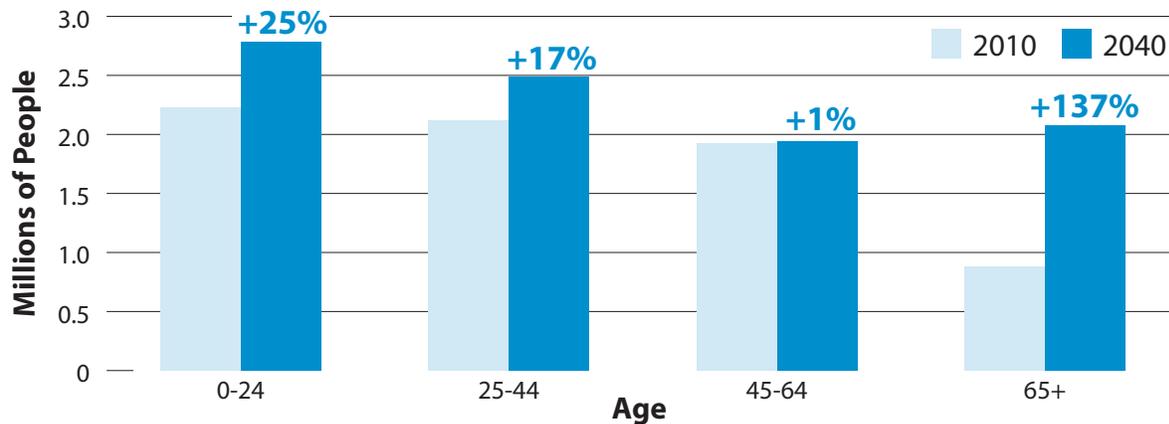
Sources: 2010 Census, California Department of Finance, ABAG

Population Forecast

The population forecast was derived from ABAG's job growth forecast. (See "Employment Forecast," page 34.) It also analyzed the existing population and its labor force participation rates by age cohort and race. Beyond births and deaths, it was assumed that the rate of in-migration to the region will remain the same from 2010 to 2040. Incentives to produce housing close to job centers will result in some increases in the number of households and total population. (For population growth by county, see Table 4, page 39.)

Aging Baby Boomers

Between 2010 and 2040 the Bay Area's population is expected to grow significantly older. Today, people who are 65 and over represent 12 percent of the total population, but by 2040 the share will increase to 22 percent. Put another way, the number of seniors will more than double from under 900,000 today to nearly 2.1 million by 2040. (See Figure 2.) By contrast, the segment of population aged 45-64 will grow by less than 1 percent, and will shrink from 27 percent of the total population today to 21 percent by 2040. The projected increase in the senior population will cause the overall labor force participation rate to fall, even as more people work beyond the age of 65. By 2040, 50 people out of every 100 in the Bay Area are projected to be in the labor force, compared to 52 people out of 100 in 2010.

Younger-age segments of the population will increase in size substantially, but will represent a slightly smaller share of total population in the future due to the large number of aging baby boomers. The number of people aged 25-44 will increase by 17 percent or nearly 370,000, while the number of people aged 24 and younger will increase by 25 percent or over 550,000.

Increased Racial and Ethnic Diversity

By 2040 the population will become substantially more racially and ethnically diverse (Figure 3). Latinos will emerge as the largest ethnic group, increasing from 23 percent to 35 percent
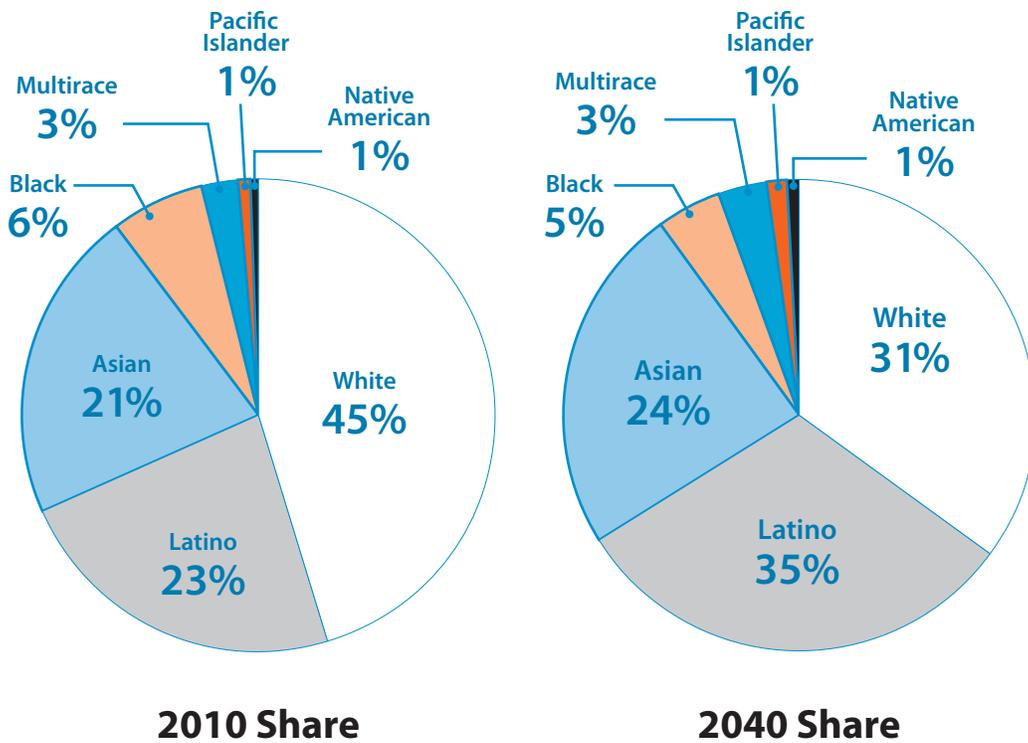
of the total population. The number of Asians also will increase, growing from 21 percent to about 24 percent of the population. The population growth of these ethnic groups is significant for Plan Bay Area because of their historic preference for multifamily housing. According to the California Department of Finance, the Latino and Asian populations also form multigenerational households at a higher rate than the general population. (See "Housing Forecast," page 36.)

In contrast, the share of non-Hispanic whites will drop sharply from approximately 45 percent of today's population, to about 31 percent in 2040. The African-American segment of the population also is expected to decline slightly, dropping from 6 percent to 5 percent, while other demographic groups are expected to maintain a similar share of the population in the future as they do today.

Lawrence Migdale

Figure 3 Bay Area Population by Race/Ethnicity, 2010 and 2040

2010 Share

Pacific Islander 1%
Multirace 3%
Native American 1%
Black 6%
Asian 21%
White 45%
Latino 23%

2040 Share

Pacific Islander 1%
Multirace 3%
Native American 1%
Black 5%
Asian 24%
White 31%
Latino 35%

Latino ▢ White ▢ Asian ▢ Black ▢ Multirace ▢ Pacific Islander ▢ American Indian ▢

Sources: 2010 Census, California Department of Finance, ABAG

Figure 4 Total Regional Employment, 1980–2040
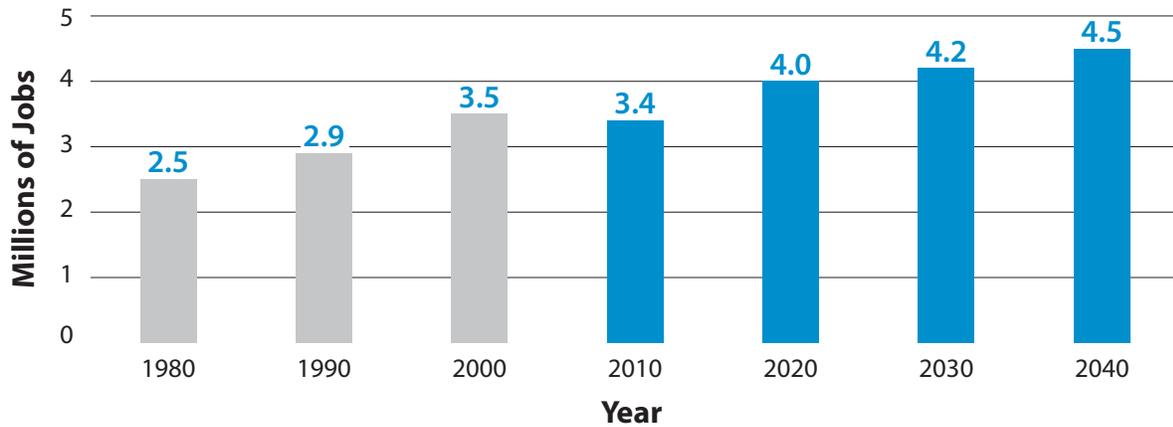
Sources: US Census (1960-1980), Callifornia Department of Finance (1990-2000), ABAG (2010-2040)

Employment Forecast

The Association of Bay Area Governments forecasted regional employment by industry sector utilizing an analysis of the Bay Area's competitiveness by industry in relation to the state and national growth forecast conducted by CCSCE. The analysis took into account the Bay Area's concentration of knowledge-based industries, research centers and universities; the presence of a highly educated and international labor force; expanding international networks serving the global economy; and the overall diversity of the regional economy.

These fundamental assets underpinning the Bay Area economy still are strong. While it is true that the region has not recovered all jobs lost since the "dot-com bubble" popped in 2000, the so-called "jobless growth" of the last decade was a national phenomenon not limited to the Bay Area. Furthermore, increasing numbers of news articles report that various parts of the regional economy are on the mend. For example, the Bay Area led California job growth in 2012 with 91,400 new jobs, a nearly 3 percent increase from 2011 and more than twice the nationwide average, according to Bloomberg News ("Google, Facebook lead Bay Area jobs," Jan. 27, 2013). Based on the above factors and strong fundamentals, Bay Area employment is forecast to grow at a slightly faster rate than that of the nation as a whole.

Substantial numbers of jobs are expected to be created between 2010 and 2040 (Figure 4). More than half of the projected 1.1 million new jobs are expected to be created between 2010 and 2020, which includes the recovery of close to 300,000 jobs lost during the Great Recession that began in 2007. The gain of 1.1 million jobs does not translate directly into new office, commercial or industrial construction. About one-third of these jobs could potentially be accommodated within existing offices and facilities, given current vacancy rates. Many of these jobs are expected to be filled by currently unemployed or underemployed individuals. From 2020 to 2040, the rate of job growth is forecast to slow in comparison to the 2010-2020 period.

The job growth forecast was adjusted based on the difficulties in supplying sufficient housing in the Bay Area to meet the needs of workforce housing within reasonable commute times. The historic imbalances in the Bay Area housing market have resulted in excessively high housing prices in locations close to job centers. Employers have consistently cited these imbalances as the most difficult aspect of recruiting and retaining high-quality employees in the region.

Employment Growth Highest in Professional Services, Health and Education, and Leisure and Hospitality Economic Sectors

Major industry job trends in the Bay Area over the next 30 years are expected to largely mirror national trends. Nearly 73 percent of total employment growth is projected to be in the professional services, health and education, and leisure and hospitality sectors. The national trends of slower growth in retail and finance are also expected in the Bay Area. Construction jobs are expected to almost regain pre-recession levels by 2020 and to increase slightly by 2040. Although this is a substantial gain compared to 2010, it is driven primarily by a slow return to more normal construction levels in the region. Manufacturing jobs are projected to remain more or less stable through 2040. (See Table 2.)
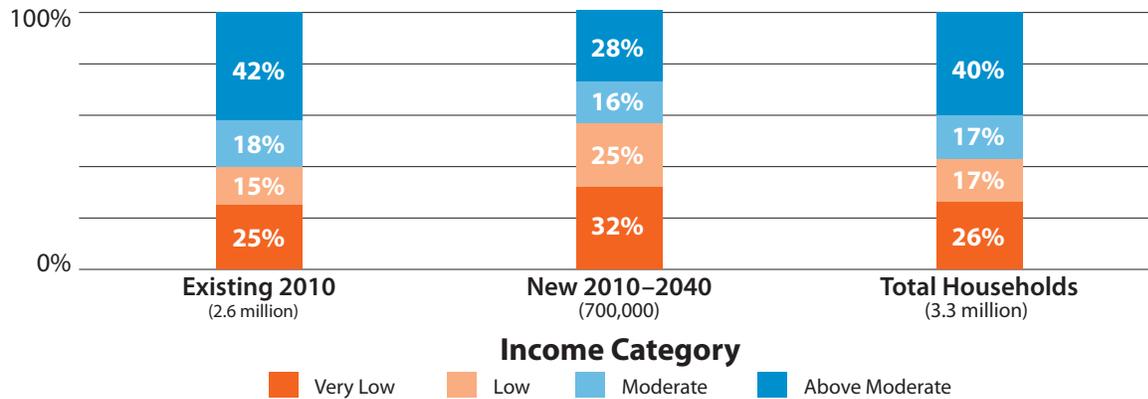
Industry sectors contain a wide spectrum of wages, which correspond to the skill levels and training needed for different occupations. This is especially true for the two sectors with the highest projected growth: professional services and health and education. For example, fewer than half the jobs in professional services require the higher levels of education and specialization than one might consider typical for this sector. The construction, manufacturing and wholesale sectors have significant numbers of jobs in middle-income occupations, while the leisure and hospitality (which includes hotels) and retail sectors have higher shares of low-income jobs. While there are substantial opportunities in fast-growing sectors with large numbers of high income jobs, these sectors also will create middle- and low-income jobs. For example, the professional services sector will create both high-income jobs, such as a vice president of sales, and lower-income jobs, such as a file clerk.

Table 2 Bay Area Employment by Sector, 2010–2040, Ranked by Job Growth

Sector	2010	2040	Growth (Loss) 2010–2040	Percent Change 2010–2040
Professional Services	596,700	973,600	376,900	+63%
Health and Education	447,700	698,600	250,900	+56%
Leisure and Hospitality	472,900	660,600	187,600	+40%
Construction	142,300	225,300	82,900	+58%
Government	499,000	565,400	66,400	+13%
Retail	335,900	384,400	48,500	+14%
Finance	186,100	233,800	47,700	+26%
Information	121,100	157,300	36,300	+30%
Transportation and Utilities	98,700	127,400	28,600	+29%
Manufacturing and Wholesale	460,200	456,100	(4,100)	-1%
Agriculture and Natural Resources	24,600	22,700	(1,900)	-8%
All Jobs	**3,385,300**	**4,505,200**	**1,119,900**	**+33%**

Sources: California Center for Continuing Study of the California Economy, ABAG

Figure 5 Bay Area Households by Income Category, 2010–2040

	Existing 2010 (2.6 million)	New 2010–2040 (700,000)	Total Households (3.3 million)
Above Moderate	42%	28%	40%
Moderate	18%	16%	17%
Low	15%	25%	17%
Very Low	25%	32%	26%

Income Category

■ Very Low ■ Low ■ Moderate ■ Above Moderate

Sources: U.S. Census; Karen Chapple and Jacob Wegmann, Evaluating the Effects of Projected Job Growth on Housing Demand, *2012*

Household Income Forecast

The household income forecast was based on projected jobs by sector, associated occupations and wages, and trends in the geographic distribution of households by income level over the past several decades. Wages were calculated based on the occupations within each industry group. Other income, such as capital gains from stock market investments, was estimated from state and national forecasts as well as from past regional trends. The geographic distribution of households by income was estimated from the U.S. Census.

Today, about 40 percent of the existing 2.6 million households in the Bay Area (or just over 1 million) fall into the very-low and low-income groups, according to U.S. Census figures. Due to the growth in leisure and hospitality, retail and other low-income jobs (see Table 2), the number of people in very-low and low-income groups is projected to increase from 40 percent of households to 43 percent of households by 2040, while those in the moderate and above-moderate categories will decrease from 60 percent to 57 percent of households (see Figure 5).

Housing Forecast

The Association of Bay Area Governments based its housing production forecast on expected household income and demand, past housing production

Peter Beeler

"Unfortunately, housing supply lags demand. Leinberger [2007] notes that even at peak production the nation's supply of housing increases by just 1 to 2 percent annually. At that rate, a generation or more is needed for the housing market to catch up to current preferences."

— *Urban Land Institute,* The New California Dream: How Demographic and Economic Trends May Shape the Housing Market, *2011*

Bay Area Housing Market Appreciation

In January 2013 the real estate information service Zillow analyzed 30 metropolitan housing markets nationwide. It predicted that the San Francisco and San Jose metro areas will be among the top markets experiencing home value appreciation in 2013. Zillow ranked the San Francisco metro area (including San Francisco, Marin, San Mateo, Alameda and Contra Costa counties) number four in the country for potential home value appreciation and predicted that median home prices will rise by 7 percent in 2013. Zillow ranked the San Jose metro area number seven and predicted that median home prices will also rise by 7 percent. Although these predicted growth rates are slower than housing market appreciation in 2012, they suggest that Bay Area homeowners will continue to benefit — and Bay Area homebuyers will continue to struggle — due to high housing costs.

Table 3 **Top 10 U.S. Markets for 2013 Home Value Appreciation**

Metro area	Median home value December 2012	Change from December 2011	2013 appreciation forecast
Riverside	$197,400	9.3%	12.5%
Sacramento	225,200	11.7%	11.9%
Phoenix	157,800	22.5%	8.5%
San Francisco*	526,200	14.0%	7.3%
Los Angeles	414,900	7.9%	7.3%
San Diego	373,400	10.0%	6.7%
San Jose	630,800	15.4%	6.6%
Seattle	270,500	6.5 %	4.6%
Nationwide	**157,400**	**5.9%**	**3.3%**

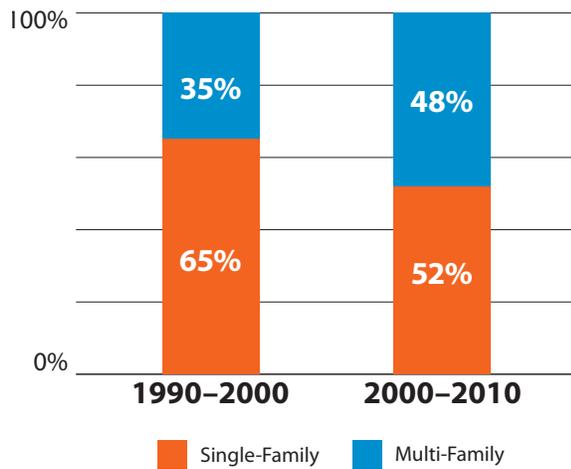*Includes San Francisco, Marin, San Mateo, Alameda and Contra Costa counties*
Source: San Francisco Chronicle, "Zillow expects home values in S.F. to grow but also slow," January 22, 2013.

trends, and local plans (including planned zoning changes). It also assumed the following:

- Existing policies and programs to produce housing will be retained and enhanced.

- A replacement mechanism will be found to fund and implement many of the functions that were performed by California redevelopment agencies before Gov. Jerry Brown signed legislation abolishing those agencies in June 2011.

- Some aging baby boomers will move to residential care facilities or other group housing.

- An estimated 40,000 vacant or foreclosed homes will be reabsorbed into the region's housing supply.

Demand for Multi-Unit Housing in Urban Areas Close to Transit Expected to Increase

Figure 6 **Bay Area Housing Construction By Type, 1990–2010**

Source: U.S. Census

The Bay Area has produced an average of just over 23,000 housing units annually since the 1980s. Single-family homes represent the majority of housing production in recent decades. Most of these homes were built on undeveloped land in suburban locations that provided housing for the post-war baby boom generation and their families. However, according to the Urban Land Institute's *What's Next? Real Estate in the New Economy* (2011), recent trends suggest that cities once again are becoming centers of population growth, including in the Bay Area. On average, construction of multifamily housing in urban locations in the Bay Area increased from 35 percent of total housing construction in the 1990s to nearly 50 percent in the 2000s, and in 2010 it represented 65 percent of all housing construction (Figure 6).

Based upon the emerging demographic changes and employment growth forecasts previously discussed, an annual average of approximately 22,000 units or 660,000 new homes are forecast to be constructed by 2040. Demand for multifamily housing is projected to increase as seniors downsize and seek the greater access to shops and services that urban locations provide. Latino and Asian household growth, along with population growth of those aged 34 and under, also will increase demand for multifamily housing in urban locations. Market demand for new homes will tilt toward townhomes, condominiums and apartments in developed areas. These homes are typically closer to transit, shops and services than the single-family residential development pattern of earlier decades.

Billy Hustace

Market demand for housing near transit also is expected to increase. According to the University of Southern California Population Dynamics Research Group's *The 2010 Census Benchmark for California's Growing and Changing Population* (2011), people aged 55 and over are more likely to prioritize public transportation, walking, access to shops and services, and multifamily housing than do other age groups. Young singles prefer similar locations with urban amenities, and they prioritize short commutes. These demographic changes represent substantial shifts that are expected to contribute to the Bay Area's recovery from the Great Recession. For example, the regional real estate market already is showing signs of recovery. (See "Bay Area Housing Market Appreciation" sidebar for more detail.)

The current single-family housing stock provides a large supply relative to future demand, and an oversupply is projected by 2040. This oversupply is expected to dampen production of multifamily housing, as some households opt instead for single-family homes that are made more affordable due to the excess supply. Despite lower demand for newly constructed single-family homes, some production will occur as the Bay Area housing market gradually adjusts to these changing demographics.

Looking Ahead at Providing Housing and Mobility for Our Workforce

The demographic forecasts summarized in this chapter were used to develop the land use distribution discussed in Chapter 3. The population, employment and housing forecasts provide information to help determine how the region will house its new residents looking forward to 2040. It should be noted that Plan Bay Area and its related forecasts will be updated every four years.

The forecasts and future land use distribution also will affect Bay Area travel patterns. These patterns include who is traveling, where travelers are going, and when people are using the region's transportation system. All these factors influence how the region will house its workforce and provide transportation choices that will increase access to people's homes and jobs.

Table 4 Population Growth by County, 2010–2040

County	2010	2040	Percent
Alameda	1,510,271	1,988,025	32%
Contra Costa	1,049,025	1,334,970	27%
Marin	252,409	285,323	13%
Napa	136,484	163,609	20%
San Francisco	805,235	1,085,641	35%
San Mateo	718,451	906,072	26%
Santa Clara	1,781,642	2,425,648	36%
Solano	413,344	511,482	24%
Sonoma	483,878	598,382	24%
Total	**7,150,739**	**9,299,153**	**30%**