
2014 Regional Growth Forecast

Technical Documentation

Association of Monterey Bay Area Governments
Adopted June 11, 2014

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Executive Summary

As the Metropolitan Planning Organization (MPO), AMBAG carries out many planning functions for the tri-county area including development and maintenance of the regional travel demand model (RTDM), long range transportation planning and programming, and acting as a regional forum for dialogue on issues facing the region. Most of AMBAG's projects are carried out in support of these major functions, including but not limited to the regional growth forecast. AMBAG develops the forecast with a horizon year that matches the planning timeline of the Metropolitan Transportation Plan (MTP) and the model years for the Regional Travel Demand Model (RTDM). In addition to informing regional planning processes, the forecast is used by local jurisdictions and special districts to inform local and subregional planning.

The last regional growth forecast was adopted in 2008. The timing of its adoption coincided with the housing crash of 2008 and while the forecast reflected predictions of a minor recession, it did not reflect the kind of economic downturn that occurred between 2008 and 2012. Given the changed economic climate AMBAG staff began the process of developing a new forecast in spring 2012.

In order to determine the best methodology for development of a new forecast, staff conducted a review of recently completed population, housing, and employment forecasts. The results of this review indicated that most of the other MPOs in California are using a methodology that places greater emphasis on employment growth as the primary driver of long-term population change at the regional scale. The traditional approach to forecasting population uses a cohort component approach which considers three factors - births, deaths, and migration. While births and deaths are fairly easy to obtain data for and therefore have relatively predictable trends, migration tends to be much more difficult to forecast as it is heavily influence by political and economic climates. For the development of the new forecast AMBAG chose to progress towards a more contemporary approach which places a greater emphasis on employment. The assumption is that the economy is a better predictor of population growth. Both approaches use Census data as a basis for development of the forecast.

Under the direction of Stephen Levy, Director of the Center for Continuing Study of the California Economy, this approach was successfully used to develop the most recent regional forecasts for the Association of Bay Area Governments, the Sacramento Area Council of Governments, the Southern California Association of Governments, and the Santa Barbara County Association of Governments. Based on this review AMBAG contracted with Stephen Levy for the development of its regional forecast figures. The regional forecast figures were accepted by the AMBAG Board of Directors at the August 8, 2012 meeting. Additionally, Stephen Levy provided suggested methods for the disaggregation of the regional growth forecast to the subregional level. AMBAG staff applied those methods using a spreadsheet model with the assistance of a demographer, Beth Jarosz. Ms. Jarosz

has more than a decade of experience in demographic and economic estimation, forecasting, and analysis with extensive knowledge in producing forecasts and estimates for use in regional planning. Her expertise was called upon to assist with some of the unique demographic trends within the AMBAG region that needed to be accounted for in the disaggregation process. This technical document provides a description of the methodology for development of the regional growth forecast figures in addition to the methodology for disaggregation of those figures.

Section 1: Process for Forecast Completion

Following the preparation of the regional forecast figures, AMBAG staff began the process of disaggregating the figures to each of the jurisdictions using historical data to develop a baseline disaggregated forecast. The initial results were a purely quantitative application of the methodology. These preliminary draft disaggregated numbers were presented for discussion purposes at one-on-one meetings held by AMBAG staff with each of the jurisdictions, the Local Agency Formation Commissions, the Fort Ord Reuse Authority, the University of California, Santa Cruz, and the California State University, Monterey Bay. AMBAG staff also provided materials for these meetings that outlining the data sources and methodology for the regional forecast figures as well as the preliminary draft disaggregated forecast figures. The intent of the first round of meetings was to gather information and data that was then used to make adjustments to the forecast. (See Appendix A for a list of meeting dates, times and attendees.)

These preliminary draft disaggregated numbers were adjusted based on information and feedback provided by each jurisdiction and were re-circulated for a second round of comments. After the second round of comments were received, AMBAG staff incorporated additional input and prepared a third draft of the disaggregated forecast figures. The third draft was accepted for planning purposes only by the AMBAG Board of Directors at its meeting on February 13, 2013.

After acceptance of the preliminary forecast, adjustments were made as more data became available. In particular, staff updated the employment portion of the regional growth forecast. The Classical Shift Share methodology was used at the county level and therefore staff was able to provide a break out of employment by major industry categories at the county level. However staff was not able to obtain the necessary data from the Employment Development Department in order to conduct a disaggregation of employment at the industry level for the sub-county forecast by February, 2013. New employment data was obtained from InfoUSA, a vendor used by other agencies conducting long range forecasting work. InfoUSA obtains data from a variety of sources and cross checks the data with regular phone surveys of businesses. This new data led to a revision of the sub-county level employment forecast. The revision was distributed to jurisdiction staff and AMBAG staff met one-on-one with planners from each city and county in the region to discuss the revisions. (See Appendix A for a list of meeting dates, times and attendees.) Input from those

meetings was incorporated into a new revised employment forecast which was circulated for comment. Along with the new revised employment forecast, staff circulated the revised population and housing forecast which incorporated additional comments from the Board of Directors regarding institutional housing and planned development projects. The final growth forecast is scheduled for adoption along with the Metropolitan Transportation Plan on June 11, 2014.

Section 2: Development of the Regional Growth Forecast

In June 2012, the Association of Monterey Bay Area Governments (AMBAG) asked the Center for Continuing Study of the California Economy (CCSCE) to prepare regional job projections to 2035 and to assist AMBAG staff in preparing population and household projections. This section documents the findings of the work by CCSCE and includes a summary of the methodology, a description of the projections and an explanation of past, current and projected job growth in the region. The projections and most of the text in this section were originally prepared by Stephen Levy, CCSCE Director.

Summary

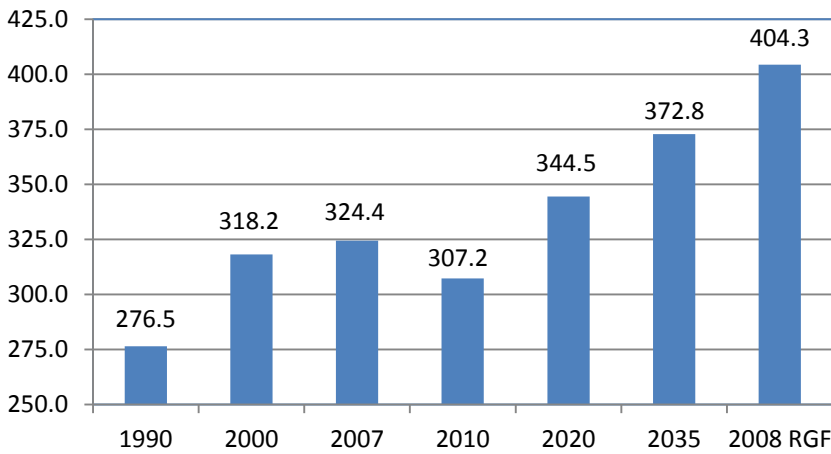
The AMBAG region is projected to add 64,400 jobs between 2010 and 2035. A portion of this job growth (17,200 jobs) represents recovery of jobs lost during the recession. The region is projected to have 372,800 jobs in 2035, which is below the 404,300 jobs projected in the 2008 Regional Growth Forecast.

Table 1: Forecast Comparison of Employment

Forecast by Year Released	2005	2010 ¹	2015	2020	2025	2030	2035
2008	326,340	328,880	342,550	357,080	372,150	387,920	404,320
2008 Rate of Growth		1%	4%	4%	4%	4%	4%
2014		308,400	326,000	344,500	353,600	362,900	372,800
2014 Rate of Growth			6%	6%	3%	3%	3%

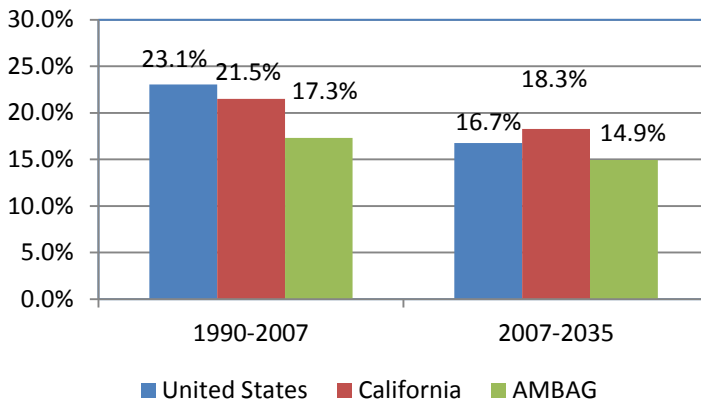
¹ The 2014 forecast has benchmarked 2010 employment to data from the Employment Development Department, Industry Employment and Labor Force by Annual Average 1990-2011, March 2011.

Figure 1: Total Jobs in AMBAG Region (Thousands)



The AMBAG region is projected to grow more slowly than the state and nation to 2035. The job growth rates show the elimination of the effects of the recession by 2025 and show a recovery on the long-term growth rates.

Figure 2: Job Growth

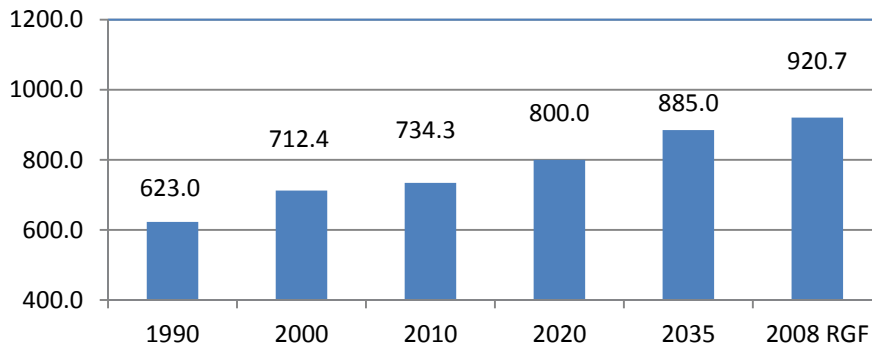


The AMBAG region experienced below average job growth in the period from 1990 to 2007 and this trend is expected to continue. The primary reason is that the region has a below average share of jobs in high growth sectors including information services, professional, technical and scientific services as well as a low exposure to growth in foreign trade.

The region is projected to add 152,292 residents between 2010 and 2035 for an increase of 20.5 percent. The 2035 projected regional population of 885,000 is lower than the 920,700 residents projected in the 2008 Regional Growth Forecast.

Table 2: Comparison of Forecasts for Population

Forecast by Year Released	2005	2010 ²	2015	2020	2025	2030	2035
2008	740,048	774,781	808,560	840,366	868,459	895,577	920,713
2008 Rate of Growth		5%	4%	4%	3%	3%	3%
2014		732,708	766,000	800,000	827,000	856,000	885,000
2014 Rate of Growth			5%	4%	3%	4%	3%

Figure 3: AMBAG Region Population (Thousands)

Despite the lower population forecast, it is expected that AMBAG will continue to see population and housing growth associated with job growth outside of the region. In particular, job growth in Silicon Valley combined with high housing prices is expected to lead to an increase in the number of commuters to Bay Area jobs that live in the AMAG region.

The remainder of this report explains these findings and why the AMBAG region is expected to reverse the lagging job growth of the past decade.

Recent Economic Trends: A Region Beginning to Recover

The AMBAG region is participating in the slow economic recovery being experienced in the state and nation. By June 2012 the Santa Cruz metro area had regained nearly all of the jobs lost since December 2007. Job levels in the Salinas metro area (which encompasses Monterey County) remained 3.3 percent below the December 2007 peak in line with the national trend. San Benito County is included in the San Jose metro area, which had also recovered nearly all of the jobs lost since December 2007 according to the California Employment Development Department estimates for June 2012. As of June 2012, the region's unemployment rate remains high compared to pre-recession levels but was at the lowest level since 2008.

² When the 2008 Regional Growth Forecast was prepared it was prior to the 2010 Census, therefore the 2010 year was forecasted. The 2014 Regional Growth Forecast has been benchmarked to the 2010 Census and reflects the actual population counted in the region.

Figure 4: AMBAG Unemployment Rate

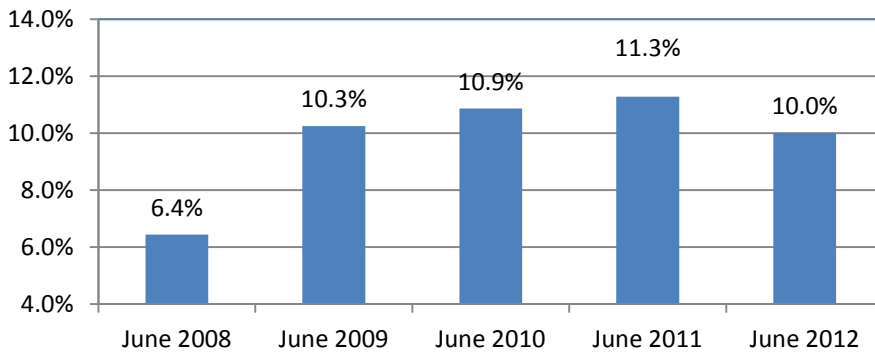
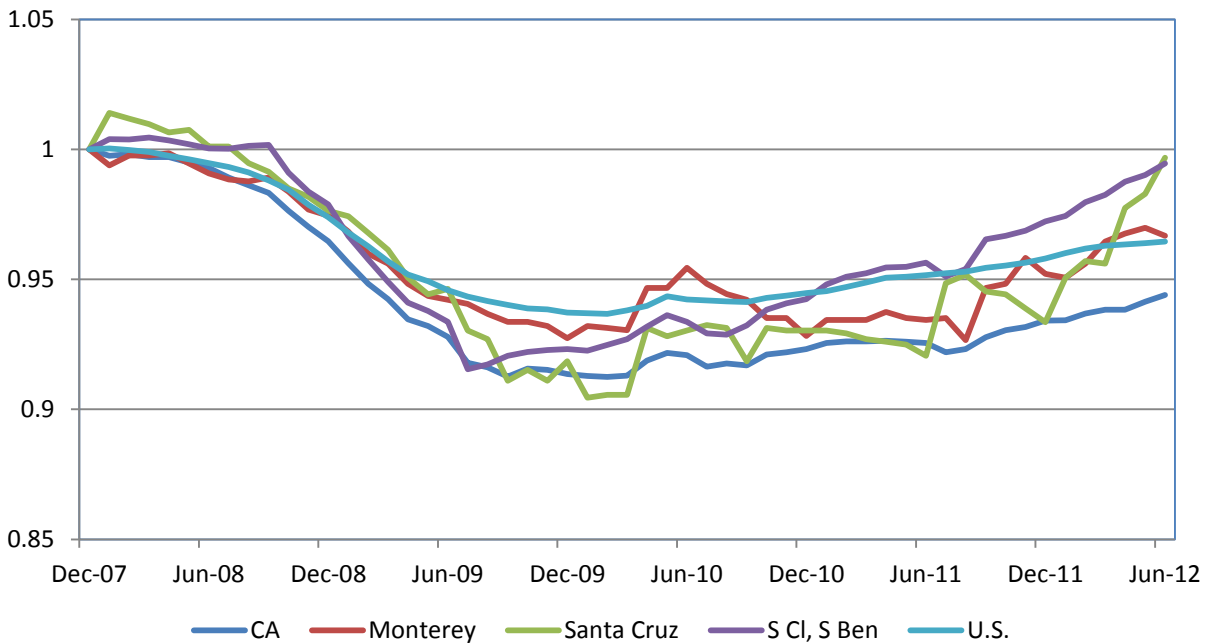


Figure 5: Job Recovery Trends



Job Growth to 2035

The AMBAG region job projections were developed using three guiding principles:

1. The AMBAG region projections were based on projections of job growth in the nation and state. The national and state projections provide the **pool of job opportunities** and the AMBAG region projections reflect judgments about the **share** of national and state job growth that will locate in the AMBAG region.

2. The AMBAG region **share** of national and state job growth is determined by the industry composition of job growth and the projected share of job growth locating in the AMBAG region. If national and state job growth is concentrated in sectors where the AMBAG region has a competitive advantage, the region's projected job growth will be higher than if national and state job growth is concentrated in sectors where the region has a below average share of jobs and a relatively poor competitive position.
3. The analysis of competitive advantage is focused on sectors in the AMBAG region **economic base**. The region's economic base consists of those sectors that sell a high proportion of goods and services to customers outside the region. They export goods and services to customers in world and national markets and markets throughout California. Key examples of economic base sectors in the AMBAG region are agriculture and tourism. The U.C Santa Cruz campus and state prison are also examples of activities that do not primarily serve local residents.

U.S. Job Growth to 2035

The starting point for the AMBAG projections is an examination of future U.S. job growth for total jobs and for major industry sectors. The U.S. job growth projections have three principal components:

1. A new, post-2010 Census set of population projections to 2035
2. Labor force participation rate projections that reflect longer working lives for older workers
3. Industry sector projections developed by CCSCE based on a review of existing national projections

The population and labor force projections determine the amount of job growth projected between 2010 and 2035 and the industry projections identify the structure of job growth as an input to state and AMBAG region job projections. The resulting national projections of job growth are shown below.

Table 3: United States Total Jobs (Millions) and Change³

	2010	2020	2035	
Jobs	141.5	159.4	175.1	
Time Period		2010-2020	2020-2035	2010-2035
Change		17.9	15.7	33.6
% Change		12.6%	9.9%	23.8%

³ The 2010 year data is from the Bureau of Labor Statistics (CLS) and the future years of 2020 and 2035 are from CCSCE.

The nation is expected to add 33.6 million jobs between 2010 and 2035 for an increase of 23.8 percent. Slightly more than half of the projected increase is expected to occur in the next ten years. The percentage increase in jobs (12.6%) between 2010 and 2020 is actually larger than the projected increase (9.9%) for the following 15 years.

The concentration of job growth in the first ten years has two explanations, both of which apply to the state and the AMBAG region job projections:

1. A significant part of the job growth projected to 2020 includes the recovery of job losses incurred during the recession. The nation lost more than 8 million jobs during the recession. The national forecasts reviewed by CCSCE all have the nation regaining full employment by 2015 or 2016. As a result the 2020 projections include erasing the recession job losses plus added gains in the latter half of this decade. The job growth numbers look different when measured from the peak before the recession. Job growth between 2007 and 2020 is projected to be 9.4 million and the projected growth rate is 6.2 percent compared to the 17.9 million jobs and 12.6% growth rate measured from 2010.
2. After 2020 labor force and job growth slows as the tidal wave of baby boomer retirements takes effect. U.S population is projected to increase faster than the projected job growth and the reason is the retirement of the baby boom generation.

California Job Growth to 2035

The state is projected to experience job growth that is slightly faster than the nation's job growth to 2035. California is expected to recover the recession job losses by 2015 or a year later and the unemployment rate will return to full employment levels between 2015 and 2017 according to the forecasts reviewed by CCSCE.

In addition the state has a favorable industry composition given the expected U.S. job growth in technology, trade and tourism. California is outpacing the nation in job growth in 2012 and is forecast to continue the above average growth to 2020 in the latest UCLA Anderson Forecast. These results are confirmed by CCSCE's industry jobs analysis.

Table 4: California Total Jobs (Thousands)⁴

	2010	2020	2035	
Jobs	15,742.8	18,300.7	20,260.6	
Time Period		2010-2020	2020-2035	2010-2035
Change		2,557.9	1,960.0	4,517.9
% Change		16.2%	10.7%	28.7%

⁴ The 2010 year was obtained from the Employment Development Department. The future years were prepared by CCSCE.

California is projected to add 4.5 million jobs between 2010 and 2035 with the largest absolute and percentage gains in the first decade as the recession job losses are regained and before the heart of the baby boom retirement wave.

The state is projected to see a 28.7 percent increase in total jobs or slightly above the projected national increase of 23.8 percent to 2035. As with the national projections, the picture changes if job growth is measured from the pre-recession peak. The 2007-2020 gain is then 1.2 million jobs instead of 2.6 million and the percentage increase is 6.8 percent or slightly above the national job growth rate for this period. The pattern of California industry job growth is shown below and was used in developing AMBAG region job projections.

Table 5: California Jobs by Major Industry (Millions)⁵

Industry	2007	2010	2020	2035	2007-35	2010-35
Agriculture	0.38	0.38	0.39	0.37	-2.8%	-2.6%
Mining	0.03	0.03	0.03	0.03	8.2%	7.8%
Construction	0.89	0.56	0.80	0.85	-5.1%	51.4%
Manufacturing	1.46	1.24	1.23	1.18	-19.3%	-4.7%
Wholesale Trade	0.72	0.64	0.72	0.74	4.0%	15.6%
Retail Trade	1.69	1.51	1.67	1.71	1.2%	13.0%
Transp., Warehouse, & Utilities	0.51	0.47	0.55	0.60	18.0%	28.4%
Information	0.47	0.43	0.49	0.53	12.8%	24.2%
Financial Activities	0.90	0.76	0.90	0.95	6.1%	25.2%
Prof. & Bus. Services	2.26	2.07	2.65	3.19	40.8%	53.7%
Educ. & Health Serv.	1.68	1.79	2.37	2.94	75.2%	64.4%
Leisure & Hospitality	1.56	1.50	1.77	2.06	32.1%	37.3%
Personal Services	0.51	0.48	0.57	0.61	20.1%	26.8%
Government	2.49	2.45	2.58	2.86	14.5%	16.7%
Self Employed	1.57	1.42	1.57	1.63	3.8%	14.6%
Total Jobs	17.13	15.74	18.30	20.26	18.3%	28.7%

The projections do show substantial differences in the expected growth rate among industries between 2007 and 2035 and these differences tell a story about where job growth is expected and where job levels will remain flat or decline. These differences directly influenced the AMBAG region job projections described below.

⁵ The 2007, and 2010 years were obtained from the Employment Development Department. The future years were prepared by CCSCE.

These projections also help to identify which industry job growth is due primarily to a regaining of jobs lost during the recession and which industries have long-term job growth potential. Some of the major trends in California are as follows:

- Construction job growth between 2010 and 2020 recovers jobs lost during the recession after which the industry will have modest growth.
- Manufacturing job levels are expected to end the decade close to 2010 levels and decline thereafter, never reaching the pre-recession totals. Manufacturing production is projected to increase substantially between 2010 and 2035 as in recent decades although job growth will lag. This is due to a continuing increase in productivity within the sector. Put simply, over time manufacturing firms can produce more with fewer workers. The size of the U.S. market measured by population growth is below one percent per year while manufacturing productivity has been close to five percent per year over the long term. Even with expanding manufacturing export markets and new advanced manufacturing opportunities, the sector will see a decline in overall job levels between 2010 and 2035.
- By far the largest percentage job growth is expected in Professional and Business Services and Educational and Health Services. The Professional and Business Service sector includes the fast-growing, high wage professional, scientific and technical services industries.
- The largest and fastest-growing industries in Education and Health Services are within health and social services and are driven by the aging of the population.
- Retail trade and financial services are sectors undergoing restructuring and growth for each sector is driven by technology in different ways. As more customers take advantage of online shopping retail trade growth will slow and fall to below average. In finance, technology such as online banking and mobile phone applications is reducing the demand for personnel in banks and making it easier to process financial transactions. As such job growth in this sector is also expected to be relatively small.
- Leisure and Hospitality is the other fast-growing sector and includes tourist destinations, hotels and large restaurants.

The AMBAG Region Economy and Job Growth

The previous section provided an overview of the current trends in the California economy. As previously noted the AMBAG region's job projections are based on an analysis of the regional economy and its relationship to the growth forecasted for California. The national and state projections provide the **pool of job opportunities** and the AMBAG region projections reflect judgments about the **share** of national and state job growth that will locate in the AMBAG region. What follows is a description of the current structure of the regional economy as well as the resulting job projections based on the region's share of industries.

The AMBAG Economy

The database used for analysis and projections consists of annual data from 1990 through 2011 for each of the three counties in the region and added together to produce an AMBAG region jobs database.⁶

The largest sectors measured in terms of number of jobs are Agriculture and Government with approximately 55,000 jobs in each sector. The next largest sectors are Leisure and Hospitality (including hotels and restaurants) and Self Employed workers each with approximately 32,500 jobs. Other sectors with more than 20,000 jobs in 2011 include Retail Trade, Education and Health Services, and Professional and Business Services. Other sectors including Construction, Manufacturing, and Finance had fewer than 15,000 jobs in 2011.

Figure 6: Jobs in Largest Sectors in 2011

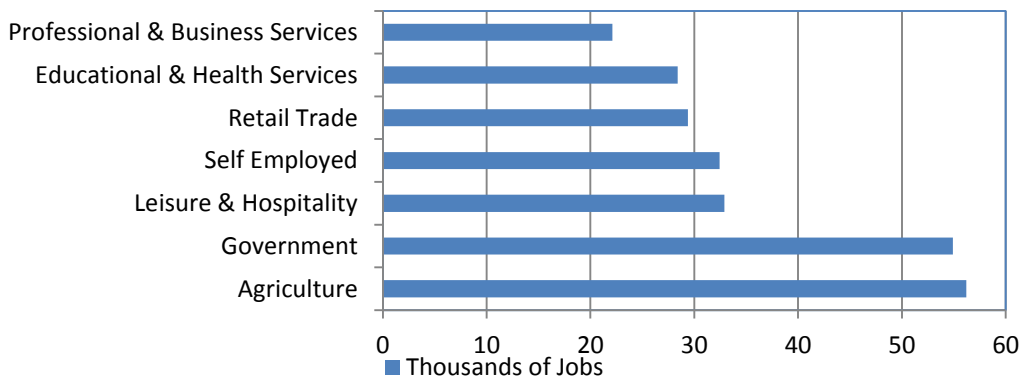
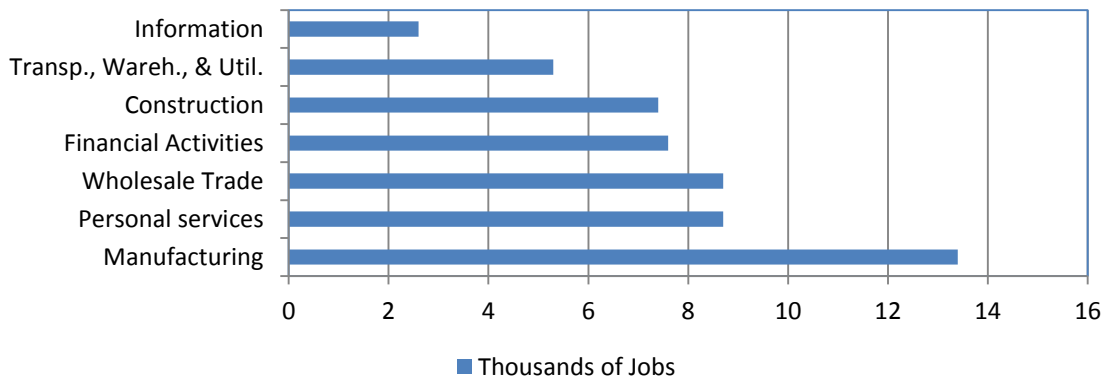


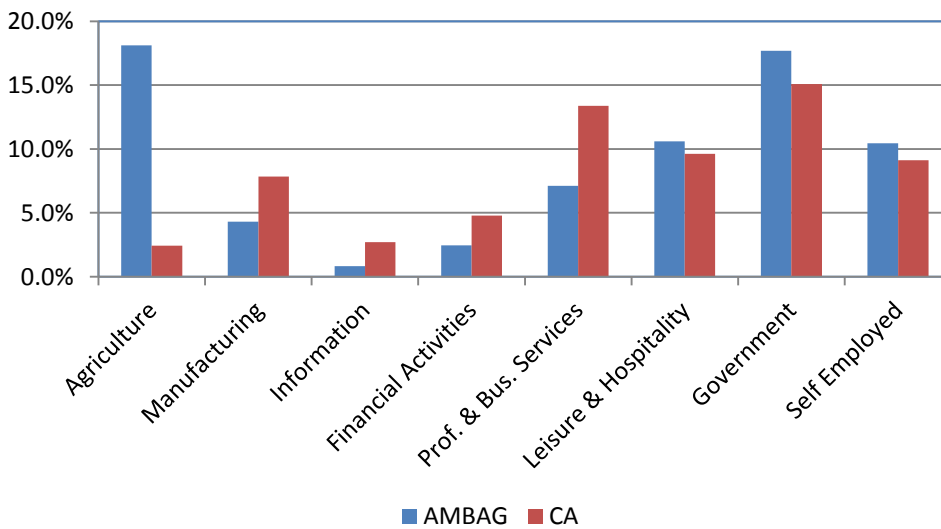
Figure 7: Jobs in Smaller Sectors in 2011



⁶ At the time of this analysis 2011 was the most recently available year for data from the Employment Development Department.

The AMBAG regional economy has an industry structure that is quite different in some ways than the statewide structure or the industry structure in regions like Southern California or the San Francisco Bay Area. One difference is the large share of jobs in Agriculture. More than 18 percent of total jobs in the AMBAG region are in Agriculture compared to 2.4 percent statewide. Other sectors with above average shares in the region include Leisure and Hospitality, Government and Self Employed. On the other hand the AMBAG region has a below average share of jobs in the fast-growing high wage Information (internet services) and Professional, Scientific and Technical Services sectors as well as in Manufacturing and Finance. In addition the region's Leisure and Hospitality sector has not kept pace with statewide job growth since 2000.

Figure 8: Share of Total Jobs in 2011



Projection Methodology and Key Findings

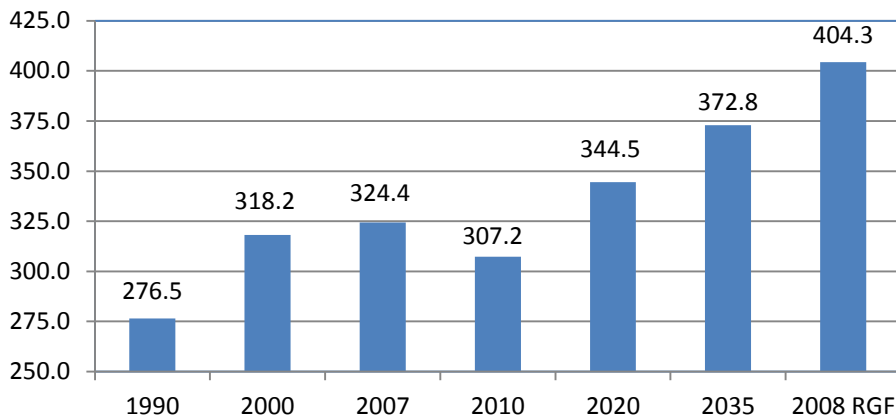
Job projections to 2020 and 2035 were developed for each major industry category by projecting the AMBAG region share of state job growth based on the analysis of trends in the period from 1990 to 2007 and 2011.

The region is projected to experience job growth at a slightly slower rate than the state and nation. The primary reasons for this below-average job growth is the region's below-average concentration in fast-growing sectors that apply technology to the development of goods and services that are sold to customers around the world. Information and professional services are where the largest job gains are projected for the state's economic base. The region also has a below-average exposure to growth in foreign trade.

Positive factors include an expected above-average performance relative to state trends in agriculture and growth in the tourism sector.

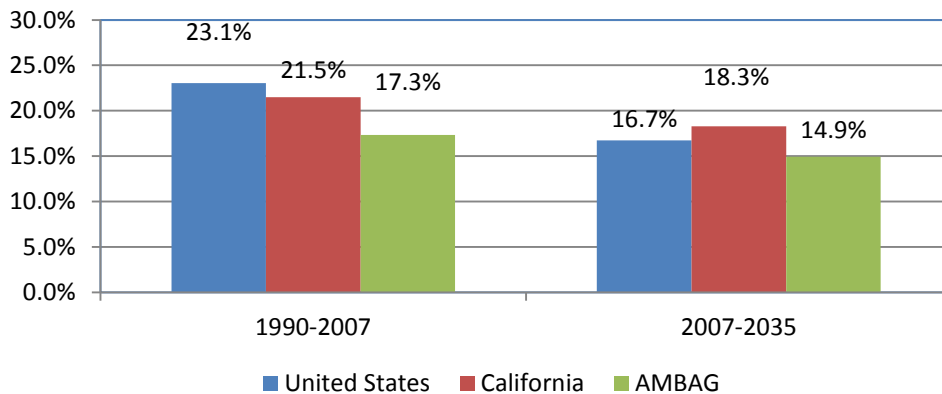
The AMBAG region is projected to add 64,400 jobs between 2010 and 2035. A portion of this job growth (17,200 jobs) represents recovery of jobs lost during the recession. The region is projected to have 372,800 jobs in 2035, which is below the 404,300 jobs projected in the 2008 Regional Growth Forecast.⁷

Figure 9: Total Jobs in AMBAG Region (Thousands)



The AMBAG region is projected to grow more slowly than the state and nation to 2035. The job growth rates shown below start in 2007 to eliminate the effect of the recession and recovery on the long-term growth rates. Regional job growth measured from 2010 to 2035 is 21.3 percent compared to 28.7 percent for the state and 23.7 percent for the nation.

Figure 10: Job Growth



⁷ While this forecast is primarily focused on the growth trends of employment within various industries as it related to state and nation-wide trends, it is recognized that the closure of redevelopment agencies has affected jurisdictions' ability to stimulate economic development and has potentially hampered economic recovery.

Major Industry Job Trends

Agricultural jobs are projected to increase modestly and, in 2035, will be the second largest major industry sector after Government. Government job levels are projected to increase modestly following recent cutbacks as the region will serve more than 150,000 additional residents in 2035 compared to the 2010 population.

The largest job gains in absolute numbers and percentage increases are in Education and Health Services —17,900 jobs (+76.5%) compared to pre-recession 2007 job levels led by growth in sectors associated with health care and social services for an aging population.

Three sectors are projected to add approximately 10,000 jobs—Professional and Business Services, Leisure and Hospitality and Government.

Construction job levels will rebound from recent lows but remain below pre-recession levels in 2035. Although this is a substantial gain measured from 2010 job levels, it is primarily driven by a slow return to more normal construction levels in the region.

Manufacturing job levels are projected to remain near current levels and not regain job losses that occurred during the past 20 years driven by the disparity between high productivity gains and slow increases in domestic demand as population growth slows and the population continues to age. These projections do not include any major move of high tech manufacturing jobs from Silicon Valley to the AMBAG region.

The national trends of slow growth in retail trade and finance are also expected in the AMBAG region.

Table 6: AMBAG Region Jobs by Major Industry⁸

	2007	2010	2020	2035	2007-35	2010-35
Agriculture	52.2	56.3	58.9	60.3	15.6%	7.2%
Mining	0.2	0.2	0.2	0.2	1.4%	1.4%
Construction	12.4	7.1	10.7	11.3	-8.7%	59.5%
Manufacturing	15.3	13.4	13.2	12.7	-16.9%	-5.1%
Wholesale Trade	9.6	8.8	9.3	9.5	-0.6%	8.4%
Retail Trade	31.9	28.6	32.0	32.8	2.8%	14.7%
Transp., Warehouse, & Util.	5.4	5.1	6.2	6.7	24.6%	31.9%
Information	3.4	2.7	2.8	2.9	-15.0%	7.0%
Financial Activities	10.1	7.8	8.3	8.5	-15.6%	9.3%
Prof. & Bus. Services	23.6	21.2	26.2	30.1	27.7%	42.2%

⁸ The data for 2007 and 2010 were obtained from the Employment Development Department. Data for future years was obtained from CCSCE.

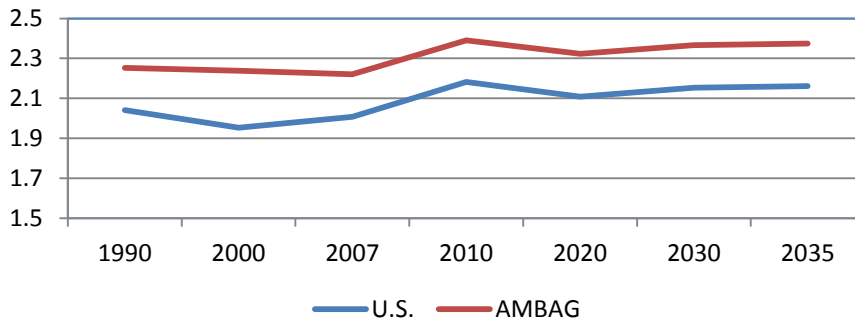
	2007	2010	2020	2035	2007-35	2010-35
Educ. & Health Serv.	25.8	27.6	36.8	45.5	76.5%	65.0%
Leisure & Hospitality	34.1	32.0	36.7	41.3	21.0%	28.9%
Personal Services	9.0	8.7	10.3	11.0	22.1%	26.3%
Government	56.6	55.9	59.1	65.4	15.5%	17.0%
Self Employed	34.8	31.8	33.8	34.4	-1.0%	8.2%
Total Jobs	324.4	307.2	344.5	372.8	14.9%	21.3%

Translating Job Growth into Regional Population Growth

CCSCE assisted AMBAG staff in developing population projections through suggesting a methodology for developing age and ethnic group projections for population and households and by providing a projection of regional population growth. All subregional job, population and household distributions among jurisdictions were done by the AMBAG staff in consultation with local jurisdictions.

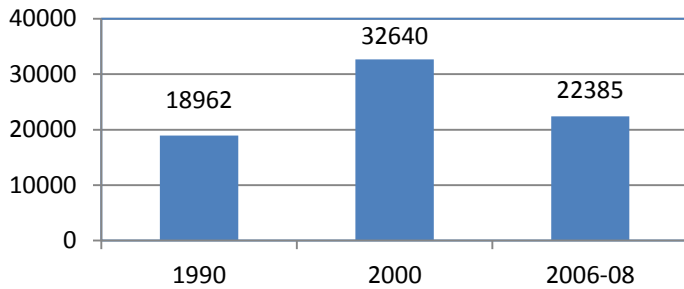
The AMBAG region has more residents per job than the nation and that is expected to continue to 2035.

Figure 11: Population per Job



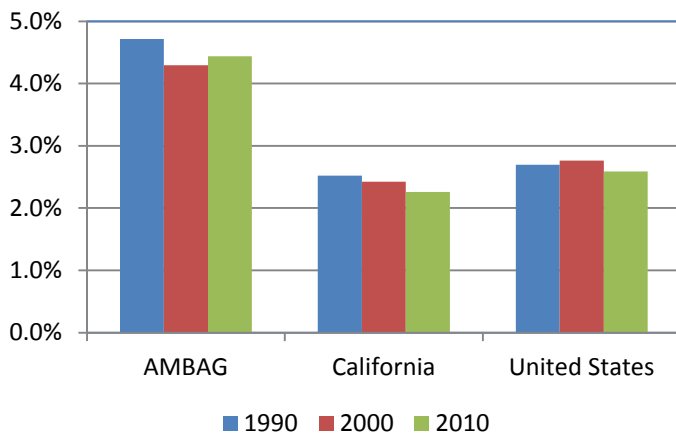
There are four explanations for the higher ratio of people to jobs in the AMBAG region—two major causes and two smaller explanations.

The major cause of the region's comparatively high ratio of people to jobs is that AMBAG residents commute to jobs outside the region, principally to jobs in Santa Clara County. This net out-commuting means there are residents in the region not connected to AMBAG region job growth. Net out-commuting surged between 1990 and 2000 as the "dot.com boom" pushed Silicon Valley (Santa Clara County) job levels higher. Out-commuting declined after 2000 as jobs levels in Silicon Valley fell. AMBAG projects a 28.2 percent increase in Santa Clara County jobs between 2010 and 2035, which, combined with high housing prices in Santa Clara County, will increase the incentive for people to search for cheaper housing in portions of the AMBAG region.

Figure 12: Net Out-Commuting from AMBAG Region

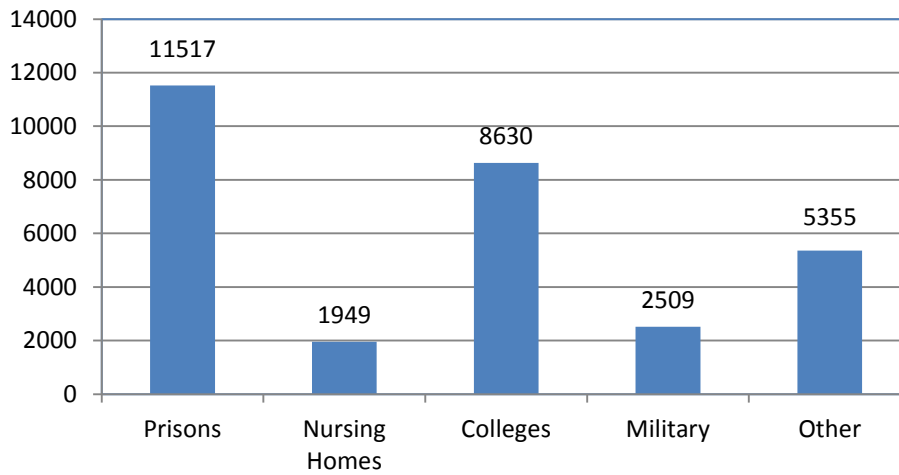
Source: 1990 & 2000 - *Census Journey to Work* and 2006-2008 - *American Community Survey Special Tabulations for the Census Transportation Planning Package*.

Another major cause for the high ratio of people to jobs is that the AMBAG region has an above-average share of residents who live in group quarters and are not tied to the regional job market. This trend has continued since 1990 although the mix of group quarters residents has changed.

Figure 13: Group Quarters as a Percent of Population

In 1990 there was a substantial military group quarters presence around the Fort Ord base. Since then the military population has declined due to the closure of the base, but that group quarters population has been offset by an increase at colleges (primarily UC Santa Cruz and CSU Monterey Bay) and an increase in state prison population. In future years it will be important to continue watching the development and growth of military institutions in the region. There is still a strong military and naval presence in Monterey County including the Presidio area as well as Fort Hunter Liggett in the southern portion of the County.⁹

⁹ While Fort Hunter Liggett has a small permanent population, they are a large training facility and host a substantial amount of trainees every year. Not only will it be important to follow the FHL plans for expansion from a population perspective, but it will also be important to consider the presence of the FHL in transportation planning given the Fort's heavy reliance on Highway 101.

Figure 14: AMBAG Group Quarters Population in 2010

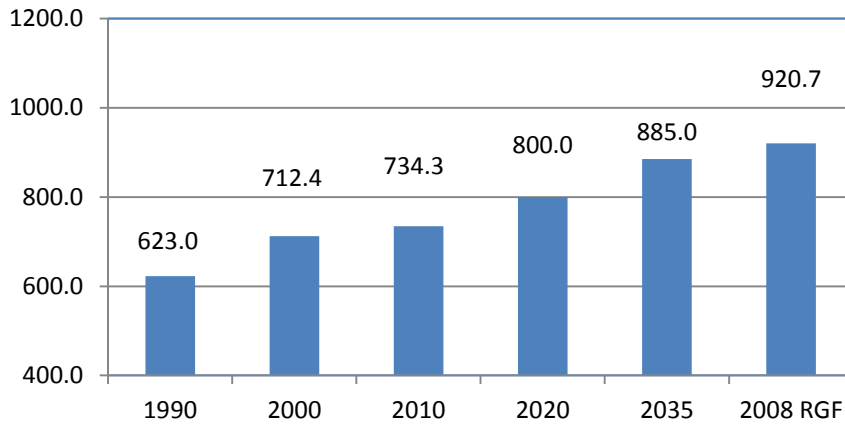
Another reason for a high person to job ratio is due in part to the recession. The number of people per job surged during the recession as job levels fell while population continued to grow. Between 2010 and 2020 job levels will increase faster than population as previously unemployed residents find work during the economic recovery. However, between 2020 and 2035 job levels will grow more slowly than population as baby boomers retire from the workforce but remain in the population.

The AMBAG region population projections were derived by anticipating that the regional population to job ratio will move in line with the national trend as it has in the past. Out commuting is expected to increase in line with Silicon Valley job growth but prison and college group quarters population are not expected to increase as fast as in the past. Based on this analysis the regional population is forecasted to increase from 732,708 in 2010 to 885,000 in 2035 for an increase of 20.5 percent or 152,292 residents. The regional population forecast in 2035 is below the 920,700 residents forecasted in the 2008 Regional Growth Forecast reflecting lower anticipated job growth.

All population projections are benchmarked to the 2010 Census counts which include people whose primary residence is within the region. It is recognized that the region is home to a population of seasonal workers who are undocumented by the Census. It has been observed through informal surveys in the AMBAG Regional Agricultural Vanpool Feasibility Study that this undocumented population, which is traditionally referred to as a seasonal population, is also moving towards a trend of year-round residence, particularly with regard to agricultural jobs. The California growing season extends throughout most of the year and therefore people can stay employed for a majority of the year. Given this trend, this undocumented population then puts a housing burden on local jurisdictions that is very difficult to plan for as the State and the Census do not recognize these people as part of the local population. However, because these people are not counted in this primary source of data they cannot be included within the regional growth forecast as the growth

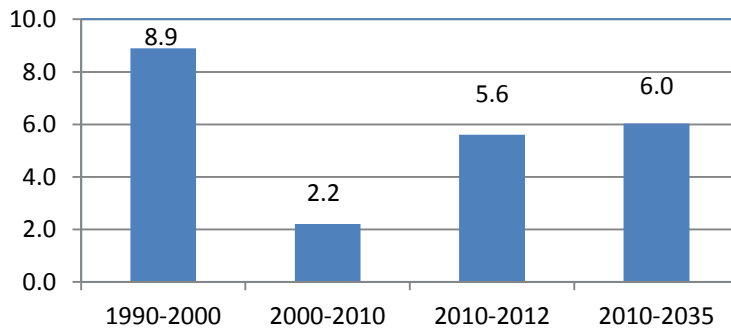
forecast must be benchmarked to the Census. When or if national policies regarding immigration reform allow an easier path to citizenship then California may see an increase in the number of people that get counted every Census year.

Figure 15: AMBAG Region Population (Thousands)



The region is projected to add 6,000 residents per year between 2010 and 2035. This is less than the 8,900 average between 1990 and 2000 and above the recession-affected growth of 2,200 between 2000 and 2010. Recent growth has averaged 5,600 per year, close to the projected long-term growth rate.

Figure 16: Average Annual Population Growth (Thousands)



Issues and Policy Choices

Housing for Commuters

Economic analysis supports the finding that there will be increased pressure to build housing for workers who will work in the Bay Area, primarily in Santa Clara County. The amount of out-

commuting has tracked job growth in Santa Clara County and a 28.2 percent increase in total jobs is projected for the county by 2035 in the new ABAG regional projections. At the same time housing prices and rents are surging in many Santa Clara County communities. The combination of continuing job growth and a large housing cost differential will provide the incentive for more workers to live in portions of the AMBAG region and commute into Silicon Valley. The timing and amount of this commuting/housing trend will depend in part on decisions by developers and workers and in part by land use decisions in local jurisdictions likely to feel the pressure to house commuters.

A New Technology Complex

While the region has a below average share of jobs in technology sectors in manufacturing, information services and professional, scientific and technical services, there is a small technology complex in Santa Cruz County. The AMBAG regional job projections do not anticipate a large diversion of technology jobs from Silicon Valley to the AMBAG region. If there were a large influx of high tech jobs, the regional job and population growth rates would be higher.

High Speed Rail

Currently the high speed rail connection to the Bay Area is planned to pass through the region at Pacheco Pass. That segment is scheduled for many years in the future and the high speed rail project is not currently fully funded or designed. However, if the high speed rail service does come through the region and connect the region to the Bay Area, this would increase the attractiveness of living in the region and commuting to the Bay Area as travel times would be much lower than they currently are. Moreover, the high speed rail could provide an incentive for job growth near the service corridor.

Section 3: Disaggregation of the Regional Forecast

Following the preparation of the regional forecast figures, AMBAG staff began the process of disaggregating the figures to the county and city level using historical data. This process resulted in preliminary draft estimates at the jurisdictional level that were used for discussion purposes with staff at each of the cities and counties within the region. In addition to the cities and counties, staff met with the Local Agency Formation Commissions (LAFCOs) for each county, the Fort Ord Reuse Authority, the University of California, Santa Cruz, and California State University, Monterey Bay to discuss the results. Adjustments were made to the forecast based on these conversations to incorporate growth on the basis of planned developments, specific and General Plan research and economic development plans. The process of revision and meeting with local jurisdictions one-on-one was repeated several times to reach a consensus on the forecast.

County and Sub-County Disaggregation Method for Population

In order to disaggregate the tri-county regional population forecast, the Implicit Shift-Share method was selected. This particular technique was chosen because it provides a relatively simple, yet rigorous, method for estimating the future geographic distribution of the regional population based on historic estimates of local and regional population growth.

The Implicit Shift-Share formula is comprised of two distinct mathematical functions. These are sometimes known as the regional share and the local shift. The regional share function calculates what the total population growth in the local area (i.e. a city or county) would be if that area were to grow at the same rate as the region as a whole. The second function then adjusts for historic changes in the local area's share of the total regional population. Combined with an accurate estimate of the size of the base population obtained from the 2010 Decennial Census, the regional share and local shift functions provide a reasonable estimate of the future local area population, taking into account past changes in the percentage share of the regional population. Historical data is obtained from the Department of Finance. The Department of Finance does benchmark their historical estimates to the Decennial Census for 1990, 2000, and 2010.¹⁰

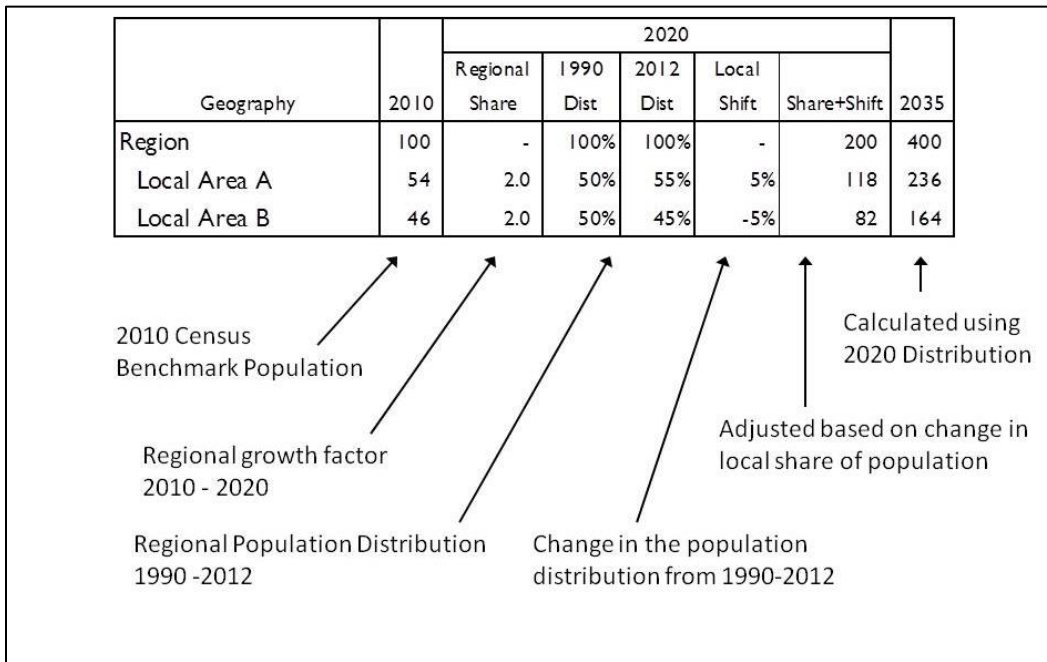
Figure 17: Implicit Shift Share Equation

$$E^{t+n} = E^t \left(\frac{R^{t+n}}{R^t} \right) + \alpha R^{t+n} \left(\frac{E^t}{R^t} - \frac{E^{t-m}}{R^{t-m}} \right)$$

E = Local Value R = Regional Value
 t = time (year) m, n = number of years

¹⁰ Department of Finance, E-8 Historical Population and Housing Estimates for Cities, Counties, and the State, 1990-2000, August 2008; Department of Finance, E-4 Population Estimates for Cities, Counties, and the State, 2001-2010, September 2011 and Department of Finance, E-1 Population Estimates for Cities, Counties, and the State, 2011 and 2012, August 2009.

Figure 18: Example of Implicit Shift Share



Estimating the County Population, Households, and Housing Units

In order to convert county level population forecast estimates into the estimates of housing units, staff created a set of demographic profiles that describe the age, sex, race, and ethnicity characteristics of the future population. The basis for the demographic profiles is a set of detailed population projections developed by the California Department of Finance (DOF) in 2007.¹¹ The profiles were developed by calculating the share of total projected population growth within each county that may be attributed to each age, sex, race, and ethnic category. Age and sex are shown below in Figure 19 through Figure 21. Because the DOF only forecasted population in 10 year increments, staff had to interpolate estimates of population growth for the intermediate years. This was done using the average annual growth rate for each age, sex, race, and ethnic category. The next step was to calculate the total population change forecasted within each category during each five-year increment. By dividing the projected population change within each category by the total population change for each county, staff was able to derive a set of growth shares, or growth coefficients, for each age, sex, race, and ethnicity category. Finally the new disaggregated county level estimates were multiplied by this set of growth shares to generate estimates of the regional and county-level population by detailed age, sex, race, and ethnicity category.

¹¹ On May 7, 2012, the DoF published its Interim Population Projections for California and Its Counties 2010-2050. As of December 2012, they had not yet released their detailed population projections by age, sex, race and ethnicity.

Figure 19: 2010 Demographic Profile (All Races)

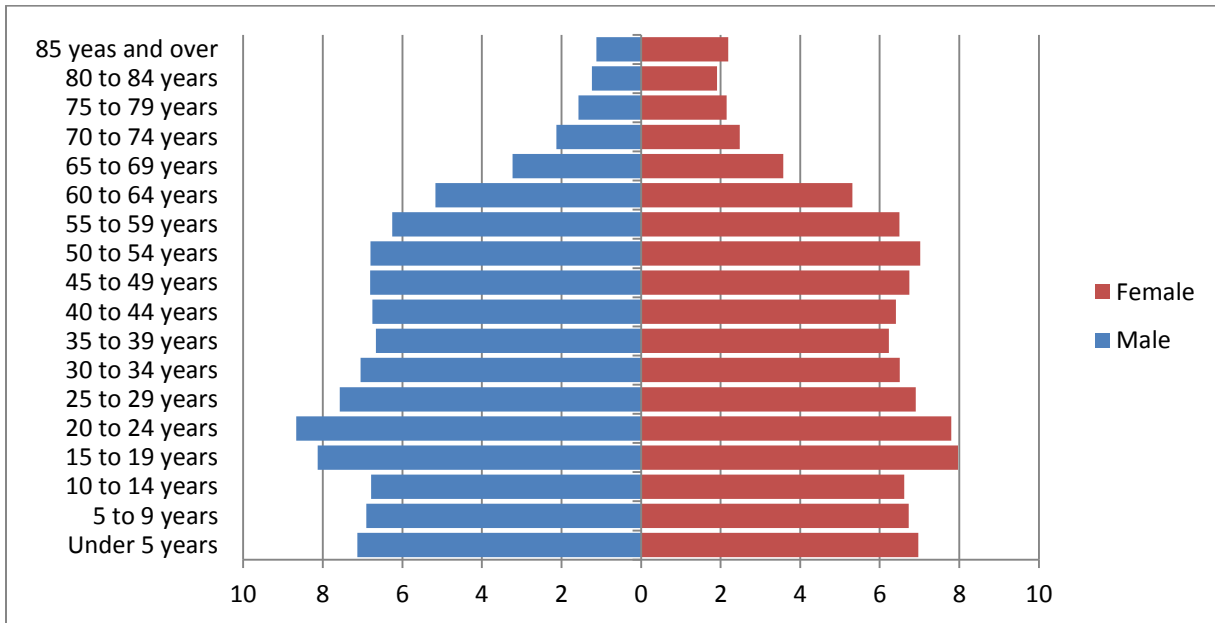


Figure 20: 2020 Demographic Profile (All Races)

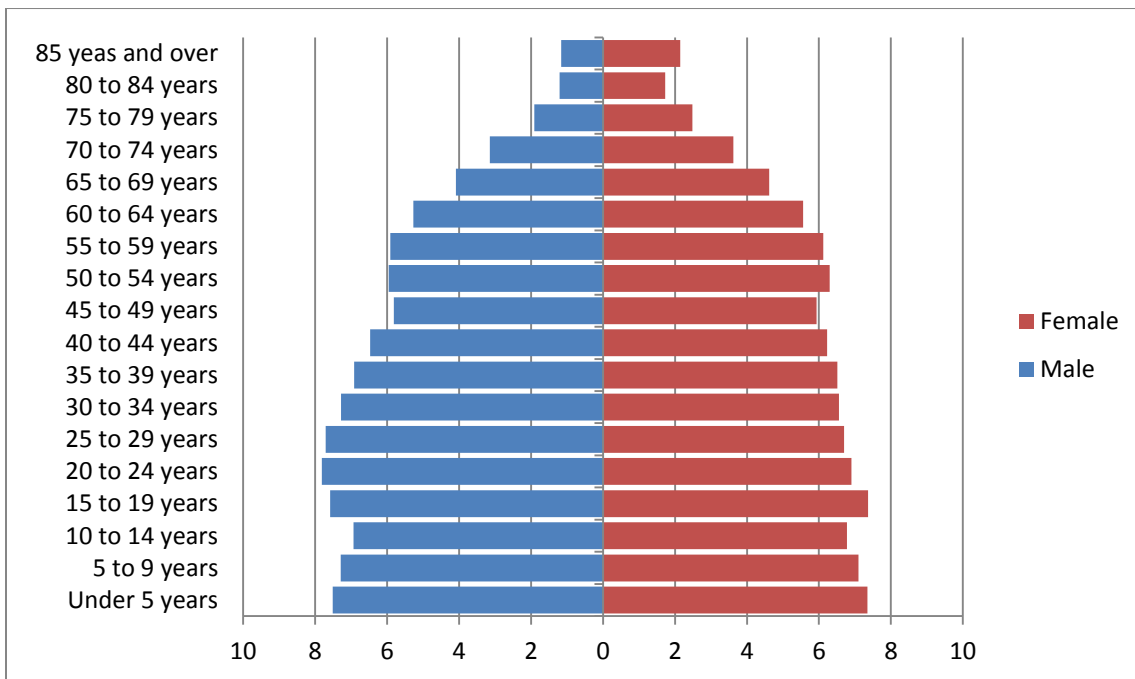
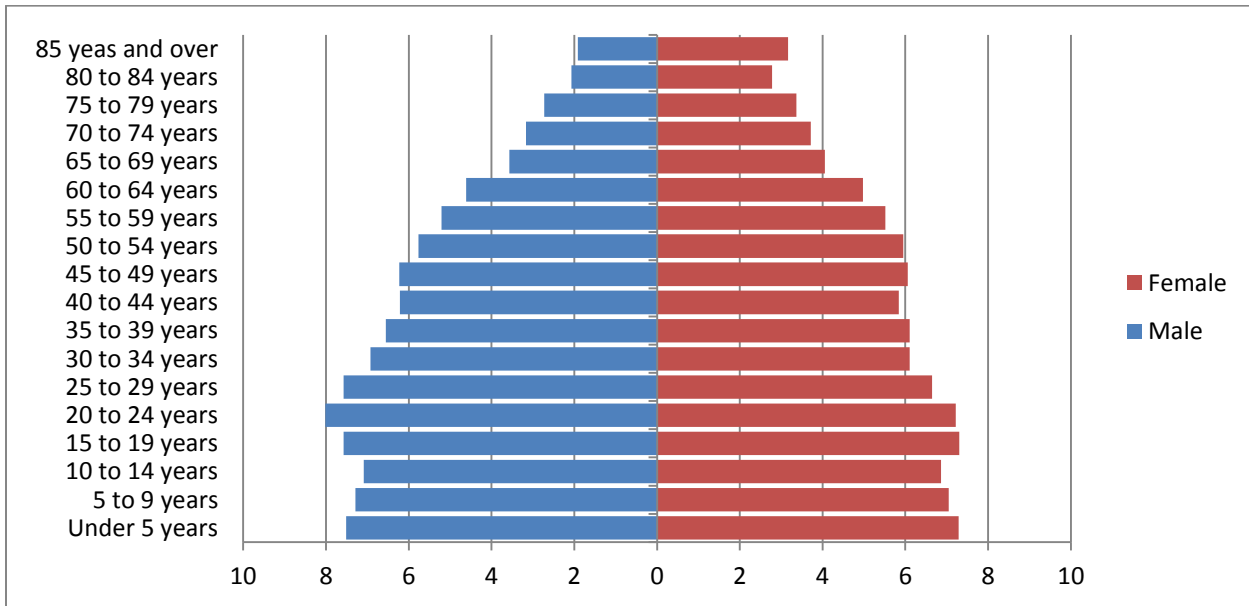


Figure 21: 2035 Demographic Profile (All Races)



The first step toward translating the county demographic profiles into estimates of total housing units was to subtract the group quarters population from the total population. Staff calculated a set of group quarters rates by dividing the group quarters population in each age, sex, race, and ethnic category as provided by the 2010 Census¹² by the total 2010 age, sex, race, and ethnic population in each county. In order to estimate the group quarters population in each county, staff multiplied the group quarters rates within each category by the total population in each category. This population was then removed from the total population to provide an estimate of the number of people living in households.

Next, to generate estimates of the total number of households in each county, staff calculated a set of head of householder rates. These also are frequently referred to as “headship rates” or “household formation rates.” As with the group quarters rates, these are derived from 2010 Census data.¹³ To generate the head of householder rates, staff divided the 2010 estimates of the number of individuals within each age, race, and ethnic category who were reported to be the head of a household by the total number of individuals within each age, race, and ethnic population category less the group quarters population.¹⁴ By multiplying the household population estimates for each category by the head of householder rates, staff derived new set of head of household estimates. Note that for each head of household there is, by definition, one household. Thus, by adding up all

¹² U.S. Census Bureau, 2010 Decennial Census, Summary File 1, Table QTP-12.

¹³ U.S. Census Bureau, 2010 Decennial Census, Summary File 2, Table PCT-12.

¹⁴ The householders data for the "Some other race alone, not Hispanic or Latino" and "Native Hawaiian and Other Pacific Islander alone, not Hispanic or Latino" categories of population in San Benito County was suppressed because there was not a population of greater than 100. For these ethnic categories the regional rate was used instead given the lack of data on this population.

of the head of householders, staff was able to generate estimates of the total number of households within each county.¹⁵

Finally, vacant units were added to the total number of households in order to obtain an estimate of housing units. Vacancy data was obtained from the Census for 1990, 2000 and 2010 and from the Department of Finance for in between years.¹⁶ To better understand what a normal housing vacancy rate might be, staff reviewed historical data on residential vacancy for the last two decades. Once a vacancy rate was established, this was used to calculate the total number of vacant housing units, using the number of households as a proxy for the number of occupied housing units. By adding together estimates of the total number of vacant and occupied housing units, staff derived estimates of the total housing stock within each county.

Estimating the Sub-County Population, Households, and Housing Units

To derive city-level estimates of population, household population, households, and housing units, staff used a simplified version of the methodology described above. The MPO is not required to develop detailed demographic characteristics for city-level estimates. As such the household and housing unit conversion was done using aggregate group quarters and household formation rates for each city, as reported in the 2010 Census.¹⁷ Vacancy rates were derived from a 20-year average as reported from the Department of Finance.¹⁸ The Department of Finance does benchmark their estimates to the decennial Census.

Some of the jurisdictions within the region show a declining population over the last 10 to 20 years. Because the Implicit Shift Share method was used for estimating 2020 population and the method reflects the change in population over time, for those jurisdictions that have experienced population decline there will be a continuation of that decline reflected for the year 2020. After 2020 the share of the regional population calculated for each jurisdiction was held constant. This has the effect of showing an increase in population after 2020 even if the 2020 estimate is lower than the 2010 estimate. In other words, while the 2020 estimate will reflect historical constraints to population growth by showing a decline, there is too little information to know whether those same constraints will exist after 2020, so instead of assuming continual decline, growth was held at a constant. There will be forecast revisions before 2020 that will take into account changes of these trends through an analysis of historical years.

¹⁵ The Census does include "second dwelling units" or accessory units within their counts of households if the unit has its own bathroom and kitchen facilities. However, there are likely illegal "granny units" that are not counted through this process.

¹⁶ Department of Finance, E-8 Historical Population and Housing Estimates for Cities, Counties, and the State, 1990-2000, August 2008; and Department of Finance, E-5 Population and Housing Estimates for Places, 2001-2010, with 2000 Benchmark, September 2011.

¹⁷ U.S. Census Bureau, 2010 Decennial Census, Summary File 1, Tables QTP-12 and PCT-12.

¹⁸ Department of Finance, E-8 Historical Population and Housing Estimates for Cities, Counties, and the State, 1990-2000, August 2008; Department of Finance, E-4 Population Estimates for Cities, Counties, and the State, 2001-2010, September 2011 and Department of Finance, E-1 Population Estimates for Cities, Counties, and the State, 2011 and 2012, August 2009.

Adjusting the Implicit Shift Share Method

Initially AMBAG staff provided jurisdictions with a forecast using the straight application of the implicit shift-share method with a historical time period of 1990-2012 as a benchmark. However, feedback from jurisdictions uncovered the need for modifications to account for exogenous growth factors (e.g. military, college, and prison population changes), geographic boundary changes and overall differences in growth patterns from the 1990s to current trends.

Selecting the Benchmark Time Period

There are several factors to consider in selecting a forecast benchmark period: the quality of available data, the length of the forecast, and whether or not any changes have occurred that make an older historical period out-of-sync with the expected future. While many forecasting methods rely on historical data, the Implicit Shift Share method is particularly sensitive to changes in population trends over time. For this reason it is very important to consider major shifts in population trends when selecting the historical time period for use with the implicit shift share method.

Historical time-series population estimates from the California Department of Finance and decennial census data from the U.S. Census Bureau make it possible to benchmark the forecast against virtually any time period from the 1800s to the present.

A longer forecast benchmark period is preferable if reliable data are available and if population trends are stable over time. However, a benchmark period that is too long can be just as problematic as one that is too short, particularly if a major demographic or economic shift occurred during the historical period.

Historical information will be presented from 1970 to 2010 and forecast analysis will focus on the period from 1990 to 2010.

Demographic History of the AMBAG Region

The AMBAG region grew at a faster rate than California in the 1960s and 1970s, and grew at approximately the same rate as the state in the 1980s (24 % in AMBAG region, 26% statewide). Both the state and the AMBAG region grew at the same rate in the 1990s (14%). The AMBAG region's growth fell far below the statewide average between 2000 and 2010, increasing by only three percent while the state grew by 10 percent.

AMBAG Region: 1970 to 1990

Between 1970 and 1990 the AMBAG region population grew by more than 110,000 each decade, increasing by 29 percent from 1970 to 1980 and by 24 percent from 1980 to 1990. Growth slowed in the 1990s. The slowdown can be attributed, in part, to the closure of Fort Ord in 1994. The AMBAG region population grew by 88,500 (14%) between 1990 and 2000.

Fort Ord

Established in 1917, Fort Ord was eliminated during the Base Realignment and Closure Act of 1990, closing in 1994. This resulted in the loss of more than 30,000 residents in Monterey County, primarily in the jurisdictions of Marina and Seaside, as described in the Fort Ord Reuse Plan:

*Fort Ord has been a significant presence in Monterey County since 1917... maintained a large military population numbering approximately 14,500 military personnel and 17,000 family members of active-duty personnel... the resident population of Fort Ord totaled 31,270 in 1991.*¹⁹

In addition...

*The on-post resident population was divided between the two municipalities of Marina and Seaside. Through 1990, 17,139 people (56%) were within the Seaside city limits and 13,321 people (44%) were within the Marina city limits (Harding Lawson Associates, 1991, Workplan remedial investigation/feasibility study, Fort Ord, CA).*²⁰

These population losses greatly affected the growth rates of the communities of Marina and Seaside prior to 2000. Concurrent civilian job losses affected population growth in the AMBAG region more broadly.

AMBAG Region: 2000 to 2010

In the following decade, population growth slowed considerably. The AMBAG region population grew by only 22,100 (3%) during the decade between 2000 and 2010. This pattern of slowing population growth reflects an aging population and lower net migration into the AMBAG region. Lowered net migration could be due to several factors including but not limited to water resource constraints, the closure of Fort Ord as well as increasing housing costs followed by a major recession.

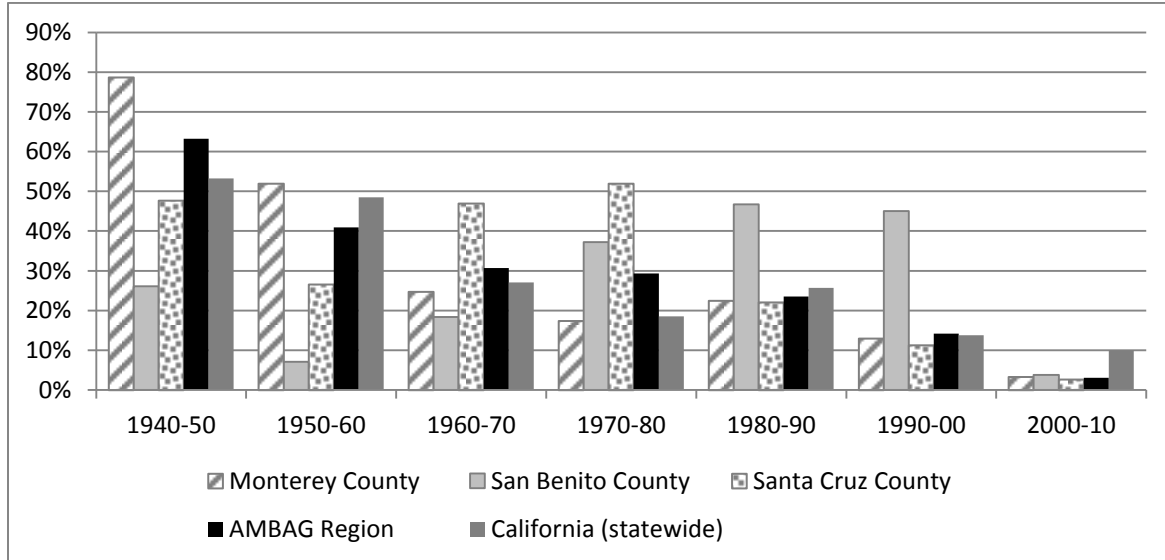
Demographic History of AMBAG Counties

Population growth details for all three counties are shown below. County-specific summaries follow the charts.

¹⁹ Fort Ord Reuse Plan, Volume 1: Context and Framework. June 1997.

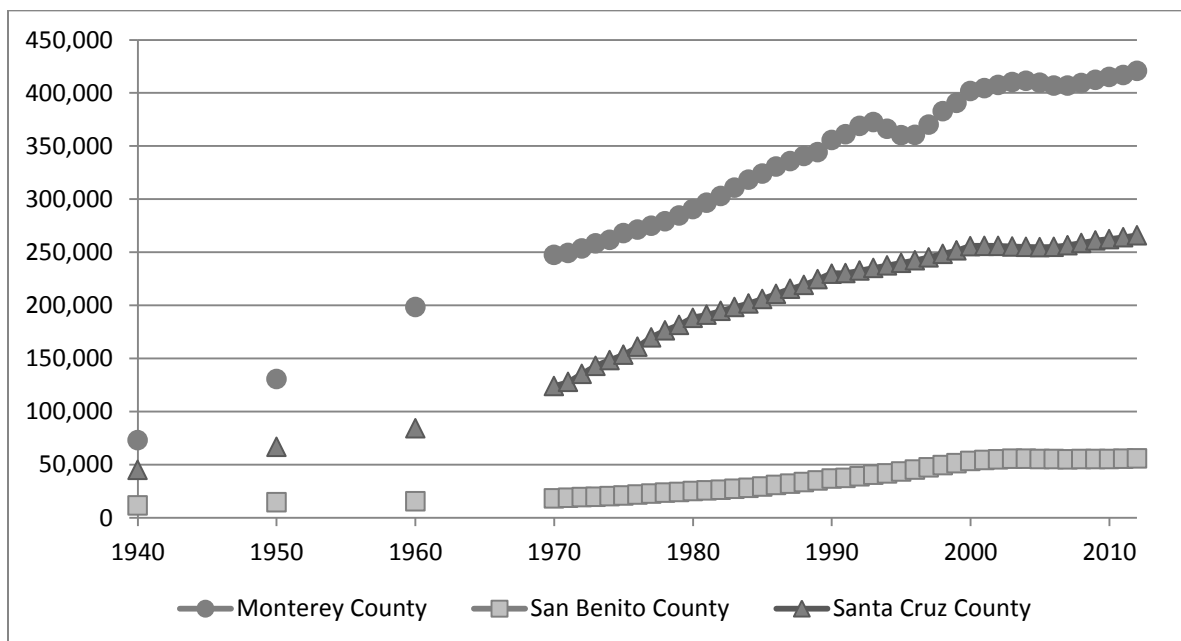
²⁰ Fort Ord Reuse Plan, Volume 2: Reuse Plan Elements. June 1997.

Figure 22: Population Growth Rates in Monterey County, San Benito County, Santa Cruz County, AMBAG Region, and California (statewide) 1940-2010



Source: California Department of Finance

Figure 23: Population in Monterey, San Benito, and Santa Cruz Counties 1940-2012

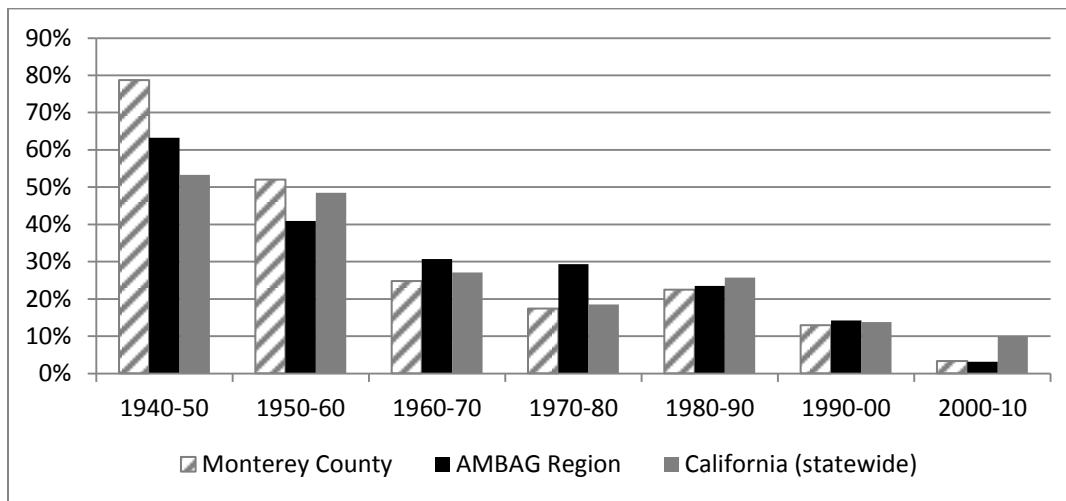


Source: California Department of Finance

Monterey County

Between 1960 and 2000, Monterey County has grown at a rate slower than the AMBAG region as a whole. Between 2000 and 2010 Monterey County grew at the same rate as the region. (See figure below)

Figure 24: Population Growth Rate in Monterey County, AMBAG Region, and California (statewide) 1940-2010



Source: California Department of Finance

As a result of the closure of Fort Ord, Monterey County experienced a population decline in the middle of the 1990s, yet population growth rebounded later in the decade. The county registered 13 percent growth (an increase of 46,100) between 1990 and 2000. (See Figures 2 and 3, above)

The 1990s also saw the opening of two large institutions: California State University, Monterey Bay, and Salinas Valley State Prison. Both are described in more detail in the Special Populations section below.

While the County as a whole grew, six of the county's thirteen jurisdictions experienced population loss during the 1990s (Carmel-By-The-Sea, -4%; Del Rey Oaks, -1%, Marina, -29%, Monterey, -7%, Pacific Grove, -4%, Seaside, -15%). Conversely, the population of Salinas grew by nearly 34,000 during the decade. Soledad also grew at a rapid clip (16,000 population) largely as the result of Salinas Valley State Prison opening in 1996.

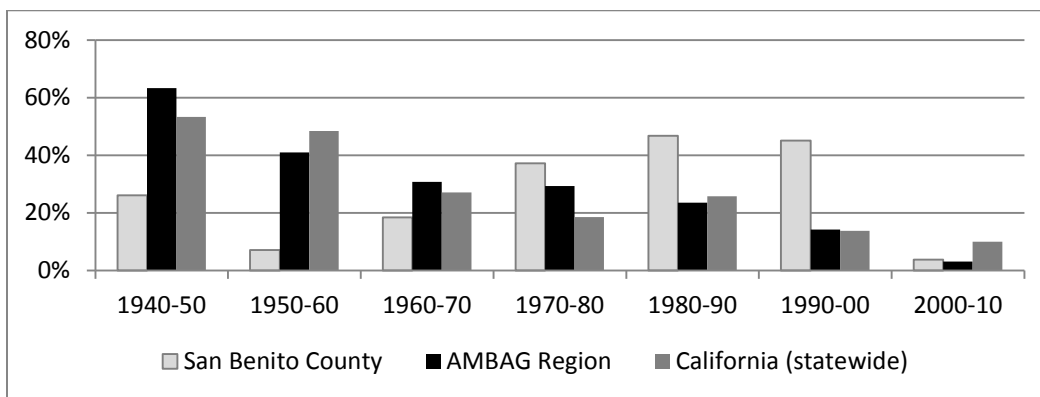
The following decade saw much slower growth, with an increase of less than 13,300 (3%) between 2000 and 2010. Five jurisdictions lost population (Carmel-By-The-Sea, -9%; Del Rey Oaks, -2%, Monterey, -6%, Pacific Grove, -3%, unincorporated Monterey County, -1%). The city of Seaside remained virtually unchanged.

The cities of Salinas and Soledad continued growing (5% and 12%, respectively). Gonzales, Greenfield, King City, and Marina also grew. Sand City recorded a rapid rate of population growth due to its small size, but added only 73 people.

San Benito County

While San Benito County grew at a rate much slower than the AMBAG region prior to the 1970s, the county saw rapid population growth in the 1970s, 1980s, and 1990s. (See Figure 25.)

Figure 25: Population Growth Rate in San Benito, AMBAG Region, and California (statewide) 1940-2010



Source: California Department of Finance

San Benito County registered rapid population growth, adding more than 16,500 population (45%) between 1990 and 2000. During this decade the city of Hollister nearly doubled in population (78%) while the population of San Juan Bautista declined (-1%).

San Benito's population growth slowed to four percent (2,000 population) between 2000 and 2010. The trend of the 1990s was reversed. Hollister grew by only 1 percent while San Juan Bautista increased by 20 percent.

Santa Cruz County

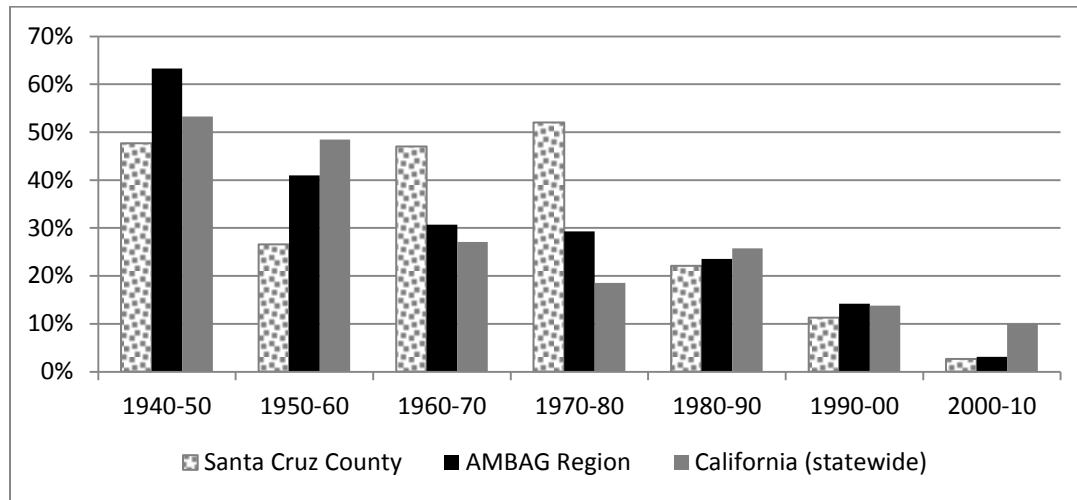
Santa Cruz County grew at a rate faster than the AMBAG region in the 1970s and 1980s, but grew more slowly in every other decade from 1940-2010. (See figure below.)

Santa Cruz County grew by more than 25,800 (11%) between 1990 and 2000. The fastest-growing jurisdiction in Santa Cruz County between 1990 and 2000 was Watsonville (42%) followed by Scotts Valley (31%). Capitola's population fell during the decade (-1%).

The County's growth slowed considerably, adding just under 6,800 population (3%) between 2000 and 2010. The fastest-growing jurisdiction in Santa Cruz County between 2000 and 2010 was

Watsonville (16%, including the annexation area, 11% without) followed by Santa Cruz (10%). Scotts Valley, which grew rapidly during the 1990s, showed only 2 percent population growth during the decade. Capitola's population fell during the decade (-1).

Figure 26: Population Growth Rate in Santa Cruz County, AMBAG Region, and California (statewide) 1940-2010



Source: California Department of Finance

Comparison of Forecast Periods

After examining the growth characteristics of each decade staff tested two baselines, a 1990-2012 and a 2000-2012 benchmark period. The results including the advantages and disadvantages of each are described in more detail below.

While the 1990 to 2012 benchmark period offers a longer time series for model estimation, the period also includes major structural shifts including the closure of a major military base, the opening of a new university, and the opening of a new correctional facility.

In addition, there were substantial shifts in the distribution of population by jurisdiction between 1990 and 2000 that appear to have stabilized between 2000 and 2012 (e.g. Gonzales, Marina, Salinas, Seaside, Soledad, Hollister). (See table below)

Table 7: Jurisdiction Population as a Percent of AMBAG Region Total (1990, 2000, 2010, 2012)

	1990	2000	2010	2012
AMBAG Region	100.0%	100.0%	100.0%	100.0%
Monterey County	57.2%	56.5%	56.6%	56.7%
Carmel-By-The-Sea	0.7%	0.6%	0.5%	0.5%
Del Rey Oaks	0.3%	0.2%	0.2%	0.2%
Gonzales	0.7%	1.1%	1.1%	1.1%
Greenfield	1.2%	1.8%	2.2%	2.2%
King City	1.2%	1.6%	1.8%	1.8%
Marina	4.3%	2.7%	2.7%	2.7%
Monterey	5.1%	4.2%	3.8%	3.8%
Pacific Grove	2.6%	2.2%	2.1%	2.0%
Salinas	17.5%	20.1%	20.5%	20.5%
Sand City	<0.1%	<0.1%	<0.1%	<0.1%
Seaside	6.2%	4.7%	4.5%	4.5%
Soledad	1.2%	3.2%	3.5%	3.5%
Balance Of County	16.1%	14.3%	13.7%	13.7%
San Benito County	5.9%	7.5%	7.5%	7.5%
Hollister	3.1%	4.8%	4.8%	4.8%
San Juan Bautista	0.3%	0.2%	0.3%	0.2%
Balance Of County	2.5%	2.4%	2.5%	2.5%
Santa Cruz County	36.9%	36.0%	35.8%	35.8%
Capitola	1.6%	1.4%	1.4%	1.3%
Santa Cruz	8.0%	7.7%	8.2%	8.3%
Scotts Valley	1.4%	1.6%	1.6%	1.6%
Watsonville	5.0%	6.2%	7.0%	7.0%
Balance Of County	20.9%	19.0%	17.7%	17.6%

Benchmark: 2000 to 2012

The 2000 to 2012 benchmark period reflects current demographic trends, including the growth of the AMBAG region after the closure of Fort Ord and the opening of both CSUMB and Salinas Valley State Prison (SVSP).

Moreover, the time period for estimating the shift²¹ is a better fit to the time period to which the shift is applied. The first forecast increment is 2012 to 2020, an eight-year horizon. The twelve year 2000 to 2012 benchmark period for the shift portion of the shift-share is a better fit than the 22 year shift from 1990 to 2012.

²¹ In this context, "shift" refers to the shift portion of the shift-share forecast method.

In addition, results of the forecast for this benchmark period were in closer alignment with local knowledge gathered from jurisdictions with respect to their anticipated rate of future growth. As a result, the 2000 to 2012 benchmark is the preferred time period for the forecast disaggregation analysis.

Adjustments for Special Populations

In small area demographic analysis, some populations grow or decline as a result of exogenous factors, rather than in response to demographic or economic conditions. For example, uniformed military populations, college populations, and prison populations may grow or decline as new facilities are added or older facilities are phased out of use. These population changes involve facilities that are outside the authority of local land use agencies.

Changes in these facilities can result in population “shocks” that affect the rate of population change within an area, independent of larger demographic and economic trends.

As a result of their unique characteristics, these populations are referred to as “special populations” and are often treated separately in forecasting.

Special populations include people associated with military bases, tourists, prisons, and colleges and universities. The size of a special population may have no connection to the general trends affecting the area. A special population can be stable for long periods of time, balloon quickly, and deflate, or, in the case of military bases, disappear rapidly through a closure program. It is best to develop a detailed understanding of the nature of the special population and set out the projection for it separately.²²

Over the past two decades, the AMBAG region has been home to several “special populations” including the military resident population at Fort Ord, students at UCSC and CSUMB, and inmates at SVSP.

In the preliminary forecast, AMBAG staff began the shift-share analysis at 1996 to address the population “shocks” resulting from the closure of Fort Ord and the opening of both California State University Monterey Bay and the Salinas Valley State Prison. While this adjustment was effective at addressing some of the special population concerns, it has a key weakness: it does not allow for independent forecasting of special populations.

The following discussion provides a method for addressing that issue.

²² Merc, Stuart. “Projections and Demand Analysis.” Planning and Urban Design Standards. published by the American Planning Association. Sept 2012.

<http://books.google.com/books?id=NXpncFYj73QC&pg=PA299&lpg=PA299&dq=%22special+population%22+forecasting&source=bl&ots=L2fSbUMT8R&sig=uV05NN3-rNYcpCr97xU2hTpY16s&hl=en&sa=X&ei=eEC5UMT8O42tqAGAvlDQCQ&ved=0CG0Q6AEwCQ#v=onepage&q=%22special%20population%22%20forecasting&f=false>

History of Special Populations in the AMBAG Region

Fort Ord

Established in 1917, Fort Ord was eliminated during the Base Realignment and Closure Act of 1990, closing in 1994. This resulted in the loss of more than 30,000 residents in Monterey County, primarily in the jurisdictions of Marina, Seaside, as described in the Fort Ord Reuse Plan:

*Fort Ord has been a significant presence in Monterey County since 1917... maintained a large military population numbering approximately 14,500 military personnel and 17,000 family members of active-duty personnel... the resident population of Fort Ord totaled 31,270 in 1991.*²³

In addition...

*The on-post resident population was divided between the two municipalities of Marina and Seaside. Through 1990, 17,139 people (56%) were within the Seaside city limits and 13,321 people (44%) were within the Marina city limits (Harding Lawson Associates, 1991, Workplan remedial investigation/feasibility study, Fort Ord, CA).*²⁴

These population losses greatly affected the communities of Marina and Seaside. However, the forecast was developed using the 2000 to 2012 time period as historical reference. By 2000 abnormalities in growth rates caused by the closure of Fort Ord had self corrected. As the development plans for the area become implemented and the jurisdictions within the bounds of Fort Ord start to grow, population data will begin to reflect a growth rate that accounts for this growth.

University of California Santa Cruz

Founded in 1965, the University of California, Santa Cruz grew to 9,800 students by the 1991-92 academic year, 10,885 students by the 1999-2000 academic year, and 16,300 full-time equivalent students in the 2009-2010 academic year.²⁵ The most recent master plan projects full-time equivalent enrollment of 19,500 by 2020.²⁶

California State University, Monterey Bay

Founded in 1995, California State University Monterey Bay grew to 2,265 students during the 1999-2000 school year and 4,000 students by 2010.²⁷ Although not created by the Fort Ord Reuse Plan, the University is a significant component of the Base Reuse Plan and as it continues to grow will help

²³ Fort Ord Reuse Plan, Volume 1: Context and Framework. June 1997.

²⁴ Fort Ord Reuse Plan, Volume 2: Reuse Plan Elements. June 1997.

²⁵ University of California, Santa Cruz Department of Planning and Budget. <http://planning.ucsc.edu/irps/thirdWeek.asp> accessed December 2012. Figures based on 3-quarter average measured in the spring quarter of the academic year.

²⁶ UC Santa Cruz Long-Range Development Plan 2005–2020. September 2006.

²⁷ California State University Monterey Bay historical timeline <http://about.csumb.edu/node/4287> accessed November 2012.

to stimulate the economic development of the Fort Ord Area. The most recent master plan projects full-time equivalent student enrollment of 7,170 by 2014 and 12,000 by 2025.²⁸

Salinas Valley State Prison

Opened in 1996, Salinas Valley State Prison has a design capacity of 3,888.²⁹ According to annual reporting by the California Department of Finance, the facility had a resident population of 4,100 at the beginning of the 2000s decade and a population of 3,630 on January 1, 2010.³⁰ The facility has a maximum capacity of 4,400, according to the 2010 Master Plan Annual Report.³¹

Soledad Correctional Training Facility

Opened in 1946, Soledad Correctional Training Facility has a design capacity of 3,301. According to annual reporting by the California Department of Corrections and Rehabilitation and counts from the 2000 and 2010 decennial census, the facility had a resident population of between 6,000 and 7,200 during the decade.³²

Table 8: Historical Special Population Counts

	1990	2000	2010
Fort Ord Military Population Prior to Closure (total)	31,270*	0	0
Marina portion Prior to Closure	17,139	0	0
Seaside portion Prior to Closure	13,321	0	0
Unincorporated Monterey County portion	0	0	0
University of California, Santa Cruz	9,800**	10,885	16,300
California State University Monterey Bay	0	2,265	4,000
Salinas Valley State Prison	0	4,100	3,630
Soledad Correctional Training Facility	0	7,120	6,148

*This figure is a known estimate for 1990.

**1990 figure for University of California Santa Cruz reflects data from the 1991-92 academic year, the earliest year reported.

²⁸ Recirculated Draft Environmental Impact Report for the California State University Monterey Bay 2007 Master Plan. July 2008.

²⁹ California Department of Corrections and Rehabilitation website for Salinas Valley State Prison. Figure reported for fiscal year 2009-2010. http://www.cdcr.ca.gov/Facilities_Locator/SVSP-Institution_Stats.html accessed December 9, 2012.

³⁰ California Department of Finance. Exclusion and Dorm Report. November 2012.

³¹ Master Plan Annual Report: Calendar Year 2010. California Department of Corrections and Rehabilitation. January 2011.

³² California Department of Corrections and Rehabilitation website for Soledad Correctional Training Facility. Figure reported for fiscal year 2007 http://www.cdcr.ca.gov/Facilities_Locator/CTF-Institution_Stats.html accessed December 9, 2012. Population counts derived from institutionalized group quarters counts from Census 2000 and Census 2010, U.S. Census Bureau.

Proposed Adjustments to the Population Projections

Developing Special and Non-Special Population Estimates

As noted above,

Special populations provide a challenge to the population projections, because their growth and decline is often not determined by factors that impact the rates of change of the general population... This is particularly true of college students, prison inmates, and military personnel and their dependents. Residents of nursing homes, while also a special population, share many of the characteristics of the general population, and their growth and decline often mirrors the demographic changes of the larger community. To deal with the special population issue, a common procedure applied in population projections is to exclude the special populations by using group quarters data and to project the adjusted population separately, i.e. the total population minus the special population. At the end of the projection module, the special population is added back to the projected adjusted population to produce the projected total population... The special population is either held constant or projected separately.³³

Thus, projections for AMBAG jurisdictions (Marina, Santa Cruz, Seaside, Soledad, and unincorporated Monterey County) should be adjusted to account for special populations independent of the non-special population trends.

To accomplish this, special populations should be subtracted from the census year population estimates used in developing the shift-share model population shares. Independent projections of the special populations (e.g. from master plan documents) should then be addressed separately in the population forecast.

Incorporating Special Populations into the Final Projections

As noted above, Fort Ord has closed, and thus major military populations can be assumed to be minimal throughout the remainder of the forecast. While there are military personnel still living in the region, the remaining military populations live amongst non-special populations and therefore are captured in non-special population projections.

For the universities and the prison, master plan documents provide useful information about expected future populations. These population plans can be used to fill in horizon-year projections, which are then kept constant for any remaining years of the AMBAG forecast. Additionally, staff

³³ Rayer, Stephan. MISER Population Projections for Massachusetts, 2000–2020. July 2003.
<http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=4&cad=rja&ved=0CEUQFjAD&url=http%3A%2F%2Fwww.uconn.edu%2Fmiser%2Fpopulation%2FDocuments%2FMAPProjMethodology.doc&ei=-ke5UNPKDMmdqgH0h4GgDQ&usq=AFQjCNF6tPOwQ9CqtSb8X7-EUtMm9rmMrw&sig2=8pz3atGy03rNWjtviibdjeg>

worked closely with UCSC to develop conservative estimates for growth after the horizon year of their long range development plan.

Translating Population Growth into Housing

Special population adjustments for Fort Ord require no special processing, as the military population in special housing on Fort Ord is zero in all future forecast years. Military populations living amongst non-special populations are captured within the Census data and our forecasted forward along with non-special populations.

However, university populations for UCSC and CSUMB pose a special case. While housing will be provided by the universities, it is likely that at least some students will reside in housing “in town” as part of the resident population of surrounding jurisdictions. For this reason, university population projections and housing projections were completed separately from the jurisdiction population projections.

Population projection adjustments for SVSP and SCTF require no special processing for housing unit projections. These populations will be classified as group quarters, and thus are not considered in housing calculations.

Adjustments for Annexations

The shift-share approach outlined above presumes that most population change is a result of demographic and economic forces that can be represented by the rate of change over time. The shift-share approach is intended for use with jurisdictions that retain consistent geographic boundaries over time. Because the shift-share method presumes constant geographic boundaries, annexations, which by definition change jurisdiction boundaries, pose a unique problem. Adjustment techniques are needed to address these cases. Between 1990 and 2010 there was one populated annexation in the AMBAG region. This case, the Watsonville annexation, is described in more detail below.

History of Annexations in the AMBAG Region

Watsonville

In 2000 the city of Watsonville annexed a portion of unincorporated Santa Cruz County. Known as the Freedom-Carey annexation, the change was recorded in July 2000, after the 2000 decennial Census.

Historical population estimates for the City of Watsonville, unincorporated Santa Cruz County, and Freedom-Carey annexation area are shown in Table 9 below.

The data for 2000 reflect reports published by the Local Agency Formation Commission with respect to the annexation area. Data for 1990 were derived using trend extrapolations based on the rate of growth in associated census tracts (1106 and 1107). Similarly, data for 2010 were derived using trend extrapolations based on the rate of growth in associated census tracts (1105.02, 1106, and 1107).

If the annexation of 2,022 residents were simply attributed to the population growth of Watsonville between 2000 and 2010, it would account for forty percent of the growth in the city's population during that period of time. Conversely, the loss of annexed population would account for more than half of the decline in unincorporated population between 2000 and 2010.

Since the shift reflects an administrative boundary change, not a demographic one, the shift-share model was adjusted accordingly.

Table 9: Historical Population Estimates for the Watsonville Annexation Area

	1990	2000	2010
City of Watsonville	31,099	44,246	51,199
Excluding Annexation Area	31,099	44,246	49,229
Unincorporated County of Santa Cruz	130,086	135,345	129,739
Excluding Annexation Area	128,426	133,323	129,739
Annexation Area	1,660	2,022	1,970

Proposed Adjustments to the Population Projections

Adjusting the Watsonville and unincorporated Santa Cruz County projections

In order to ensure that the population shift resulting from annexation does not skew the shift-share results for Watsonville or unincorporated Santa Cruz County, population projections for Watsonville, unincorporated Santa Cruz County, and the annexation area were estimated separately.

To complete this adjustment, the estimated annexation area population was subtracted from the unincorporated Santa Cruz County population totals in 1990 and 2000. Similarly, the projected population from the annexation area population was added to Watsonville in 2010.

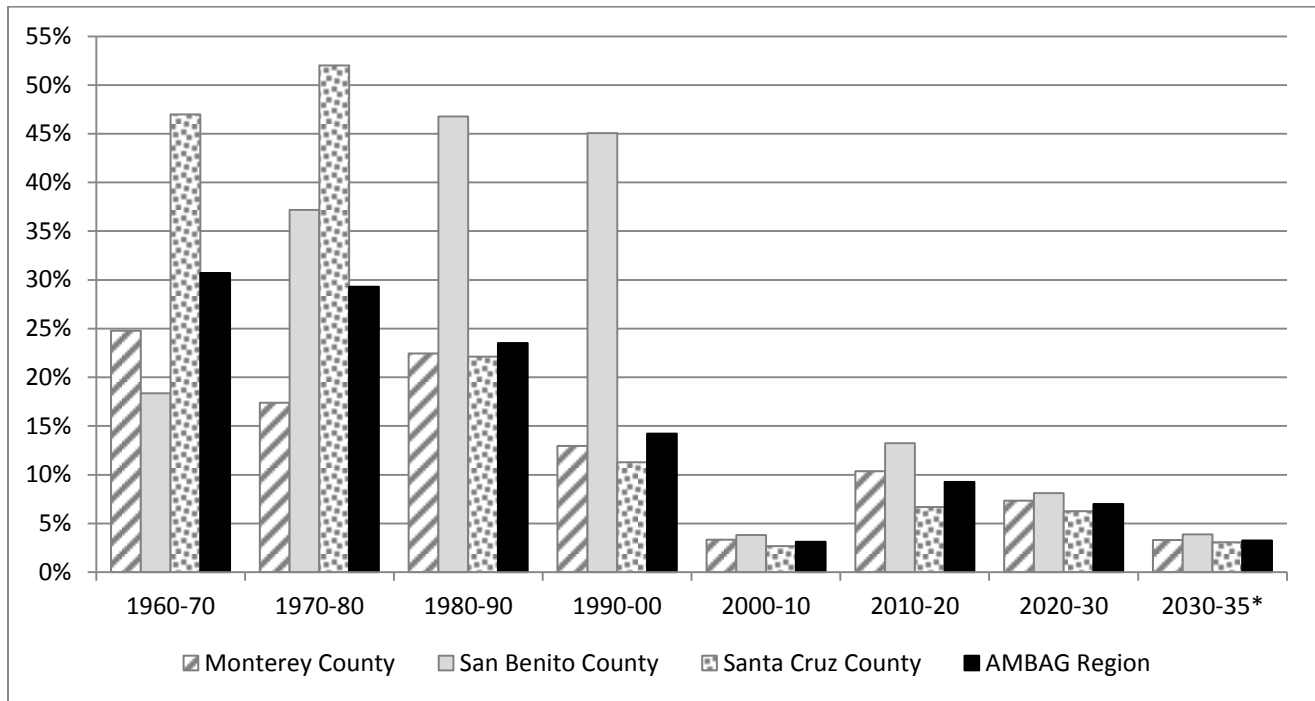
Independent shift-share projections were developed for each of the three sub-areas: Watsonville excluding the annexation area, unincorporated Santa Cruz County excluding the annexation area, and the annexation area.

To complete the projections, the annexation area projected population growth was added to Watsonville. Unlike the special population projections described above, there are no further adjustments needed to translate the resulting population projections into housing projections.

Summary of Population Forecast Results

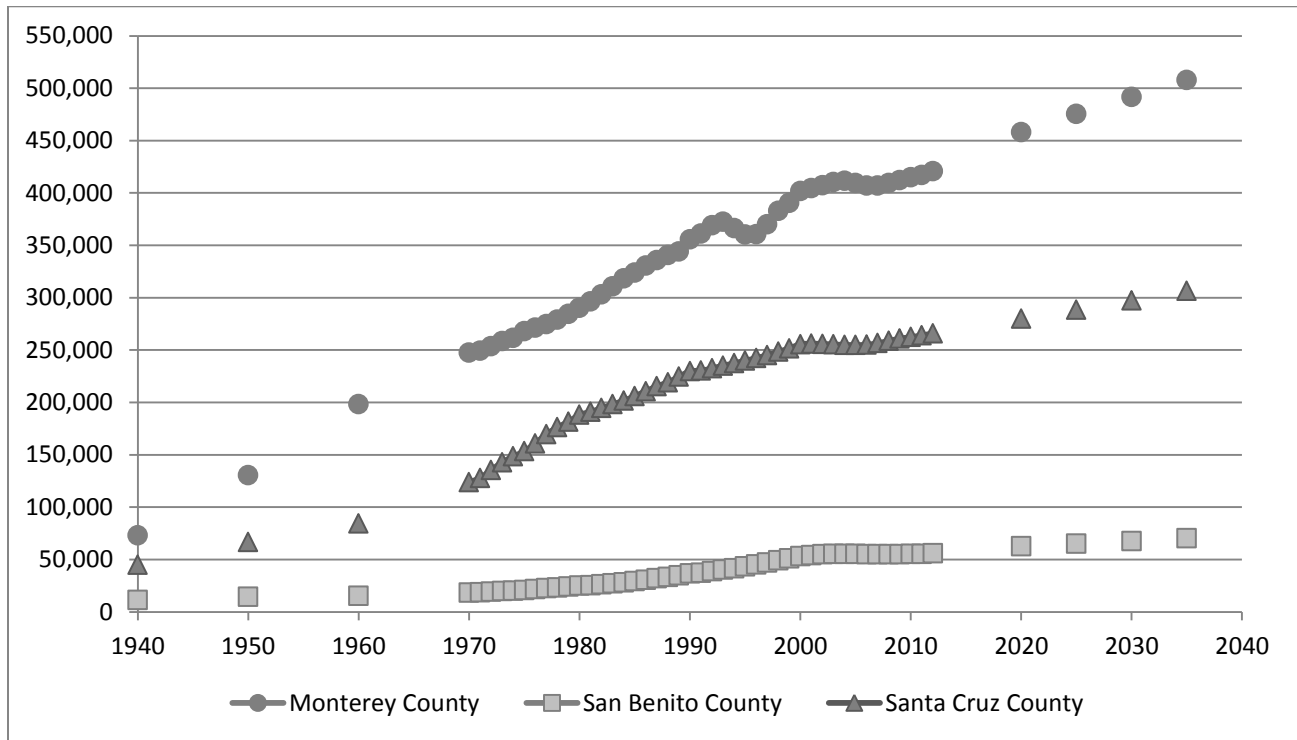
The following figures summarize the historical trend and projected populations for each county based on the revised forecast. Forecast figures are based on the 2000 to 2012 benchmark period and take into account the special population adjustments described above. (See figures below.)

Figure 27: Population in Monterey County, San Benito County, and Santa Cruz County, and AMBAG Region 1960-2035



Source: Historical data - California Department of Finance; Forecast years - AMBAG calculations

Figure 28: Population in Monterey, San Benito, and Santa Cruz Counties 1940-2035



Source: California Department of Finance; AMBAG calculations

Table 10: Population Forecast

Geography	2010	2020	2025	2030	2035	Compound Annual Growth Rate	Change Over Forecast Period
AMBAG Region	732,708	800,000	827,000	856,000	885,000	0.76%	20.78%
Monterey County	415,057	447,516	463,884	479,487	495,086	0.71%	19.28%
Carmel-By-The-Sea	3,722	3,541	3,661	3,789	3,917	0.20%	5.24%
Del Rey Oaks	1,624	1,889	2,345	2,806	3,468	3.08%	113.55%
Gonzales	8,187	13,340	13,955	16,194	19,333	3.50%	136.14%
Greenfield	16,330	21,341	22,061	22,835	23,609	1.49%	44.57%
King City	12,874	14,568	16,398	17,759	18,620	1.49%	44.63%
Marina	19,718	21,315	22,651	23,388	24,225	0.83%	22.86%
Monterey	27,810	28,004	28,839	29,743	30,647	0.39%	10.20%
Pacific Grove	15,041	15,394	15,914	16,472	17,030	0.50%	13.22%
Salinas	150,441	156,793	161,405	166,912	172,499	0.55%	14.66%
Sand City	334	1,048	1,198	1,414	1,550	6.33%	364.07%
Seaside	33,025	36,120	40,260	41,308	42,256	0.99%	27.95%
Soledad	25,738	31,316	32,050	32,839	33,628	1.08%	30.66%
Balance Of County	100,213	102,847	103,147	104,028	104,304	0.16%	4.08%
San Benito County	55,269	73,103	75,604	78,418	81,332	1.56%	47.16%
Hollister	34,928	39,975	41,704	43,551	45,397	1.05%	29.97%
San Juan Bautista	1,862	1,993	2,015	2,053	2,092	0.47%	12.35%
Balance Of County	18,479	31,135	31,885	32,814	33,843	2.45%	83.14%
Santa Cruz County	262,382	279,381	287,512	298,095	308,582	0.65%	17.61%
Capitola	9,918	9,119	9,427	9,758	10,088	0.07%	1.71%
Santa Cruz	59,946	66,860	70,058	73,375	76,692	0.99%	27.94%
Scotts Valley	11,580	11,638	11,696	11,754	11,813	0.08%	2.01%
Watsonville	51,199	59,446	61,452	63,607	65,762	1.01%	28.44%
Balance Of County	129,739	132,318	134,879	139,601	144,227	0.42%	11.17%

Table 11: Housing Unit Forecast

Geography	2010	2020	2025	2030	2035	Compound Annual Growth Rate	Change Over Forecast Period
AMBAG Region	261,394	280,765	286,649	295,936	303,245	0.60%	16.01%
Monterey County	139,048	147,106	150,260	154,585	157,992	0.51%	13.62%
Carmel-By-The-Sea	3,417	3,417	3,417	3,417	3,418	0.00%	0.03%
Del Rey Oaks	741	898	1,035	1,246	1,521	2.92%	105.26%
Gonzales	1,989	3,400	3,591	3,958	4,607	3.42%	131.62%
Greenfield	3,752	4,734	4,795	4,982	5,105	1.24%	36.06%
King City	3,218	3,838	3,944	4,395	4,484	1.34%	39.34%
Marina	7,200	8,248	9,264	9,608	9,797	1.24%	36.07%
Monterey	13,584	13,665	13,695	13,750	14,001	0.12%	3.07%
Pacific Grove	8,169	8,169	8,169	8,274	8,478	0.15%	3.78%
Salinas	42,651	43,174	43,989	45,795	46,883	0.38%	9.92%
Sand City	145	439	496	586	629	6.05%	333.79%
Seaside	11,335	12,556	12,907	13,311	13,664	0.75%	20.55%
Soledad	3,876	5,231	5,325	5,533	5,670	1.53%	46.28%
Balance Of County	38,971	39,337	39,633	39,730	39,735	0.08%	1.96%
San Benito County	17,870	22,620	23,221	24,200	25,057	1.36%	40.22%
Hollister	10,401	11,176	11,534	12,114	12,620	0.78%	21.33%
San Juan Bautista	745	834	843	852	861	0.58%	15.57%
Balance Of County	6,724	10,610	10,844	11,234	11,576	2.20%	72.16%
Santa Cruz County	104,476	111,039	113,168	117,151	120,196	0.56%	15.05%
Capitola	5,534	5,534	5,534	5,537	5,553	0.01%	0.34%
Santa Cruz	23,316	26,890	27,547	28,297	29,355	0.93%	25.90%
Scotts Valley	4,610	4,655	4,692	4,771	4,785	0.15%	3.80%
Watsonville	14,089	16,382	16,933	17,733	18,188	1.03%	29.09%
Balance Of County	56,927	57,578	58,462	60,813	62,315	0.36%	9.46%

Employment Disaggregation Method

This section describes the methods used to disaggregate the tri-county regional employment forecast to provide estimates of employment at the county and sub-county level.

County Disaggregation Method for Employment

In order to disaggregate the tri-county regional industry employment forecast by county, AMBAG staff selected what is known as a Classical Shift-Share model. The Classical Shift-Share formula is similar to the Implicit Shift-Share formula used to disaggregate the population forecast, except that it is comprised of three mathematical functions rather than two. In this case, they are referred to as the regional share, industry mix, and competitive shift functions. The regional share function estimates what employment growth in a certain industry would look like in the local area (i.e., county), if it were to grow at the same rate as the total all-industry employment in the region as a whole. The second industry mix function then adjusts for the difference in the rate of employment growth in a certain industry, compared to all industry employment. The industry mix function is calculated using regional employment values. The third function, known as the competitive shift, adjusts the estimate to account for faster or slower industry employment growth in the county, compared to the region.

Figure 29: Classical Shift Share Equation

$$E_i^{t+n} = E_i^t \left[\frac{R_A^{t+n}}{R_A^t} + \left(\frac{R_i^{t+n}}{R_i^t} - \frac{R_A^{t+n}}{R_A^t} \right) + \alpha \left(\frac{E_i^t}{E_i^{t-m}} - \frac{R_i^t}{R_i^{t-m}} \right) \right]$$

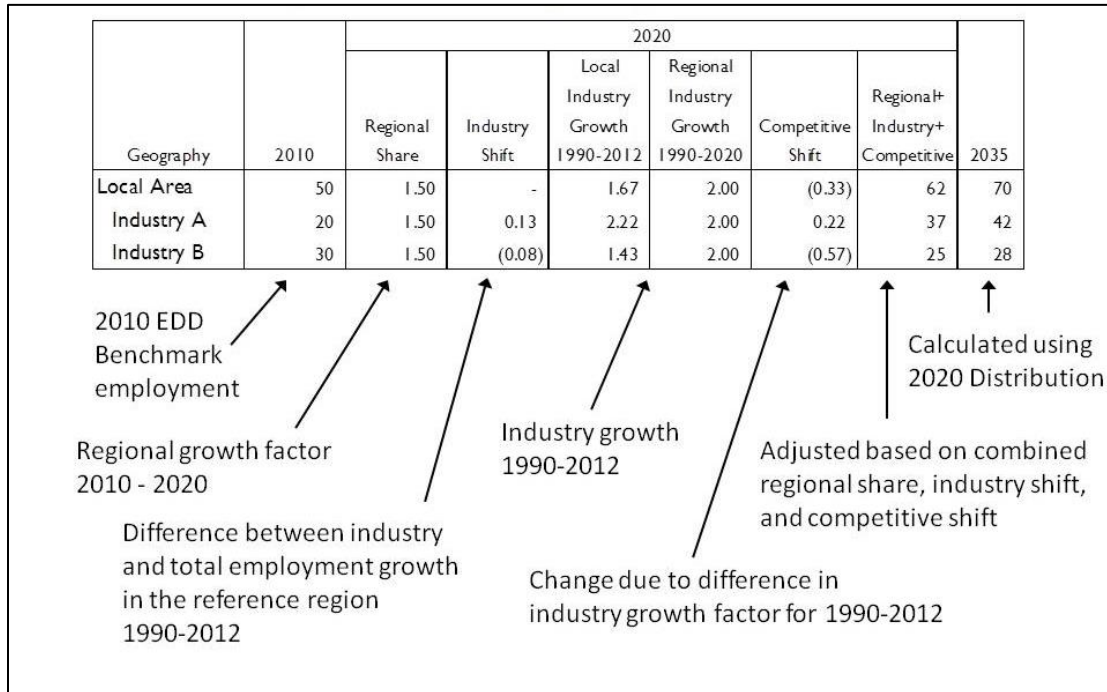
E = local Value *R* = Regional Value
i = industry *A* = All industries
t = time (year) *m, n* = number of years

Incorporating Census Data on Self Employment

One important limitation of the California Economic Development Department's (EDD) historic industry employment dataset is that it excludes all self-employed persons, unpaid family workers, and private household employees. To supplement the EDD dataset, staff collected data on the self-employed population by place of residence from the U.S. Census Bureau. The specific dataset uses included the Decennial Census' for 1990, 2000, and 2010. In addition, the Census Bureau offered American Community Survey (ACS) 1-Year estimates for Monterey and Santa Cruz counties for the period from 2006 to 2009. Data for San Benito County was collected from the ACS 3-Year estimates for the period from 2008 to 2010 and the ACS 5-Year estimates for the period from 2006 to 2010. To estimate self-employment for the intermediate years between census estimates, staff calculated the compound average annual growth rate for each county, which was then applied to

the appropriate base year value. County-level estimates of the self-employed population for the intermediate years were then adjusted to account for rounding error.

Figure 30: Example of Classical Shift Share



Sub-County Disaggregation Method for Employment

To develop the baseline disaggregation model for employment, staff began by collecting historic employment data from InfoUSA. While originally the intent was to collect data from the EDD, EDD was unable to provide this data in a timely fashion. The InfoUSA data is based off of hundreds of different sources including but not limited to postal records, white pages listings, new business registrations, utility connections, real estate data (deeds & assessments), and industry directories. The data is then verified and supplemented with regular phone surveys. InfoUSA data is used by many other regional Councils of Governments to conduct forecast work and is a reputable source of data.

The InfoUSA data was used to calculate the share of employment for each industry in each jurisdiction in 2010. This percent share was then carried forward to future years in order to calculate the number of jobs located in each jurisdiction by industry. While the County level totals use the Classical Shift Share method as described above, the sub-county level forecast is a constant share approach. However, because the sub-county level forecasts are based on the County totals by industry the Classical Shift Share method does influence the sub-county trends.

A revised forecast was distributed to planning staff at each jurisdiction using the InfoUSA data. AMBAG staff held one-on-one meetings to gather comments and additional information from planning staff at each jurisdiction. (See Appendix A for a list of meeting dates, times, locations and attendees.) Economic studies, entitled development, the establishment of enterprise zones and other information from local planners are used to supplement the employment assumptions at the jurisdictional level. These comments and additional pieces of information have been incorporated into the current draft of the forecast. While there is flexibility built into the forecasting process at the subregional level, the total regional and county level employment figures were not changed.

Table 12: Draft Employment Forecast

Geography	2010	2020	2025	2030	2035	Compound Annual Growth Rate	Change Over Forecast Period
AMBAG Region	308,400	344,500	353,600	362,900	372,800	0.76%	20.88%
Monterey County	182,000	205,977	211,218	216,486	222,137	0.80%	22.05%
Carmel-By-The-Sea	2,282	2,645	2,716	2,793	2,875	0.93%	25.99%
Del Rey Oaks	414	640	602	592	573	1.31%	38.37%
Gonzales	2,922	4,084	4,416	4,802	5,234	2.36%	79.10%
Greenfield	6,935	7,404	7,497	7,673	7,862	0.50%	13.37%
King City	4,274	5,007	5,336	5,569	5,669	1.14%	32.64%
Marina	4,951	5,727	6,191	7,242	8,305	2.09%	67.74%
Monterey	26,934	31,249	32,512	33,597	34,828	1.03%	29.31%
Pacific Grove	8,792	10,161	10,499	10,827	11,194	0.97%	27.32%
Salinas	54,504	62,527	63,742	65,162	66,883	0.82%	22.71%
Sand City	1,561	1,839	1,873	1,908	2,500	1.90%	60.17%
Seaside	7,790	8,828	9,092	9,344	9,628	0.85%	23.60%
Soledad	2,571	2,868	2,947	3,022	3,143	0.81%	22.23%
Balance Of County	58,071	62,998	63,795	63,955	63,443	0.35%	9.25%
San Benito County	16,200	18,513	18,836	19,187	19,546	0.75%	20.65%
Hollister	10,497	12,175	12,449	12,732	13,031	0.87%	24.14%
San Juan Bautista	411	490	497	508	516	0.91%	25.44%
Balance Of County	5,292	5,848	5,890	5,947	5,999	0.50%	13.36%
Santa Cruz County	110,200	120,010	123,546	127,227	131,117	0.70%	18.98%
Capitola	6,170	6,550	6,691	6,850	7,018	0.52%	13.75%
Santa Cruz	37,077	40,391	41,279	42,546	43,863	0.67%	18.30%
Scotts Valley	5,164	5,151	5,219	5,253	5,289	0.10%	2.41%
Watsonville	21,505	24,359	25,680	26,976	28,543	1.14%	32.73%
Balance Of County	40,284	43,559	44,681	45,670	46,404	0.57%	15.19%

Table 13: 2010 Employment by Industry

	Agricultural	Construction	Industrial	Retail	Service	Public	TOTAL
AMBAG Region	56,300	8,100	13,400	37,400	109,700	83,500	308,400
Monterey County	45,100	4,300	5,600	20,100	60,900	46,000	182,000
Carmel-By-The-Sea	11	6	59	431	1,651	124	2,282
Del Rey Oaks	-	15	26	112	36	225	414
Gonzales	1,968	8	160	238	257	291	2,922
Greenfield	5,542	21	59	138	685	489	6,934
King City	1,441	50	306	416	1,060	1,000	4,273
Marina	18	276	212	926	2,249	1,270	4,951
Monterey	810	818	1,205	2,653	12,085	9,362	26,933
Pacific Grove	-	167	121	1,022	4,930	2,552	8,792
Salinas	9,830	922	2,114	7,270	17,149	17,217	54,504
Sand City	-	156	113	703	455	135	1,562
Seaside	-	204	196	949	2,743	3,698	7,790
Soledad	300	41	62	196	890	1,083	2,572
Balance Of County	25,179	1,616	968	5,045	16,710	8,553	58,071
San Benito County	1,600	800	2,500	2,400	5,100	3,800	16,200
Hollister	339	575	1,109	1,403	3,641	3,430	10,497
San Juan Bautista	1	6	25	56	222	102	412
Balance Of County	1,260	219	1,367	941	1,238	267	5,292
Santa Cruz County	9,600	3,000	5,300	14,900	43,700	33,700	110,200
Capitola	-	-	38	1,694	3,306	1,132	6,170
Santa Cruz	488	496	2,140	3,813	13,435	16,704	37,076
Scotts Valley	32	106	804	759	2,532	932	5,165
Watsonville	2,869	1,100	1,439	3,397	7,315	5,385	21,505
Balance Of County	6,211	1,298	879	5,238	17,112	9,547	40,285

Table 14: 2020 Employment by Industry

	Agricultural	Construction	Industrial	Retail	Service	Public	TOTAL
AMBAG Region	58,900	10,900	13,200	41,300	124,300	95,900	344,500
Monterey County	47,432	5,902	5,651	23,306	71,430	52,256	205,977
Carmel-By-The-Sea	11	8	57	506	1,924	139	2,645
Del Rey Oaks	-	150	25	181	41	243	640
Gonzales	2,080	36	395	277	802	494	4,084
Greenfield	4,556	29	57	160	1,056	1,546	7,404
King City	1,453	124	287	553	1,518	1,072	5,007
Marina	19	379	526	1,079	2,326	1,398	5,727
Monterey	856	1,123	948	3,099	14,363	10,860	31,249
Pacific Grove	-	229	117	1,198	5,900	2,717	10,161
Salinas	10,386	1,266	2,050	8,441	20,861	19,523	62,527
Sand City	-	214	110	820	546	149	1,839
Seaside	-	380	190	1,111	3,182	3,965	8,828
Soledad	300	56	60	243	1,002	1,207	2,868
Balance Of County	27,771	1,908	829	5,638	17,909	8,943	62,998
San Benito County	1,498	912	2,896	2,719	6,297	4,191	18,513
Hollister	228	655	1,471	1,564	4,498	3,759	12,175
San Juan Bautista	16	8	32	67	263	104	490
Balance Of County	1,254	249	1,393	1,088	1,536	328	5,848
Santa Cruz County	9,970	4,086	4,653	15,275	46,573	39,453	120,010
Capitola	-	-	32	1,742	3,576	1,200	6,550
Santa Cruz	517	676	1,799	3,912	14,503	18,984	40,391
Scotts Valley	34	125	675	774	2,576	967	5,151
Watsonville	3,039	1,497	1,209	3,552	8,632	6,430	24,359
Balance Of County	6,380	1,788	938	5,295	17,286	11,872	43,559

Table 15: 2025 Employment by Industry

	Agricultural	Construction	Industrial	Retail	Service	Public	TOTAL
AMBAG Region	59,500	11,100	13,000	41,500	127,600	100,900	353,600
Monterey County	47,927	6,010	5,559	23,418	73,414	54,890	211,218
Carmel-By-The-Sea	11	8	56	509	1,986	146	2,716
Del Rey Oaks	-	100	25	182	43	252	602
Gonzales	2,101	47	553	279	822	614	4,416
Greenfield	4,615	29	56	161	1,065	1,571	7,497
King City	1,538	150	292	585	1,520	1,251	5,336
Marina	19	386	526	1,085	2,715	1,460	6,191
Monterey	865	1,144	827	3,116	14,787	11,773	32,512
Pacific Grove	-	233	115	1,205	6,203	2,743	10,499
Salinas	10,493	1,289	2,021	8,481	21,280	20,178	63,742
Sand City	-	218	108	825	565	157	1,873
Seaside	-	385	187	1,117	3,258	4,145	9,092
Soledad	300	57	59	280	1,028	1,223	2,947
Balance Of County	27,985	1,964	734	5,593	18,142	9,377	63,795
San Benito County	1,499	929	2,855	2,734	6,430	4,389	18,836
Hollister	231	667	1,448	1,572	4,600	3,931	12,449
San Juan Bautista	16	8	32	67	269	105	497
Balance Of County	1,252	254	1,375	1,095	1,561	353	5,890
Santa Cruz County	10,074	4,161	4,586	15,348	47,756	41,621	123,546
Capitola	-	-	31	1,752	3,671	1,237	6,691
Santa Cruz	522	688	1,771	3,772	14,924	19,602	41,279
Scotts Valley	34	128	665	776	2,612	1,004	5,219
Watsonville	3,071	1,525	1,192	3,749	9,211	6,932	25,680
Balance Of County	6,447	1,820	927	5,299	17,342	12,846	44,681

Table 16: 2030 Employment by Industry

	Agricultural	Construction	Industrial	Retail	Service	Public	TOTAL
AMBAG Region	59,900	11,300	12,900	41,900	131,200	105,700	362,900
Monterey County	48,256	6,118	5,513	23,644	75,586	57,369	216,486
Carmel-By-The-Sea	12	8	56	514	2,051	152	2,793
Del Rey Oaks	-	80	25	182	45	260	592
Gonzales	2,093	62	561	303	831	952	4,802
Greenfield	4,755	30	56	162	1,075	1,595	7,673
King City	1,549	172	290	590	1,542	1,426	5,569
Marina	19	393	526	1,496	3,293	1,515	7,242
Monterey	871	1,164	792	3,146	15,274	12,350	33,597
Pacific Grove	-	237	114	1,216	6,506	2,754	10,827
Salinas	10,563	1,312	2,080	9,063	22,052	20,092	65,162
Sand City	-	222	107	833	583	163	1,908
Seaside	-	390	186	1,128	3,339	4,301	9,344
Soledad	300	58	58	328	1,054	1,224	3,022
Balance Of County	28,094	1,990	662	4,683	17,941	10,585	63,955
San Benito County	1,501	946	2,835	2,759	6,578	4,568	19,187
Hollister	232	680	1,437	1,586	4,714	4,083	12,732
San Juan Bautista	17	9	32	68	276	106	508
Balance Of County	1,252	257	1,366	1,105	1,588	379	5,947
Santa Cruz County	10,143	4,236	4,552	15,497	49,036	43,763	127,227
Capitola	-	-	31	1,768	3,774	1,277	6,850
Santa Cruz	526	701	1,758	3,820	15,286	20,455	42,546
Scotts Valley	34	130	660	785	2,634	1,010	5,253
Watsonville	3,091	1,553	1,181	3,818	10,036	7,297	26,976
Balance Of County	6,492	1,852	922	5,306	17,374	13,724	45,670

Table 17: 2035 Employment by Industry

	Agricultural	Construction	Industrial	Retail	Service	Public	TOTAL
AMBAG Region	60,400	11,500	12,700	42,300	134,900	111,000	372,800
Monterey County	48,666	6,226	5,425	23,869	77,805	60,146	222,137
Carmel-By-The-Sea	12	8	55	519	2,122	159	2,875
Del Rey Oaks	-	50	24	183	46	270	573
Gonzales	2,089	67	574	328	858	1,318	5,234
Greenfield	4,905	30	55	164	1,087	1,621	7,862
King City	1,562	183	285	594	1,563	1,482	5,669
Marina	19	400	530	1,906	3,871	1,579	8,305
Monterey	878	1,185	692	3,176	15,745	13,152	34,828
Pacific Grove	-	241	113	1,227	6,858	2,755	11,194
Salinas	10,651	1,335	2,173	9,643	23,231	19,850	66,883
Sand City	-	316	105	1,095	784	200	2,500
Seaside	-	395	183	1,139	3,425	4,486	9,628
Soledad	300	59	58	334	1,160	1,232	3,143
Balance Of County	28,250	1,957	578	3,561	17,055	12,042	63,443
San Benito County	1,505	963	2,790	2,786	6,730	4,772	19,546
Hollister	234	692	1,415	1,602	4,830	4,258	13,031
San Juan Bautista	18	10	31	68	283	106	516
Balance Of County	1,253	261	1,344	1,116	1,617	408	5,999
Santa Cruz County	10,229	4,311	4,485	15,645	50,365	46,082	131,117
Capitola	-	-	31	1,785	3,881	1,321	7,018
Santa Cruz	530	713	1,730	3,908	15,493	21,489	43,863
Scotts Valley	35	133	650	792	2,667	1,012	5,289
Watsonville	3,116	1,580	1,164	3,842	10,931	7,910	28,543
Balance Of County	6,548	1,885	910	5,318	17,393	14,350	46,404

Attachment 1:
List of Meetings & Attendees

Table 18: First Round of Meetings on Growth Forecast with Jurisdiction Staff

Agency	Last Contacted	Next Scheduled Meeting	Meeting Time	Meeting Location
City of Capitola	6/25/2012	None	None	None
City of Carmel-By-The-Sea	7/19/2012	7/23/2012	3:30 PM	Carmel City Hall
City of Del Rey Oaks	7/11/2012	7/18/2012	11:00 AM	AMBAG Office
City of Gonzales	7/6/2012	7/17/2012	3:00 PM	AMBAG Office
City of Greenfield	7/9/2012	7/10/2012	9:30 AM	AMBAG Office
City of Hollister	7/9/2012	7/11/2012	9:30 AM	Hollister City Hall
City of King City	7/11/2012	7/24/2012	10:00 AM	King City Hall
City of Marina	7/17/2012	7/20/2012	3:00 PM	Marina Office
City of Monterey	6/28/2012	None	None	None
City of Pacific Grove	7/11/2012	7/20/2012	9:00 AM	Pacific Grove Office
City of Salinas	7/11/2012	7/26/2012	2:30 PM	Salinas Office
City of San Juan Bautista	7/9/2012	7/11/2012	11:00 AM	San Juan City Hall
City of Sand City	7/9/2012	7/10/2012	11:00 AM	Sand City Office
City of Santa Cruz	7/17/2012	7/23/2012	11:30 AM	City Offices
City of Scotts Valley	7/17/2012	7/17/2012	11:00 AM	Scotts Valley Office
City of Seaside	7/16/2012	7/16/2012	2:00 PM	Seaside City Hall
City of Soledad	7/9/2012	7/12/2012	9:30 AM	TBD
City of Watsonville	7/19/2012	7/25/2012	4:00 PM	Watsonville Office
County of Monterey	7/17/2012	7/26/2012	1:00 PM	County Offices
County of San Benito	7/9/2012	7/11/2012	1:00 PM	San Benito Office
County of Santa Cruz	7/17/2012	7/19/2012	9:30 AM	County Offices
Fort Ord Reuse Authority	7/19/2012	7/24/2012	2:00 PM	FORA Office
San Benito COG	7/19/2012	8/2/2012	2:00 PM	Hollister
Santa Cruz County LAFCO	7/18/2012	7/23/2012	9:30 AM	SC LAFCO Office

*All attendees were at the meeting in person unless otherwise noted.

Table 19: Second Round of Meetings on Growth Forecast with Jurisdiction Staff

Agency	Contact Name	Meeting Date	Meeting Time	Meeting Location	Meeting Attendees (AMBAG)*	Meeting Attendees (not AMBAG)*
City of Capitola	Susan Westman	11/14/2012	9:00 AM	City Hall 420 Capitola Avenue, Capitola 95010	Bob Leiter; Anais Schenk	Susan Westman; Ryan Bane
City of Carmel-By-The-Sea	Marc Weiner	11/13/2012	11:00 AM	Carmel City Hall, Monte Verde Street, Carmel 93921	Bob Leiter; Anais Schenk	Marc Weiner
City of Del Rey Oaks	Daniel Dawson	11/14/2012	11:30 AM	City Hall, 650 Canyon Del Rey Blvd, Del Rey Oaks 93940	Bob Leiter; Anais Schenk	Daniel Dawson
City of Gonzales	Thomas Truskowski	11/27/2012	3:00 PM	Gonzales City Hall 147 Fourth Street, Gonzales 93926	Maura Twomey; Anais Schenk	Tom Truskowski; Martin Carver (consultant); Scott Funk (City Council/AMBA G Board Rep)
City of Greenfield	Susan Stanton	11/28/2012	3:00 PM	599 El Camino Real Greenfield	Bob Leiter; Anais Schenk	Susan Stanton; Paul Mughan
City of Hollister	Abraham Prado	11/7/2012	10:30 AM	City Hall - 375 5th Street, Hollister 95023	Bob Leiter; Anais Schenk	Abraham Prado; Bill Avera; Jill Morales
City of King City	Michael Powers	11/28/2012	1:00 PM	City Hall, 212 South Vanderhurst Avenue, King City 93930	Bob Leiter; Anais Schenk	Michael Powers; Maricruz Aguilar-Navarro
City of Marina	Theresa Szymanis	11/15/2012	11:00 AM	209 Cypress Street, Marina	Bob Leiter; Anais Schenk	Theresa Szymanis; Justin Meek
City of Monterey	Kim Cole	11/8/2012	8:00 AM	Colton Hall, 570 Pacific Street, Monterey 93940	Bob Leiter; Anais Schenk	Kim Cole

Agency	Contact Name	Meeting Date	Meeting Time	Meeting Location	Meeting Attendees (AMBAG)*	Meeting Attendees (not AMBAG)*
City of Pacific Grove	Lynn Burgess	11/13/2012	1:00 PM	corner of Forest and Laurel, 2nd Floor, PG	Bob Leiter; Anais Schenk	Lynn Burgess
City of Salinas	Tara Hullinger	11/8/2012	11:00 AM	City Hall - 200 Lincoln Avenue, Salinas 93901	Bob Leiter; Anais Schenk	Tara Hullinger; Alan Stumpf
City of San Juan Bautista	Roger Grimsley	11/7/2012	1:00 PM	City Hall	Bob Leiter; Anais Schenk	Roger Grimsley; Trish Paetz
City of Sand City	Chuck Pooler	11/13/2012	9:00 AM	City Hall - One Sylvan Park, Sand City 93955	Bob Leiter; Anais Schenk	Chuck Pooler
City of Santa Cruz	Ken Thomas	11/8/2012	4:30 PM	809 Center Street, Santa Cruz 95060	Bob Leiter; Anais Schenk	Ken Thomas; Juliana Rebagliati; Michelle King
City of Scotts Valley	Corrie Kates	11/9/2012	9:00 AM	City Hall, One Civic Center Drive, Scotts Valley 95066 (front conference room)	Heather Adamson; Anais Schenk	Taylor Bateman; Bill Weisman (RBF); Corrie Kates (phone); Michelle Fodge
City of Seaside	Rick Medina	11/13/2012	2:30 PM	City Hall - 440 Harcourt Avenue, Seaside 93955	Bob Leiter; Anais Schenk	Rick Medina; Diana Ingersoll
City of Soledad	Brent Slama	11/28/2012	11:30 AM	248 Main St. Soledad	Bob Leiter; Anais Schenk	Brent Slama
City of Watsonville	Keith Boyle	11/15/2012	9:00 AM	250 Main Street, Watsonville 95076	Bob Leiter; Anais Schenk	Keith Boyle
County of Monterey	Mike Novo	11/8/2012	10:00 AM	Government Center - 168 W. Alisal Street, Salinas CA 93901	Bob Leiter; Anais Schenk	Mike Novo
County of San Benito	Gary Armstrong	11/7/2012	9:00 AM	2301 Technology Parkway, Hollister 95023	Bob Leiter; Anais Schenk	Gary Armstrong; Byron Turner; Mary Gilbert

Agency	Contact Name	Meeting Date	Meeting Time	Meeting Location	Meeting Attendees (AMBAG)*	Meeting Attendees (not AMBAG)*
County of Santa Cruz	Paia Levine	11/6/2012	2:00 PM	701 Ocean Street, Santa Cruz 95060	Bob Leiter; Anais Schenk	Paia Levine; Kathleen Previsich; Sarah Nuese; Frank Barron; Barbara Mason; Ginger Dykaar
CSU Monterey Bay	Kathleen Ventimiglia	12/11/2012	3:30 PM	CSUMB Mountain Hall, Suite A	Beth Jarosz (phone); Anais Schenk	Kathleen Ventimiglia
Fort Ord Reuse Authority	Steve Endsley	11/28/2012	11:30 AM	FORA Office	Bob Leiter; Anais Schenk	Steve Endsley; Darren McBain; Jonathon Garcia
Monterey County LAFCO	Thomas McCue	11/15/2012	2:00 PM	AMBAG Conference Room	Bob Leiter; Anais Schenk	Thomas McCue; Kate McKenna
Santa Cruz County LAFCO	Patrick McCormick	11/6/2012	3:30 PM	701 Ocean Street, Room 318-D, Santa Cruz 95060	Bob Leiter; Anais Schenk	Patrick McCormick
UC Santa Cruz	John Barnes	11/10/2012	1:30 PM	UCSC Barn G	Anais Schenk	Dean Fitch; Larry Pageler; Alisa Klaus
					*All attendees were at the meeting in person unless otherwise noted.	

*All attendees were at the meeting in person unless otherwise noted.

Table 20: Third Round of Meetings on Growth Forecast with Jurisdiction Staff

Agency	Contact Name	Meeting Date	Meeting Time	Meeting Location	Meeting Attendees (AMBAG)*	Meeting Attendees (not AMBAG)*
City of Gonzales	Thomas Truskowski	1/29/2013	9:00 AM	Gonzales City Hall 147 Fourth Street, Gonzales 93926	Anais Schenk; Maura Twomey; Bob Leiter	Thomas Truskowski; Scott Funk

Agency	Contact Name	Meeting Date	Meeting Time	Meeting Location	Meeting Attendees (AMBAG)*	Meeting Attendees (not AMBAG)*
City of Greenfield	Susan Stanton	1/29/2013	1:30 PM	599 El Camino Real Greenfield	Anais Schenk; Maura Twomey; Bob Leiter	Susan Stanton; Paul Muga
City of King City	Michael Powers	1/29/2013	11:00 AM	City Hall, 212 South Vanderhurst Avenue, King City 93930	Anais Schenk; Maura Twomey; Bob Leiter	Michael Powers; Doreen Liberto-Blanck; Maricruz Aguilar
City of Salinas	Tara Hullinger	2/11/2013	9:00 AM	City Hall - 200 Lincoln Avenue, Salinas 93901	Anais Schenk; Maura Twomey; Bob Leiter (phone); Heather Adamson (phone)	Tara Hullinger; Alan Stumpf; Jeff Weir
City of Scotts Valley	Corrie Kates	1/14/2013	2:30 PM	City Hall, One Civic Center Drive, Scotts Valley 95066 (front conference room)	Anais Schenk; Maura Twomey; Bob Leiter (phone); Heather Adamson	Corrie Kates; Stephany Aguilar; Taylor Bateman; Bill Wiseman
City of Soledad	Brent Slama	1/30/2013	10:00 AM	248 Main St. Soledad	Anais Schenk; Maura Twomey; Bob Leiter	Brent Slama
County of San Benito	Gary Armstrong	1/28/2013	2:00 PM	2301 Technology Parkway, Hollister 95023	Anais Schenk; Bob Leiter	Gary Armstrong; Byron Turner; Lisa Rheinheimer

*All attendees were at the meeting in person unless otherwise noted.

Table 21: Fourth Round of Meetings on Growth Forecast with Jurisdiction Staff

Agency	Contact Name	Meeting Date	Meeting Time	Meeting Location	Meeting Attendees (AMBAG)*	Meeting Attendees (not AMBAG)*
City of Capitola	Rich Grunow	4/26/2013	9:00 AM	City Hall 420 Capitola Avenue, Capitola 95010	Anais Schenk; Heather Adamson	Rich Grunow
City of Carmel-By-The-Sea	Marc Weiner	4/18/2013	9:00 AM	Carmel City Hall, Monte Verde Street, Carmel 93921	Heather Adamson	Marc Weiner
City of Del Rey Oaks	Daniel Dawson	4/30/2013	9:30 AM	AMBAG Conference Room	Anais Schenk; Maura Twomey	Daniel Dawsom
City of Gonzales	Thomas Truszowski	4/22/2013	1:30 PM	Gonzales City Hall 147 Fourth Street, Gonzales 93926	Anais Schenk; Maura Twomey; Bob Leiter (phone)	Thomas Truszkowski; Scott Funk
City of Greenfield	Susan Stanton	4/3/2013	10:00 AM	599 El Camino Real Greenfield	Anais Schenk; Heather Adamson	Susan Stanton; Paul Mugan
City of Hollister	Abraham Prado	Scheduling in progress		City Hall - 375 5th Street, Hollister 95023		
City of King City	Michael Powers	4/22/2013	10:30 AM	City Hall, 212 South Vanderhurst Avenue, King City 93930	Anais Schenk; Maura Twomey; Bob Leiter (phone)	Michael Powers

Agency	Contact Name	Meeting Date	Meeting Time	Meeting Location	Meeting Attendees (AMBAG)*	Meeting Attendees (not AMBAG)*
City of Marina	Theresa Szymanski	4/4/2013	11:30 AM	209 Cypress Street, Marina	Anais Schenk	Theresa Szymanski; Justin Meek
City of Monterey	Kim Cole	4/18/2013	11:00 AM	Colton Hall, 570 Pacific Street, Monterey 93940	Heather Adamson	Kim Cole; Chip Rerig
City of Pacific Grove	Lynn Burgess	4/9/2013	9:00 AM	corner of Forest and Laurel, 2nd Floor, PG	Anais Schenk; Heather Adamson	Lynn Burgess
City of Salinas	Tara Hullinger	4/8/2013	11:00 AM	City Hall - 200 Lincoln Avenue, Salinas 93901	Anais Schenk; Maura Twomey	Jeff Weir; Alan Stumpf; Tara Hullinger
City of San Juan Bautista	Roger Grimsley	4/9/2013	1:00 PM	City Hall	Anais Schenk; Maura Twomey	Roger Grimsley
City of Sand City	Steve Matarazzo	2/27/2013	1:00 PM	City Hall - One Sylvan Park, Sand City 93955	Anais Schenk; Bob Leiter; Maura Twomey	Chuck Pooler; Steve Matarazzo
City of Sand City	Steve Matarazzo	4/4/2013	2:30 PM	City Hall - One Sylvan Park, Sand City 93955	Anais Schenk; Bob Leiter (phone)	Chuck Pooler; Steve Matarazzo
City of Santa Cruz & UCSC	Ken Thomas & Dean Fitch	3/28/2013	4:30 PM	809 Center Street, Santa Cruz 95060	Anais Schenk; Bob Leiter; Maura Twomey	Ken Thomas; Ron Marquez; Juliana Rebagliati; Dean Fitch
City of Santa Cruz	Ken Thomas	4/8/2013	4:30 PM	809 Center Street, Santa Cruz 95060	Anais Schenk; Heather Adamson	Ken Thomas; Ron Marquez

Agency	Contact Name	Meeting Date	Meeting Time	Meeting Location	Meeting Attendees (AMBAG)*	Meeting Attendees (not AMBAG)*
City of Scotts Valley	Corrie Kates	4/11/2013	9:00 AM	City Hall, One Civic Center Drive, Scotts Valley 95066 (front conference room)	Anais Schenk; Heather Adamson	Stephany Aguilar; Corrie Kates; Taylor Bateman; Michelle Fodge; Bill Wiseman
City of Seaside	Rick Medina	4/26/2013	11:00 AM	City Hall - 440 Harcourt Avenue, Seaside 93955	Anais Schenk	Rick Medina; Lisa Brinton
City of Soledad	Brent Slama	4/22/2013	3:15 PM	248 Main St. Soledad	Anais Schenk; Maura Twomey; Bob Leiter (phone)	Brent Slama
City of Watsonville	Keith Boyle	4/30/2013	1:15 PM	250 Main Street, Watsonville 95076	Anais Schenk; Maura Twomey	Keith Boyle
County of Monterey	Mike Novo	4/25/2013	1:00 PM	Government Center - 168 W. Alisal Street, Salinas CA 93901	Anais Schenk; Maura Twomey; Bob Leiter	Mike Novo; Martin Carver
County of San Benito	Gary Armstrong	4/9/2013	2:30 PM	2301 Technology Parkway, Hollister 95023	Anais Schenk; Maura Twomey	Gary Armstrong
County of Santa Cruz	Paia Levine	4/8/2013	1:30 PM	701 Ocean Street, Santa Cruz 95060	Anais Schenk; Heather Adamson	Kathleen Previsich; Paia Levine; Frank Barron
City of Marina, Seaside & CSUMB	Anya Spear	3/28/2013	1:00 PM	UC MBEST, 3180 Imjin Road, Marina, CA 93933	Anais Schenk; Bob Leiter; Maura Twomey	Theresa Szymanis; Anya Spear

Agency	Contact Name	Meeting Date	Meeting Time	Meeting Location	Meeting Attendees (AMBAG)*	Meeting Attendees (not AMBAG)*
Monterey County LAFCO	Thomas McCue	4/26/2013	1:30 PM	132 W. Gabilan Street, Salinas	Anais Schenk; Maura Twomey	Kate McKenna; Thomas McCue
Santa Cruz County LAFCO	Patrick McCormick	4/24/2013	3:00 PM	701 Ocean Street, Room 318-D, Santa Cruz 95060	Anais Schenk	Patrick McCormick

*All attendees were at the meeting in person unless otherwise noted.

Table 22: Fifth Round of Meetings on Growth Forecast with Jurisdiction Staff

Agency	Contact Name	Meeting Date	Meeting Time	Meeting Location	Meeting Attendees (AMBAG)*	Meeting Attendees (not AMBAG)*
City of Marina	Theresa Szymanis	6/20/2013	8:00 AM	209 Cypress Street, Marina	Anais Schenk; Heather Adamson	Theresa Szymanis; Justin Meek
City of Seaside	Rick Medina	6/19/2013	1:00 PM	City Hall - 440 Harcourt Avenue, Seaside 93955	Anais Schenk; Maura Twomey	Rick Medina; Lisa Brinton; Tim O'Halloran

*All attendees were at the meeting in person unless otherwise noted.