AMBAG
ASSOCIATION OF MONTEREY BAY AREA GOVERNMENTS

Monterey Bay Area 2008 Regional Forecast

Population, Housing Unit and Employment Projections for Monterey, San Benito and Santa Cruz Counties to the Year 2035

Prepared by the Association of Monterey Bay Area Governments

Adopted by the AMBAG Board of Directors June 11, 2008

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Executive Summary

Approximately every five years, the Association of Monterey Bay Area Governments produces a regional forecast of population, housing and employment for a region spanning the counties of Monterey, San Benito and Santa Cruz. Each forecast is produced with the best available data and is extensively reviewed by AMBAG's member agencies. Once completed, the forecast is used to provide data support for AMBAG's regional Travel Demand Model, other long term regional planning documents, special districts' master plans, as well as to support city and county long range planning.

The Monterey Bay Area 2008 Regional Forecast is an update of the previous 2004 forecast. Overall, the present forecast anticipates less population and employment growth than the 2004 forecast did.

Throughout the forecast, the region is forecasted to add about 80,000 jobs and for the population to grow about 180,000. While Santa Cruz is the slowest growing county, both Monterey and San Benito counties will grow slowly in the first years of the forecast, with steady and moderate growth through the end of the forecast period.

Introduction

Approximately every five years, the Association of Monterey Bay Area Governments produces a regional forecast of population, housing and employment for a region spanning the counties of Monterey, San Benito and Santa Cruz. Each forecast is produced with the best available data and is extensively reviewed by AMBAG's member agencies. The following 2008 Regional Forecast provides detailed population, housing and employment projections for every jurisdiction in the Monterey Bay region through 2035.

The forecast is used to support AMBAG's Travel Demand Model among other official regional planning purposes. As such, the forecast is developed using professionally accepted forecasting methodologies. Use of the forecast by local land-use planning agencies is elective and represents the most likely trend in population, housing units and employment. As the forecast is periodically updated, changes in these factors and the trends they represent will be incorporated into future updates of the forecast.

Monterey Bay Regional Forecast Summary

	2005*	2010	2015	2020	2025	2030	2035
Population	740,048	774,781	808,560	840,366	868,459	895,577	920,713
Household Population	711,508	745,535	778,963	808,919	836,655	863,722	888,359
Group Quarters Population	28,540	30,247	31,097	31,447	31,805	31,855	32,355
Households	238,232	251,323	263,670	274,782	285,433	294,803	303,656
Household Size	3.1	3.1	3.0	3.0	3.0	3.0	3.0
Housing Units	257,848	271,918	285,159	297,035	308,410	318,412	327,877

Employment	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**2035**
Retail	36,110	36,170	37,640	39,250	40,870	42,580	44,760
Service	119,840	121,640	129,360	137,160	145,360	153,970	163,060
Industry	40,080	39,960	41,020	42,200	43,390	44,650	45,690
Public	54,610	55,660	57,780	60,280	62,900	65,640	68,490
Construction	24,210	24,240	25,260	26,400	27,540	28,690	29,910
Agriculture	51,490	51,210	51,490	51,790	52,090	52,390	52,710
Total	326,340	328,880	342,550	357,080	372,150	387,920	404,320

* Source: State of California, Department of Finance, *E-5 Population and Housing Estimates for Cities, Counties and the State, 2001-2007, with 2000 Benchmark. Sacramento, California, May 2007.*

Population

	2005	2010	2015	2020	2025	2030	2035
Monterey County	422,632	445,309	466,606	483,733	499,341	515,549	530,362
San Benito County	57,324	62,431	68,471	76,140	83,383	89,431	94,731
Santa Cruz County	260,092	268,041	273,983	280,493	285,735	290,597	295,621
Region	740,048	774,781	808,560	840,366	868,459	895,577	920,713

Population Growth

Average Annual Growth	2005-2010	2010-2015	2015-2020	2020-2025	2025-2030	2030-2035
Monterey County	1.1%	1.0%	0.7%	0.6%	0.6%	0.6%
San Benito County	1. 8%	1.9%	2.2%	1.9%	1.5%	1.2%
Santa Cruz County	0.5%	0.5%	0.5%	0.4%	0.3%	0.3%
Region	0.94%	0.87%	0.79%	0.67%	0.62%	0.56%

Housing Units

	2005	2010	2015	2020	2025	2030	2035
Monterey County	137,338	147,221	156,061	162,857	169,933	176,236	182,082
San Benito County	17,638	19,187	21,110	23,483	25,800	27,675	29,405
Santa Cruz County	102,872	105,509	107,496	110,143	112,040	113,865	115,590
Region	257,848	271,917	284,667	296,483	307,773	317,776	327,077

Monterey Bay Area Population 2005-2035
5 Year Cohorts

	2005			2015			2025			2035		
Age	**Total**	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**	**Male**	**Female**
0-4	51,747	26,653	25,094	53,034	27,295	25,739	55,729	28,653	27,076	56,955	29,317	27,638
5-9	56,739	29,260	27,479	54,339	28,169	26,170	59,383	30,528	28,855	59,001	30,203	28,798
10-14	55,600	28,750	26,850	57,656	29,266	28,390	59,172	30,073	29,099	60,968	31,019	29,949
15-19	56,130	29,141	26,988	57,886	30,210	27,677	58,432	30,627	27,805	63,171	32,510	30,661
20-24	59,796	32,126	27,670	64,282	33,604	30,678	65,577	34,714	30,863	67,240	35,845	31,395
25-29	56,443	30,068	26,375	64,397	34,198	30,199	64,760	35,447	29,313	67,326	36,241	31,085
30-34	52,856	27,351	25,505	59,984	31,059	28,925	67,683	35,223	32,460	68,026	34,762	33,264
35-39	53,272	27,762	25,511	54,680	27,706	26,974	60,177	30,352	29,825	69,105	34,974	34,131
40-44	54,317	28,410	25,907	50,773	26,656	24,117	57,749	29,578	28,171	66,193	33,951	32,243
45-49	53,309	27,288	26,021	50,324	26,541	23,783	50,692	25,346	25,346	60,237	30,264	29,973
50-54	49,485	24,756	24,730	50,084	25,523	24,561	46,919	24,000	22,920	53,194	26,522	26,672
55-59	41,557	20,745	20,812	49,819	24,840	24,979	45,755	23,507	22,248	45,522	22,120	23,402
60-64	27,481	13,323	14,158	43,666	21,090	22,576	44,110	21,753	22,357	41,473	20,555	20,918
65-69	19,147	9,133	10,014	35,421	17,204	18,217	42,495	20,650	21,845	38,793	19,457	19,337
70-74	16,037	7,201	8,837	21,041	9,752	11,290	33,665	15,586	18,080	34,080	16,162	17,918
75-79	14,917	6,261	8,656	15,175	6,726	8,450	24,352	10,862	13,490	30,342	13,632	16,710
80-84	11,101	4,301	6,800	12,100	5,065	7,035	14,394	6,083	8,311	18,032	7,272	10,760
85+	10,114	3,674	6,440	13,900	5,345	8,556	17,415	7,291	10,124	21,054	8,830	12,224
Total	**740,048**	**376,204**	**363,844**	**808,560**	**410,247**	**398,313**	**868,459**	**440,273**	**428,186**	**920,713**	**463,637**	**457,076**
Median Age	**33.7**	**32.7**	**34.7**	**35.5**	**34.7**	**36.3**	**36.5**	**35.7**	**37.4**	**37.0**	**36.0**	**37.9**

Population by Age and Sex

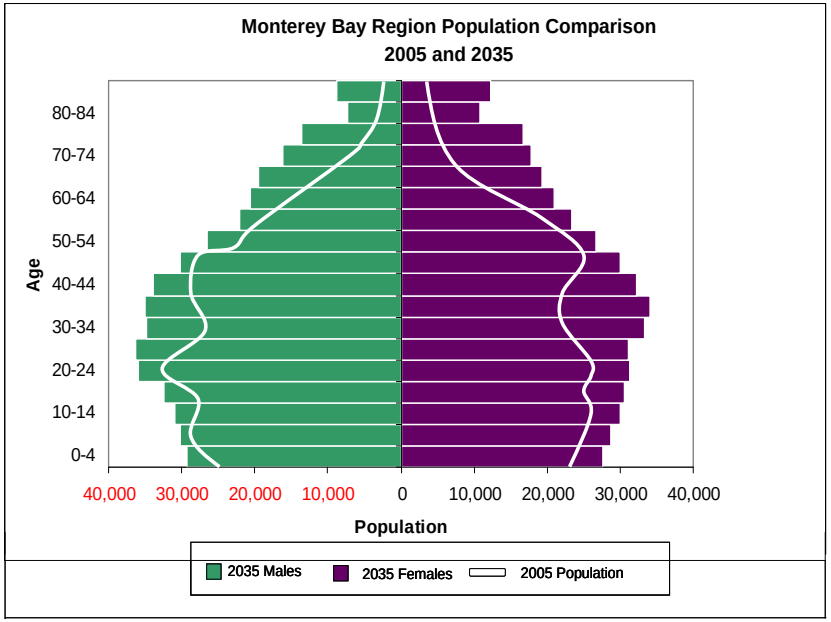
The preceding table summarizes forecast estimates for the population distribution of the Monterey Bay region by five year age cohorts. The following graphs depict the age distributions in each county in 2035. The white trace-lines within each graphic depict cohort sizes in 2005 for easy comparison to the 2035 age distribution. Overall, the median age of the Monterey Bay Region's population is expected to increase over the forecast period from 33.7 years in 2005 to 37 years in 2035.

The 85 year and older population is growing the fastest within the region and is projected to more than double by 2035 with a population of 21,054 residents. Seniors, ages 65-84, are expected to grow almost as fast by nearly doubling their population to approximately 121,250 by 2035.

Ages 20-64 years, remain at about 50 percent of the total regional population, while school aged children, 5-19 years, is expected to decrease by about 2 percent.

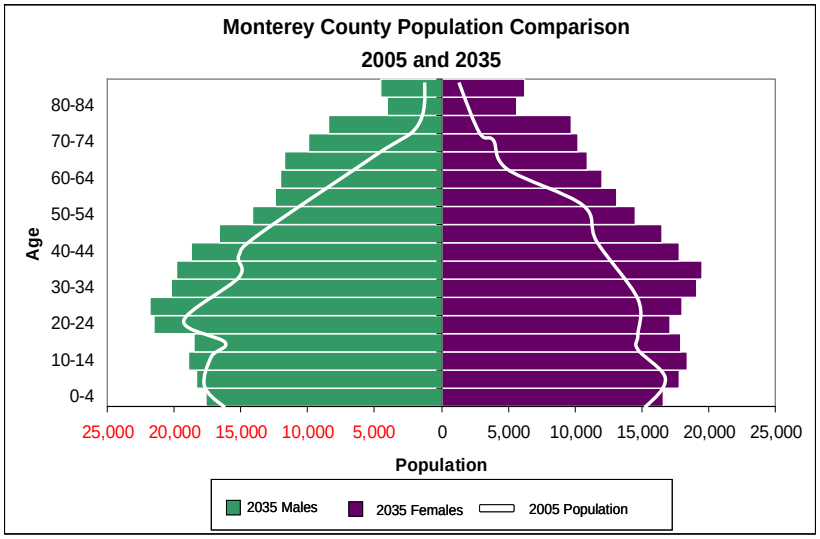
Monterey County

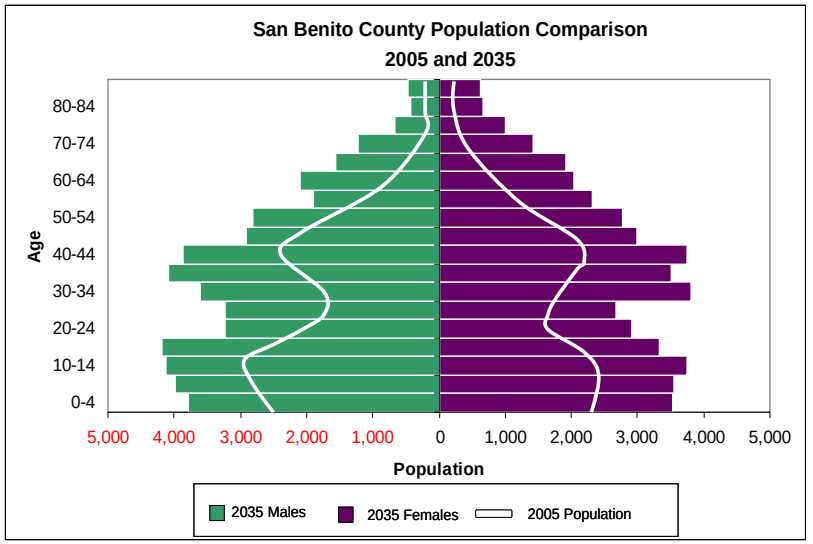
Monterey County's population is projected to increase by 25 percent within the forecast period. While ages 85 years and older will only make up 2 percent of the county's total population, the 2008 Regional Forecast



anticipates a doubling of the 85+ population between 2005 and 2035. 64-84 year old population will also double to about 70,700 residents by 2035.

Working-age and school-age populations are both expected to decrease in their share of the county's total population, with school-age children showing a declining by 3 percent.



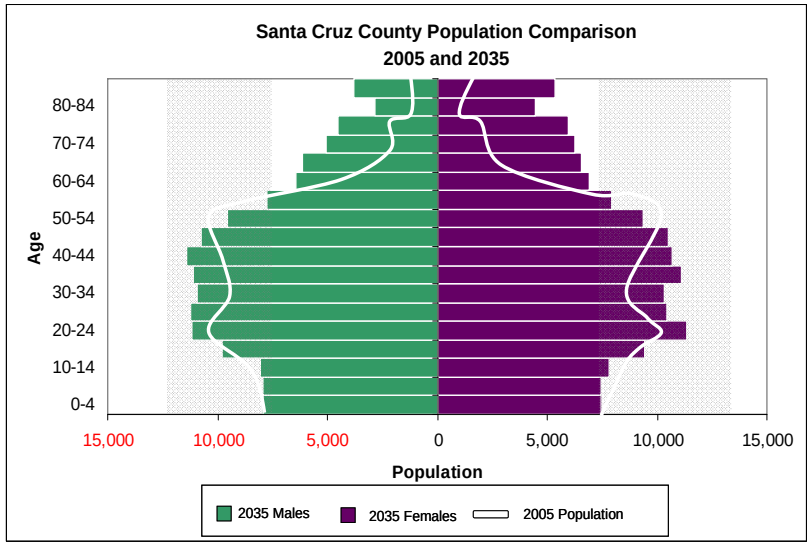


San Benito

San Benito County is anticipated to be the fastest growing county within the region with a population increase of 65 percent, bringing the total population to about 94,700 residents by 2035. As the San Benito graph depicts, the county's population is concentrated among children (ages 0-19) and residents between the ages of 30-45 years. While both children and working-age populations are expected to grow steadily over the 25 year forecasted period (54% and 65% respectively), the largest growth in population is among 64-84 year olds (124%). Consistent with the trends seen within the Region and Monterey County, the 85 years and older population is also forecasted to nearly double.

Santa Cruz

Santa Cruz County is the slowest growing county within the region, with an estimated population increase of 14 percent, adding approximately 35,500 residents over the 30 year forecast period. Decreases are anticipated in young children and school-age populations, comprising a 5 percent loss by 2035. Population growth among working-age residents is also slow at about 8 percent.



Similar to the regional projections, the fastest growth sector of the population are residents over 85 years, which is expected to more than double by 2035. The population of seniors between 65-84 years is also predicted to almost double to over 41,600 residents.

Employment

Similar to regional population trends, employment is anticipated to grow at a steady pace through the forecast period. Consistent with an anticipated slow-down in the economy in the early years of the forecast, employment growth is initially slow and then becomes moderate after 2010.

Generally, employment in the AMBAG region will grow by 24 percent between 2005 and 2035, or less than one percent growth per year, lagging growth in housing units.

Not all employment sectors or counties grow at the same rate, however. San Benito employment will grow by 28 percent over the forecast period, while Santa Cruz will grow by 27 percent and Monterey by 22 percent.

As described in the population section, San Benito is anticipated to grow faster than it has in the past, and with that growth there is increased demand for both retail and various services. Santa Cruz employment is anticipated to grow in response to increased demand for professional and technical services, health care and public services. While there is significant growth in Monterey in the same sectors as in Santa Cruz, the largest sector, agriculture, is not anticipated to change much over the forecast period, and that influences the overall calculated growth rate.

Monterey Bay Area Employment

	2005	2010	2015	2020	2025	2030	2035
Monterey County	193,110	196,430	203,660	211,160	218,830	226,780	235,460
San Benito County	16,910	17,380	18,090	19,050	19,970	20,980	21,700
Santa Cruz County	116,320	115,070	120,800	126,870	133,350	140,160	147,460
Region	326,340	328,880	342,550	357,080	372,150	387,920	404,320

Employment Growth

Annual Average Growth	2005-2010	2010-2015	2015-2020	2020-2025	2025-2030	2030-2035
Monterey County	0.3%	0.7%	0.7%	0.7%	0.7%	0.7%
San Benito County	0.6%	0.8%	1.1%	0.9%	1.0%	0.7%
Santa Cruz County	-0.2%	1.0%	1.0%	1.0%	1.0%	1.0%
Region	0.2%	0.8%	0.9%	0.8%	0.9%	0.9%

Jobs to Housing Ratio (Housing Units per Job)

	2005	2010	2015	2020	2025	2030	2035
Monterey County	1.4	1.3	1.3	1.3	1.3	1.3	1.3
San Benito County	1.0	0.9	0.9	0.8	0.8	0.8	0.7
Santa Cruz County	1.1	1.1	1.1	1.1	1.2	1.2	1.3
Region	1.3	1.2	1.2	1.2	1.2	1.2	1.2

City and Unincorporated County Forecasts

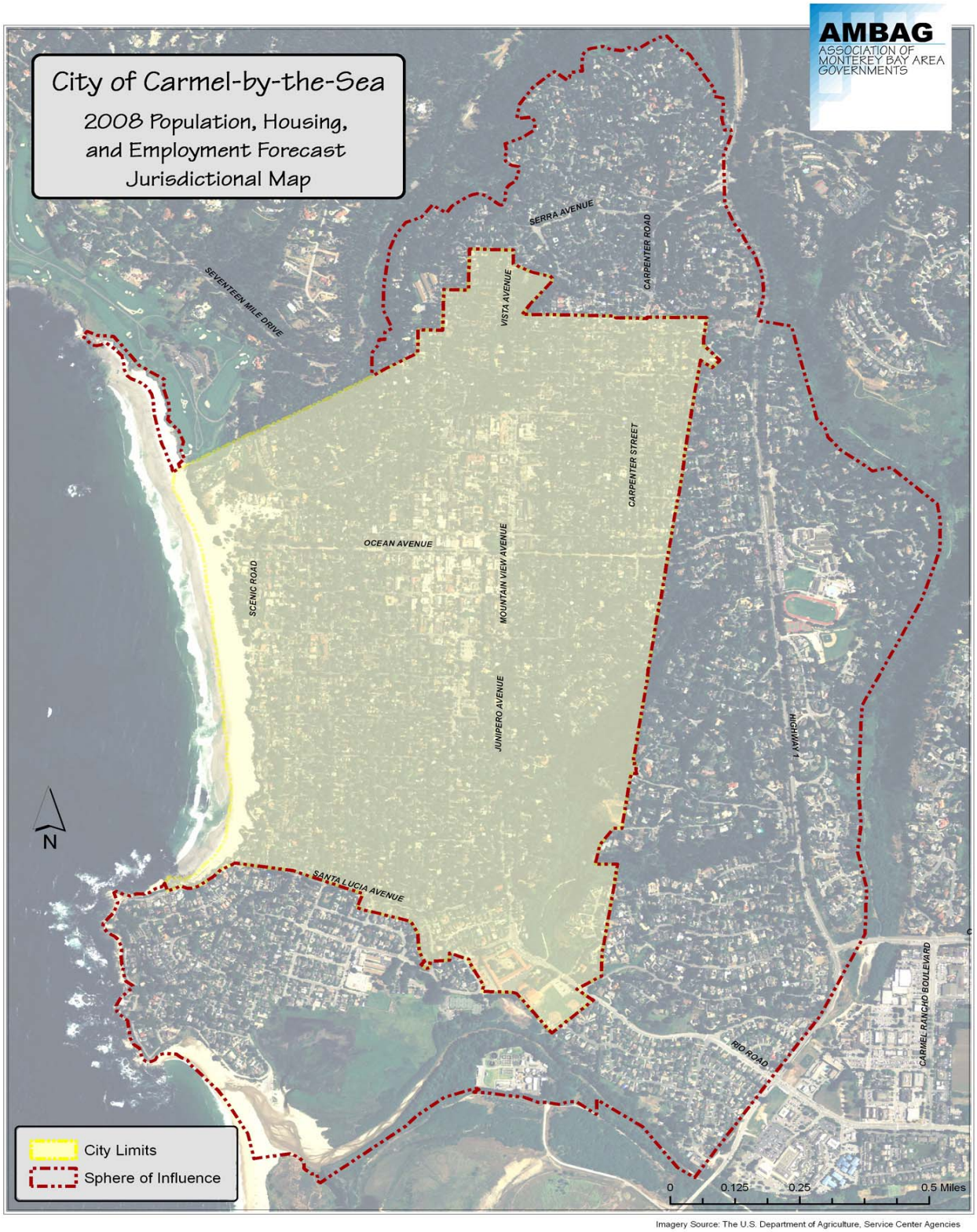
The following tables, maps and graphs depict the forecast results for each jurisdiction in the three-county region.

Monterey County

Monterey County

Data	2005	2010	2015	2020	2025	2030	2035
Population	422,632	445,309	466,606	483,733	499,341	515,549	530,362
Housing Units	137,338	147,221	156,061	162,857	169,933	176,236	182,082
Employment	193,110	196,430	203,660	211,160	218,830	226,780	235,460
Retail	19,000	19,200	20,040	20,920	21,840	22,800	24,110
Service	67,970	69,560	73,370	77,360	81,400	85,560	90,000
Industrial	20,690	21,020	21,580	22,160	22,750	23,360	23,970
Public*	31,020	31,990	33,310	34,640	36,020	37,470	38,980
Construction	10,740	10,910	11,380	11,870	12,380	12,910	13,470
Agriculture	43,690	43,750	43,980	44,210	44,440	44,680	44,930

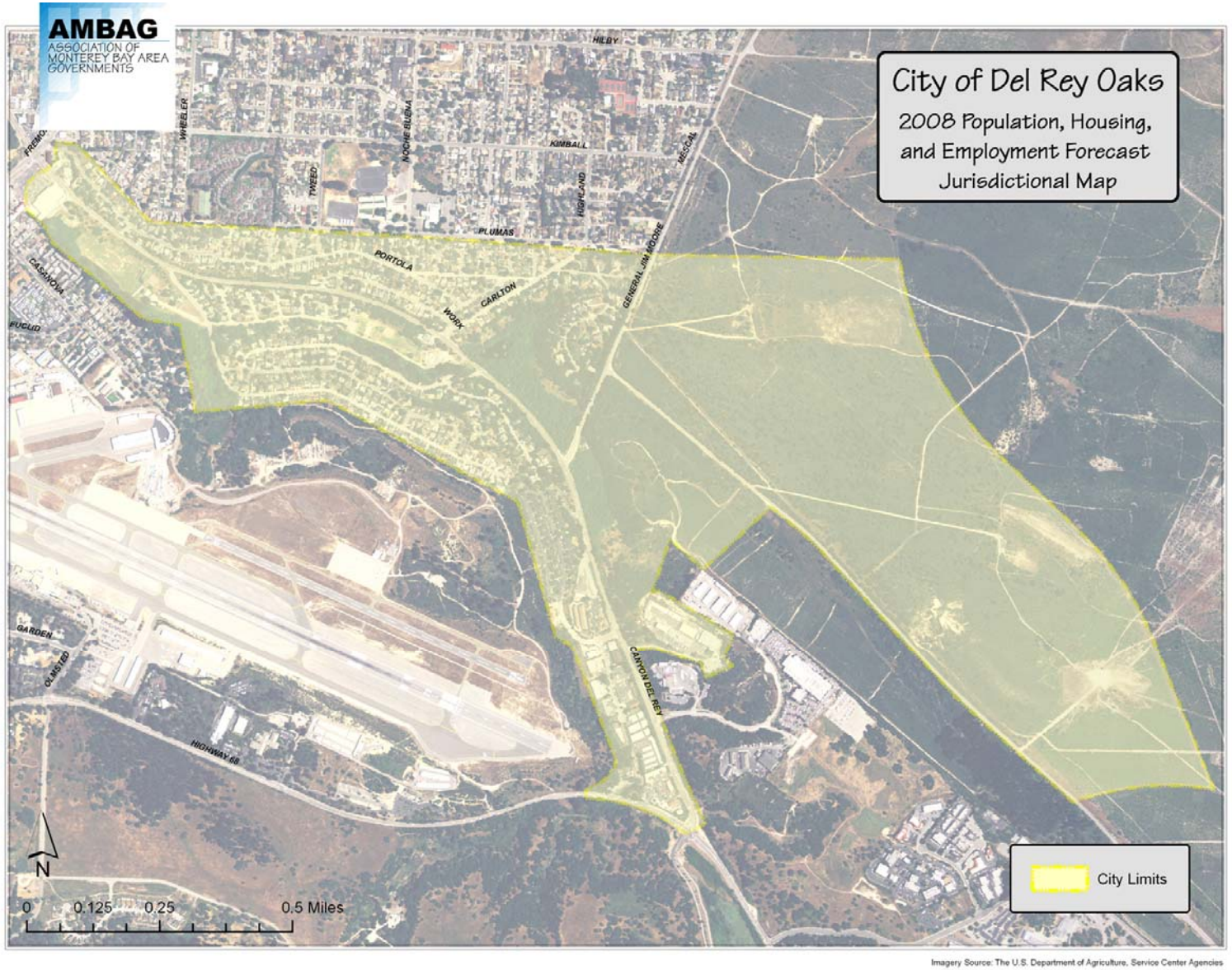
*Includes employment in education, government, and other


City of Carmel-by-the-Sea
2008 Population, Housing, and Employment Forecast
Jurisdictional Map
AMBAG
ASSOCIATION OF MONTEREY BAY AREA GOVERNMENTS
SERRA AVENUE
CARPENTER ROAD
SEVENTEEN MILE DRIVE
VISTA AVENUE
CARPENTER STREET
OCEAN AVENUE
SCENIC ROAD
MOUNTAIN VIEW AVENUE
JUNIPERO AVENUE
HIGHWAY 1
SANTA LUCIA AVENUE
RIO ROAD
CARMEL RANCHO BOULEVARD
N
City Limits
Sphere of Influence
0
0.125
0.25
0.5 Miles
Imagery Source: The U.S. Department of Agriculture, Service Center Agencies

City of Carmel-by-the-Sea

Data	2005	2010	2015	2020	2025	2030	2035
Population	4,091	4,075	3,848	3,873	3,885	4,007	4,033
Housing Units	3,349	3,377	3,387	3,409	3,434	3,458	3,482
Employment	3,245	3,245	3,245	3,245	3,245	3,245	3,245
Retail	734	734	734	734	734	734	734
Service	2,315	2,315	2,315	2,315	2,315	2,315	2,315
Industrial	50	50	50	50	50	50	50
Public*	60	60	60	60	60	60	60
Construction	86	86	86	86	86	86	86
Agriculture	0	0	0	0	0	0	0

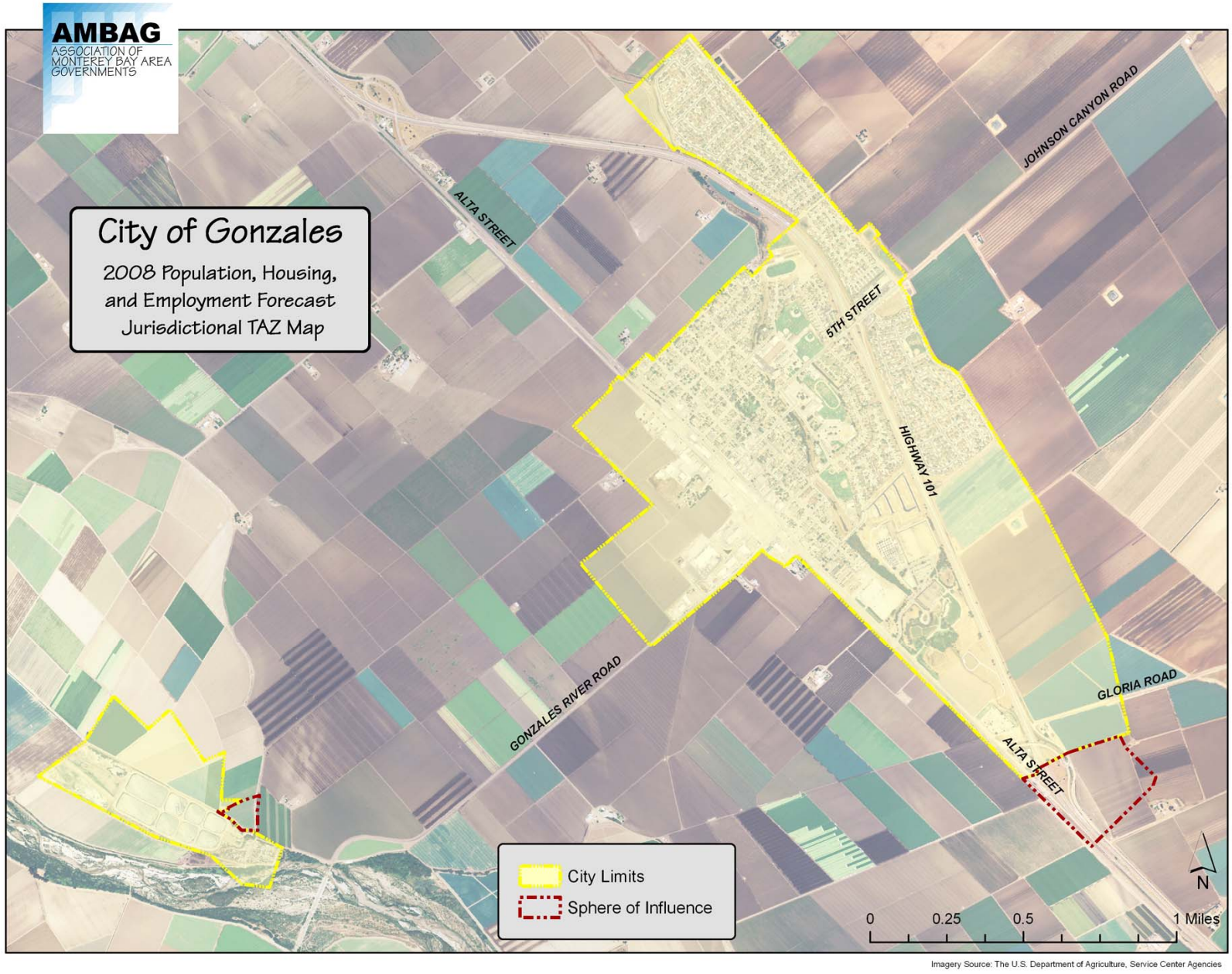
*Includes employment in education, government, and other


AMBAG
ASSOCIATION OF MONTEREY BAY AREA GOVERNMENTS
City of Del Rey Oaks
2008 Population, Housing, and Employment Forecast Jurisdictional Map
HILBY
WHEELER
FREMO
TWEED
MOCHE BUENA
KIMBALL
HIGHLAND
MESCAL
PLUMAS
PORTOLA
CASANOVA
EUCLID
WORK
CARLTON
GENERAL JIM MOORE
GARDEN
OLMSTED
HIGHWAY 68
CANYON DEL REY
N
0
0.125
0.25
0.5 Miles
City Limits
Imagery Source: The U.S. Department of Agriculture, Service Center Agencies

City of Del Rey Oaks

Data	2005	2010	2015	2020	2025	2030	2035
Population	1,647	1,627	1,745	2,237	2,684	3,197	3,171
Housing Units	727	727	780	1,000	1,200	1,419	1,419
Employment	354	360	377	395	416	437	462
Retail	99	100	102	107	112	117	125
Service	228	233	246	259	273	288	303
Industrial	0	0	0	0	0	0	0
Public*	10	10	11	11	12	12	13
Construction	17	17	18	18	19	20	21
Agriculture	0	0	0	0	0	0	0

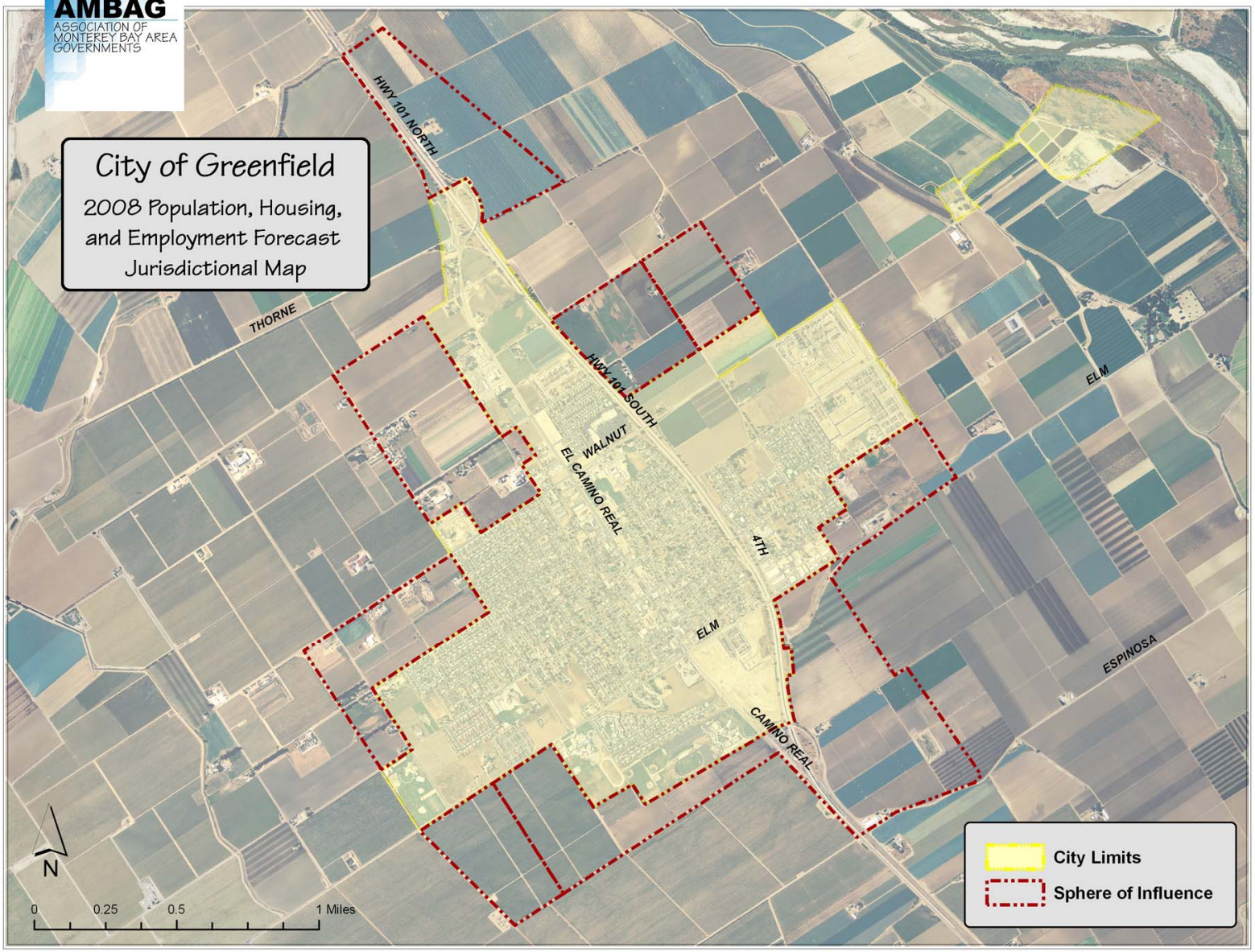
*Includes employment in education, government, and other


AMBAG
ASSOCIATION OF MONTEREY BAY AREA GOVERNMENTS
City of Gonzales
2008 Population, Housing, and Employment Forecast
Jurisdictional TAZ Map
ALTA STREET
JOHNSON CANYON ROAD
5TH STREET
HIGHWAY 101
GONZALES RIVER ROAD
GLORIA ROAD
ALTA STREET
City Limits
Sphere of Influence
N
0
0.25
0.5
1 Miles
Imagery Source: The U.S. Department of Agriculture, Service Center Agencies

City of Gonzales

Data	2005	2010	2015	2020	2025	2030	2035
Population	8,399	10,831	13,304	15,969	18,199	20,941	23,418
Housing Units	1,920	2,512	3,104	3,695	4,287	4,879	5,471
Employment	1,014	1,063	1,100	1,140	1,210	1,273	1,324
Retail	90	122	124	130	165	192	205
Service	187	192	202	213	225	237	249
Industrial	355	360	370	380	390	400	411
Public*	245	252	315	376	407	449	491
Construction	30	30	32	33	35	36	38
Agriculture	107	107	107	108	108	109	110

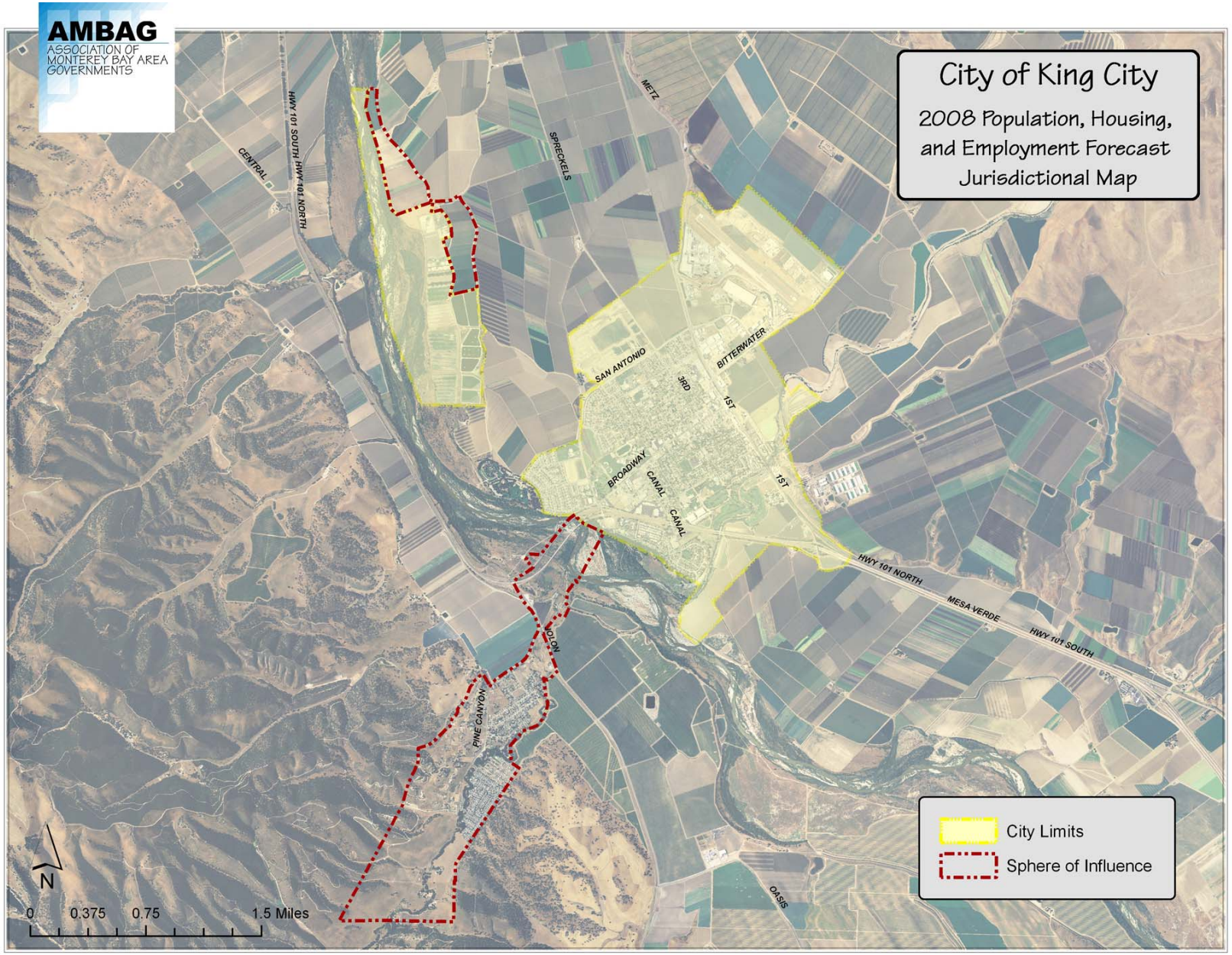
*Includes employment in education, government, and other


AMBAG
ASSOCIATION OF MONTEREY BAY AREA GOVERNMENTS
City of Greenfield
2008 Population, Housing, and Employment Forecast Jurisdictional Map
HWY 101 NORTH
THORNE
HWY 101 SOUTH
EL CAMINO REAL
WALNUT
ELM
4TH
ELM
ESPINOSA
CAMINO REAL
N
0
0.25
0.5
1 Miles
City Limits
Sphere of Influence
Imagery Source: The U.S. Department of Agriculture, Service Center Agencies

City of Greenfield

Data	2005	2010	2015	2020	2025	2030	2035
Population	13,357	17,795	19,090	21,855	24,912	27,348	30,337
Housing Units	2,886	3,700	4,287	4,987	5,688	6,388	7,089
Employment	962	1,008	1,045	1,230	1,277	1,326	1,384
Retail	90	120	122	273	285	299	319
Service	233	238	251	265	279	294	310
Industrial	39	39	40	41	43	44	45
Public*	376	387	405	423	440	457	476
Construction	17	17	18	18	19	20	21
Agriculture	207	207	209	210	211	212	213

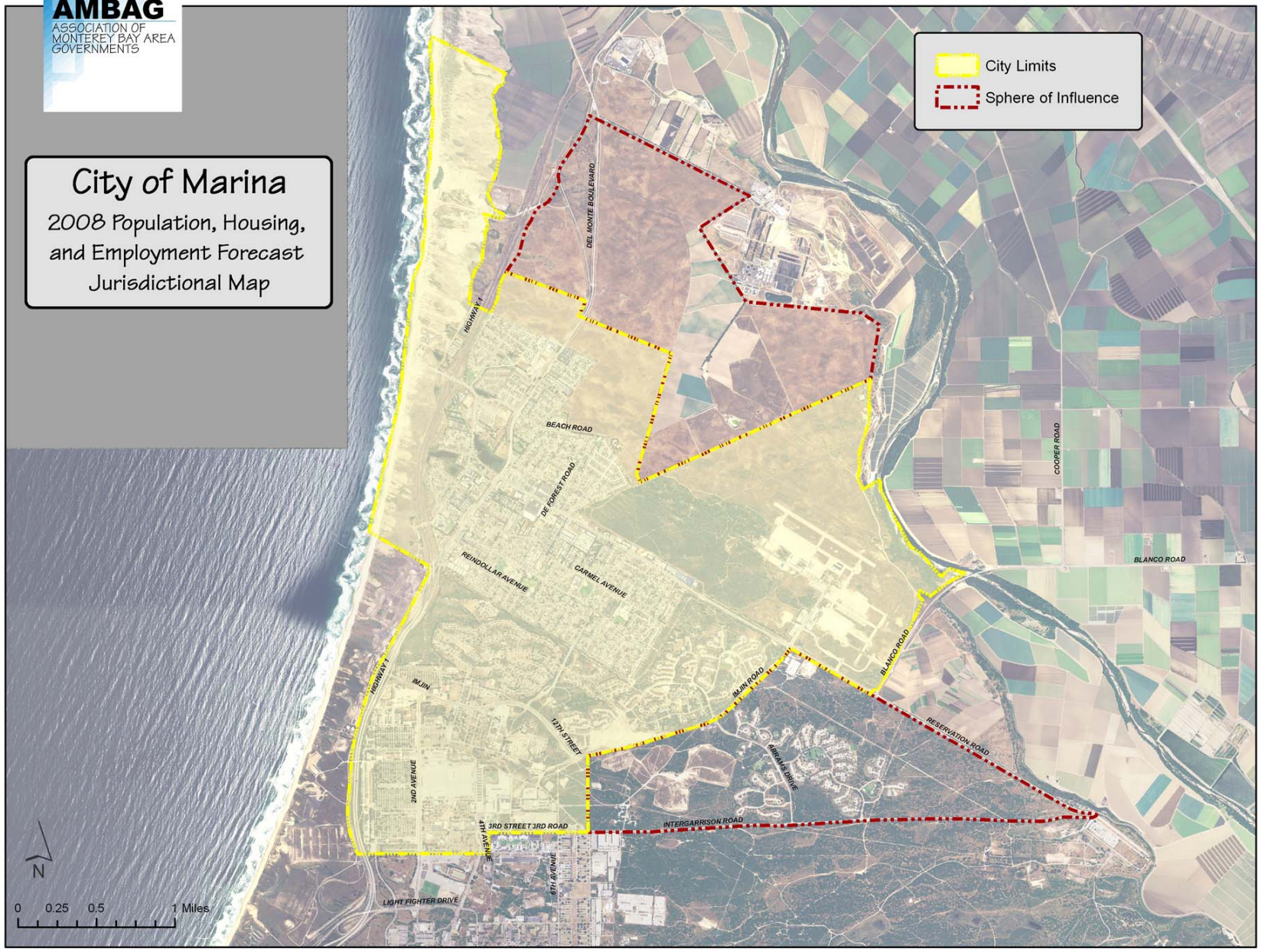
*Includes employment in education, government, and other


AMBAG
ASSOCIATION OF MONTEREY BAY AREA GOVERNMENTS
City of King City
2008 Population, Housing, and Employment Forecast Jurisdictional Map
HWY 101 SOUTH
HWY 101 NORTH
CENTRAL
METZ
SPRECKELS
SAN ANTONIO
3RD
BITTERWATER
1ST
BROADWAY
CANAL
CANAL
1ST
HWY 101 NORTH
MESA VERDE
HWY 101 SOUTH
SOLON
PINE CANYON
OASIS
City Limits
Sphere of Influence
N
0
0.375
0.75
1.5 Miles

City of King City

Data	2005	2010	2015	2020	2025	2030	2035
Population	11,430	13,540	15,392	17,269	19,295	22,482	24,726
Housing Units	2,886	3,470	4,055	4,639	5,224	5,808	6,393
Employment	2,859	2,923	3,047	3,186	3,344	3,512	3,675
Retail	354	364	371	390	427	467	497
Service	1,365	1,397	1,474	1,554	1,638	1,725	1,817
Industrial	414	421	432	444	456	468	480
Public*	516	530	556	580	603	628	653
Construction	56	57	59	62	64	67	70
Agriculture	154	154	155	156	156	157	158

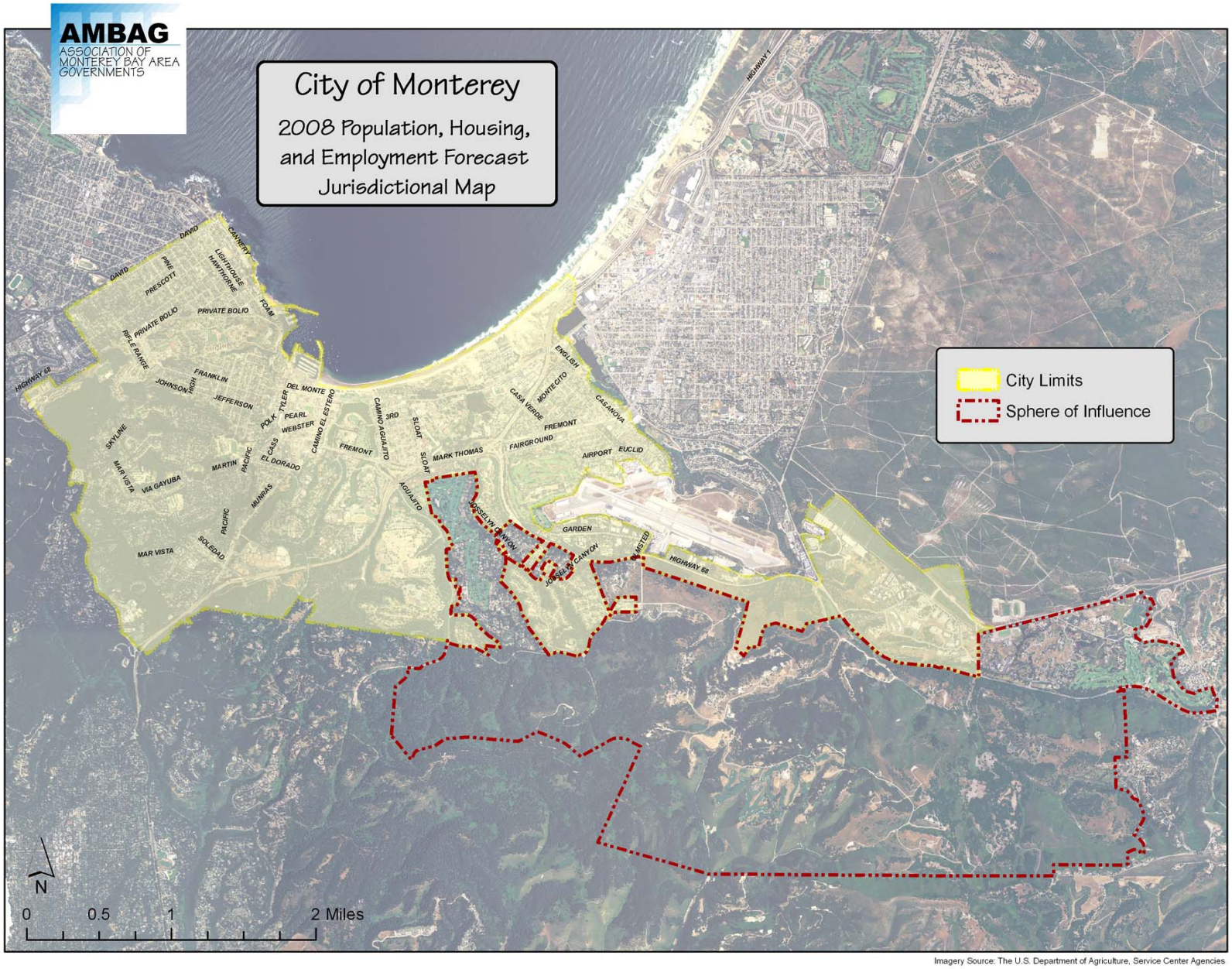
*Includes employment in education, government, and other


AMBAG
ASSOCIATION OF MONTEREY BAY AREA GOVERNMENTS
City of Marina
2008 Population, Housing, and Employment Forecast
Jurisdictional Map
City Limits
Sphere of Influence
DEL MONTE BOULEVARD
HIGHWAY 1
BEACH ROAD
DE FOREST ROAD
REINDOLLAR AVENUE
CARMEL AVENUE
COOPER ROAD
BLANCO ROAD
MIJIN
MIJIN ROAD
12TH STREET
2ND AVENUE
3RD STREET 3RD ROAD
4TH AVENUE
6TH AVENUE
ABRAMS DRIVE
INTERGARRISON ROAD
RESERVATION ROAD
LIGHT FIGHTER DRIVE
N
0 0.25 0.5 1 Miles

City of Marina

Data	2005	2010	2015	2020	2025	2030	2035
Population	19,051	24,551	26,658	29,274	30,133	32,010	32,942
Housing Units	8,612	9,437	10,662	11,487	12,312	13,137	13,562
Employment	3,253	3,334	3,653	3,990	4,273	4,473	4,696
Retail	285	298	467	655	781	819	872
Service	1,422	1,456	1,536	1,618	1,706	1,797	1,893
Industrial	169	172	177	181	186	191	196
Public*	701	721	756	789	820	853	887
Construction	676	687	717	747	780	813	848
Agriculture	0	0	0	0	0	0	0

*Includes employment in education, government, and other


AMBAG
ASSOCIATION OF MONTEREY BAY AREA GOVERNMENTS
City of Monterey
2008 Population, Housing, and Employment Forecast Jurisdictional Map
City Limits
Sphere of Influence
HIGHWAY 1
HIGHWAY 68
DAVID
CANNERY
LIGHTHOUSE
HAWTHORNE
PINE
PRESCOTT
FOAM
PRIVATE BOLIO
RIFLE RANGE
FRANKLIN
JOHNSON
HIGH
JEFFERSON
DEL MONTE
TYLER
POLK
PEARL
WEBSTER
CAMINO EL ESTERO
CAMINO AGUAJITO
3RD
SLOAT
FREMONT
MARK THOMAS
FAIRGROUND
ENGLISH
MONTEGITO
CASA VERDE
CASANOVA
AIRPORT
EUCLID
SKYLINE
MAR VISTA
VIA GAYUBA
MARTIN
PACIFIC
EL CASS
EL DORADO
MUNRAS
SOLEDAD
AGUAJITO
JOSELYN CANYON
GARDEN
HOUSTED
0
0.5
1
2 Miles
N
Imagery Source: The U.S. Department of Agriculture, Service Center Agencies

City of Monterey

Data	2005	2010	2015	2020	2025	2030	2035
Population	30,467	30,106	30,092	30,278	30,464	30,650	30,836
Housing Units	13,537	13,630	13,723	13,816	13,909	14,002	14,095
Employment	32,327	32,752	34,209	35,773	37,346	38,974	40,696
Retail	3,377	3,114	3,074	3,120	3,120	3,120	3,120
Service	18,331	18,760	19,791	20,857	21,989	23,155	24,399
Industrial	2,328	2,365	2,428	2,493	2,560	2,629	2,697
Public*	7,096	7,299	7,650	7,983	8,301	8,635	8,983
Construction	1,185	1,204	1,256	1,310	1,366	1,425	1,487
Agriculture	10	10	10	10	10	10	10

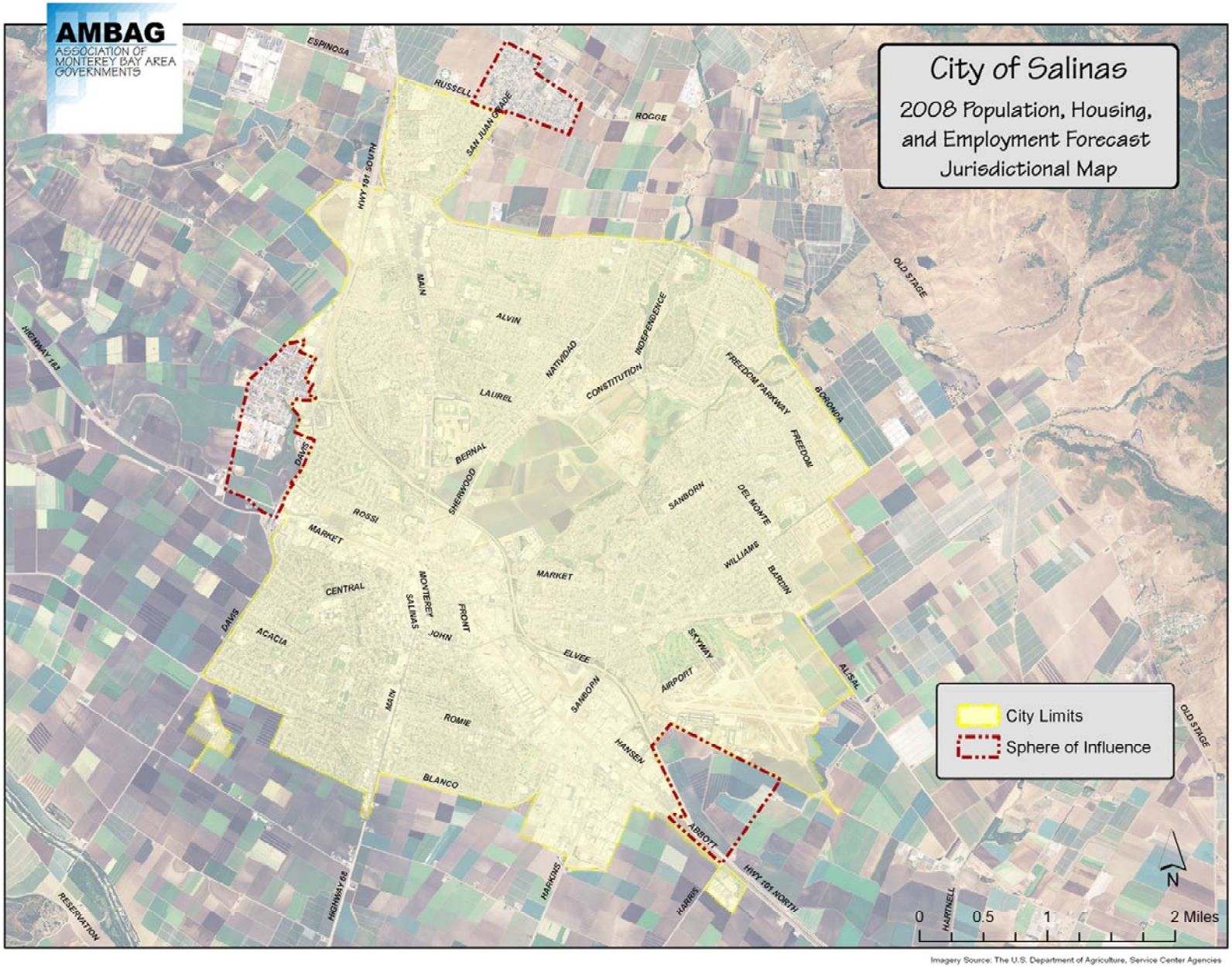
*Includes employment in education, government, and other


AMBAG
ASSOCIATION OF MONTEREY BAY AREA GOVERNMENTS
City of Pacific Grove
2008 Population, Housing, and Employment Forecast Jurisdictional Map
ASILOMAR BOULEVARD
DEL MONTE BOULEVARD
OCEAN VIEW BOULEVARD
SUNSET DRIVE
SEVENTEEN MILE DRIVE
DEL MONTE BOULEVARD
PACIFIC AVENUE
JEWELL AVENUE
LIGHTHOUSE AVENUE
OCEAN VIEW BOULEVARD
CENTRAL AVENUE
DENNETT STREET
SINEX AVENUE
CONGRESS AVENUE
FOREST AVENUE
1ST STREET
OCEAN VIEW BOULEVARD
PINE AVENUE
EARDLEY AVENUE
SINEX AVENUE
CONGRESS AVENUE
DAVID AVENUE
PRESCOTT LANE
N
City Limits
Sphere of Influence
0 0.125 0.25 0.5 Miles
Imagery Source: The U.S. Department of Agriculture, Service Center Agencies

City of Pacific Grove

Data	2005	2010	2015	2020	2025	2030	2035
Population	15,528	15,530	15,550	15,550	15,300	15,057	15,036
Housing Units	8,052	8,108	8,108	8,108	8,123	8,140	8,158
Employment	6,936	7,058	7,406	7,586	7,684	7,785	7,837
Retail	688	665	675	675	675	675	675
Service	5,158	5,279	5,569	5,700	5,750	5,800	5,800
Industrial	119	121	124	128	131	135	138
Public*	555	571	598	624	649	675	703
Construction	416	422	440	459	479	500	521
Agriculture	0	0	0	0	0	0	0

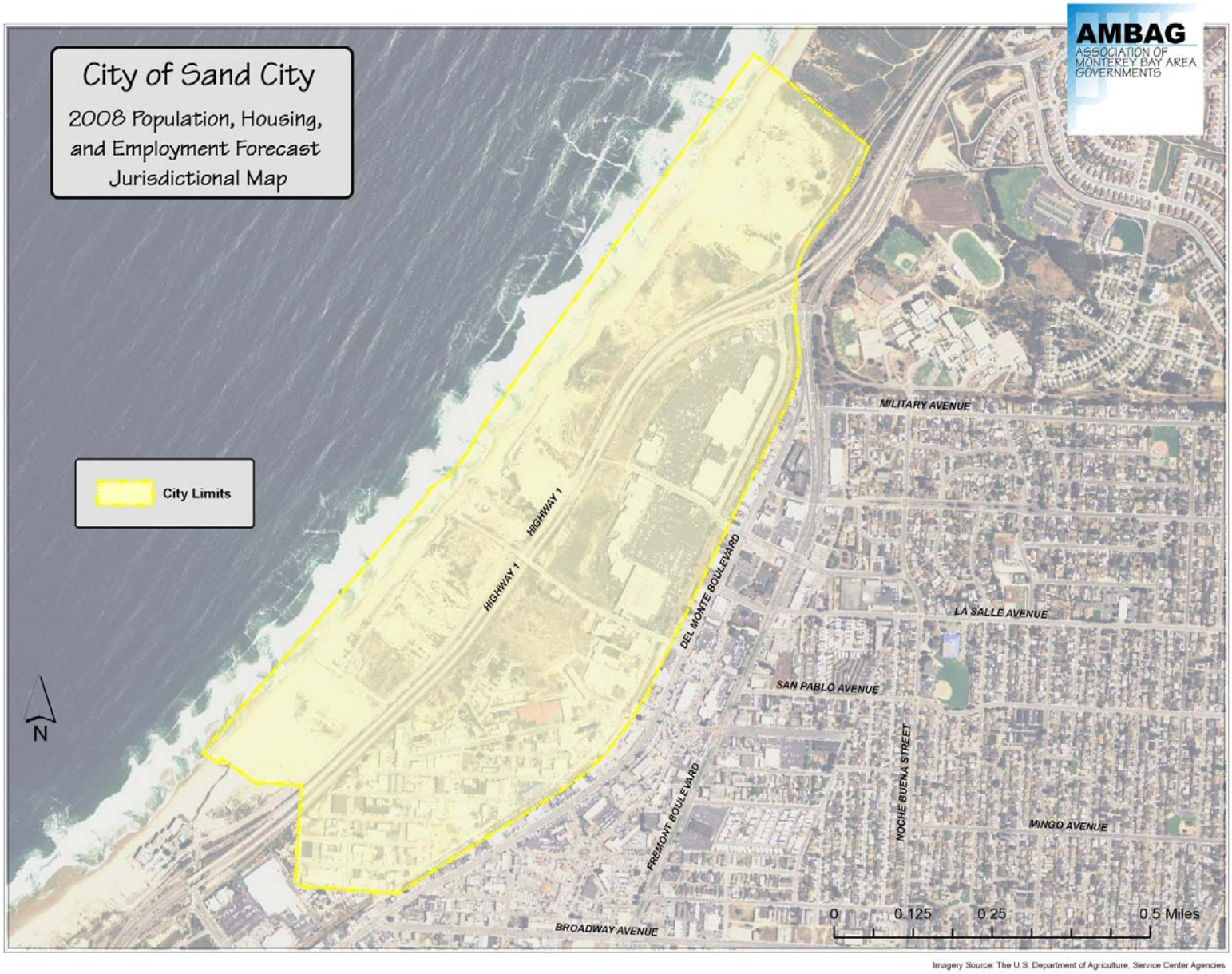
*Includes employment in education, government, and other


AMBAG
ASSOCIATION OF MONTEREY BAY AREA GOVERNMENTS
City of Salinas
2008 Population, Housing, and Employment Forecast
Jurisdictional Map
City Limits
Sphere of Influence
0
0.5
1
2 Miles
N
ESPINOSA
RUSSELL
SAN JUAN GRADE
ROGGE
HWY 101 SOUTH
MAIN
ALVIN
NATIVIDAD
INDEPENDENCE
CONSTITUTION
LAUREL
FREEDOM PARKWAY
FREEDOM
BLANCO
OLD STAGE
HIGHWAY 183
DAVIS
BERNAL
SHERWOOD
ROSSI
MARKET
SANBORN
DEL MONTE
WILLIAMS
BARDIN
CENTRAL
MONTEREY
SALINAS
FRONT
JOHN
ACACIA
ELVEE
SKYWAY
AIRPORT
ALISAL
ROMIE
HANSEN
ABBOTT
HWY 101 NORTH
HARRIS
HARKINS
HARTNELL
HIGHWAY 68
RESERVATION
Imagery Source: The U.S. Department of Agriculture, Service Center Agencies

City of Salinas

Data	2005	2010	2015	2020	2025	2030	2035
Population	149,705	153,779	162,044	163,234	166,401	170,913	173,359
Housing Units	41,725	44,080	46,566	48,558	50,532	52,507	53,563
Employment	49,141	49,872	52,135	54,230	56,380	58,611	61,425
Retail	7,518	7,269	7,476	7,648	7,802	7,968	8,612
Service	19,216	19,719	20,918	21,995	23,156	24,349	25,624
Industrial	10,625	10,795	11,084	11,383	11,688	12,002	12,317
Public*	9,479	9,752	10,224	10,671	11,098	11,548	12,015
Construction	2,069	2,103	2,198	2,296	2,398	2,505	2,617
Agriculture	234	234	235	237	238	239	240

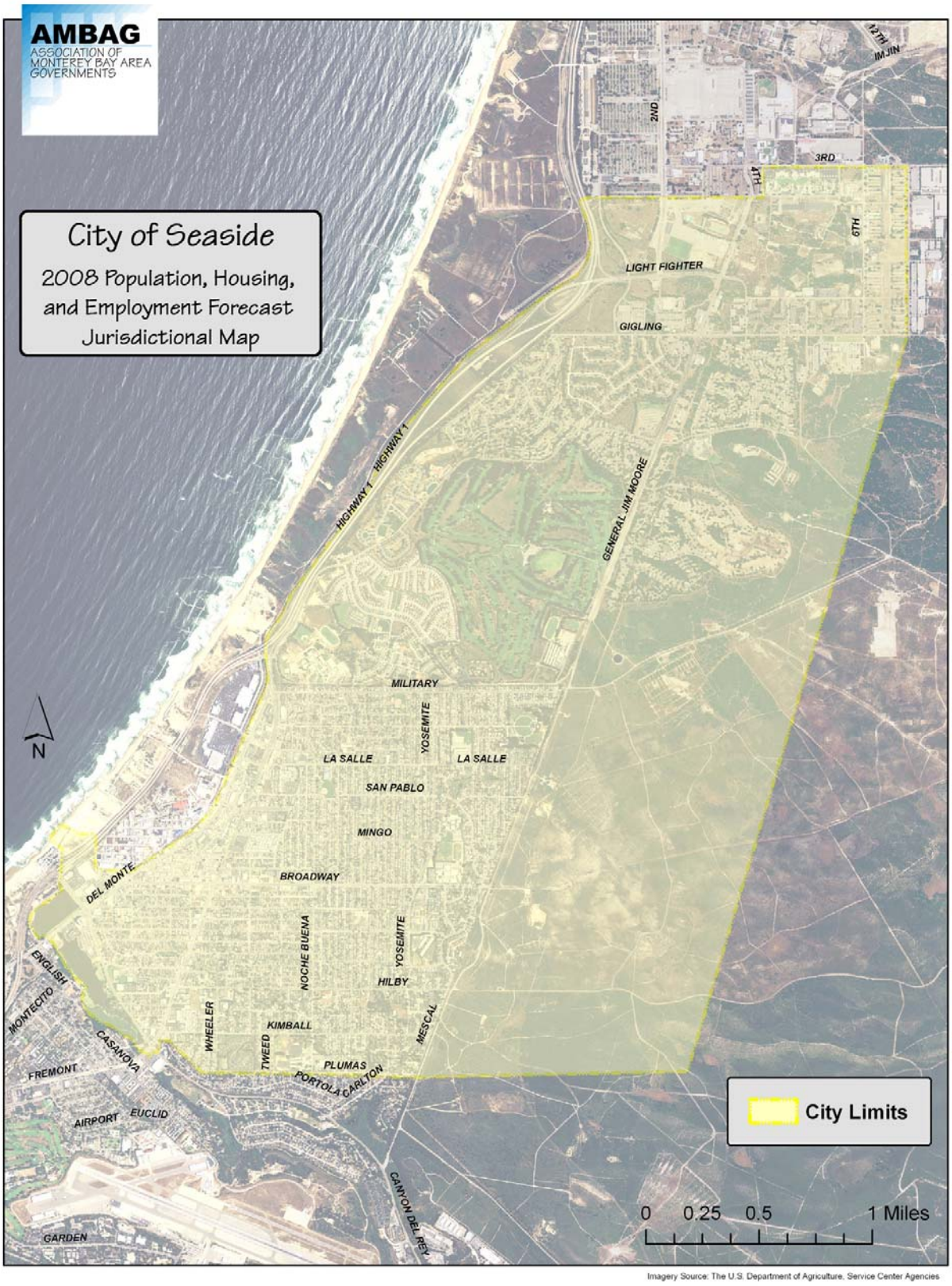
*Includes employment in education, government, and other


City of Sand City
2008 Population, Housing, and Employment Forecast
Jurisdictional Map
AMBAG
ASSOCIATION OF MONTEREY BAY AREA GOVERNMENTS
City Limits
N
MILITARY AVENUE
HIGHWAY 1
HIGHWAY 1
DEL MONTE BOULEVARD
LA SALLE AVENUE
SAN PABLO AVENUE
NOCHE BUENA STREET
FREMONT BOULEVARD
MINGO AVENUE
BROADWAY AVENUE
0
0.125
0.25
0.5 Miles
Imagery Source: The U.S. Department of Agriculture, Service Center Agencies

City of Sand City

Data	2005	2010	2015	2020	2025	2030	2035
Population	302	447	1,498	1,498	1,498	1,498	1,498
Housing Units	105	200	670	670	670	670	670
Employment	2,219	2,366	2,629	2,933	3,289	3,568	3,923
Retail	1,135	1,263	1,479	1,650	1,821	1,910	2,034
Service	305	312	329	432	585	743	939
Industrial	284	288	296	304	312	320	329
Public*	10	10	11	11	12	12	13
Construction	485	493	514	536	559	583	608
Agriculture	0	0	0	0	0	0	0

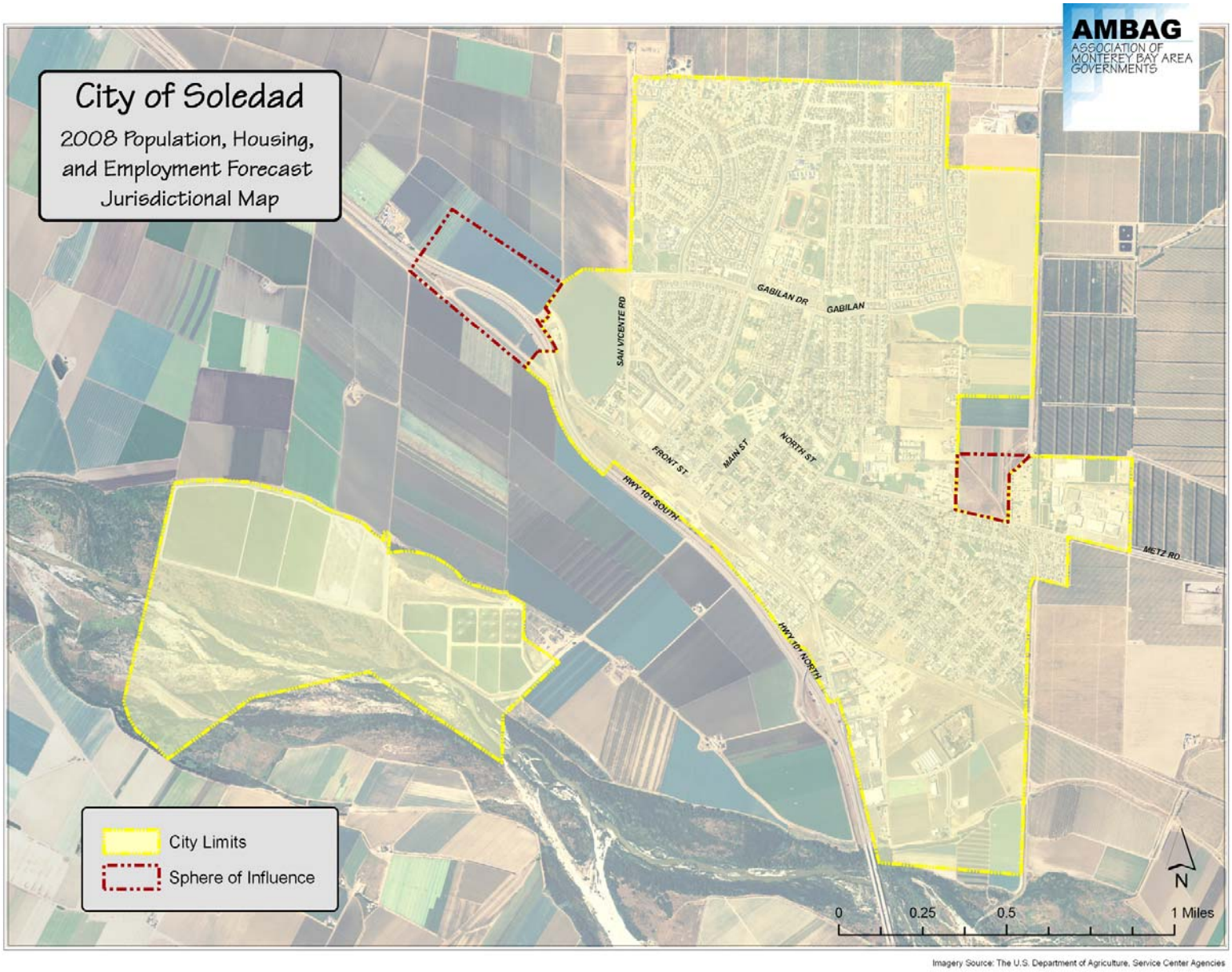
*Includes employment in education, government, and other


AMBAG
ASSOCIATION OF MONTEREY BAY AREA GOVERNMENTS
City of Seaside
2008 Population, Housing, and Employment Forecast Jurisdictional Map
N
12TH
IMJIN
2ND
3RD
4TH
6TH
LIGHT FIGHTER
GIGLING
HIGHWAY 1
HIGHWAY 1
GENERAL JIM MOORE
MILITARY
YOSEMITE
LA SALLE
LA SALLE
SAN PABLO
MINGO
BROADWAY
DEL MONTE
NOCHE BUENA
YOSEMITE
HILBY
ENGLISH
MONTECITO
CASANOVA
WHEELER
KIMBALL
TWEED
MESCAL
FREMONT
PLUMAS
PORTOLA
CARLTON
AIRPORT
EUCLID
CANYON DEL REY
GARDEN
City Limits
0 0.25 0.5 1 Miles
Imagery Source: The U.S. Department of Agriculture, Service Center Agencies

City of Seaside

Data	2005	2010	2015	2020	2025	2030	2035
Population	35,173	34,666	35,165	35,158	35,709	35,017	35,549
Housing Units	11,223	11,408	11,593	11,779	11,964	12,149	12,334
Employment	6,840	7,360	7,792	8,462	9,224	10,055	10,848
Retail	1,458	1,852	2,009	2,100	2,427	2,806	3,094
Service	3,245	3,321	3,503	3,989	4,334	4,692	5,100
Industrial	421	428	439	451	463	475	487
Public*	1,230	1,265	1,326	1,384	1,439	1,497	1,557
Construction	486	494	515	538	561	585	610
Agriculture	0	0	0	0	0	0	0

*Includes employment in education, government, and other


City of Soledad
2008 Population, Housing, and Employment Forecast Jurisdictional Map
AMBAG
ASSOCIATION OF MONTEREY BAY AREA GOVERNMENTS
GABILAN DR
GABILAN
SAN VICENTE RD
FRONT ST
MAIN ST
NORTH ST
HWY 101 SOUTH
HWY 101 NORTH
METZ RD
City Limits
Sphere of Influence
N
0
0.25
0.5
1 Miles
Imagery Source: The U.S. Department of Agriculture, Service Center Agencies

City of Soledad

Data	2005	2010	2015	2020	2025	2030	2035
Population	27,365	28,853	31,115	33,760	36,392	38,801	41,405
Housing Units	3,447	4,066	4,684	5,303	5,922	6,540	7,159
Employment	5,501	5,868	5,890	6,008	6,269	6,554	6,837
Retail	292	434	471	522	581	664	734
Service	328	335	354	373	393	414	436
Industrial	60	61	62	64	66	67	69
Public*	4,609	4,824	4,787	4,829	5,006	5,182	5,367
Construction	54	55	57	60	62	65	68
Agriculture	158	159	159	160	161	162	163

*Includes employment in education, government, and other

Unincorporated Monterey County

Data	2005	2010	2015	2020	2025	2030	2035
Population	106,117	109,509	111,105	113,778	114,469	113,628	114,052
Housing Units	38,869	42,506	44,442	45,406	46,668	47,139	48,688
Employment	78,459	79,221	81,082	82,882	84,753	86,817	88,928
Retail	2,880	2,865	2,936	2,916	2,910	3,029	3,089
Service	15,637	16,003	16,882	17,790	18,757	19,751	20,815
Industrial	5,826	5,920	6,078	6,241	6,405	6,579	6,751
Public*	6,133	6,309	6,611	6,899	7,173	7,462	7,762
Construction	5,163	5,245	5,470	5,707	5,952	6,205	6,475
Agriculture	42,820	42,879	43,105	43,329	43,556	43,791	44,036

*Includes employment in education, government, and other

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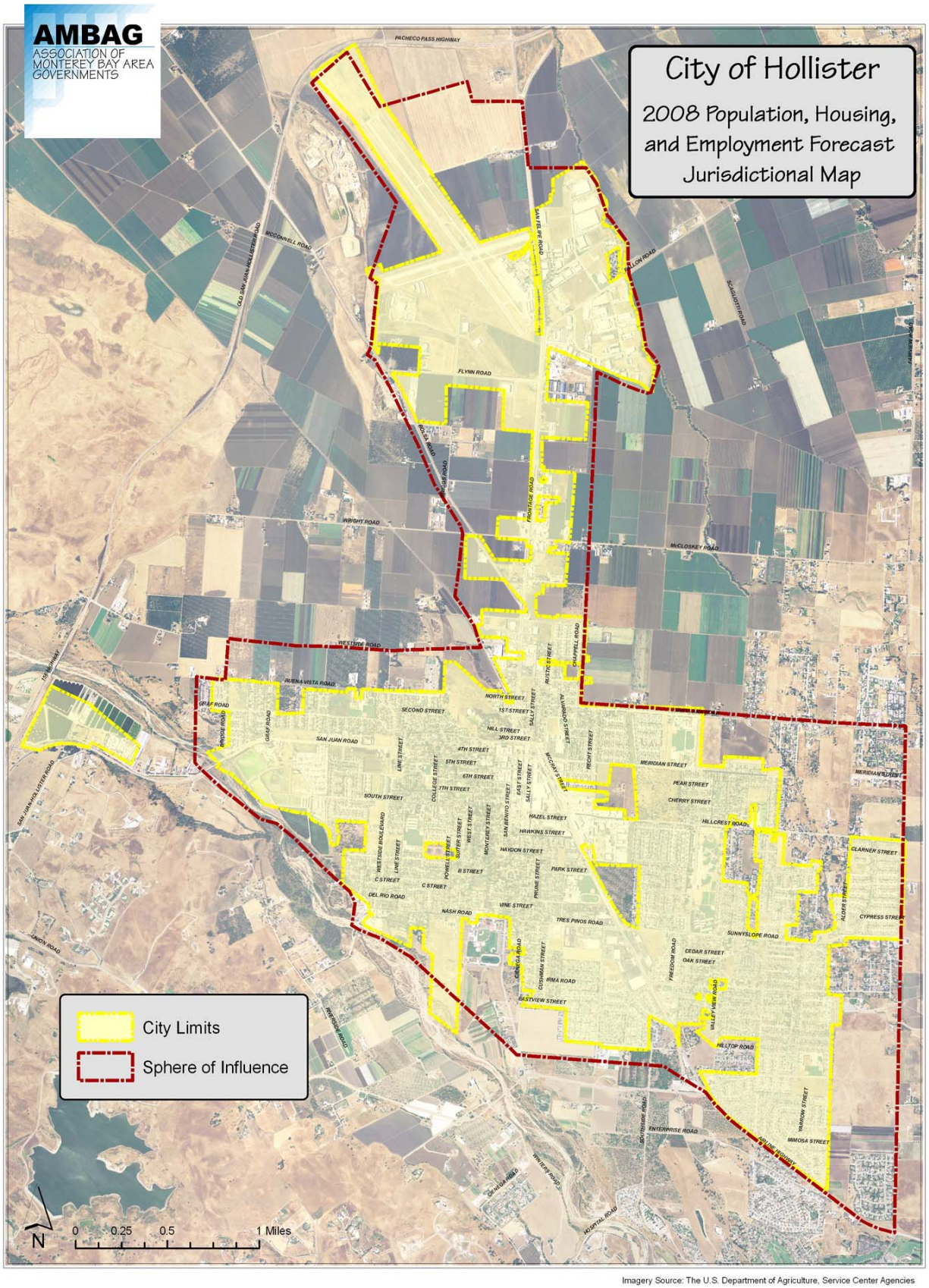
San Benito County

San Benito County

Data	2005	2010	2015	2020	2025	2030	2035
Population	57,324	62,431	68,471	76,140	83,383	89,431	94,731
Housing Units	17,638	19,187	21,110	23,483	25,800	27,674	29,404
Employment	16,910	17,380	18,090	19,050	19,970	20,980	21,700
Retail	2,720	2,910	3,030	3,220	3,360	3,530	3,800
Service	4,520	4,690	5,010	5,350	5,750	6,190	6,500
Industrial	2,830	2,870	2,900	3,000	3,070	3,180	3,040
Public*	2,510	2,570	2,700	2,840	3,000	3,150	3,290
Construction	2,330	2,400	2,500	2,680	2,820	2,940	3,070
Agriculture	2,000	1,940	1,950	1,960	1,970	1,990	2,000

*Includes employment in education, government, and other

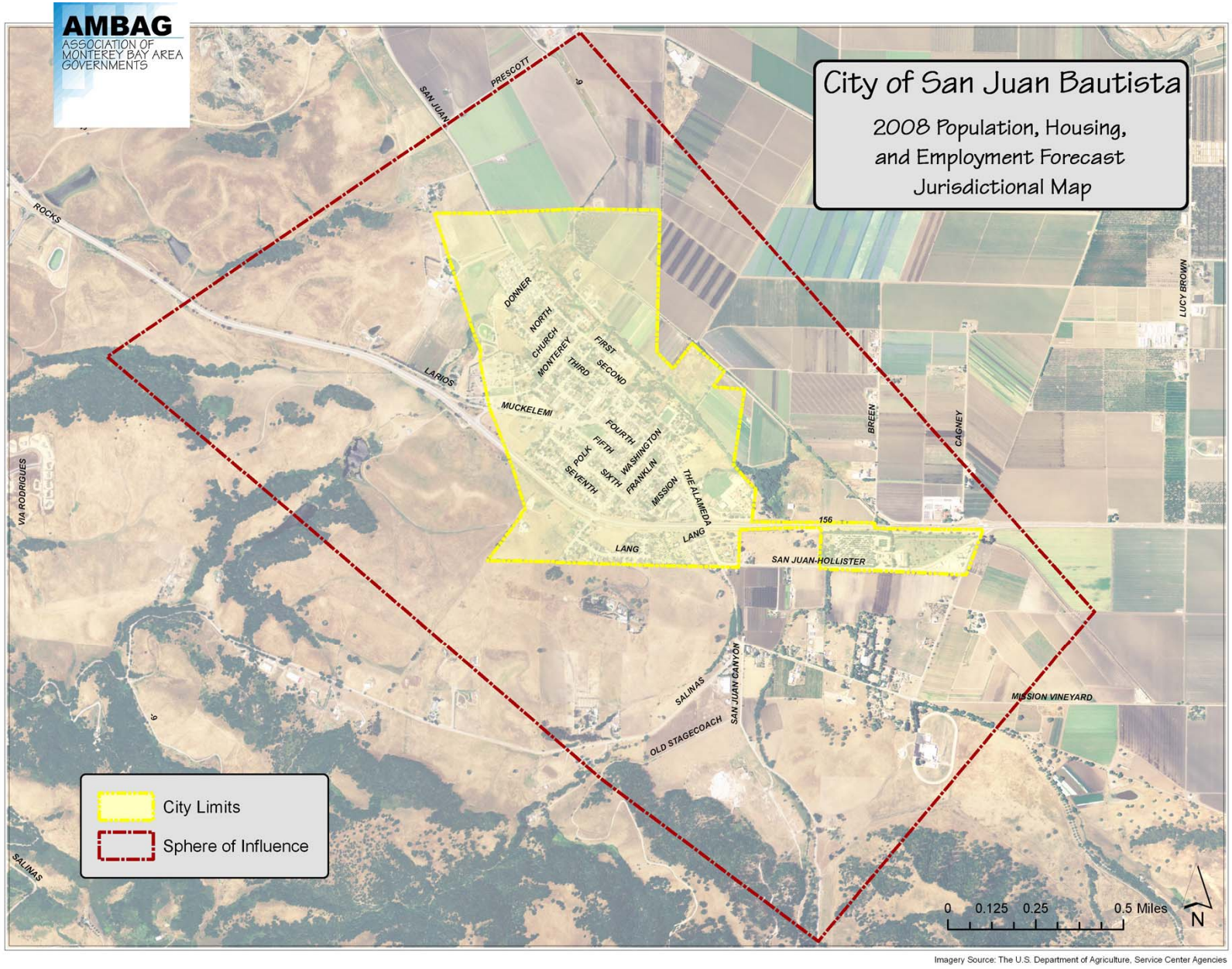


Imagery Source: The U.S. Department of Agriculture, Service Center Agencies

City of Hollister

Data	2005	2010	2015	2020	2025	2030	2035
Population	37,002	40,415	44,613	49,064	54,143	59,259	62,756
Housing Units	10,587	11,544	12,816	14,085	15,605	17,108	18,221
Employment	10,527	10,898	11,393	12,056	12,698	13,398	13,893
Retail	1,900	2,032	2,116	2,249	2,347	2,466	2,654
Service	3,213	3,334	3,562	3,803	4,088	4,401	4,621
Industrial	2,057	2,086	2,108	2,181	2,231	2,311	2,210
Public*	1,949	1,996	2,098	2,208	2,333	2,451	2,561
Construction	1,383	1,424	1,484	1,591	1,674	1,745	1,822
Agriculture	20	20	20	0	0	0	0

*Includes employment in education, government, and other


AMBAG
ASSOCIATION OF MONTEREY BAY AREA GOVERNMENTS
City of San Juan Bautista
2008 Population, Housing, and Employment Forecast Jurisdictional Map
PRESCOTT
SAN JUAN
ROCKS
LARIOS
DONNER
NORTH
CHURCH
MONTEREY
THIRD
FIRST
SECOND
MUCKELEMI
FOURTH
FIFTH
SIXTH
SEVENTH
WASHINGTON
FRANKLIN
MISSION
THE ALAMEDA
LANG
LANG
156
SAN JUAN-HOLLISTER
BREEN
CAGNEY
LUCY BROWN
VIA RODRIGUES
SALINAS
SAN JUAN CANYON
OLD STAGECOACH
MISSION VINEYARD
City Limits
Sphere of Influence
0 0.125 0.25 0.5 Miles
N
Imagery Source: The U.S. Department of Agriculture, Service Center Agencies

City of San Juan Bautista

Data	2005	2010	2015	2020	2025	2030	2035
Population	1,722	1,937	2,121	2,356	2,570	2,743	2,907
Housing Units	678	764	837	927	1,015	1,084	1,148
Employment	210	220	233	248	265	283	299
Retail	59	63	66	70	73	76	82
Service	151	157	167	179	192	207	217
Industrial	0	0	0	0	0	0	0
Public*	20	20	20	20	20	20	20
Construction	0	0	0	0	0	0	0
Agriculture	0	0	0	0	0	0	0

*Includes employment in education, government, and other

Unincorporated San Benito County

Data	2005	2010	2015	2020	2025	2030	2035
Population	18,600	20,079	21,737	24,720	26,671	27,429	29,068
Housing Units	6,373	6,879	7,457	8,471	9,181	9,482	10,035
Employment	6,173	6,262	6,465	6,745	7,007	7,299	7,508
Retail	761	815	848	901	941	988	1,064
Service	1,156	1,199	1,281	1,368	1,470	1,583	1,662
Industrial	773	784	792	819	839	869	830
Public*	541	554	582	612	647	679	709
Construction	947	976	1,016	1,089	1,146	1,195	1,248
Agriculture	1,995	1,935	1,945	1,955	1,965	1,985	1,995

*Includes employment in education, government, and other

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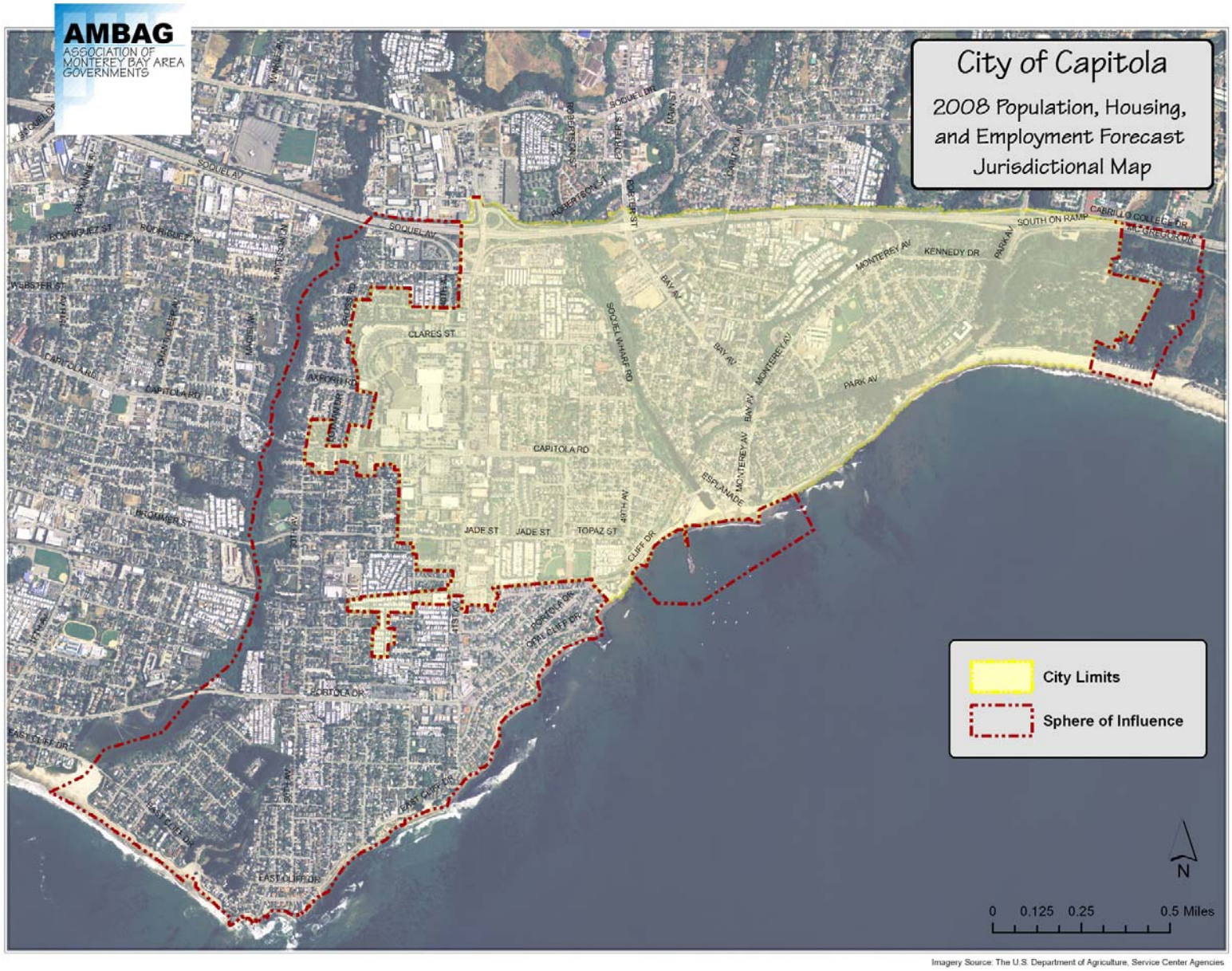
Santa Cruz County

Santa Cruz County

Employment

Data	2005	2010	2015	2020	2025	2030	2035
Population	260,092	268,041	273,983	280,493	285,735	290,597	295,621
Housing Units	102,872	105,509	107,496	110,143	112,040	113,865	115,590
Employment	116,320	115,070	120,800	126,870	133,350	140,160	147,460
Retail	14,390	14,060	14,570	15,110	15,670	16,250	16,850
Service	47,350	47,390	50,980	54,450	58,210	62,220	66,560
Industrial	16,560	16,070	16,540	17,040	17,570	18,110	18,680
Public*	21,080	21,100	21,770	22,800	23,880	25,020	26,220
Construction	11,140	10,930	11,380	11,850	12,340	12,840	13,370
Agriculture	5,800	5,520	5,560	5,620	5,680	5,720	5,780

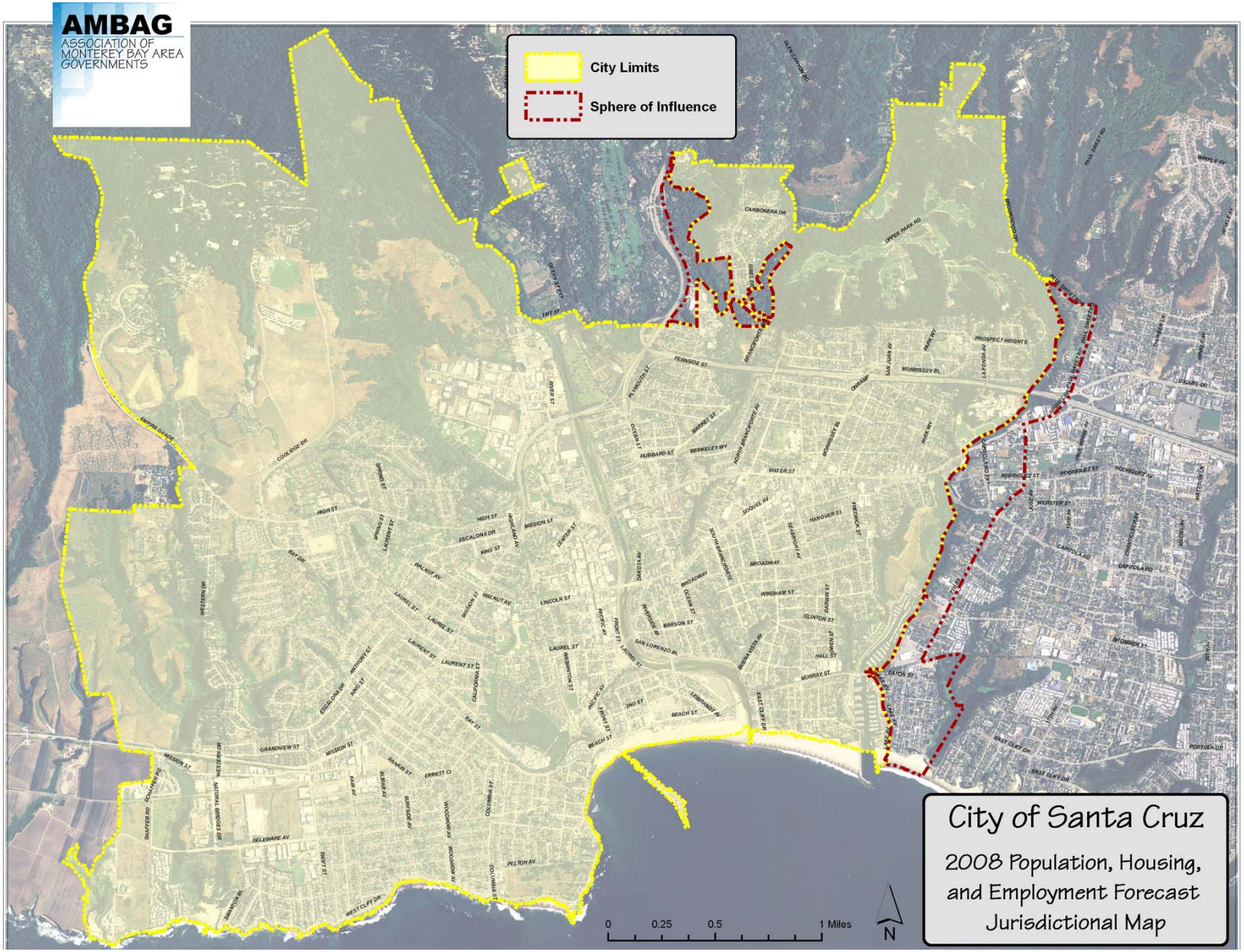
*Includes employment in education, government, and other


AMBAG
ASSOCIATION OF MONTEREY BAY AREA GOVERNMENTS
City of Capitola
2008 Population, Housing, and Employment Forecast Jurisdictional Map
City Limits
Sphere of Influence
N
0 0.125 0.25 0.5 Miles
Imagery Source: The U.S. Department of Agriculture, Service Center Agencies

City of Capitola

Data	2005	2010	2015	2020	2025	2030	2035
Population	9,918	10,124	10,222	10,693	10,862	11,090	11,269
Housing Units	5,387	5,500	5,601	5,763	5,859	5,966	6,057
Employment	8,128	8,042	8,571	9,008	9,474	9,968	10,500
Retail	2,147	2,060	2,205	2,249	2,292	2,336	2,383
Service	4,330	4,340	4,669	4,987	5,331	5,699	6,096
Industrial	159	154	159	163	168	174	179
Public*	1,146	1,148	1,185	1,241	1,299	1,362	1,427
Construction	346	340	353	368	383	399	415
Agriculture	0	0	0	0	0	0	0

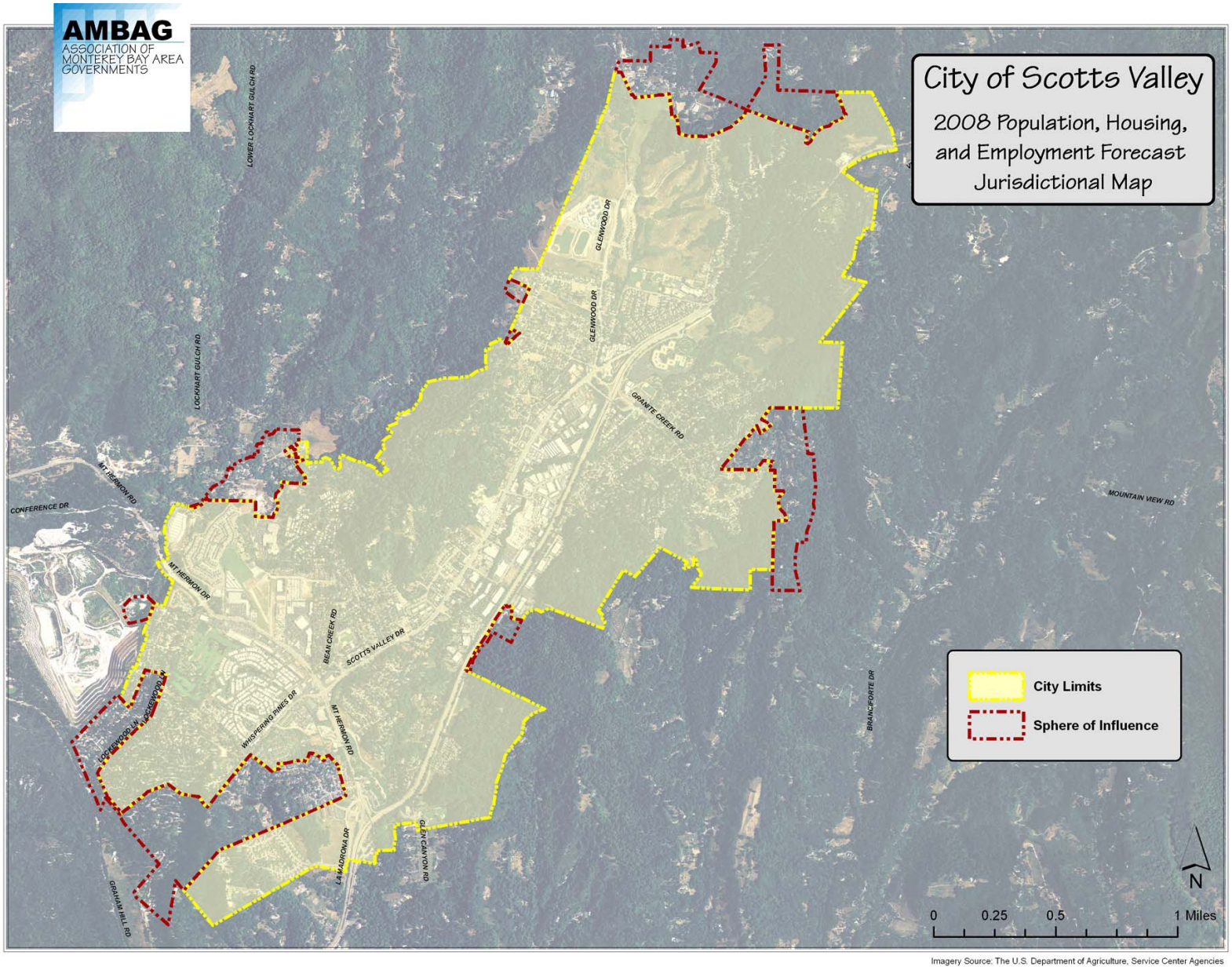
*Includes employment in education, government, and other


AMBAG
ASSOCIATION OF MONTEREY BAY AREA GOVERNMENTS
City Limits
Sphere of Influence
City of Santa Cruz
2008 Population, Housing, and Employment Forecast Jurisdictional Map
0
0.25
0.5
1 Miles
N

City of Santa Cruz

Data	2005	2010	2015	2020	2025	2030	2035
Population	56,421	58,919	62,480	63,265	64,649	65,884	67,807
Housing Units	23,133	23,633	24,133	24,794	25,390	25,943	26,610
Employment	34,016	33,826	35,527	37,411	39,423	41,548	43,818
Retail	4,273	4,193	4,320	4,494	4,675	4,862	5,055
Service	14,245	14,278	15,359	16,405	17,538	18,746	20,053
Industrial	4,089	3,974	4,091	4,214	4,345	4,479	4,620
Public*	9,525	9,545	9,848	10,314	10,802	11,318	11,861
Construction	1,767	1,735	1,806	1,881	1,959	2,038	2,122
Agriculture	118	102	103	104	105	106	107

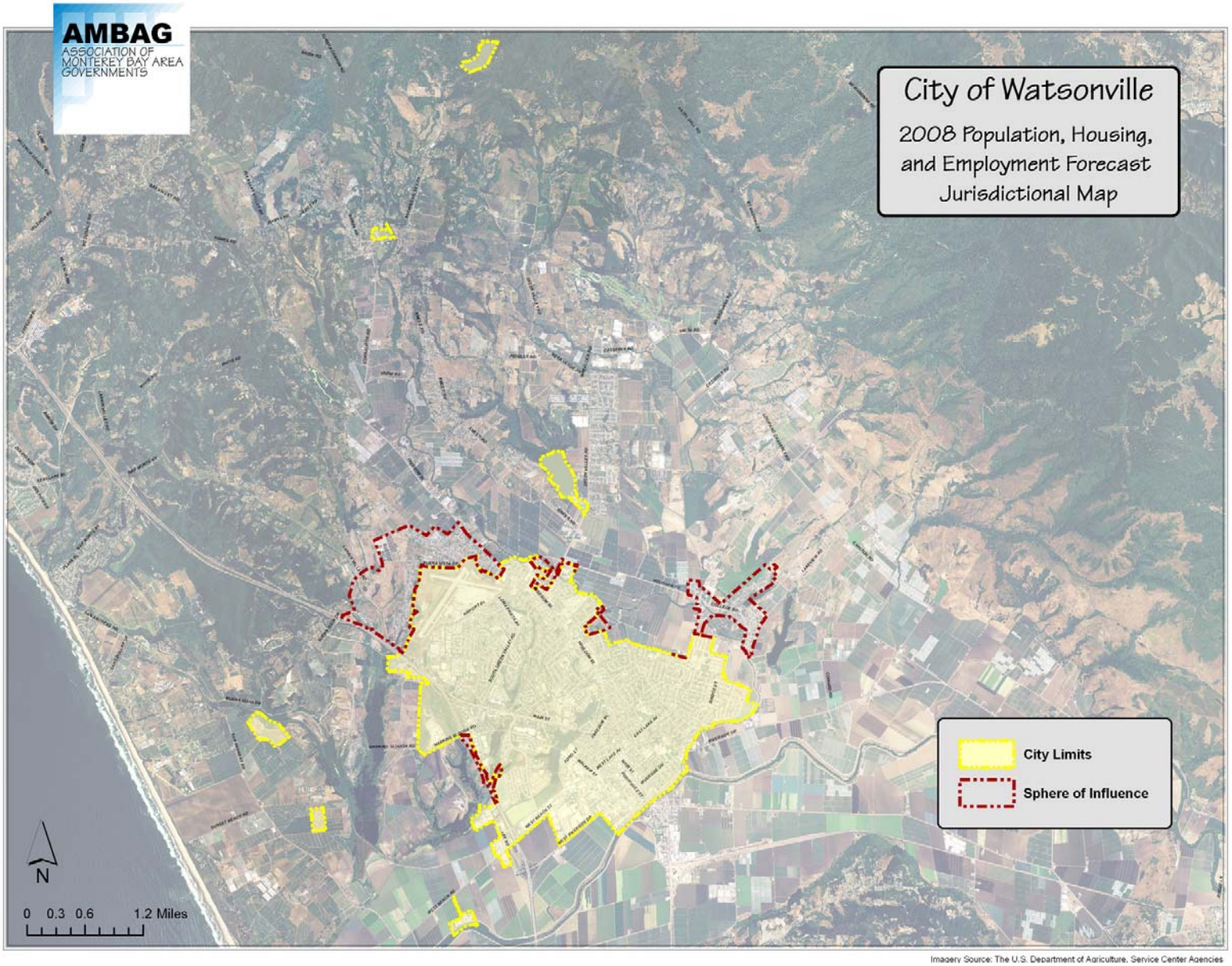
*Includes employment in education, government, and other


AMBAG
ASSOCIATION OF MONTEREY BAY AREA GOVERNMENTS
City of Scotts Valley
2008 Population, Housing, and Employment Forecast Jurisdictional Map
City Limits
Sphere of Influence
N
0 0.25 0.5 1 Miles
LOWER LOCKHART GULCH RD
LOCKHART GULCH RD
GLENWOOD DR
GRANITE CREEK RD
MT HERMON RD
CONFERENCE DR
MOUNTAIN VIEW RD
BEAN CREEK RD
SCOTTS VALLEY DR
WHISPERING PINES DR
BRANCIFORTE DR
LA MADRONA DR
GLEN CANYON RD
GRAHAM HILL RD
Imagery Source: The U.S. Department of Agriculture, Service Center Agencies

City of Scotts Valley

Data	2005	2010	2015	2020	2025	2030	2035
Population	11,565	11,923	12,126	12,311	12,427	12,688	12,921
Housing Units	4,616	4,784	4,848	4,919	4,965	5,071	5,164
Employment	8,944	8,840	9,287	9,749	10,244	10,764	11,321
Retail	851	835	861	895	931	969	1,007
Service	3,777	3,786	4,073	4,350	4,650	4,971	5,317
Industrial	2,955	2,873	2,957	3,046	3,141	3,237	3,339
Public*	526	527	544	570	597	625	655
Construction	834	819	853	888	925	962	1,002
Agriculture	0	0	0	0	0	0	0

*Includes employment in education, government, and other


AMBAG
ASSOCIATION OF MONTEREY BAY AREA GOVERNMENTS
City of Watsonville
2008 Population, Housing, and Employment Forecast Jurisdictional Map
City Limits
Sphere of Influence
N
0 0.3 0.6 1.2 Miles
Imagery Source: The U.S. Department of Agriculture, Service Center Agencies

City of Watsonville

Data	2005	2010	2015	2020	2025	2030	2035
Population	49,571	51,903	54,857	56,544	58,975	61,245	62,463
Housing Units	13,463	14,093	14,838	15,347	16,018	16,628	16,957
Employment	22,917	22,369	23,409	24,552	25,767	27,043	28,403
Retail	3,816	3,744	3,858	4,013	4,175	4,342	4,514
Service	7,209	7,226	7,773	8,302	8,875	9,487	10,149
Industrial	4,677	4,546	4,679	4,821	4,970	5,123	5,284
Public*	3,780	3,788	3,908	4,093	4,287	4,491	4,707
Construction	3,121	3,065	3,191	3,323	3,460	3,601	3,749
Agriculture	312	0	0	0	0	0	0

*Includes employment in education, government, and other

Unincorporated Santa Cruz County

Data	2005	2010	2015	2020	2025	2030	2035
Population	132,617	135,173	135,297	137,681	138,822	139,690	141,162
Housing Units	56,273	57,498	58,075	59,321	59,808	60,257	60,802
Employment	42,317	41,992	44,008	46,150	48,441	50,835	53,417
Retail	3,302	3,227	3,325	3,459	3,598	3,742	3,891
Service	17,789	17,760	19,106	20,406	21,815	23,318	24,945
Industrial	4,680	4,523	4,655	4,796	4,945	5,097	5,257
Public*	6,102	6,092	6,286	6,583	6,895	7,224	7,570
Construction	5,074	4,972	5,176	5,390	5,613	5,840	6,081
Agriculture	5,370	5,418	5,460	5,516	5,575	5,614	5,673

*Includes employment in education, government, and other

Forecast Methodology

The forecast is used to support AMBAG's Travel Demand Model among other official regional planning purposes. As such, the forecast is developed using professionally accepted forecasting methodologies. Use of the forecast by local land-use planning agencies is elective and represents the most likely trend in population, housing units and employment. As the forecast is periodically updated, changes in these factors and the trends they represent will be incorporated into future updates of the forecast.

Developing population, housing and employment forecast estimates for the Monterey Bay region consists of two distinct stages. The first stage is the identification of county-level forecast number through the use of widely accepted forecasting methodologies. The second stage is the disaggregation of county-level forecast numbers to Traffic Analysis Zones (TAZs), using land use data gathered from jurisdictions.

Within both stages, there are three major components of the forecast: population, housing and employment. Population is developed through a cohort-component model. The number of housing units is developed as a function of projected population characteristics, while employment is generated from an input-output model customized to the Monterey Bay region.

For each major component of the forecast there are three principal steps to develop the 2008 Regional Forecast: first, generating county level population and employment 'control totals;' second distributing those control totals to jurisdictions, and third, using the jurisdictional totals that have been filtered through land use analysis to disaggregate the forecast numbers to TAZs.

Each step involved input from the Forecast Technical Advisory Committee as a group, and with individual members of the committee to adjust the forecast. In the following sections, each principal step is described.

Generating County Population Control Numbers

In early 2007, AMBAG contracted with the Association of Bay Area Governments (ABAG) to develop county-level population, housing and employment numbers for Monterey, San Benito and Santa Cruz counties. ABAG provided county level forecasts through 2035 using a cohort-component model for the population forecast and an input-output model for the employment forecast. These models are described in detail below.

<u>Population Projections Cohort-Component Model</u>

ABAG used a baseline cohort-component method to project population by gender and age. This method traces people born in a given year through their lives and as each year passes, cohorts change due to migration and mortality assumptions. Assumptions can include but not be limited to residential mobility and the implausibility

of a catastrophic natural disaster occurring. New cohorts are formed by applying fertility assumptions to the women of childbearing age.

Census 2000 data is the benchmark (starting population) for each five-year age cohort. Data for the Forecast's year 2005 is from the California Department of Finance (DOF) E-5 report. ABAG developed life tables using recorded deaths from the Department of Health Service by sex and age for the period 2000 to 2004.

Migration is the most important, volatile and difficult factor to be considered in preparing small-area population projections. Unlike death rates, which change slowly and predictably over time and birth rates, which generally follow stable short-run trends, state and local migration rates can change tremendously in a very short time.

ABAG developed migration proportions for the decade between 1990 and 2000 by a survived population method. The 1990 population is aged forward in time to 2000 by adding recorded births, forming new cohorts, and subtracting deaths from existing cohorts. By comparing the survived population to the 2000 population, the differences were assumed to be migration.

AMBAG staff consulted with local government planners and demographers about county-specific migration assumptions throughout the development of the 2008 Regional Forecast. When local input was not available, DOF made migration assumptions based on historical analysis and adjusted local assumptions to be consistent with statewide migration assumptions.

Distributing Control Total Population to Jurisdictions (Housing Unit Methodology)

There are two stages in estimating the number of housing units in each jurisdiction. The first stage is the projection of housing units for each county, producing county "control totals," and the second stage is the disaggregation of those county control totals to jurisdictions and then to TAZs.

Producing County Housing Unit Totals

Housing Assumptions

Local and regional economic conditions shape local housing markets. In addition to demand for housing on a countywide level, commuting patterns and macroeconomic factors like unemployment rates, total employment gains, mix of employment, the availability of credit, and household income influence the demand of local housing markets.

County control total housing units are identified through a multi-step process, starting with population control totals. To estimate housing units, we take the following four steps.

- Identify likely group quarters population and growth over the forecast for each jurisdiction
- Remove the group quarters population from the total population to identify household population
- Use published household size ranges, with higher household sizes resulting in fewer housing units, and lower household sizes resulting in more housing units. In Monterey and Santa Cruz counties, household sizes are anticipated to decline slightly over time because of the aging of the population

- Use published vacancy rates to assume that a certain percentage of the housing stock will be vacant through the forecast. A higher vacancy rate will mean more units but less population, while a lower vacancy rate will mean more population

Census 2000 and DOF provide data on group quarters population, which is defined as a person not living in households. This typically includes those living in institutions (such as correctional facilities, nursing homes, dormitories, and juvenile institutions), or ten or more unrelated persons living together not in institutions at the time of Census enumeration.

Estimates of future group quarters were made for each county based on the best available information from large institutions such as University of California at Santa Cruz, California State University of Monterey Bay, the Defense Languages Institute and other organizations with significant group quarters population.

The number of households is calculated by dividing household population by average household size within the given county. The 2008 Regional Forecast used the household size numbers provided by DOF. Household sizes were analyzed and adjusted over time to account for the effects of an aging population in each county. In Monterey county, in particular, the aging of the population required small downward adjustments to average household sizes through the end of the forecast.

Adding the vacancy rate from DOF to the number of households yields the number of housing units for each county. Vacancy rates are assumed to remain relatively stable across the forecast period.

Land use and other regulatory constraints are implicit in the supply assumptions and within the 2008 Regional Forecast, were identified through consultation by FTAC members.

After these steps are taken, there are housing units to distribute to jurisdictions.

Disaggregating Housing Projections

Residential location decisions are couched in a complex set of choices in which residents choose a location based on the accessibility that location provides to employment, to services and to amenities. Household location decisions are further influenced by “quality of life” considerations such as the reputation of schools, neighborhood stability and characteristics, and, of course, by the relative price of housing and taxes. Consequently, residential locations are selected on the basis of the best combination of goods and services.[1]

[1] Bickers, K. N., Lapo Salucci, and Robert M Stein (2006) "Assessing the Micro-Foundations of the Tiebout Model**"** *Urban Affairs Review Vol 42 N 1 57-80;* Tiebout, C., "A Pure Theory of Local Expenditures", *The Journal of Political Economy*, 64(5):416-24, 1956)

Estimating exactly how households weigh these factors in making a location decision is complicated, and extrapolating the results of these decisions to the overall land-use pattern easily confounds individual decisions with larger scale patterns that are influenced by factors that households may not consider, such as General Plan policies. Several possible methods were considered to disaggregate the county level housing projections. One method was to rely upon adopted General Plans.

Using General Plans as the basis for forecasting local development is a flawed approach because most General Plans rely on data from older AMBAG forecasts. Because most plans are fairly old, making the current forecast dependent on those plans will ensure that the forecast will have less and less to do with future outcomes. Instead, General Plans and Specific Plans are incorporated into the forecast through information provided by local jurisdictions to AMBAG, identifying where and what kinds of future growth will go.

Also, a review of General Plans in the region and discussions with staff at local agencies revealed a potential supply of residential sites that far exceeded the demand for units anticipated by the forecast. Therefore, the planned supply of land, by itself, should not be used to distribute housing units in this forecast.

Trend Based Forecasting

Because residential location decisions are based on a certain degree of "shopping" for communities that provide the right combination of services and amenities, the forecast assumes that residential decisions are driven by demand for the best location and that residential sorting has more to do with an area's accessibility to services, amenities and jobs, and less to with the overall supply of land as envisioned in a local plan.

New households in the Monterey Bay area have been making choices about location for a very long time, and those choices are reflected in concentrations of the built environment in the three counties. In recent years, however, environmental, water and other constraining factors have shifted the location of residential growth. Very recently, some changes such as the development of the Fort Ord land suggest that the previous pattern of development may change in the near future.

The disaggregation methodology therefore considers each of these factors in allocating the county forecasts to localities. First, an analysis of the pattern of recent development was undertaken. The rate of development in each county has been remarkably stable over the last twenty years and longer. This means that calculating the moving average growth of each jurisdiction in any decade and using that moving average to forecast growth in the next decade can be a reliable means to develop a robust, local level forecast. This method was used as a baseline for developing future housing construction rates, and adding the moving average of units to the existing housing stock as of January 1, 2007.

In Monterey County, for example, all jurisdictions together built an average of about 1,000 units a year between 1997 and 2007. While annual county-wide production varies, much of that variation is consistent with statewide trends, such as the housing boom between 2003 and 2005, during which local construction rode the wave of statewide activity. Conversely, there was a significant drop in construction activity in the state and in the region during a national recession in the early 1990s.

Even though there are variations from year to year in construction activity, the total number of housing units built in Monterey county each year has held steady for a long time, suggesting that the demand for housing, and the ability to pay for it, is finite and is contingent on other factors besides planning activities.

Since the county level forecasts are strongly consistent with the steady but moderate growth suggested by the DOF data, and given that most jurisdictions in the region anticipate either about the same rate of growth or a higher level of growth, using a moving average methodology is a useful approach.

AMBAG staff calculated a ten-year moving average of housing units built in each year for all jurisdictions and then projected that moving average forward through the end of the forecast. In this way, jurisdictions that consistently build about the same number of units each year, such as Salinas and unincorporated Monterey county—who together account for more than half of the county's units, are accurately represented in the forecast.

These housing units were proportionately distributed to the TAZ level within the given county based upon a pattern established in the 2004 Forecast. Using the 2004 Forecast as a baseline, new units were added additionally to each five year increment within the forecast period and proportionately adjusted to be consistent with DOF's average housing unit construction trend.

AMBAG provided these draft housing unit numbers to its Forecast Technical Advisory Committee (FTAC) members for jurisdictional review. Based upon comments received, AMBAG adjusted the housing unit numbers and distributed again to FTAC. If no specific build-out or projected housing development information was provided for a specific TAZ, AMBAG staff applied the average DOF construction numbers.

Further consultation with FTAC members revealed that the demand for group quarters in Santa Cruz and Monterey counties was higher than reflected in the draft housing projections. Consequently, the split between housing units and group quarters was shifted to account for this change.

Monterey County Housing Unit Sub-Routine

Demand for housing and the production of units in each county has been steady over time. In Monterey county for example, the total number of units annually produced in the county has been steady over the last twenty years. Variations in the total production are consistent with trends in the state economy. This suggests that demand for housing in Monterey county is relatively constant over time, and that changes in the supply of land do not affect total demand, even if it displaces development from one part of Monterey county to another.

With normal distribution patterns, ten-year moving averages are a robust method for calculating how many units each jurisdiction will build over the forecast. Calculating total production of units over the forecast period accounts for almost all of the units anticipated in the forecast. Since the cohort-component model and the moving average of units at the local level are different methods but still converge on essentially the same estimates, we can identify a level of cross-consistency between the two approaches.

There is also a good initial distribution of units over the forecast by jurisdiction. Because several jurisdictions have indicated that they will be growing faster in the future because of the redevelopment of Fort Ord or a change in limiting conditions, staff worked with ABAG to adjust the forecast to accommodate future units. By carefully considering the aging of the population and the rates at which people form households as they age, staff was able to identify additional units that could be associated with the given population figures.

The additional 9,981 units had to be distributed to jurisdictions in a manner consistent with demand for housing. While it might have been possible to allocate units according to some measure of supply, such as plan capacity, supply of land is not a constraint per se on where units go in Monterey county. Therefore, we should not use supply measures. Instead, following residential sorting theory as described by Tiebout and others, we assume residents choose communities for a variety of reasons, access to jobs, to amenities and so on. Because these locational advantages are extremely difficult to disentangle, we use instead the total housing stock of jurisdictions as a weight to distribute units, assuming the existing housing stock reflects the combined effects of social, economic and other attraction factors over time and is a useful proxy for the relative attractiveness of those jurisdictions.

Monterey County was divided into several market areas. The jurisdictions comprising Fort Ord formed one market area, the Salinas Valley cities excepting Salinas formed another market area, while Salinas and the unincorporated county formed separate market areas. The portion of the unincorporated county that was inside Fort Ord was considered to be part of the Fort Ord market.

Because Salinas and the unincorporated county have not faced similar constraints as the Fort Ord jurisdictions,

both Salinas and the county are assumed to grow at their moving average over time, with a slight upward adjustment to account for the overall increasing demand for housing at the end of the forecast.

As a proxy measure of the overall attractiveness of these market areas, the relative share of housing stock of both Fort Ord and Salinas Valley markets together was calculated as a weighted measure to allocate the additional units. The following table describes how the additional units were assigned to the sub-market areas.

Assigning additional units to sub-market areas

Sub-Market Area	Relative share of housing stock	Share of additional 9,981 units
Fort Ord	72%	6,300*
Salinas Valley	28%	3,681
Total	100%	9,981

*72 percent of 9,981 is 7,186 units, but due to water constraints only the Fort Ord component is distributed, consistent with the number of units accommodated by allocated water resources. Some jurisdictions, such as Marina, have other water resources for projects, and that is already accounted for in the moving average calculation. The remaining 886 units were distributed to the Salinas Valley jurisdictions.

Within each sub-market area, the additional units were distributed equally, on the basis that each jurisdiction is as attractive to new households as any other within the same sub-market area.

Employment Projections

Forecasting future employment starts with a representation of the existing local economy and how it relates to existing employment. Assumptions about growth and productivity are applied to describe the economy and resulting employment in future years. In the 2008 Forecast, the current economy is portrayed through an Input/Output analysis.

While the economy's product is often thought of as tangible goods and services, there are additional "intermediate goods" that are sold as wholesale. These goods go into making the final output of other industries or final demand for industrial production. Additionally goods are bought and sold beyond a region. This net trade also factors into the analysis. Employment estimates must consider this because a job can be supported by the goods and services sold as final output, as intermediate output or as an export beyond the region. The total of all three types of output is described as an area's Gross Output.

Input/Output Analysis

Input/Output (IO) analysis is a widely used tool for studying the interdependence among productive sectors of the economy at the regional level. Through the application of an IO matrix, forecasters can produce robust employment estimates using a relatively simple mathematical procedure. In this procedure, total demand

for an industrial sector's output is equal to intermediate demand (demand from other industries) plus final demand (sales to consumers). Employment is a function of industrial output that varies with the level of final demand.

ABAG purchased the current data package from the Minnesota IMPLAN group. IMPLAN® Data Files combined with the IMPLAN Professional software system allow the user to develop local level Input-Output models that can be used to forecast employment. IMPLAN Data Files include information for a set of highly disaggregated industries. ABAG primarily used the following government data sources:

- US Bureau of Economic Analysis Benchmark I/O Accounts of the US
- US Bureau of Economic Analysis Output Estimates
- US Bureau of Economic Analysis REIS Program
- US Bureau of Labor Statistics Covered Employment and Wages (ES202) Program
- US Bureau of Labor Statistics Consumer Expenditure Survey
- US Census Bureau County Business Patterns
- US Census Bureau Decennial Census and Population Surveys
- US Census Economic Censuses and Surveys
- US Department of Agriculture Crop and Livestock Statistics
- US Geological Survey

Using this software and data, ABAG staff produced the information needed for the forecast through a number of steps. First, staff estimated individual Social Accounting Matrices, a more comprehensive version of the Input-Output matrix, for Monterey, San Benito and Santa Cruz counties for the most recent year. The economic sectors were aggregated into 13 categories

- Agriculture and Mining
- Construction
- Manufacturing
- Information
- Transportation
- Wholesale
- Retail
- Finance
- Professional Services
- Education
- Entertainment
- Public Administration
- Other

These sectors are generally comparable to broad categories in the North American Industrial Classification System and are used in the Census Transportation Planning Package.

Second, information from the Social Accounting Matrices is taken to produce a Regional Transaction Table. This table shows the total transactions, in dollars, between each industry, Final Demand for each industry's production, and the Total Industrial Output by industry for an area.

Input-Output analysis makes simplifying assumptions about the structure of the economy that results in taking the transactions table and producing a matrix of technical coefficients. This matrix is similar to the transactions table; instead of describing total dollar transactions between industries, it describes the interactions per industry for each dollar of final demand.

As a third and final step, the matrix of technical coefficients can be translated into "employment multipliers." These multipliers estimate the employment necessary for each dollar of economic output and include the effects of changes in industrial production, inter-industry purchases and changes in household spending. These changes produce new jobs.

Employment by Industry Forecast

For the 2008 Regional Forecast, Employment is defined as a job, by place of employment, consistent with the U.S. Census definitions. A job can be part-time or full-time, and it is located at the place of actual work, which may not necessarily be the place of business.

ABAG divided jobs in the Forecast into industrial categories. Organizations are categorized into these different groups consistent with the North American Industrial Classification System (NAICS). Any employment by these organizations is counted in that industrial category. This is different than employment by occupation. For example, an accounting job might occur in any of the different industrial categories depending on the type of organization of the employer.

ABAG staff used a special tabulation of the Census 2000 data called the Census Transportation Planning Package (CTPP) to set base year employment estimates because it provided employment by place of work. Since the CTPP is a survey sample of a person's primary place of employment, adjustments were made to calculate total employment in an area. ABAG scaled the basic CTPP information to account for the proportion of people who were absent from work during the survey week.

Because there is recorded information for 2005, ABAG staff estimated total 2005 employment differently than the forecast years. Once the base year 2000 numbers were established, the 2005 numbers were estimated using the Industry Employment estimates recorded by EDD and scaled by the difference between the 2000 EDD industry employment and the Census 2000 employment.

<u>Input Output Model Assumptions</u>

Because this is a long-term forecast, there is a relatively smooth pattern of growth for the intermediate periods. The forecast is not meant to identify economic cycles over time; however in the early years, it does recognize published information. The average growth rates in employment are meant to represent overall growth that

will include both periods of unusually high growth and periods where economic contractions take place.

Overall, job growth is about one percent annually for each county's economy. The rate of growth is highest for San Benito County at 28% during the thirty year forecast period. It is followed by Santa Cruz County at 27% and Monterey County at 22%. San Benito's growth is related to a higher rate of population growth and the local services that population will generate. While there is likely to be some addition to jobs dependant on exporting goods and services beyond the county, that activity is unlikely to be the major driver of economic growth. Santa Cruz County's economy has a greater emphasis on high technology and education which are expected to have relatively high levels of growth. Monterey County's economy is driven by agriculture, tourism and jobs that serve the local population. As a result of its economic mix Monterey County's economy is growing somewhat more slowly than the other counties.

It is important to keep the differences between these areas in mind because they create differences in the broad industry categories that we have used to represent the economies. Professional Services is a category that can represent local real estate agents in one area and software engineering firms in another area. Just as the Manufacturing category might describe food processing in one location and a bicycle factory in another.

As a result, while the economic inputs follow the same pattern, they are numerically different to reflect the actual differences in the local economies. As explained previously, the employment forecast is driven by the demand for goods and services from each county economy. Growth in each county's final demand is between one and two percent annually, although the growth rate of final demand will vary by industry. For each county, we assume that service industries and technology based industries will grow more rapidly than traditional manufacturing or local serving industries. The model takes final demand and calculates total output. The relationship of total output to employment yields the employment estimate.

Change in Employee per $ of Output 2005-2035

	Monterey	Santa Cruz	San Benito
Farming	-35%	-33%	-35%
Construction	-36%	-38%	-53%
Manufacturing	-39%	-36%	-64%
Information	-39%	-47%	-80%
Wholesale	-40%	-32%	-77%
Retail	-36%	-39%	-73%
Transport	-33%	-34%	-72%
FIRE	-38%	-36%	-74%
Prof. Services	-41%	-37%	-67%
Education	-39%	-42%	-74%
Entertainment	-40%	-31%	-76%
Other	-39%	-36%	-62%
Pub Admin	-34%	-33%	-64%

Differences in the Dollars of Final Demand per Employee			
	Monterey	Santa Cruz	San Benito
Farming	188	146	137
Construction	124	119	134
Manufacturing	437	419	293
Information	172	160	33
Wholesale	74	56	43
Retail	71	67	98
Transport	116	129	98
FIRE	139	145	187
Prof. Services	88	84	39
Education	52	49	27
Entertainment	86	77	68
Other	171	163	140
Pub Admin	145	137	118

While there are demands for each economy, goods and services are the key drivers of the forecast. Another important factor is the rate of productivity growth or the number of employees necessary to produce each dollar of output. The table to the previous page represents the growth in productivity or the change in number of employees per dollar of output during the forecast period.

While the growth in productivity is higher in San Benito County, the base year level of productivity is lower in San Benito than in the other two counties. ABAG staff believes this is due to differences in the specifics of the industries that make up the various county economies.

Specific differences in the local industries result in somewhat different rates of growth for the employment forecast. ABAG's comparison of the forecast results to other sources of employment data show that the overall rates of growth in the different counties are relatively stable and roughly comparable. The table to the left shows the differences in the dollars of final demand per employee in the three counties. Monterey and Santa Cruz are generally closer than San Benito for each of the industries. The relationship of Final Demand to Total Output will also differ by county. There will be differences in the amount of intermediate goods needed to produce each dollar of final demand. Again, this is due to the differences in the detailed economy make up of each economy and does not imply that one county is necessarily more productive than another for the exact same industrial process.

Comparisons to Other Data

EDD Industry Employment numbers are also used as a point of comparison for the forecast. They are available annually since 1990 and provide a useful way of examining recent historical employment trends.

A rough comparison was also made of the number of workers in the CTPP to employment numbers. The CTPP shows a net out-commute for each county in the region for the year 2000. A rough reconciliation of the working age population forecasted for 2035 shows a

continued net out-commute, with the outflow becoming larger in San Benito County.

The model establishes the relationships between the different industries in each county. A base year estimate of gross county output by industry is produced. Gross output grows between two and ten percent in each five-year period. Professional Services, Education, and Entertainment are the faster growing sectors in each county.

Employment estimates are made by dividing Gross Output by the jobs per dollar of Gross Output. While the Input-Output model establishes this relationship in the base year, some mild productivity assumptions are used over the forecast period so that jobs per dollar of Gross Output decrease by one to two percent in each five-year period.

FTAC Input for County Level Projections

ABAG staff made several presentations to the Forecast Technical Advisory Committee describing the methods, the assumptions, and the results of the economic and demographic modeling. Most questions centered on obtaining a more thorough understanding of the process, a comparison of ABAG's proposed modeling to the method used in the previous forecast, and a more specific description of the results.

Employment Disaggregation Methodology

Once county level employment forecasts were complete, AMBAG compiled ABAG's CTPP industry classifications into a classification consistent with the six industrial categories that are used in the AMBAG Travel Demand Model, and then staff constructed a shift-share model to distribute the employment forecast to jurisdictions. The resulting analysis is described below.

Classifying CTPP Employment to Travel Demand Model Employment Classifications

The following table summarizes how the categories used in ABAG's county totals are partitioned into AMBAG Travel Demand Model categories.

ABAG Industry Categories Organized into Travel Demand Categories

	Retail	Service	Industry	Const.	Agric.	Public
Farming					X	
Construction				X		
Manufacturing			X			
Information		X				
Wholesale			X			
Retail	X					
Transport			X			
FIRE		X				
Prof. Services		X				
Education						X
Entertainment		X				
Gov/Military						X

Shift-Share Analysis

Once AMBAG received the county employment totals derived from ABAG's Input-Output model, staff was responsible for disaggregating this data for each jurisdiction. Staff used shift-share analysis for this disaggregation. Because local area employment data from the Census was only available for the year 2000, jurisdiction level employment data by industry sector for 2005 was acquired from the Economic Development Department to adjust and update base year employment distributions for TAZs.

Shift-Share analysis is a tool used by planners and economists to forecast local employment changes resulting from changes in employment in base year periods for some larger reference economy. Shift-Share has been used to forecast employment changes by industry for county level studies, using forecasted changes in the state economy as a reference point for forecasting county level employment changes. If the county distribution of employment among industries is exactly the same as the state's distribution of employment among industries, it is possible that future employment growth in the county will be exactly proportionate to the state's employment growth.

Usually, however, there are differences between a county's mix of employment among industries and the reference economy's mix of employment. Shift-Share is a useful tool for analyzing how each locality, often specializing in some service or product, will be affected by changes in other employment sectors at the county level.

Shift-share recognizes that local employment sectors rarely grow at the same rates as regional employment. The technique divides local employment growth into three components, which when summed equals the observed change in the local employment. These components are:

- Share change--Trends in the larger economy of which the local economy is a part
- Mix change-- Industry-specific factors or an economy's overall industrial mix
- Shift change-- Local influences on industry performance

AMBAG staff used Census 2000 and EDD 2005 data for analyzing the share change within each of the three counties and the shift change at the jurisdictional level. Proportional ratios of employment sectors to its county employment totals were derived to represent the mix change portion of the shift-share technique. Lastly, consultation with jurisdictional representatives about local trends that may not be reflected in Census and EDD data was used to define shift change.

All three factors for a given jurisdiction were compiled to express the change for that locality and projected over the forecasted period.

Assumptions about AMBAG Employment Methodology

In the 2008 Forecast, AMBAG staff organized employment data into six sectors Agriculture; Public; Retail; Services; Industry; and Construction. Provided below is a detailed description of the various industries included within each of these sectors and the relevant assumptions made specific to their influence on the employment forecast.

- **Retail**

Retail employment includes jobs for employees engaged in on-site sales of goods and merchandise, excluding restaurant employees. Retail is one of the six employment sectors that AMBAG assumed maintained a stronger correlation to population growth, increases in housing development and other salient location factors such as existing concentrations of retail. For the Shift-Share analysis, retail employment trends were adjusted to account for the shift in the future distribution of housing, directing more retail employment to county areas such as Fort Ord that will see significant changes in housing stock.

- **Service**

Service employment is of the six sectors the broadest, covering "value-added" activity, such as medical, legal, financial or restaurant employees. Like retail, service is strongly influenced by location factors such as concentrations of existing business activity.

- **Industry**

The 2008 Forecast's Industry employment sector includes all jobs pertaining to light and heavy manufacturing, agricultural processing, wholesale production, and freight transportation. Less likely to be influenced by population and housing development trends, the aggregation of industrial jobs tended to follow existing concentrations of industrial employment, consistent with the agglomeration patterns typical of value-added interdependencies between different manufacturers along the supply chain.

- **Construction**

The Construction sector is all jobs related to residential, commercial, industrial, and infrastructural construction, maintenance and repair. Because most construction jobs migrate from site-to-site, projected jobs were aggregated to the TAZs containing base locations for construction employers.

- **Agriculture**

The Agriculture sector includes all jobs related to farming, mining and extraction. Agricultural employment, like construction employment, can be difficult to pinpoint, but land use designations prescribing agricultural uses are obvious zones to allocate agricultural employment.

- **Public**

The Public sector represents both public employment and other unclassified employment identified in employment data sources. This sector specifically

includes all employment in public sector agencies such as public administration, education, including private education, social services, and military along with other local, state and federal employees.

TAZ Disaggregation Methodology

First Redistribution Based on FTAC Input

In the 2008 Forecast, staff first distributed county control totals provided by ABAG proportionately to each 2004 Forecast TAZ in the region, by county. If, for example, TAZ 1 had 10 percent of all of the retail employment in a given year in the county in which TAZ 1 is located, then that TAZ received 10 percent of the retail employment for that year as given in the countywide forecast.

Two principle factors required further development of the TAZ allocation. First, because the 2008 Forecast is substantially lower than the Woods & Poole driven forecast of 2004, some TAZs show progressively smaller allocations because those TAZs' share of the total allocation declined relative to other TAZs, resulting in a misleading pattern in which TAZs that did not change over time in the 2004 Forecast were initially shown to decline in the 2008 allocation. Consequently, TAZs that were considered to be "built-out" in 2004 erroneously appeared to decline over time in the 2008 projections.

Secondly, many jurisdictions' anticipated future growth plans changed in the interim between forecasts. With annexations, the development of Fort Ord and economic events impacting local jurisdictions, there was a need to revisit the overall distribution of the forecast in each county.

In October through December 2007, AMBAG staff met with senior staff at the various jurisdictions to explore and, to the extent possible, quantify how the new forecast might affect each jurisdiction. As expected, not all anticipated changes at the local level were supported by the county level forecasts.

In order to prepare the most reliable forecast that met local expectations, AMBAG prepared a methodology to forecast jurisdiction level housing and employment forecasts. For the most part, the greatest common denominator in terms of local level confidence about future development was in anticipating future housing development.

Second Redistribution

Deriving Traffic Analysis Zone level projections requires several steps, which use the jurisdiction totals as control totals for the forecast. AMBAG's 2008 Forecast TAZ disaggregation methodology relies on three principal steps, these are

- An initial distribution of forecast numbers provided by ABAG at the county, distributed to TAZs

proportionate to their distribution in the 2004 AMBAG forecast, followed by FTAC input
- A tentative re-distribution to TAZs, based on meetings with staff from all AMBAG area jurisdictions, followed by FTAC input, and adjusted by revised jurisdiction control totals
- A final distribution based on feedback from FTAC members

Summary of FTAC Activity

As the Forecast Technical Advisory Committee, FTAC members provided input into each step of the forecast. Meetings with the FTAC were convened on the following dates:

- April 3, 2007
- April 26, 2007
- June 14, 2007
- July 19, 2007
- August 23, 2007
- September 27, 2007
- October 25, 2007
- December 20, 2007
- January 17, 2008

Each meeting of the FTAC focused on one or more aspects of the forecast process, often in terms of updates of recent staff activity. Also, over twenty meetings were held with on an individual basis with each jurisdiction to discuss the methodology and each jurisdiction's forecast numbers. There was consensus from FTAC members on both the methodology and the forecast numbers.

Appendices

FTAC Meeting Agendas

AGENDA

Regional Population and Employment Forecast Technical Advisory Committee (FTAC)

P.O. Box 809
Marina, CA 93933
(831) 883-3750
aflores@ambag.org

April 3, 2007 **1:30 p.m.**

Moss Landing
Harbor District Office
7881 Sandholdt Road
Moss Landing, California

1. **Call to Order**
2. **Roll Call**
3. **Agenda Item - Confirm**
4. **Public Comment on Items not on the Agenda**
   (A maximum of three minutes on any subject not on the agenda)

5. Overview of Population, Housing Unit and Employment Forecast

6. Discuss FTAC Assigned Responsibilities

A. Review the options for developing County level forecasts and provide a recommendation to the Board of Directors as to which option should be selected forecasts to local levels.

B. Select and implement a standard methodology to disaggregating the population forecasts to local levels.

C. Collect and proof local data needed to disaggregate the forecasts.

D. Develop recommendation on the final disaggregated forecasts.

7. Planning Technology

GIS
Modeling

- RTDM
- Land Use

8. Previous Methodologies

2004 Population, Housing Unit and Employment Forecasts
Proposed ABAG methodology

9. Special Session (if necessary)

Regional Housing Need Allocation based on 2004 Forecast

10. FTAC Schedule

11. Other
12. Adjourn

AGENDA

Regional Population and Employment Forecast Technical Advisory Committee (FTAC)

P.O. Box 809
Marina, CA 93933
(831) 883-3750
aflores@ambag.org

Moss Landing Harbor District Office
7881 Sandholdt Road

April 26, 2007 **1:30 p.m.** **Moss Landing, California**

1. **Introductions**
2. **Agenda Changes/Modifications**
3. **Public Comment on Items not on the Agenda**

4.(A maximum of three minutes on any subject not on the agenda)

5. **ABAG Forecast Methodology**
6. **Distribution/Visualization Software Functionality**
7. **Review of Previous FTAC Distribution Methodology**
8. **Other**
9. **Next Steps/Meeting**
10. **Adjourn**

AGENDA
Regional Population and Employment Forecast Technical Advisory Committee (FTAC)

P.O. Box 809
Marina, CA 93933
(831) 883-3750
aflores@ambag.org

Moss Landing Harbor District Office
7881 Sandholdt Road

June 14, 2007 1:30 p.m. to 2:30 p.m. **Moss Landing, California**

1. Introductions

2. Agenda Changes/Modifications

3. Public Comment on Items not on the Agenda
(A maximum of three minutes on any subject not on the agenda)

4. Report from ABAG

5. Performance Measures

6. Discussion of Blueprint In-Kind Form

7. Other

8. Next Steps/Meeting

9. Adjourn

AGENDA

Regional Population and Employment Forecast Technical Advisory Committee (FTAC)

P.O. Box 809
Marina, CA 93933
(831) 883-3750
aflores@ambag.org

Moss Landing Harbor District Office
7881 Sandholdt Road
Moss Landing, California

August 23, 2007 **1:30 p.m. to 2:30 p.m.**

1. **Introductions**

2. **Agenda Changes/Modifications**

3. **Public Comment on Items not on the Agenda**
(A maximum of three minutes on any subject not on the agenda)

4. **ABAG Forecast Methodology**

5. **Disaggregation Methodology**

6. **Visualization**

7. **Next Steps/Meeting**
8. **Adjourn**

AGENDA

Regional Population and Employment Forecast Technical Advisory Committee (FTAC)

P.O. Box 809
Marina, CA 93933
(831) 883-3750
aflores@ambag.org

Moss Landing Harbor District Office
7881 Sandholdt Road
Moss Landing, California

September 27, 2007 **1:30 p.m.**

1. **Introductions**

2. **Agenda Changes/Modifications**

3. **Public Comment on Items not on the Agenda**
   (A maximum of three minutes on any subject not on the agenda)

4. **ABAG County Level Forecasts**

5. **TAZ Level Disaggregation**

6. **Other**

7. **Next Steps/Meeting**
8. **Adjourn**

AGENDA

Regional Population and Employment Forecast Technical Advisory Committee (FTAC)

P.O. Box 809
Marina, CA 93933
(831) 883-3750
aflores@ambag.org

Moss Landing Harbor District Office
7881 Sandholdt Road
October 25, 2007 1:30 p.m. Moss Landing, California

1. **Introductions**

2. **Agenda Changes/Modifications**

3. **Public Comment on Items not on the Agenda**
   (A maximum of three minutes on any subject not on the agenda)

4. **Discuss 2005-2035 Population, Housing Unit and Employment Forecast Disaggregation**

5. **Other**

6. **Next Steps/Meeting**

7. **Adjourn**

AGENDA

Regional Population and Employment Forecast Technical Advisory Committee (FTAC)

P.O. Box 809
Marina, CA 93933
(831) 883-3750
aflores@ambag.org

Moss Landing Harbor District Office
7881 Sandholdt Road
Moss Landing, California

December 20, 2007 **1:30 p.m.**

1. **Introductions**

2. **Agenda Changes/Modifications**

3. **Public Comment on Items not on the Agenda**
(A maximum of three minutes on any subject not on the agenda)

4. **Consideration of Draft Forecast Distributions and County Control Totals**

5. **Other**

6. **Next Steps/Meeting**

7. **Adjourn**

AGENDA

Regional Population and Employment Forecast Technical Advisory Committee (FTAC)

P.O. Box 809
Marina, CA 93933
(831) 883-3750
aflores@ambag.org

Moss Landing Harbor District Office
7881 Sandholdt Road
Moss Landing, California

January 17, 2008 **1:30 p.m.**

1. **Introductions**

2. **Agenda Changes/Modifications**

3. **Public Comment on Items not on the Agenda**
   (A maximum of three minutes on any subject not on the agenda)

4. **Consideration of Group Quarters and other Housing issues in the Forecast**

5. **Other**

6. **Next Steps/Meeting**

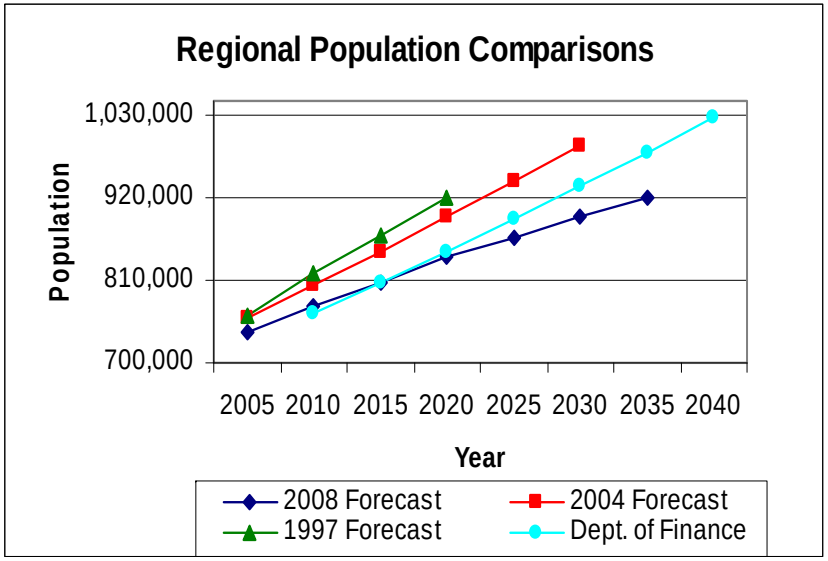
7. **Adjourn**

Forecast Comparisons: 1997, 2004, 2008, and Department of Finance

AMBAG updates its regional forecasts periodically to incorporate the latest demographic data available and to extend the forecast's horizon year. Using five-year increments, the 1997 AMBAG regional forecasts covered the period between the years 2000 and 2020, and the 2004 regional forecasts covered the period between the years 2000 and 2030.

The 2008 AMBAG Population, Housing Unit and Employment Forecast extends the time horizon to 2035. Comparing the 1997, 2004 and 2008 forecasts with 2007 forecast data provided by the Department of Finance (DOF), the Monterey Bay region continues to see a slowing in its population growth. For the year 2020, the 2004 Forecast projected that nearly 26,000 less people would live in the region compared to population totals estimated in the 1997 Forecast. The 2008 Regional Forecast for the same year shows an additional 6.5 percent decline in population growth, or 54,500 less people, compared to the 2004 Forecast.

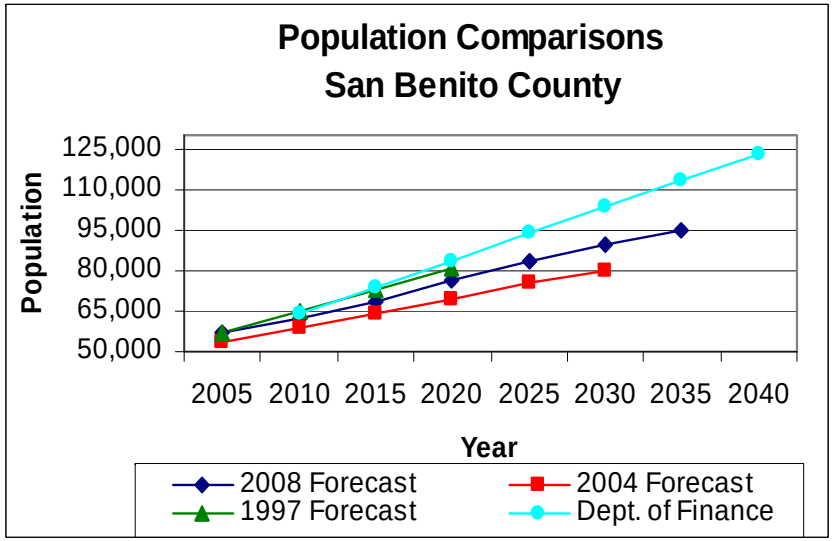
Consequently, each subsequent forecast has a comparatively lower average annual rate of population growth to its preceding forecast. In 1997, annual growth was about 1.4 percent, while the 2004 and 2008 forecasts projected annual growth rates of 1.2 percent and 0.8 percent, respectively. DOF projections were slightly higher than the 2008 Regional Forecast at 1.1 percent average annual growth.

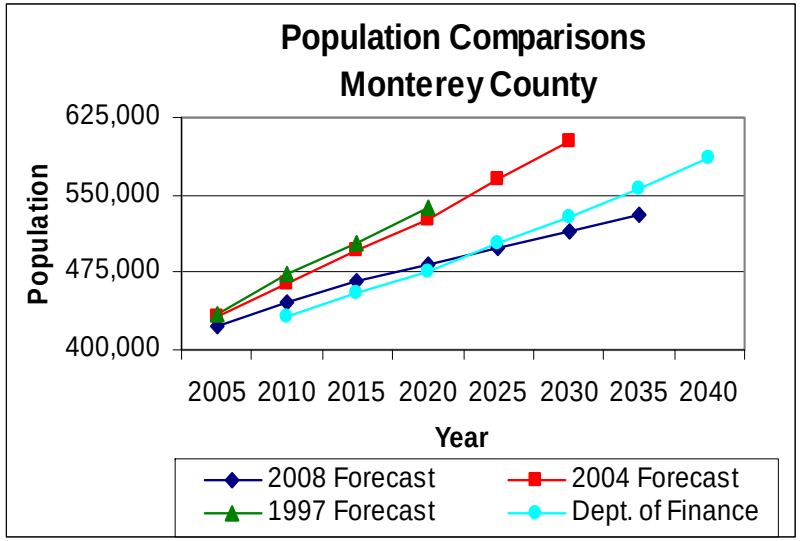


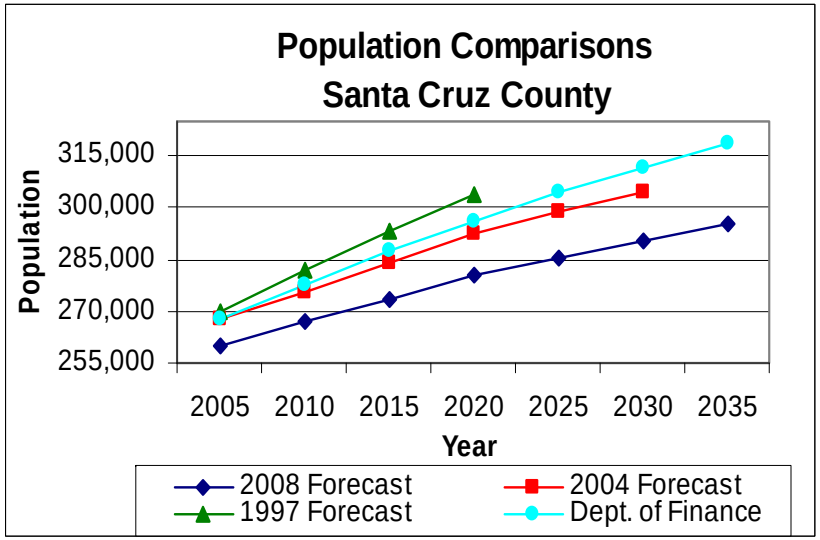
Population Comparisons for 2005 and 2010		
	2005 Population	2010 Population
2008 Forecast	740,048	774,781
2007 DOF Forecast	740,048	765,529
2004 Forecast	753,378	798,617
1997 Forecast	762,827	819,106

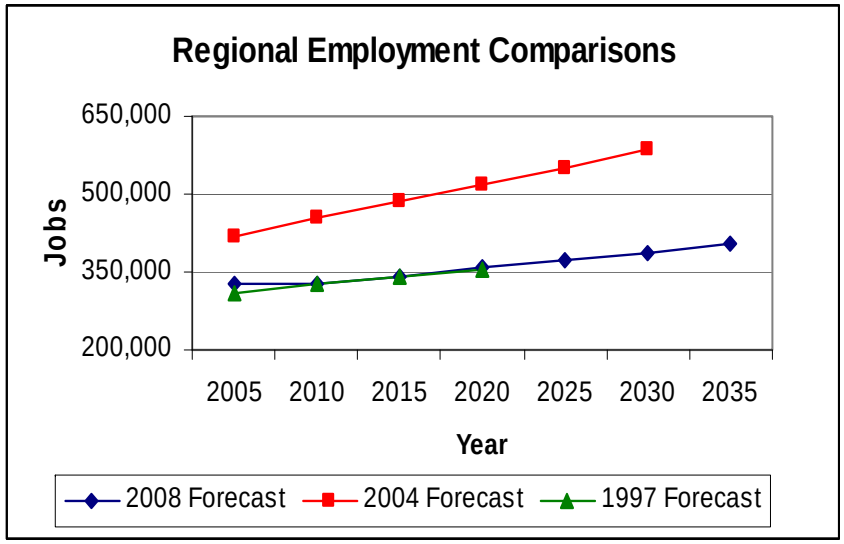
As the graphs on this page depict, the county specific population trends are similar throughout the region, except for San Benito County. The 2008 Regional Forecast projects more people will live in San Benito within the forecast period than forecasted in the 2004 Forecast. Additionally for Santa Cruz County, DOF forecasts a higher population than in the 2008 Regional Forecast.

The 1997 and 2008 Employment Forecasts are very similar when compared to the 2004 Forecast. For the year 2020, the 1997 Forecast projected approximately 353,700 jobs and an average annual growth rate of one percent for the Monterey Bay region.



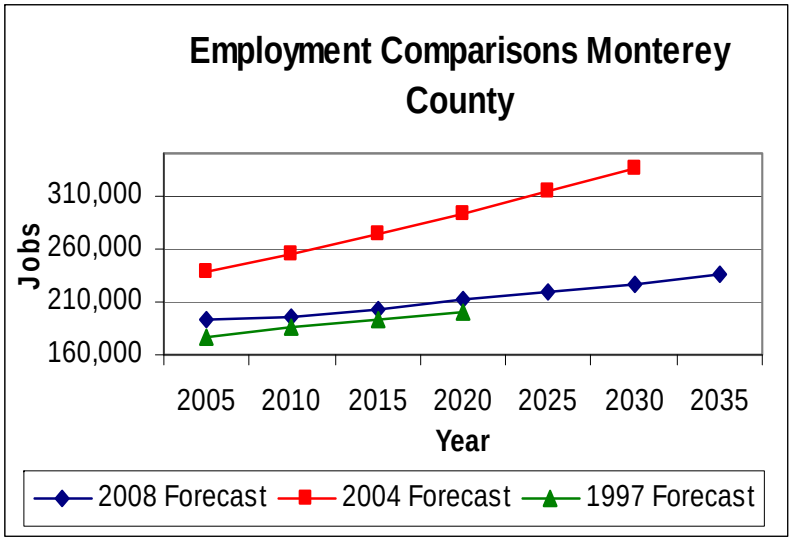




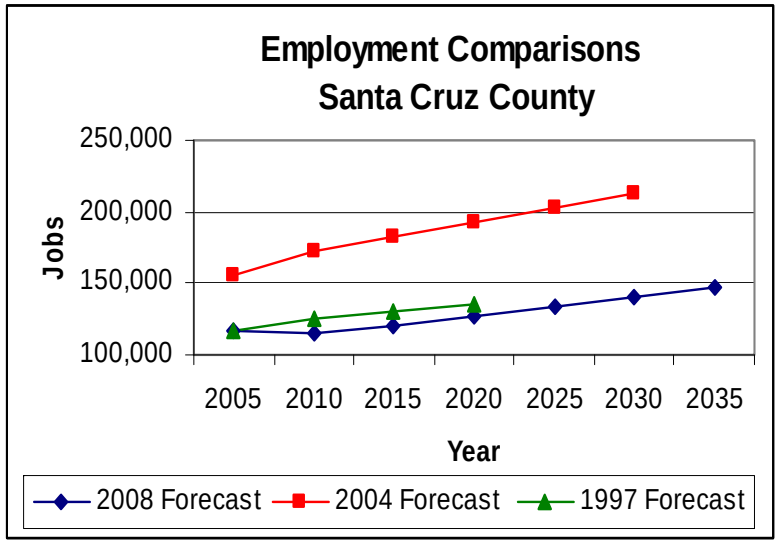


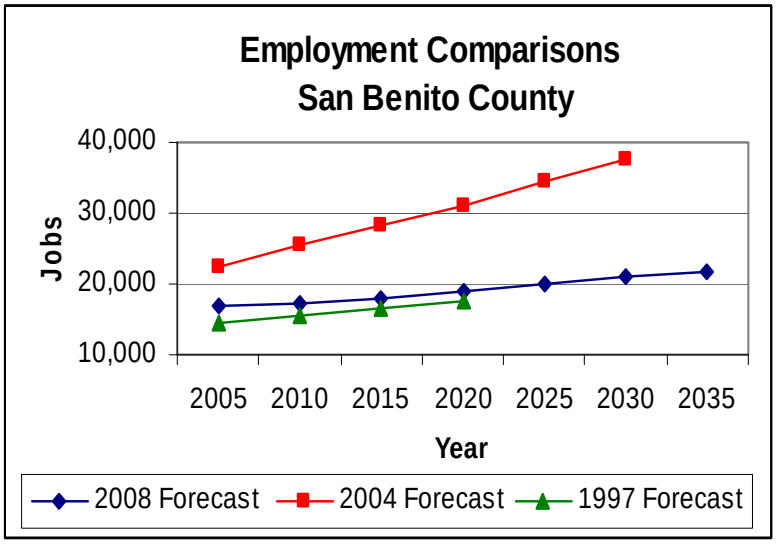
For the same year, the 2008 Forecast projected about 357,000 jobs, but maintains a slightly slower growth rate over its 30 year forecast period of about 0.8 percent. In contrast, the 2004 Forecast estimated over 160,000 more jobs than the 2008 Forecast for the year 2020 and projected faster growth (1.6%) over its 30 year horizon.

For the same year, the 2008 Forecast projected about 357,000 jobs, but maintains a slightly slower growth rate over its 30 year forecast period of about 0.8 percent. In contrast, the 2004 Forecast estimated over 160,000 more jobs than the 2008 Forecast for the year 2020 and projected faster growth (1.6%) over its 30 year horizon.



The three counties follow the regional employment trend closely. There are strong similarities in employment projections for each county between the 1997 and 2008 forecasts, but the 2004 Forecast is significantly higher in the number of jobs projected through the forecast period.





Since the 1997 Forecast did not provide projections related to housing growth, AMBAG staff only compared the 2004 and 2008 forecasts. The 2008 Forecast shows a lower rate of housing growth (~0.8% annually) compared to the 2004 Forecast (~1.1 percent annually) with a 17,000 unit difference between the two forecasts by the year 2030.

Summary of Growth Constraints:

2008 Water District Survey Summary

Between January and March 2008, the AMBAG staff distributed a survey to regional water and wastewater agencies that provide service to residential communities. The survey intended to determine any relevant water constraints in each district. Agency personnel completed the surveys either through email correspondence or through telephone follow-up with AMBAG staff. The survey questions focused on existing water capacity, the necessary capital and infrastructure improvements needed for 10 and 20 percent population growth, and any potential significant impacts the could affect future water supply.

AMBAG staff surveyed 16 agencies within the three-county region. San Benito County Water District and the City of San Juan Bautista did not respond to the questionnaire. To address missing data, staff used the *May* 2007 *Pajaro River Watershed Integrated Regional Water Management Plan'*s water supply and demand projections for 2025 as a basis for comparison with the 2008 Regional Forecast. Integrated management plans for the other two counties, which included the November 2007 *Monterey Peninsula, Carmel Bay, and South Monterey Bay Integrated Regional Water Management Plan* and the *2003 City of Santa Cruz Integrated Water Plan,* provided further information for determining the water needs and potential constraints within the jurisdictions of Monterey, San Benito and Santa Cruz counties.

The following is a summary of the agencies contacted, the jurisdictions they represent, and a brief comparative analysis of their expected water and sewer capacity with the projections identified in the 2008 Forecast.

Monterey County

Aromas Water District

- Unincorporated areas of Aromas and San Juan Bautista (Monterey and San Benito counties)

The Aromas Water District services over 900 homes and estimates that it can serve an additional 491 housing units. The district is expected to complete a water treatment project by April 2008 to improve service to existing residents but does not expect needing any infrastructure improvement to absorb a population increase of 10 to 20 percent. Any new projects face challenges given that the Pajaro Valley Water Management Agency must provide approval.

Carmel Wastewater

- City of Carmel-by-the-Sea and unincorporated areas of Carmel Valley

Carmel Wastewater could service an additional 12,000 housing units, up to a 90 percent population increase within its existing boundaries. While no capital

improvements are needed to accommodate a 10 percent population increase, 20 percent or more would require maintaining existing infrastructure and constructing new sewer systems. Funding and compliance with environmental review are two potential hurdles with any future capital improvement projects.

Castroville Community Service District

- Unincorporated community of Castroville

Castroville Community Service District could provide water and sewer supply for an additional 1,500 housing units. While there are no infrastructure projects currently planned, the district would need to upgrade its sewer system to accommodate a 10 and 20 percent population increase.

Marina Coast Water District

- City of Marina, north section of City of Seaside, Fort Ord

The Marina Coast Water District is capable of providing water to 5,744 more housing units. A proposed Water Augmentation Project, expected to come online in 2012, will add an additional 2,400 units and could provide for an additional 20 percent increase in population. The completion of the Water Augmentation Project will more than sufficiently provide for the projected increase in housing units in the 2008 Forecast.

Monterey Peninsula Water Management District (MPWMD)

- Cities of Monterey, Del Rey Oaks, Carmel-by-the-Sea, Pacific Grove, Sand City, portions of Seaside, and unincorporated areas of Carmel Valley Village and Carmel Highlands

Ninety-five percent of water users within the boundaries of Monterey Peninsula Water Management District (MPWMD) are served by California-American Water Company (Cal-Am). Water service by Cal-Am is constrained by State Water Resources Control Board (SWRCB) Order WR 95-10, which determined that approximately 70 percent of Cal-Am supply is based on unlawful diversion from the Carmel River. Order 95-10 requires any new water supply be used to reduce diversions from the Carmel River prior to allowing new users. Furthermore, SWRCB has issued to Cal-Am a Cease and Desist order in January 2008 to further restrict water use, up to an additional 50 percent if upheld.

Since 1993, MPWMD has been given a single, lump-sum supply of Cal-AM water to allocate proportionately to the jurisdictions within its boundaries. As of February 2008, 121 of the 342 acre feet of water remain. Some jurisdictions, like the City of Del Rey Oaks, has used up its allocated amount of water, while others, like Carmel-by-the-Sea and Pacific Grove, are very close to expending their respective allocation.

There are seven projects currently being discussed as options for providing a new water supply, including a few desalination proposals, groundwater replenishment, and

aquifer storage and recovery in the Seaside Basin, to meet the existing as well as future water needs of North Monterey county.

Monterey Regional Water Pollution Control Agency (MRWPCA)

- Cities of Monterey, Del Rey Oaks, Pacific Grove, Salinas, Sand City, Seaside, Marina, the unincorporated areas of Boronda, Castroville, Moss Landing, Monterey County, and Fort Ord

Serving many of the same peninsular communities as MRWPCA, this regional wastewater treatment and recycled water facility can provide service to an additional 25,000 housing units. Because its capacity exceeds that amount of residential units projected in the 2008 Forecast, no infrastructure improvements are needed to accommodate 20 percent population growth.

San Lucas County Water District

- Unincorporated San Lucas community

The 2000 Census documented 97 housing units in the unincorporated community of San Lucas and while unlikely, its water district expects that it can service an additional 97 housing units. No additional improvements are needed for a 10-20 percent increase, but San Lucas staff expressed that changes to surrounding farms and water pumping could impact the availability of potable water to this community.

San Benito County

City of Hollister and Sunnyslope Water District

- City of Hollister

Both the City of Hollister and Sunnyslope Water District provide water and sewer services within Hollister's jurisdictional boundaries. The City of Hollister's 2005 *Long-Term Wastewater Management Program for the DWTP and IWTP* projects demand of 4.50 million gallons per day (mgd) in 2023, or approximately 14,400 housing units. For the same year, the 2008 Forecast estimates Hollister at slightly over 15,000 units, an approximate deficiency of 600 units.

The City of Hollister calculates within its wastewater plan an annual residential growth of 2.6 percent. AMBAG, in comparison, projects a lower annual residential growth rate for the year 2023 at 2.2 percent. Considering the Forecast's slower rate or growth, the variances in water needs with regard to different types of housing units (single family, multifamily, group quarters), and the relative ease of expanding system capacity (as identified by City of Hollister staff), AMBAG staff does not see this marginal increase in residential units significant enough to warrant constraining Hollister's forecast projections.

The City of Hollister expects its existing sewer moratorium, which constrained projected growth in the 2004 Forecast, to lift in December 2008. In order to accommodate the expected growth as well as any

additional future growth, a new sewer project and upgraded sewer technology is needed.

City of San Juan Bautista

- City of San Juan Bautista

The City of San Juan Bautista did not reply to our questionnaire. To determine the presence of any existing or potential water constraints, AMBAG staff used California American Water's average reported groundwater yield for San Juan Bautista. The 400 gallons per minute (gpm) converted into approximately 1,840 units, providing approximately 700 more units than projected in the 2008 Forecast. The City's water and sewer system is more than 50 years old, however, and requires improvements to meet current standards.

San Benito County Water District

- Unincorporated areas of San Benito County

San Benito County Water did not respond to our survey questionnaire. Instead, AMBAG staff relied upon the information provided in the *May* 2007 *Pajaro River Watershed Integrated Regional Water Management Plan* to determine projected water supply and potential water constraints for unincorporated San Benito County. This plan estimates that for 2025, San Benito County will have a water demand of 95,000 acre-feet per year. Summing all its water supplies, including groundwater (54,000 afy), local surface water (~32,170 afy) and imported Central Valley Project (CVP) water (43,750 afy) there is a total potential supply of water of nearly 130,000 afy of water. For the same given year, 2008 Forecast's projected 25,800 units for San Benito County would require approximately 9,000 afy, or about 7 percent of the total water supplied. Because San Benito County's existing projections show no shortage of total water supply for the year 2025 and given that water supply for residential units is a small proportion of the water demand, AMBAG staff concludes that there are no water constraints.

Tres Pinos Water District

- Unincorporated Tres Pinos community and some areas within Gilroy and Hollister Valley Basin (Santa Clara County)

Tres Pinos could supply water for an additional 115 more housing units within its service area. Although there is no shortage of water and can accommodate the growth in the 2008 Forecast, the pipelines are old and the absence of both a back-up well and an extra storage for fire flow will limit lasting assurances of service capacity.

<u>Santa Cruz County</u>

City of Santa Cruz Water Department

- City of Santa Cruz, City of Capitola, unincorporated area of Live Oak.

Within its district boundaries, the City of Santa Cruz Water Department can accommodate over 3,500 more housing units, which is higher than the amount of housing units projected in the 2008 Forecast for the area. While there are no existing approved and funded projects online currently, the City of Santa Cruz, in partnership with Soquel Creek Water District, is proposing a

desalination plant for the Santa Cruz, Capitola and surrounding areas by 2015. Contingent on environmental review and CEQA permitting requirements, this desalination plant could assist in servicing more than a 20 percent increase in population growth.

City of Watsonville Public Works

- City of Watsonville, unincorporated areas surrounding Watsonville area and north Monterey County

The Department of Public Works' district capacity is 18,918 additional housing units, which is above the amount needed to accommodate the projected increase in housing units within the Forecast's 2005-2035 horizon. For this reason, no infrastructure improvements are needed to accommodate a 10-20 percent population growth.

Lompico County Water District

- Unincorporated Felton and Lompico communities

Because of the San Lorenzo Valley's topography, the Lompico County Water District contents that growth within its district's boundaries is improbable and cannot accommodate additional housing units. The District is currently implementing a meter moratorium that caps service. Lompico staff asserts that currently there are no prospective projects to increase service capacity. Any capital improvements would require accessing water sources from outside the district.

Scotts Valley Water District

- City of Scotts Valley

The District serves only the City of Scotts Valley and is operating at its water capacity level. A 20-year recycled water expansion project began in 2005, which the district estimates can serve an additional 337 additional housing units by 2025. Accounting for infrastructure improvement still yields slightly more than 200 forecasted units unaccounted for in terms of water supply. However, further discussion with district staff showed that the estimate of how many additional units could be served is flexible given the potential growth of the recycled water project, and that the district could serve the extra 200 units. Any population growth above 20 percent would require supplementing the recycled water program with groundwater recharge, possible desalination and a new water supply. However, these projects are not planned because a 20 percent growth in population is not expected to occur by 2035 according to district staff.

Soquel Creek Water District

- City of Capitola and unincorporated communities of Aptos, La Selva Beach, Opal Cliffs, Rio Del Mar, Seascape and Soquel.

Currently Soquel Creek Water could serve an additional 400 more housing units at its current capacity levels. A 10 percent increase in population would require an additional 1,000 afy. The 2008 Forecast projects for the City of Capitola over the 30 year time horizon an approximate 12 percent increase. According to water

district staff, mitigation requirements for new housing units will offset shortages through improved water conservation technologies. Also, a proposed 2015 desalination pilot project would provide an additional capacity increase needed to serve these units.