V. The Central Valley Region

The Central Valley is one of the most important agricultural regions in the nation (*fig. 84*). The Valley stretches 450 miles and encompasses parts of 19 counties (Great Valley Center 1998). [The number of counties included in the Central Valley varies by source. For example, the American Farmland Trust (1995) states that the Central Valley encompasses parts of 21 counties. According to the Great

Figure 84—The Central Valley region encompasses as many as 19 counties in central California (shaded area).

Source: 50 Individual States—Counties 1995

Valley Center, the Central Valley encompasses 19 counties (www.greatvalley.org/research/index.htm)]. Since the Central Valley is an economic rather than political region, its definition varies. It also varies because some authors count only counties that fall within the boundaries of the Central Valley and others include portions of counties. What is important, however, is that these counties are distinct from the urban centers of San Francisco, Los Angeles, San Diego and the Inland Empire of Riverside-San Bernardino. Nine of the nation's top 10 agriculturally productive counties are in California, and 6 of these are in the Central Valley (Agricultural Task Force for Resource Conservation and Economic Growth in the Central Valley 2000). The Central Valley has one-sixth the population and more than two-fifths of the land area of the State (Umbach 1997). One-quarter of the nation's food is produced in the region (Great Valley Center 1998). More than 250 agricultural crops are raised in the Central Valley. In some cases, the Central Valley is the only source of certain products on the American market. Thus, the nation's agricultural self-sufficiency is tied to the Central Valley's well being (Great Valley Center 1998).

Extensive growth is predicted for the region. DOF projects a population of 15.6 million by 2040, a tripling of the current population (American Farmland Trust 1995, Great Valley Center 1998). Residential and commercial growth is consuming an estimated 15,000 acres of Central Valley farmland each year (American Farmland Trust 1995). Urban growth will have an enormous impact on agricultural land in the Central Valley, and it will create pressure for higher taxes to pay for vastly expanded public services (American Farmland Trust 1995). Air quality is threatened by expanding urban growth. Studies conducted at the University of California have documented 25 to 30 percent yield losses in many crops in the Central Valley due to air pollution (Agricultural Task Force for Resource Conservation and Economic Growth in the Central Valley 2000). There is great potential for the development of a sprawling urban corridor from Sacramento to Bakersfield along Highway 99. Growth is driven by increased birth rates and continued immigration from around the Pacific Rim, and Central and South America. Residents are attracted by the Valley's lower housing costs that are less than those in the State's coastal areas. The Central Valley is facing the same set of choices in 1998 that Los Angeles and the San Francisco Bay Area faced 40 years ago (Great Valley Center 1998).

Although the value of agricultural production appears to have increased while losing farmland to urbanization, there is a point of diminishing returns. During California's post World War II sprawl, new agricultural technologies and additional irrigation allowed more intense agricultural production to occur although prime soils were being urbanized. This is no longer a viable option (Agricultural Task Force for Resource Conservation and Economic Growth in the Central Valley 2000).

Motivated by concern about the form future urban growth might take, the American Farmland Trust (1995) conducted a study of alternatives for future Central Valley growth. The study included computer mapping of probable development patterns and an analysis of the potential economic impact of development patterns on the agricultural industry and the financing of public services. The American Farmland Trust (1995) found that low-density urban sprawl would consume more than 1 million acres of farmland by 2040. Sixty percent of this land is estimated to be prime farmland. Low-density development would also eliminate 40,000 agriculture-related jobs, it would reduce total annual farm-related sales by more than $5 billion, and it would cost affected cities nearly $1 billion annually. In contrast, more compact, efficient growth would reduce farmland conversion to 474,000 acres, including 265,000 acres of prime farmland. It would save more than 21,000 jobs related to agriculture, retain nearly $3 billion in gross farm-related sales and would yield a $0.2 billion surplus annually to cities. The study also calculates costs for individuals. The low-density scenario would cost each new city resident an average of $123 annually while the compact growth alternative would result

in an average annual surplus of $27 for each resident. In some counties farmland loss will be proportionately much greater because those counties are expected to absorb a larger share of total population growth.

Fresno, Sacramento, and Stanislaus Counties can expect to lose about 20 percent of their prime farmland, compared to an average of 12 percent for all valley counties studied. Direct conversion of farmland is not the only way urbanization threatens agriculture. Farmland adjacent to residential development is more costly and risky to farm because of land use conflicts that arise. The spillover effects of agriculture such as noise, odors, blowing dust, and pesticide use can irritate neighboring residents, increasing growers' risk of liability. Within this "zone of conflict," agriculture is likely to suffer disruptions and economic losses from crimes such as pilferage of crops and vandalism of equipment. Productivity suffers when farmers avoid making capital improvements on land they believe will soon be urbanized. Low-density urban sprawl will subject agriculture to increased risk on an additional 2.5 million acres. A more compact growth pattern would reduce this zone by nearly 40 percent to 1.6 million acres (American Farmland Trust 1995). By 2040, low-density sprawl could reduce the value of agricultural products grown in the Central Valley by about $2.1 billion annually. The American Farmland Trust concluded that a "no growth" alternative is not an option for the Central Valley, but that agricultural interests, developers, environmentalists, and residents need to make decisions about the form of future growth.

When residents were asked to name the most important public policy issue facing the Central Valley today, a group of five growth-related issues took precedence. Nearly half of those surveyed said water, the environment and pollution, population growth and development, loss of farmlands and agriculture, and traffic and transportation are the biggest problems (Baldassare 1999). The region is also known as a "swing region" where neither of the major political parties has a voter registration advantage. Statewide elections could be affected tremendously, depending on how Central Valley residents vote (Baldassare 1999).

Central Valley residents also have a tendency to identify themselves with their city or community rather than with the region as a whole (Baldassare 1999). This coincides with the fact that the region is very large and diverse with distinct localities that have different local identities, media outlets, and labor pools (Umbach 1997). Geographically, the Valley is subdivided into northern and southern portions. The northern part is the Sacramento Valley and the southern part is the San Joaquin Valley. Even these two subregions are large and internally diverse (Umbach 1997).

The Central Valley is distinct from California as a whole in its predominance of private land ownership. A large proportion of California's land (49 percent) is government-owned (especially Federal). In contrast, much of the Central Valley is farmland and is almost entirely in private ownership (Umbach 1997). This has major implications for the rate of agriculture to urban conversion. Clearly, the rate of conversion has the potential to be higher in areas where private ownership predominates and where the potential for urban development creates a speculative land market.

The Central Valley has fewer physicians and hospital beds in comparison to California averages (Umbach 1997). It also has higher rates of births to adolescent mothers and higher rates of inadequate prenatal care than the State as a whole (Umbach 1997). Most Central Valley counties have higher rates of poverty than the California average. Median household income lags behind the State average and unemployment rates are high (Umbach 1997).

The northern part of the Central Valley provides much of the State's water. More water is exported from the Sacramento region than from anywhere else in the State (Umbach 1997). With competing demands for a limited water supply, water planning must be the foundation of Central Valley growth. For example, groundwater constitutes 15 percent of the State's annual net groundwater use.

Two-thirds of the depletion occurs in the Central Valley. With urban water demand expected to rise by 54 percent by 2020, the amount of water available to agriculture is certain to decline (Munroe and Jackman 1997).

Transportation

Worsening traffic congestion has resulted from the San Francisco Bay Area's robust economy and the growing number of commuters who travel from the Central Valley into the Bay Area. More drivers are on the road and they are traveling longer distances. The commute can be as much as a couple of hours to and from work, but to live closer to work in the Silicon Valley would require paying two or three times as much for a home (King 2000). More than 30,000 workers commute daily from Tracy, Manteca, Stockton, and Modesto to the Bay Area via the Altamont Pass—a 450 percent increase since 1980 (Munroe and Jackman 1997). One solution has been the development of the Altamont Express train, which will take passengers from Stockton to San Jose in 2 hours, and make stops in Manteca, Tracy, Livermore, Pleasanton, Fremont, and Santa Clara.

Traffic is less of a problem within the Valley than it is on interconnections between the Valley and the Bay Area. However, the traffic that does exist is causing serious air pollution in the Valley, particularly in the Sacramento metro area (Munroe and Jackman 1997). Air quality in the Valley has not met Federal standards for more than 20 years (Munroe and Jackman 1997). There is growing evidence that some of the Central Valley's air pollution comes from outside the region, mainly from the San Francisco Bay Area. A California Air Resources Board study found that 27 percent of ozone pollution in the San Joaquin Valley comes in from the Bay Area and Sacramento (Munroe and Jackman 1997). The Central Valley's topography hinders the dispersion of the pollutants, trapping and heating them. Air pollution not only affects humans but also affects crops. Currently, the counties in the northern part of the Central Valley have been most affected, but as development continues in the Valley, other counties will be affected as well (Munroe and Jackman 1997).

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Fresno County

- The county is the nation's number one agricultural producer.
- The two largest sectors of the economy are agriculture and services.
- Growth in the labor force outpaces job growth.
- The county is home to a large settlement of Hmong refugees.

History

The Yokut and Monache Indian tribes were the first inhabitants of the area (Clough and others 1986). The first explorers in the region were Spanish explorers seeking sites for missions. Don Pedro Fages entered the region in 1772, followed by Father Francisco Garcés in 1776, and Lieutenant Gabriel Moraga in the early 1800s (California Traveler, Inc. 1974, Clough and others 1986). In 1826, Jedediah Smith came with an overland trapping and trading expedition (Wallace W. Elliot & Company 1882). In 1844, General Fremont passed through the territory of Fresno (Wallace W. Elliot & Company 1882).

Fresno County was formed out of Merced County in 1856 (Outcalt 1925). Even before the county's formation, gold and copper were being mined in the Sierra Nevada and timber was harvested in large quantities (County of Fresno 1998). The Gold Rush brought the first settlers to the region (Winchell 1933). In the western part of the county, oil and coal production were the main industries. In 1851, Fort Miller was established (Winchell 1933).

In the 1860s and 1870s, agriculture supplanted mining and the raising of cattle and sheep as the county's predominant economic activity. Apples, figs, and grapes were planted in the foothills and on the valley floor (County of Fresno 1998). At first, the land was watered by small, private irrigation systems, but later massive government-assisted projects including dams and canals helped Fresno County blossom into the most productive agricultural county in the nation (Clough and others 1986) (*fig. 85*). The first large irrigation canal was built in 1871, and it was 38.5 miles long (Wallace W. Elliot & Company 1882). The transition to agriculture did not come without a fight from the cattlemen who sought retaliation with the "No Fence" law, which allowed cattle to roam freely, frequently damaging crops that were planted in their feeding grounds (Winchell 1933).

The railroad company came to the county in 1872 and established the town of Fresno (Winchell 1933). Fresno became the county seat in 1874, but it was not until 1885 that Fresno incorporated (Winchell 1933). Persistent advertising of the county's wealth—its rich lands promising fortune—attracted settlers from near and far and led to the land boom of 1887.

A number of ethnic groups played an important role in the county's development (Clough and others 1986). Hispanics came to the county during the time of the Mexican land grants, during the Gold Rush and later, as agricultural laborers. Blacks, Japanese, and Armenians came to Fresno County in the late 1800s to work in the vineyards and fields. Chinese were brought to the area to work on the railroads, irrigation canals, and levees. German immigrants from the Volga region of Russia also made their way to Fresno County in the late 1800s. Because of the prejudices that isolated them from the rest of the community, the Armenians and the Chinese each formed their own fraternal organizations for charitable purposes and to promote cultural awareness of their heritage.

More recently, the Hmong, a people from the highlands of Laos, have become the largest Southeast Asian refugee group in Fresno County (Clough and others 1986, Ng 1993). Because the Hmong are an agriculturally-oriented people, they were attracted to the agricultural opportunities of the San Joaquin Valley. In the late 1990s as many as 6,000 refugees left the San Joaquin Valley for Minnesota, Wisconsin, Oregon, and other states where their chances of finding work were better (Arax 1996).

Figure 85—Fresno County (shaded area) is the geographic center of the State of California.

Source: 50 Individual States—Counties 1995

Fresno County Today

Fresno County is the largest county in geographic area in the San Joaquin Valley (Clough and others 1986). Agribusiness is the major industry in Fresno County. More than 250 agricultural commodities are produced in the county including fruit and nut crops, vegetables, cotton and other field crops, and livestock and poultry (Munroe and Jackman 1997). Fresno County is also home to the Internal Revenue

Service Western Processing Center. The county's centralized location in the Central Valley makes it attractive for distribution centers. Forty percent of the land in Fresno County is government-owned (primarily Federal, Umbach 1997). Most of the mountain land in Fresno County is part of the Kings Canyon National Park, the Sequoia National Forest, or the Sierra National Forest (Clough and others 1986).

Sociodemographic Characteristics

Projected Population—DOF and Fresno Council of Governments (COG) calculated population projections for Fresno County (*table 61*). An increasing population is expected through the forecast period. The Fresno COG projects a larger population in the county than DOF. The gap between the two sets of projections increases over time. Starting with a difference of slightly more than 10,000 people in 2000, the difference grows to more than 81,000 people by 2020.

Table 61—*Population projections, Fresno County, 1990-2040.*

Source	1990	2000	2005	2010	2015	2020	2025	2030	2040
U.S. Census	667,490[1]	799,407	-	-	-	-	-	-	-
DOF	673,608[2]	811,179	-	953,457	-	1,114,403	-	1,308,767	1,521,360
Fresno COG	-	821,797	908,338	1,002,153	1,096,227	1,195,465	1,301,240	-	-

Source: United States Census Bureau 1990a and 2000, State of California Department of Finance 1998, Penbera 2000

[1] Data from April 1.

[2] Data from July 1.

Ethnic and Racial Diversity—An estimated 60,000 Hmong have settled in the San Joaquin Valley, located mostly in Fresno, Merced, and Tulare Counties (Arax 1996). In 1990, Whites were the majority in Fresno County, but in 2000, Hispanics surpassed Whites to become the largest ethnic group in the county (*table 62*).

Table 62—*1990 and 2000 population, Fresno County.*

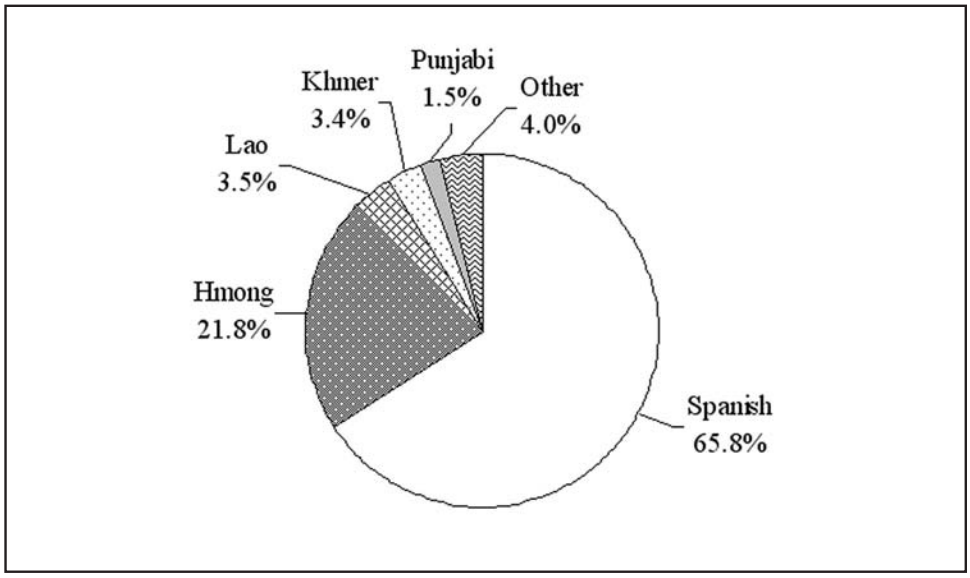
	1990	2000
	---------- Percent----------	
Non-Hispanic White	50.7	39.7
Hispanic all races	35.5	44.0
Non-Hispanic Black	4.7	5.0
Non-Hispanic Asian	8.1	8.0
Non-Hispanic American Indian	0.8	0.8
Non-Hispanic other	0.3	0.2
Non-Hispanic two or more races	N/A	2.3

Source: United States Census Bureau 1990a, 2000

In 1990, 17.8 percent of Fresno County's population was foreign-born. More than one-third (35.3 percent) of residents age 5 and older spoke a language other than English at home. Of those, the majority (73.1 percent) spoke Spanish and 26.9 percent spoke a language other than English or Spanish (United States Census Bureau 1990b).

Linguistic diversity is also reflected within the schools in the region. The majority of LEP students in Fresno County public schools speak Spanish or Hmong—mirroring the languages spoken at home (*fig. 86*). In 1997-98, 27 percent of Fresno County's public school students were LEP.

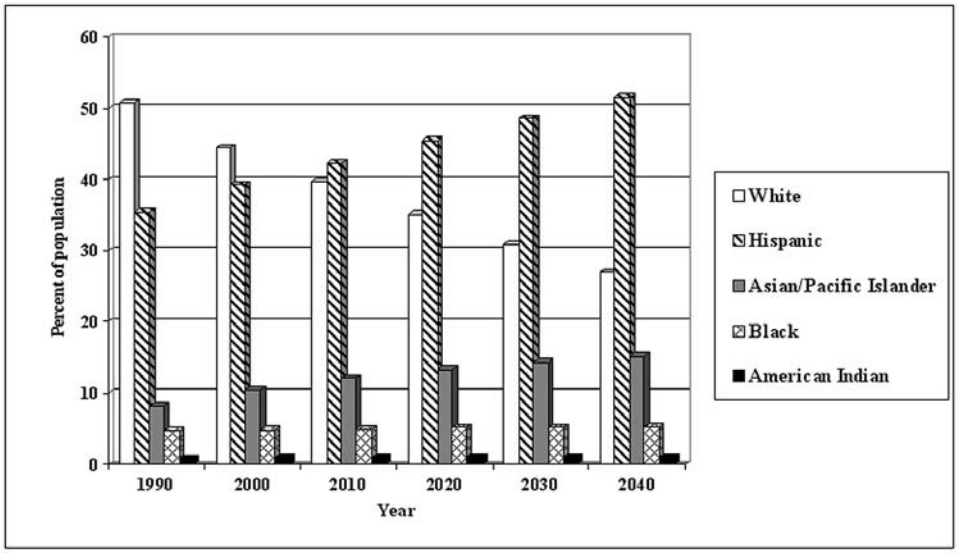
Figure 86—Limited-English-Proficient (LEP) students in Fresno County public school districts, by language, 1997-1998.



Source: California Department of Education 1998b

Projected Ethnic and Racial Diversity—In addition to the projected increase in the overall population in Fresno County, it is expected that Hispanics will increase as a proportion of the population and Whites will decrease (*fig. 87*). Asians will increase to a lesser degree as a proportion of the population, while Blacks and American Indians remain at about the same proportions, increasing slightly in actual numbers.

Figure 87—Racial and ethnic diversity trends for Fresno County.



Source: State of California Department of Finance 1998

The proportion of Whites is expected to decrease by approximately 24 percent during the forecast period, while Hispanics and Asians increase by approximately 16 and 7 percent, respectively. The Black and American Indian proportions of the population have projected increases of less than 1 percent over the forecast period (*table 63*).

Table 63—*Percent race/ethnicity and percent change in Fresno County, 1990-2040.*

Racial/ethnic group	1990	2000	2010	2020	2030	2040	Cumulative percent change
	Year						
White	50.79	44.52	39.72	35.13	30.85	27.00	
	-	(-6.27)	(-4.81)	(-4.59)	(-4.28)	(-3.85)	-23.79
Hispanic	35.56	39.28	42.30	45.43	48.57	51.55	
	-	(3.72)	(3.02)	(3.13)	(3.15)	(2.98)	15.99
Asian/Pacific Islander	8.20	10.46	12.05	13.28	14.37	15.23	
	-	(2.26)	(1.59)	(1.23)	(1.09)	(0.86)	7.03
Black	4.69	4.84	4.97	5.15	5.18	5.20	
	-	(0.15)	(0.13)	(0.18)	(0.04)	(0.02)	0.51
American Indian	0.76	0.89	0.97	1.02	1.03	1.02	
	-	(0.14)	(0.08)	(0.05)	(0.01)	(-0.01)	0.26

Source: State of California Department of Finance 1998

Along with projected changes in race and ethnicity, changes in the area population's age are projected. Projected median age for Fresno County residents varies by race/ethnicity and gender. Females are projected to have higher median ages in all ethnic groups except Asians and Hispanics. Whites have the highest projected median age between 1990 and 2040 (from 35 to 43.5 years), followed by American Indians (from 28.5 to 36.5 years) (*fig. 88*). Though they remain a relatively young population in Fresno, Asians have a steep increase in median age across the forecast period (from 20 to 29). The county's Black and Hispanic populations show smaller projected increases in age (from 24.5 to 28 and from 23 to 27, respectively).

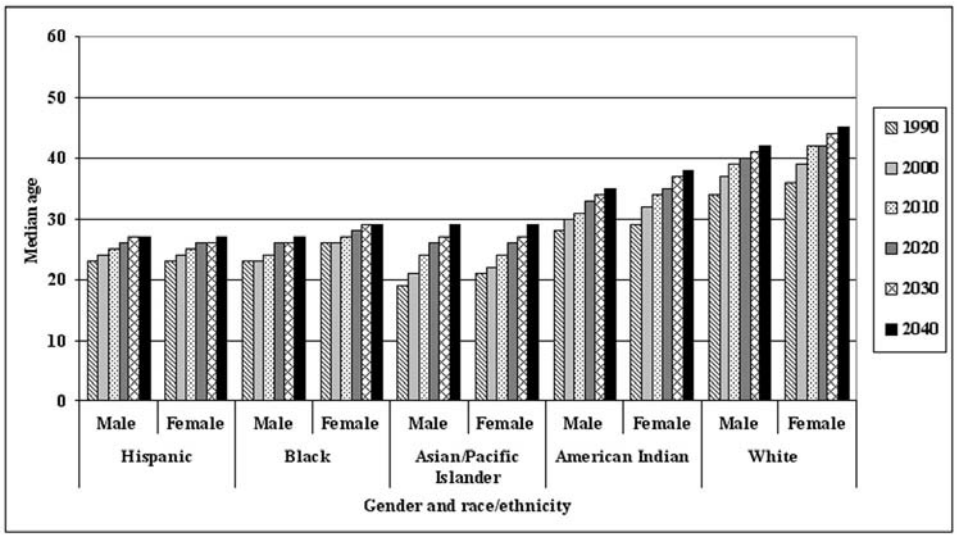


Figure 88—Median age by gender and race/ethnicity, Fresno County, 1990-2040.

Source: State of California Department of Finance 1998

Development and Real Estate

Most growth in the county occurs in incorporated areas. The unincorporated areas of the county experienced a decrease in population of 8 percent from 1980 to 1996, primarily due to city annexations (County of Fresno 1998). In 1998, only 23 percent of the county's population lived outside cities (County of Fresno 1998). The majority of the population lives in the Fresno-Clovis metropolitan area (Clough and others 1986).

Building trends in Fresno County from 1987 to 1998 reveal that with the recession, all types of construction in the county decreased (*fig. 89*). However, residential construction in incorporated areas showed the sharpest decrease. Post-recession increases in construction were evident.

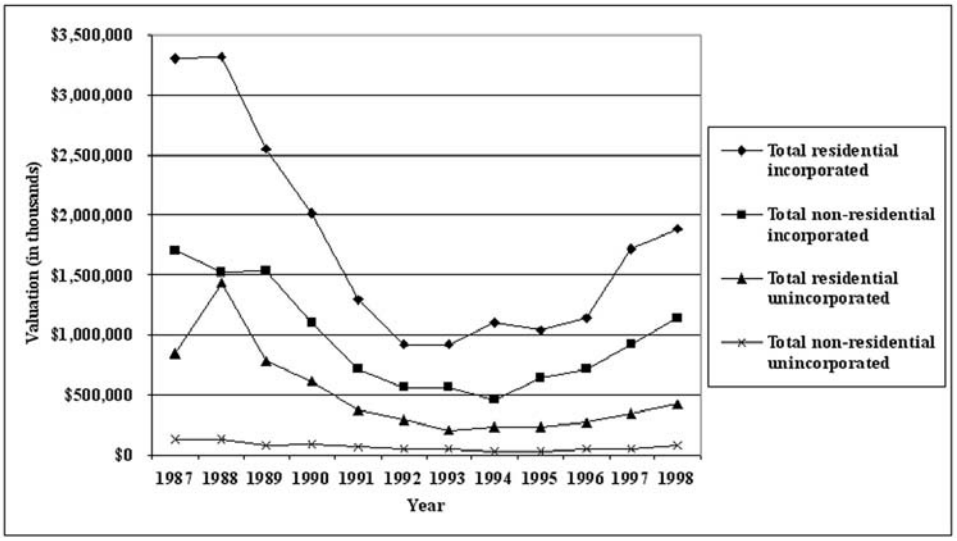


Figure 89—Building trends, Fresno County, in 1998 dollars, 1987-1998.

Source: Construction Industry Research Board 1988-1999

In 1990, Fresno County had 220,933 households and 235,563 housing units. The vast majority (93.8 percent) of housing units were occupied, 6.2 percent were vacant (United States Census Bureau 1990a). Of the occupied housing units, the majority (54.3 percent) were owner-occupied, 45.7 percent were renter-occupied (United States Census Bureau 1990a). The median value of owner-occupied housing units in 1990 was $83,600, and the median rent was $434 per month.

Quality of Life Indicators

Transportation, Commuting, and Employment—In 1990, there were 265,397 workers age 16 and older in Fresno County, and an average of 1.7 vehicles per household. Less than 6 percent of Fresno County residents worked outside the county. The majority (75.2 percent) of workers drove to work alone, although a few carpooled to work (14.9 percent) *(fig. 90*). Very few used public transportation. The average travel time to work was 19.1 minutes compared to the average of 20.3 minutes for the Central Valley counties included in this assessment.

Fresno County is at a crossroads economically. Fresno County is the nation's top-ranked agricultural-producing county (County of Fresno 1998). The market value of agricultural products sold increased to $2,772,785,000 from 1992 to 1997, an increase of 33 percent (United States Department of Agriculture 1997). In the past decade, Fresno County has also become the San Joaquin Valley's business, recreational, and population center. Despite growth in business, high unemployment and slow growth in personal income persist in the county (County of Fresno 1998). Although agriculture is still the primary generator of wealth in the county, service sector employment rivals agricultural employment (County of Fresno 1998). Agriculture and services each comprise about one-fifth of the county's economy (County of Fresno 1998). Employment growth has also been strong in information processing, transportation, and distribution (County of Fresno 1998). Between 1985 and 1995, the civilian labor force grew at a relatively rapid rate, but the number of those employed did not. This lag resulted in a 1995 unemployment

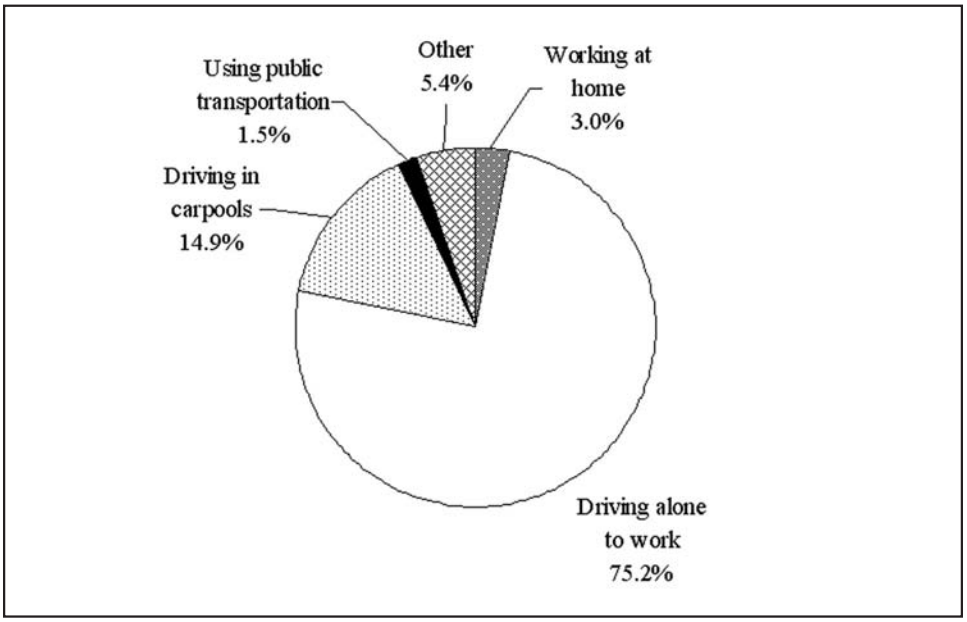


Figure 90—Commuting patterns, workers 16 and older, Fresno County, 1990.

Source: United States Census Bureau 1990b

rate of 14.1 percent (County of Fresno 1998). The fact that job growth has not kept pace with the growth in the labor force has resulted in a very competitive labor market. New entrants to the local labor force, particularly from other urban areas in California, often bring with them skills (e.g., professional, management, technical skills) superior to those of current residents (County of Fresno 1998). Fresno County currently has nearly 49 jobs for every 100 residents, but this relationship is changing as the population continues to grow faster than the number of jobs (County of Fresno 1998).

A comparison of the major economic sectors of California and Fresno County reveal that in California overall, less than 4 percent of employment is in agriculture, compared to almost 20 percent in Fresno County. This difference is offset by lower employment in manufacturing, services, and retail trade (County of Fresno 1998).

Education—Fresno County serves the largest number of students in its elementary schools (*table 64*). The county has more elementary schools (167) than middle and high schools (37 and 28, respectively). Average enrollment per school is greatest at the high school level, which is the pattern across the assessment area and all counties. Fresno County serves slightly more than 3 percent of the assessment area's school enrollments. County schools have the 9th highest enrollment overall, and they are 12th in highest average enrollment per school. Students in 2nd through 11th grade were tested using the Stanford 9 at 219 of the county schools. Fresno County's ranking in academic performance for 1999 was a mean of 5.37 out of 10 (based on the similarity index, www.cde.ca.gov), indicating somewhat higher-than-average performance than similar schools. Although 25.6 and 21.4 percent of schools in the county performed well below or below average compared to similar schools, 24.7 percent were well above average and 15.1 percent were above average.

Table 64—*Enrollment and number of schools, Fresno County, 1998-1999.*

Type of school	Total enrollment	Percent of total enrollment	Number of schools	Average enrollment/ school
Elementary	99,531	58.4	167	596
Middle/Junior High	26,115	15.3	37	706
High School	44,755	26.3	28	1,598
Total	170,401	100.0	232	-

Source: California Department of Education 1998a

Health Care—The largest number of health care establishments in the county deliver ambulatory health care services, followed by social assistance, and nursing and residential care (*fig. 91*). There are no hospitals in the county as reported by the U.S. Census Bureau. Yet, the county is considered a regional center for health services with 12 acute care facilities (Munroe and Jackman 1997). The county has 14 hospitals, representing 3.5 percent of the assessment area's total hospitals (ahd.tool.net/list.php3/mstate=ca). The largest percentage (35.7 percent) of the hospitals represents county facilities, with the balance classified as Federal (7.1 percent), nonprofit (28.6 percent), or for-profit (28.6 percent) facilities. For those hospitals with reported data (10 hospitals), a total of 1,765 beds and 349,739 total patient days were recorded in 1999. The county ranked 7th in number of hospitals, compared to its 10th place ranking in population.

The services at UC Davis Medical Center in Sacramento were singled out by *U.S. News & World Report* as being 22nd nationwide in the treatment of respiratory disorders, 23rd in hormonal diseases, 33rd in kidney disease, 37th in geriatrics, 38th in rheumatology, and 39th in digestive disorders (www.usnews.com/usnews/nycu/health/hosptl/metro.htm#).

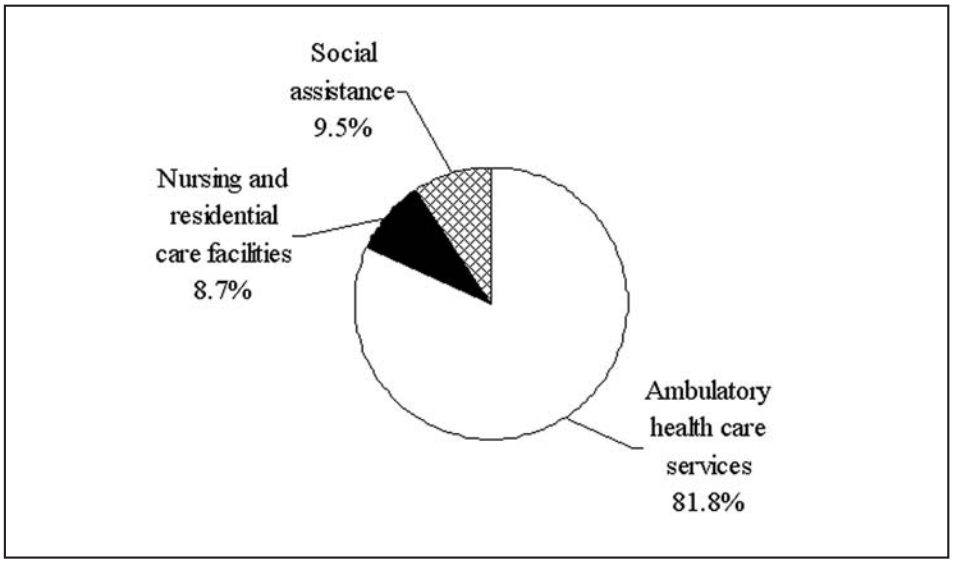


Figure 91—Health care and social assistance establishments, Fresno County, 1997.

Source: United States Census Bureau 1999a

Recreation and Tourism—Among the assessment area's 26 counties, Fresno ranked 12th in the 1997 economic census in accommodations and food services, and 16th in arts, entertainment, and recreation (United States Census Bureau 1999b, 1999c).

A total of 1,256 accommodation and food-services establishments, with $631,925,000 in receipts, was reported. Arts, entertainment, and recreation services involved 107 establishments, with receipts totaling $294,320,000. Aside from the

county's proximity to the Sequoia and Sierra National Forests, and at its western end the Los Padres National Forest, there are other recreational opportunities of note. The Kings River runs through Fresno County (www.kingsriver.com), and there are a number of lakes and reservoirs in the area including Millerton Lake State Recreation Area, Pine Flat Reservoir, Shaver Lake, and Huntington Lakes (Thomas Bros. Maps 1998). A 52-acre waterpark offers a more developed water-based experience in the county (www.wildwater1.com).

Environmental Indicators

Water Quality—Fresno County crosses 13 watersheds: the Upper Kaweah, the Mill, the Upper Dry, the Upper King, the Upper Los Gatos-Avenal, the Tulare-Buena Vista Lakes, the Middle San Joaquin-Lower Chowchilla, the Upper San Joaquin, the Panoche-San Luis Reservoir, the Pajaro, the Salinas, Crowley Lake, and Owens Lake (www.epa.gov/surf3/surf98/county.html). (Watersheds frequently cross county boundaries. Therefore, some counties may include watersheds that are also located in other counties.) The Tulare-Buena Vista Lakes watershed was assigned a "6" by the EPA, indicating "more serious water quality problems and high vulnerability to pollution stressors." (According to the EPA's Index of Watershed Indicators procedures, a pollution stressor includes aquatic/wetland species at risk, toxic loads above limits, urban runoff potential, agricultural runoff potential, population change, hydrologic modification, estuarine pollution susceptibility, and atmospheric deposition.) The Upper King, the Middle San Joaquin-Lower Chowchilla, the Pajaro, the Salinas, Crowley Lake, and Owens Lake watersheds were assigned a "5," indicating "more serious water quality problems but low vulnerability to pollution stressors." The Upper Kaweah was assigned a "3," indicating "less serious water quality problems and low vulnerability to pollution stressors." Data are not available for the Panoche-San Luis Reservoir, the Upper San Joaquin, the Upper Los Gatos-Avenal, the Upper Dry, or the Mill watersheds.

Air Quality—Fresno County has the 10th largest population of the 26 counties, paired with the 3rd highest total organic gas (TOG) emissions and the 9th highest emissions in various categories (*table 65*). However, Fresno ranks 4th in particulates. The majority of emissions are projected for marginal decreases dependent upon emission type. Particulates are expected to increase, primarily from area-wide sources, according to the California Air Resources Board (1999).

Table 65—*1996 estimated and 2010 forecasted annual average emissions, Fresno County (cells do not add to column totals due to rounding error).*

Year	Emission category	Emission type[1]						
		TOG	ROG	CO	NOx	SOx	PM	PM10
1996	Stationary	320	22	11	34	8	8	6
	Area-Wide	120	33	59	3	0	220	110
	Mobile	52	46	410	64	1	3	2
	Natural	2	1	17	0	-	3	3
	Total	500	100	500	100	9	240	130
2010	Stationary	280	23	11	35	9	8	6
	Area-Wide	130	36	60	4	0	230	120
	Mobile	25	22	260	45	1	3	2
	Natural	2	1	17	0	-	3	3
	Total	430	82	350	84	11	250	130

Source: California Air Resources Board 1999

[1] TOG: total organic gases; ROG: reactive organic gases; CO: carbon monoxide; NOx: nitrogen oxides; SOx: sulfur oxides; PM: particulate matter; PM10: particulate matter less than or equal to 10 microns (*appendix D*).

Implications

According to the County of Fresno (1998), if current growth trends continue, Fresno County will have to be more intensely developed. While the county is expected to experience major growth during the forecast period, the Fresno County General Plan projects that 93 percent of the new population growth within the county will occur within specific cities and their spheres of influence (Popp 2001). One exception is the city of Fresno where land demand exceeds the available land (County of Fresno 2000).

The form and pace of urban growth in the county will have implications for natural resources. If growth were to occur outside incorporated areas, all cities in the west valley would have to expand their current general plan holding capacities, as would some of the cities in the east valley area. If most growth were to occur outside cities and their sphere of influence, it would have major implications for the county. Population in the unincorporated east valley area, and in the Sierra Nevada and foothills would roughly double. New development within city spheres of influence and in unincorporated areas would eliminate or displace approximately 58,710 acres of prime or important farmland. Crop losses would involve fruit and nut trees in the east valley and field crops in the west valley. New development could increase daily vehicle person trips by over 80 percent countywide, leading to substantially more traffic congestion. Therefore, the county has quite an incentive to direct growth into incorporated areas.

According to the County of Fresno (1998), water supply could be a major constraint to new development, as surface water rights are difficult to obtain and groundwater countywide is currently overdrafted. One side effect of overdrafting is that salty water has invaded drinking water supplies (Arax 1992). Current growth trends cannot continue unless a new supply of water is identified or agricultural water supplies are redirected for urban use. Air quality is also a concern because the San Joaquin Valley is already designated as a "severe non-attainment" area with respect to ozone. Air quality in the county is likely to worsen unless vehicle emissions can be reduced through technological advances or improved compliance with Federal and State standards. A rapid pace of urban growth could threaten agriculture's viability, the availability of open space, and the quality of water and air in a significant and irreversible manner.

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Kern County

- Kern is the leading oil-producing county in the nation.
- The county is the second most productive agricultural county in the nation.
- Population growth in the county is driven by the search for lower housing costs.

History

In 1866 Kern County was carved from portions of Tulare and Los Angeles Counties (Bailey 1957) (*fig. 92*). The original inhabitants were the non-agrarian Yokut Indians who are best remembered for their skill in basketry (Robinson 1961) and the nomadic Shoshonean tribes who occupied the desert of eastern Kern and the valleys of the Sierra Nevada (Burmeister 1977). Artifacts reveal that people lived in the southern San Joaquin Valley as early as 5650 B.C. (Burmeister 1977). Petroglyphs on canyon walls near the China Lake Naval Weapons Center are estimated to be several thousand years old with the most recent drawings dating to approximately a century ago or about the time the first White men entered the county (Burmeister 1977).

The first White man to encounter the Indians was Commander Don Pedro Fages who entered the San Joaquin Valley through the Grapevine Pass in 1772 in pursuit of deserters from the Spanish army. The next White visitor was Father Francisco Garcés, a priest, who traveled through the area in 1776 on his way to the Mission San Gabriel. From 1813 until 1848, troops were sent to the interior not to convert or explore, but to capture slave labor and to punish horse thieves (Robinson 1961). In 1827, the exploring fur trader Jedediah Strong Smith came to Kern. In 1844, John Charles Fremont explored the San Joaquin Valley for the first time. His expeditions to the west, including Kern County, were of great national interest and added to the geographical, botanical, and geological knowledge of the region (Robinson 1961).

As prospectors and miners became discouraged with their lack of success in northern California, they pushed further south. Gold was discovered in Kern in 1851, and during the next two decades numerous prospectors and settlers began to populate the valleys bordering the Kern River (Bailey 1957). The Gold Rush of the 1850s stimulated farming activities in the mountains and valleys along the upper Kern River. Settlers raised wheat, barley, alfalfa, potatoes and other vegetables, as well as cattle and sheep. There was a ready market for all these items in the mining camps (Burmeister 1977). Fort Tejon was established by the U.S. Army in 1854 to help deal with the conflicts between Whites and Indians (Burmeister 1977) and to protect the Indians from Whites, and not vice versa as was the case elsewhere in the country (Bailey 1957, Rodgers 1948). The fort was abandoned in 1864 to become part of the Tejon Rancho, which was one of the State's largest land companies.

In 1865, petroleum was discovered in western Kern County, but the better-known oil boom came after the turn of the century. Bakersfield made its name as an oil town after the discovery of oil along the Kern River in 1899. In addition to

gold and oil, cattle and sheep have also been important in Kern County's economy (Bailey 1957, Kreiser and Hunt 1961). In fact, when oil declined, agriculture became the backbone of the county's economy (Kreiser and Hunt 1961).

The railroad came through Kern in 1876 linking Los Angeles with San Francisco, and as a result, settlers came to the county and towns sprung up along the railroad's right of way (Bailey 1957, Robinson 1961). During the 1870s many Chinese families became permanent residents after the completion of the Southern Pacific Railroad line through the Tehachapi Mountains to the east (Bailey 1957, Robinson 1961). Most of them were natives of China who had been imported by Chinese labor contractors, and when the last rail had been laid, a sizeable Chinese colony remained in Bakersfield.

Los Padres National Forest, a small portion of which is in Kern County, was built up piecemeal by proclamations or executive orders beginning in 1898 (Robinson 1961). In 1938, by order of President Roosevelt, the Los Padres National Forest was given its current name after the missionary fathers (Robinson 1961).

Figure 92—Kern County (shaded area) is directly north of Los Angeles.

Source: 50 Individual States—Counties 1995

Kern County is a major source of the world's borax, coming from boron in eastern Kern County (Burmeister 1977, Peirson 1956). The eastern portion of the county also became the site for a number of military bases (Bailey 1957, Burmeister 1977). Rogers Dry Lake in the southeast corner of Kern County became a training field for pilots and an airplane-testing center. Edwards Air Force Base, which extends east into San Bernardino County, was where experimental aircraft was tested. In the northeast corner of Kern County, China Lake was chosen by the U.S. Navy in 1943 for the world's largest naval testing station.

Kern County has experienced steady growth since the time of the first permanent settlers in the 1850s. Kern County saw the highest rate of growth from 1930 to 1950 when the population increased by 176 percent (Burmeister 1977). Development in agriculture and the oil industry brought about this population boom.

Kern County Today

Agriculture is the county's dominant industry, followed by chemical and allied products, rubber and miscellaneous plastics products, and printing and publishing (Umbach 1997). The top five agricultural products are grapes, cotton/cottonseed, almonds, citrus, and milk (Umbach 1997, www.bakersfield.org/chamber/city/profile.html). Agriculture and oil have been the pillars of Kern County's economy. With four of the nation's 10 largest oil fields, Kern County is the nation's number one oil producing county. It is also the second top agricultural producing county in the U.S. (United States Department of Agriculture 1997). The market value of agricultural products sold in 1997 was $1,968,513,000 (United States Department of Agriculture 1997).

Kern County has a low cost of living and affordable housing. Its proximity to Los Angeles makes it an attractive destination for those seeking a lower cost of living. Half the new residents between 1980 and 2000 were expected to locate in incorporated areas (County of Kern 1994). There is a sufficient supply of land to accommodate projected population growth in unincorporated areas, but those areas lack the necessary infrastructure to accommodate the growth (County of Kern 1994).

Sociodemographic Characteristics

Projected Population—DOF is the only agency that calculates population projections for Kern County (*table 66*). The population is expected to increase through the forecast period. Over time the decennial increases grow larger. For example, DOF projects an increase of 127,841 people in the county from 1990 to 2000 versus an almost 300,000-person increase from 2030 to 2040.

Table 66—*Population projections, Kern County, 1990-2040.*

Source	1990	2000	2010	2020	2030	2040
U.S. Census	544,981[1]	661,645	-	-	-	-
DOF	549,531[2]	677,372	859,818	1,073,748	1,327,013	1,623,671

Source: United States Census Bureau 1990a and 2000, State of California Department of Finance 1998

[1] Data from April 1.

[2] Data from July 1.

Ethnic and Racial Diversity—Kern County became much more ethnically diverse between 1990 and 2000. In 1990, Whites were the majority in Kern County. (These are the 1990 revised U.S. Census numbers.) In 2000, Whites were less than half the population and there was growth in the Hispanic, Black, and Asian proportions of the population (*table 67*).

Table 67—*1990 and 2000 population, Kern County.*

	1990	2000
	----------Percent ----------	
Non-Hispanic White	62.6	49.5
Hispanic all races	27.9	38.4
Non-Hispanic Black	5.3	5.7
Non-Hispanic Asian	2.7	3.3
Non-Hispanic American Indian	1.0	0.9
Non-Hispanic other	0.2	0.2
Non-Hispanic two or more races	N/A	2.1

Source: United States Census Bureau 1990a, 2000

In 1990, 12.2 percent of Kern County's population was foreign-born. Almost one-quarter (24.6 percent) of Kern's residents age 5 and older spoke a language other than English at home. Of those, the majority (84.9 percent) spoke Spanish and a few (15.1 percent) spoke a language other than English or Spanish (United States Census Bureau 1990b).

Linguistic diversity is also reflected within the schools in the region. The majority of LEP students in Kern County public schools speak Spanish—mirroring the languages spoken at home—then a selection of other languages and Pilipino (*fig. 93*). (Other languages include Vietnamese, Hmong, Cantonese, Khmer, Korean, Armenian, Mandarin, Lao, Russian, Punjabi, Arabic, Farsi, and other languages of China and the Philippines.) In 1997-98, 18.6 percent of Kern County's public school students were LEP.

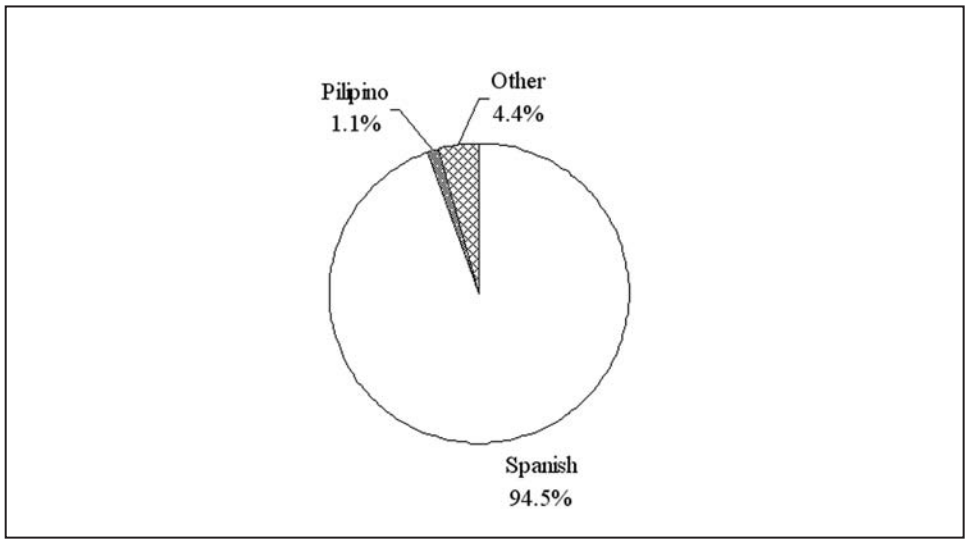

Figure 93—Limited-English-Proficient (LEP) students in Kern County public school districts, by language, 1997-1998.

Source: California Department of Education 1998b

Projected Ethnic and Racial Diversity—As Kern County's population increases, an increase among Hispanics as a proportion of the population and a decrease among Whites are projected (*fig. 94*). Asians are expected to increase slightly as a proportion of the population, while Blacks remain a small and stable proportion of the population. American Indians are expected to decrease slightly as a proportion of the population.

The proportion of Whites is projected to decrease by more than 32 percent through the forecast period, while Hispanics are projected to increase by approximately 30 percent (*table 68*). As a proportion of the population, Asians are projected to increase by 2.28 percent, Blacks by less than 1 percent and American Indians are projected to have little change in population.

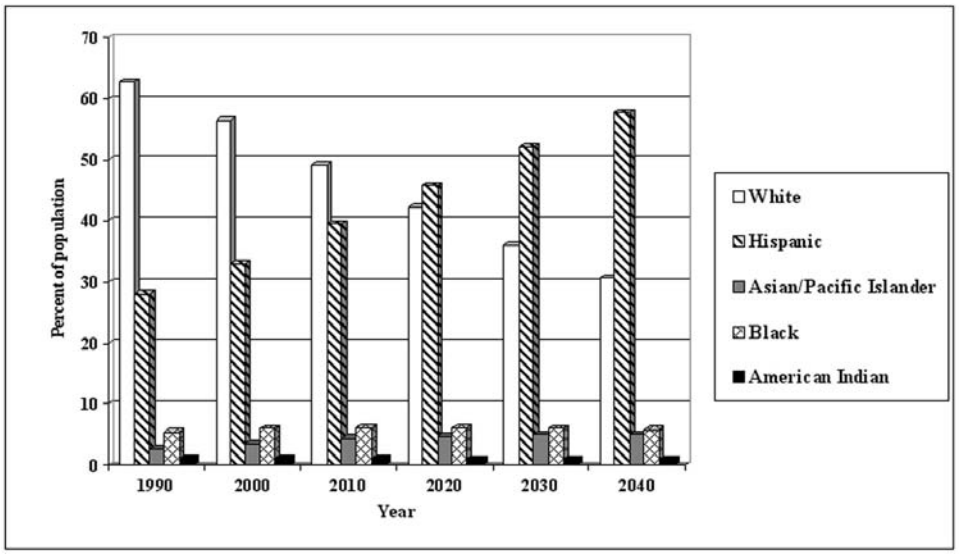

Figure 94—Racial and ethnic diversity trends for Kern County.

Source: State of California Department of Finance 1998

Table 68—*Percent race/ethnicity and percent change in Kern County, 1990-2040.*

Racial/ethnic group	1990	2000	2010	2020	2030	2040	Cumulative percent change
	----------Year----------						
White	62.81	56.55	49.07	42.27	36.07	30.66	
	-	(-6.25)	(-7.49)	(-6.80)	(-6.20)	(-5.41)	-32.14
Hispanic	28.10	33.03	39.50	45.90	52.09	57.68	
	-	(4.93)	(6.48)	(6.40)	(6.18)	(5.60)	29.59
Asian/Pacific Islander	2.75	3.43	4.35	4.73	4.96	5.03	
	-	(0.67)	(0.92)	(0.38)	(0.23)	(0.07)	2.28
Black	5.31	5.95	6.06	6.12	5.99	5.81	
	-	(0.64)	(0.12)	(0.06)	(-0.14)	(-0.18)	0.50
American Indian	1.03	1.05	1.02	0.97	0.90	0.81	
	-	(0.01)	(-0.03)	(-0.05)	(-0.08)	(-0.09)	-0.22

Source: State of California Department of Finance 1998

Along with projected changes in race and ethnicity, changes in the area population's age are projected. Projected median age for Kern County residents varies by race/ethnicity and gender. Females are projected to have higher median ages in the White, American Indian, and Black populations. American Indians have the highest projected increased median age between 1990 and 2040 (from 30.5 to 45.5 years), followed by Whites (from 33 to 41.5 years) and Asians (from 30 to 34 years) (*fig. 95*). The county's Black and Hispanic populations show smaller projected increases in age (from 26 to 29.5 and from 22 to 23 years, respectively).

Development and Real Estate

Building trends in Kern County from 1987 to 1998 reveal some chaotic patterns *(fig. 96)*. All types of construction showed decreases during the recession to varying degrees. Kern's construction patterns showed significant variation between years pre- and post-recession.

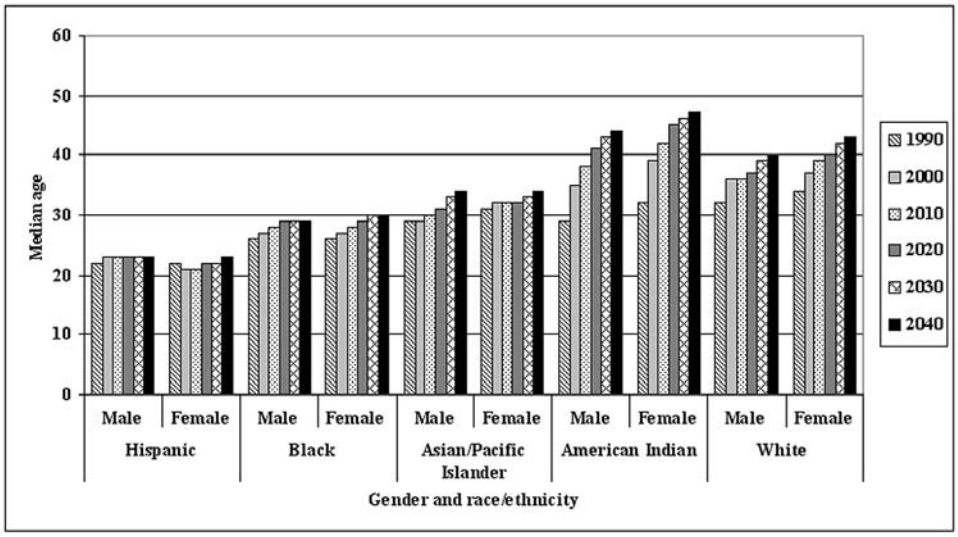

Figure 95—Median age by gender and race/ethnicity, Kern County, 1990-2040.

Source: State of California Department of Finance 1998

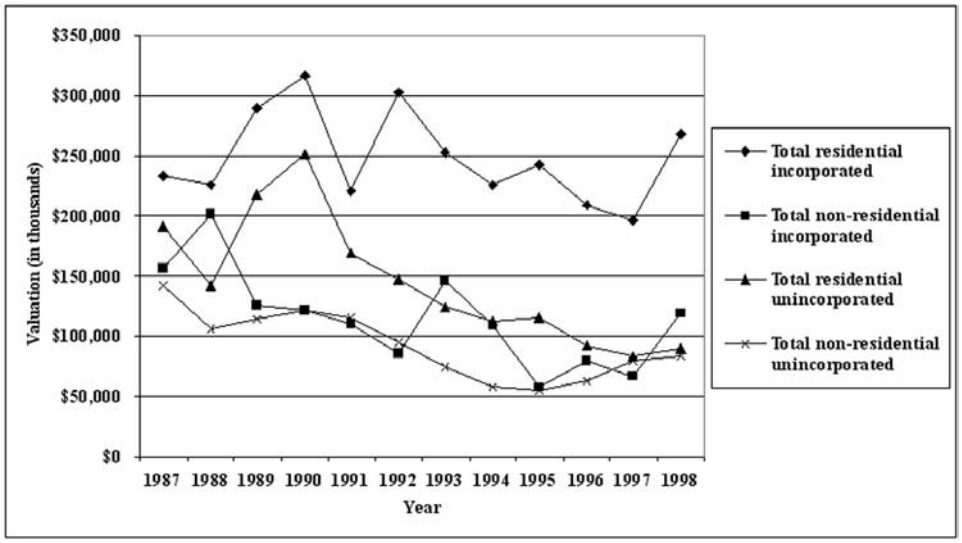

Figure 96—Building trends, Kern County, in 1998 dollars, 1987-1998.

Source: Construction Industry Research Board 1988-1999

In 1990, Kern County had 181,480 households and 198,636 housing units. The vast majority (91.4 percent) of housing units were occupied; a few were vacant (8.6 percent, United States Census Bureau 1990a). Of the occupied housing units, the majority (59.3 percent) were owner-occupied, though 40.7 percent were renter-occupied (United States Census Bureau 1990a). The median value of owner-occupied housing units in 1990 was $82,800, and the median rent was $440 per month.

Quality of Life Indicators

Transportation, Commuting, and Employment—In 1990, there were 213,525 workers age 16 and older in Kern County, and an average of 1.7 vehicles per household. Slightly less than 6 percent of Kern County residents worked outside the county. The majority (74.7 percent) of workers drove to work alone, although some carpooled to work (17.3 percent) (*fig. 97*). Very few used public transportation. The average travel time to work was 19.6 minutes compared to the average of 20.3 minutes for the Central Valley counties in this assessment.

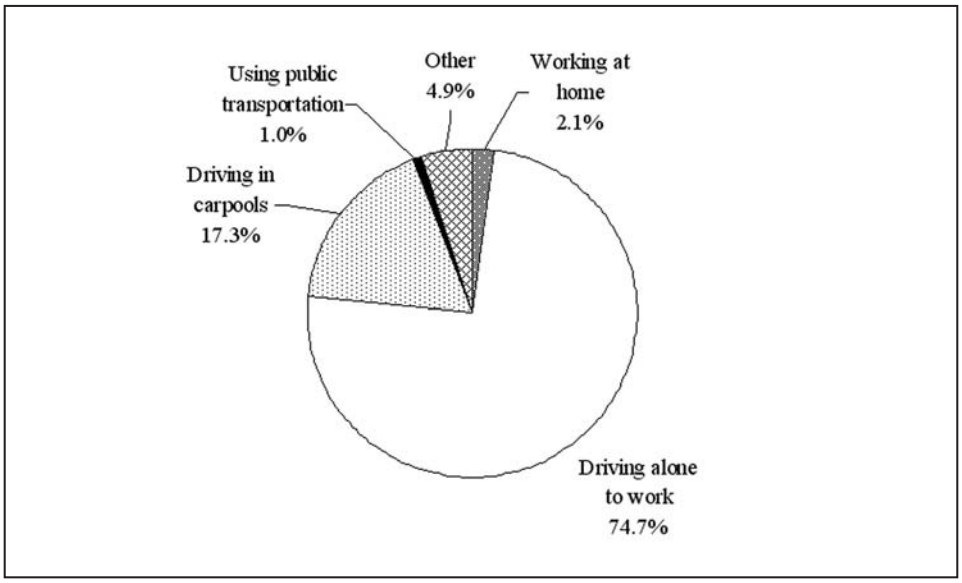

Figure 97—Commuting patterns, workers 16 and older, Kern County, 1990.

Source: United States Census Bureau 1990b

As of March 1999, employment by industry in the county was agriculture at 29.3 percent, government 16.6 percent, services 16 percent, retail trade 13.2 percent, mineral extraction 4.2 percent, and other 20.8 percent (www.bakersfield.org/chamber/city/profile.html). Major employers in the county include the Kern County public school system, the county of Kern, Edwards Air Force Base, the China Lake Naval Weapons Station, and various agriculture-related industries (Kern Economic Development Corporation 1997). Population growth continues to outpace employment resulting in an average unemployment rate of 12.8 percent in the county (Kern Economic Development Corporation 1997).

Education—Kern County serves the largest number of students in its elementary schools (*table 69*). The county has more elementary schools (139) than middle and high schools (39 and 25, respectively). Average enrollment per school is greatest at the high school level, which is the pattern across the assessment area and all counties. Kern County serves slightly less than 3 percent of the assessment area's school enrollments. County schools have the 11th highest enrollment overall, and they are 15th in highest average enrollment per school. Students in 2nd through 11th grade were tested using the Stanford 9 at 187 of the county schools. Kern County's ranking in academic performance for 1999 was a mean of 5.42 out of 10 (based on the similarity index, www.cde.ca.gov), indicating somewhat higher-than-average performance than similar schools. Although 20.7 and 25 percent of schools in the county performed well below or below average compared to similar schools, 23.4 percent were well above average and 14.9 percent were above average.

Table 69—*Enrollment and number of schools, Kern County, 1998-1999.*

Type of school	Total enrollment	Percent of total enrollment	Number of schools	Average enrollment/school
Elementary	74,835	54.0	139	538
Middle/Junior High	26,273	18.9	39	674
High School	37,559	27.1	25	1,502
Total	138,667	100.0	203	-

Source: California Department of Education 1998a

Health Care—The largest number of health care establishments in the county deliver ambulatory health care services, followed by nursing and residential care, and social assistance (*fig. 98*). There are no hospitals in the county as reported by the U.S. Census Bureau. However, according to the Kern Economic Development Corporation (1997), there are 550 physicians, 11 hospitals, and 11 emergency care facilities in the county. At least two of those hospitals were constructed after 1990. The county has 13 hospitals listed in the American Hospital Directory, representing 3.3 percent of the assessment area's total hospitals (ahd.tool.net/list.php3/mstate=ca). Less than half (46.2 percent) of the hospitals are nonprofit, with the balance classified as county (30.8 percent), for-profit (15.4 percent), or Federal (7.7 percent) facilities. For those hospitals with reported data (10 hospitals), a total of 1,598 beds and 3,764,148 total patient days were recorded in 1999. The county ranked 9th in number of hospitals, in contrast to its 14th place ranking in population.

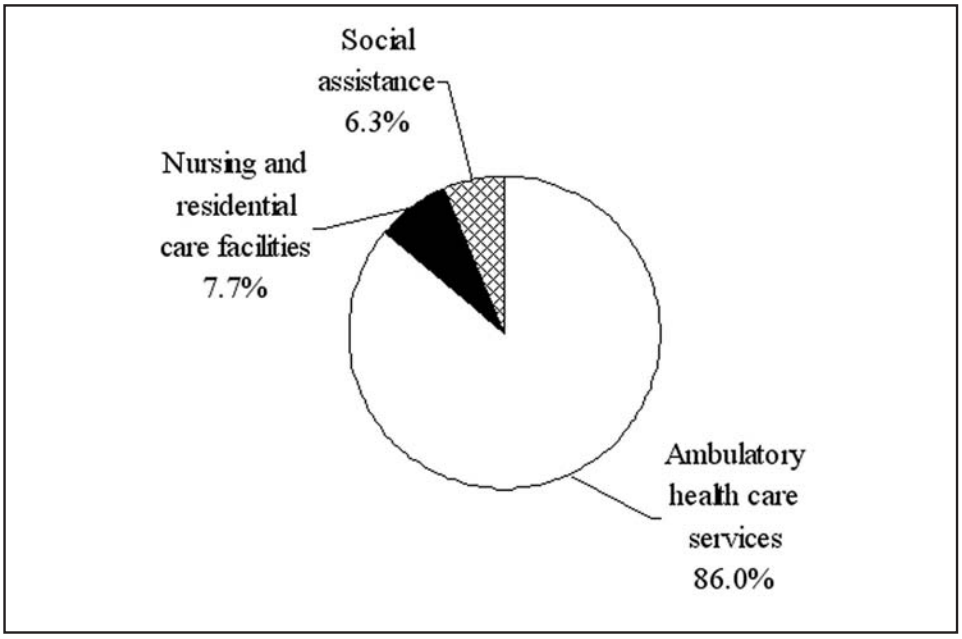

Figure 98—Health care and social assistance establishments, Kern County, 1997.

Source: United States Census Bureau 1999a

Recreation and Tourism—Among the assessment area's 26 counties, Kern ranked 14th in the 1997 economic census in accommodations and food services, and 17th in arts, entertainment, and recreation (United States Census Bureau 1999b, 1999c). A total of 1,013 accommodation and food-services establishments, with $493,718,000 in receipts, was reported. Arts, entertainment, and recreation services involved 102 establishments, with receipts totaling $64,474,000. The county offers numerous recreational opportunities, including the Kern National Wildlife Refuge, a large wetlands area that is home to waterfowl and various endangered species including the San Joaquin kit fox (www.wildernet.com). The county is proximate to the Sequoia National Forest, and a bit farther away, the Los Padres National Forest. It also has Randsburg Ghost Town and the Red Rock Canyon State Park (Thomas Bros. Maps 1998). Lake Isabella is within the county's boundaries, the largest body of water in the county year round (www.co.kern.ca.us/parks). Nearby is the Greenhorn Mountain Park, offering camping among cedars and pines, as well as escape from the warm valley below. Opportunities are numerous along the Kern River, and Tehachapi Mountain Park and the Buena Vista Aquatic Recreational Area offer additional natural resources recreation experiences.

Environmental Indicators

Water Quality—Kern County crosses 15 watersheds: the Upper Kern, the South Fork Kern, the Middle Kern-Upper Tehachapi-Grapevine, the Upper Poso, the Upper Deer-Upper White, the Upper Los Gatos-Avenal, the Tulare-Buena Vista Lakes, Carrizo Plain, Estrella, Cuyama, Santa Clara, Indian Wells-Searles Valleys, the Antelope-Fremont Valleys, Coyote-Cuddleback Lakes, and the Mojave (www.epa.gov/surf3/surf98/county.html). (Watersheds frequently cross county boundaries. Therefore, some counties may include watersheds that are also located in other counties.) The Tulare-Buena Vista Lakes watershed was assigned a "6" by the EPA, indicating "more serious water quality problems and high vulnerability to pollution stressors." (According to the EPA's Index of Watershed Indicators procedures, a pollution stressor includes aquatic/wetland species at risk, toxic loads above limits, urban runoff potential, agricultural runoff potential, population change, hydrologic modification, estuarine pollution susceptibility, and atmospheric deposition.) The Upper Poso and Cuyama watersheds were assigned a "5," indicating "more serious water quality problems but low vulnerability to pollution stressors." The Upper Kern, Middle Kern-Upper Tehachapi-Grapevine, Santa Clara, Antelope-Fremont Valleys, and the Mojave watersheds were assigned a "3," indicating "less serious water quality problems and low vulnerability to pollution stressors." Data are not available for the South Fork Kern, the Upper Deer-Upper White, the Upper Los Gatos-Avenal, Carrizo Plain, Estrella, Indian Wells-Searles Valleys, and Coyote-Cuddleback Lakes watersheds.

Air Quality—Kern County has the 14th largest population of the 26 counties, paired with the 5th highest total organic gas (TOG) and reactive organic gas (ROG) emissions, the 10th highest carbon monoxide (CO) emissions, the 4th highest nitrogen oxide (NOx) emissions, the 6th highest sulfur oxide (SOx) emissions (*appendix D*), and the 7th highest particulates (*table 70*). The majority of emissions are projected for marginal decreases dependent upon emission type. Particulates are expected to increase, primarily from area-wide sources, according to the California Air Resources Board (1999).

Table 70—*1996 estimated and 2010 forecasted annual average emissions, Kern County (cells do not add to column totals due to rounding error).*

Year	Emission category	Emission type[1]						
		TOG	ROG	CO	NOx	SOx	PM	PM10
1996	Stationary	180	66	28	110	11	14	10
	Area-Wide	100	30	46	2	0	160	82
	Mobile	53	47	410	77	2	6	5
	Natural	2	1	16	0	-	3	3
	Total	340	140	500	190	13	180	100
2010	Stationary	160	59	31	110	12	16	12
	Area-Wide	110	32	48	3	0	170	90
	Mobile	30	27	260	54	2	5	5
	Natural	2	1	16	0	-	3	3
	Total	300	120	360	170	14	200	110

Source: California Air Resources Board 1999

[1] TOG: total organic gases; ROG: reactive organic gases; CO: carbon monoxide; NOx: nitrogen oxides; SOx: sulfur oxides; PM: particulate matter; PM10: particulate matter less than or equal to 10 microns (*appendix D*).

Implications

DOF predicted that the population of Kern County would more than double between 2000 and 2040. Growth is spilling over the Tehachapi Mountains from Los Angeles into Kern County. The forces driving this growth include a median home price of $85,000, abundant office and industrial space, low taxes for business, inexpensive utilities, and proximity to southern California marketplaces (Kern Economic Development Corporation 1997). Plans for development in Kern County in 1995 included 14 projects that would accommodate 256,000 people. None of the projects planned to tap new sources of water (Arax 1995). It is assumed that new developments will siphon water from old sources already stretched thin by existing residents, farmers, and manufacturers (Arax 1995).

Besides the lack of new water supplies, there are questions about the feasibility of developments that threaten habitat of endangered species such as the California condor and the San Joaquin kit fox (Arax 1992). Air quality will also be affected as people drive from these new bedroom communities into Los Angeles to work.

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Kings County

- Agriculture and related industries dominate the economy of this rural county.
- Government is a major employer in the county with more than one quarter of total jobs.
- After San Benito County, this county has the smallest population of all the counties in the assessment.

History

At the time of entry of Whites in the San Joaquin Valley, the territory comprising what later became Tulare and Kings Counties had a dense Indian population with at least two major tribal groups, the Yokuts and the Piutes (Menefee and Dodge 1913). The original inhabitants of the Kings County area were the Tache tribe of the

Yokut Indians (www.sjvls.lib.ca.us/kings/kingshistory.html). The Indians hunted wild game, gathered salt from the tules, and fished in the ancient Lake Tulare. They made trips to the mountains and foothills to gather acorns, pine nuts, and pine needles (www.calflytech.com/kingshistory/tachis/index.html). Acorns were the staple food in their diet (Menefee and Dodge 1913).

One of the first incorporated communities was Lemoore. Its success was assured with the arrival of the Southern Pacific Railroad in 1877. Another permanent community was begun in 1877 along the railroad tracks and was named Hanford after the paymaster of the Southern Pacific. The railroad laid out the townsite (Menefee and Dodge 1913). Hanford was incorporated in 1891 (www.sjvls.lib.ca.us/kings/kingshistory.html), and it is the chief city and county seat of Kings County. In 1893, Kings County was formed out of the western half of Tulare County (www.csac.counties.org) (*fig. 99*). Its name is derived from the Kings River, which was discovered in 1805 by an exploring expedition and named Río de los Santos Reyes (River of the Holy Kings). The river was also the principal source of water for irrigation, which was started in 1872 (Menefee and Dodge 1913). Settlers were attracted to the western portion of Tulare County by the rich soil and the opportunities for farming and stockraising (Menefee and Dodge 1913).

Figure 99—Kings County (shaded area) is north of Kern County.

Source: 50 Individual States—Counties 1995

Although the arrival of the railroad led to the development of communities in Kings County, it also led to conflict. In 1880, the Mussel Slough tragedy occurred just west of Hanford. Settlers employed by the railroad to build irrigation ditches and homes on Federally granted railroad property wanted to purchase some of the property. The settlers were to buy the land at government prices of $2.50 an acre, but the railroad set prices at $25 to $35 an acre, in effect, asking the settlers to pay for the results of their own labor in improving the land (www.calflytech.com/kingshistory). A court decision made in favor of the railroad granted title to the land and meant the settlers would be ejected if they did not pay the price set by the railroad land appraisers. The settlers refused to move off the land and a battle ensued where five men were killed and others wounded. Although some settlers went to jail for resisting Federal marshals, the railroad eventually lowered the price of the land. The battle at Mussel Slough stimulated Frank Norris into writing *The Octopus*, a novel about the Central Valley's wheat era with Southern Pacific as the villain (Robinson 1955). It is also thought that the Mussel Slough tragedy helped inspire a series of train robberies in the Valley between 1889 and 1892 (Robinson 1955). The tragedy led to legal reform of railroad land and settlement policies (www.sjvls.lib.ca.us/kings/kingshistory.html).

In 1908, 100 square miles of territory were added to the county from Fresno County (www.csac.counties.org). One of the most interesting features of the region was the Tulare Lake. It was 44 miles long from north to south and 27 miles wide (Robinson 1955). Others report an even larger expanse of water of up to 80 miles in length in 1858 (Menefee and Dodge 1913). In the 1870s, much of the water was diverted into irrigation canals and the lake receded. As the waters vanished, settlers known as "Lakelanders" were attracted to the area where enormous yields of wheat and barley were recorded (Menefee and Dodge 1913). What was once lake bottom became some of the richest agricultural land in the world. The building of Pine Flat Dam and Reservoir ensured the lake's demise (www.calflytech.com/kingshistory). By 1895, there was no lake, but melting snows from the Sierra Nevada threatened agriculture and those who had not built good levees saw their thousands of acres and barns submerged (Menefee and Dodge 1913).

Ranching and farming dominate the county's economy, as they have since 1893. The first vineyard was established in 1890, and grapes continue to be an important crop in the region. The dairy industry was founded in the county in 1889 (Menefee and Dodge 1913). When it was learned that alfalfa was great forage for cattle, cheese making prospered. Butter was also an important product for the county. Dairy farming continues to be an important part of the county's economy (www.sjvls.lib.ca.us/kings/kingshistory.html).

Kings County Today

Kings County is mostly level farmland crossed by the California Aqueduct and a number of other irrigation waterways. It is estimated that 550,000 acres of agricultural land in Kings County are irrigated (County of Kings 1993).

The county owns and maintains three parks, which are regionally oriented and located in the northern portion of the county apart from urban concentrations (County of Kings 1993). According to the 1990 U.S. Census, the county's four incorporated cities—Hanford, Lemoore, Corcoran, and Avenal—contain 67,653 persons or 67 percent of the total county population (County of Kings 1993).

Sociodemographic Characteristics

Projected Population—DOF is the only agency that calculates population projections for Kings County (*table 71*). An increasing population is expected throughout the forecast period. Over time the decennial increases grow larger. For example, DOF projects an increase of approximately 24,000 people in the county from 1990 to 2000 versus an increase of approximately 42,000 people from 2030 to 2040.

Table 71—*Population projections, Kings County, 1990-2040.*

Source	1990	2000	2010	2020	2030	2040
U.S. Census	101,469[1]	129,461	-	-	-	-
DOF	102,238[2]	126,672	154,617	186,611	223,914	265,944

Source: United States Census Bureau 1990a and 2000, State of California Department of Finance 1998

[1] Data from April 1.

[2] Data from July 1.

Ethnic and Racial Diversity—In 1990, Kings County had a White majority. By 2000, Hispanics were the largest ethnic group in the county followed by Whites, Blacks, Asians, and American Indians (*table 72*).

Table 72—*1990 and 2000 population, Kings County.*

	1990	2000
	---------- Percent----------	
Non-Hispanic White	53.6	41.6
Hispanic all races	34.1	43.6
Non-Hispanic Black	7.6	8.0
Non-Hispanic Asian	3.4	3.1
Non-Hispanic American Indian	0.9	1.0
Non-Hispanic other	0.4	0.2
Non-Hispanic two or more races	N/A	2.4

Source: United States Census Bureau 1990a, 2000

In 1990, 14.1 percent of Kings County's population was foreign-born. Thirty-one percent of residents age 5 and older spoke a language other than English at home. Of those, the majority (79.8 percent) spoke Spanish, and about one-fifth (20.2 percent) spoke a language other than English or Spanish (United States Census Bureau 1990b).

Linguistic diversity is also reflected within the schools in the region. The majority of LEP students in Kings County public schools speak Spanish—mirroring languages spoken at home—or a selection of other languages, and Hmong (*fig. 100*). (Other languages include Vietnamese, Cantonese, Pilipino, Khmer, Korean, Armenian, Mandarin, Lao, Russian, Punjabi, Arabic, Mien, Farsi and other languages of China and the Philippines.) In 1997-98, 16 percent of Kings County's public school students were LEP.

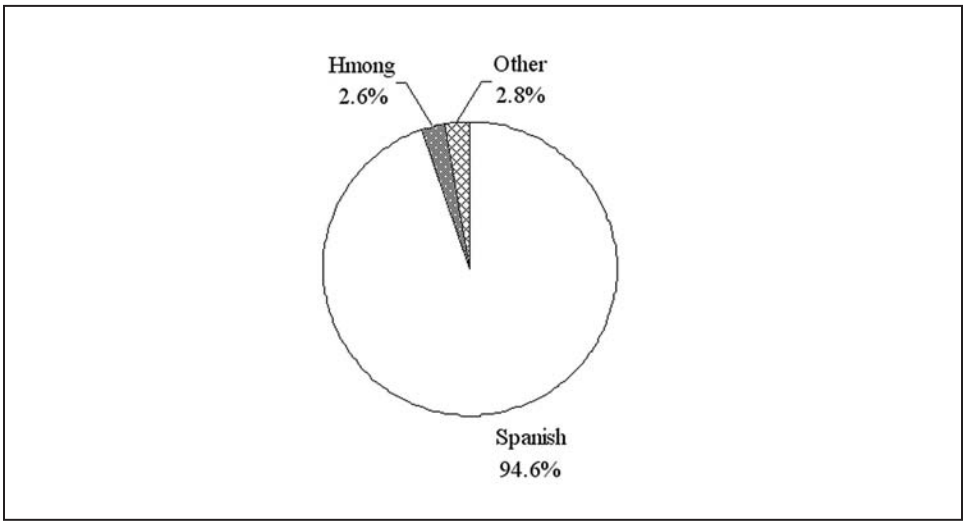

Figure 100—Limited-English-Proficient (LEP) students in Kings County public school districts, by language, 1997-1998.

Source: California Department of Education 1998b

Projected Ethnic and Racial Diversity—As the population in Kings County increases, racial and ethnic diversity are projected to increase through 2040. Hispanics, Asians, and Blacks are expected to increase as a percentage of the population, while Whites and American Indians are projected to decrease as a percentage of the total population (*fig. 101*).

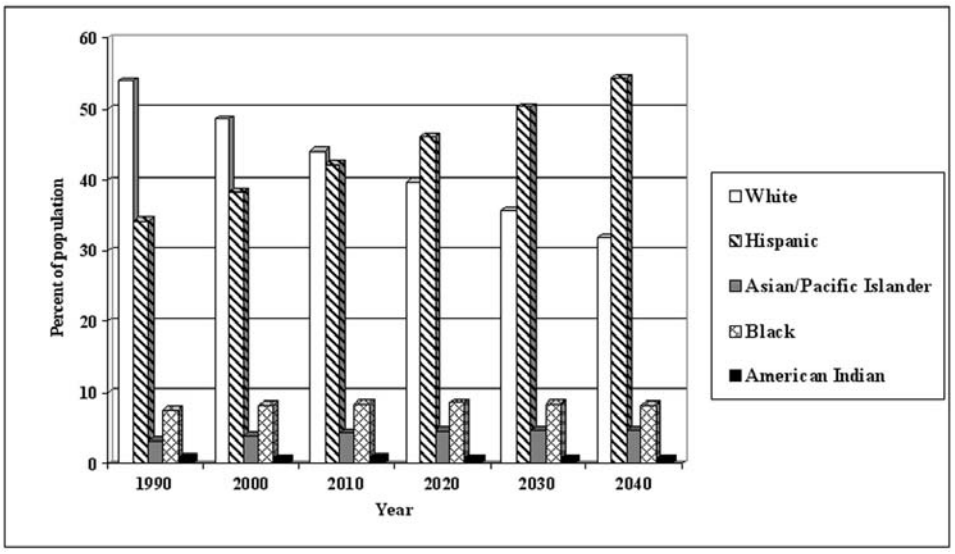

Figure 101—Racial and ethnic diversity trends for Kings County.

Source: State of California Department of Finance 1998

The proportion of Whites is projected to decrease by approximately 22 percent through the forecast period, while Hispanics are projected to increase by slightly more than 20 percent. Asians and Blacks are projected for small increases as a proportion of the population, while American Indians are projected for a marginal decrease (*table 73*).

Table 73—*Percent race/ethnicity and percent change in Kings County, 1990-2040.*

Racial/ethnic group	1990	2000	2010	2020	2030	2040	Cumulative percent change
	Year						
White	53.96	48.61	44.11	39.86	35.72	31.93	
	-	(-5.36)	(-4.50)	(-4.24)	(-4.15)	(-3.78)	-22.03
Hispanic	34.18	38.33	42.18	46.13	50.35	54.38	
	-	(4.15)	(3.85)	(3.94)	(4.23)	(4.03)	20.21
Asian/Pacific Islander	3.34	3.93	4.39	4.57	4.69	4.72	
	-	(0.59)	(0.46)	(0.17)	(0.12)	(0.03)	1.38
Black	7.63	8.29	8.45	8.61	8.47	8.25	
	-	(0.66)	(0.16)	(0.16)	(-0.15)	(-0.22)	0.62
American Indian	0.89	0.85	0.87	0.83	0.78	0.72	
	-	(-0.04)	(0.02)	(-0.04)	(-0.05)	(-0.06)	-0.17

Source: State of California Department of Finance 1998

Along with projected changes in race and ethnicity, changes in the area population's age are projected. Projected median age for Kings County residents varies by race/ethnicity and gender. Females are projected to have higher median ages in all ethnic groups except Hispanics where the projected median age for females is actually less than it is for males. American Indians have the highest increase in projected median age between 1990 and 2040 (from 24.5 to 40 years), followed by Whites (from 31 to 35.5 years), Blacks (from 27 to 31.5 years) and Asians (from 26.5 to 31.5 years) (*fig. 102*). The county's Hispanic population shows the least increase (from 23.5 to 24.5 years).

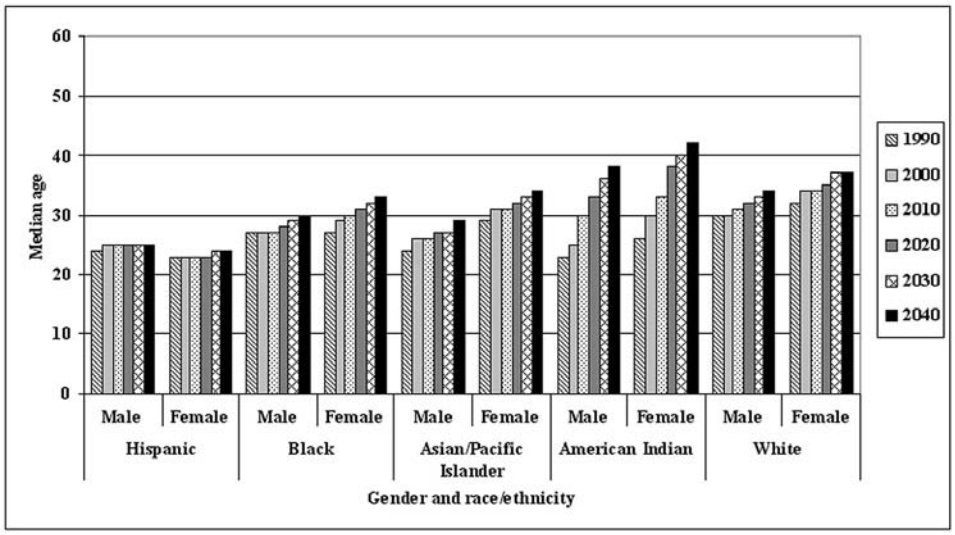

Figure 102—Median age by gender and race/ethnicity, Kings County, 1990-2040.

Source: State of California Department of Finance 1998

Development and Real Estate

Building trends in Kings County from 1987 to 1998 show that residential construction in incorporated areas accounted for the majority of construction in the county during this period (*fig. 103*). All types of construction plummeted with the recession, but began to recover in 1996. Residential construction in unincorporated areas was most affected by the recession. Post-recession recovery in construction was slow, but evident.

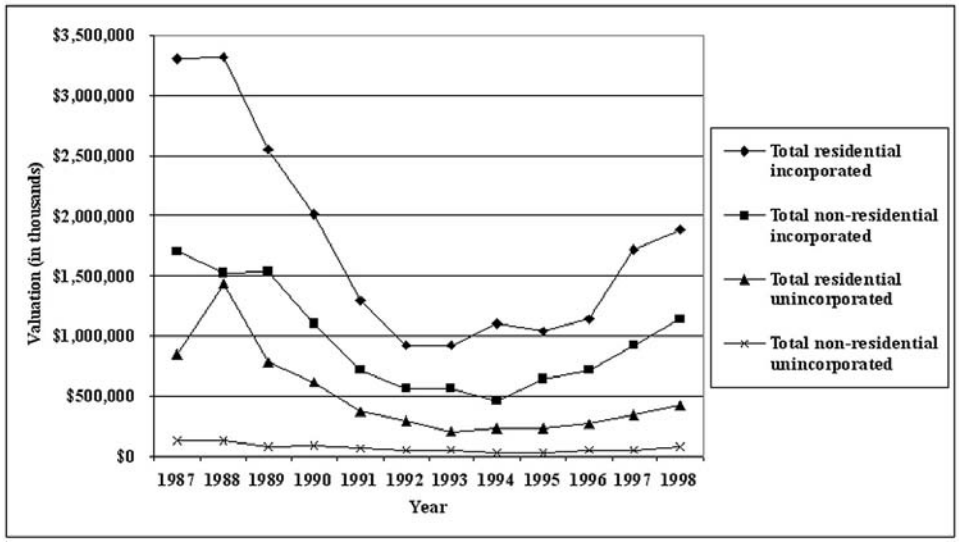

Figure 103—Building trends, Kings County, in 1998 dollars, 1987-1998.

Source: Construction Industry Research Board 1988-1999

In 1990, Kings County had 29,082 households and 30,843 housing units. The vast majority (94.3 percent) of housing units were occupied; a few (5.7 percent) were vacant (United States Census Bureau 1990a). Of the occupied housing units, a slight majority (52.9 percent) were owner-occupied; however, 47.1 percent were renter-occupied (United States Census Bureau 1990a). The median value of owner-occupied housing units in 1990 was $70,700 and the median rent was $411 per month.

Quality of Life Indicators

Transportation, Commuting, and Employment—In 1990, there were 36,943 workers age 16 and older in Kings County, and an average of 1.7 vehicles per household. Slightly more than 15 percent of Kings County residents worked outside the county. The majority (70.5 percent) of workers drove to work alone although some carpooled (18.6 percent) (*fig. 104*). Very few used public transportation. The average travel time to work was 17.5 minutes compared to the average of 20.3 minutes for the Central Valley counties in this assessment.

Kings County has a high level of truck travel, much of it related to the local agricultural economy. Because heavy trucks do more damage to roads than cars, county roads are subject to rapid deterioration (County of Kings 1993).

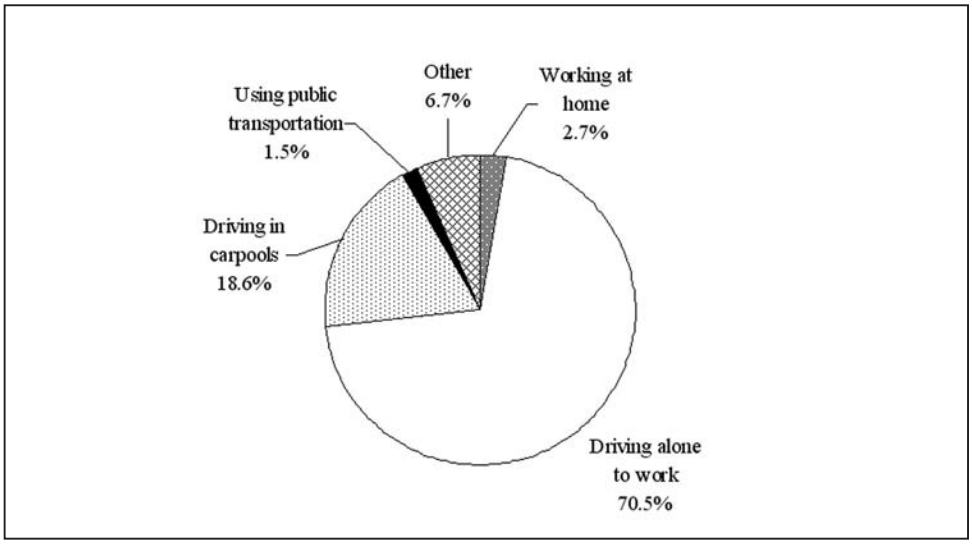

Figure 104—Commuting patterns, workers 16 and older, Kings County, 1990.

Source: United States Census Bureau 1990b

The county's leading industry is agriculture with cotton/cottonseed and milk as its dominant agricultural products. Many of the manufacturing jobs in the county are agriculture-related (Munroe and Jackman 1997). The market value of agricultural products sold increased to $693,677,000 from 1992 to 1997, an increase of 19 percent (United States Department of Agriculture 1997). Kings County is 18th in the nation in the total value of agricultural products sold (United States Department of Agriculture 1997). Approximately 95 percent of the land in the county is privately owned (County of Kings 1993).

Government has a strong presence in the county with two State prisons at Corcoran and one at Avenal accounting for a third of all government jobs. Lemoore Naval Air Station is the largest master jet Naval Air Station in the world and employs 600 civilian employees (Munroe and Jackman 1997). Other nonfarm employers include a processing plant for cottonseed and safflower oils, a hazardous waste treatment and disposal facility, tomato products canning factories, and an automobile tire manufacturer (County of Kings 1993). Kings County has had a consistently higher unemployment rate than the State as a whole due to the seasonal nature of agriculture and dependent industries such as food processing (Munroe and Jackman 1997).

Education—Kings County serves the largest number of students in its elementary schools (*table 74*). The county has more elementary schools (27) than middle and high schools (7 and 5, respectively). Average enrollment per school is greatest at the high school level, which is the pattern across the assessment area and all counties. Kings County serves slightly less than 1 percent of the assessment area's school enrollments. County schools have the 25th highest enrollment overall and they are 21st in highest average enrollment per school. Students in 2nd through 11th grade were tested using the Stanford 9 at 35 of the county schools. Kings County's ranking in academic performance for 1999 was a mean of 5.09 out of 10 (based on the similarity index, www.cde.ca.gov), indicating average performance compared to similar schools. Although 28.5 and 20 percent of schools in the county performed well below or below average compared to similar schools, 17.2 percent were well above average and 17.2 percent were above average.

Table 74—*Enrollment and number of schools, Kings County, 1998-1999.*

Type of school	Total enrollment	Percent of total enrollment	Number of schools	Average enrollment/school
Elementary	13,782	57.6	27	510
Middle/Junior High	3,976	16.6	7	568
High School	6,169	25.8	5	1,234
Total	23,927	100.0	39	-

Source: California Department of Education 1998a

Health Care—The largest number of health care establishments in the county deliver ambulatory health care services, followed by nursing and residential care (*fig. 105*). There are no social assistance facilities, or hospitals in the county as reported by the U.S. Census Bureau. However, the county has four hospitals, representing 1.0 percent of the assessment area's total hospitals (ahd.tool.net/list.php3/mstate=ca). The majority (76.9 percent) of the hospitals are nonprofit, with the balance classified as for-profit (23.1 percent) facilities. For those hospitals with reported data (three hospitals), a total of 168 beds and 32,483 total patient days were recorded in 1999. The county ranked 20th in number of hospitals, compared to its 25th place ranking in population.

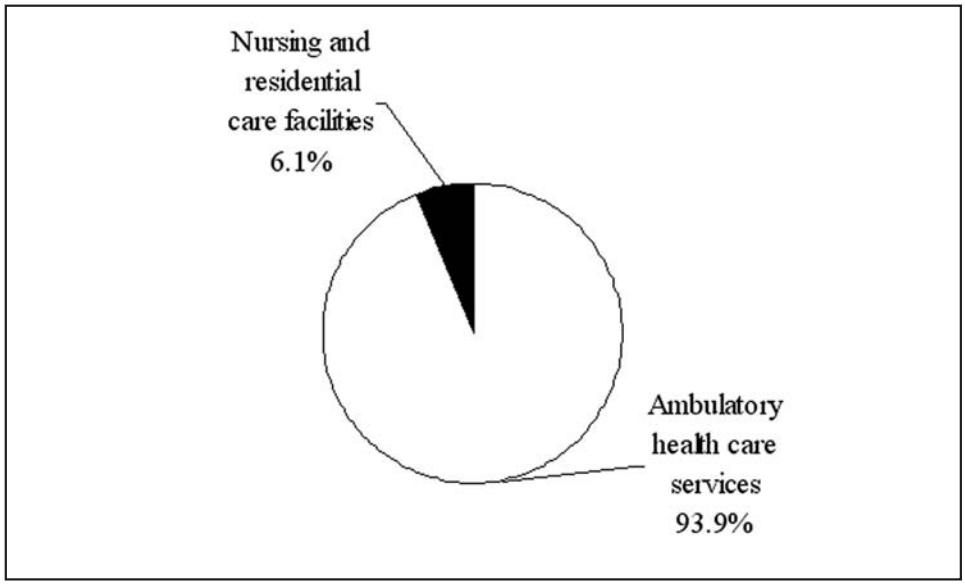

Figure 105—Health care and social assistance establishments, Kings County, 1997.

Source: United States Census Bureau 1999a

Recreation and Tourism—Among the assessment area's 26 counties, Kings ranked 25th in the 1997 economic census in accommodations and food services, and 24th in arts, entertainment and recreation (United States Census Bureau 1999b, 1999c). A total of 156 accommodation and food-services establishments, with $65,128,000 in receipts, was reported. Arts, entertainment, and recreation services involved 13 establishments, with receipts unreported. Aside from the proximate National Forest lands, recreational opportunities are sparse. There is an urban adventure park offering miniature golf, bumper boats and batting cages (www.adventurepark.com), and the Los Robles Adobe, a restored adobe home built in 1849 (Thomas Bros. Maps 1998).

Environmental Indicators

Water Quality—Kings County crosses two watersheds: the Upper Los Gatos-Avenal, and the Tulare-Buena Vista Lakes (www.epa.gov/surf3/surf98/county.html). (Watersheds frequently cross county boundaries. Therefore, some counties may include watersheds that are also located in other counties.) The Tulare-Buena Vista Lakes watershed was assigned a "6" by the EPA, indicating "more serious water quality problems and high vulnerability to pollution stressors." (According to the EPA's Index of Watershed Indicators procedures, a pollution stressor includes aquatic/wetland species at risk, toxic loads above limits, urban runoff potential, agricultural runoff potential, population change, hydrologic modification, estuarine pollution susceptibility, and atmospheric deposition.) Data are not available for the Upper Los Gatos-Avenal watershed.

Air Quality—Kings County has the 25th largest population of the 26 counties, paired with low emissions in all categories except particulates where the county ranks 15th highest (*table 75*). The majority of emissions are projected for marginal decreases dependent upon emission type. Particulates are expected to increase, primarily from area-wide sources, according to the California Air Resources Board (1999).

Table 75—*1996 estimated and 2010 forecasted annual average emissions, Kings County (cells do not add to column totals due to rounding error).*

Year	Emission category	Emission type[1]						
		TOG	ROG	CO	NOx	SOx	PM	PM10
1996	Stationary	6	3	2	10	1	3	2
	Area-Wide	100	16	22	0	0	67	34
	Mobile	10	9	64	13	0	1	1
	Natural	0	0	0	-	-	0	0
	Total	120	28	88	23	1	70	36
2010	Stationary	8	5	2	12	1	3	2
	Area-Wide	100	17	27	1	-	68	35
	Mobile	6	6	41	8	0	1	1
	Natural	-	-	-	-	-	-	-
	Total	120	27	71	21	1	71	37

Source: California Air Resources Board 1999

[1] TOG: total organic gases; ROG: reactive organic gases; CO: carbon monoxide; NOx: nitrogen oxides; SOx: sulfur oxides; PM: particulate matter; PM10: particulate matter less than or equal to 10 microns (*appendix D*).

Implications

One of the primary issues to be resolved in planning for future physical growth is the amount of new development that can be accommodated (County of Kings 1993). Growth in the county is guided by certain assumptions. These assumptions

center around the nature and location of future growth as the county shifts from agriculture to a service-oriented economy. Growth is likely to be limited by sewer and water system capacities and agricultural preserve lands surrounding rural communities. While agriculture will remain the primary industry in the county, Lemoore Naval Air Station, the two prisons (and a state prison drug rehabilitation facility), and industrial and commercial activities will grow in economic importance (County of Kings 1993).

While Kings County is not a recreational destination, it does face a major growth-limiting factor: the availability of water. A major portion of Kings County has been identified by the California Department of Water Resources as having a critical groundwater overdraft condition (County of Kings 1993). It is estimated that developing vacant lands with residential, commercial, and industrial land uses will result in a 29 percent increase in the demand for water (County of Kings 1993). King County's future growth, similar to the other Central Valley counties, is constrained by environmental limits.

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Merced County

- After Fresno County, Merced County has the largest population of Hmong refugees.
- The county is home to the Castle Air Force Base that closed in September 1995.
- Merced is the location of the 10th campus of the University of California, slated to open in 2004 and grow to 19,000 students in 2035.

History

The Yokuts inhabited the entire San Joaquin Valley. In the early 1800s, the Northern Valley Yokuts, who inhabited the Merced County area (*fig. 106*), were estimated to number 25,100 to 31,404 (Cabezut-Ortiz 1987). Very little is known about them because of their rapid disappearance due to disease, the establishment of missions, and gold seekers who disrupted archeological evidence. The Yokuts were hunter-gatherers and skilled basket makers.

Gabriel Moraga, soldier of Spain, was the first explorer to enter the area on an expedition to catch Indian horse thieves in 1806 (Outcalt 1925). Moraga named the San Joaquin Valley after the father of the Virgin Mary and named the river the River of Mercy (Cabezut-Ortiz 1987). The first White person in the San Joaquin Valley was Jedediah Smith of New York, who was on a fur trapping expedition in 1827. John Fremont passed through Merced County in 1844 on one of his geographical surveying expeditions, and later he owned a land grant in the county, familiarly called the Mariposa Grant (Outcalt 1925). When the first White men settled on the Merced River, there were no Indians on the river, and John Fremont saw none when he passed up the San Joaquin River in 1844 (Elliott and Moore 1881). A large tribe was located on the San Joaquin River at one point, but a flood

almost destroyed the tribe, so the Indians tended to live in the mountains toward the east by the time White men arrived (Elliott and Moore 1881).

When Mexico gained independence from Spain in 1821, there were 20 missions, 4 presidios, and 3 pueblos in California, but none were located in the San Joaquin Valley. However, horses and cows, which had been introduced to California by the Spanish, multiplied rapidly so that vast herds roamed the valley floor and foothills (Cabezut-Ortiz 1987). When the missions were secularized, the horses and cows were either driven off or slaughtered, and the sheep were left for predators. The cattle that remained formed the basis of the economy during the rancho period (Cabezut-Ortiz 1987). When gold miners passed through the region to the foothills of the Sierra, change and diversity came to the region. The western part of the region was inhabited by the Spanish land grant rancheros. The east was teeming with miners from all parts of the world. The plains in the middle were forgotten until those who did not get rich in the mines turned to their former trades, primarily agricultural. Agriculture became the mainstay of the economy.

The county was formed in 1855 (Outcalt 1925). The "plains" of Merced County made it especially suitable for cattle and later for wheat. Cattle were the basis of practically all the fortunes built up in the first 15 years of its history (Outcalt 1925).

Figure 106—Merced County (shaded area) is north of Fresno County.

Source: 50 Individual States—Counties 1995

The San Joaquin and Merced Rivers have their sources in the mountains and were the only year-round water supplies in a region with an average of 10 to 11 inches of rainfall a year (Outcalt 1925). Irrigation played a significant role in the success of agriculture in the county, allowing the transition from grains to a variety of agricultural products (Outcalt 1925).

The railroad came to the county in 1869, facilitating trade between San Francisco and the towns in the San Joaquin Valley (Outcalt 1925). The Southern Pacific Railroad and the San Joaquin River run through the center of the county from north to south. Both the railroad and the river were important transportation routes for the shipment of produce in the early days of the county (Elliott and Moore 1881).

Another important force in the county was the Castle Air Force Base. Prior to 1941, there was an Army Flying School in the county, 5 miles north of Merced. With events in Pearl Harbor, the school was transformed into a major training base. At the end of the war, the base was deactivated. In 1946, the base was reopened and named Castle Field (Cabezut-Ortiz 1987).

The county has been ethnically diverse since its beginning with successive waves of immigrants from Armenia, Europe, Mexico, China, and Japan during the Gold Rush and from the Dust Bowl states of the American Southwest during the Great Depression (Outcalt 1925, Lindsey 1983). Beginning in the early 1980s, Merced County became a destination for Southeast Asian refugees from Thailand and the hill areas of northern Laos. The Hmong are the largest ethnic group that has come to Merced from Laos. According to Hmong community leaders, the refugees were originally settled in places such as Rhode Island and Minnesota, but many moved to the Central Valley counties of Fresno, Merced, and San Joaquin. The Hmong found the warm climate more tolerable, and they sought an agricultural area where they thought they would have a better chance of finding work (Lindsey 1983, Ng 1993, The New York Times 1983).

Merced County Today

Merced is at a crossroads. Merced County, like many other Central Valley counties, is facing rapid population growth. The county must decide whether it will remain predominantly agricultural or whether it will give way to non-agricultural industry.

Merced County is located in the heart of the San Joaquin Valley. According to county reports, 90 percent of the Hmong receive some sort of government aid (The New York Times 1983). The struggles of the Hmong in this country are significant. The Hmong language was not written until the 1950s, and only a limited number of Hmong from Laos received any formal education (Miyares 1997). [Hmong history resides in their oral traditions. As a generation of Hmong students enters universities, their oral traditions are subject to change. Hmong students are drawing from external sources, in some cases fragments, distortions, or mediated versions of their oral traditions (Ng 1993).] However, in one generation Hmong children are entering universities in growing numbers (Miyares 1997). The county will soon be home to the 10th University of California campus. The University of California, Merced, will be the first American research university built in the 21st century (www.ucmerced.edu).

Sociodemographic Characteristics

Projected Population—DOF and Merced County Association of Governments (MCAG) calculated population projections for Merced County (*table 76*). An increasing population is expected through the forecast period. Except for the years 1990 and 2000, MCAG projections are higher than DOF projections. The difference between the two sets of projections grows from approximately 9,500 people in 2010 to slightly more than 18,000 people in 2020.

Table 76—*Population projections, Merced County, 1990-2040.*

Source	1990	1995	2000	2005	2010	2015	2020	2025	2030	2040
U.S. Census	178,403[1]	-	210,554	-	-	-	-	-	-	-
DOF	180,182[2]	-	215,256	-	264,420	-	319,785	-	385,120	460,020
MCAG	178,403	197,900	215,256	242,846	273,923	304,784	337,935	373,170	-	-

Source: United States Census Bureau 1990a and 2000, State of California Department of Finance 1998, Merced County Association of Governments 2000

[1] Data from April 1.

[2] Data from July 1.

Ethnic and Racial Diversity—In 1990, slightly more than half of Merced County's population was White, and slightly more than one-third of the county's population was Hispanic. Blacks, Asians, and American Indians represented less than 15 percent of the total population. By 2000, Hispanics were the largest ethnic group followed by Whites, Asians, Blacks, and American Indians (*table 77*).

Table 77—*1990 and 2000 population, Merced County.*

	1990	2000
	Percent	
Non-Hispanic White	54.2	40.6
Hispanic all races	32.6	45.3
Non-Hispanic Black	4.4	3.6
Non-Hispanic Asian	7.9	6.8
Non-Hispanic American Indian	0.6	0.5
Non-Hispanic other	0.3	0.2
Non-Hispanic two or more races	N/A	2.9

Source: United States Census Bureau 1990a, 2000

In 1990, 19.8 percent of Merced County's population was foreign-born. Thirty-six percent of residents age 5 and older spoke a language other than English at home. Of those, the majority (69.4 percent) spoke Spanish and slightly less than one-third (30.6 percent) spoke a language other than English or Spanish (United States Census Bureau 1990b).

Linguistic diversity is also reflected within the schools in the region. The majority of LEP students in Merced County public schools speak Spanish or Hmong—mirroring the languages spoken at home (*fig. 107*). In 1997-98, 31.8 percent of Merced County's public school students were LEP.

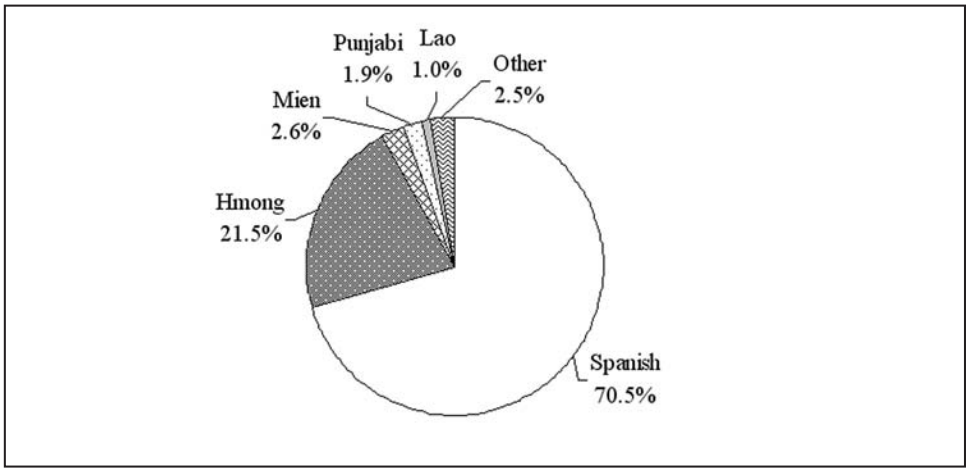

Figure 107—Limited-English-Proficient (LEP) students in Merced County public school districts, by language, 1997-1998.

Source: California Department of Education 1998b

Projected Ethnic and Racial Diversity—As Merced County's population increases, ethnic and racial diversity are also projected to increase. As a proportion of the population, Hispanics and Asians are projected to increase, while Whites, Blacks, and American Indians are projected to decrease *(fig. 108)*.

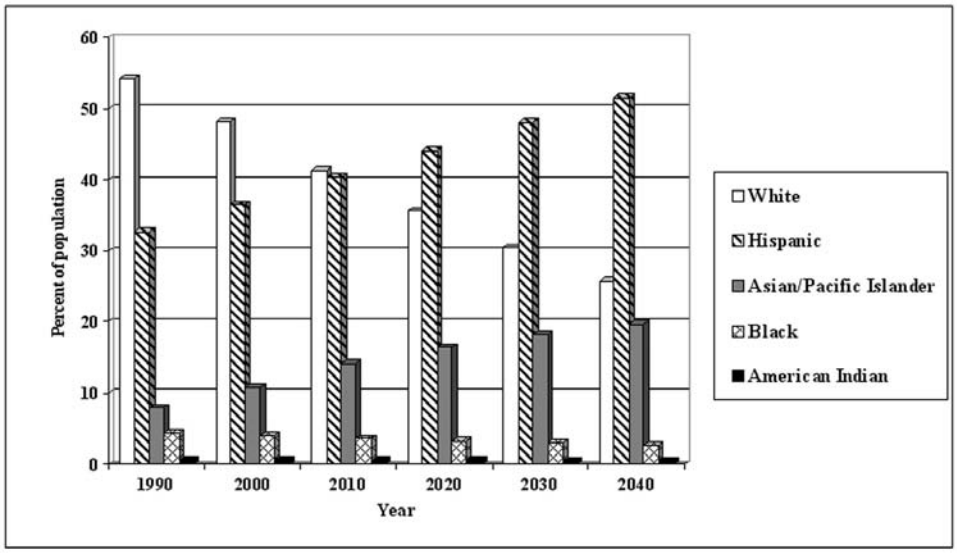

Figure 108—Racial and ethnic diversity trends for Merced County.

Source: State of California Department of Finance 1998

The proportion of Whites is expected to decrease by slightly more than 28 percent through the forecast period, while Hispanics and Asians are expected to increase by approximately 19 and 12 percent, respectively. The Black and American Indian proportions of the population have projected decreases of less than 2 percent (*table 78*).

Table 78—*Percent race/ethnicity and percent change in Merced County, 1990-2040.*

Racial/ethnic group	1990	2000	2010	2020	2030	2040	Cumulative percent change
	Year						
White	54.27	48.19	41.37	35.65	30.40	25.78	
	-	(-6.08)	(-6.82)	(-5.72)	(-5.25)	(-4.62)	-28.49
Hispanic	32.71	36.44	40.38	44.18	48.03	51.53	
	-	(3.73)	(3.94)	(3.81)	(3.85)	(3.50)	18.82
Asian/Pacific Islander	7.99	10.79	14.10	16.38	18.20	19.70	
	-	(2.80)	(3.32)	(2.27)	(1.82)	(1.50)	11.71
Black	4.40	4.01	3.62	3.31	2.95	2.62	
	-	(-0.39)	(-0.39)	(-0.31)	(-0.36)	(-0.33)	-1.77
American Indian	0.63	0.58	0.53	0.48	0.42	0.37	
	-	(-0.06)	(-0.05)	(-0.05)	(-0.06)	(-0.06)	-0.27

Source: State of California Department of Finance 1998

Along with projected changes in race and ethnicity, changes in the area population's age are projected. Projected median age for Merced County residents varies by race/ethnicity and gender. Females are projected to have higher median ages except among Hispanics where the projected median age for males and females is the same. American Indians have the highest projected median age

between 1990 and 2040 (from 31 to 47.5 years), followed by Whites (from 32 to 42.5 years) and Blacks (from 26 to 34 years) (*fig. 109*). Asians have the lowest projected median age during the forecast period (from 17 to 25.5 years). The county's Hispanic population shows a smaller projected increase through the forecast period (from 22 to 25 years).

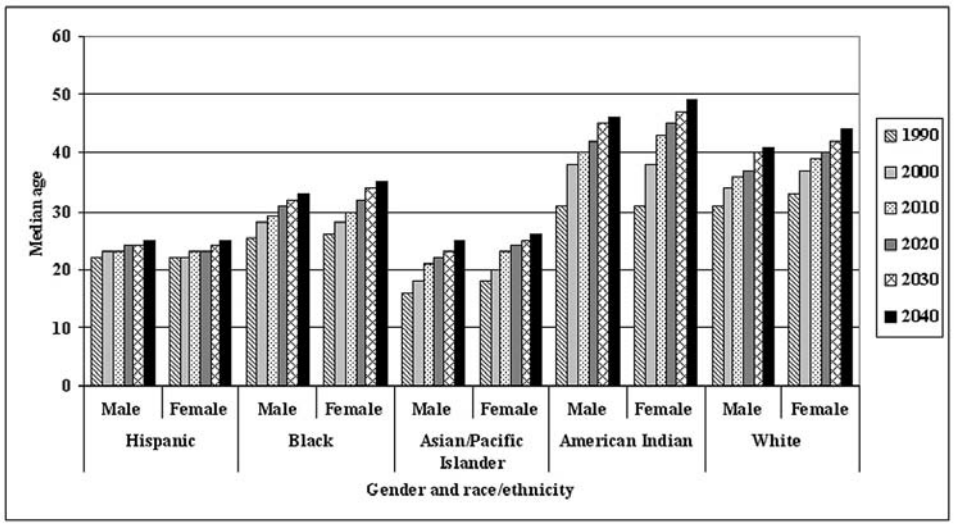

Figure 109—Median age by gender and race/ethnicity, Merced County, 1990-2040.

Source: State of California Department of Finance 1998

Development and Real Estate

Building trends in Merced County from 1987 to 1998 reveal that residential construction in incorporated areas peaked in 1989, but decreased again with the recession (*fig. 110*). Levels of construction in the county were variable. Although the existing housing market was hurt by the base closure which led to the departure of military personnel, new housing sales increased by about 25 percent (Bradshaw 1999).

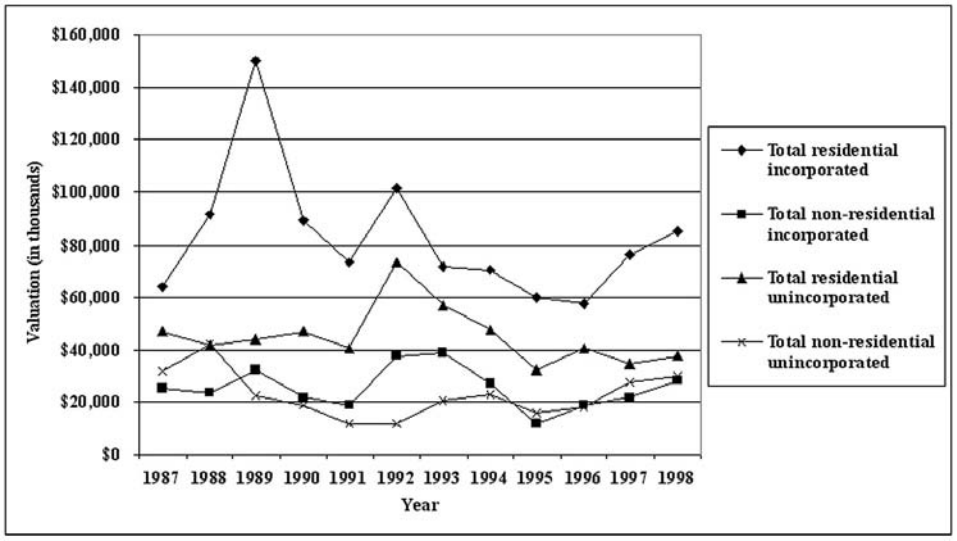

Figure 110—Building trends, Merced County, in 1998 dollars, 1987-1998.

Source: Construction Industry Research Board 1988-1999

In 1990, Merced County had 55,331 households and 58,410 housing units. The vast majority (94.7 percent) of housing units were occupied; a few (5.3 percent) were vacant (United States Census Bureau 1990a). Of the occupied housing units, a slight majority (54.4 percent) were owner-occupied, though 45.6 percent were renter-occupied (United States Census Bureau 1990a). The median value of

owner-occupied housing units in 1990 was $90,800. The median rent in 1990 was $430 per month.

Quality of Life Indicators

Transportation, Commuting, and Employment—In 1990, there were 68,697 workers age 16 and older in Merced County, and an average of 1.8 vehicles per household. Slightly more than 15 percent of Merced County residents worked outside the county. The majority (72.8 percent) drove to work alone, although some carpooled (15.6 percent) (*fig. 111*). Very few used public transportation. The average travel time to work was 16.9 minutes compared to the average of 20.3 minutes for the Central Valley counties in this assessment.

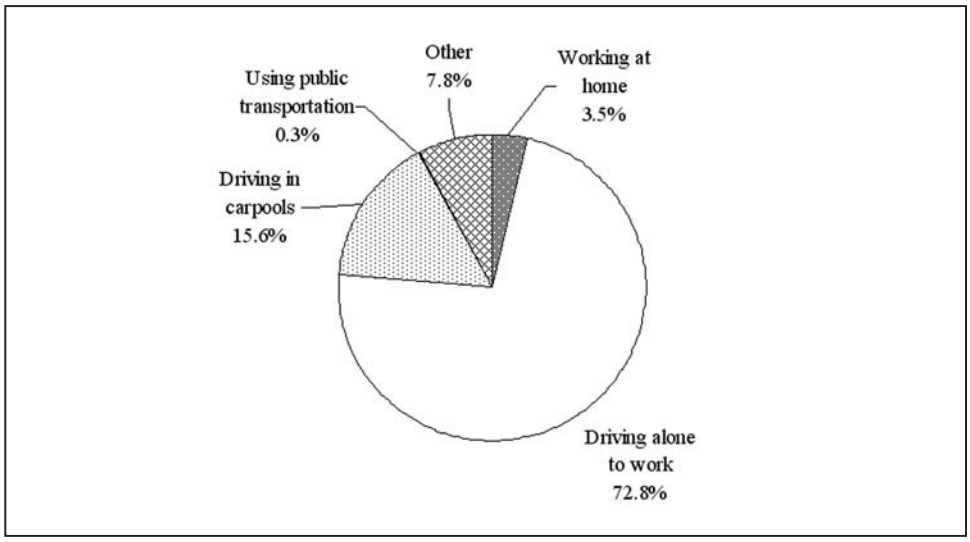

Figure 111—Commuting patterns, workers 16 and older, Merced County, 1990.

Source: United States Census Bureau 1990b

When it was operating as a military base, Castle Air Force Base was the largest employer. The base accounted for 10 percent of county employment, and it was anticipated that its closure would have catastrophic economic consequences for Merced County (Bradshaw 1999). According to Bradshaw (1999), base closure was not catastrophic mainly because the base was integrated rather weakly into the surrounding community. Base employees spent money on the base rather than in local stores, purchasing only chickens and milk locally. Retirees who had to shift spending to local stores mediated the immediate impact of base closure. Base reuse at the former Castle Air Force Base includes a Pacific Telesis Customer Care Center (Munroe and Jackman 1997), as well as a number of small firms. The nearly 7,000 retirees in the Castle area now contribute up to $23 million in new local spending to the private sector.

The county consistently has had one of the highest unemployment rates in California due to its agricultural base (Bradshaw 1999). The closure of Castle Air Force Base caused a 2.5 percentage point increase in unemployment. More serious, however, is the fact that Merced County did not share in the improving employment prospects that favored the rest of the State in the late 1990s (Bradshaw 1999).

Merced County's employment is dominated by agriculture and its related industries. The county is 79.2 percent farmland, with milk as the main agricultural product (Umbach 1997). In addition, the county produces over 65 different agricultural products, many of which are shipped to other countries (Munroe and Jackman 1997). The market value of agricultural products sold increased to $1,273,475,000 from 1992 to 1997, an increase of 40 percent (United States Department of Agriculture 1997). Merced County is 6th in the nation in the total value of agricultural products sold (United States Department of Agriculture 1997).

Education—Merced County serves the largest number of students in its elementary schools *(table 79*). The county has more elementary schools (48) than middle and high schools (13 and 10, respectively). Average enrollment per school is greatest at the high school level, which is the pattern across the assessment area and all counties. Merced County serves slightly less than 1 percent of the assessment area's school enrollments. County schools have the 20th highest enrollment overall, and they are 18th in highest average enrollment per school. Students in 2nd through 11th grade were tested using the Stanford 9 at 66 of the county schools. Merced County's ranking in academic performance for 1999 was a mean of 4 out of 10 (based on the similarity index, www.cde.ca.gov), indicating below average performance compared to similar schools. Although 44 and 21.3 percent of schools in the county performed well below or below average compared to similar schools, 10.6 percent were well above average, and 15.2 percent were above average.

Table 79—*Enrollment and number of schools, Merced County, 1998-1999.*

Type of school	Total enrollment	Percent of total enrollment	Number of schools	Average enrollment/ school
Elementary	26,121	54.6	48	544
Middle/Junior High	8,716	18.2	13	670
High School	13,042	27.2	10	1,304
Total	47,879	100.0	71	-

Source: California Department of Education 1998a

Health Care—The largest number of health care establishments in the county deliver ambulatory health care services, followed by nursing and residential care and social assistance (*fig. 112*). There are no hospitals in the county as reported by the U.S. Census Bureau. However, the county has three hospitals, representing 0.8 percent of the assessment area's total hospitals (ahd.tool.net/list.php3/mstate=ca). All three of the hospitals are nonprofit facilities, with a total of 318 beds and 60,776 total patient days recorded in 1999. The county ranked 22nd in number of hospitals, comparable to its 23rd place ranking in population. The Castle Air Force Base hospital has been turned over to the community and will be used as a clinic for people in the Atwater area where health facilities are limited (Bradshaw 1999).

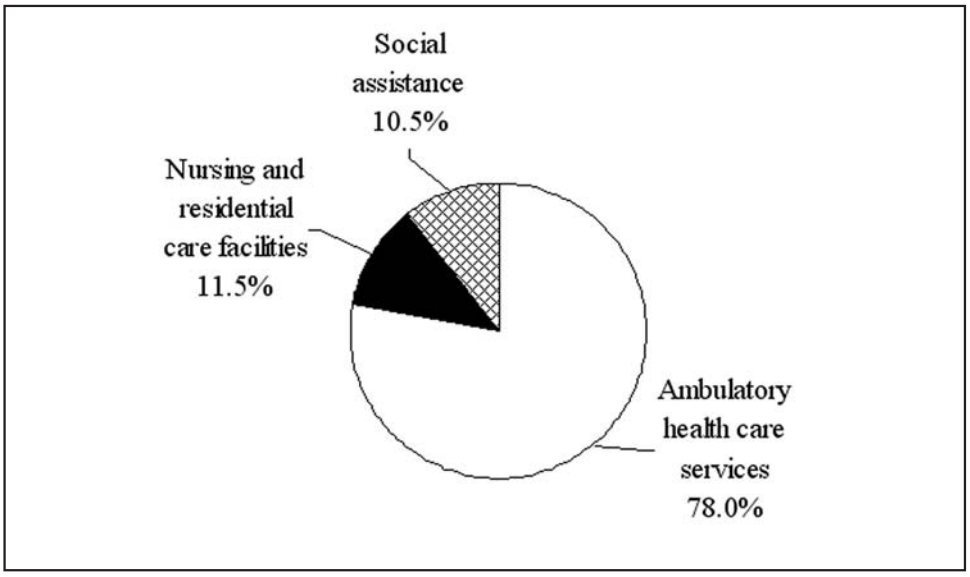

Figure 112—Health care and social assistance establishments, Merced County, 1997.

Source: United States Census Bureau 1999a

Recreation and Tourism—Among the assessment area's 26 counties, Merced ranked 23rd in the 1997 economic census in accommodations and food services, and 23rd in arts, entertainment, and recreation (United States Census Bureau 1999b, 1999c). A total of 269 accommodation and food-services establishments, with $108,370,000 in receipts, was reported. Arts, entertainment, and recreation services involved 29 establishments, with receipts totaling $8,809,000.

Merced is known as the "gateway to Yosemite," and residents can enjoy many recreational opportunities due to the proximity to the Sierra Nevada, Yosemite, and Lake Tahoe, which are within a 4-hour drive (www.co.merced.ca.us/About_Us/index.html). Recreational opportunities within the county's boundaries include the McConnell State Recreation Area, the San Luis National Wildlife Refuge, and the Merced National Wildlife Refuge (www.wildernet.com).

Environmental Indicators

Water Quality—Merced County crosses six watersheds: the Middle San Joaquin-Lower Chowchilla, the Middle San Joaquin-Lower Merced-Lower Stanislaus, the Upper Chowchilla-Upper Fresno, the Upper Merced, the Panoche-San Luis Reservoir, and the Pajaro (www.epa.gov/surf3/surf98/county.html). (Watersheds frequently cross county boundaries. Therefore, some counties may include watersheds that are also located in other counties.) The Middle San Joaquin-Lower Chowchilla, the Middle San Joaquin-Lower Merced-Lower Stanislaus, the Upper Merced, and the Pajaro watersheds were all assigned a "5" by the EPA, indicating "more serious water quality problems but low vulnerability to pollution stressors." (According to the EPA's Index of Watershed Indicators procedures, a pollution stressor includes aquatic/wetland species at risk, toxic loads above limits, urban runoff potential, agricultural runoff potential, population change, hydrologic modification, estuarine pollution susceptibility, and atmospheric deposition.) Data are not available for the Upper Chowchilla-Upper Fresno and the Panoche-San Luis Reservoir watersheds.

Air Quality—Merced County has the 23rd largest population of the 26 counties, paired with the 15th highest total organic gas (TOG) emissions, the 20th highest reactive organic gas (ROG) emissions, the 21st highest carbon monoxide (CO) emissions, the 19th highest nitrogen oxide (NOx) emissions, the 22nd highest sulfur oxide (SOx) emissions and the 9th highest particulates (*table 80*). The majority of emissions are projected for marginal decreases dependent upon emission type. Particulates are expected to increase, primarily from area-wide sources, according to the California Air Resources Board (1999).

Table 80—*1996 estimated and 2010 forecasted annual average emissions, Merced County (cells do not add to column totals due to rounding error).*

Year	Emission category	Emission type[1]						
		TOG	ROG	CO	NOx	SOx	PM	PM10
1996	Stationary	4	3	12	7	1	3	2
	Area-Wide	110	16	40	1	0	85	45
	Mobile	14	13	130	31	1	1	1
	Natural	0	0	0	0	-	0	0
	Total	130	32	180	39	1	90	48
2010	Stationary	4	3	12	7	1	4	2
	Area-Wide	120	19	80	1	-	91	49
	Mobile	8	7	87	21	1	1	1
	Natural	0	-	1	-	-	0	0
	Total	130	29	180	29	2	96	52

Source: California Air Resources Board 1999

[1] TOG: total organic gases; ROG: reactive organic gases; CO: carbon monoxide; NOx: nitrogen oxides; SOx: sulfur oxides; PM: particulate matter; PM10: particulate matter less than or equal to 10 microns (*appendix D*).

Implications

With a projected doubling of the population between 1990 and 2025, Merced County faces many of the same pressures as other counties in the Central Valley. These pressures include the conversion of farmland to urban uses, increased commuting between Merced and counties in the Bay Area, and impacts on air and water quality that come with increased urban development. In addition, the county is home to the 10th University of California campus that "…invariably will become an engine of growth for the region" (Great Valley Center 1998). The University of California's Academic Review Committee anticipates that the university will be at full capacity by 2035 with 19,000 students (Great Valley Center 1998).

Base closure was not catastrophic for the county as predicted, and retail sales in the county have increased rather than decreased (Bradshaw 1999). Merced County's population continues to grow rather than decline after base closure (Bradshaw 1999). Optimism surrounds base conversion plans, which include making the landing strip into a commercial airport, building a prison on one corner of the property (now completed), establishing space education programs for children, and using some of the buildings for university programs (Bradshaw 1999).

As stated earlier, Merced County is at a crossroads and must decide whether to preserve its agricultural economy or make way for non-agriculturally based industry. Not only is Merced County experiencing rapid population growth, the population is ethnically diverse and that diversity is expected to increase. As of 2000, Whites were no longer the majority ethnic/racial group in the county. Merced County faces similar natural resource challenges as the rest of the Central Valley with some additional unknown factors. With the highest percentage of foreign-born residents in the region (almost 20 percent), future impacts upon natural resources are not yet clear. It remains to be seen whether patterns of employment, residential preferences, and recreational choices will be significantly influenced by this foreign-born population; or whether tenure in the United States will coincide with a trend of decreasing agricultural employment and a transition to employment in new industrial and commercial sectors.

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Sacramento County

- The county is home to California's State Capital.
- Sacramento County is the most populous county in the Central Valley.
- Employment in State and local government is nearly double that of the average metropolitan county.
- Agriculture is a significant industry in the county despite its population density.

History

A number of tribes inhabited the territory of Sacramento before the arrival of Europeans. These tribes included the Meewocs, Patweens, Neeshenams, Poosoones, Quotoas, Colomas, Wapummes and many more (Thompson and West 1880). The Indians in the area generally lived on watercourses except when on hunting expeditions. The first White man in the area was likely Jedediah Smith in 1825 when he was leading an expedition of trappers across the Sierra Nevada into the Tulare Valley. The party trapped for beaver from the Tulare to the American River and had their camp near the present site of Folsom (Thompson and West 1880).

In 1848, the region experienced an influx of miners who stopped in the area before continuing northward, leading to a settlement, which became known as Sacramento (*fig. 113*). In November 1848, the area had a transient population of 10,000, which increased as time went on (Thompson and West 1880, Walsh 1946). Before 1844, Sutter's Fort was the principal trading post in upper California. Captain Sutter and others at the Fort decided to map out and build a town on the riverbank 3 miles south of the fort. Sutterville flourished unrivaled until the time gold was discovered and then came into conflict with Sacramento (Thompson and West 1880).

The four rivers that crossed the county (Sacramento, American, Consumnes, and Mokelumne) resulted in a rich soil particularly suitable for agriculture. The rivers also allowed Sacramento to develop into a river port (Walsh 1946). Although the rivers were important to the development of Sacramento agriculturally as well as a transportation node, they had one major disadvantage: flooding. Sacramento was subject to some devastating floods in the 1850s and 1860s as a result of heavy snowfall in the Sierra Nevada and rains in the lowlands (Thompson and West 1880). This led to the development of a series of levees around Sacramento (Thompson and West 1880).

Sacramento was also connected to rail, which led out of the area in five directions (Ing 1905). Sacramento County was incorporated in 1850 as one of the original 27 counties of the State of California, and became the State Capital in 1854 (www.co.sacramento.ca.us). In addition to its title as State Capital, Sacramento is also home to the State Library. The primary intention of its founders was to make a collection of books to assist the Legislature, State officers, and Judges (Thompson and West 1880). It was also hoped that the Library would act as a magnet for scholars and literary figures that would then choose Sacramento as a desirable place of residence (Thompson and West 1880).

The early population of Sacramento, commencing from the discovery of gold, consisted of people from all parts of the world. When the first rush to the mines was over, it became necessary to pursue other activities and many settled into agriculture (Thompson and West 1880). According to Ing (1905), some of the early important agricultural products of the county were fruit (including dried fruits), berries, and grapes. Staple vegetable products of the county in the early part of the 20th century included asparagus, onions, root vegetables, beans, and potatoes. Grain production included wheat, oats, barley, corn, and hay. Poultry and dairy were also important in the early history of the county.

Phenomenal population increase occurred in the county in the 1950s. This was a result of the growth in the local aerospace industry, the expansion of three military installations (Mather Air Force Base, McClellan Air Force Base, and the Army Depot) and the growth in government services within Sacramento County (County of Sacramento 1996).

Sacramento County Today

The city of Sacramento is the seat of government for the State and the county. The county is the most populous and the most densely populated in the Central Valley with 1,200 persons per square mile. However, despite the county's density of population, 61.3 percent of its land area is in farms (Umbach 1997), and its agricultural output is still significant. The market value of agricultural products sold increased to $218,023,000 from 1992 to 1997, an increase of 4 percent (United States Department of Agriculture 1997). The five leading commodities are milk, Bartlett pears, wine grapes, cattle, and turkeys (Umbach 1997).

Figure 113—Sacramento County (shaded area) is north of San Joaquin County.

Source: 50 Individual States—Counties 1995

Sacramento is experiencing major population growth. At least one out of every four residents in the 1990s did not live in the county in 1980 (County of Sacramento 1994). The growth comes from natural increase and net migration. About 60 percent of Sacramento County's growth is a result of net migration (County of Sacramento 1994). The new residents come from a variety of places. About 25,000 Southeast Asians have migrated from Cambodia, Vietnam, and Laos since the early 1980s. New residents continue to come from Mexico and other Spanish-speaking countries, and a small but growing number are emigrating from former Soviet bloc countries (County of Sacramento 1994). There is also substantial movement of Californians from the Bay Area, southern California, and from other states in the country (County of Sacramento 1994).

The population did not increase at the same rate for all age groups in the 1980s. The percentage of "baby boomers" (age 35 to 44) grew the most, followed by children under 10 years of age and seniors (County of Sacramento 1994). As the population has changed, its household composition has also changed. One of three children in the county does not live in a two-parent household. One out of 10 children in Sacramento lives with relatives, primarily grandparents, or with non-relatives. More seniors are living at home, with a decline in the actual number living in group quarters (County of Sacramento 1994). Sacramento County has more divorced and widowed residents as well as a higher proportion of single people when compared to other parts of the State. One in four households in the county consists of a single person, by far the highest rate in the region (County of Sacramento 1994). Sacramento County's birth rate is higher than the State as a whole. One out of three births in the county is to an unmarried woman, and one out of eight births is to a teen mother (County of Sacramento 1994).

Sociodemographic Characteristics

Projected Population—DOF and the Sacramento Area Council of Governments (SACOG) calculated population projections for Sacramento County (*table 81*). The population is expected to increase through the forecast period. SACOG projections are lower than DOF projections by approximately 8,600 people in 2000 and by more than 30,000 in 2020.

Table 81—*Population projections, Sacramento County, 1990-2040.*

Source	1990	2000	2005	2010	2015	2020	2022	2030	2040
U.S. Census	1,041,219[1]	1,223,499	-	-	-	-	-	-	-
DOF	1,049,010[2]	1,212,527	-	1,436,286	-	1,651,765	-	1,884,210	2,122,769
SACOG	-	1,218,860	1,335,283	1,459,952	1,574,420	1,646,045	1,672,908	-	-

Source: United States Census Bureau 1990a and 2000, State of California Department of Finance 1998, Sacramento Area Council of Governments 2001

[1] Data from April 1.

[2] Data from July 1.

Ethnic and Racial Diversity—In 1990, Sacramento County's population was predominantly White, and 11.7 percent was Hispanic. Blacks, Asians, and American Indians represented less than 20 percent of the total population. By 2000, the proportion of Whites in the population decreased although they were still the majority. Blacks, Asians, and American Indians represented 22 percent of the total population (*table 82*).

Table 82—*1990 and 2000 population, Sacramento County.*

	1990	2000
	Percent	
Non-Hispanic White	69.3	57.8
Hispanic all races	11.7	16.0
Non-Hispanic Black	9.0	9.7
Non-Hispanic Asian	8.8	11.4
Non-Hispanic American Indian	1.0	0.7
Non-Hispanic other	0.2	0.3
Non-Hispanic two or more races	N/A	4.2

Source: United States Census Bureau 1990a, 2000

In 1990, 10 percent of Sacramento County's population was foreign-born. In the same year, 16.3 percent of residents age 5 and older spoke a language other than English at home. Of those, 40.5 percent spoke Spanish; however, the majority (59.5 percent) spoke a language other than English or Spanish (United States Census Bureau 1990b).

Linguistic diversity is also reflected within the schools in the region. The majority of LEP students in Sacramento County public schools speak Spanish or Hmong, mirroring the languages spoken at home (*fig. 114*). The variety of Asian dialects represented in 1 percent or more of the student population, as well as the percent who speak Russian, set the county apart as unique in this assessment. In 1997-98, 16.9 percent of Sacramento County's public school students were LEP.

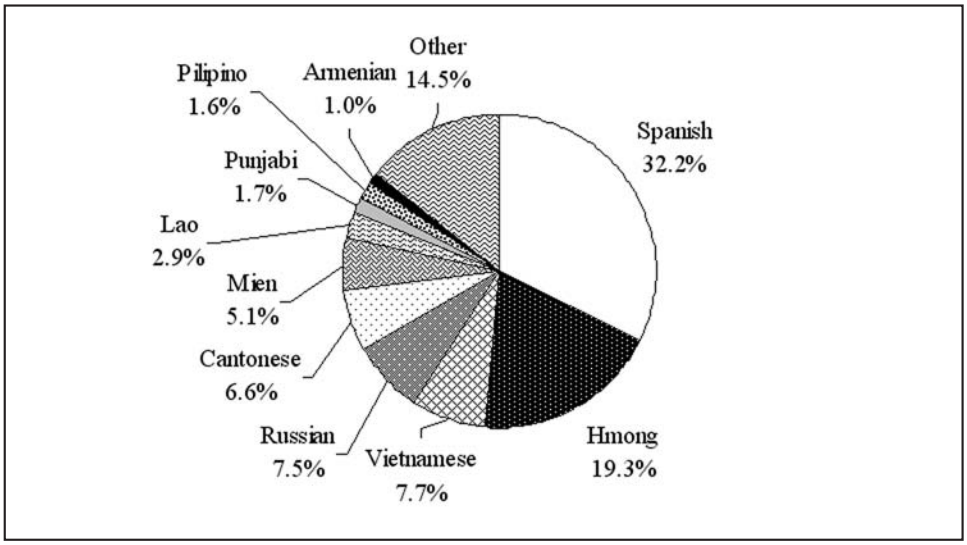

Figure 114—Limited-English-Proficient (LEP) students in Sacramento County public school districts, by language, 1997-1998.

Source: California Department of Education 1998b

Projected Ethnic and Racial Diversity—As Sacramento County's population increases, ethnic and racial diversity are projected to increase as well. Hispanics, Asians, and Blacks are all projected to increase as a proportion of the population, while Whites are projected to decrease (*fig. 115*). The American Indian proportion of the population shows little change through 2040.

The proportion of Whites is expected to decrease by approximately 27 percent through the forecast period, while Asians, Hispanics, and Blacks are projected to increase by approximately 13, 10, and 4 percent, respectively (*table 83*). Little change is expected among the American Indian population across the forecast period.

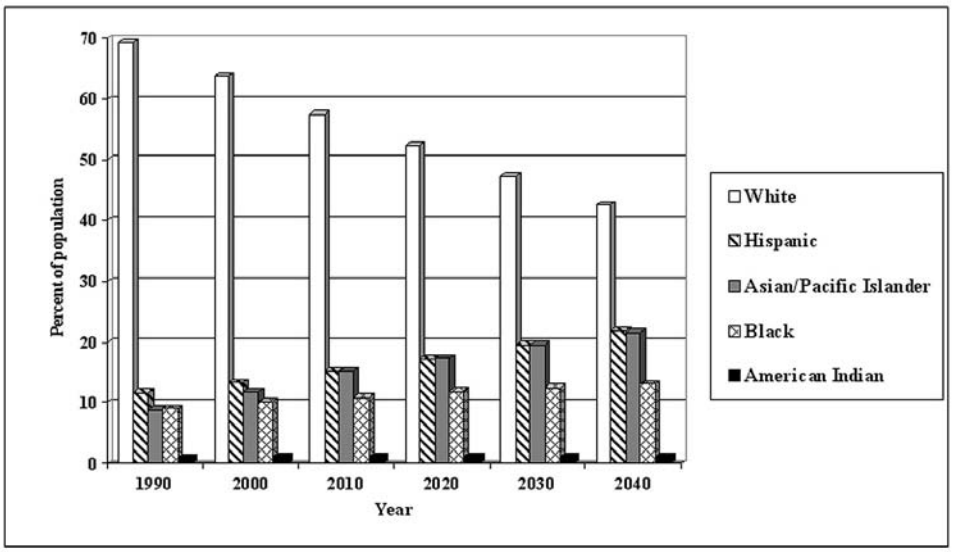

Figure 115—Racial and ethnic diversity trends for Sacramento County.

Source: State of California Department of Finance 1998

Table 83—*Percent race/ethnicity and percent change in Sacramento County, 1990-2040.*

Racial/ethnic group	1990	2000	2010	2020	2030	2040	Cumulative percent change
	Year						
White	69.35	63.71	57.56	52.36	47.35	42.55	
	-	(-5.64)	(-6.15)	(-5.20)	(-5.01)	(-4.80)	26.80
Hispanic	11.72	13.34	15.22	17.24	19.52	21.88	
	-	(1.62)	(1.87)	(2.02)	(2.28)	(2.36)	10.16
Asian/Pacific Islander	8.92	11.78	15.19	17.40	19.54	21.47	
	-	(2.86)	(3.41)	(2.21)	(2.14)	(1.93)	12.55
Black	9.06	10.11	10.94	11.88	12.46	13.00	
	-	(1.05)	(0.83)	(0.93)	(0.59)	(0.53)	3.94
American Indian	0.95	1.05	1.10	1.13	1.13	1.11	
	-	(0.10)	(0.04)	(0.03)	(0.00)	(-0.02)	0.16

Source: State of California Department of Finance 1998

Along with projected changes in race and ethnicity, changes in the area population's age are projected. Projected median age for Sacramento County residents varies by race/ethnicity and gender. Females are projected to have higher median ages in all ethnic groups except Hispanics. Whites have the highest projected median age between 1990 and 2040 (from 33.5 to 43.5 years), followed by American Indians (from 29 to 40.5 years) and Blacks (from 26.5 to 31 years) (*fig. 116*). Hispanics have the lowest projected median ages (from 25 to 27 years).

Development and Real Estate

Building trends in Sacramento County from 1987 to 1998 reveal that the recession had a dramatic impact on construction in the county, particularly residential construction in incorporated areas (*fig. 117*). Post-recession recovery was evident in all types of construction except non-residential development in incorporated areas, which remained a small and stable part of construction. The greatest growth in the county through 2005 is expected in unincorporated communities (County of Sacramento 1996).

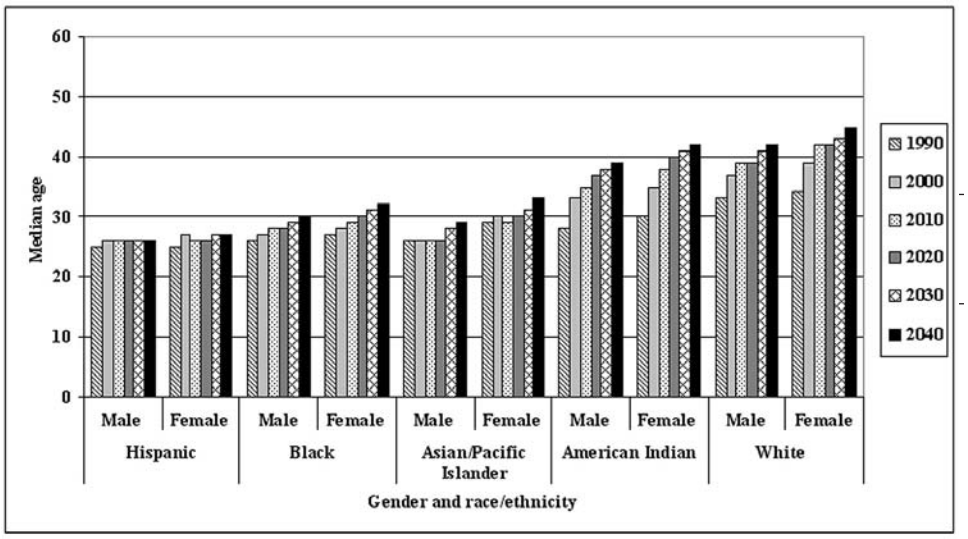

Figure 116—Median age by gender and race/ethnicity, Sacramento County, 1990-2040.

Source: State of California Department of Finance 1998

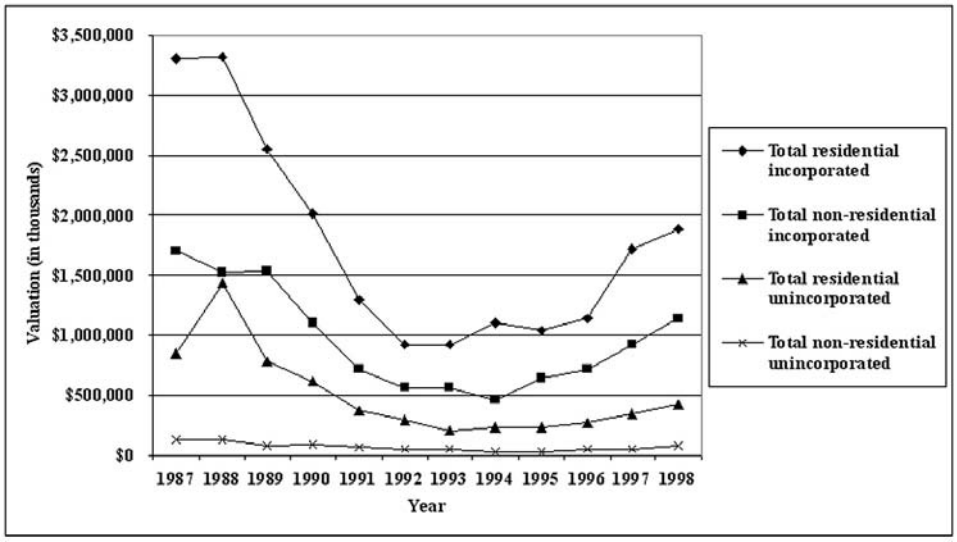

Figure 117—Building trends, Sacramento County, in 1998 dollars, 1987-1998.

Source: Construction Industry Research Board 1988-1999

In 1990, Sacramento County had 394,530 households and 417,574 housing units. The vast majority (94.5 percent) of housing units were occupied; only 5.5 percent were vacant (United States Census Bureau 1990a). Of the occupied housing units, the majority (56.6 percent) were owner-occupied; however, 43.4 percent were renter-occupied (United States Census Bureau 1990a). The median value of owner-occupied housing units in 1990 was $129,800, and the median rent was $527 per month.

Quality of Life Indicators

Transportation, Commuting, and Employment—In 1990, there were 482,321 workers age 16 and older in Sacramento County, and an average of 1.7 vehicles per household. Slightly fewer than 12 percent of Sacramento County residents worked outside the county. The majority (75.8 percent) of workers drove to work alone, although some carpooled (14 percent) (*fig. 118*). Very few used public transportation. The average travel time to work was 21.7 minutes compared to the average of 20.3 minutes for the Central Valley counties in this assessment.

Sacramento, the State Capital, has a job base nearly twice as concentrated in State and local government jobs as the average metropolitan area (Munroe and

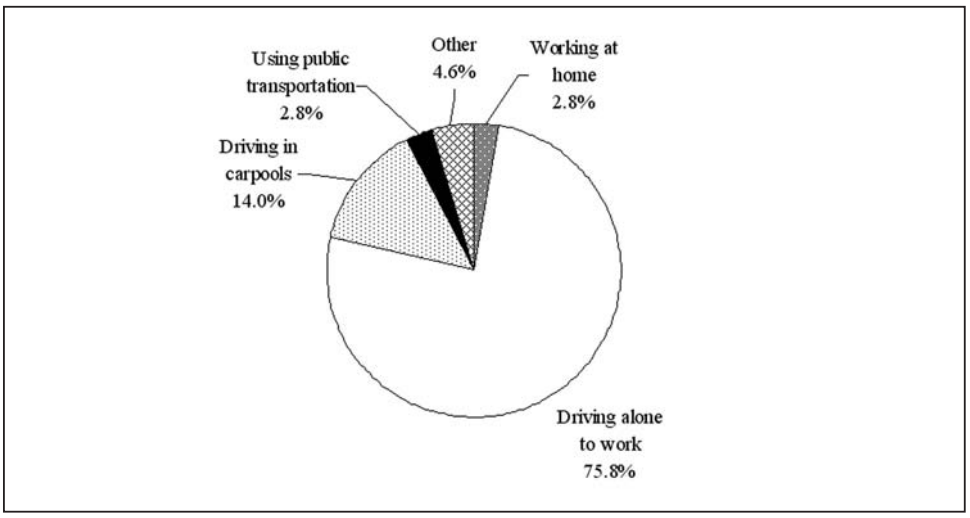

Figure 118—Commuting patterns, workers 16 and older, Sacramento County, 1990.

Source: United States Census Bureau 1999b

Jackman 1997). However, Sacramento's economy has diversified with growth in back office and data processing operations, finance, insurance, and real estate (Munroe and Jackman 1997). Food processors are major employers in the area, with several employing more than 1,000 people (Munroe and Jackman 1997). Sacramento is emerging as a center for high-tech manufacturing and as a manufacturing center for compact discs (Munroe and Jackman 1997).

Education—Sacramento County serves the largest number of students in its elementary schools (*table 84*). The county has more elementary schools (213) than middle and high schools (37 and 30, respectively). Average enrollment per school is greatest at the high school level, which is the pattern across the assessment area and all counties. Sacramento County serves slightly less than 4 percent of the assessment area's school enrollments. County schools have the 8th highest enrollment overall, and they are 13th in highest average enrollment per school. Students in 2nd through 11th grade were tested using the Stanford 9 at 278 of the county schools. Sacramento County's ranking in academic performance for 1999 was a mean of 5.36 out of 10 (based on the similarity index, www.cde.ca.gov), indicating slightly higher-than-average performance compared to similar schools. Although 21.2 and 18.4 percent of schools in the county performed well below or below average compared to similar schools, 18 percent were well above average, and 17.7 percent were above average.

Table 84—*Enrollment and number of schools, Sacramento County, 1998-1999.*

Type of school	Total enrollment	Percent of total enrollment	Number of schools	Average enrollment/school
Elementary	116,742	58.0	213	548
Middle/Junior High	31,704	15.7	37	857
High School	52,877	26.3	30	1,763
Total	201,323	100.0	280	-

Source: California Department of Education 1998a

Health Care—The largest number of health care establishments in the county deliver ambulatory health care services, followed by social assistance, and nursing and residential care (*fig. 119*). There are no hospitals in the county as reported by the U.S. Census Bureau; however, according to another source, the county

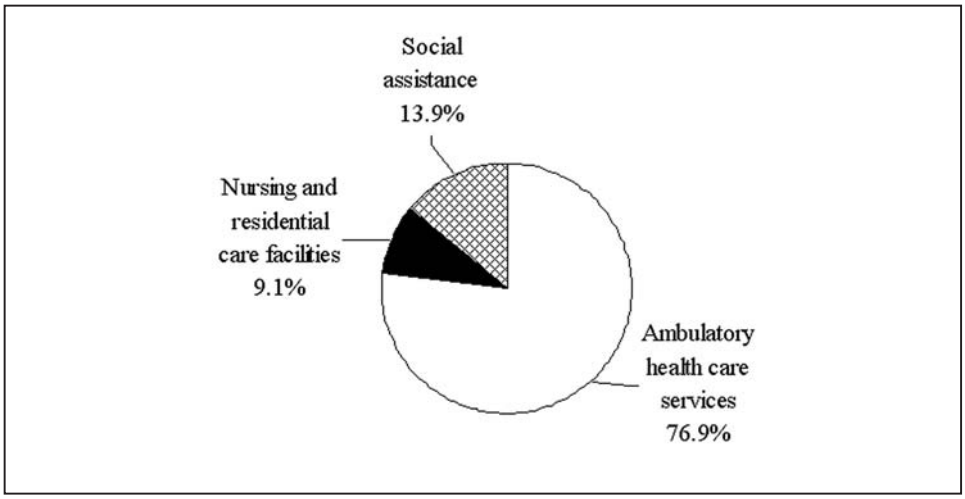

Figure 119—Health care and social assistance establishments, Sacramento County, 1997.

Source: United States Census Bureau 1999a

has 13 hospitals, representing 3.3 percent of the assessment area's total hospitals (ahd.tool.net/list.php3/mstate=ca). The majority (76.9 percent) of the hospitals are nonprofit, with the balance classified as for-profit (23.1 percent) facilities. For those hospitals with reported data (27 hospitals), a total of 222 beds and 763,357 total patient days were recorded in 1999. The county ranked ninth in number of hospitals, comparable to its eighth-place ranking in population.

Recreation and Tourism—Among the assessment area's 26 counties, Sacramento ranked eighth in the 1997 economic census in accommodations and food services, and eighth in arts, entertainment, and recreation (United States Census Bureau 1999b, 1999c). A total of 2,185 accommodation and food-services establishments, with $1,195,326,000 in receipts, was reported. Arts, entertainment, and recreation services involved 238 establishments, with receipts totaling $249,788,000. Sacramento County offers a variety of recreational opportunities. The American River is the venue for rafting, from the leisurely to whitewater experiences. Folsom Lake State Recreation Area is an 18,000-acre State park with camping, picnicking, and varied other activities. There are numerous regional and county parks in the county as well. Those interested in history can find themselves at home at the many museums and historical sites, including Sutter's Fort Historic Park, the California Railroad Museum, the State Capital museum, and Capital building (www.sacramentocvb.org).

Environmental Indicators

Water Quality—Sacramento County crosses six watersheds: the Lower Sacramento, the North Fork American, the South Fork American, the San Joaquin Delta, the Lower Consumnes-Lower Mokelumne, and the Upper Consumnes (www.epa.gov/surf3/surf98/county.html). (Watersheds frequently cross county boundaries. Therefore, some counties may include watersheds that are also located in other counties.) The San Joaquin Delta and the Lower Consumnes-Lower Mokelumne watersheds were assigned a "5" by the EPA, indicating "more serious water quality problems but low vulnerability to pollution stressors." (According to the EPA's Index of Watershed Indicators procedures, a pollution stressor includes aquatic/wetland species at risk, toxic loads above limits, urban runoff potential, agricultural runoff potential, population change, hydrologic modification, estuarine pollution susceptibility, and atmospheric deposition.) The Lower Sacramento and North Fork American watersheds were assigned a "3," indicating "less serious water quality problems and low vulnerability to pollution stressors." Data are not available for the South Fork American and Upper Consumnes watersheds.

Air Quality—Sacramento County has the 8th largest population of the 26 counties, paired with the 11th highest total organic gas (TOG) emissions, the 10th highest reactive organic gas (ROG) emissions, the 8th highest carbon monoxide (CO) emissions, the 11th highest nitrogen oxide (NOx) emissions, the 18th highest sulfur oxide (SOx) emissions, and the 12th highest particulates (*table 85*). The majority of emissions are projected for marginal decreases dependent upon emission type. Particulates are expected to increase, primarily from area-wide sources, according to the California Air Resources Board (1999).

Table 85—*1996 estimated and 2010 forecasted annual average emissions, Sacramento County (cells do not add to column totals due to rounding error).*

Year	Emission category	Emission type[1]						
		TOG	ROG	CO	NOx	SOx	PM	PM10
1996	Stationary	91	18	2	5	0	3	2
	Area-Wide	51	22	62	3	0	74	39
	Mobile	72	63	560	79	2	3	3
	Natural	0	0	0	0	-	0	0
	Total	210	100	630	86	2	80	44
2010	Stationary	120	24	2	6	0	4	2
	Area-Wide	55	25	59	5	0	94	51
	Mobile	27	25	300	53	3	3	2
	Natural	-	-	0	-	-	-	-
	Total	200	74	360	64	3	100	55

Source: California Air Resources Board 1999

[1] TOG: total organic gases; ROG: reactive organic gases; CO: carbon monoxide; NOx: nitrogen oxides; SOx: sulfur oxides; PM: particulate matter; PM10: particulate matter less than or equal to 10 microns (*appendix D*).

Implications

According the County of Sacramento (1994), during the 1980s, the Sacramento region experienced strong economic growth. Many new manufacturing jobs came to the area, adding 13,000 new jobs. In the 1990s, the economy slowed and losses were felt in every major sector. New jobs have come into the area, but more than half of the 200,000-plus new jobs created in the 1980s were in service and retail industries. The State of California, faced with its own budgetary woes, has transferred the costs of health and social programs to the counties. Thus, the demands for health, safety, and welfare services are increasing while county revenue sources are decreasing.

Housing, although more affordable in the region than in many other parts of the State, is becoming more expensive. High-end rental housing is readily available in Sacramento County, but more affordable rentals are in short supply and publicly subsidized units have long waiting lists.

Publicly funded resources for health care cannot keep pace with the need for the foreseeable future. Cost is the greatest barrier to adequate health care, but increasing cultural diversity has meant that more residents have limited English proficiency, which can act as a barrier to receiving health care services. For example, requests for interpretation service at the University of California at Davis Medical Center more than doubled from 1986 to 1990. Most translation calls were for Spanish, but thousands of patients were from Southeast Asia. An increasing number of patients required translation in Russian.

Natural resource challenges for Sacramento County include the impact of urban growth in unincorporated natural areas, especially the impact on what is still a significant agricultural economy, and the effect of growth on water quality in the county's six watersheds. The four major rivers that cross the county have

a long history as being integral to the county's development, but their long-term viability is threatened by the county's urban growth.

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San Benito County

- San Benito is linked to the Bay Area as a bedroom community. Because it was formed out of Monterey County it is also linked to the Central Coast's history and the Central Valley's economy through agriculture.
- The county has the smallest population of all counties in the assessment.
- San Benito was the fastest growing county in the State between 1990 and 2000.
- A relatively stable ethnic/racial distribution between 1990 and 2040 makes this county unique in the assessment.

History

According to Frusetta (1990), San Benito's first inhabitants were the Ichimi Indians, relatives of the Costanoan tribe whose territory extended from Point Sur to the San Francisco Bay (*fig. 120*). The Ichimi's stone culture revolved around acorns. Acorns were crushed into a coarse meal. The mash was then leached of its bitterness and the gruel was cooked or baked into unleavened bread. The Ichimi traded for shells and steatite (soapstone) from their western neighbors, the Wacharon Indians of the Salinas Valley. They obtained obsidian and asphaltum tar by barter from the Yokuts of the central San Joaquin Valley. According to Clough (1996), the primary Indian group in the area before the arrival of Europeans was known as the Mutsunes, although there were other Indian groups in the area. The Mutsunes were hunters and seed-gatherers. Seeds were ground in stone mortars, and water was held in tightly woven baskets.

In 1795, Spanish explorers selected the site for the Mission San Juan Bautista (named for Saint John the Baptist). The site for the mission was chosen because it was midway between Mission San Carlos (Carmel) and Mission Santa Clara, which were more than 50 miles apart (Clough 1996). By 1797, 85 Indians had been baptized at the mission. Life there was difficult, and European diseases were the principal cause of death among the Indians. The Indian death rate was very high until 1832. It is reported that 2,854 Indians had died by this time, but the figure falls short of the reported total of 4,000 to 4,500 Indians buried at the mission (Clough 1996).

People passed through the county on their way to the gold mines in the 1860s. Among the first settlers in San Benito were the Smith Brothers in 1860 (Frusetta 1990). When they came to San Benito, they squatted on unclaimed land they thought would be suitable for making a living from wild game, gardening, and raising livestock. In 1853, Dr. Thomas Flint and Llewellyn Bixby, early and successful entrants in the Gold Rush, formed a partnership and purchased sheep to bring to California. Flint-Bixby and Company and Colonel Hollister purchased land south of San Jose in the region that became San Benito County. Later, Hollister renegotiated the sale of the land with Flint-Bixby and Company and divided his 21,000-acre section into 51 lots. Fifty would be for farms and pastures, and one would be for a townsite (Northern California Historical Records Survey Project 1940, Clough 1996). Thus, Hollister was the pioneer of the practice of subdividing land. The idea of creating a town near and for the convenience of farmers was also new.

By 1865, enough settlers had come to the area to form a small town. Early residents traveled into Monterey for manufactured goods that arrived on whaling vessels and New England clipper ships. Cattle ranching was the predominant activity through much of the county's early history, but the vast herds that proliferated were finally limited in the 1880s by drought and diseases.

Figure 120—San Benito County (shaded area) is east of Monterey County.

Source: 50 Individual States—Counties 1995

Hollister continued to grow, helped by the fact that the cattle and sheep owners were able to persuade Southern Pacific to have the railroad pass through their town and not through San Juan (Clough 1996). San Juan also lost to Hollister in its bid to become the county seat. In fact, because San Juan lost many people in the exodus of 1871, it did not have enough votes to put up a good fight (Clough 1996) when the railroad went through Hollister. San Juan did get a railroad through town in 1907, known as the Central California Railroad (Clough 1996).

San Benito was formed in 1874 from the inland territory of Monterey County east of the Gabilan Mountains (csb.hollisteronline.com, Mylar 1929, Northern California Historical Records Survey Project 1940). The movement for separation was initiated by the citizens of Hollister and was opposed by residents of San Juan, Gilroy, and Monterey. The principal argument for separation was the difficulty in traveling over the Gabilan Mountains in order to transact business in Salinas (Northern California Historical Records Survey Project 1940). One-third of the population lived in the eastern portion of the county, and because of their isolation, they did not have proportionate voice in the county's affairs. The name "San Benito" was chosen from the river, which had originally been named by Father Crespi in 1772 in honor of Saint Benedict.

San Benito was settled by people of many nationalities. Through successive periods, the original Indian population was augmented by Spaniards, Mexicans, and pioneer immigrants from Utah, Missouri, Tennessee, and other states. Later, settlers arrived from New England, many of Irish origin (Northern California Historical Records Survey Project 1940). San Benito was principally a stock-raising county at its inception in 1874 (Northern California Historical Records Survey Project 1940). However, farmers in the county also produced large crops of hay, wheat, and barley. Warehouses for these crops were built in Hollister; also known for its horses and livestock. Hay was raised and stored in such quantities that Hollister became known as the "Hay City," with the largest warehouses in the world. The first silo constructed on the west coast was erected in San Benito in 1880 (Northern California Historical Records Survey Project 1940). Horse and livestock buyers from San Francisco and other parts of the state would converge in Hollister to acquire their animals (Mylar 1929). The Flint-Bixby Company had one of the largest livestock enterprises in the early days of the county with 4,000 head of sheep (Mylar 1929). Another important activity in San Benito was the mining of quicksilver, gypsum, limestone, and bentonite (Northern California Historical Records Survey Project 1940).

Within its borders the county has several parks. President Theodore Roosevelt declared Pinnacles National Park a national monument in 1908. The park is noted for its needle-like rocks, first discovered by Captain George Vancouver. Fremont State Park was formed in 1928. Bolado Park is a county park located near Tres Pinos (Northern California Historical Records Survey Project 1940).

San Benito County Today

According to the County of San Benito (1994), approximately 99 percent of San Benito County is unincorporated land with about 95 percent of that land being used for agriculture, rangeland, forest, watershed, and wildlife habitat. The northern and southern parts of the county are very different. The northern part of the county is more populated, but holds the more fertile soil with abundant groundwater and a mild climate. The south is arid with more extreme temperatures and suitable for agriculture only with expensive cultivation. The lifeblood of the south county is the San Benito River.

Because the San Andreas Fault runs lengthwise through the county, San Benito has been the site of many earthquakes. The largest seismic event in recent times was the Loma Prieta earthquake on October 17, 1989, which caused extensive damage to Hollister (McCann 1990). The damage in San Benito County was due to a combination of factors including outdated building codes, walls without

reinforcement, un-reinforced masonry, types of structures such as mobile homes that were not secured to the ground, and rock and soil types (McCann 1990).

Sociodemographic Characteristics

Projected Population—Although San Benito is a rural county, it is within the draw of the San Francisco Bay Area and is a destination for those looking for more affordable housing. The population of San Benito County doubled between 1970 and 1990. Two-thirds of the growth in the county has been from migration into the county and one-third has been from natural increase. Most of the population growth has occurred in the city of Hollister. Between 1990 and 2000, San Benito County was the fastest growing county in California at 45.1 percent. However, while this increase constitutes a large percentage, numerically it was an increase of 16,537 people (United States Census Bureau 2000).

DOF and the Association of Monterey Bay Area Governments (AMBAG) calculated population projections for San Benito County (*table 86*). San Benito's population is expected to increase through 2040. AMBAG's projections are lower than DOF's projections through the forecast period. The two sets of projections vary by as little as 273 people for 1990 and as much as 3,210 people for 2010.

Table 86—*Population projections, San Benito County, 1990-2040.*

Source	1990	1995	2000	2005	2010	2015	2020	2030	2040
U.S. Census	36,697[1]	-	53,234	-	-	-	-	-	-
DOF	36,970[2]	-	51,853	-	68,040	-	82,276	97,941	114,922
AMBAG	36,697	42,473	50,163	57,313	64,830	72,648	80,653	-	-

Source: United States Census Bureau 1990a and 2000, State of California Department of Finance 1998, Association of Monterey Bay Area Governments 1997

[1] Data from April 1.

[2] Data from July 1.

Ethnic and Racial Diversity—In 1990, slightly more than half of San Benito County was White, and 45.8 percent of the county's population was Hispanic. Blacks, Asians, and American Indians represented less than 4 percent of the total population. By 2000, Whites were no longer the majority and Hispanics were 47.9 percent of the population. Blacks, Asians, and American Indians still represented less than 4 percent of the total population (*table 87*).

Table 87—*1990 and 2000 population, San Benito County.*

	1990	2000
	Percent	
Non-Hispanic White	51.2	46.0
Hispanic all races	45.8	47.9
Non-Hispanic Black	0.5	0.9
Non-Hispanic Asian	1.8	2.3
Non-Hispanic American Indian	0.6	0.5
Non-Hispanic other	0.2	0.1
Non-Hispanic two or more races	N/A	2.2

Source: United States Census Bureau 1990a, 2000

In 1990, 17.1 percent of San Benito County's population was foreign-born. Thirty-eight percent of residents age 5 and older spoke a language other than English at home. Of those, the majority (89.3 percent) spoke Spanish, and 10.7 percent spoke a language other than English or Spanish (United States Census Bureau 1990b).

Linguistic diversity is also reflected within the schools in the region. The majority of LEP students in San Benito County public schools speak Spanish—mirroring languages spoken at home (*fig. 121*). In 1997-98, 16.2 percent of San Benito County's public school students were LEP.

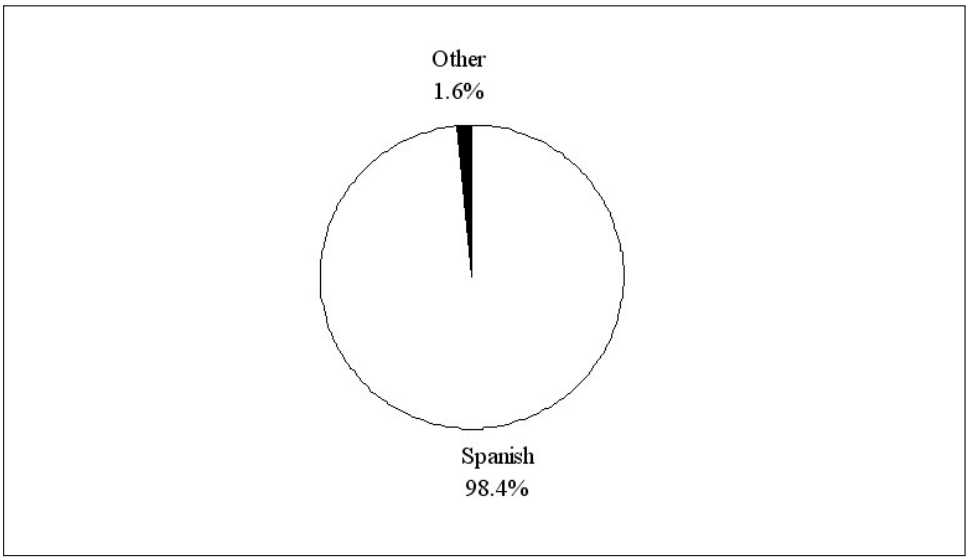

Figure 121—Limited-English-Proficient (LEP) students in San Benito County public school districts, by language, 1997-1998.

Source: California Department of Education 1998b

Projected Ethnic and Racial Diversity—Though an increase in overall population is projected for the county, little change in the distribution of ethnic/racial groups across the population is expected (*fig. 122*).

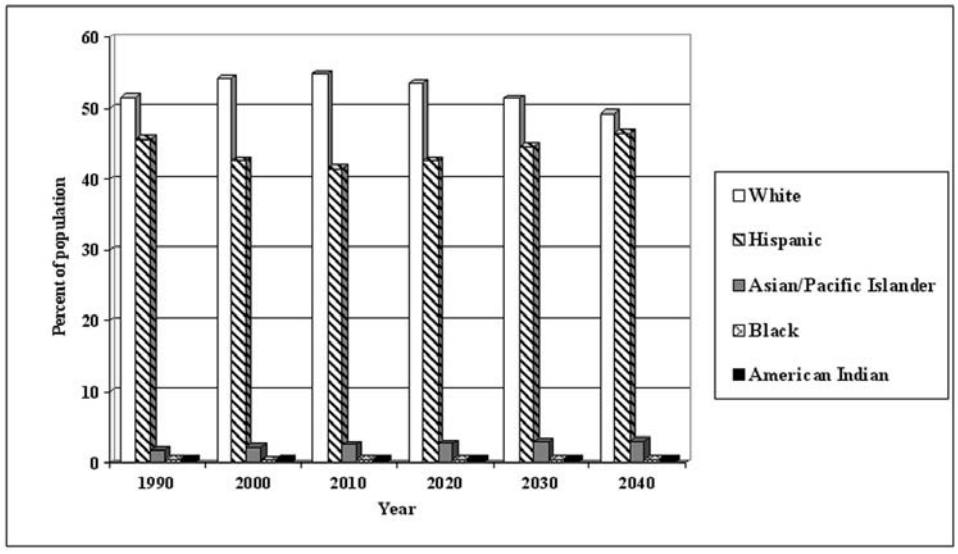

Figure 122—Racial and ethnic diversity trends for San Benito County.

Source: State of California Department of Finance 1998

The proportion of Whites is expected to decrease by approximately 2 percent through the forecast period, while Hispanics and Asians are expected to increase

by approximately 1 percent. Blacks and American Indians show little change in population (*table 88*).

Table 88—*Percent race/ethnicity and percent change in San Benito County, 1990-2040.*

Racial/ethnic group	1990	2000	2010	2020	2030	2040	Cumulative percent change
	Year						
White	51.50	54.27 (2.77)	54.91 (0.64)	53.58 (-1.32)	51.45 (-2.13)	49.34 (-2.10)	-2.15
Hispanic	45.69	42.64 (-3.05)	41.53 (-1.11)	42.62 (1.09)	44.60 (1.98)	46.55 (1.95)	0.86
Asian/Pacific Islander	1.78	2.17 (0.39)	2.55 (0.38)	2.76 (0.21)	2.92 (0.16)	3.05 (0.14)	1.27
Black	0.46	0.40 (-0.05)	0.48 (0.07)	0.48 (0.01)	0.50 (0.02)	0.53 (0.03)	0.07
American Indian	0.58	0.51 (-0.06)	0.53 (0.02)	0.55 (0.02)	0.54 (-0.02)	0.53 (-0.01)	-0.05

Source: State of California Department of Finance 1998

Changes in the area population's age are projected. Projected median age for San Benito County residents varies by race/ethnicity and gender. Black females have a much lower projected median age in 1990 and 2000 than their male counterparts, though by 2040 females have the higher median age. Hispanic males and females are projected to be approximately the same age across the forecast period (from 24 to 27.5 years), the lowest projected median age of all groups from 1990 through 2040. American Indians have the highest projected median age (from 36.5 to 40.5 years), followed by Whites (from 35.5 to 39.5 years), and Asians (from 34.5 to 33.5 years) (*fig. 123*).

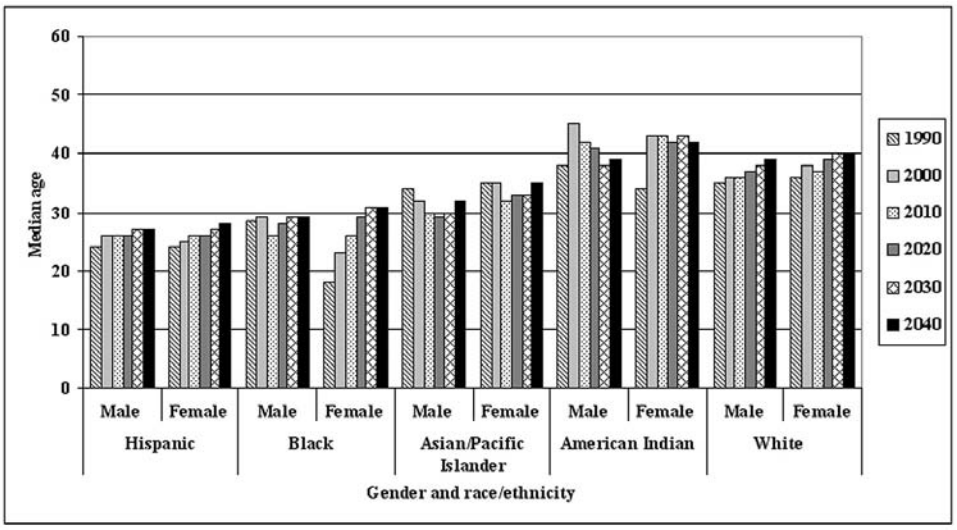

Figure 123—Median age by gender and race/ethnicity, San Benito County, 1990-2040.

Source: State of California Department of Finance 1998

Development and Real Estate

Building trends in San Benito County from 1987 to 1998 reveal some chaotic patterns (*fig. 124*). Residential construction fell with the recession, but showed a marked recovery beginning in 1996. Non-residential construction in incorporated and unincorporated areas represented a smaller share of building in the county.

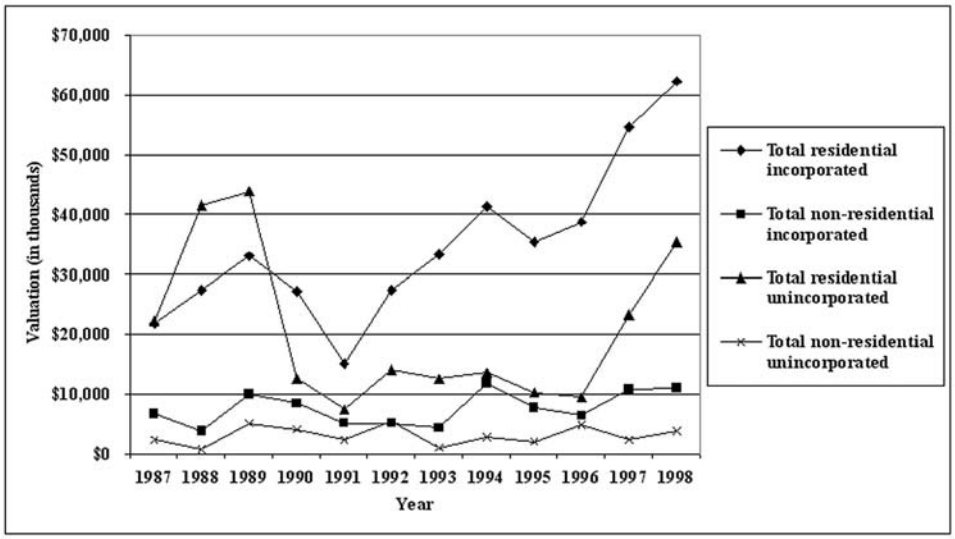

Figure 124—Building trends, San Benito County, in 1998 dollars, 1987-1998.

Source: Construction Industry Research Board 1988-1999

In 1990, San Benito County had 11,422 households and 12,230 housing units. The vast majority (93.4 percent) of housing units were occupied; 6.6 percent were vacant (United States Census Bureau 1990a). Of the occupied housing units, the majority (61.1 percent) were owner-occupied, though more than one-third (38.9 percent) were renter-occupied (United States Census Bureau 1990a). The median value of owner-occupied housing units in 1990 was $206,600, and the median rent was $547 per month. Compared to the State, in which the majority of the housing stock is 30 to 50 years old, over one-third of San Benito's housing is 11 years old or less (County of San Benito 1994).

Quality of Life Indicators

Transportation, Commuting, and Employment—In 1990, there were 16,530 workers 16 and older in San Benito County, and an average of 2.1 vehicles per household. Almost 35 percent of San Benito County residents worked outside the county. The majority (73.5 percent) of workers drove to work alone, although some carpooled (17.5 percent) (*fig. 125*). Very few used public transportation. The average travel time to work was 23.3 minutes compared to the average of 20.3 minutes for the Central Valley counties in this assessment.

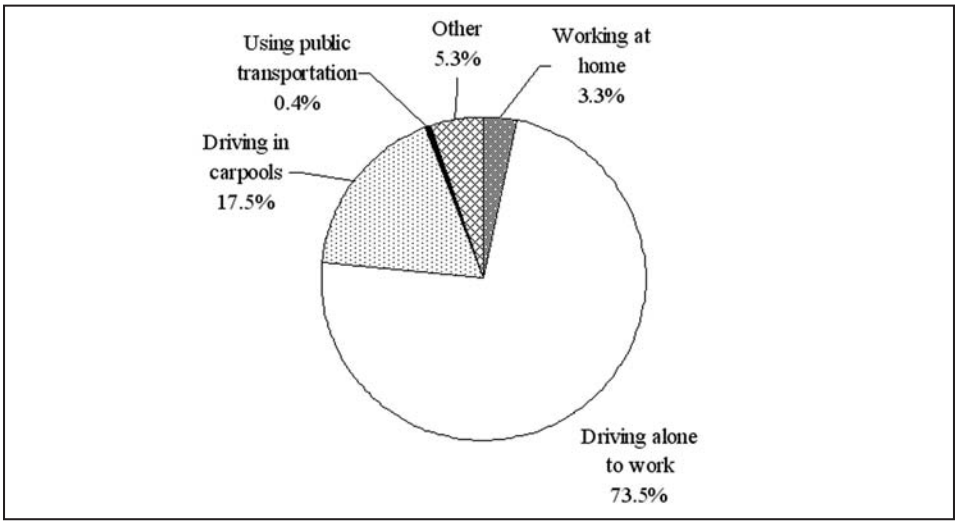

Figure 125—Commuting patterns, workers 16 and older, San Benito County, 1990.

Source: United States Census Bureau 1990b

According to the County of San Benito (1994), the average annual unemployment rate in the county from 1985 to 1990 was 12.5 percent. The high unemployment rate is due in part to a large seasonal labor force employed in agriculture and food processing. In February of 1992, the unemployment rate in San Benito County was the third highest in the State at 23.1 percent. Historically, agriculture has been the primary employer in the county. The market value of agricultural products sold increased to $156,707,000 from 1992 to 1997, an increase of 45 percent (United States Department of Agriculture 1997). After the agricultural sector, the next largest employer is government. A substantial share of government employees work for the county or the school district. However, increases in other sectors such as retail trade, wholesale trade, and services are expected.

Education—San Benito County serves the largest number of students in its elementary schools (*table 89*). The county has more elementary schools (16) than middle and high schools (two each). Average enrollment per school is greatest at the high school level, which is the pattern across the assessment area and all counties. San Benito County serves slightly less than 1 percent of the assessment area's school enrollments. County schools have the 26th highest enrollment overall and they are 25th in highest average enrollment per school. Students in 2nd through 11th grade were tested using the Stanford 9 at 14 of the county schools. San Benito County's ranking in academic performance for 1999 was a mean of 2.86 out of 10 (based on the similarity index, www.cde.ca.gov), indicating much lower-than-average performance compared to similar schools. Although 57.2 and 21.4 percent of schools in the county performed well below or below average compared to similar schools, 7.1 percent were above average.

Table 89—*Enrollment and number of schools, San Benito County, 1998-1999.*

Type of school	Total enrollment	Percent of total enrollment	Number of schools	Average enrollment/school
Elementary	6,039	57.3	16	377
Middle/Junior High	1,757	16.7	2	879
High School	2,739	26.0	2	1,370
Total	10,535	100.0	20	-

Source: California Department of Education 1998a

Health Care—The largest number of health care establishments in the county deliver ambulatory health care services, followed by social assistance, and nursing and residential care (*fig. 126*). There are no hospitals in the county as reported by the U.S. Census Bureau. However, the county has one county hospital, representing 0.3 percent of the assessment area's total hospitals (ahd.tool.net/list.php3/mstate=ca). The hospital had 111 beds, and reported 26,215 patient days in 1999. The county ranked 26th in number of hospitals, comparable to its 26th place ranking in population.

Recreation and Tourism—Among the assessment area's 26 counties, San Benito ranked 26th in the 1997 economic census in accommodations and food services, and 26th in arts, entertainment, and recreation (United States Census Bureau 1999b, 1999c). A total of 80 accommodation and food-services establishments, with $29,989,000 in receipts, was reported. Arts, entertainment, and recreation services involved seven establishments, with receipts totaling $10,766,000. Special recreation sites of interest for this county include the Hollister Hills State Vehicular Recreation Area, Pinnacles National Monument (the site of an ancient volcano adjacent to the San Andreas Rift), and the San Juan Bautista Spanish Mission (www.sanbenito.com).

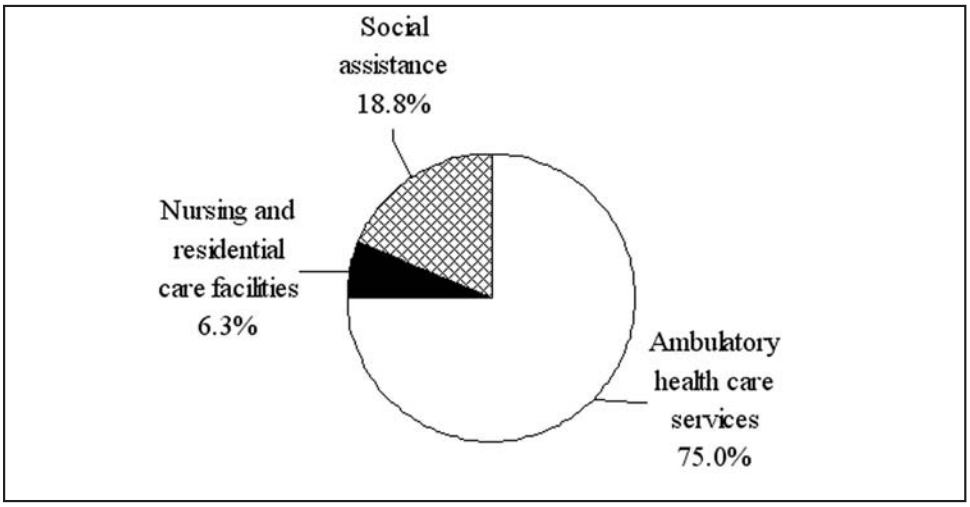

Figure 126—Health care and social assistance establishments, San Benito County, 1997.

Source: United States Census Bureau 1999a

Environmental Indicators

Water Quality—San Benito County crosses six watersheds: the Upper Los Gatos-Avenal, the Middle San Joaquin-Lower Chowchilla, the Panoche-San Luis Reservoir, the Pajaro, the Salinas, and the Carmel (www.epa.gov/surf3/surf98/county.html). (Watersheds frequently cross county boundaries. Therefore, some counties may include watersheds that are also located in other counties.) The Middle San Joaquin-Lower Chowchilla, the Pajaro, the Salinas, and the Carmel watersheds were assigned a "5" by the EPA, indicating "more serious water quality problems and low vulnerability to pollution stressors." (According to the EPA's Index of Watershed Indicators procedures, a pollution stressor includes aquatic/wetland species at risk, toxic loads above limits, urban runoff potential, agricultural run-off potential, population change, hydrologic modifications, estuarine pollution susceptibility, and atmospheric deposition.) Data are not available for the Upper Los Gatos-Avenal and the Panoche-San Luis Reservoir watersheds.

Air Quality—San Benito County has the smallest population of the 26 counties, paired with the lowest emissions across all categories except for particulates (*table 90*). The county ranks 24th in particulates. The majority of emissions are projected for marginal decreases dependent upon emission type. Particulates are expected to increase, primarily from area-wide sources, according to the California Air Resources Board (1999).

Table 90—*1996 estimated and 2010 forecasted annual average emissions, San Benito County (cells do not add to column totals due to rounding error).*

Year	Emission category	Emission type[1]						
		TOG	ROG	CO	NOx	SOx	PM	PM10
1996	Stationary	13	1	0	1	0	2	1
	Area-Wide	2	2	4	0	0	19	10
	Mobile	3	2	25	6	0	0	0
	Natural	0	0	3	0	-	1	1
	Total	18	5	32	7	0	22	12
2010	Stationary	20	1	0	1	-	2	1
	Area-Wide	2	2	5	0	-	21	12
	Mobile	1	1	18	4	0	0	0
	Natural	0	0	3	-	-	1	1
	Total	24	4	27	5	0	24	13

Source: California Air Resources Board 1999

[1] TOG: total organic gases; ROG: reactive organic gases; CO: carbon monoxide; NOx: nitrogen oxides; SOx: sulfur oxides; PM: particulate matter; PM10: particulate matter less than or equal to 10 microns (*appendix D*).

Implications

San Benito County is expected to experience major population growth through 2040. According to the County of San Benito (1994), Santa Clara County's surplus of jobs combined with the lower land values in San Benito County have created a demand for housing in San Benito County. San Benito's population increased 46.8 percent from 1980 to 1990 and a large proportion of that growth was from commuters. More than one-third of residents commute outside of the county to work. Two types of householders have immigrated from Santa Clara County: first-time home buyers and householders selling a moderate size home in an expensive market in Santa Clara County in order to purchase a larger home, a home with land, or a luxury home in San Benito County. The proximity of San Benito County to Santa Clara County has contributed to inflated housing prices for the resident workforce. This settlement pattern raises concerns focused on traffic, air quality, and affordability of housing for the San Benito County of the future.

As a potential bedroom county to Santa Clara County, San Benito could potentially bear the cost of economic growth in the neighboring San Francisco Bay Area without the benefits of attracting job growth in the county. Without the development of new economic sectors in San Benito, the county and its cities will have to pay for infrastructure required by new residential development without the economic development necessary to pay for that infrastructure. With 95 percent of the unincorporated land in the county as agricultural, rangeland, forest, watershed, and wildlife habitat, unrestrained urban growth does not bode well for the future of natural resources in San Benito County.

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San Joaquin County

- The county is becoming a center for food technology.
- The transportation sector has an above average share of total employment in the county.
- The county is becoming a bedroom community to the San Francisco Bay Area.
- The Port of Stockton became the first inland seaport in California.

History

The region was originally occupied by the North Valley Yokuts and the Miwok Indians (County of San Joaquin 1992). Both tribes depended on the rivers and marshlands for their subsistence (www.virtualsanjoaquin.com/history/index.asp). Indians thrived in the Valley until the arrival of Spanish missionaries in the late 1700s, when they were captured to work on the missions. Mission Indians suffered from diseases brought by Europeans including malaria and smallpox. Most surviving Yokuts have descended from the southern tribes, as the northern tribes were nearly decimated by disease (www.virtualsanjoaquin.com/history/index.asp).

After the Spanish missionaries, the next Europeans to arrive in the area were French-Canadian hunters and trappers in the early 1800s. The first trappers were beaver trappers, under the lead of Jedediah Smith (Gilbert 1879).

Before 1851, the county was devoted to grazing and hunting. Immense herds of cattle and some horses roamed the valley with only the restraint of an occasional vaccaro (Gilbert 1879). With the Gold Rush, San Joaquin became a frequent stop along the main stagecoach roads, which connected Stockton, Lodi, Lockeford, Farmington, Lathrop, Banta, Manteca, and Tracy. Stockton was established in 1848-49 when Charles M. Weber commissioned a townsite encompassing an entire square mile. The early survey gave Stockton the distinction of being the first planned community in California (Hillman and Covello 1985). Weber situated Stockton at the closest point to the Sierra Nevada foothills that riverboats could reach. All provisions for the mining camps first came to Stockton by riverboat (Hillman and Covello 1985). By 1849, there was regular steamer service between Stockton and San Francisco. Many of the county's communities developed along former transportation and trade routes. With an influx of population, the production of food was needed to support it; thus, agricultural endeavors were begun in the county. Some who were disappointed in the search for gold then turned to farming. The swamp and wetland areas of the San Joaquin and Sacramento Rivers were very fertile and the county became known as a significant agricultural and transportation hub (www.californiacv.com/sanjoaquin.htm).

The railroad came to the county in 1870 (Gilbert 1879). The railroad connected San Joaquin County to areas in the north and the south, and the rivers connected the county to the Pacific Ocean and areas inland. As a result of these transportation routes, it was relatively easy to move goods such as agricultural products to the areas where they were needed. The influx of adventurers in 1849 later gave rise to an enormous trade in goods, tools, and provisions between Stockton and the mines (Gilbert 1879). Boat building is one of the oldest industries in Stockton and can be traced to 1850 (Hillman and Covello 1985).

San Joaquin County was formed in 1850, named after the San Joaquin River by Lieutenant Moraga, the first non-native explorer to enter the San Joaquin Valley (www.co.san-joaquin.ca.us/announ.htm, www.virtualsanjoaquin.com/history/index.asp) (*fig. 127*). The Port of Stockton became a major link to San Francisco in the 1930s when the deep-water channel was dredged to accommodate ocean-going vessels (Hillman and Covello 1985, www.californiacv.com/sanjoaquin.htm). The Port of Stockton opened in 1933 as the first inland seaport in California (Hillman and Covello 1985).

The county has a long history of ethnic diversity (County of San Joaquin 1992). Starting in 1868, Stockton became known for its educational opportunities for Blacks (Hillman and Covello 1985). Millionaire Japanese farmer George Shima helped develop Stockton as the potato capital of the world, a title since lost to Oregon and Idaho (Hillman and Covello 1985). A number of Chinese entered the area in the late 1800s when they came to work on the railroad and to build levees in the delta. Sikhs from northwest India came to the area in 1900 and became farm laborers. As a result, there is an established Indian community in south Stockton today. During the 1930s, Stockton had the largest population of Filipinos outside the Philippines. There are still many Filipino and Japanese families living in Stockton (Hillman and Covello 1985). The earliest ethnic groups were California Indians, Mexicans, and Chinese. The latter two have well-established roles in local business, farming interests, government, and other areas (Hillman and Covello 1985). Ethnic diversification continues. Between 1975 and 1987, approximately 30,000 Southeast Asians moved to San Joaquin County (County of San Joaquin 1992).

Figure 127—San Joaquin County (shaded area) is north of Stanislaus County.

Source: 50 Individual States—Counties 1995

San Joaquin County Today

Most of the county's population lives in incorporated cities (Umbach 1997). The county's leading industry is agriculture. The market value of agricultural products sold increased to $1,179,706,000 from 1992 to 1997, an increase of 50 percent (United States Department of Agriculture 1997). Grapes and milk are the main products. The Lodi-Woodbridge area grows nearly 40 percent of California's Zinfandel grapes (Munroe and Jackman 1997). Stockton is home to many wood and paper products, food processing, and ship-building firms (Hillman and Covello 1985). The county is increasingly becoming a bedroom community for Bay Area and Silicon Valley workers as a result of its less costly homes and its proximity to Alameda and Contra Costa Counties. The county is undergoing a transformation to a more industrial and service economy (County of San Joaquin 1992). San Joaquin County's central location has made it a favored location for distribution companies (Munroe and Jackman 1997). Today the port serves ships from around the world through the 37-foot deep Stockton Channel to San Francisco Bay (www.californiacv.com/sanjoaquin.htm).

Sociodemographic Characteristics

Projected Population—DOF and the San Joaquin Council of Governments (SJCOG) calculated population projections for San Joaquin County (*table 91*). An increase in population is expected through the forecast period. In 2000, SJCOG projected a higher population than DOF; but in 2010 and 2020, DOF projected a higher population for the county than SJCOG. The discrepancy between the two sets of projections increases from a difference of almost 3,000 people in year 2000 to a difference of 62,524 people in 2020.

Table 91—*Population projections, San Joaquin County, 1990-2040.*

Source	1990	1995	2000	2005	2010	2015	2020	2030	2040
U.S. Census	480,628[1]	-	563,598	-	-	-	-	-	-
DOF	483,817[2]	-	579,712	-	725,868	-	884,375	1,060,442	1,250,610
SJCOG	483,800	533,393	582,704	635,415	687,930	752,080	821,851	-	-

Source: United States Census Bureau 1990a and 2000, State of California Department of Finance 1998, San Joaquin Council of Governments 2000

[1] Data from April 1.

[2] Data from July 1.

Ethnic and Racial Diversity—In 1990, more than half of San Joaquin County's population was White, and slightly less than one-fourth was Hispanic. Blacks, Asians, and American Indians represented less than 20 percent of the total population. By 2000, Whites were less than half of the total population, and Hispanics 30.5 percent. Blacks, Asians, and American Indians still represented less than 20 percent of the population (*table 92*).

Table 92—*1990 and 2000 population, San Joaquin County.*

	1990	2000
	----------Percent----------	
Non-Hispanic White	58.8	47.4
Hispanic all races	23.4	30.5
Non-Hispanic Black	5.2	6.4
Non-Hispanic Asian	11.6	11.3
Non-Hispanic American Indian	0.8	0.6
Non-Hispanic other	0.2	0.2
Non-Hispanic two or more races	N/A	3.5

Source: United States Census Bureau 1990a, 2000

In 1990, 16.4 percent of San Joaquin County's population was foreign-born. More than one-quarter (27.9 percent) of residents age 5 and older spoke a language other than English at home. Of those, a slight majority (54.9 percent) spoke Spanish and almost half spoke a language other than English or Spanish (45.1 percent, United States Census Bureau 1990b).

Linguistic diversity is also reflected within the schools in the region. The majority of LEP students in San Joaquin County public schools speak Spanish or Khmer—mirroring the languages spoken at home (*fig. 128*). In 1997-98, 21.2 percent of San Joaquin County's public school students were LEP.

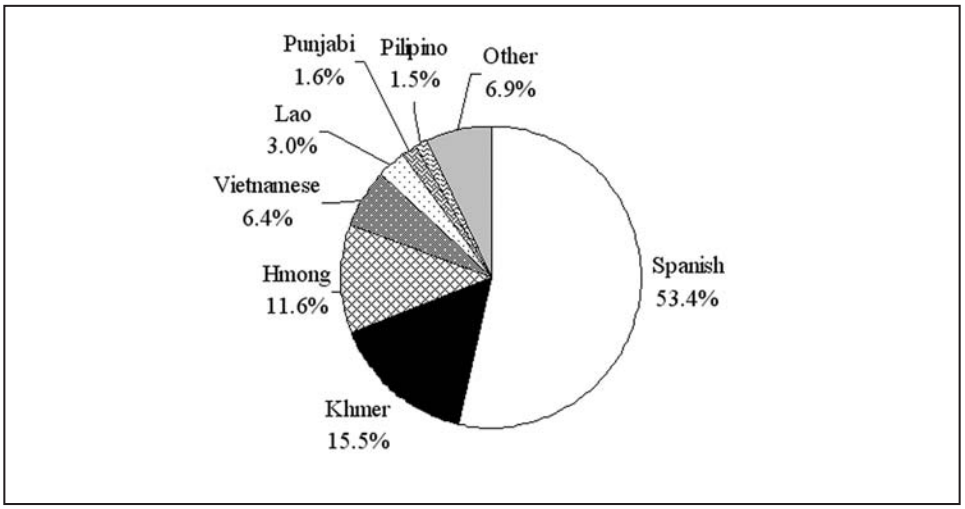

Figure 128—Limited-English-Proficient (LEP) students in San Joaquin County public school districts, by language, 1997-1998.

Source: California Department of Education 1998b

Projected Ethnic and Racial Diversity—As the population in San Joaquin County increases, ethnic and racial diversity are projected to increase through 2040. Hispanics and Asians are expected to increase as a proportion of the total population, while Whites are expected to decrease as a proportion of the total population (*fig. 129*). Blacks and American Indians represent small and stable proportions of the county's population.

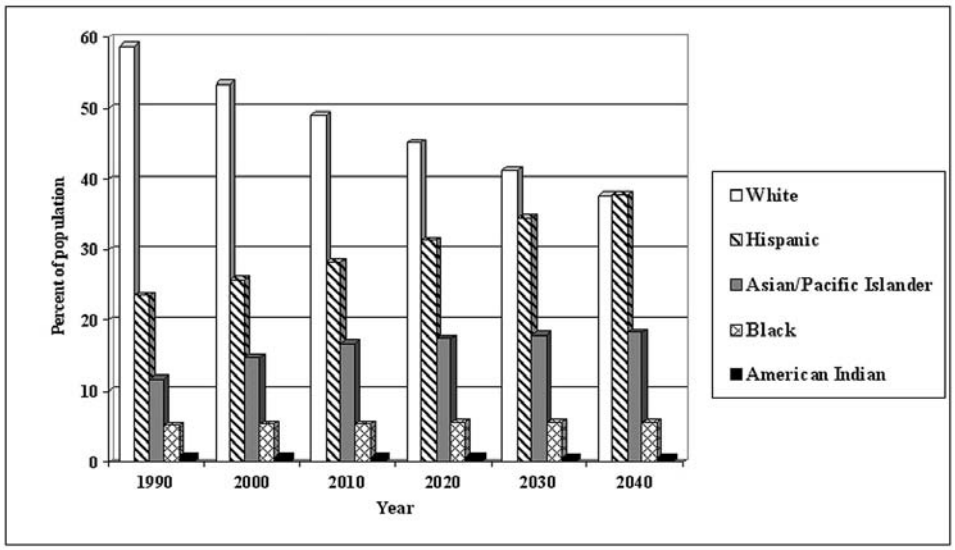

Figure 129—Racial and ethnic diversity trends for San Joaquin County.

Source: State of California Department of Finance 1998

The proportion of Whites is expected to decrease by approximately 21 percent through the forecast period, while Hispanics and Asians increase by approximately 14 and 7 percent, respectively. In 2040 Whites and Hispanics are expected to be equal proportions of the county population. The Black and American Indian populations show little change over the forecast period (*table 93*).

Table 93—*Percent race/ethnicity and percent change in San Joaquin County, 1990-2040.*

Racial/ethnic group	1990	2000	2010	2020	2030	2040	Cumlative percent change
	Year						
White	58.84	53.49	49.00	45.09	41.20	37.64	-21.21
	-	(-5.36)	(-4.48)	(-3.92)	(-3.89)	(-3.56)	
Hispanic	23.51	25.78	28.26	31.26	34.54	37.74	14.23
	-	(2.27)	(2.48)	(3.00)	(3.28)	(3.20)	
Asian/Pacific Islander	11.69	14.71	16.69	17.45	18.03	18.38	6.69
	-	(3.02)	(1.98)	(0.76)	(0.58)	(0.35)	
Black	5.16	5.32	5.35	5.53	5.58	5.62	0.46
	-	(0.15)	(0.04)	(0.17)	(0.06)	(0.04)	
American Indian	0.79	0.71	0.69	0.67	0.64	0.61	-0.17
	-	(-0.08)	(-0.02)	(-0.02)	(-0.03)	(-0.03)	

Source: State of California Department of Finance 1998

Along with projected changes in race and ethnicity, changes in the area population's age are projected. Projected median age for San Joaquin County residents varies by race/ethnicity and gender. Females are projected to have higher median ages than males in all ethnic groups except Blacks and Hispanics. Whites have the highest projected median age between 1990 and 2040 (from 34 to 42.5 years), followed by American Indians (from 29.5 to 35 years) and Asians (from 23 to 32.5 years) *(fig. 130)*. Hispanics and Blacks have the lowest projected median ages (from 24 to 26 years, and 26.5 to 29 years, respectively) through the forecast period.

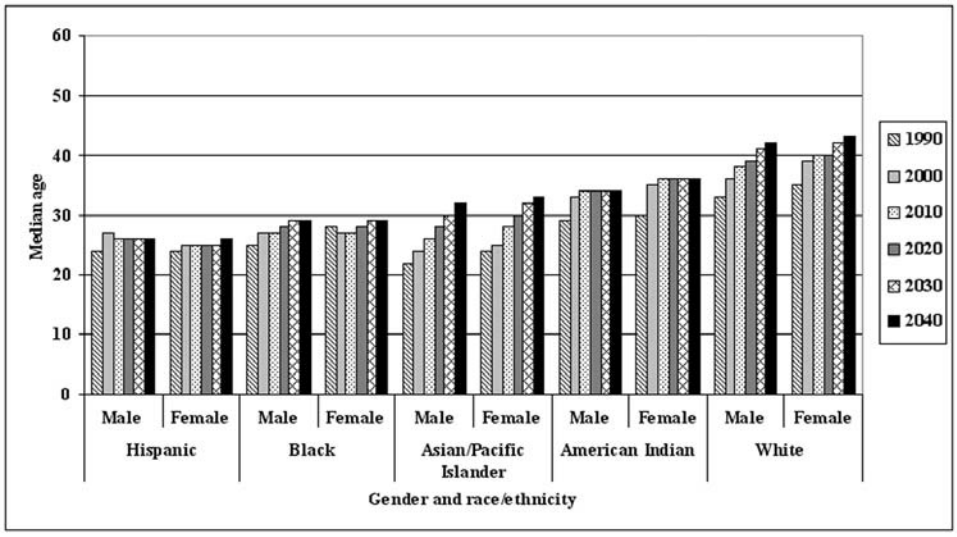

Figure 130—Median age by gender and race/ethnicity, San Joaquin County, 1990-2040.

Source: State of California Department of Finance 1998

Development and Real Estate

With the recession, residential construction in incorporated and unincorporated areas fell sharply (*fig. 131*). Post-recession recovery was steady in all types of

construction, except for non-residential building in unincorporated areas, a low and stable proportion in the county.

In 1990, San Joaquin County had 158,156 households and 166,274 housing units. The vast majority (95.1 percent) of housing units were occupied; few (4.9 percent) were vacant (United States Census Bureau 1990a). Of the occupied housing units, the majority (57.6 percent) were owner-occupied, though 42.4 percent were renter-occupied (United States Census Bureau 1990a).

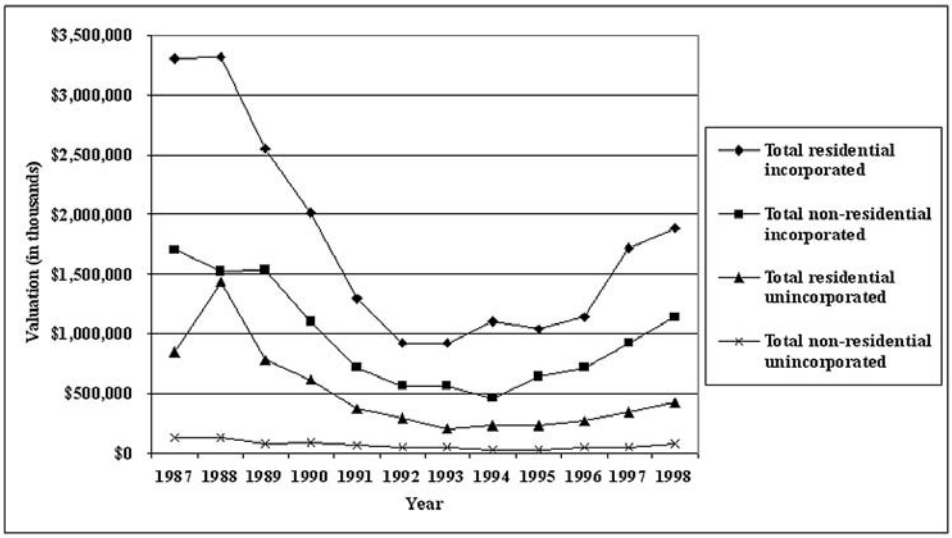

Figure 131—Building trends, San Joaquin County, in 1998 dollars, 1987-1998.

Source: Construction Industry Research Board 1988-1999

The median value of owner-occupied housing units in 1990 was $121,700, and the median rent was $489 per month. The county has a large proportion of housing stock that predates World War II; thus, rehabilitation efforts are a major thrust in the county's housing program (County of San Joaquin 1992). Housing affordability is also a major concern in the county. Housing affordability is likely to worsen as a result of upward pressure on home prices generated by future population and employment growth, loss of Federal funding, and the lag in the construction of multi-family housing (County of San Joaquin 1992).

Quality of Life Indicators

Transportation, Commuting, and Employment—In 1990, there were 191,111 workers 16 and older in San Joaquin County, and an average of 1.7 vehicles per household. Almost 17 percent of San Joaquin County residents worked outside the county. The majority (74.6 percent) of workers drove to work alone although some carpooled to work (*fig. 132*). Very few used public transportation. The average travel time to work was 21.9 minutes compared to the average of 20.3 minutes for the Central Valley counties in this assessment.

Employment in service, retail, and manufacturing has grown while agribusiness employment has declined (County of San Joaquin 1992). Food processing has been one of the area's largest manufacturing activities. A greater emphasis on durable goods including electronics manufacturing is becoming apparent (County of San Joaquin 1992).

Some county areas have become bedroom communities to the Tri-Valley employment centers in Contra Costa and Alameda Counties, affecting the quality of life for the county's residents (County of San Joaquin 1992). As the number of trips, vehicle hours traveled, and vehicle hours of delay increase, the circulation system becomes ineffective. The impacts of being a bedroom community—poor circulation, costly road improvements, and poor air quality—will affect economic development in the county (County of San Joaquin 1992). Historically, Stockton has been the regional employment center of the county because of its central

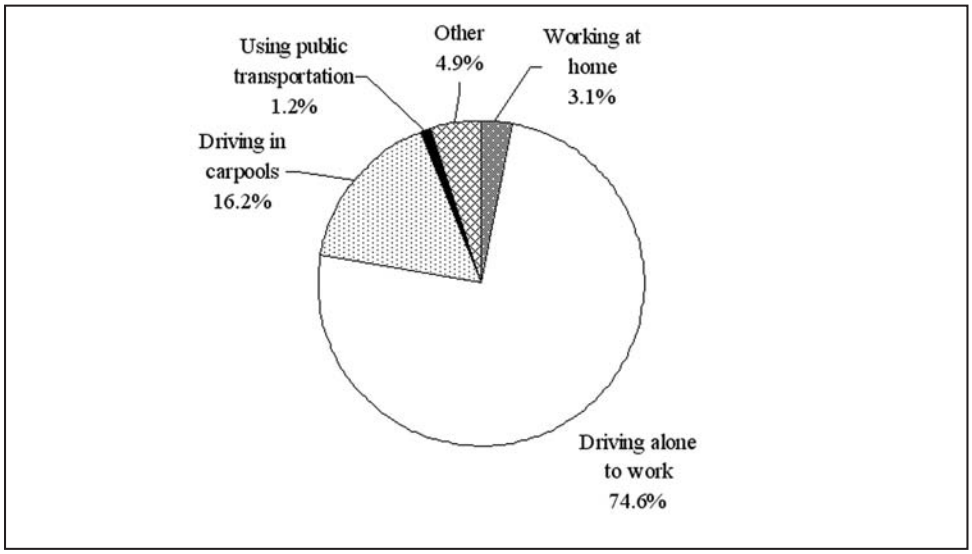

Figure 132—Commuting patterns, workers 16 and older, San Joaquin County, 1990.

Source: United States Census Bureau 1990b

location and access to regional air, land, and water transportation systems. In addition to Stockton, the areas around Tracy, Manteca, Lodi and more recently, the south county area, have been experiencing commercial and industrial growth (County of San Joaquin 1992).

Education—San Joaquin County serves the largest number of students in its elementary schools (*table 94*). The county has more elementary schools (112) than middle and high schools (15 each). Average enrollment per school is greatest at the high school level, which is the pattern across the assessment area and all counties. San Joaquin County serves slightly more than 2 percent of the assessment area's school enrollments. County schools have the 13th highest enrollment overall, and they are 8th in highest average enrollment per school. Students in 2nd through 11th grade were tested using the Stanford 9 at 132 of the county schools. San Joaquin County's ranking in academic performance for 1999 was a mean of 4.12 out of 10 (based on the similarity index, www.cde.ca.gov), indicating below average performance compared to similar schools. Although 32.6 and 28.8 percent of schools in the county performed well below or below average compared to similar schools, 9.1 percent were well above average and 7.5 percent were above average.

Table 94—*Enrollment and number of schools, San Joaquin County, 1998-1999.*

Type of school	Total enrollment	Percent of total enrollment	Number of schools	Average enrollment/school
Elementary	66,715	61.7	112	596
Middle/Junior High	12,676	11.7	15	845
High School	28,690	26.5	15	1,913
Total	108,081	100.0	142	-

Source: California Department of Education 1998a

Health Care—The largest number of health care establishments in the county deliver ambulatory health care services, followed by nursing and residential care, and social assistance (*fig. 133*). There are no hospitals in the county as reported by the U.S. Census Bureau. However, the county has eight hospitals, representing 2.0 percent of the assessment area's total hospitals (ahd.tool.net/list.php3/mstate=ca). A majority (75.0 percent) of the hospitals are nonprofit, with the balance classified as county (12.5 percent), or for-profit (12.5 percent) facilities. For those hospitals

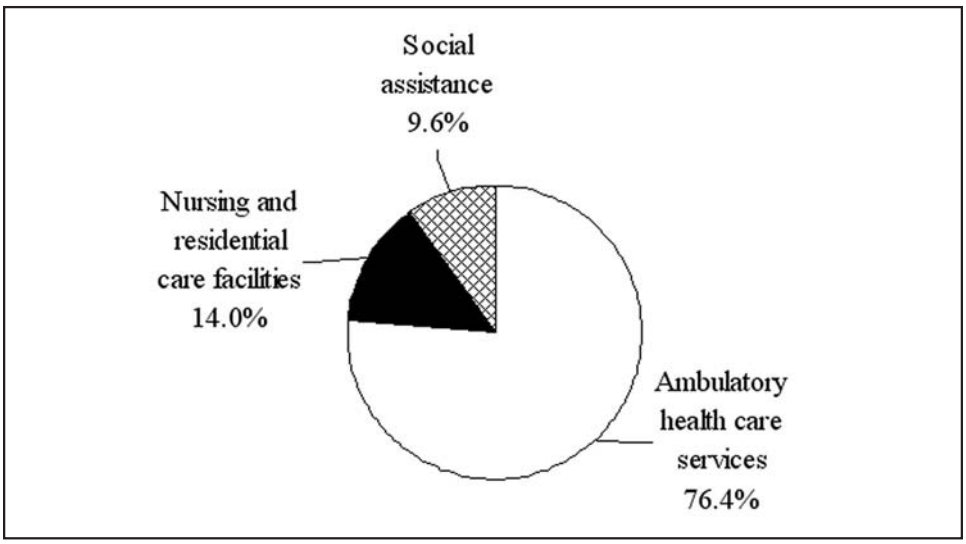

Figure 133—Health care and social assistance establishments, San Joaquin County, 1997.

Source: United States Census Bureau 1999a

with reported data (7 hospitals), a total of 1,213 beds and 260,956 total patient days were recorded in 1999. The county ranked 13th in number of hospitals, comparable to its 15th place ranking in population.

Recreation and Tourism—Among the assessment area's 26 counties, San Joaquin ranked 17th in the 1997 economic census in accommodations and foodservices, and 15th in arts, entertainment, and recreation (United States Census Bureau 1999b, 1999c). A total of 826 accommodation and food-services establishments, with $376,916,000 in receipts, was reported. Arts, entertainment, and recreation services involved 109 establishments, with receipts totaling $67,007,000. Recreational sites of interest include Caswell Memorial State Park, offering camping, fishing, picnicking, and other outdoor pursuits, and the Durham Ferry State Recreation Area (Thomas Bros. Maps 1998).

Environmental Indicators

Water Quality—San Joaquin County crosses six watersheds: the Middle San Joaquin-Lower Merced-Lower Stanislaus, the San Joaquin Delta, the Lower Calaveras-Mormon Slough, the Lower Consumnes-Lower Mokelumne, the Panoche-San Luis Reservoir, and the San Francisco Bay (www.epa.gov/surf3/surf98/county.html). (Watersheds frequently cross county boundaries. Therefore, some counties may include watersheds that are also located in other counties.) The Middle San Joaquin-Lower Merced-Lower Stanislaus, the San Joaquin Delta, and the Lower Consumnes-Lower Mokelumne watersheds were all assigned a "5" by the EPA, indicating "more serious water quality problems but low vulnerability to pollution stressors." (According to the EPA's Index of Watershed Indicators procedures, a pollution stressor includes aquatic/wetland species at risk, toxic loads above limits, urban runoff potential, agricultural runoff potential, population change, hydrologic modification, estuarine pollution susceptibility, and atmospheric deposition.) The San Francisco Bay was assigned a "2," indicating "better water quality but high vulnerability to pollution stressors." Data are not available for the Lower Calaveras-Mormon Slough and the Panoche-San Luis Reservoir watersheds.

Air Quality—San Joaquin County has the 15th largest population of the 26 counties, paired with the 16th highest total organic gas (TOG) emissions, the 14th highest reactive organic gas (ROG) and carbon monoxide (CO) emissions, the 13th highest sulfur oxide (SOx), the 12th highest nitrogen oxide (NOx) emissions, and the 10th highest particulates (*table 95*). The majority of emissions are projected for marginal decreases dependent upon emission type. Particulates are expected to increase, primarily from area-wide sources, according to the California Air Resources Board (1999).

Table 95—*1996 estimated and 2010 forecasted annual average emissions, San Joaquin County (cells do not add to column totals due to rounding error).*

Year	Emission category	Emission type[1]						
		TOG	ROG	CO	NOx	SOx	PM	PM10
1996	Stationary	14	10	5	17	3	7	4
	Area-Wide	83	19	42	2	0	77	41
	Mobile	35	31	290	49	1	2	2
	Natural	0	0	0	0	-	0	0
	Total	130	59	340	68	5	87	47
2010	Stationary	16	12	6	21	4	8	5
	Area-Wide	85	20	43	2	0	83	44
	Mobile	17	16	200	34	1	2	2
	Natural	-	-	0	-	-	-	-
	Total	120	47	240	57	6	93	50

Source: California Air Resources Board 1999

[1] TOG: total organic gases; ROG: reactive organic gases; CO: carbon monoxide; NOx: nitrogen oxides; SOx: sulfur oxides; PM: particulate matter; PM10: particulate matter less than or equal to 10 microns (*appendix D*).

Implications

San Joaquin County is facing tremendous growth pressures from the San Francisco Bay Area. These pressures are threatening agriculture in the county as urban uses encroach into farming areas. This encroachment leads to greater potential for land use conflicts between farmers and new residents who do not want to contend with normal agricultural operations that generate dust, noise, and odors. The division of large agricultural parcels into smaller lots of 10 acres or less prohibits the efficient use of land for commercial agriculture. The cost of operations then increases, which leads to future pressure to sell or subdivide (County of San Joaquin 1992).

Linkages between the San Francisco Bay Area, the Sacramento metropolitan area, and the Central Valley are beginning to strain the county's infrastructure, particularly its roads, water supply systems, wastewater treatment facilities, and drainage systems. Projections for Interstate 205 indicate that it will need to be expanded to eight lanes to handle the commuters crossing the Altamont Pass each day. Other infrastructure improvements such as the expansion of wastewater treatment plants and water supply systems have been hampered by cost (County of San Joaquin 1992).

Water supply is a growing concern in the county. Continuous withdrawal from the groundwater has resulted in an overdraft situation, when water is withdrawn faster than it is replenished. This has led to three major problems: groundwater is no longer a long-term reliable source; the overdraft situation has resulted in saltwater intrusion, diminishing the quality and usefulness of existing groundwater supplies; and the overdraft of groundwater may have contributed to the sinking of delta lands (County of San Joaquin 1992). Without the introduction of supplemental water supplies and a more aggressive program for groundwater management, groundwater pumping will continue to decrease water levels in the San Joaquin Groundwater Basin (County of San Joaquin 1992).

The county has diverse vegetation and wildlife habitats that vary with geographic subregion. The delta is one of the State's most biologically productive areas because it is the meeting point between freshwater and saline environments. The marshlands are habitat for several endangered species, and the waterways and adjacent farmland are wintering areas along the Pacific Flyway, one of North America's primary waterfowl migration routes (County of San Joaquin 1992). Mule deer inhabits the southwest foothills of the county, the only big game species in the county, along with other protected species. The Sierra Nevada foothills contain a mixture of grasslands, woodlands, and riparian habitats, which provide

food and cover for a number of species. The ability of natural resources to sustain and regenerate themselves in the face of commercial agriculture or urbanization is extremely limited (County of San Joaquin 1992). How the cities and county will strike a balance between environmental protection and economic development is not yet clear.

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Stanislaus County

- Commuter-driven urban expansion along Highway 99 is occurring rapidly.
- Agriculture and food processing play an important role in the economy.
- E & J Gallo, the world's largest wine company, is located in the city of Modesto and is the county's largest private employer.

History

Stanislaus County falls between the coastal range of mountains on the west and the foothills of the Sierra Nevada on the east (*fig. 134*). It is situated in the San Joaquin Valley. According to Gooch (1988), it is not known whether the first permanent residents of the area were the Yokut Indians, but by historic times the Yokuts did occupy the San Joaquin Valley from Tehachapi in the south to near Sacramento in the north. An estimated 50 to 60 tribes of Yokuts, with a total population of approximately 35,000 people, lived in the valley, making them the most numerous of all tribes in California. The Yokuts built their villages along rivers and creeks. The staple food was the acorn, and hand-woven baskets were very important to the hunting and gathering economy of the Yokuts. Most of the Indians who lived in this area ended up working at the San Jose Mission. However, the mission Indians rebelled in 1775, 1781, and 1824 and were suppressed by soldiers. Conflicts with Indians in the territory continued through the 1820s. Most of the Yokuts in the Stanislaus County region had been captured and taken to the missions so that by 1790 hardly any remained on the west side of the valley, and skirmishes with the Spanish and Mexican soldiers continued to decimate the population.

The first profitable enterprise carried on in the San Joaquin Valley was trapping. Beaver, land otter, mink, muskrat, and fox could all be found along the various waterways in the region (Brotherton 1982).

Most of the land in the county was devoted to grazing until 1867 (Elliott and Moore 1881). The chief products of this county in early times were cattle and gold (Elliot and Moore 1881). After 1867, former grazing land was brought under cultivation. The transition from cattle to grain did not occur without a struggle between factions, with the dry farmer (non-irrigated farms) finally winning over the cattleman (Brotherton 1982). During the Gold Rush, new settlements sprang up. Many realized that fortunes were to be made not in mining or panning for gold, but in selling food, clothing, and other supplies to miners. A major problem in the

Stanislaus County region was crossing the San Joaquin, Stanislaus, and Tuolumne Rivers. Toll ferries were built so that travelers and freight could get to the southern mines. Eventually 30 different ferries crisscrossed the rivers of the region. River ferries played a very important role in the county from 1848 until the 1890s when bridges and roads were constructed (Brotherton 1982).

Stanislaus County was once part of Tuolumne County, but in the 1850s residents complained that the county was too big. The county was founded in 1858 (www.californiacv.com/stanislaus.htm). The coming of the railroad in the late 1800s doomed the towns dependent on rivers for their livelihood and molded the pattern of settlement into its current form (Brotherton 1982).

In addition to railroads, another major influence in the growth of the county was the development of irrigation systems. Even if the railroads had not forced the ferries out of business, the appropriation of river water for irrigation and the construction of storage dams would have accomplished the same end (Brotherton 1982). Irrigation meant that a greater variety of crops could be produced, most more profitable than wheat, an earlier farming mainstay. Evidence of soil depletion could be seen in the decline of rich harvests (www.library.csustan.edu/bsantos/agric.html). Different strains of wheat were introduced with the hope of restoring the crop, but different varieties in combination with summer fallowing were not

Figure 134—Stanislaus County (shaded area) is north of Merced County.

Source: 50 Individual States—Counties 1995

effective. Irrigation seemed to be the answer, and most landowners welcomed it as a solution to their predicament. Orchards and vineyards could be planted with the emergence of irrigation. The great influx of migrants from the Midwest provided the labor force needed to pick crops and work in canneries and dehydrating plants. The result of irrigation was that wheat declined in importance in the county, and other agricultural products took precedence (www.library.csustan.edu/bsantos/agric.html).

Growth in the county was slow but steady until the 1970s. The population grew rapidly when commuters from the San Francisco Bay Area began to move into the San Joaquin Valley in order to find affordable housing. A major concern about population increase in the county then and now is the construction of housing units on prime agricultural land.

Stanislaus County Today

The county is 79.4 percent farmland. Most residents live in incorporated cities (Umbach 1997). Agriculture is important in the county and the five leading commodities produced are milk, almonds, chickens, turkeys, and walnuts (Munroe and Jackman 1997). The market value of agricultural products sold increased to $1,208,524,000 from 1992 to 1997, an increase of 35 percent (United States Department of Agriculture 1997). In addition to food processing, new enterprises in the county include manufacturing, billing dispatch, and postal encoding (Munroe and Jackman 1997).

Sociodemographic Characteristics

Projected Population—DOF is the only agency that calculated population projections for Stanislaus County (*table 96*). An increase in the population is expected through the forecast period. Each decade DOF projects that the population will increase by a minimum of approximately 84,000 people (1990 to 2000) to a maximum of approximately 152,000 people (2030 to 2040).

Table 96—*Population projections, Stanislaus County, 1990-2040.*

Source	1990	2000	2010	2020	2030	2040
U.S. Census	370,522[1]	446,997	-	-	-	-
DOF	375,089[2]	459,025	585,519	708,950	846,998	998,906

Source: United States Census Bureau 1990a and 2000, State of California Department of Finance 1998

[1] Data from April 1.

[2] Data from July 1.

Ethnic and Racial Diversity—In 1990, Stanislaus County was predominantly White. The next largest ethnic group was Hispanic. Blacks, Asians, and American Indians represented less than 8 percent of the total population. By 2000, Whites were still the majority although their proportion of the population shifted from 70.5 to 57.3 percent of the population. Hispanics were almost one-third of the population. Blacks, Asians, and American Indians still represented less than 8 percent of the total population (*table 97*).

Table 97—*1990 and 2000 population, Stanislaus County.*

	1990	2000
	---------- Percent ----------	
Non-Hispanic White	70.5	57.3
Hispanic all races	21.8	31.7
Non-Hispanic Black	1.7	2.4
Non-Hispanic Asian	4.9	4.4
Non-Hispanic American Indian	0.9	0.8
Non-Hispanic other	0.2	0.2
Non-Hispanic two or more races	N/A	3.2

Source: United States Census Bureau 1990a, 2000

In 1990, 14.3 percent of Stanislaus County's population was foreign-born. One-fourth of residents age 5 and older spoke a language other than English at home. Of those, the majority (64.1 percent) spoke Spanish, and 35.9 percent spoke a language other than English or Spanish (United States Census Bureau 1990b).

Linguistic diversity is also reflected within the schools in the region. The majority of LEP students in Stanislaus County public schools speak Spanish—mirroring languages spoken at home—or a selection of other languages (*fig. 135*). (Other languages include Vietnamese, Cantonese, Pilipino, Korean, Armenian, Mandarin, Russian, Arabic, Mien, Farsi, and other languages of China and the Philippines.) In 1997-98, 18.4 percent of Stanislaus County's public school students were LEP.

Projected Ethnic and Racial Diversity—As the population in Stanislaus County increases, ethnic and racial diversity is projected to increase through 2040. Hispanics, Asians, and Blacks are expected to increase as a proportion of the population, while Whites are expected to decrease as a proportion of the population (*fig. 136*). Only marginal change is expected among the American Indian population.

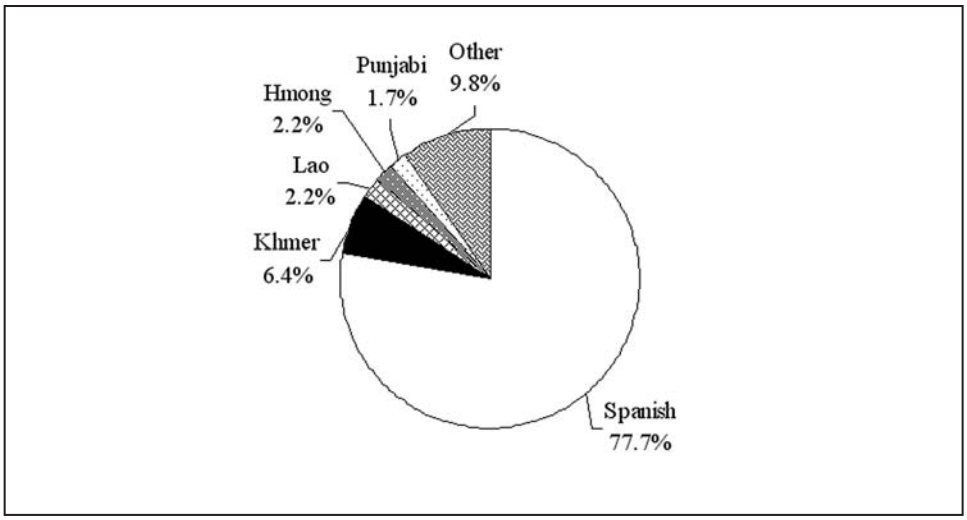

Figure 135—Limited-English-Proficient (LEP) students in Stanislaus County public school districts, by language, 1997-1998.

Source: California Department of Education 1998b

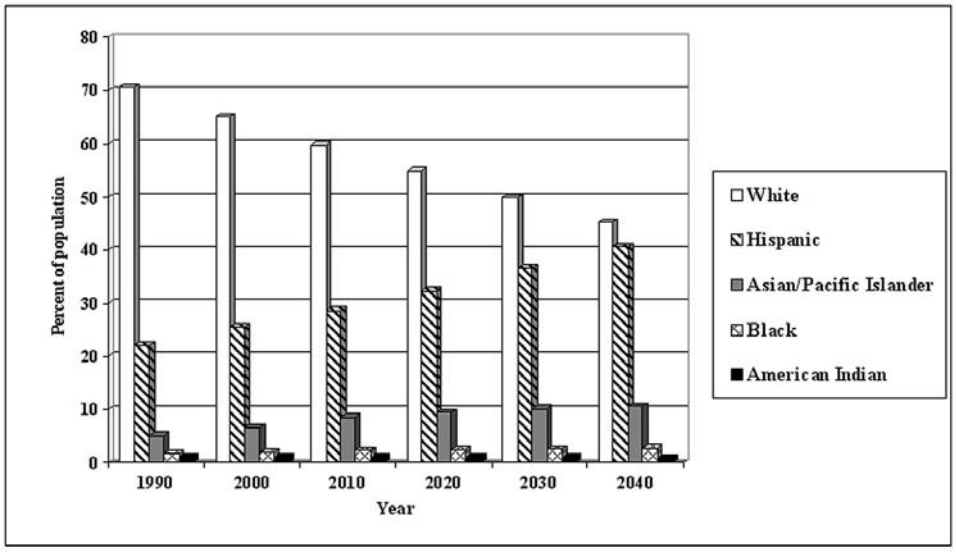

Figure 136—Racial and ethnic diversity trends for Stanislaus County.

Source: State of California Department of Finance 1998

The proportion of Whites is expected to decrease by approximately 25 percent through the forecast period, while Hispanics, Asians, and Blacks increase by approximately 19, 6, and 1 percent, respectively (*table 98*).

Table 98—*Percent race/ethnicity and percent change in Stanislaus County, 1990-2040.*

Racial/ethnic group	1990	2000	2010	2020	2030	2040	Cumulative percent change
	---------- Year ----------						
White	70.52	65.11	59.79	54.81	49.85	45.21	
	-	(-5.41)	(-5.32)	(-4.98)	(-4.97)	(-4.63)	-25.31
Hispanic	21.95	25.38	28.66	32.43	36.55	40.58	
	-	(3.43)	(3.28)	(3.78)	(4.11)	(4.03)	18.63
Asian/Pacific Islander	4.95	6.62	8.43	9.40	10.13	10.64	
	-	(1.67)	(1.81)	(0.97)	(0.72)	(0.51)	5.69
Black	1.66	1.95	2.20	2.44	2.59	2.71	
	-	(0.29)	(0.25)	(0.24)	(0.15)	(0.12)	1.05
American Indian	0.93	0.95	0.92	0.91	0.89	0.86	
	-	(0.02)	(-0.03)	(-0.01)	(-0.02)	(-0.03)	-0.06

Source: State of California Department of Finance 1998

Along with projected changes in race and ethnicity, changes in the area population's age are projected. Projected median age for Stanislaus County residents varies by race/ethnicity and gender. Females are projected to have higher median ages than males in all ethnic groups except Blacks and Hispanics. Whites have the highest projected median age between 1990 and 2040 (from 33 to 41 years), followed by American Indians (from 31 to 36 years) and Asians (from 21.5 to 32 years) (*fig. 137*). Hispanics and Blacks have the lowest projected median ages (from 22 to 24 years, and 26.5 to 29 years, respectively) through the forecast period.

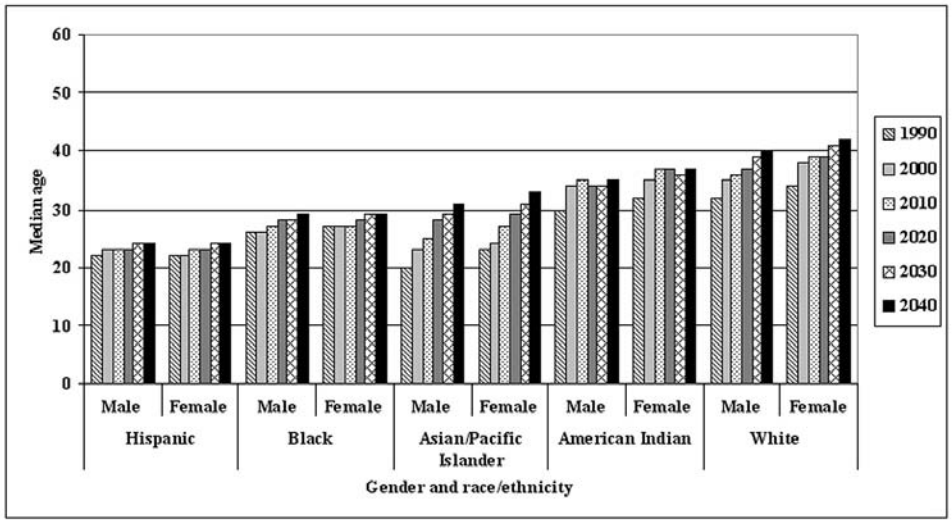

Figure 137—Median age by gender and race/ethnicity, Stanislaus County, 1990-2040.

Source: State of California Department of Finance 1998

Development and Real Estate

Building trends in Stanislaus County from 1987 to 1998 reveal that residential construction in incorporated areas represented the largest amount of construction in the area (*fig. 138*). Peaking in 1989, recession brought a reduction in this type of construction. All other types of building in the county represented much smaller valuation amounts. Post-recession recovery of residential construction in incorporated areas was slow.

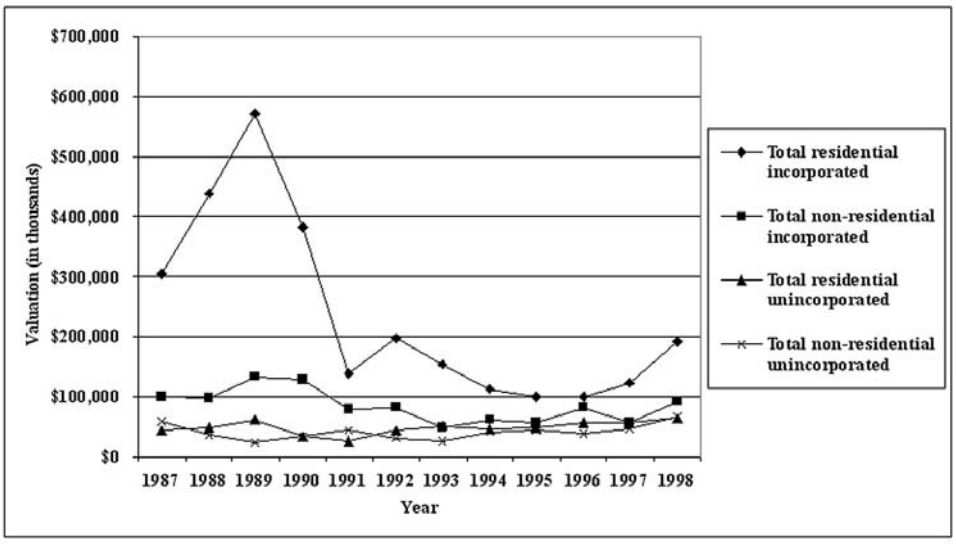

Figure 138—Building trends, Stanislaus County, in 1998 dollars, 1987-1998.

Source: Construction Industry Research Board 1988-1999

In 1990, Stanislaus County had 125,375 households and 132,027 housing units. The vast majority (95 percent) of housing units were occupied; a few (5 percent) were vacant (United States Census Bureau 1990a). Of the occupied housing units, the majority (60.7 percent) were owner-occupied, though 39.3 percent were renter-occupied (United States Census Bureau 1990a). The median value of owner-occupied housing units in 1990 was $124,300, and the median rent was $482 per month.

Quality of Life Indicators

Transportation, Commuting, and Employment—In 1990, there were 147,406 workers 16 and older in Stanislaus County, and an average of 1.8 vehicles per household. Almost 17 percent of Stanislaus County residents worked outside the county. The majority (76.7 percent) of workers drove to work alone, although some carpooled to work (14.2 percent) (*fig. 139*). Very few used public transportation. The average travel time to work was 22.5 minutes compared to the average of 20.3 minutes for the Central Valley counties in this assessment.

Although agribusiness has been important to the economy of the region, other economic sectors are expanding. In recent years, the county has become a retail and medical center for the region (www.californiacv.com/stanislaus.htm).

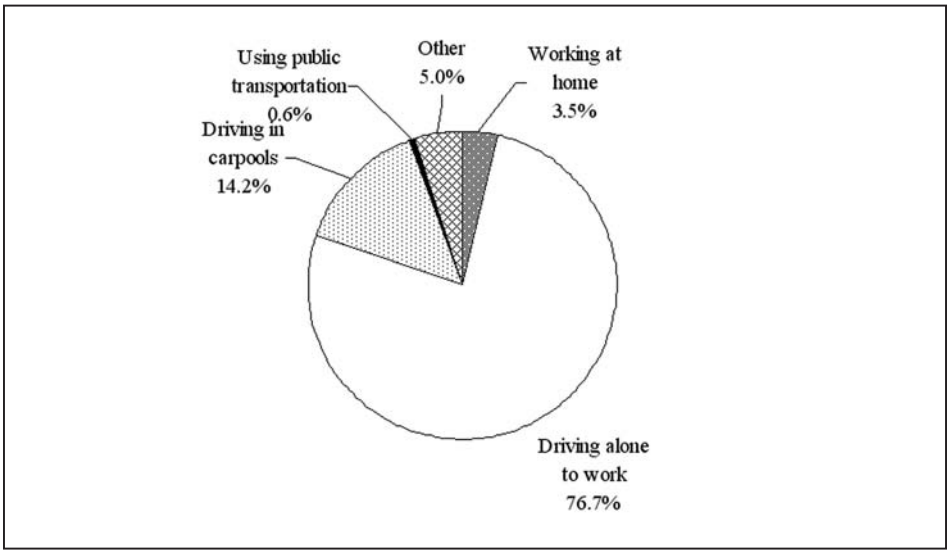

Figure 139—Commuting patterns, workers 16 and older, Stanislaus County, 1990.

Source: United States Census Bureau 1990b

As of February 1999, the sectors of the economy with the largest numbers of employees were services (21.1 percent), retail trade (18.5 percent), manufacturing (18.4 percent), government (16.3 percent), and agriculture-forestry-fishing (10.8 percent) (www.californiacv.com/stanislaus.htm). In terms of revenue, the biggest manufacturing industries are food and kindred products, paper and allied products, and fabricated metal products. The largest private employers in the county include the Gallo Winery, Tri-Valley Growers, and Foster Farms (www.californiacv.com/stanislaus.htm).

Education—Stanislaus County serves the largest number of students in its elementary schools (*table 99*). The county has more elementary schools (90) than middle and high schools (18 and 13, respectively). Average enrollment per school is greatest at the high school level, which is the pattern across the assessment area and all counties. Stanislaus County serves slightly less than 2 percent of the assessment area's school enrollments. County schools have the 15th highest enrollment overall, and they are 11th in highest average enrollment per school. Students in 2nd through 11th grade were tested using the Stanford 9 at 108 of the county schools. Stanislaus County's ranking in academic performance for 1999 was a mean of 6.32 out of 10 (based on the similarity index, www.cde.ca.gov), indicating higher-than-average performance compared to similar schools. Although 10.2 and 19.5 percent of schools in the county performed well below or below average compared to similar schools, 25 percent were well above average, and 27.8 percent were above average.

Table 99—*Enrollment and number of schools, Stanislaus County, 1998-1999.*

Type of school	Total enrollment	Percent of total enrollment	Number of schools	Average enrollment/school
Elementary	50,646	56.7	90	563
Middle/Junior High	14,890	16.7	18	827
High School	23,850	26.7	13	1,835
Total	89,386	100.0	121	-

Source: California Department of Education 1998a

Health Care—The largest number of health care establishments in the county deliver ambulatory health care services, followed by social assistance, nursing and residential care, and hospital care (*fig. 140*). The county has two hospitals, representing 0.5 percent of the assessment area's total hospitals (ahd.tool.net/list.php3/mstate=ca, United States Census Bureau 1999a). One of the two hospitals is classified as nonprofit, the other as county. A total of 443 beds and 13,611,626 total patient days were recorded in 1999. The county ranked 25th in number of hospitals, in contrast to its 16th place ranking in population.

Recreation and Tourism—Among the assessment area's 26 counties, Stanislaus ranked 19th in the 1997 economic census in accommodations and food services, and 19th in arts, entertainment, and recreation (United States Census Bureau 1999b, 1999c). A total of 676 accommodation and food-services establishments, with $312,699,000 in receipts, was reported. Arts, entertainment, and recreation services involved 81 establishments, with receipts totaling $33,542,000. Special recreational opportunities of interest in the county include the Woodward Reservoir, Frank Raines County Park, and the factory tour offered by the Hershey Chocolate Company in Oakdale (Thomas Bros. Maps 1998).

Environmental Indicators

Water Quality—Stanislaus County crosses 10 watersheds: the Middle San Joaquin-Lower Chowchilla, the Middle San Joaquin-Lower Merced-Lower Stanislaus, the Lower Calaveras-Mormon Slough, the Upper Merced, the Upper Tuolumne, the Upper Stanislaus, the Panoche-San Luis Reservoir, the Coyote, the San Francisco

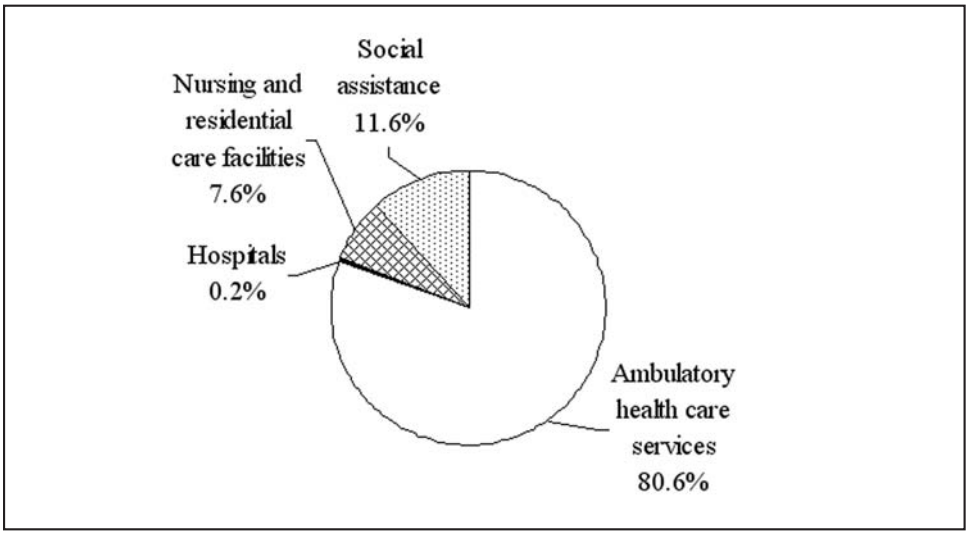

Figure 140—Health care and social assistance establishments, Stanislaus County, 1997.

Source: United States Census Bureau 1999a

Bay, and the Pajaro (www.epa.gov/surf3/surf98/county.html). (Watersheds frequently cross county boundaries. Therefore, some counties may include watersheds that are also located in other counties.) The Middle San Joaquin-Lower Chowchilla, the Middle San Joaquin-Lower Merced-Lower Stanislaus, the Upper Merced, the Coyote, and the Pajaro watersheds were assigned a "5" by the EPA, indicating "more serious water quality problems and low vulnerability to pollution stressors." (According to the EPA's Index of Watershed Indicators procedures, a pollution stressor includes aquatic/wetland species at risk, toxic loads above limits, urban runoff potential, agricultural runoff potential, population change, hydrologic modification, estuarine pollution susceptibility, and atmospheric deposition.) The Upper Tuolumne watershed was assigned a "3," indicating "less serious water quality problems and low vulnerability to pollution stressors." The San Francisco Bay was assigned a "2," indicating "better water quality but high vulnerability to pollution stressors." Data are not available for the Lower Calaveras-Mormon Slough, the Upper Stanislaus, and the Panoche-San Luis Reservoir watersheds.

Air Quality—Stanislaus County has the 16th largest population of the 26 counties, paired with approximately similar rankings on all emissions types except for total organic gas (TOG) emissions, in which they are ranked 4th highest (*table 100*). The majority of emissions are projected for marginal decreases, dependent upon emission type. Particulates are expected to increase, primarily from area-wide sources, according to the California Air Resources Board (1999).

Implications

Stanislaus County population is expected to more than double by 2040. This does not make Stanislaus unique, but like San Joaquin and San Benito Counties, Stanislaus is especially prone to urban development because of its proximity to the San Francisco Bay Area. More affordable housing costs make Stanislaus County attractive to many Silicon Valley commuters, since Stanislaus County is just east of Santa Clara County.

One outcome of urban development is a more diversified economy (www.californiacv.com/stanislaus.htm), but other effects can include increased air pollution, potential loss of productive farmland, and impacts on a limited water supply. There are efforts to preserve farmland through philanthropic efforts such as the Packard Foundation. The Foundation is expected to spend more than $175 million by 2002 to conserve Central Valley farmland and other endangered areas on the coast and in the Sierra Nevada (Arax 1999). However, it remains to be seen whether such efforts can stem the tide of urban growth that is expected to consume major portions of this State's most productive farmland.

Table 100—*1996 estimated and 2010 forecasted annual average emissions, Stanislaus County (cells do not add to column totals due to rounding error).*

Year	Emission category	Emission type[1]						
		TOG	ROG	CO	NOx	SOx	PM	PM10
1996	Stationary	64	7	2	9	2	4	2
	Area-Wide	280	32	45	2	0	69	36
	Mobile	24	21	200	35	1	2	1
	Natural	0	0	0	0	-	0	0
	Total	370	60	250	45	3	74	40
2010	Stationary	56	8	2	10	3	5	3
	Area-Wide	280	35	68	2	0	80	44
	Mobile	11	10	120	22	1	1	1
	Natural	0	-	1	-	-	0	0
	Total	350	53	200	34	3	86	47

Source: California Air Resources Board 1999

[1] TOG: total organic gases; ROG: reactive organic gases; CO: carbon monoxide; NOx: nitrogen oxides; SOx: sulfur oxides; PM: particulate matter; PM10: particulate matter less than or equal to 10 microns (*appendix D*).

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Summary and Implications for the Central Valley

Farmland conversion nationwide is estimated between 800,000 and 3 million acres per year (Carver and Yahner 1996). In California, the amount of farmland lost to urban uses is estimated at 75,000 acres per year (LaGanga 1990a). Much of the land being lost is prime farmland, disproportionately located near cities. Fifty-eight percent of the total U.S. agricultural production comes from counties that the Census Bureau classifies as metropolitan and their adjoining counties (Carver and Yahner 1996). The Central Valley exemplifies many of the challenges of rapid farmland conversion.

Agricultural land in the Central Valley is threatened by urban growth in the region. The challenge for the Central Valley now and into the future will be how to accommodate economic growth while preserving the rich agricultural land of the Valley. The effects on the Central Valley are not restricted to a loss of prime agricultural land, but also include fiscal problems in Central Valley cities and counties due to insufficient planning for growth and increasing conflict between

farmers and their urban neighbors at the urban/agricultural edge (Agricultural Task Force for Resource Conservation and Economic Growth in the Central Valley 2000). In addition to its economic value, agricultural land can provide amenities that are more difficult to quantify. For example, agricultural land provides open space, flood control protection, a location for groundwater recharge, and habitat for a large variety of species (Agricultural Task Force for Resource Conservation and Economic Growth in the Central Valley 2000). In some cases, agricultural land is "retired" for open space preservation, constituting a further loss of productive agricultural land in economic calculations.

Although the average productivity of U.S. agriculture has grown, there is evidence that the increased use of fertilizer has reached a point of diminishing returns (Platt 1996). Other problems that plague the continued productivity of farmland are the ability to find new sources of water, environmental concerns over certain chemical pesticides, increasing use of marginal lands, and soil erosion (Platt 1996). The U.S. Department of Agriculture estimates that 44 percent of all cropland nationally is eroding at rates exceeding the normal rate of replacement through natural processes (Platt 1996). Using marginal land for agriculture increases costs because more irrigation water and fertilizer may have to be used. Additionally, in order to make up farming costs, the tree or crop may be pushed to be more productive, thereby shortening its life span (LaGanga 1990b).

Another difficulty involved in stopping farmland conversion to urban uses is that farmland is privately owned. When developers offer $75,000 to $100,000 an acre, often a one-hundredfold increase over the original purchase price, the incentive for the farmer to sell is very strong. For many farmers, the ability to sell their land becomes the closest thing to a retirement account in a risky business (LaGanga 1990b). Because the average age of a California farmer is 50 years old, guaranteeing retirement is an immediate concern (Great Valley Center 1998). Proposals to protect farmland include offering tax breaks to farmers to keep their land in production and the purchase of development rights by governmental agencies or nonprofit organizations so that the land remains as farmland or as open space. However, acquiring the financial resources to purchase development rights is the greatest hurdle for implementation for this conservation tactic (Carver and Yahner 1996). Although a variety of farmland protection methods can be employed, their success relies on public and political support (Carver and Yahner 1996).

Although farmland conversion is one of the primary challenges facing the Central Valley region, another challenge looming in the region is that rural areas are poor and are getting poorer. The globalization of the economy and increasing urbanization affect rural communities by restructuring the way wealth is generated away from natural resources (Bradshaw 1992). The result is the development of two societies in rural areas: one composed of affluent newcomers and the other composed of rural residents (Bradshaw 1992). The danger is that rural populations could be left out of the new economy, potentially hastening a societal and economic divide. The primary policy question for Central Valley planners, economists, farmers, and resource managers is whether it is possible to assist and protect the traditional rural communities in the Central Valley while accommodating the urban growth that is occurring in the region.

The form and pace of urban growth in the Central Valley are not just a regional concern, but a national one as well because 25 percent of the nation's food is produced there. The natural resource concerns in the Central Valley go beyond the protection of open space and wildlife habitat, the preservation of air and water quality, and the containment of urban sprawl. Unplanned urban development in this prime agricultural land threatens the very self-sufficiency of the nation's agricultural production.

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