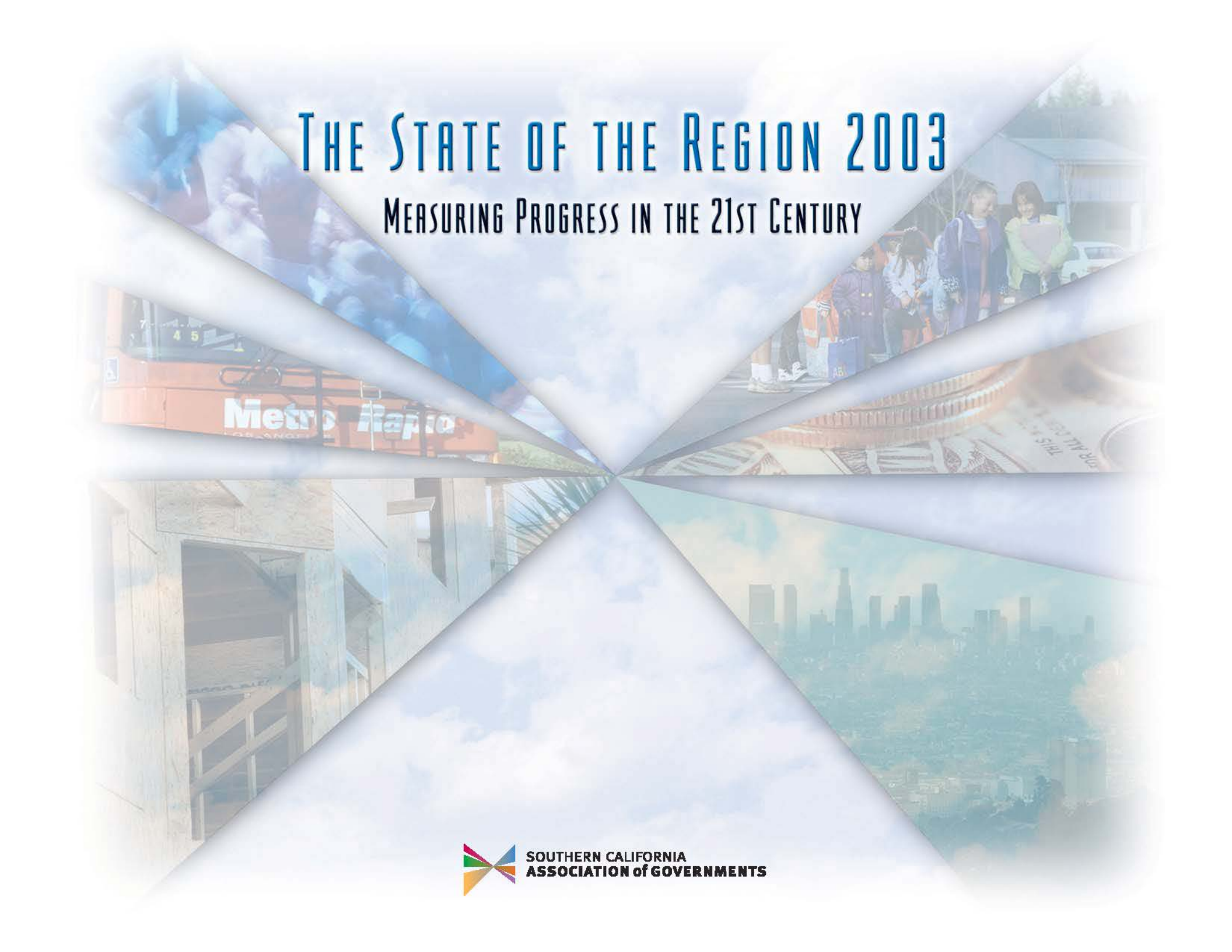
The State of the Region 2003

Measuring Progress in the 21st Century



SOUTHERN CALIFORNIA
ASSOCIATION of GOVERNMENTS

The State of the Region 2003

Measuring Progress in the 21st Century

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PREFACE

The State of the Region 2003 includes an assessment of how Southern California has been performing with respect to key regional issues. The Report tracks the region's progress in achieving the goals in the *Regional Comprehensive Plan and Guide*. It also compares the performance of our region with other large metropolitan regions. The report is intended to assist policy makers, business and community leaders in developing strategies to improve our communities.

Since 1998, the Southern California Association of Governments (SCAG) has prepared the annual State of the Region Report. SCAG is the largest regional planning organization in the nation. SCAG works with local governments, public agencies and many other partners to address regional issues critical for our common future. The SCAG region, also referred to as Southern California in this report, includes six counties (Imperial, Los Angeles, Orange, Riverside, San Bernardino and Ventura) and 187 cities. The region includes more than 17 million residents, which is larger than the State of Florida that is the 4th largest state in the nation.

Preparation for the 2003 Report was guided by SCAG's Benchmarks Task Force, consisting of community leaders and regional issue experts in Southern California. It includes representatives from, among others, local elected officials, academia, business, education and environmental organizations.

Finally, **The State of the Region 2003** builds on the assessment of how Southern California performed during the 1990s, the focus of the 2002 Report. While this 2003 Report was prepared as a stand-alone document, readers will find it beneficial to also refer to the 2002 Report for the assessment of the last decade. Both reports have been posted on the SCAG website at www.scag.ca.gov/publications/.


SCAG Region
And Surrounding Area
Kern
San Luis Obispo
Santa Barbara
Ventura
Los Angeles
San Bernardino
Riverside
Orange
San Diego
Imperial
Kings
Tulare
Inyo
Nevada
Arizona
Mexico
PACIFIC
OCEAN
California
Ports
Major Airports
Ports of Entry
Freeway
Highway
County
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Miles
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS
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Map 1

EXECUTIVE SUMMARY

During the last decade of the 20th Century, Southern California lost significant ground in its socioeconomic competitiveness relative to the rest of the nation. As documented in the State of the Region 2002 Report, the region suffered absolute declines in the basic socioeconomic well-being of its residents, such as educational attainment, median household income, poverty rates for adults and children, and housing affordability. More importantly, these declines took place in the region while the rest of the nation achieved significant improvements.

Economic and demographic driving forces were the primary reasons for "losing ground" in our region. Specifically, during the early 1990s, the region went through the most severe recession since the Great Depression, losing half a million jobs and suffering an 8 percent decline in its real personal income per capita between 1990 and 1993. Many of the jobs lost were in the high-wage defense aerospace manufacturing. As a result, Southern California experienced a 1.5-million net domestic out-migration during the last decade, the largest in our region's history. During the same period, the region added 1.5 million foreign immigrants. When compared with the domestic out-migrants and the general population, recent immigrants are, on average, less educated, earn lower incomes, live in larger households and rely significantly on rental housing.

Between 1993 and 2000, the region actually rebounded quite well in job growth, adding almost one million jobs and began narrowing the unemployment rate gap with that of the nation.

Per capita income also began to grow slowly again after 1993. However, income gaps relative to other metropolitan regions, enlarged during the recession, continued to widen. This was primarily due to the overall lower wages of new jobs, a less competitive labor force, and changing demographics. Most notably, when compared to the 17 largest metropolitan regions in the nation, per capita income in the region dropped from 95 percent of the 17-metro average in 1990 to 83 percent in 2000. And the region ranked 16th among the 17 metropolitan regions in per capita income in 2000, dropping from 7th place in 1990.

Despite the socioeconomic decline, the last State of the Region Report also noted several accomplishments in the region during the last decade. For example, between 1990 and 2000, the region achieved significant improvements in air quality, a major reduction in violent crime rates and a more diversified economic base.

How the region performed in the initial years (particularly 2002) of the 21st Century is the focus of this 2003 State of the Region Report. The following six themes emerged.

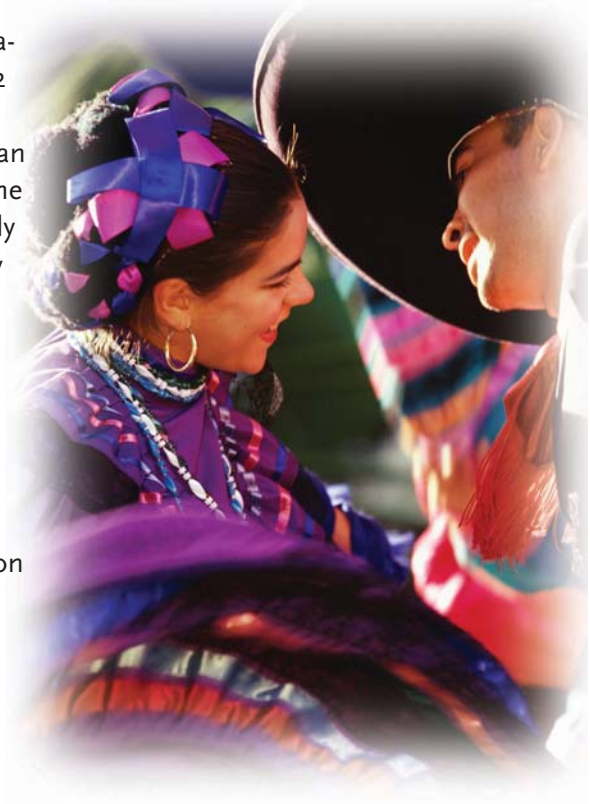
- Southern California resumed its rapid population growth along with the continuing process of demographic transformation and increasing diversity.
- The region experienced a slight loss in employment in 2002, the first time since 1993[1]. Real personal income per capita began declining in 2001 and is estimated to have continued declining in 2002[2]. However, unlike the recession in the early 1990s, losses for the region were less severe than that of the other large metropolitan regions throughout the nation.
- Housing construction activities were very active in 2002 with the largest number of housing permits issued since 1990. However, housing affordability worsened particularly for renters as well as those striving to become homeowners.
- There were adverse trends in the region's air quality, particularly for ozone pollution, contrary to the steady trend of improvements made during the last two decades.
- The region continued its consistent improvements in reducing the juvenile felony arrest rates in 2002 along with a slight decline in the violent crime rate. In the areas of mobility and education, there were no major changes.
- The region continued to have significant social and economic disparities among different racial and ethnic groups. These disparities are likely to have exacerbated during the most recent economic decline.

First, Southern California resumed its rapid population growth along with the continuing process of demographic transformation and increasing diversity.

The year 2002 was a year of significant population growth in the SCAG region, adding nearly 330,000 residents for a total population of over 17.4 million residents. The region grew faster in 2002 than the rest of the state and the nation. Annual

population growth in the region fluctuated significantly during the 1990s. Specifically, annual population growth slowed down from about 300,000 in 1991 and dropped to 70,000 in 1995 due to the increasing number of people leaving the region as a result of the recession. Since 1995, due to the rebound of the job market, annual population growth has increased as the flow of net domestic out-migration reduced. Beginning in 2000, the region experienced net domestic in-migration that continued through 2002. During 2001 and 2002, the average annual population increase in the region was the largest since 1950.

The region's population growth in 2002 was significantly larger and faster than that of the rest of the state. This is mainly due to the relatively better economic performance of Southern California compared to the rest of the state, particularly the San Francisco Bay Area (including the Silicon Valley). Within the region, Riverside County continued to have the fastest growth rate followed by San Bernardino County, while Los Angeles County achieved the greatest increase in population. Among the total growth in 2002, natural increase (births over deaths) accounted for about a half while another 41 percent was due to foreign immigration.



In Southern California, population growth has also been accompanied with demographic transformation and increased diversity, particularly changes in the region's ethnic composition. From 1960 to 2000, the Hispanic population increased dramatically from about 10 percent to 41 percent of the total population, while the Asian population share increased from 2 percent to 11 percent. The share of non-Hispanic Whites reduced dramatically from more than 80 percent to 40 percent. During 2001 and 2002, annual population growth was almost exclusively among Hispanics (about 280,000) and Asians (about 41,000). Non-Hispanic Whites and African Americans, experienced slight decreases in absolute numbers. Consequently, population growth in 2001 and 2002 continued the demographic transformation process in the region.

The ethnic changes in the population since 1960 have made Southern California one of the most demographically diverse metropolitan regions, not only in the nation but also in the world. Currently, there is no single racial or ethnic group that comprises more than half of the total population. In 2000, the region also included about 770,000 people identified as mixed-race, about 4.7 percent of the region's total population, that was significantly higher than the national average at 2.4 percent. Among the nine largest metropolitan regions in the

nation, the SCAG region had the second highest share of persons belonging to two or more races, following the San Francisco Bay Area.

Second, the region experienced a slight loss in employment in 2002, the first time since 1993. Real personal income per capita began declining in 2001 and is estimated to have continued declining in 2002. However, unlike the recession in the early 1990s, losses for the region were less severe than that of the other large metropolitan regions throughout the nation.

During 2002, the region lost 22,000 jobs, the first loss since the end of the last recession in 1993.[3] The unemployment rate increased from 5.1 to 6.1 percent during the same period, slightly higher than the national average at 5.8 percent. Average payroll per job in the region declined slightly by 0.3 percent in 2001, after adjusting for inflation. In addition, real personal income per capita also declined in 2001 for the first time since 1993 and most likely continued declining through 2002, considering the job loss amid significant population increase.[4] There was no significant change in the region's median household income or poverty rate between 2001 and 2002.

However, the region did not perform as bad relative to the nation in terms of rate of job loss. During this business cycle, the region's diverse economic base helped to dampen the downturn, since it is not as dependent upon the high tech sector as other major metropolitan regions such as the San Francisco Bay Area and Boston regions. This is in sharp contrast to the last recession when defense budget cuts hit the region hardest with its high concentration in the defense aerospace industry. During 2002, job losses in the region were mostly among the export-oriented sectors, particularly manufacturing and information. On the other hand, government and health care sectors were the two leading job generators. The significant growth in population in 2002 contributed to the job gains in sectors such as the retail trade and education sectors. As to the decline in per capita income in 2001, the region performed a little worse relative to the nation but a little better relative to the average of the large metropolitan regions.

Overall, during 2001 and 2002, the SCAG region performed a little better than the other major metropolitan regions. However, the extent was too modest to change the overall economic standing of our region among the major metropolitan regions. In 2001, per capita personal income in the region was only 84 percent of the average of 17 large metropolitan regions, a significant reduction from 95 percent in 1990. Among the 17

large metropolitan regions, the SCAG region continued to rank 16th in per capita income in 2001 and most likely remained 16th in 2002.

Third, housing construction activities were very active in 2002 with the largest number of permits issued since 1990. However, housing affordability worsened particularly for renters as well as those striving to become homeowners.

Based on the 2000 Census, among the nine largest metropolitan regions in the nation, Southern California had the highest percentage of owner and rental households spending 30 percent or more of household income on housing. In 2002, the region experienced the largest number of building permits issued (68,000 units) as well as the largest year-to-year increase (10,000 units) since 1990. In addition, homeownership rate, though well below the national average, increased slightly, following the national trend due to low mortgage rates. Nevertheless, housing affordability worsened due to the sharp increases in housing prices, in light of the lack of growth in household income. In 2002, every county experienced lower housing affordability than the nation and the gaps have been widening since 1997. While more than half of the nation's households could afford a median-priced house in 2002, less than a third of the region's households could achieve the same.

Housing affordability also worsened for renters. With no growth in household income and continued increase in rents, the rental cost burden has been rising. In 2002, among the approximately 7.2 million renters in the region, 52 percent or more than 3.6 million renters spent 30 percent or more of their incomes on rent.

Fourth, there were adverse trends in the region's air quality, particularly for ozone pollution, contrary to the steady trend of improvements made during the last two decades.

In 2002, ozone pollution worsened in the South Coast and Mojave Desert Air Basins. In the most populous South Coast Air Basin with more than 15 million residents, the number of days exceeding the federal one-hour ozone standard increased from 36 to 49 days between 2001 and 2002. There were also more days with health advisories. This is a troubling reversal from the trend of improvements since 1980. In particular, Santa Clarita Valley alone surpassed the federal standard 32 days in 2002, more than any other area in the country. (Data for 2003 indicated much worse ozone pollution than in 2002.) As to the PM_{10} pollution, while there were some reductions in the number of days exceeding the federal 24-hour standard in the South Coast and Salton Sea Air Basins, both continued exceeding the federal annual average standard.

In 2002, the South Coast Air Basin finally met federal attainment standards for carbon monoxide.

Fifth, the region continued its consistent improvements in reducing the juvenile felony arrest rates in 2002 along with a slight decline in the violent crime rate. In the areas of mobility and education, there were no major changes.

Violent crime rate in the region declined slightly by 3 percent in 2002 from 2001. Violent crime rates in Los Angeles County, though reduced by more than half since 1990, were still among the highest of large metropolitan counties in the nation. As to the juvenile felony arrest rate for those aged 10 to 17, it declined by more than 9 percent in the region in 2002. Finally, the number of hate crime events and victims in the region declined by almost 30 percent in 2002 from 2001.

In the area of mobility, the region remained the most congested region in the nation, suffering the highest delay per person. From 2000 to 2002, contrary to the public policy objective, there was a slight decline in the share of carpool and an increase of drive alone among work trips. Highway fatality rates, though declining gradually, were still significantly higher than the national average for urban areas.

In education, there were no noticeable improvements in 2002 regarding student performance in the region such as in 8th grade testing scores or high school dropout rates. Among the nine largest metropolitan regions, the SCAG region remained in last place in the percentage of adults with at least a high school diploma, and 2nd to last for adults with a minimum of a Bachelor's degree.

Six, the region continued to have significant social and economic disparities among different racial and ethnic groups. These disparities are likely to have exacerbated during the most recent economic decline.

Social and economic disparities have persisted in Southern California across many areas such as education, income, poverty and homeownership. For example, based on the 2000 Census, the median household income for non-Hispanic Whites was over $55,000, significantly higher than that for African American households which was below $34,000. In addition, 42 percent of African Americans and 45 percent of Hispanics in the region owned their homes in 2000, compared to 60 percent of Asians and 69 percent of non-Hispanic Whites. More significantly, among the youth in different racial and ethnic populations, there were also significant disparities in educa-

tional performance regarding, for example, high school completion. National data also indicated that during 2002, recent immigrants and minorities suffered disproportionate impacts from the recent economic decline.

Finally, contrary to the national trend, the region's household vehicle ownership rates have been declining since 1990. In 2000, the region had significantly higher percentages of African American (18 percent) and Hispanic households (14 percent) without a vehicle than non-Hispanic White (6 percent) and Asian (8 percent) households. Since public transit only plays a very limited role in providing overall mobility, declining vehicle ownership rates are likely to widen the personal mobility gaps and hence exacerbate the social and economic disparities in our region.

The Path Forward

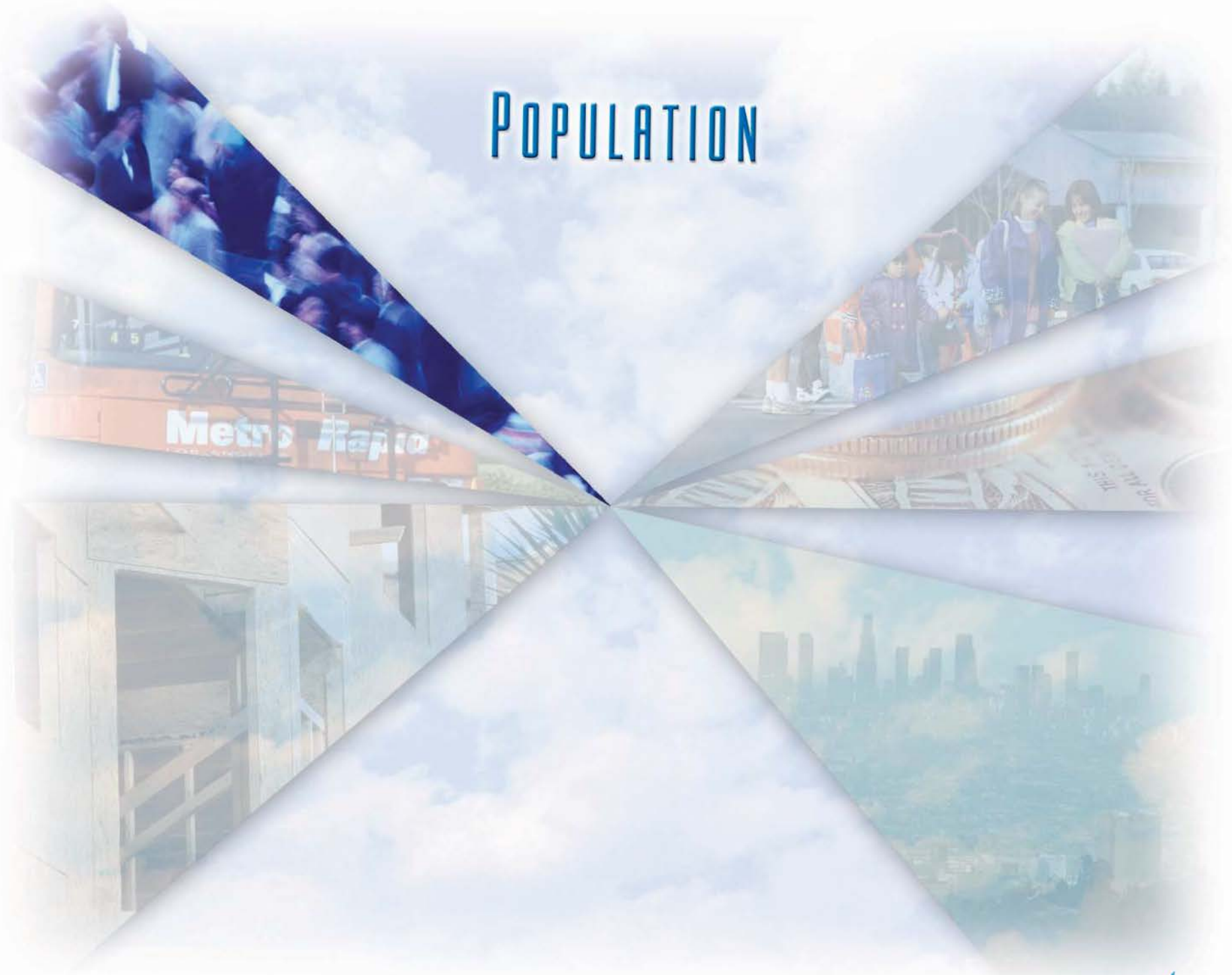
After losing significant ground during the 1990s, the SCAG region overall did not lose additional ground in 2001 and 2002 relative to other major metropolitan regions in the nation. Looking ahead, however, the region will continue to face major challenges, including, for example, the following:

- How can the region regain its economic competitiveness and improve the socioeconomic well-being (e.g., employment, income and educational attainment) of all residents in light of the decreasing share of high-wage jobs?
- How can the region address the persistent challenges in the basic quality of life issues such as mobility, housing availability and affordability, and air quality in light of the estimated increase of 6 million residents by 2030?

These challenges are closely interrelated, since economic development strategies, physical growth patterns and infrastructure investments each could significantly impact the livability, environmental sustainability and economic competitiveness of the region. More importantly, these challenges transcend the jurisdictional boundaries of local governments and any other entities.

To resolve these regional challenges, all the entities in the region, whether in the public, private or non-profit sectors must find ways to work together collaboratively. Only by working together toward a shared vision can the SCAG region successfully run the competitive race for a better tomorrow.

Population



POPULATION

Growth Characteristics

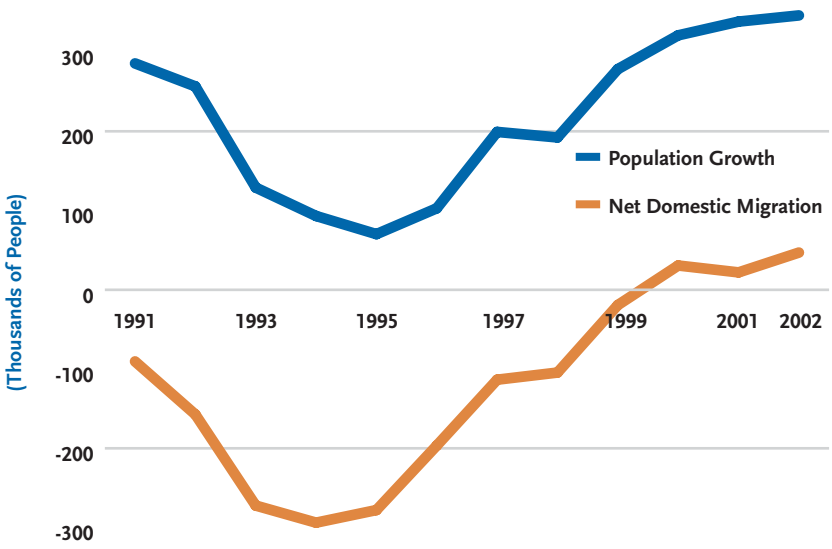
The year 2002 was a year of significant population growth in the SCAG region, adding nearly 330,000 residents for a total population of over 17.4 million residents (Figure 1). From 2001 to 2002, the region grew by 1.9 percent, much faster than the nation (1.1 percent) and the rest of California (1.5 percent).

Figure 1
Population Increase: 2001 and 2002 (000)

	1/1/01	1/1/02	1/1/03	2001 Increase Number	2001 Increase Percent	2002 Increase Number	2002 Increase Percent
Imperial	147.4	150.2	150.9	2.8	1.9%	0.7	0.5%
Los Angeles	9646.3	9817.4	9979.6	171.1	1.8%	162.2	1.7%
Orange	2880.6	2930.5	2978.8	49.9	1.7%	48.3	1.6%
Riverside	1584.3	1645.3	1705.5	61.0	3.9%	60.2	3.7%
San Bernardino	1741.4	1788.5	1833.0	47.0	2.7%	44.5	2.5%
Ventura	763.9	778.4	791.3	14.5	1.9%	12.9	1.7%
REGION	**16763.9**	**17110.3**	**17439.1**	**346.4**	**2.1%**	**328.8**	**1.9%**
Rest of California	17603.4	17889.7	18151.9	286.3	1.6%	262.2	1.5%
California	34367.3	35000.0	35591.0	632.7	1.8%	591.0	1.7%
U.S.	283867.0	286923.0	289950.0	3056.0	1.1%	3027.0	1.1%

Source: California Department of Finance and U.S. Census Bureau annual January 1st estimates

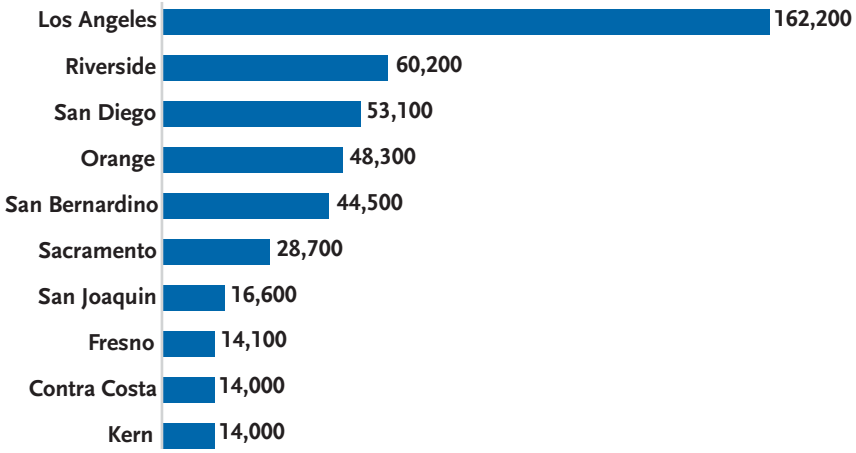
Figure 2
Population Growth vs. Net Domestic Migration



Source: California Department of Finance based on annual July 1st estimates

During the 1990s, annual population growth in the region fluctuated significantly between 70,000 and 320,000 (Figure 2). Specifically, annual population growth slowed down from about 300,000 in 1991 and dropped to 70,000 in 1995, due to the increasing flow of net domestic out-migration caused by the recession. Since 1995, due to the rebound in the job market, annual population growth has increased as the flow of net domestic out-migration reduced. Beginning in 2000, the region

Figure 3
Top Ten California Counties in Population Increase in 2002



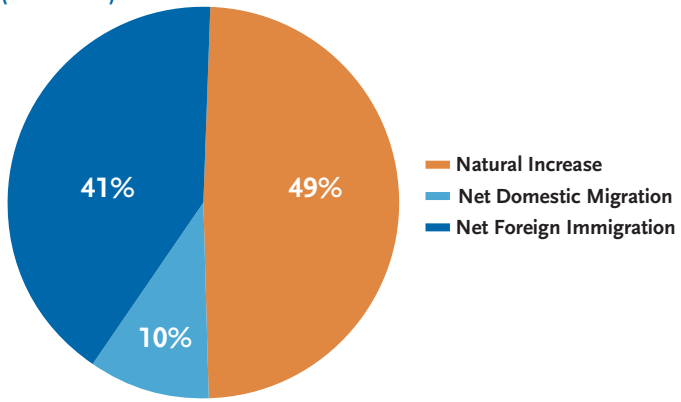
Source: California Department of Finance

experienced net domestic in-migration that continued through 2002. During 2001 and 2002, the average annual population increase in the region was the largest since 1950 (see Figure 2a page 105).

Population growth in the region in 2002 was significantly larger than that of the rest of the state (Figure 1). This is mainly due to the relatively better economic performance of Southern California compared to the rest of the state (particularly the San Francisco Bay Area) as further discussed in the Economy Chapter. Among the top five California counties in population increase in 2002, four were in the SCAG region, including Los Angeles, Riverside, Orange and San Bernardino counties (Figure 3). In sharp contrast, in the Bay Area, only Contra Costa County made it into the top ten. The other populous Bay Area counties including Santa Clara and Alameda experienced almost no population growth in 2002.

Within the region, every county grew at a faster pace than the rest of the state in 2002 except Imperial County. *Riverside County continued to have the fastest growth rate followed by San Bernardino County.* However, every county in the region also grew at a slightly slower pace than in the previous year. As to absolute population increases, Los Angeles County achieved the highest within the region and the state. Riverside County added more residents than either Orange or San Bernardino counties.

Figure 4
Population Growth by Types of Source
(2000 - 2002)

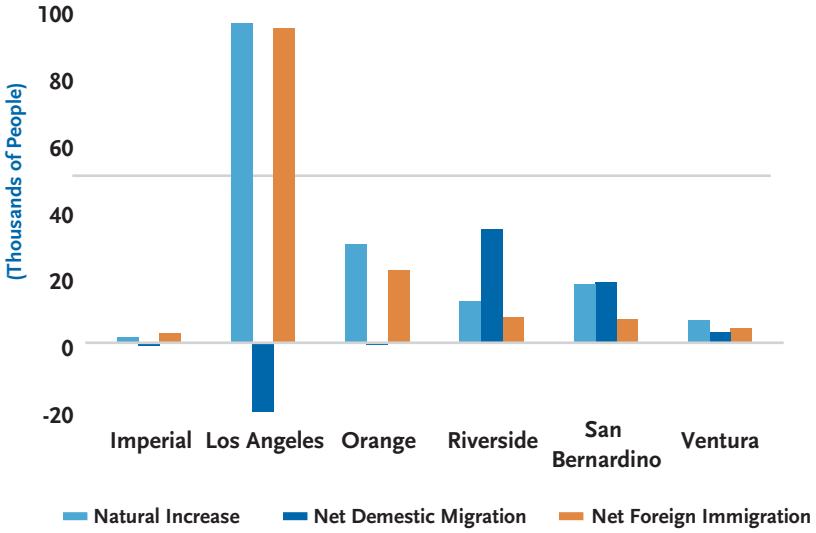


** Natural Increase = Births - Deaths*
Source: California Department of Finance

Among the three sources of population growth, natural increase was the largest accounting for 49 percent of the region's growth between 2000 and 2002 (Figure 4). Net foreign immigration accounted for 41 percent of the region's growth. Compared to the 1990s, the leading role of natural increase continued through 2002 (see Figure 4a page 105). It should be noted that, from 2000 to 2002, both the average annual natural increase and foreign immigration were at slightly lower levels than that of the previous decade.

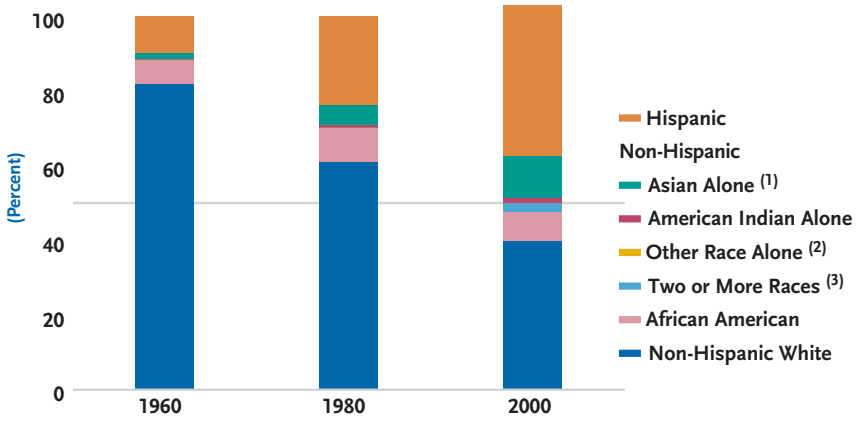
Within the region, net domestic in-migration was the predominant source of population growth in Riverside County, and to a lesser extent in San Bernardino County (Figure 5). Natural increase and foreign immigration played the predominant roles in population growth in the remaining four counties. From 2000 to 2002, Los Angeles County still experienced an annual domestic out-migration of about 20,000 people.

Figure 5
Population Growth by Types of Source by County
(2000 - 2002 Annual Average)



Source: California Department of Finance

Figure 6
Population by Race and Ethnicity



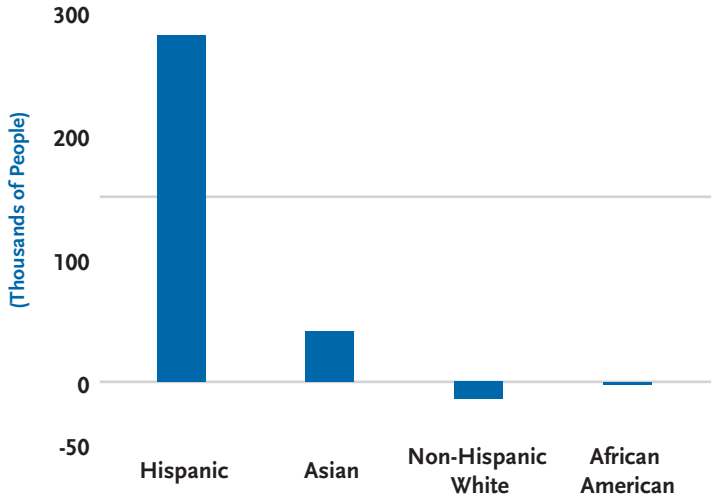
Notes: (1) "Asian Alone" also includes Pacific Islander.
(2) "Other Race Alone" is too small to be shown (at 0.2 percent in 2000).
(3) Only the 2000 Census included the "Two or More Races" category to which people may choose to belong. In 2000, the share of population belonging to "Two or More Races" at 2.3 percent in the region included only the non-Hispanic portion. The share of population belonging to "Two or More Races", if including both the Hispanic and non-Hispanic portions, accounted for 4.7 percent (or about 770,000) of the region's total population in 2000, the 2nd highest share among large metropolitan regions.

Source: U.S. Census Bureau. Data in 1960 was estimated by James Allen and Eugene Turner. 2002. Changing Faces, Changing Places.

Demographic Transformation and Diversity

In Southern California, population growth since 1960 has also been accompanied with demographic transformation and increased diversity, particularly changes in the region's ethnic composition. *Between 1960 and 2000, the share of the Hispanic population in the region increased dramatically from about 10 percent to 41 percent, while the Asian population increased from 2 percent to 11 percent (Figure 6). During the same period, however, the share of the non-Hispanic Whites reduced dramatically from more than 80 percent to 40 percent.* In 2000, among the largest metropolitan regions in the nation in 2000, Southern California had the highest Hispanic population share (41 percent) of the region's population, significantly higher than the second place in Dallas (22 percent). It also has the second highest share of Asian population following the San Francisco Bay Area (see Figure 68 page 89). During 2001 and 2002, annual population growth was almost exclusively among Hispanics (about 280,000) and Asians (about 41,000) (Figure 7). Non-Hispanic Whites and African Americans, however, experienced slight decreases in absolute numbers. Consequently, *the share of Hispanic and Asian populations in the region increased (by more than two percent) while the share of non-Hispanic White population decreased in 2002. Hence, population growth in 2001 and 2002 continued the demographic transformation process in the region initiated in the 1960s.*

Figure 7
Population Growth by Race and Ethnicity
(2000 - 2002 Annual Average)

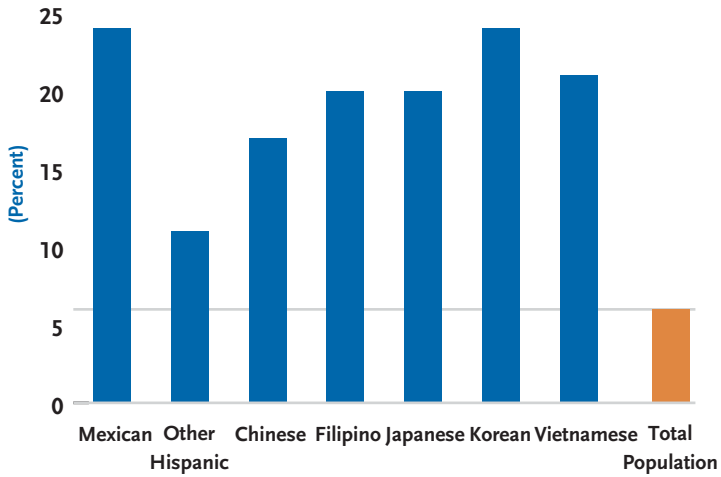


Source: U.S. Census Bureau

The continued change in the ethnic makeup of the region has made Southern California one of the most demographically diverse metropolitan regions, not only in the nation but also in the world. Currently, there is no single racial or ethnic group that comprises more than half of the total population.

The significantly increasing share of the Hispanic and Asian populations in the region was primarily due to the increase in Hispanic and Asian immigrants as well as the higher birth rates among the immigrant population. More specifically, since 1960, the region has increasingly become a magnet for foreign immigrants, particularly for those from Central America and Asia. *The pace of increase in the foreign-born population has been significantly faster in the region than in the nation since 1960.* For example, in 1960, 8.8 percent of the region's population was foreign-born, approximately 800,000, somewhat higher than the

Figure 8
Demographic Diversity
(Region's Share of U.S. Total)



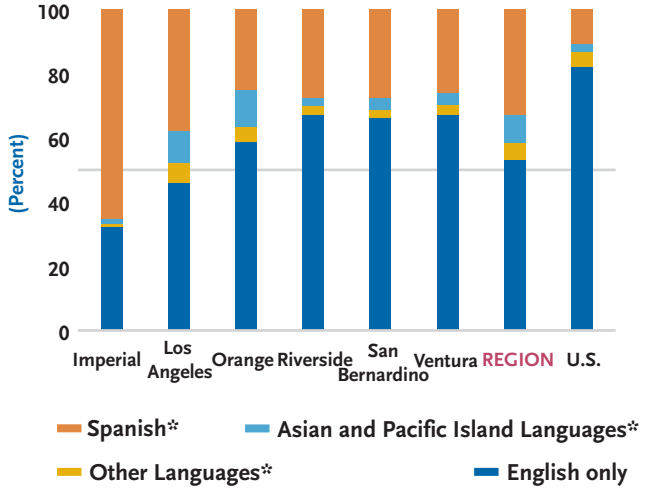
Source: 2000 Census

national share of 5.4 percent.[1] However, in 2000, 31 percent (or 5.1 million) of the region's population was foreign-born, significantly higher than the national share of 11 percent. Among the nine largest metropolitan regions in the nation, the SCAG region had the highest share of foreign-born population of its total population.[2]

Furthermore, the region has very high concentrations of the nation's foreign-born population from Mexico and several Asian countries (Figure 8). For example, in 2000, while the region only had about six percent of the nation's total population, it had close to 25 percent of the nation's Mexican as well as Korean population. Also, about one in five Filipinos, Japanese or Vietnamese in the nation called Southern California their home.

Southern California also contains a higher concentration of people identified as mixed-race than the national average. In 2000, the mixed-race percentage was 4.7 percent in the region (with about 770,000 people) compared to only 2.4 percent in the nation. Among the nine largest metropolitan regions in the nation, the SCAG region had the second highest share of persons belonged to two or more races following the San Francisco Bay Area (see Figure 69 page 89).

Figure 9
Language Spoken at Home
(Population 5 Years and Over)

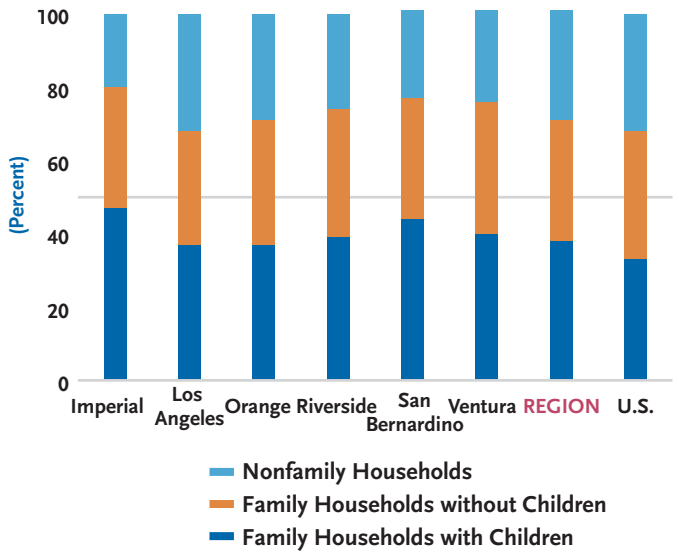


** Persons who speak a non-English language might also speak English at home.*
Source: 2000 Census

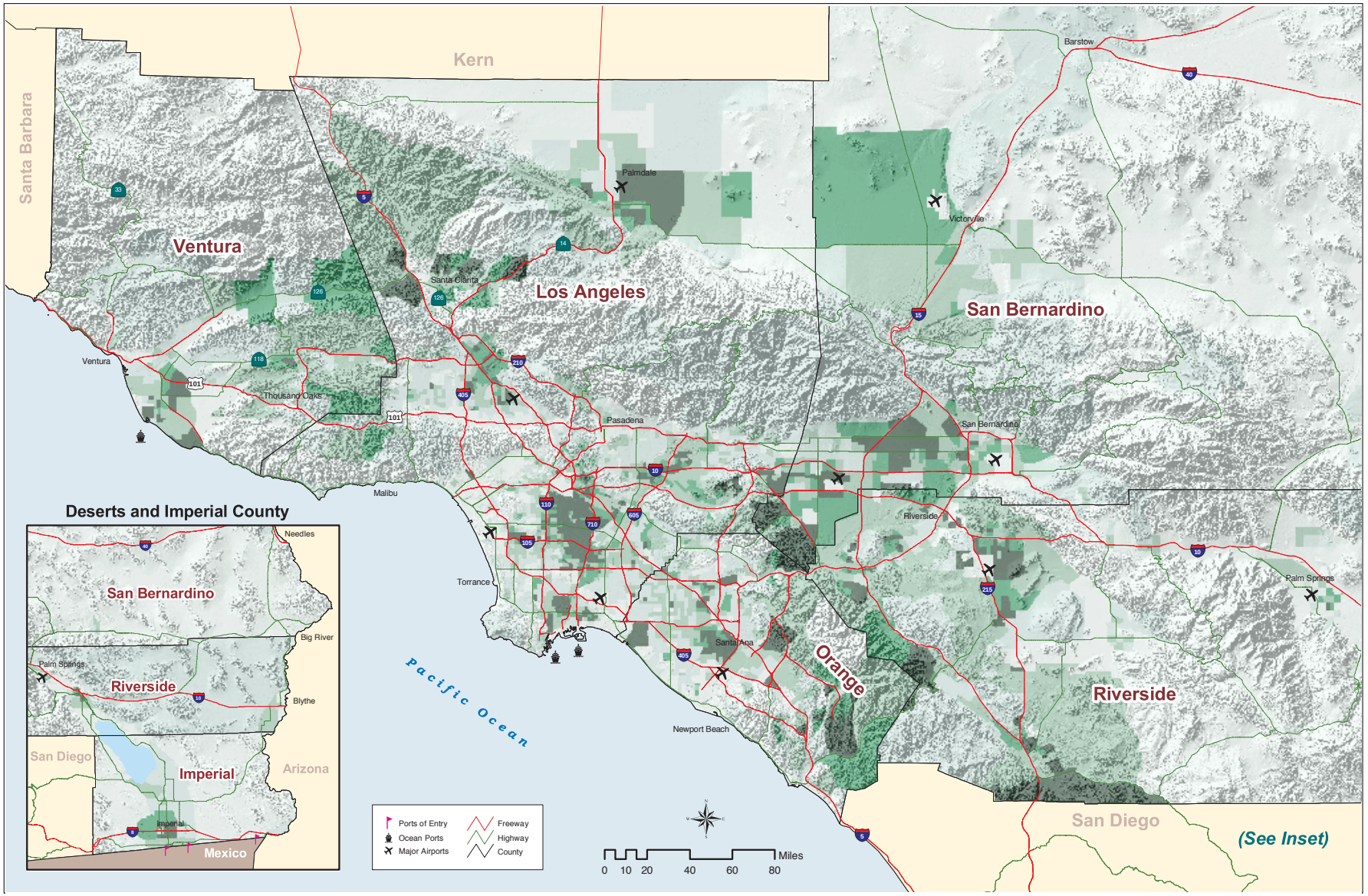
The demographic diversity in the region is also reflected in languages spoken at home (Figure 9). The use of Spanish at home ranged from 25 percent in Orange and Ventura counties, close to 40 percent in Los Angeles County and 65 percent in Imperial County, all significantly higher than the national average of just over ten percent. About ten percent of the residents in Los Angeles and Orange counties spoke an Asian language at home, also much higher than the national average of less than three percent.

In addition to the demographic diversity, Southern California also has different compositions of the various household types compared with the rest of nation (Figure 10). Specifically, compared with the national average, the region has a higher percentage of family households with children and lower percentages of family households without children as well as non-family households. (See Map 2 page 18 on family households with children.) Foreign-born households have a higher propensity to be family households with children than the native households. Hence, the significantly higher concentration of the foreign-born population results in a higher proportion of family households with children compared with the national average.

Figure 10
Household By Type



Source: 2000 Census



Percent of Households That were Family Households with Own Children by Census Tract

- 0% –30%
- 31% –40%
- 41% –50%
- 51% –55%
- 56% –100%

Source: Census 2000, Thomas Bros. Network

HOUSEHOLD BY TYPE
Family Households With Own Children Under 18 Years

SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

c:\r=state_region2003 11/2003

Map 2

The Economy

The Economy

Employment

Why is this important?

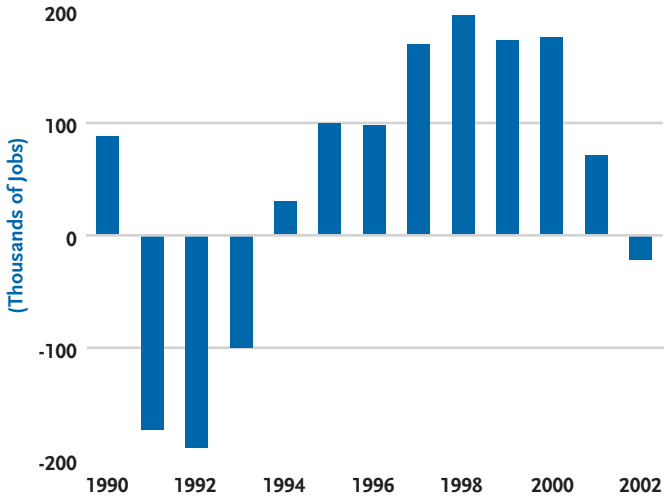
▲▲ The number, types and wage level of employment, in large part, determine our region's economic activities and well-being. For example, income generated through employment accounts for about 75 percent of the total personal income in the region.[1] ▲▲

How are we doing?

In the region, after gaining an average of more than 170,000 jobs per year from 1997 to 2000, job growth slowed significantly in 2001, adding only 70,000 jobs.[2] In 2002, the region suffered a loss of about 22,000 jobs, bringing total wage and salary jobs below 6.9 million (Figure 11).[3] *This was the first time that Southern California experienced job losses since the 1991-1993 period during which the region experienced the most severe recession since the Great Depression.* The 22,000 job loss was certainly very modest compared with the average loss of more than 150,000 jobs per year during the previous recession in the early 1990s. In 2002, due to the economic downturn, there were job losses throughout the nation including California. While the nation lost more than 1.4 million jobs, California lost almost 130,000 jobs mostly concentrated in the San Francisco Bay Area (Figure 12).

The rate of job loss in the region at 0.3 percent in 2002 was lower than that of the rest of the state (1.3 percent) and the nation (1.1 percent). For both 2001 and 2002, Southern California performed better relative to the rest of the state and the nation (Figure 13). During this cycle, the region's diverse economic base helped to dampen the downturn since it is not as dependent upon the high tech sector as other parts of California, particularly the Bay Area. This is in sharp contrast to the last recession when defense budget cuts hit the region hardest with its high concentration in the defense aerospace industry.

Figure 11
Wage and Salary Employment
Change from previous year



Source: California Employment Development Department

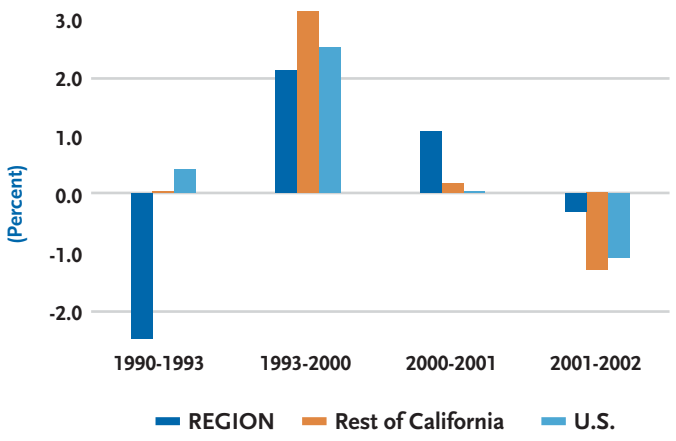
Figure 12
Wage and Salary Employment (000)

					2000-2001		2001-2002	
	1990	2000	2001	2002	Number	Percent	Number	Percent
Imperial	44.9	50.4	50.0	50.7	-0.4	-0.8	0.7	1.4
Los Angeles	4,142.2	4,079.8	4,082.0	4,041.5	2.2	0.1	-40.5	-1.0
Orange	1,179.0	1,396.5	1,420.8	1,410.7	24.3	1.7	-10.1	-0.7
Riverside/San Bernardino	735.2	1,010.1	1,050.7	1,078.7	40.6	4.0	28.0	2.7
Ventura	247.0	294.3	299.0	299.0	4.7	1.6	0.0	0.0
SCAG Region	**6,348.3**	**6,831.1**	**6,902.5**	**6,880.6**	**71.4**	**1.0**	**-21.9**	**-0.3**
Rest of California	6,515.1	8,065.6	8,079.0	7,972.0	13.4	0.2	-107.0	-1.3
California	12,863.4	14,896.7	14,981.5	14,852.6	84.8	0.6	-128.9	-0.9
U.S.	109,403.0	131,785.0	131,826.0	130,376.0	41.0	0.0	-1,450.0	-1.1

Source: California Employment Development Department and Council of Economic Advisers

Within the region, Los Angeles County lost more than 40,000 jobs in 2002 followed by Orange County with 10,000 jobs lost (Figure 12). *In 2002, total jobs in Los Angeles County were still below its 1990 level even while the county's population increased by 1.1 million.* Job growth in the Inland Empire (Riverside and San Bernardino counties) was substantially reduced to 28,000 in 2002, the lowest absolute increase since 1996, after averaging 45,000 net new jobs per year from 1996 to 2001. Ventura County's job base stayed flat during 2002 while Imperial County was the only county that experienced slight job growth.

Figure 13
Employment Change
(Annual Average)



Source: California Employment Development Department and Council of Economic Advisers

Employment by Sector

Why is this important?

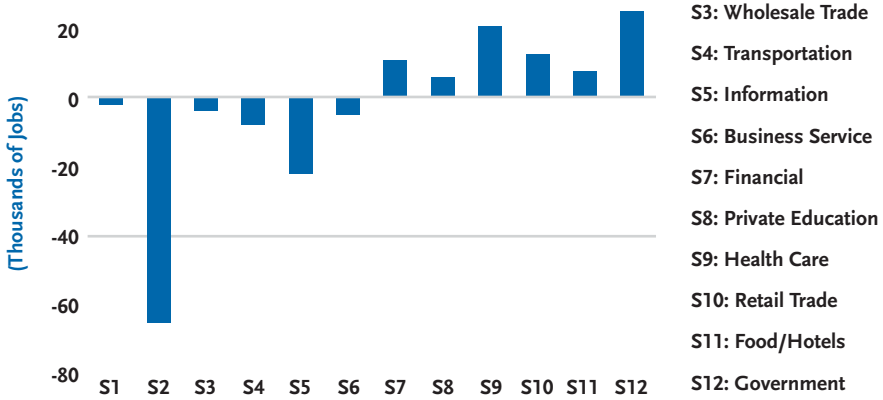
▲▲ Different economic sectors have different levels of wages as well as future growth potential in employment and income. Composition of occupations also vary among the different economic sectors. A more diversified regional economy will be less vulnerable to turbulent environments, such as recessions or disasters. ▲▲

How are we doing?

In 2002, six of the twelve major economic sectors suffered job losses in the region, including manufacturing, information, transportation, business services, wholesale trade and construction.[4] *Except for construction, all the other sectors with job losses are export-oriented sectors* (Figure 14). Job losses occurred mostly in the manufacturing sector with an almost 66,000 net job decline as further discussed below.

The information sector was the second major source of job losses of about 22,000 in the region in 2002. (This sector is a new classification and incorporates communications, publishing and motion picture production along with internet service providers.) Specifically, publishing industries, telecommunications and internet service providers reduced their payrolls by about 4,500 jobs each. Motion picture and sound recording is the region's largest information subsector with over 120,000 jobs.

Figure 14
Employment Change by Selected Sectors
(2001-2002)



** Information Sector includes communications, publishing, motion picture production, and internet service providers*

Source: California Employment Development Department

In addition, minor losses also occurred in construction, wholesale trade, transportation and warehousing and business service sectors. Construction, wholesale trade, and transportation and warehousing all lost jobs in the region for the first time since 1993. An increase in residential construction jobs was offset by a substantial slowdown on the non-residential side resulting in a net loss of 2,200 jobs for the construction sector. The business

services sector lost more than 5,000 jobs in 2002 with the largest losses occurring in employment services of temporary help agencies.

On the other hand, the government sector took the lead by adding almost 23,000 jobs with the majority comprised of additional local public school teachers. The current fiscal problems in state and local governments suggest this boom may be over. Health care is the second single source of job gains of about 21,000 in the region. Retail trade and hotel/food sectors together added another 20,000 jobs into the regional economy though the hotel subsector lost about 2,500 jobs. Private education followed the same pattern as public education employment, adding over 5,000 jobs in the region. Finally, the finance, insurance and real estate (FIRE) sector also had a solid 2002 largely on the back of the hot real estate market.

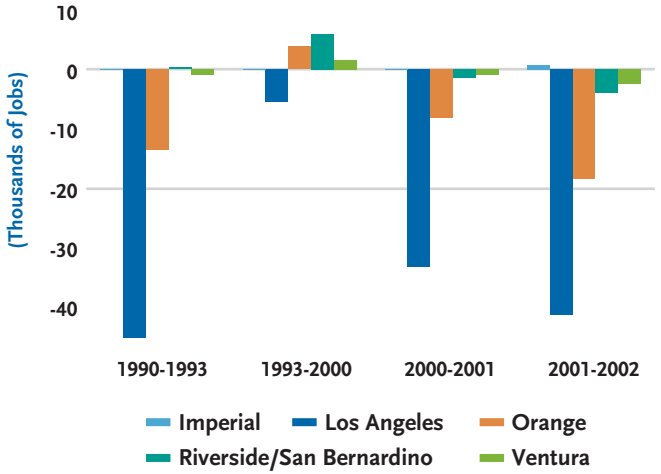
It should be noted that job increases in public (government sector) and private education, health care, retail trade and accommodation and food sectors are strongly influenced by growth in the school-age population as well as the overall population. The significant growth of population in the past two years contributed to the job gains in these sectors.

Manufacturing Sector

During the last recession, the manufacturing sector lost about an average of 60,000 jobs per year between 1991 and 1993 in Southern California (Figure 15). After some recovery from 1994 to 1998, the region's manufacturing sector began to decline again and the magnitude of loss accelerated during the past two years. Specifically, between 2000 and 2002, the region lost an average of 55,000 manufacturing jobs per year approaching the level during the earlier 1990s recession. It is important to note that the decline in manufacturing jobs is not unique to this region but part of the national trend.

Within the region, the Inland Empire lost manufacturing jobs for the first time in 2001 and the trend continued in 2002. In addition, Orange County experienced more losses in manufacturing jobs in 2002 than the average annual loss during the previous recession years.

Figure 15
Manufacturing Employment Change
(Annual Average)



Source: California Employment Development Department

Within the manufacturing sector, four subsectors suffered the highest losses in 2002. Specifically, the computer and electronic product subsector lost more than 11,000 jobs with the majority occurring in Orange County. The apparel manufacturing subsector lost 8,800 jobs mostly in Los Angeles County. The fabricated metal industry lost 8,600 jobs. Finally, the transportation equipment subsector lost 7,400 jobs with the majority occurring in aircraft manufacturing.

Unemployment

Why is this important?

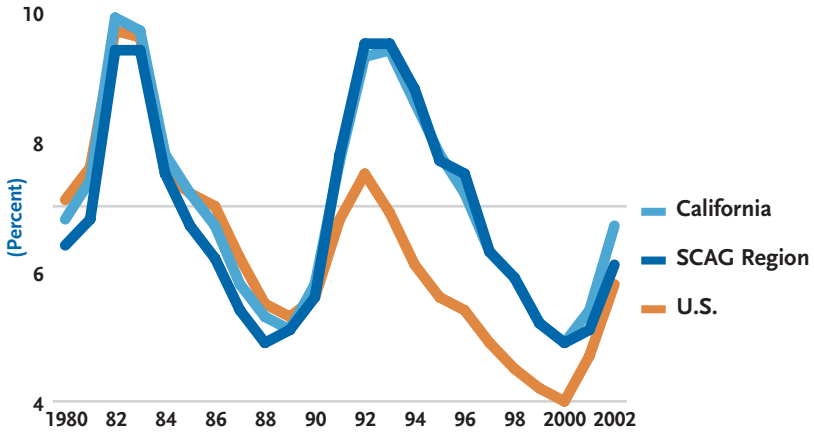
▲▲ Unemployment significantly impacts the economic and social well-being of individuals and families. People with higher unemployment rates will naturally have higher poverty rates. Places with higher unemployment rates would require higher levels of public assistance. ▲▲

How are we doing?

The unemployment rate in the region reached 6.1 percent in 2002, an increase of one percent from the previous year (Figure 16). The one-percent increase was slightly less than the increase at the state (1.3 percent) and national (1.1 percent) level. In 2002, there were more than half-a-million unemployed workers in the region, an increase from less than 400,000 just two years ago.[5]

In 2002, the unemployment rate at 6.1 percent in the region was slightly higher than the national average of 5.8 percent. This is in sharp contrast to the last recession during the early 1990s when the region's unemployment rates were generally significantly higher (about two percent) than the nation's. Since 1992, the unemployment rate gap between the region and the nation has continuously narrowed.

Figure 16
Unemployment Rate



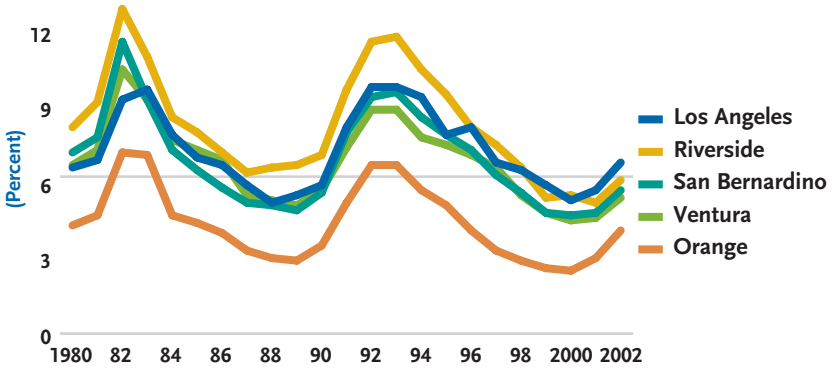
Source: California Employment Development Department

Within the region, every county except Imperial County experienced a higher unemployment rate in 2002 than they did in 2001. Imperial County has historically experienced much higher unemployment rates.

There were significant differences in unemployment rates among the racial and ethnic groups. In 2002, based on statewide data, the unemployment rate among African Americans and Hispanics was around 10 percent, while much lower unemployment rates were experienced by Asians (about 6 percent) and whites (about 5 percent).

Figure 17

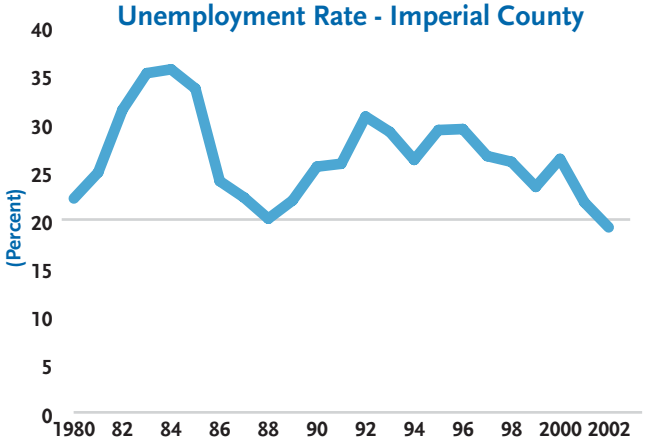
Unemployment Rate by County



Source: California Employment Development Department

Figure 18

Unemployment Rate - Imperial County



Source: California Employment Development Department

Average Payroll per Job

Why is this important?

▲▲ The average payroll per job provides an indication of the overall quality of jobs available in the region. Higher average payroll per job contributes to higher per capita income. ▲▲

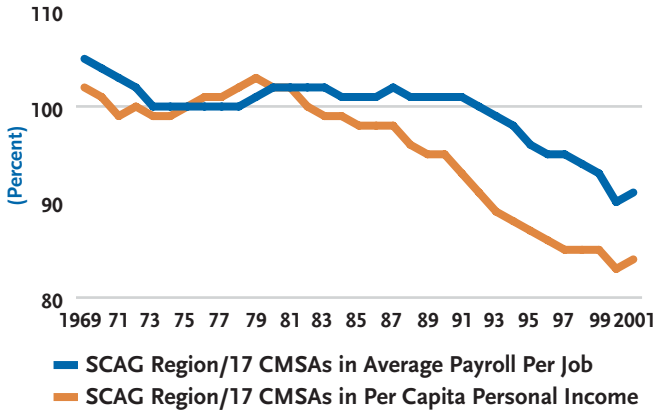
How are we doing?

In 2001 (the most current data available), the average payroll per job in the region decreased slightly by 0.3 percent after adjusting for inflation. Among the nine largest metropolitan regions in the nation, the SCAG region ranked 5th in the growth of average payroll per job (see Figure 70 page 90). The San Francisco Bay Area suffered a sharp decline of 8.6 percent in its average payroll per job. *In 2001, the SCAG region ranked last in average payroll per job among the nine largest metropolitan regions* (see Figure 71 page 90).

Though the 2002 payroll data is still not available, sectors with significant job losses in the region, such as manufacturing and information sectors, had higher than average payrolls per job. Hence, average payroll per job in the region was likely to continue to decline in 2002.

Prior to 1992, the region maintained an average payroll per job at or above the average of the 17 largest metropolitan regions (Figure 19). *Since 1992, the average payroll per job in the SCAG region has been declining relative to the average of the 17 largest metropolitan regions. In 2001, the SCAG region's average payroll per job was 91 percent of the average of the 17 largest metropolitan regions, though a slight improvement from the 90 percent level in 2000.* The slight improvement in 2001 was primarily due to the decline in high-tech regions particularly in the San Francisco Bay Area as well as the much slower growth in the New York metropolitan region.

Figure 19
SCAG Region vs. 17 Largest Metropolitan Regions*
(Average Payroll Per Job and Per Capita Personal Income)



** Defined as the CMSAs (Consolidated Metropolitan Statistical Areas)*
Source: U.S. Bureau of Economic Analysis

Income

Why is this important?

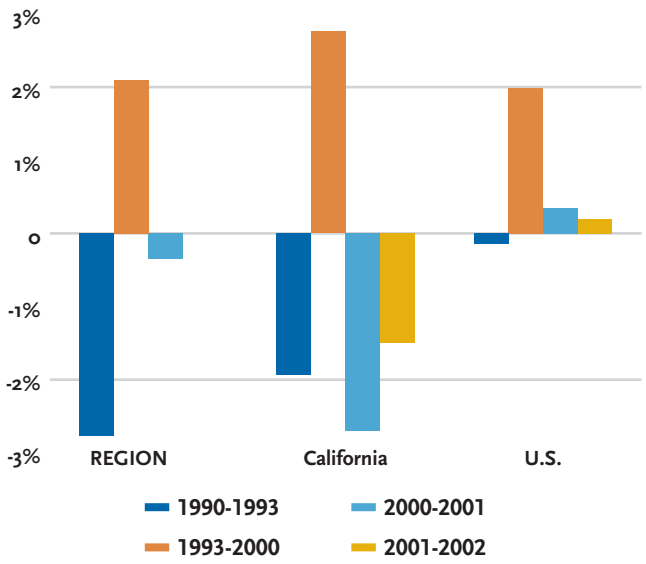
▲▲ Per capita income is one of the most important indicators of economic well-being. An increase in per capita income is generally associated with improving social and economic indicators such as reduced poverty and an increase in educational attainment. A higher income level not only provides more resources for current consumption but also enhances future opportunities. An area's income level also provides an indication of its ability to provide services to its population. ▲▲

How are we doing?

In 2001, the region's real personal income per capita (with inflation adjustment) declined slightly by 0.3 percent (Figure 20). This was the first time since 1993 that the region suffered an absolute decline in real per capita income. Nationally, real personal income per capita grew slightly by 0.3 percent. Nevertheless, the region performed less badly than the average of the nine major metros (-1.4%) and the state average (-2.7%), both of which were impacted by the significantly bad performance of the San Francisco Bay Area with a 7.9 percent decline (see Figure 72 page 91).

In 2002, real personal income per capita for the nation grew only 0.2 percent, down from an increase of 0.3 percent in 2001. This was the second consecutive year of slowing growth. In 2002, real personal income per capita for California continued to decline by 1.5 percent. Though per capita personal income data in 2002 for the region is not available, with overall job decline

Figure 20
Growth of Real Personal Income Per Capita
(Annual Average)



Note: The 2002 data for the SCAG region is scheduled for release in May 2004 by the U.S. BEA..

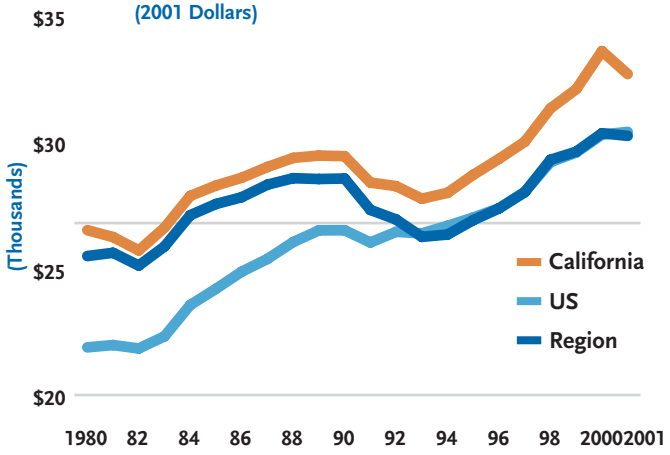
Source: U.S. Bureau of Economic Analysis

(including significant job losses in high-wage sectors) as well as a significant population increase, the region's performance in real per capita income in 2002 is likely to decline further.[6]

In 1980, real personal income per capita in the SCAG region ($25,628) was significantly above the national average ($21,886), and just below the state average ($26,525). However, in 2001, the region's per capita income ($30,256) fell below the national average ($30,308) and significantly below the state average ($33,610). Metropolitan regions, with their cost of living higher than that of the nation, need to generate per capita income higher than the national average to maintain the same standard of living. Among the 17 largest metropolitan regions, only the SCAG region and Miami region had their per capita incomes below the national average.

Among the 17 largest metropolitan regions in the nation, the SCAG region's ranking of per capita income remained at 16th in 2001 and is expected to remain there in 2002 also (after dropping from the 4th highest in 1970 to 7th highest in 1990, and 16th place in 2000) (see Figure 73 page 91). *Since 1981, the SCAG region's per capita personal income has been below the*

Figure 21
Real Personal Income Per Capita
(2001 Dollars)



Source: U.S. Bureau of Economic Analysis

average of the 17 largest metropolitan regions and the gap has been increasing. In 2001, per capita personal income in the SCAG region was 84 percent of the average of the 17 largest metropolitan regions, though a slight improvement from the previous year (see Figure 19 page 26). Nevertheless, the long-term trend of decline relative to other metropolitan regions may continue challenge the region, because some of the fundamental factors remain the same. These factors include the continuing loss of high wage manufacturing jobs and the overall lower educational level of the work force in the region.

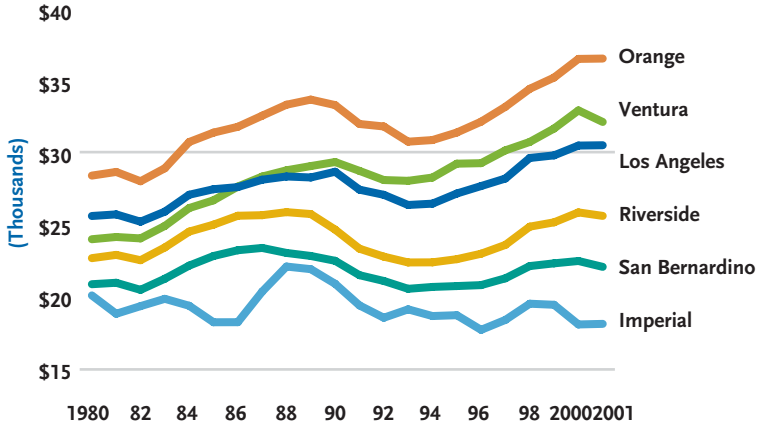
Within the region, real personal income per capita in 2001 dropped in Ventura, Riverside and San Bernardino counties (Figure 22). In 2001, both the real per capita incomes in San Bernardino and Imperial counties were lower than their respective 1990 levels. Orange County continued to have the highest per capita personal income while Imperial County the lowest.

Household Income

Nationally, median household income in 2002 was 1.1 percent lower than in 2001, after adjusting for inflation.[7] This is the second consecutive annual decline of real median household income. In California, the median household income decline appeared more pronounced than that for the nation as a whole, dropping 1.5 percent ($725) from 2001.

While median household income declined modestly at the national level in 2002, recent immigrants and minority households experienced much higher impacts. For example,

Figure 22
Real Personal Income Per Capita by County
(2001 Dollars)



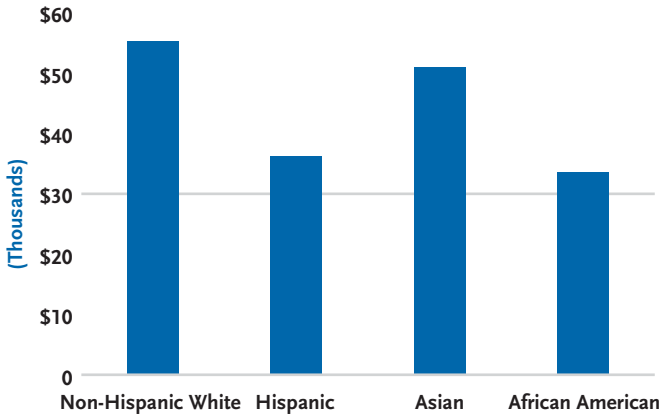
Source: U.S. Bureau of Economic Analysis

households of non-citizen immigrants experienced a 3.9 percent decline in their household income, much higher than the 1.1 percent national average.[8] In addition, median household income of African American households fell between 2.5 and 3 percent, for Hispanic households 2.9 percent and for Asian and Pacific Islander households between 4 and 4.5 percent.

Within the region, median household income declined between 1990 and 2000, which was contrary to the national trend.[9] (See Map 3 page 33 on median household income changes between 1990 and 2000.) *Recent Census surveys indicated that the region experienced no growth in median household income from 2000 to 2002 (Figure 33 page 39).*

There were significant income disparities among the region's different racial and ethnic groups. For example, based on the 2000 Census, the median household income for non-Hispanic Whites was over $55,000 and for Asians over $50,000 while for Hispanics just over $36,000 and for African Americans it was less than $34,000 (Figure 23).

Figure 23
Median Household Income by Race/Ethnicity



Source: 2000 Census

Poverty

Why is this important?

▲▲ The poverty rate measures the proportion of a population that has an income below the poverty line and therefore lacks the economic resources needed to support a minimum acceptable standard of living. The poverty line is adjusted for family size. Poverty not only results in current economic hardship, but also limits an individual's and family's future development opportunities. A higher poverty rate is both a cause, as well as an outcome, of lower educational attainment and higher unemployment rates. The extent of poverty also reflects the need for various kinds of public assistance.

Poverty among children is of particular concern. Poverty in childhood is associated with a higher risk for dropping out of school, poor health, teenage pregnancy and a long-term economic disadvantage as adults. ▲▲

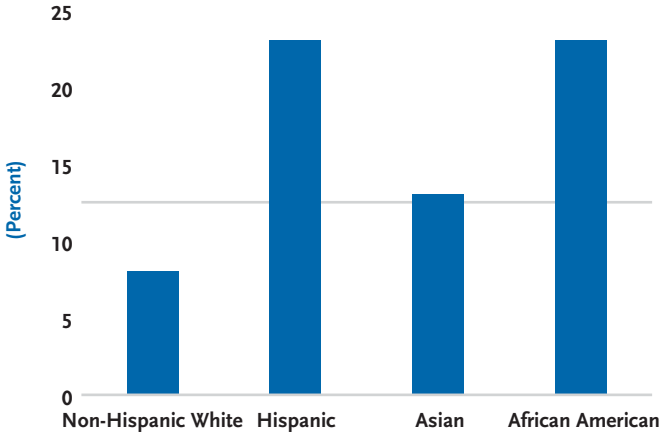
How are we doing?

In 2002, a family of four earning less than $18,244 a year is classified as living in poverty, compared with $14,348 for a family of three; $11,756 for a family of two; and $9,183 for unrelated individuals.[10] Poverty rates increased both in the nation and the state in 2002. Nationally, the poverty rate increased from 11.7 percent in 2001 to 12.1 percent in 2002 for all persons, while the poverty rate for children stayed at 16.7 percent.[11] In California, the poverty rate increased from 12.6 percent to 12.8 percent.

Once again, minority households were impacted disproportionately based on national data. For example, the poverty rate among African American households rose from 22.7 percent in 2001 to about 24 percent in 2002, a 1.3 percent increase that was much higher than the 0.4 percent increase at the national level.[12]

The 2000 Census found the region had the highest poverty rate among the nine largest metropolitan regions in the nation. Almost one in six persons in the region was in poverty.[13] In addition, from 1990 to 2000, except for Washington, DC area, Southern California was the only large metropolitan region where population living in high poverty neighborhoods increased, contrary to the national trend of significant reductions.[14] Recent Census surveys indicated that the poverty rate in the region remained unchanged from 2000 to 2002.[15]

Figure 24
Povery Rate by Race/Ethnicity



Source: 2000 Census

There were significant disparities in poverty rates among the region's different racial/ethnic groups (Figure 24). For example, based on the 2000 Census, poverty rates among Hispanic and African American households reach 23 percent while only 8 percent for non-Hispanic White households.

Taxable Sales

Why is this important?

▲▲ Taxable sales provide important revenue sources for state and local governments and special districts. While employment and income are measures on the production side, taxable sales measure the level of consumption activities. Taxable sales tend to follow closely with trends in personal income, job market and consumer confidence. ▲▲

How are we doing?

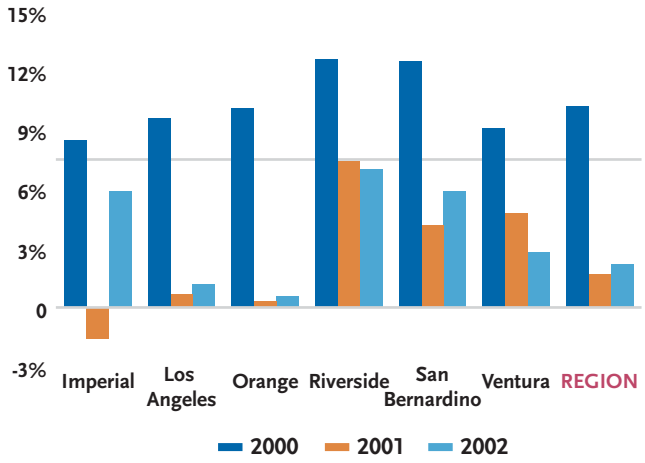
In 2002, total taxable sales in the region reached over $205 billion. More than half of the region's taxable sales was from Los Angeles County ($109 billion). Taxable sales in Orange County ($45 billion) in 2002 were almost the same as in the previous two years.

During both 2001 and 2002, because of the economic slowdown, taxable sales in the region increased by about 2 percent per year, after achieving a 10-percent annual growth in 2000 (Figure 25).[16] The rate of annual taxable sales increases in 2001 and 2002 in the region were the smallest since 1993. Within the region, Orange and Los Angeles counties experienced the lowest rates of growth in taxable sales in 2002. In the Inland Empire, growth of taxable sales continued in 2001 and 2002 though at a much modest pace than in 2000.

Figure 25

Taxable Sales

(Change from Previous Year)



Source: California State Board of Equalization

International Trade

Why is this important?

▲▲ International trade includes export and import activities that create job opportunities and bring income into the region. Though exporting goods produced in Southern California generates higher net economic benefits for the region, imports can create economic benefits too. The region's role as a major transshipment center linking domestic and global markets is also of national and international significance. ▲▲

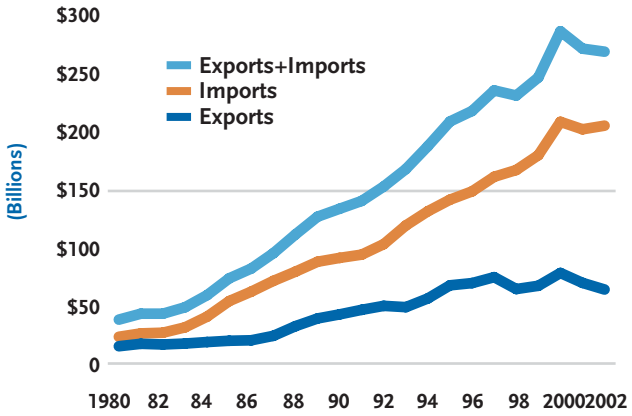
How are we doing?

Since 1980, international trade has played an increasing role in the region's economy. For example, total trade through the Los Angeles Customs District (LACD) increased from less than $40 billion in 1980 to $267 billion in 2002, an increase of more than six times (Figure 26). The region's direct employment in international trade also increased from about 170,000 in 1980 to 440,000 in 2002.[17] During the same period, the share of the LACD's trade value of the U.S. total grew from about 8 percent to over 14 percent. The region's prominence in international trade has been fostered through its large domestic market, global ties through its growing Asian and Hispanic communities, strategic location and excellent trade infrastructure serving the rest of the nation.

Figure 26

Exports and Imports - LA Customs District

(Current Dollars)



Source: U.S. Census Bureau

Total trade through the LACD declined slightly from $270 billion in 2001 to $267 billion in 2002 (Figure 26). The $3 billion decline was much more modest than the $15 billion drop during 2000-2001. The decline in 2002 was completely due to exports (-6 billions) since import through the LACD actually increased by $3 billion. The increase of imports during an economic down-turn was because an increasing share of the U.S. manufacturing activities have moved overseas.

The shares of the LACD's export of the U.S. total have been between 9 and 10 percent for the past five years while shares of imports have been between 17 and 18 percent (Figure 27). The share of LACD's total trade of the U.S. total has remained around 14.5 percent since 1998. In 2002, the LACD also reclaimed the number one ranking in the U.S in terms of total trade value, surpassing the New York Customs District.

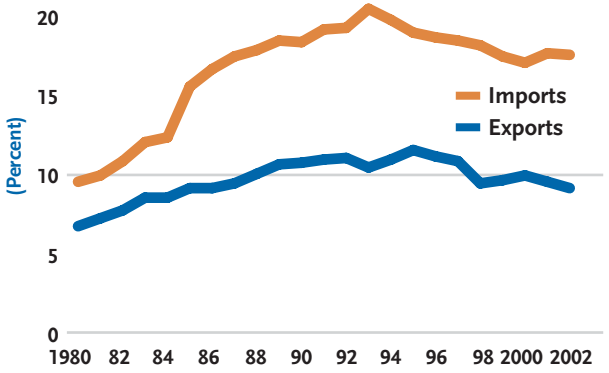
Asian countries dominated both imports (86 percent) as well as exports (72 percent) through the LACD.[18] In 2002, China surpassed Japan as Southern California's leading trade partner. Other major trade partners included South Korea, Taiwan and Malaysia.

Finally, between Imperial County and Mexico, trade by truck increased from $7.2 billion in 2001 to $8.3 billion in 2002. Among the total trade in 2002, about $4.8 billion were exports and $3.5 billion were imports.[19]

Figure 27

Exports and Imports - LA Customs District

(Percent of US)



Source: U.S. Census Bureau

Percent Change of Median Household Income (Adjusted for Inflation) Between 1990 and 2000 by Census Tract

- Decreased
- 0% – 10%
- 11% – 50%
- 51% – 100%
- Over 100%

Source: Census 2000, Thomas Bros. Network

MEDIAN HOUSEHOLD INCOME
Change Between 1990 and 2000

SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

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Map 3

Housing

HOUSING

Housing Construction

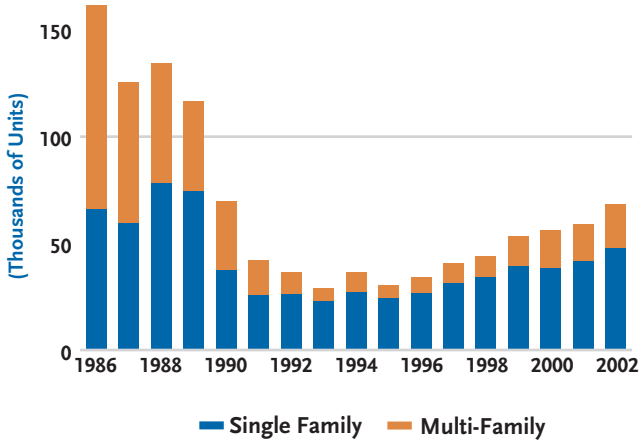
Why is this important?

▲▲ The magnitude of housing construction, population growth and new households are major determinants of housing prices. Different geographical distributions of new housing result in different needs for support infrastructure and services. The residential construction industry is also an important source of employment and corporate profit in the region. ▲▲

How are we doing?

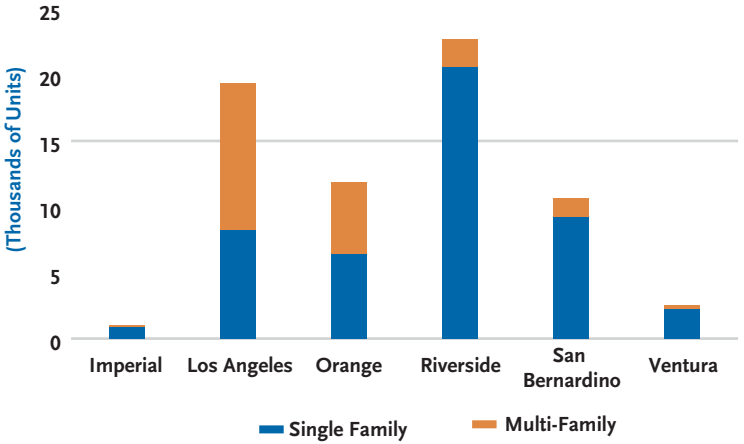
In 2002, the region experienced the largest number of building permits issued (68,000 units) as well as the largest increase (10,000 units) in one year since 1990 (Figure 28). Building permit increases occurred in every county in the region except for Ventura County. Among the total permits issued, the Inland Empire counties accounted for about a half, an increase from the 38 percent share just five years ago.

Figure 28
Residential Building Permit Activity



Source: Construction Industry Research Board

Figure 29
Residential Building Permits by Housing Types, 2002

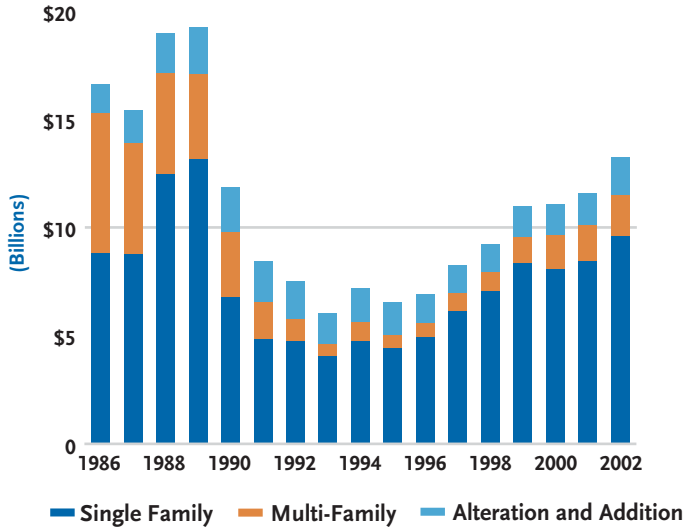


Source: Construction Industry Research Board

Only about 30 percent of the total permits issued were for multi-family housing. However, within the region, there were significant differences among counties. Specifically, in Los Angeles County, close to 60 percent of the permits were for multi-family housing while in Orange County this figure was close to 50 percent (Figure 29). However, in the remaining four counties, 85 to 90 percent of the total permits were for single-family housing construction.

Total valuation of the permits in 2002 reached over $13 billion with the largest annual increase of $1.7 billion since 1987 (Figure 30). While the housing construction industry in the region almost collapsed during the last recession from 1990 to 1993, it has been serving as an important stabilizing force to the regional economy since the 2001 recession. In addition to the valuation of building permits, cash-out refinancing pumped an estimated $97 billion from home equity back into the economy at the national level in 2002. Southern California is expected to have at least its share.

Figure 30
Valuation of Residential Building Permits



Source: Construction Industry Research Board

Homeownership

Why is this important?

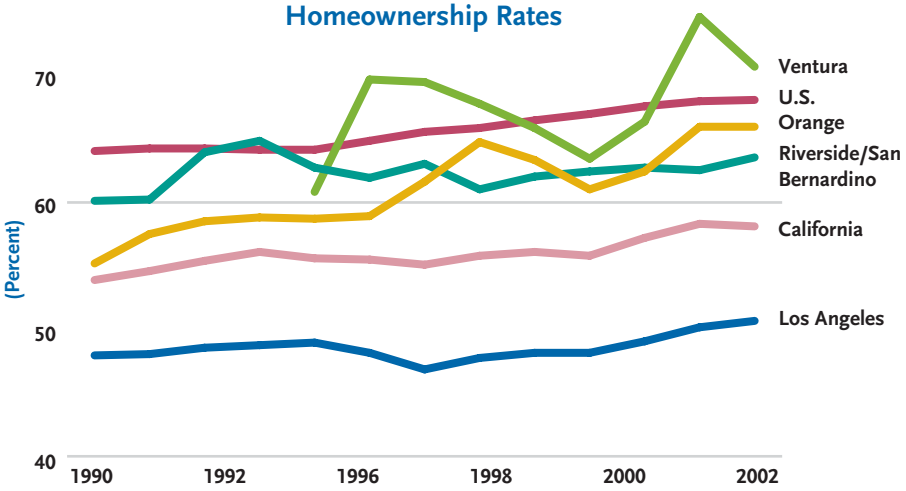
▲▲ Owning one's home has long been considered an important part of the American Dream. In addition, the equity generated from homeownership represents almost 45 percent of total household wealth. Higher homeownership rates also help to improve neighborhood stability. ▲▲

How are we doing?

In 2002, there were slight increases in homeownership rates in the region, particularly in Los Angeles and Riverside/San Bernardino counties partly due to the 40-year-low mortgage rates (Figures 31 and Figure 31a page 106). However, the region's homeownership rate of about 55 percent was still well below the national average of 68 percent. Except for Ventura County, every county in the region had homeownership rates below the nation average.

There was a significant disparity in homeownership among different racial and ethnic groups. For example, 42 percent of African Americans and 45 percent of Hispanics in the region owned their homes in 2000, compared to 60 percent of Asians and 69 percent of non-Hispanic Whites.[1]

Figure 31
Homeownership Rates



Source: U.S. Census Bureau. Ventura County annual data started from 1994. Imperial County's homeownership rate was 58 percent in both 1990 and 2000, other annual data unavailable.

Among the nine largest metropolitan regions in the nation, Detroit and Philadelphia had homeownership rates over 70 percent that were higher than the national average. Only three regions had rates below 60 percent including San Francisco, the SCAG region and New York. It should be noted that these three regions also had the highest share of foreign-born among their total population ranging from 24 percent (New York) to 31 percent (SCAG region).[2]

Housing Affordability

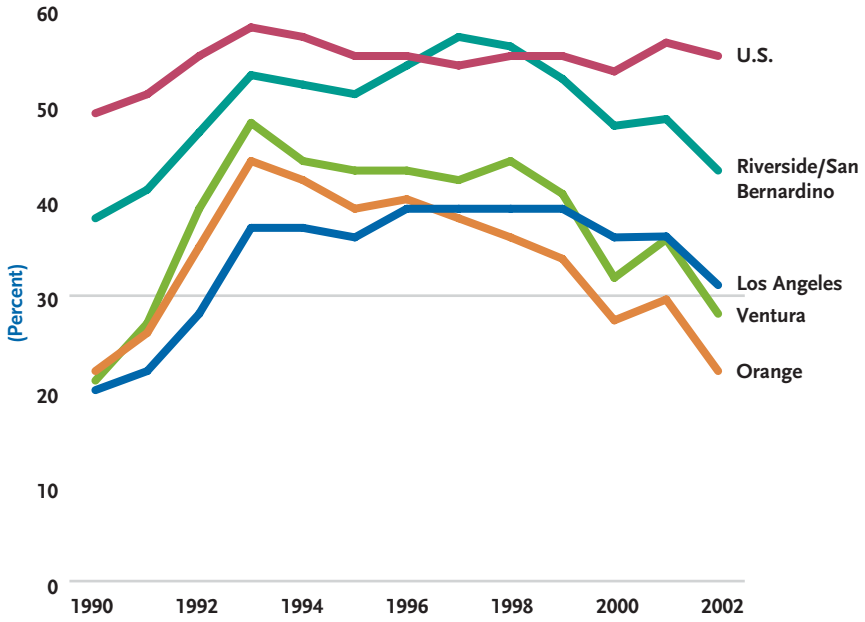
Why is this important?

▲▲ Housing affordability provides an indication of the level of burden from housing expenses. Housing expenses constitute the largest share of household expenditures among all consumption items. When a household spends too much on housing, there is not enough left to meet other household needs, such as transportation, healthcare or education. Housing affordability also affects decisions as to where to live. Hence, housing affordability is an indicator reflecting the fundamental well-being of households. In addition, it also influences business decisions to locate or expand in the region. Lack of affordable housing will result in a weakening of our region's attractiveness and competitiveness. ▲▲

How are we doing?

Based on the 2000 Census, among the nine largest metropolitan regions in the nation, Southern California had the highest percentage of owner households spending 30 percent or more of household income on housing.[3] *In 2002, housing affordability in the region further declined in its coastal as well as inland counties.* For example, in Los Angeles County, the share of households who can afford a median-priced home dropped from 36 percent in 2001 to 31 percent in 2002, while it dropped from 30 percent to 22 percent in Orange County. In the Inland Empire counties, the corresponding share also dropped from 48 to 43 percent between 2001 and 2002 (Figure 32). *In 2002, every county experienced lower housing affordability than the national average and the gaps have continued to widen since 1997.* While more than

Figure 32
Housing Affordability
(Percent of Households Who Can Afford to Purchase a Median-Priced Home)

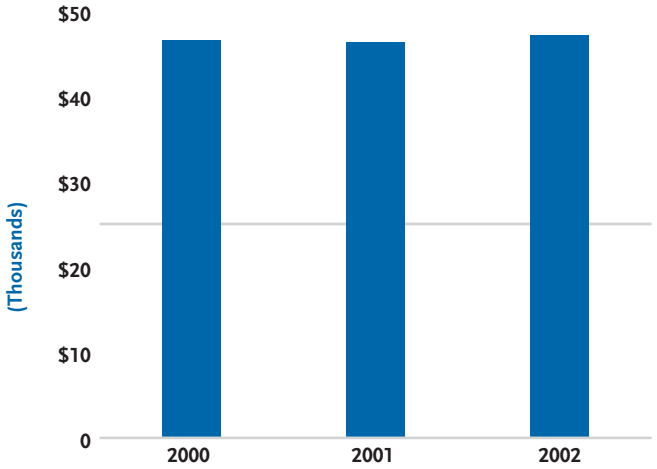


** Data for Imperial County is not available.*
Source: California Association of Realtors

half of the nation's households could afford a median-priced house in 2002, less than a third of the region's households could achieve the same.

Housing affordability is generally impacted by household income, home prices and mortgage interest rates. *During 2002, sharp increases in home prices and lack of growth in household incomes offset gains from lower interest rates, making housing less affordable.* There has been a lack of growth in median household income in the region since 2000, after a slight decline during the 1990s (Figure 33). However, average home prices in the region reached historical peaks in 2002 in almost every county (Figure 34). Since 1998, after recovering from the losses during the previous recession, average home prices had increased between 6 and 7 percent per year up to 2001. In 2002, partly because of lower mortgage interest rates, average home prices in the region increased by 12 to 14 percent.

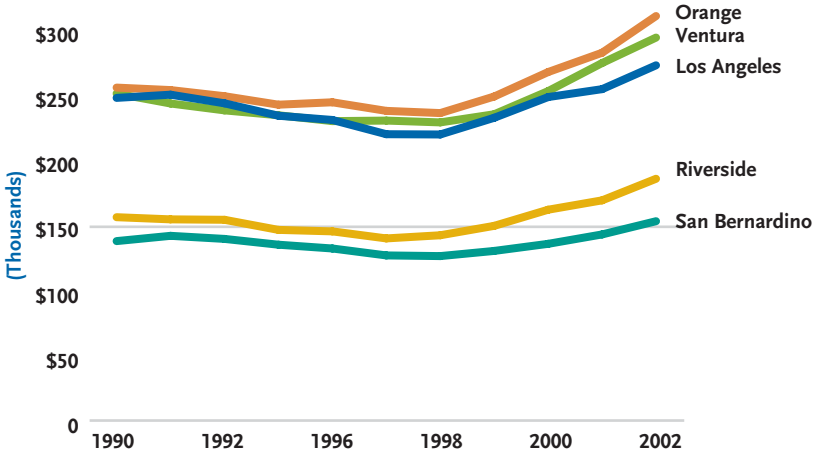
Figure 33
Median Household Income*
(2002 Dollars)



** U.S. Census Bureau determined that, in the SCAG Region, median household income differences among the three years above were not statistically significant considering sample size.*

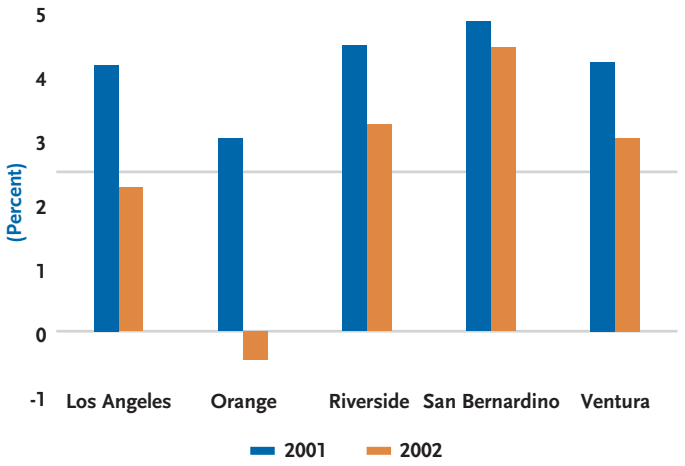
Source: U.S. Census Bureau

Figure 34
Average Home Price
(New and Existing in Current Dollars)



Source: Real Estate Research Council of Southern California

Figure 35
Average Monthly Rent
(Change from Previous Year)



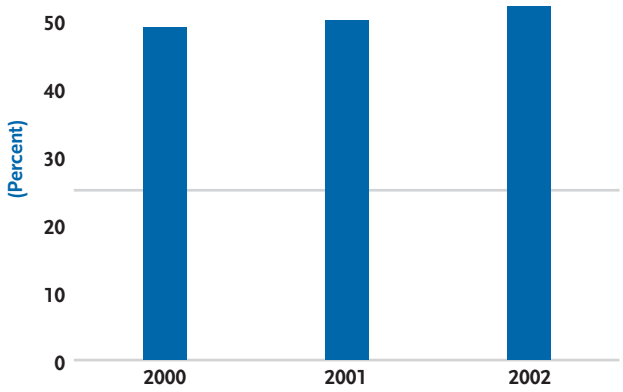
** With inflation adjustment*
Source: Real Estate Research Council of Southern California

Based on the 2000 Census, among the nine largest metropolitan regions in the nation, the SCAG region also had the highest percentage (43 percent) of rental households with monthly rent at or greater than 30 percent of household income (see Figure 74 page 92). (Also see Map 4 page 42 on renter occupied housing.) Between 2000 and 2002, average rents in the region increased generally between 3 and 4 percent per year after adjusting for inflation (Figure 35). With no growth in household income, the rental cost burden has continued to rise. *In 2002, among the approximately 7.2 million renters in the region, 52 percent or more than 3.6 million renters spent 30 percent or more of their income on rent* (Figure 36).

Figure 36

Rental Cost Burden

(Renters Paying 30 Percent or More of Household Income on Rent)



Source: U.S. Census Bureau

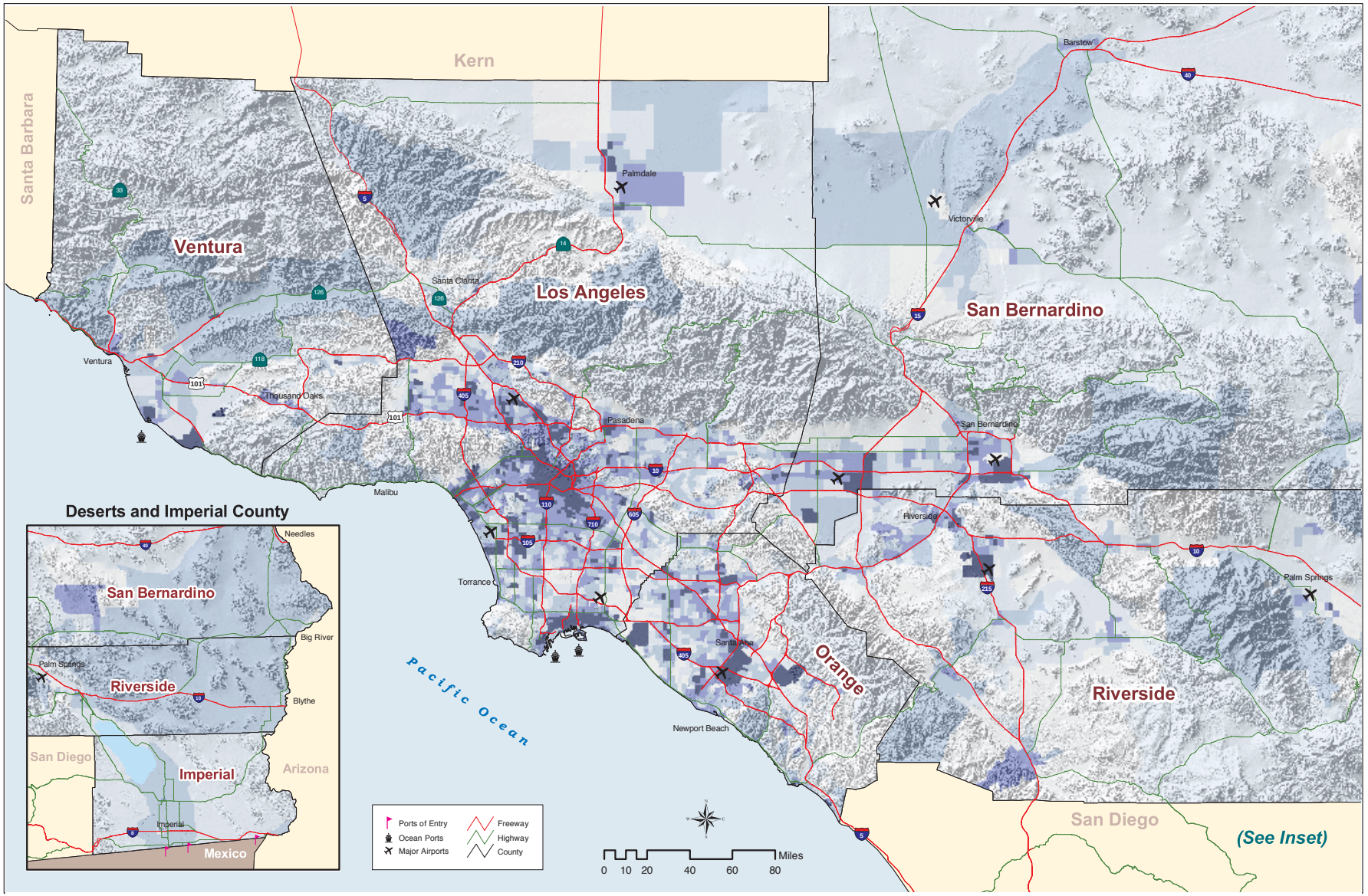
Housing Crowding

Why is this important?

▲▲ Housing crowding measures the percent of housing units with more than one person per room, including all rooms except bathrooms. It provides indications on housing shortage and housing affordability. Lack of affordable housing will lead to higher levels of housing crowding. ▲▲

How are we doing?

In 2000, the region had the highest rate (20 percent) of crowded housing among the nine largest metropolitan regions, significantly above the second highest of 11 percent in the Bay Area.[4] Between 2000 and 2002, partly due to the slight increase in the homeownership rate, the share of crowded housing in the SCAG region was reduced by 0.6 percent.[5]



Percent of Housing that were Renter Occupied by Census Tract

- 0% – 15%
- 16% – 30%
- 31% – 50%
- 51% – 75%
- 76% – 100%

Source: Census 2000, Thomas Bros. Network

RENTER OCCUPIED HOUSING

SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

o:\r=state_region2003 11/2003

Map 4

Transportation

TRANSPORTATION

Highway Use and Congestion

Why is this important?

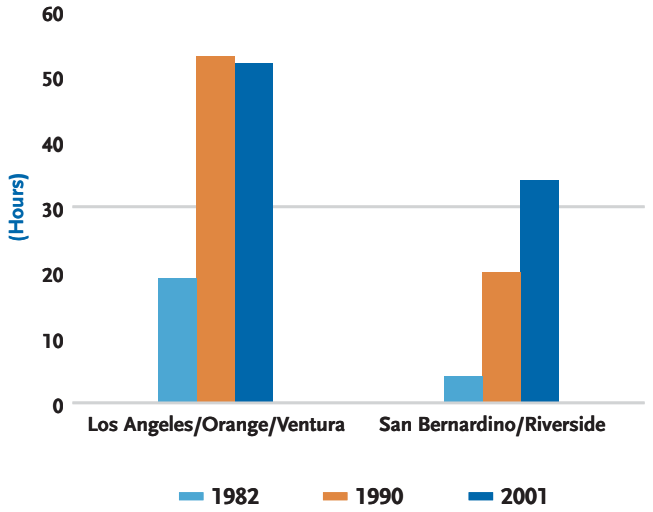
▲▲ Highway congestion causes delay resulting in increased economic and social costs. In addition, congestion impacts the air quality in the region. The number of vehicle miles traveled (VMT) indicates the overall level of highway and automobile usage, and is directly related to mobile source emissions. ▲▲

How are we doing?

From 1990 to 2001, the region consistently ranked as the most congested metropolitan region in the nation. Congestion is measured by indicators such as annual delay per person. For example, residents in the region incurred a total of 50 hours of delay per person due to traffic congestion in 2001, the highest among the metropolitan regions in the nation (see Figure 77 page 93). Nevertheless, between 1990 and 2001, annual delay per person stayed almost unchanged in the SCAG region while increased significantly in other large metropolitan areas. In addition, total cost incurred due to congestion in the SCAG region was $13.8 billion in 2001, significantly higher than any other metropolitan regions in the nation (see Figure 78 page 94).

Within the region, residents in the coastal counties (Los Angeles, Orange and Ventura) experienced a total of 52 hours of delay per person in 2001 versus 34 hours of delay in San Bernardino and Riverside counties (Figure 37). Since 1990, annual delay per person in the Inland Empire has increased by 70 percent (from 20 to 34 hours) while delay per person in the three coastal counties has been more stable. This is partly because that total licensed drivers increased by 26 percent in the Inland Empire compared to 7 percent in the three coastal counties during the past decade.[1]

Figure 37
Annual Delay Per Person



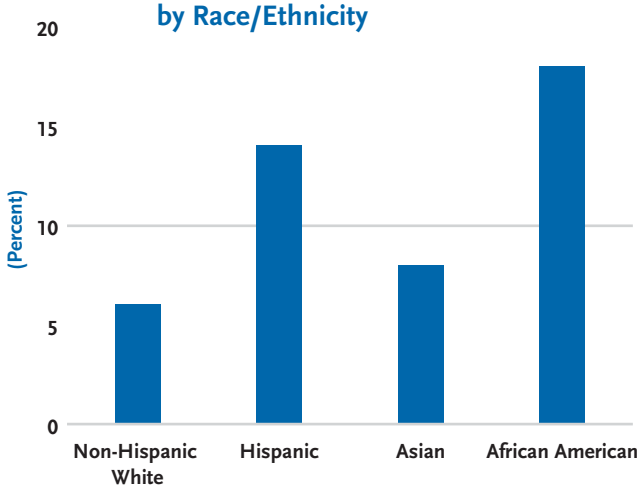
Source: Texas Transportation Institute

In 2001, total vehicle miles traveled (VMT) in the region reached over 144 billions which was almost the same as in 2000.[2] Between 1990 and 2000, total VMT increased about 13 percent, a sharp decline from the 71 percent growth during the 1980s.[3] One factor that contributed to the recent slower growth of total VMT in the region is the decline of automobile ownership rates, contrary to the increasing trend at the national level. For example, between 1991 and 2001, the number of vehicles per licensed driver declined throughout the region while increased at the national level (see Figure 37a page 106). Among the nine largest metropolitan regions, Southern California was the only region where the percentage of households who owned at least one vehicle decreased during the 1990s (see Figure 79 page 94). Declining household income in the region is a primary factor for the declining vehicle ownership rates.

Based on the 2000 Census, the region had significantly higher percentages of African American (18 percent) and Hispanic households (14 percent) without owning a vehicle than non-Hispanic White (6 percent) and Asian (8 percent) households (Figure 38). Since public transit only plays a very limited role in providing overall mobility, declining vehicle ownership rates are likely to widen the personal mobility gaps and hence exacerbate the social and economic disparities in the region.

As to the use of automobiles in the region, vehicle driver trips per household decreased slightly from 5.4 to 4.7 per day between 1991 and 2001. In addition, average vehicle occupancy increased for all trips regardless of trip purpose. From 1991 to 2001, average vehicle occupancy for all personal vehicle trips in the region increased from 1.46 to 1.58.[4]

Figure 38
Households Without a Vehicle by Race/Ethnicity



Source: 2000 Census

Highway Fatalities

Why is it important?

▲▲ Transportation accidents are the ninth leading cause of death in the United States. *Highway accident fatalities in the nation, about 42,000 deaths in 2000, accounted for about 95 percent of transportation-related deaths. Highway accidents are the leading cause of death for people between ages of 4 and 33.*[5] Highway accidents also accounted for close to half of the total annual delay from the region's highway system. ▲▲

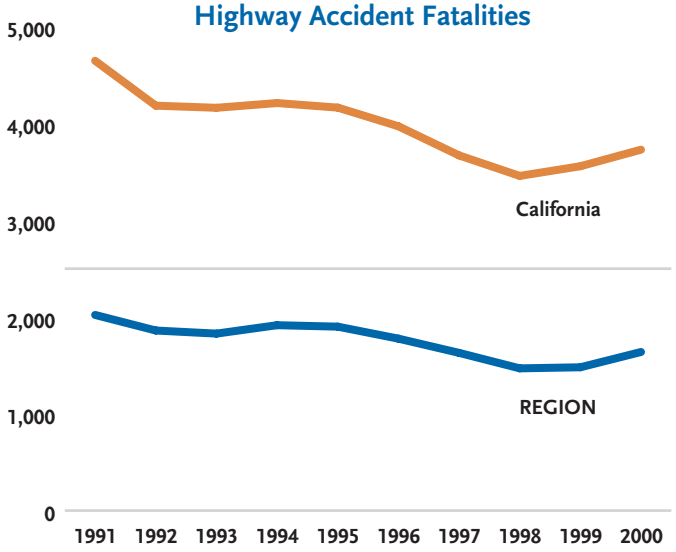
How are we doing?

In 2000, motor vehicle crashes in the region resulted in 1,639 fatalities, or more than 4 deaths per day (Figure 39). This was a significant increase from the previous two years at approximately 1,470 fatalities. However, the region's fatality level in 2000 was still well below that in 1991. Crashes involving large trucks alone in the region resulted in 155 fatalities in 2000. *The region's highway accident fatality rate in 2000 was 1.13 persons per 100 million vehicle miles, which was significantly higher than the national average (0.94 persons per 100 million vehicle miles) for urban areas.*[6]

Human behavior, such as alcohol and drug use, careless operation of vehicles, is a major factor contributing to a high proportion of crashes. Close to 80 percent of highway fatalities involved occupants of passenger cars and light trucks. The remaining fatalities included primarily pedestrians, motorcyclists, bicyclists and large truck occupants.

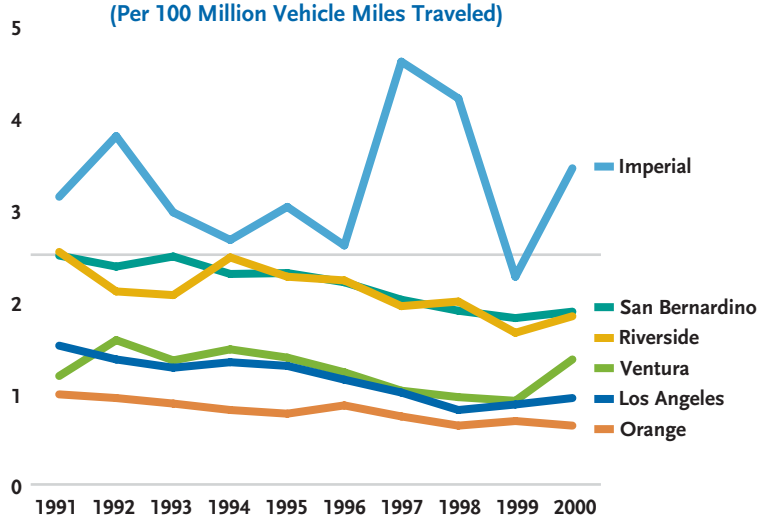
From 1990 to 2000, total highway accident fatality rates generally declined in the region with the exception of Imperial County (Figure 40). Factors contributing to the decreasing fatality rates include, for example, promotion of safety belts, child safety seats, motorcycle helmet usage and measures to discourage drunk driving. Within the region, Imperial County has consistently had the highest highway fatality rates while Orange County had the lowest. In addition, the counties in Inland Empire had similar fatality rates, as did the three coastal counties.

Figure 39
Highway Accident Fatalities



Source: California Highway Patrol

Figure 40
Highway Accident Fatalities
(Per 100 Million Vehicle Miles Traveled)



Source: California Highway Patrol

Transit Use and Performance

Why is this important?

▲▲ Use of public transit helps to improve congestion and air quality and decrease energy consumption. Reliable and safe transit services are essential for many residents to participate in the economic, social and cultural life in Southern California. Work trips account for less than half of total transit trips. The indicator of annual transit boardings measures the level of transit use at the system level. In addition, transit trips per capita provides a measure of transit use at the individual level. ▲▲

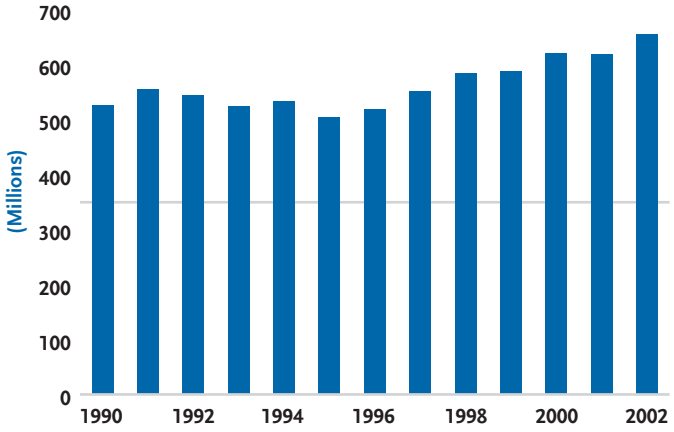
How are we doing?

Total transit boardings increased by more than six percent in Fiscal Year 2002 and reached almost 660 million based on preliminary estimates (Figure 41). This was a recovery from a slight decline of 0.3 percent in Fiscal Year 2001 due to the Los Angeles County Metropolitan Transportation Authority (MTA) bus labor union strike in late 2000. Between Fiscal Years 2000 and 2002, the approximate 6 percent increase in total transit boardings was higher than the population growth of 4 percent.

Total transit boardings declined during the early part of the 1990s and have been on an upward swing since 1995. In 2002, transit trips per capita were at 38, which was slightly higher than the 1990 level at 36. An increase in the number of households without a car provides an expanded pool of potential transit riders. In 2000, more than 540,000 households in the region did not own a car, an increase of more than 100,000 households from 1990.[7] Expanded transit services, particularly the heavy rail, light rail and commuter rail, also attracted new transit riders. Nevertheless, transit uses in the region currently account for only about 5 percent of the total work trips and 2 percent of the total person trips.

In addition to the recovery of the MTA bus system during 2002, several major operators experienced significant growth. For example, both the Orange County Transportation Authority and Los Angeles County MTA Heavy Rail (Red Line) achieved a 10-percent increase in their total transit boardings.

Figure 41
Transit Boardings - All Major Operators



** Based on Fiscal Year not Calendar Year*

Source: National Transit Database and SCAG including preliminary estimates for 2002 data

In 2002, new bus rapid transit (BRT) services started along Vermont and South Broadway in Los Angeles County. These represented the first north-south corridor services in the region in addition to the Wilshire/Whittier and Ventura Boulevard Metro Rapid Services that serve east-west corridors. BRT combines the flexibility of a bus system with shorter travel times utilizing capabilities such as signal priority. Within the variety of transit service options, BRT is an important initiative for improving mobility in the most urbanized portions in the region. BRT services are also scheduled by 2004 in two corridors in Orange County, the Harbor Boulevard and Westminister Avenue/17th Street. Finally, the 91 commuter rail line, also launched in May 2002, provides commuter train services connecting Riverside, Orange and Los Angeles counties via Fullerton.

Journey to Work: Travel Time

Why is this important?

▲▲ Though the share of work trips among total trips has been declining, work trips continue to generate disproportionately higher impacts. Work trips tend to take longer than other daily trips. In addition, commute hours are generally the period with the most traffic congestion. Accordingly, transportation investments are still influenced significantly by the nature of work trips. Finally, the choice of residential location is partly determined by the location of work and the associated journey to work. ▲▲

How are we doing?

Between 1990 and 2000, average travel time to work in the region increased from about 26 to 29 minutes, and continued to be higher than the state and national averages.[8] From 2000 to 2002, there was no change in the average travel time to work in the region, the state and the nation.[9] In 2002, workers in the Inland Empire (Riverside and San Bernardino counties) continued to have the highest average travel time to work in the region.

Journey to Work: Mode Choices

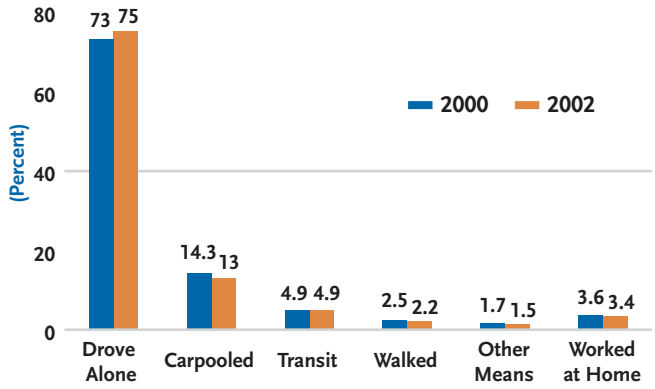
Why is this important?

▲▲ Single-occupant vehicle use accounts for the highest level of land consumption among all transportation modes. It also generates the highest level of environmental, economic and social impacts. Increasing the use of alternative modes to work (e.g., carpool, transit, telework, etc.) is critical to accommodate future growth with less environmental, economic and social impacts. ▲▲

How are we doing?

Based on the 2000 Census, among the nine largest metropolitan regions, the SCAG region had the highest rate (15 percent) of workers who carpooled to work and the third lowest rate (5 percent) for using transit to work.[10] From 2000 to 2002, there was a slight decrease in carpooling share (-1.3 percent) and a slight increase in the share of drive-alone commuting (2 percent) in the region (Figure 42).[11] This was similar to the trend at the national level. The region's share of using public transit among work trips remained unchanged.[12]

Figure 42
Mode Choice to Work
(Workers 16 Years and Over)



Source: U.S. Census Bureau

Telework[13]

In 2002, almost 75 percent of total workers in the region drove to work alone. Alternatives to the single-occupant vehicle include, for example, carpool, transit, bicycling, walking and work-at-home. An important alternative that has been under-utilized is telework. In order to establish a baseline estimate regarding teleworking, SCAG conducted the first regionwide Telework Study during 2002 including a survey of more than 5,000 workers. The study also supported the region's ecommute program that is aimed at promoting employer-based telework programs.

Teleworkers are defined as employed individuals who worked at home instead of traveling to their usual place of work on any day during the past two months. Teleworkers are different from the work-at-home population who generally operate home businesses and work almost exclusively at home.

On any given work day, there was an estimated 3.2 percent of total workers in the region who teleworked at home, a total of more than 220,000 workers in 2002. This was not an insignificant share when considering that the transit share of total work trips was only 5 percent. Since the region experienced a higher average travel time than the nation (29 vs. 25 minutes), it seems reasonable to have a higher rate of teleworking. The total number of vehicle miles saved by teleworkers is estimated to be approximately 45 million vehicle miles in a week.

About 10 percent of total workers were considered teleworkers who worked at home part of the week. Teleworkers in the region faced a longer travel time to work (35 minutes) than the regional average (29 minutes), making teleworking a more attractive option. More than half of the teleworkers worked in sales, professional services, senior management and consulting.

Almost two-thirds of the teleworkers were non-Hispanic Whites whose representation is less than 40 percent of the region's population. Teleworkers were highly educated with 60 percent holding at least a bachelor's degree compared with 25 percent in the general population. Teleworkers were also much wealthier (with median household incomes of approximately $76,000) compared to $46,000 for the general population.

In addition to being wealthier and highly educated, almost three-fourths of teleworkers can determine their own telework schedules. On the other hand, almost 80 percent of the employee non-teleworkers state that their employers would not give them permission to telework. Hence, employers' reluctance is a major challenge to expanding the telework population in the region.

Airports

Why is this important?

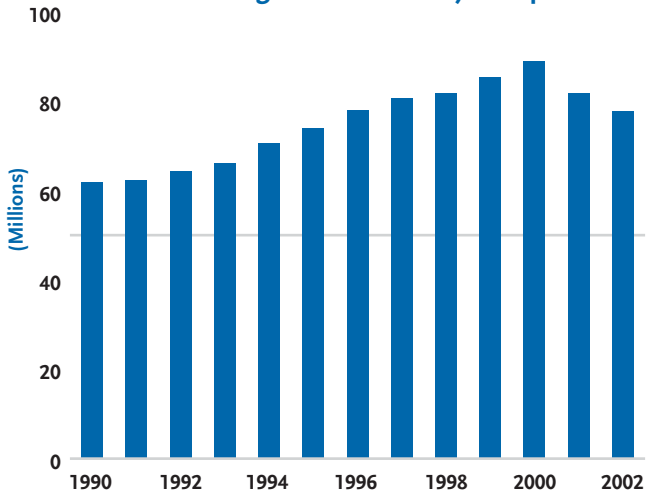
Air transportation is vitally important to the regional economy of Southern California. Because of its geographical location, Southern California relies heavily on air transportation services to access and interconnect domestic and foreign markets. For example, airborne exports accounted for about 54 percent of the total value of commodity exports out of the Los Angeles Customs District (LACD) in 2002.[14] Adequate aviation capacity and quality services are essential to the tourism, business, and trade sectors of the regional economy.

How are we doing?

Due to the economic slowdown and impacts from the September 11, 2001 terrorist attacks, total air passengers at the region's major airports dropped significantly for two consecutive years. Following the drop of 7 million in 2001, total air passengers declined by another 4 million in 2002 to 78 million (Figure 43). Though air passenger grew about 3.7 percent annually throughout the 1990s, total air passengers in 2002 was still below the 1996 level.

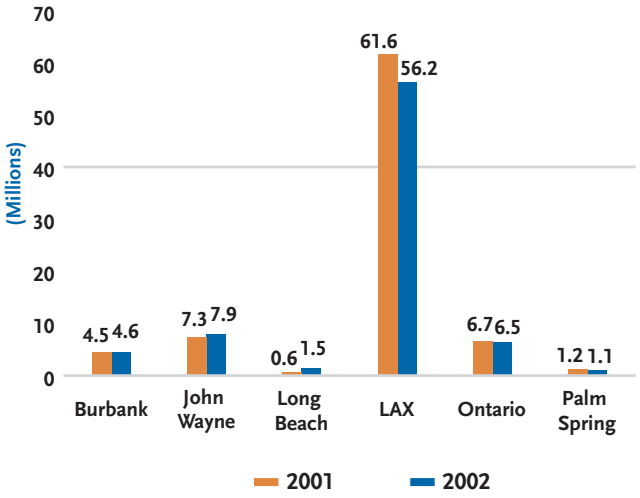
Los Angeles International (LAX) lost more than 5 million passengers in 2002 and dropped to about 56 million annual passengers

Figure 43
Air Passenger Traffic at Major Airports



Source: Data gathered from airports

Figure 44
Air Passenger Traffic by Airport



Source: Data gathered from respective airports

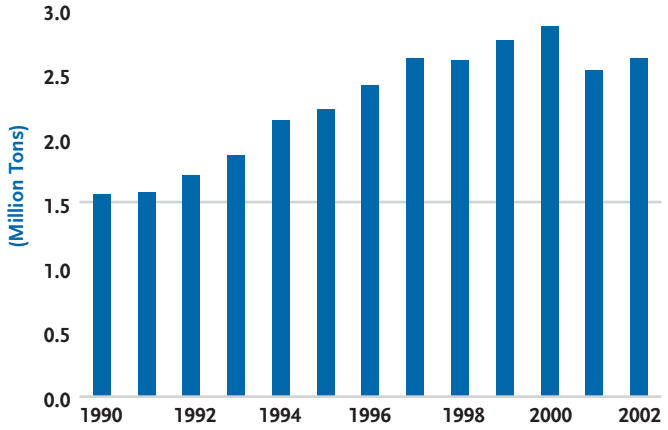
(Figure 44). At the same time, however, several much smaller reliever airports experienced some recovery. For example, passenger traffic at Long Beach Airport increased by close to 900,000 passengers in 2002, more than double its 2001 total. This is due to a large service increase by JetBlue Airways and moderate increases in services by American Airlines and Horizon Air. John Wayne Airport also increased more than half-a-million annual passengers.

The vast majority of international passengers go through LAX, even though other airports (Ontario, Palm Springs) in the region also provide some international services. In 2002, close to 15 million international passengers used LAX, or about 26 percent of its total.

Air cargo increased by 3.7 percent in 2002, a rebound from a 13-percent loss during the previous year (Figure 45). International air cargo got a boost late in the year due to the port lockout. Almost 85 percent of the region's cargo increase took place at Ontario Airport. UPS uses Ontario as a hub for cargo flights to China. In addition, there were also efforts to shift additional cargo from LAX to Ontario. LAX, however, had very little change in cargo traffic in 2002. There has been a trend towards using dedicated cargo aircraft over the belly air cargo of passenger aircraft.[15]

In 2002, among the ten largest airports in the world, LAX ranked 5th in passenger traffic behind Atlanta, Chicago, London and Tokyo (see Figure 80 page 95). LAX also ranked 5th in total cargo volumes following Memphis, Hong Kong, Anchorage and Tokyo (see Figure 81 page 95). Among the top ten airports, LAX experienced the largest percentage drop in passenger traffic between 2001 and 2002.[16]

Figure 45
Air Cargo in the Six Largest Airports



Source: Data gathered from airports

Ports

Why is this important?

▲▲ Almost 85 percent of the imports through the Los Angeles Customs District (LACD) arrive at the region's ports.[17] Continuing to provide a world-class port infrastructure is critical to sustaining a growing and prosperous regional economy. ▲▲

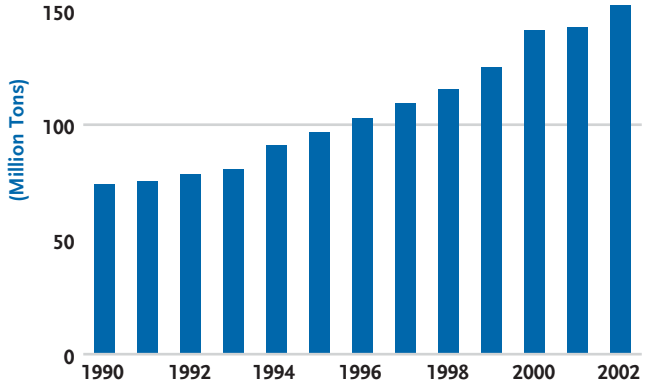
How are we doing?

In 2002, total traffic at the Ports of Los Angeles and Long Beach increased from 142 million tons in 2001 to 152.2 million tons, a 6.9-percent increase (Figure 46). Close to 84 percent of all cargo shipments were through containers. Traffic at Port Hueneme also increased from 3.3 to 3.6 million tons in 2002.

The twin-ports also strengthened their roles among the West Coast ports. Specifically, among all major West Coast ports, traffic share at Ports of Los Angeles and Long Beach increased from below 50 percent in 1992 to 62 percent in 2002 (see Figure 82 page 96). In 2002, the Los Angeles/Long Beach port complex ranked third in the world in container traffic (10.7 millions of TEUs – twenty-foot equivalent units) following Hong Kong (19.1) and Singapore (16.9).[18] The Port of Los Angeles, due to the opening of a mega-terminal, experienced an 18-percent increase to over 4 million TEUs.

In April 2002, the Alameda Corridor was opened and allowed faster transfer of cargo from the twin-ports to eastern destinations. However, in late 2002, after new contract negotiations failed, a 10-day management lockout of West Coast union dockworkers affected global supply chains and resulted in billions of dollars in business losses.

Figure 46
Port Cargo at Los Angeles and Long Beach



Source: Los Angeles Economic Development Corporation

The Environment

The Environment

Air Quality

Why is this important?

▲▲ Good air quality is vital for the health of residents, nature and the economy. Human health effects of air pollution can range from lung irritation to cancer and premature death. Ecological effects include damage to crops and contamination of waters. Degradations in human and ecological health often adversely impact economic well-being. ▲▲

How are we doing?

The SCAG region includes four air basins: South Coast, Mojave Desert, Salton Sea and South Central Coast (Ventura County's portion) (see Map 5 page 64). The South Coast Air Basin has an area of approximately 6,800 square miles with more than 15 million residents in 2002, about 85 percent of the region's total population. It includes all of Orange County and the non-desert areas of Los Angeles, Riverside and San Bernardino counties. The Salton Sea and the Mojave Desert Air Basins have a combined area of approximately 32,200 square miles. The two basins include the desert portions of Los Angeles, Riverside and San Bernardino counties as well as Imperial County. Ventura County is part of the South Central Coast Air Basin (SCCAB). *Despite significant improvements in the past two decades, the South Coast Air Basin still has some of the worst air quality in the nation in terms of the annual number of days exceeding federal standards.*[1]

Air quality regulations target six "criteria" pollutants that adversely affect human health and welfare: ozone, particulate matter, carbon monoxide, nitrogen dioxide, sulfur dioxide, and lead. Among these, the first three pollutants are regionally significant, with various parts of the SCAG region showing moderate to extreme levels of pollution. Hence, this report focuses on the first three pollutants due to their significance.

Ozone

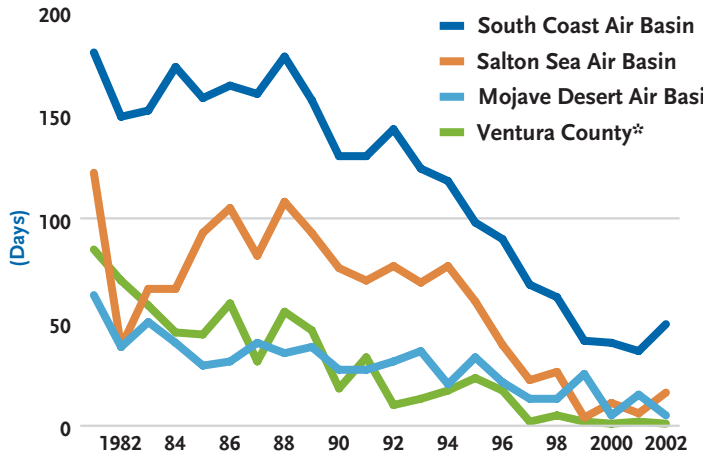
Ozone is a colorless, poisonous gas. Ground level ozone is a major component of urban and regional smog. Ozone is not directly emitted, but is formed when volatile organic compounds (VOCs) and oxides of nitrogen (NOx) emissions react in the presence of sunlight. A hot summer day with stagnant air condition will greatly increase the chance of unhealthy ozone levels. Ozone is a strong irritant, which can reduce lung function and aggravate asthma as well as lung disease. Currently, all four air basins in the region are designated as non-attainment areas for ozone.

In 2002, ozone pollution worsened in the South Coast and Mojave Desert Air Basins. However, during the same year, ozone pollution improved in the Salton Sea Air Basin and the Ventura County portion of the SCCAB (Figure 47). *In the most populous South Coast Air Basin, the number of days exceeding the federal one-hour ozone standard increased from 36 to 49 days between 2001 and 2002, a troubling reversal from the steady trend of improvements*

Figure 47

Ozone Pollution in Non-attainment Air Basins

(Number of Days Exceeding Federal One-hour Standard)



** Ventura County is a part of the South Central Coast Air Basin*

Source: California Air Resources Board and South Coast Air Quality Management District

since 1980. The number of days for health advisories also increased from 15 to 18 days.[2] During 2002, the South Coast Air Basin experienced no Stage 1 episode. However, current data indicates that 2003 will be much worse than 2002 in ozone pollution. For example, on July 11, 2003, the South Coast Air Basin experienced its first Stage 1 ozone alert since 1998. This type of alert warms even healthy residents to curtail outdoor activities.

Within the region, Santa Clarita Valley surpassed the federal one-hour ozone standard for a total of 32 days in 2002, more than any other area in the nation.[3] Other areas that had higher exceedances included East San Bernardino Valley (23 days), Central San Bernardino Mountains (22 days) and the Banning Airport area in Riverside County (13 days). The maximum 1-hour concentration in the South Coast Air Basin actually moderated from 0.19ppm (parts per million parts of air) in 2001 (in East San Gabriel Valley) to 0.169ppm in 2002 (in Santa Clarita Valley).[4]

There are several possible factors for the higher ozone exceedances in 2002, including:

1. the hot weather and a high-pressure system that trapped ozone gases at lower attitude;
2. the continuing population growth including faster growth in the Inland Empire.

In addition, the shift from gasoline additives MTBE to ethanol (due to MTBE's tendency to seep into ground water) and the greater use of Sport Utility Vehicles (SUVs) and pick-up trucks also contributed to the worsening ozone condition. Trucks and SUVs make up more than half of all new car sales in California.

The Clean Air Act requires the region to meet the ozone standard by 2010. The majority of ozone precursor emissions (VOCs and NOx) are generated from sources under state and federal jurisdictions. Realizing the emission reductions required to reach attainment will depend critically on coordinated efforts from all four agencies involved, including the U.S. Environmental Protection Agency, California Air Resources Board, South Coast Air Quality Management District and SCAG.

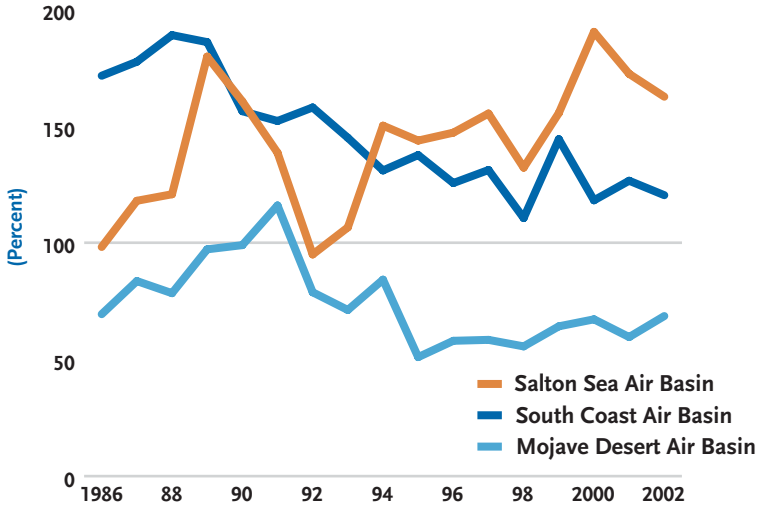
PM_{10}

Three air basins in the region have been designated as non-attainment areas for PM_{10}, including the South Coast, Mojave Desert and Salton Sea. *Since 1993, the South Coast and Salton Sea Air Basins have been exceeding the Federal annual average standard of 50 ug/m3 (micrograms per cubic meters of air) (Figure 48).* This indicator provides a measurement of long-term exposure to particulate matter that could contribute to breathing disorders, reduce lung function, and curtail lung growth in children. In 2002, exceedances of the federal annual standard in the South Coast Air Basin were confined to Riverside and San Bernardino counties with a maximum of 58.5 ug/m3 (or 117 percent of the standard) in Riverside County.[5] All of the three non-attainment basins have continued exceeding the much more stringent state standards at 20 ug/m3.

Exceedances of PM_{10} standards are influenced by emissions of particles and gases that form secondary particles in the atmosphere. These gases include reactive organic gases (ROG), ammonia, oxides of sulfur (SOx) and oxides of nitrogen (NOx). Exceedances are also dependent on weather – secondary particles are more easily formed in the atmosphere during colder winter conditions.

There was no exceedance of the federal 24-hour standard (150ug/m3) for PM_{10} in the South Coast Air Basin in 2002, a slight improvement from 5 days in 2001 (Figure 49). The Salton Sea Air Basin also experienced improvements for PM_{10} in 2002. Mojave Desert, however, experienced 6 days of exceeding the federal 24-hour standard for PM_{10}.

Figure 48
PM_{10} Pollution in Non-attainment Air Basins
(Percent of Federal Annual Average Standards*)



** Above 100 percent means exceeding the federal standard. Also PM_{10} condition may be impacted significantly by natural events or pollution transport.*

Source: California Air Resources Board

Figure 49 PM_{10} Pollution in Non-attainment Air Basins

	Days Exceeding Federal PM_{10} 24-Hour Standard		
Air Basins	**2000**	**2001**	**2002**
South Coast	0	5	0
Mojave Desert	0	0	6
Salton Sea	36	29	18

Source: California Air Resources Board

California state standards for PM_{10} are significantly more stringent than federal standards due to a greater consideration given to the potential health impacts. Specifically, the state 24-hour standard for PM_{10} of 50 ug/m3, is only a third of the federal standard of 150 ug/m3. In 2002, the South Coast and Salton Sea Air Basins exceeded the state on 297 and 328 days respectively, while the Mojave Desert Air Basin exceeded the standard on 84 days.[6]

$PM_{2.5}$

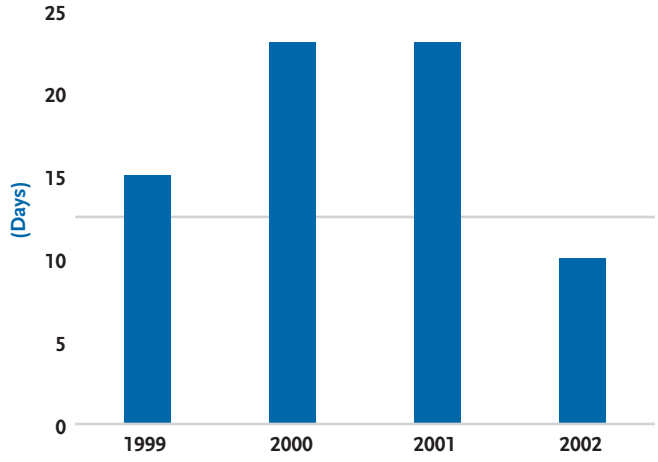
$PM_{2.5}$ is a subgroup of finer particles within the classification of PM_{10}. They pose increased health risks because they can penetrate deeper in the lung than PM_{10} and contain substances that are particularly harmful to human health. The U.S. EPA promulgated national $PM_{2.5}$ standards in 1997, although implementation has been held up due to legal challenges.

In 2002, the annual average concentration of 27.5 ug/m3 in the South Coast Air Basin far exceeded the federal standards of 15 ug/m3.[7] The basin exceeded the federal 24-hour standard for $PM_{2.5}$ 10 days in 2002, an improvement from 23 days in 2001. $PM_{2.5}$ concentrations, like PM_{10}, were high in the inland valley areas of San Bernardino and Riverside counties. However, $PM_{2.5}$ concentrations were also high in the metropolitan areas of Los Angeles and Orange counties. The high $PM_{2.5}$ concentrations in these areas are mainly due to the secondary formation of smaller-sized particulate resulting from mobile and stationary source activities.

Figure 50

$PM_{2.5}$ Pollution in the South Coast Air Basin

(Number of Days Exceeding Federal 24-Hour Standard)



Source: South Coast Air Quality Management District

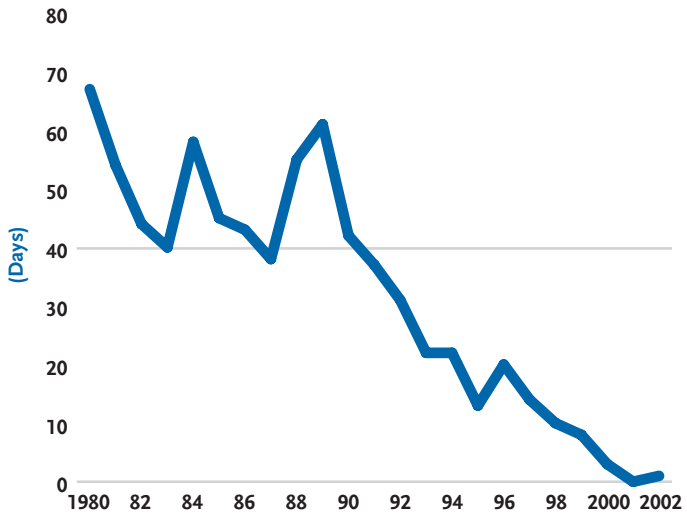
Carbon Monoxide

Carbon monoxide is a colorless and odorless gas that is directly emitted as a product of combustion. Incomplete combustion will result in increased carbon monoxide emissions. Motor vehicles generate almost 85 percent of carbon monoxide emissions in the region.

Carbon monoxide impairs the ability of blood to carry oxygen. It is especially dangerous to infants, the elderly and people with heart or respiratory problems. Exposure to high levels of carbon monoxide can result in headaches, dizziness, fatigue, slow reflexes and death.

In 2002, the South Coast Air Basin met federal attainment standards for carbon monoxide (with no violation in 2001 and the one day allowable exceeding the federal standard in 2002). The only other area in the region exceeding federal 8-hour carbon monoxide standard in 2002 was the City of Calexico in Imperial Valley, just north of the Mexican border from Mexicali. In the past two decades, peak 8-hour carbon monoxide levels also decreased in the South Coast Air Basin from 26 ppm in 1980 to 10.1ppm in 2002.[8]

Figure 51
Carbon Monoxide (CO) in the South Coast Air Basin
(Number of Days Exceeding Federal 8-Hour Standard)



Source: South Coast Air Quality Management District

Water Resources

Total Water Use

Why is this important?

▲▲ Ensuring reliable water resources to meet essential water demands and maintaining water quality are important goals in Southern California. ▲▲

How are we doing?

Southern California depends on both imported and local sources to meet its demand for water. It includes imported water from the Colorado River, the State Water Project via the California Aqueduct, and eastern Sierra Nevada via the Los Angeles Aqueduct. *Together, depending on the rainfall level, imported water generally accounts for about 70 to 75 percent of the regional water supply.* The remaining approximately 25 to 30 percent supply comes from local surface and ground water sources and from reclaimed water sources.[9] *It is important to note that water available from all three imported sources may be reduced in the future as other users and uses place greater demands on these sources.*

Within the SCAG region, the Metropolitan Water District (MWD) is the largest urban water supplier. Its service area includes more than 14 million residents in the region (Figure 52). In recent years, MWD has provided about half of the municipal, industrial and agricultural water used in its service area.

Figure 52
Population within Water District Service Area

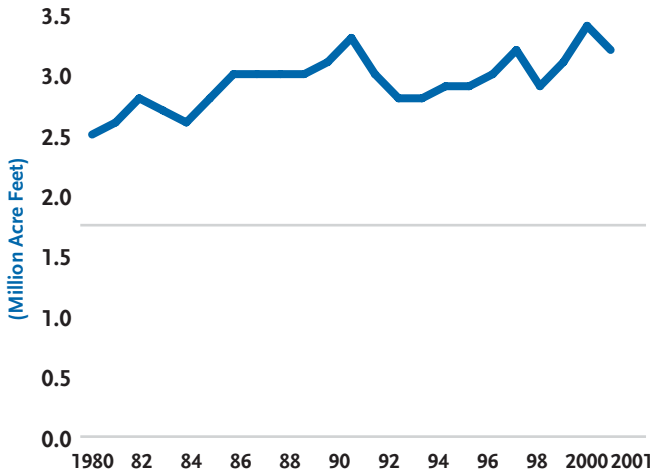
	MWD	Non-MWD
Imperial	0.0%	100%
Los Angeles	92.0%	8.0%
Orange	99.5%	0.5%
Riverside	71.0%	29.0%
San Bernardino	39.0%	61.0%
Ventura	67.0%	33.0%
REGION	83.0%	17.0%

Source: Metropolitan Water District (MWD) and SCAG.

Within the MWD service area in the SCAG region, total water consumption did not experience significant increases for several years in the mid-1990s due to the recession, wet weather, conservation efforts, and lingering drought impacts (Figure 53). In 2001, total water consumption at 3.2 million acre-feet was about the same as in 1990, despite an increase of almost 1.5 million in its residents since 1990. Of total consumption, only 8 percent was for agricultural purposes and the rest was for urban (municipal and industrial) uses.

While the MWD serves a significant portion of the SCAG region, many of the communities within the region are served by water districts outside of the MWD service area. The water agencies outside of MWD range from relatively small to very large water suppliers. The most significant difference in water use between the MWD and non-MWD service areas is the agricultural

Figure 53
Total Water Consumption
(Metropolitan Water District Service Area)



** Within the SCAG region. Total water consumption includes municipal/industrial and agricultural uses.*
*** One acre foot equals 326,000 gallons.*

Source: Metropolitan Water District

demand for water. While only eight percent of all water in the MWD service area was for agricultural purposes in 2001, more than 85 percent of all water used outside the MWD area was for agricultural purposes.

Total water consumption within the region but outside of the MWD service area was estimated to be more than 4.8 million acre-feet in 2001.[10] Specifically, the Imperial Irrigation District (IID) alone diverts and delivers approximately 3.1 million acre-feet of Colorado River water to nine cities and nearly 500,000

acres of agricultural lands in Imperial Valley. Of the water that IID transports, 98 percent is used for agriculture in the Imperial Valley. The remaining 2 percent is for urban (municipal and industrial) uses.[11]

Although single-family homes account for about 55 percent of the total occupied housing stock, they account for about 70 percent of total residential water demand.[12] Within the non-residential category, the top commercial and institutional water users include schools, hospitals, hotels, amusement parks, colleges, laundries, and restaurants. In Southern California, the major industrial users include electronics, aircraft, petroleum refining, beverages, food processing, etc.

Per Capita Urban Water Use

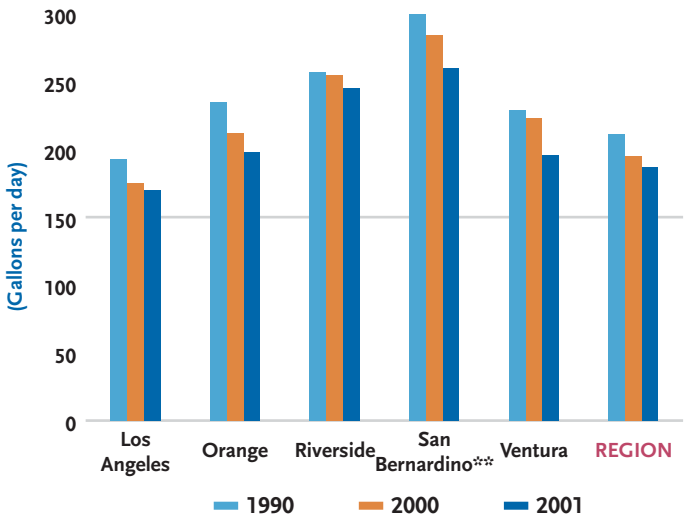
Why is this important?

▲▲ Water consumption per capita is important when looking at a city's or county's growth projections in order to maintain a safe yield per person and sustain community well-being. ▲▲

How are we doing?

Urban water use includes residential, commercial, industrial, fire fighting and other uses. Hence, per capita urban water use contains more than the amount of water used directly by an individual. Per capita water consumption for urban uses has generally been declining. Specifically, per capita water consumption per day within the MWD service area decreased from 211 gallons in 1990 to 195 gallons in 2000 and 187 gallons in 2001 (Figure 54).

Figure 54
Per Capita Urban Water Consumption*
(Metropolitan Water District Service Area)



** Includes Retail Municipal and Industrial uses, not Agricultural use. Not including San Diego County.*
*** San Bernardino's portion includes only 39% of the County's total population, significantly less than other counties.*

Source: Metropolitan Water District

Several factors contributed to the overall decline in per capita urban water consumption. An important one is the development of various conservation programs and practices. These include retrofitting with water efficient technology for showerheads and toilets and some changing landscaping practices toward drought tolerant plants. In addition, implementation of water pricing has also suppressed the growth in per capita water demand.

Within the region, there has been significant variation among counties in per capita urban water consumption. Factors affecting the per capita variation include climate, the relative share of residential versus nonresidential water uses, relative share of single vs. multi-family units, the types of businesses, persons per household, lot sizes, and income levels. In addition, differences in implementing water pricing and water conservation measures may also impact the per capita variations among counties. In Southern California, many of the differences in per capita water use can be attributed to climate differences. Within the region, the Inland Empire counties continued maintaining higher levels in per capita urban water consumption rates than coastal counties, particularly Los Angeles and Orange counties. This partly reflects higher landscape water use due to warmer and dryer climate conditions and partly the higher proportion of single-family residential units in the Inland Empire counties.

As Inland Empire counties continue growing at faster rates than coastal counties (as discussed in the Population Chapter), their higher levels in per capita urban water consumption may offset potential savings through conservation and pricing strategies within the MWD service area. The MWD forecasts that per capita urban water consumption in its service area will remain relatively constant over the next 25 years.[13]

Beach Closure

Why is this important?

▲▲ When the ocean waters off a beach contain high concentrations of certain bacteria, they become unsafe for swimming and other recreational uses. In 1999, the California Department of Health began monitoring all beaches with more than 50,000 annual visitors and which have outflows of storm drains, rivers, or creeks. Closures or advisories are issued for beaches that fail to meet the state's standards for various sources of bacterial pollution. Beach closures are most commonly the result of sewage spills. ▲▲

How are we doing?

Due in part to reductions in rainfall in 2002, less pollution reached coastal waters in Southern California. *Among the 97 beaches monitored in the region, the total number of beach closing/advisory days in the region decreased from 4,178 in 2001 to 3,000 in 2002, which was consistent with the corresponding 30-percent decrease for all state beaches during the same period.*[14]

In 2002, Orange County continued reporting the highest number of beach closing/advisories followed by Los Angeles, San Diego, and Santa Barbara counties. Specifically, there were 1,671 beach closing/advisory days in Orange County in 2002, an increase from 1,592 in 2001. Among those, 87 percent were due to monitoring that revealed elevated bacterial levels from unknown sources of contamination. About 10 percent of closings/advisories were in response to known sewage or

chemical spills, and 3 percent were general rain advisories. In 2002, Los Angeles County reported 913 beach closing/advisory days, a decrease from 1,046 from 2001. Ventura County with 416 beach closing/advisory days in 2002 experienced a significant decrease from 1,540 in 2001. This was partly because that in 2001, 82 percent of the beach closing/advisory days in Ventura County was due to elevated bacteria from stormwater which was significantly reduced in 2002 due to less rainfall.[15]

Solid Waste

Why is this important?

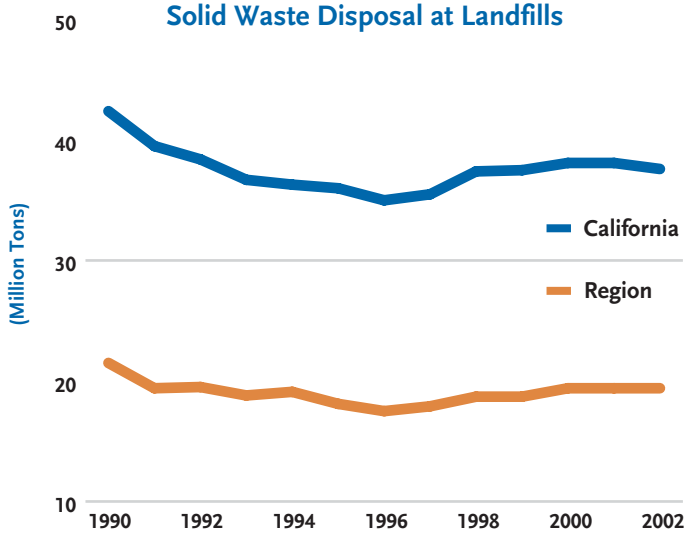
▲▲ Solid waste is generated through the use of material, both raw and manufactured. If not treated properly, solid waste could have significant impacts on the ecosystem and human health. Hence, a sustainable society would minimize the amount of waste sent to landfills by reducing, recycling or reusing the waste generated as much as possible. ▲▲

How are we doing?

The 1989 California Integrated Waste Management Act set the stage for a series of statewide reforms in waste management. The centerpiece of the Act was a mandated goal of 50 percent diversion of each city's and county's waste from landfill disposal by the year 2000. Diversion measures waste prevented, waste re-used, waste recycled or waste composted. Waste diversion programs such as curbside recycling pickups, greenwaste collection and municipal composting have steadily increased the diversion rate. *At the statewide level, the diversion rate - share of amount diverted of the total waste generated - increased from 10 percent in 1989 to 48 percent in 2002.*[16] Hence among the 72 million tons of total waste generated in California in 2002, about 34 million tons were diverted, with almost half (17 million tons) estimated to be from the SCAG region.

In 2002, the total amount of waste disposed to landfills in the region reached over 19 million tons, almost the same as in 2001 and remained below the 1990 level (Figure 55). This progress was achieved despite an increase of 2.8 million (or 20 percent) in the region's population since 1990. During the 1990s, waste sent

Figure 55
Solid Waste Disposal at Landfills



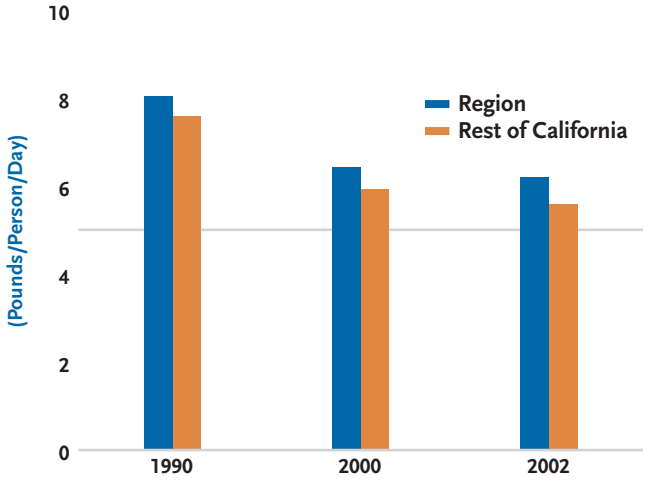
Source: California Integrated Waste Management Board

to landfills in the region declined for several years and began to increase gradually since 1996. This is similar to the trend at the state level.

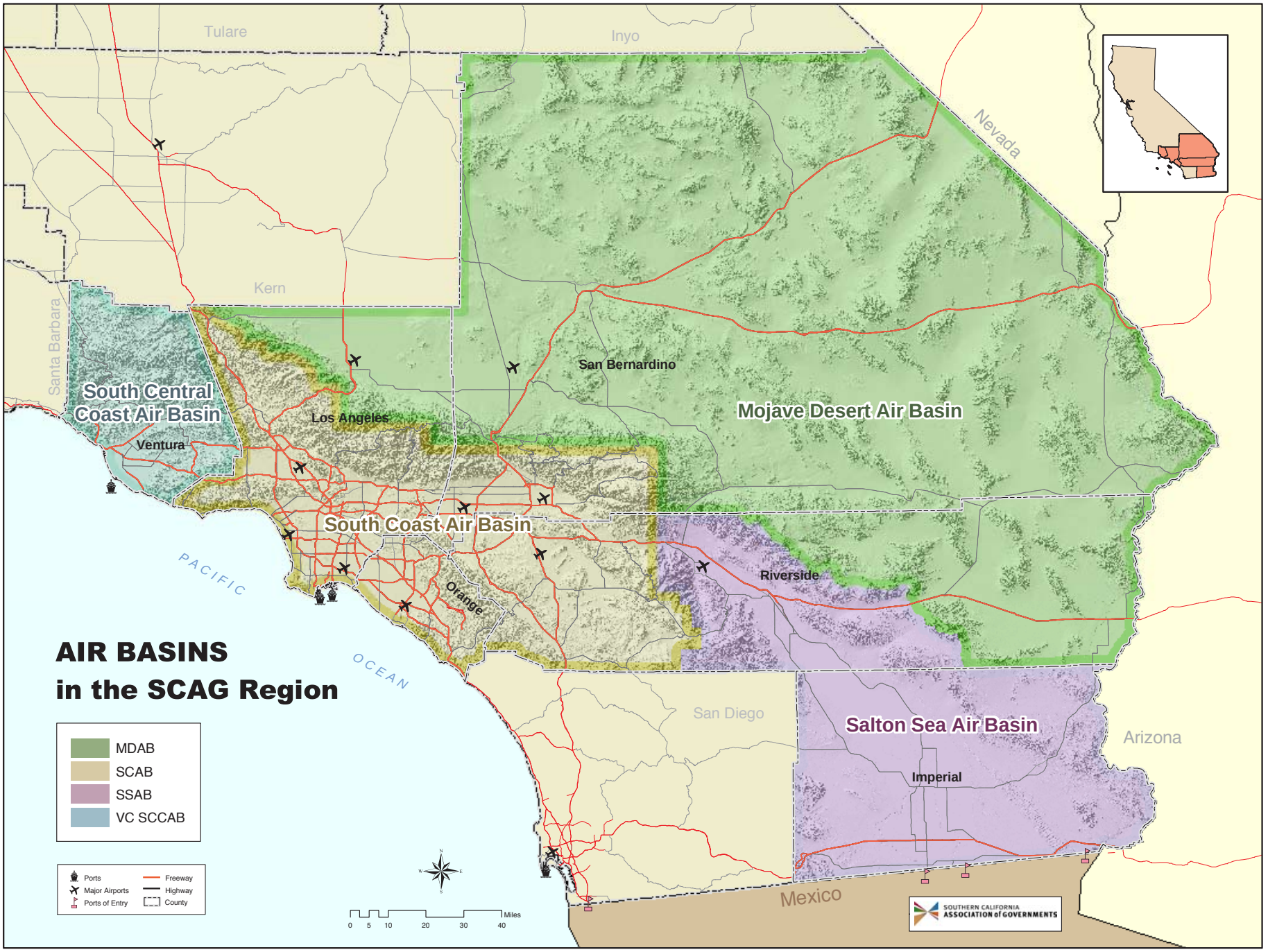
Since the passage of the Act in 1989, the region has been making progress in reducing the amount sent to landfills on a per capita basis (Figure 56). In 1990, the region disposed about 8 pounds of solid waste per day per capita into the landfills, slightly higher than that of the rest of the state. *Various measures to implement the Act have reduced the per capita disposal rate by almost 25 percent to just over 6 pounds per day in 2002.*

In 2000, less than half of all the local governments in Southern California met the 50 percent goal of diversion. Challenges for those local jurisdictions not able to meet the goal included lack of a ready market for diverted materials and the additional cost and time required to develop the infrastructure needed. Recyclable materials such as paper still comprise about 30 percent of the waste stream. An expanded market for recovered recyclables is essential to make further progress in the region's waste diversion efforts.[17]

Figure 56
Solid Waste Disposal at Landfills



**Including residential and non-residential waste disposal.*
Source: California Integrated Waste Management Board


Tulare
Inyo
Nevada
Kern
Santa Barbara
San Bernardino
South Central Coast Air Basin
Los Angeles
Ventura
Mojave Desert Air Basin
South Coast Air Basin
Riverside
PACIFIC
OCEAN
Orange
AIR BASINS
in the SCAG Region
MDAB
SCAB
SSAB
VC SCCAB
Ports
Major Airports
Ports of Entry
Freeway
Highway
County
Miles
0 5 10 20 30 40
San Diego
Salton Sea Air Basin
Imperial
Arizona
Mexico
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS
o:\=state_regional2003

Map 5

Quality of Life

Development Patterns

Why is it important?

▲▲ Different patterns of development lead to different outcomes with respect to livability, economic efficiency and environmental sustainability. For example, a more compact development pattern generally improves accessibility to various activities and maximizes the utilization of existing infrastructure. It also makes better use of existing urban "footprints" hence limits the environmental impacts of development.[1] ▲▲

How are we doing?

Patterns of development could have three levels of meanings. First, we have the "urban form" which describes the way in which the metropolitan area is organized in spatial terms, focusing at a large geographical level of analysis. Second, "density" whether residential or employment, focuses on transit corridors and station areas. Finally, "land use mix and urban design" encompasses both the characteristics and arrangements of land use on a relatively small scale, including the specific design features associated with these land uses at the neighborhood level.[2]

In 2002, a peer-reviewed study conducted by Smart Growth America, a non-profit organization, offered the most comprehensive assessment of the metropolitan development patterns in the nation.[3] A total of 83 metropolitan areas were included in the study. The study defined sprawling development pattern based on four factors that can be measured: residential density, strength of downtowns and activity centers, neighborhood mix of homes, jobs and services, and accessibility of the street network. The scores based on each of the four factors were combined to calculate the overall Sprawl Index. The average index score is 100 with lower scores indicating poorer performance and more sprawl.

Among the 83 metropolitan areas, Riverside/San Bernardino counties ranked as the most sprawling area, Ventura County ranked 9th, Orange County ranked 41st and Los Angeles County ranked 45th (see Figure 75 page 92). Imperial County is not part of the study. Among the four factors examined, Los Angeles and Orange counties actually scored quite well with regard to the three factors dealing with density, neighborhood mix of homes, jobs and services, and accessibility of the street network. However, neither counties scored well regarding the strength of centers. In a sense, what is missing is the urban form level regarding the macro organization of the metropolitan area.

The Inland Empire (Riverside/San Bernardino counties), however, did not score well with respect to all four factors. Specifically, Riverside/San Bernardino counties have few areas that serve as town centers or focal points for the community. For example, more than 66 percent of the population live over ten miles from a central business district.[4] In addition, there is little mixing of homes with other uses in these two counties. For example, the study found that only 28 percent of residents in the

Inland Empire live within one-half block of any businesses or institutions. The street network in the Inland counties is also not well connected with 70 percent of the blocks larger than traditional urban size. Finally, the residential density in the Inland counties is also below average.

Overall, the SCAG region would earn a score less than 100 indicating a more sprawling development pattern than the majority of the 83 metropolitan areas studied. In addition, the region is still growing rapidly, expecting to add six million new residents by 2030. The region's ability to manage future growth is critical for a less sprawling development pattern and improved livability and environmental sustainability for the entire region.

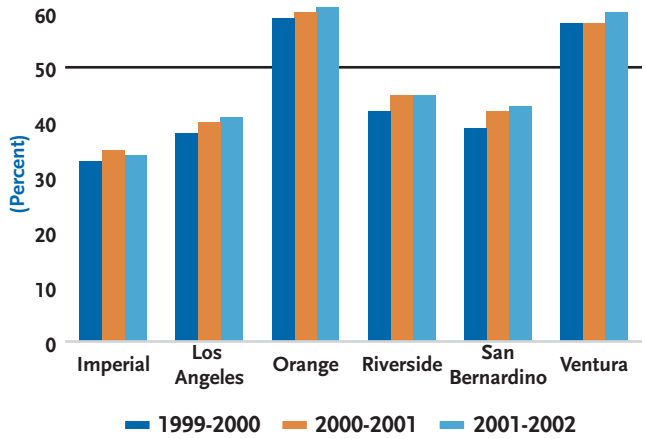
Since 2000, SCAG has been undertaking a growth visioning program – Southern California Compass. It is a multi-year effort to consider the future growth of the region through an informed and analytically-based policy framework. The effort is directed by the Growth Visioning Subcommittee of SCAG. The purpose and goal of the program is to fashion a preferred growth scenario that will guide SCAG's future planning efforts and serve as an implementation guide for development and land use decision making for other agencies. Each of SCAG's 14 subregions is an active participant in the program. The four principles of Compass include improving mobility for all residents, fostering livability in all communities, enabling prosperity for all people, and promoting sustainability for future generations. The guest essay – The "Commons" in Southern California in this State of the Region Report addresses, among others, how a draft regional growth vision was developed through the Compass process. (See guest essay beginning from page 75. Also see Map 6 page 73 on the age of housing stock in the region)

Education

Why is this important?

▲▲ Student performance is measured through three indicators: 1) test scores for eighth grade, 2) high school dropout rates, and 3) percent of high school graduates completing courses required for the University of California (UC) or California State University (CSU) entrance. High school dropouts are severely disadvantaged in competing for quality jobs. Performance on the last indicator reflects the potential level of success in pursuing college education by high school graduates. ▲▲

Figure 57
Math Test Score for 8th Grade
(Percent above National Median Score)



** Standford 9 Test. Performed better than the nation if more than 50% of the students were above the national median*

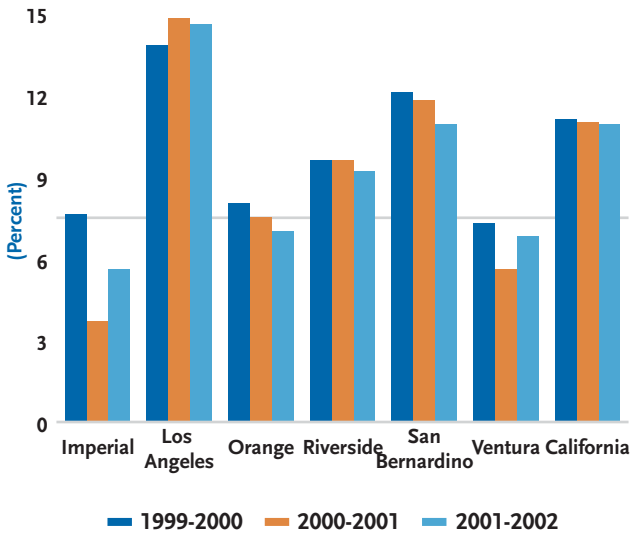
Source: California Department of Education

How are we doing?

In 2002, the 8th graders (graduating class of middle schools) in the region continued to perform below the national median in math and reading test scores except in Orange and Ventura counties (Figure 57 and Figure 57a page 107). Between 2001 and 2002, there were no noticeable changes in reading scores while very slight improvements were made for math scores.

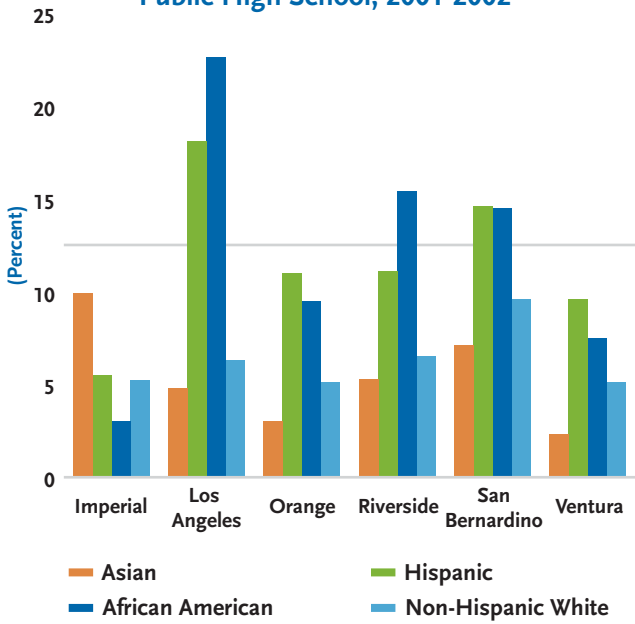
As to the dropout rates for high schools, the region also made slight improvements in 2002 from the previous year with the exception of Imperial and Ventura counties (Figure 58). Hispanic and African American high school students, when compared with their White and Asian peers, had significantly higher dropout rates except in Imperial County (Figure 59). The disparity is much more pronounced in Los Angeles County than in the other counties. Asian students generally had the lowest dropout rates.

Figure 58
Dropout Rates in Public High School



Source: California Department of Education

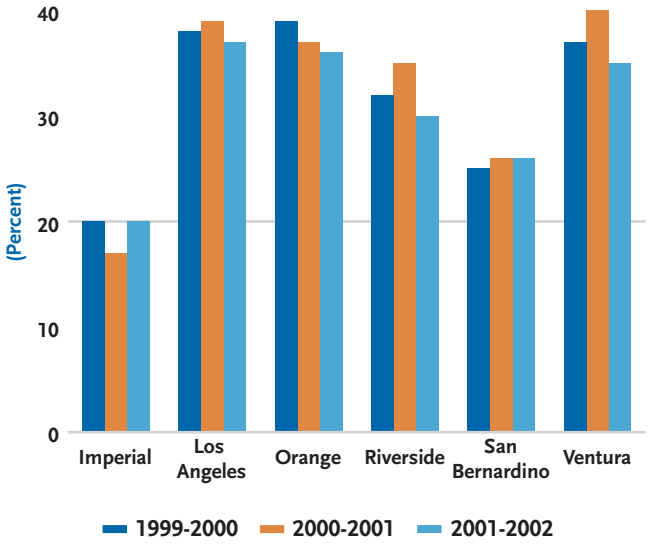
Figure 59
Dropout Rates in by Race/Ethnicity in Public High School, 2001-2002



Source: California Department of Education

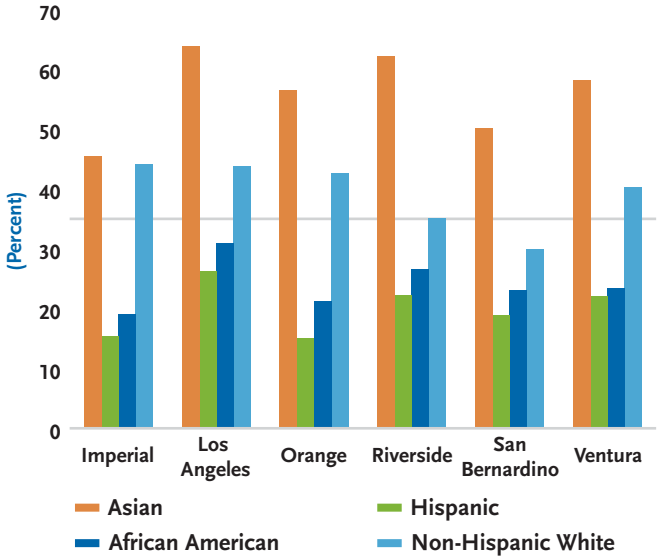
In 2002, every county in the region had less than 40 percent of high schools graduates complete courses required for University of California (UC) or Cal State University (CSU) entrance (Figure 60). There was slightly lower performance in 2002 than the previous year particularly for Riverside and Ventura counties. There were also similar patterns of racial and ethnic disparities across the six counties in the region (Figure 61). For example, while more than 55 percent of Asian graduates in Orange County completed courses required for UC or CSU entrance, only 15 percent of the Hispanic students achieved the same.

Figure 60
High School Graduates Completing Courses Required for UC or CSU Entrance



Source: California Department of Education

Figure 61
High School Graduates Completing Courses Required for UC or CSU Entrance by Race/Ethnicity, 2001-2002



Source: California Department of Education

The SCAG region lost ground in educational attainment during the 1990s. Among the nine largest metropolitan regions in the nation, Southern California was the only one which did not make any progress in educational attainment, specifically with respect to the proportion of population 25 years and over who earned at least a high school diploma.[5]

In 2002, there were no noticeable improvements regarding educational attainment in the region. Among the nine largest metropolitan regions, the SCAG region most likely remained in last place in the percentage of adults with at least a high school diploma, and 2nd to last for at least a Bachelor's degree. (See Map 7 page 74 on educational attainment regarding persons with a bachelor's degree or higher.)

Among the different racial and ethnic groups, there are significant disparities as to educational attainment. For example, about 43 percent of the Asian adults in the region achieved at least a Bachelor's degree compared to 18 percent for African American and 7 percent for Hispanic adults. Conversely, about 56 percent of the Hispanic adults did not receive a high school diploma, compared with only 20 percent for African American and 10 percent for non-Hispanic White adults (see Figure 61a page 107).

Public Safety

Why is this important?

▲▲ Crime-related activities consume an enormous amount of valuable social and economic resources. The social costs are real, though less quantifiable, including for example, pain and suffering of crime victims and their families and the weakening of community cohesion. The economic costs include loss of productivity due to death or disability resulting from crime, medical costs, and loss of property values in neighborhoods with high crime rates. ▲▲

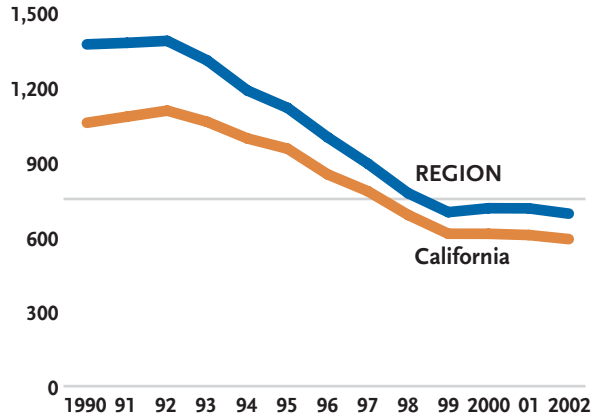
How are we doing?

Violent Crimes

Violent crime rates in both the region and the state peaked in 1992 and have been declining since then, with the exception of a slight increase in 2000 (Figure 62). Violent crimes include homicides, forcible rapes, robberies and aggressive assaults. In 2002, the violent crime rate in the region declined by 3 percent from 2001.

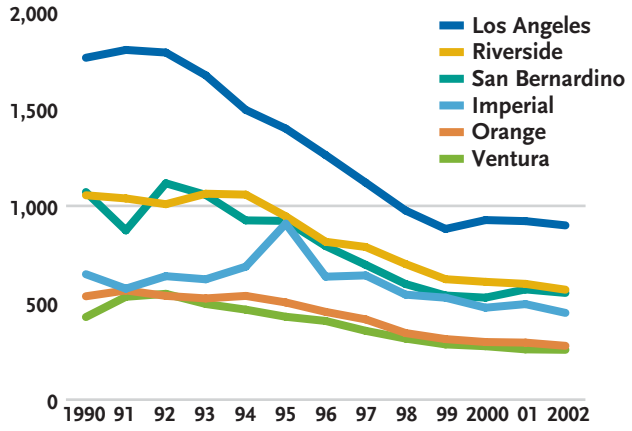
Within the region, violent crime rates declined in every county in 2002, particularly for Imperial County (-9 percent) and Orange County (-6 percent) (Figure 63). Orange and Ventura counties consistently had the lowest rates in violent crimes in the region.

Figure 62
Violent Crimes
(Per 100,000 Population)



Source: California Department of Justice

Figure 63
Violent Crimes by County
(Per 100,000 Population)



Source: California Department of Justice

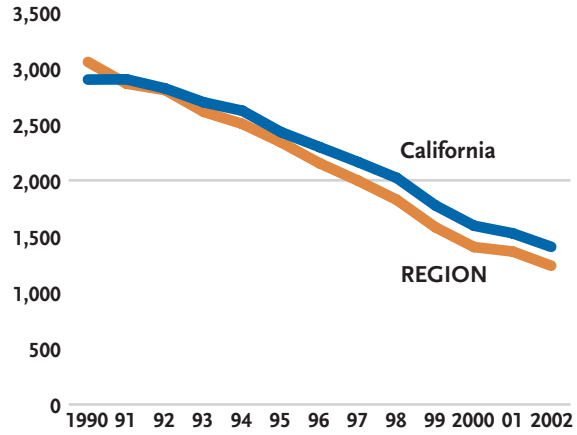
Los Angeles County continued to be the only county in the region with a significantly higher violent crime rate than the rest of the state. *Violent crime rate in Los Angeles County, though reduced by almost a half since 1990, was still among the highest of large metropolitan counties in the nation (see Figure 76 page 93).*

Juvenile Felony Arrests

Juvenile felony arrest rates for those aged 10 to 17 has continuously been declining in the region since 1990 (Figure 64). A felony offense is defined as a crime which is punishable by death or by imprisonment in a state prison. Beginning in 1992, the region has had lower juvenile felony arrest rates compared with the rest of the state. In 2002, the arrest rate was about 40 percent of the 1990 rate. More than 80 percent of the total juvenile arrests were males.

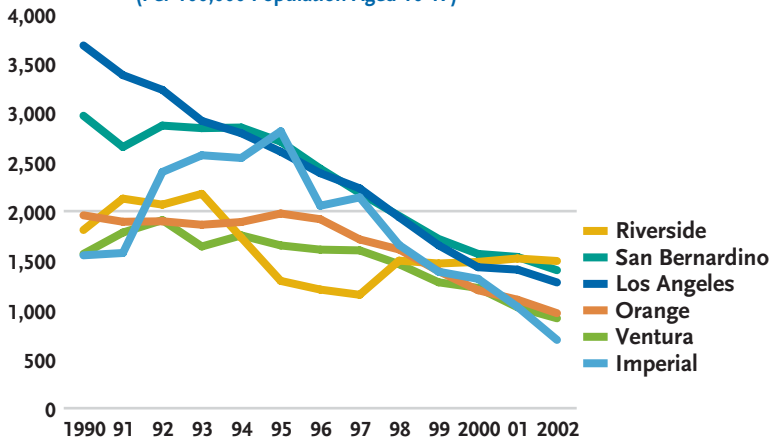
From 2001 to 2002, there were reductions of about 9 percent in juvenile arrest rates in the region. Imperial, Orange and Ventura counties all experienced more reductions in juvenile felony arrest rates than the other counties in the region (Figure 65). The arrest rate in Riverside County declined by two percent in 2002, after increased slightly for two consecutive years.

Figure 64
Juvenile Felony Arrests
(Per 100,000 Population Aged 10-17)



Source: California Department of Justice

Figure 65
Juvenile Felony Arrests by County
(Per 100,000 Population Aged 10-17)



Source: California Department of Justice

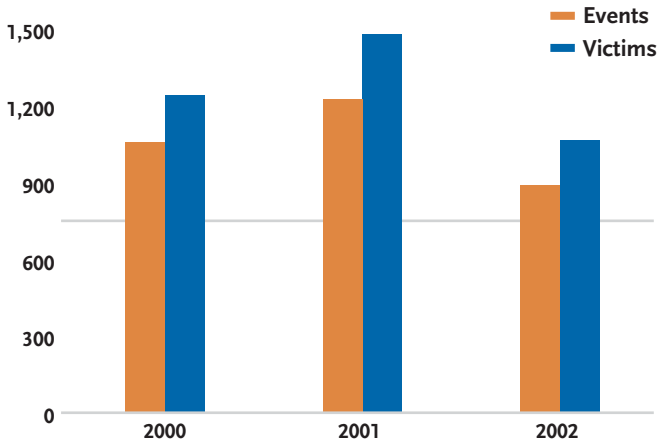
In 2002, the region had more than 27,000 juvenile felony arrests. Close to half of the arrests were due to property offenses while less than 30 percent were violent offenses. It should be noted that juvenile arrests in Los Angeles and San Bernardino counties were more likely for violent offenses while in Orange and Ventura counties arrests were more likely for property offenses.

Hate Crimes

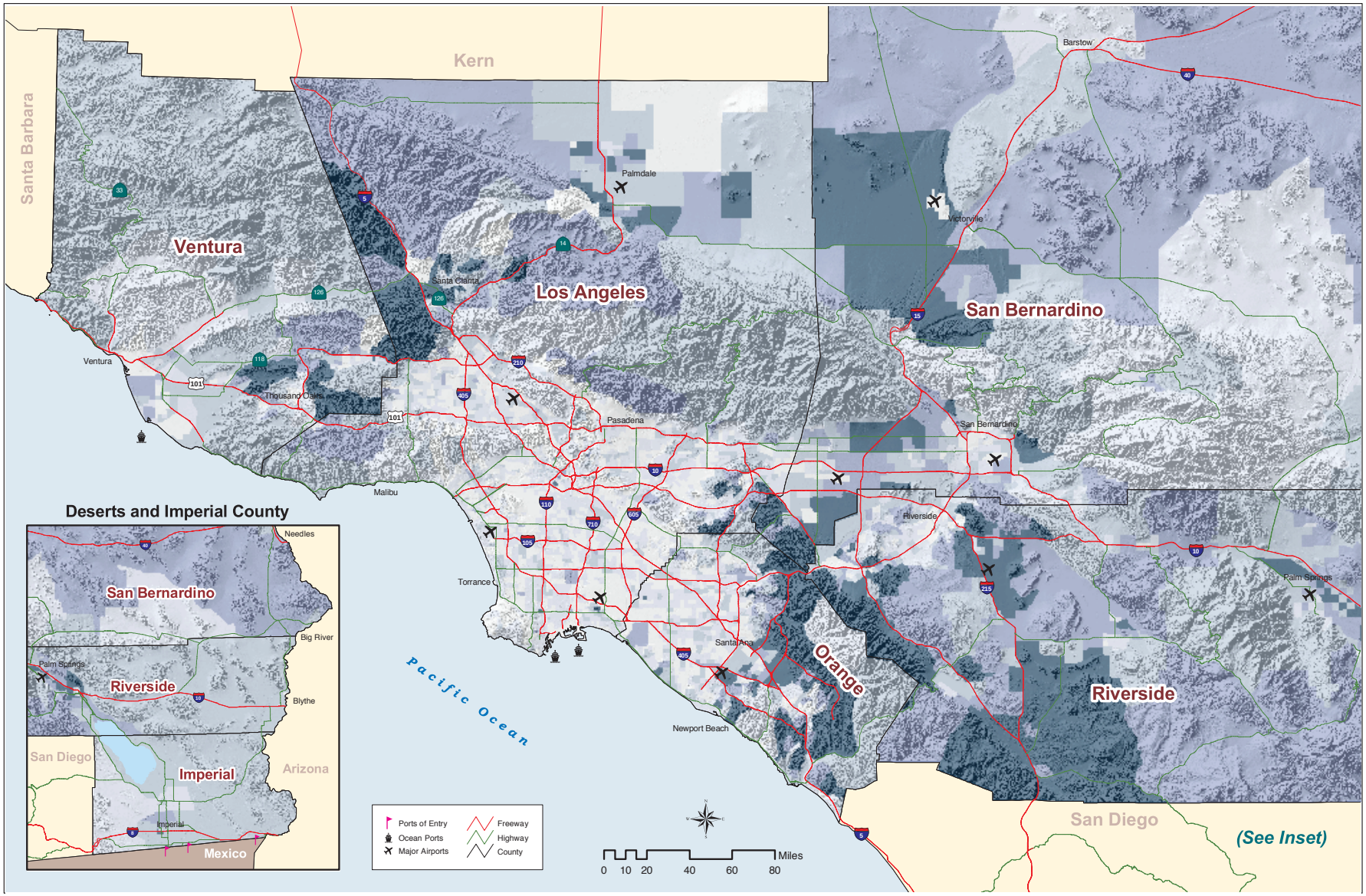
Hate crimes impact not only their victims, but also spread fear throughout entire communities. Hate crimes could be in the form of violent crimes (75 percent) or property crimes (25 percent).[5] As to the motivations for hate crimes in 2002, statewide data indicated that more than 60 percent were due to race/ethnicity bias followed by about 23 percent for sexual orientation bias and 14 percent for religious bias.

The number of hate crime events and victims in the region declined by almost 30 percent in 2002 from 2001. The year 2001 was the peak year in hate crimes in the last five years due primarily to the September 11 terrorist attacks (Figure 66). It is important to note that for three consecutive years, almost 80 percent of the hate crime events and victims were in Los Angeles County.

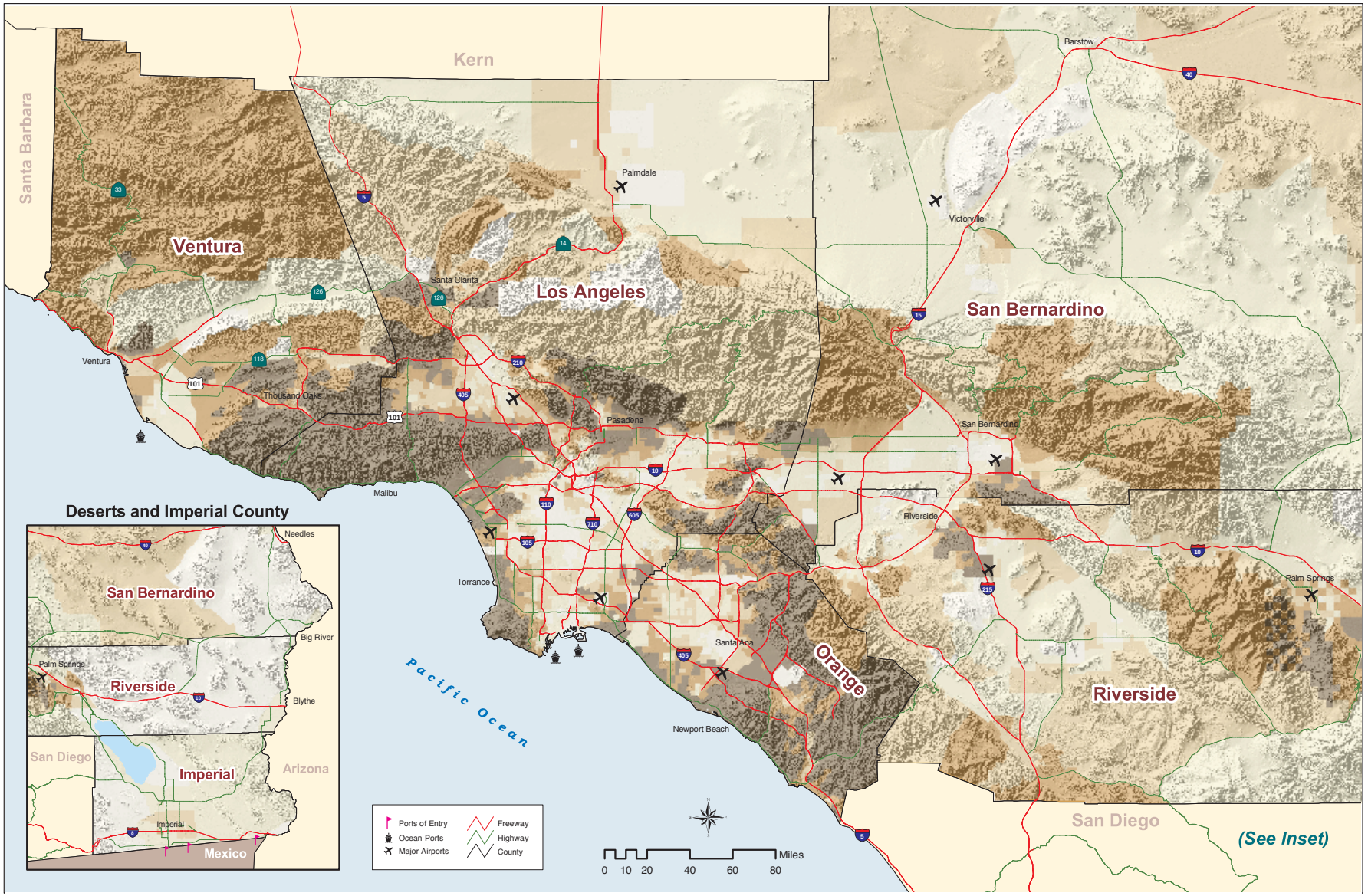
Figure 66
Hate Crime Activities



Source: California Department of Justice


Kern
Santa Barbara
Ventura
Los Angeles
San Bernardino
Riverside
Orange
San Diego
Imperial
Barstow
Palmdale
Victorville
Santa Clarita
Ventura
Thousand Oaks
Pasadena
San Bernardino
Malibu
Riverside
Palm Springs
Torrance
Santa Ana
Newport Beach
Pacific Ocean
(See Inset)
Deserts and Imperial County
Needles
San Bernardino
Big River
Palm Springs
Riverside
Blythe
San Diego
Imperial
Arizona
Imperial
Mexico
Ports of Entry
Ocean Ports
Major Airports
Freeway
Highway
County
0 10 20 40 60 80
Miles
Percent of Housing Built in 1980 or After by Census Tract
0% – 10%
11% – 25%
26% – 50%
51% – 75%
76% – 100%
Source: Census 2000, Thomas Bros. Network
AGE OF HOUSING STOCK
Housing Built in 1980 or After
SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS
c:\=state_region2003 11/2003

Map 6



Percent of Persons (25 Years and Over) with a Bachelor's Degree or Higher by Census Tract

- 0% – 5%
- 6% – 15%
- 16% – 25%
- 26% – 40%
- 41% – 100%

Source: Census 2000, Thomas Bros. Network

EDUCATIONAL ATTAINMENT
Persons With a Bachelor's Degree or Higher

SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

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THE "COMMONS" IN SOUTHERN CALIFORNIA

John Fregonese

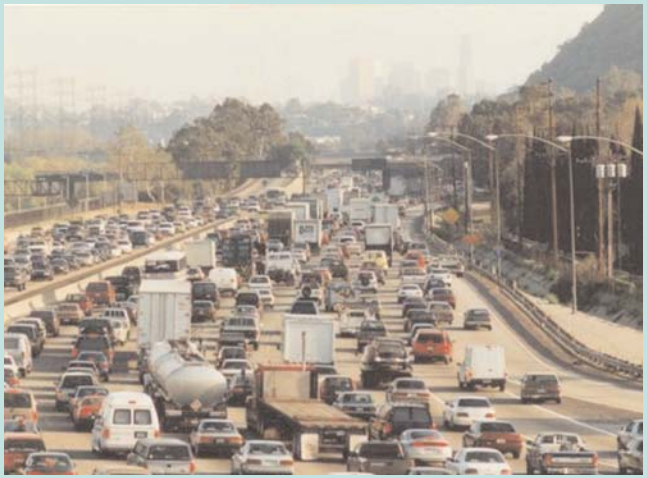
In a small fishing village, 10 fishing boat captains meet to discuss a dilemma. Each year, there are fewer and fewer fish to catch. In order to feed their families, they range farther and farther in search of more fish, and still the catch diminishes. Their conclusion is they are over fishing and that if something is not done the fishery will collapse.

If they cooperate, each of them will fish a little less, and the fishery will recover. But if only one violates the pact, that one will reap a bounty and the rest will suffer. Their dilemma, in essence, is that as long as they act individually with no cooperation, they are forced to compete for the few remaining fish. But by joining forces and working together, they all benefit consistently and for the long term.

What does this story have to do with the Southern California region? It is one of the many parables that illustrates a form of market failure – one in which competition for a shared resource ultimately wreaks havoc for everyone, including the individual. While the basis of our free market system is that society is better off when everyone tries to maximize his or her own personal advantages, in some cases, when everyone is competing for the same limited resource, everyone is worse off.

Garrett Hardin conveys this concept eloquently in his 1968 article, "The Tragedy of the Commons," which examines a common pasture used freely by the village herdsmen:

> "Adding together the component partial utilities, the rational herdsman concludes that the only sensible course for him to pursue is to add another animal to his herd. And another.... But this is the conclusion reached by each and every rational herdsman sharing a commons. Therein is the tragedy. Each man is locked into a system that compels him to increase his herd without limit – in a world that is limited. Ruin is the destination toward which all men rush, each pursuing his own best interest in a society that believes in the freedom of the commons. Freedom in a commons brings ruin to all."

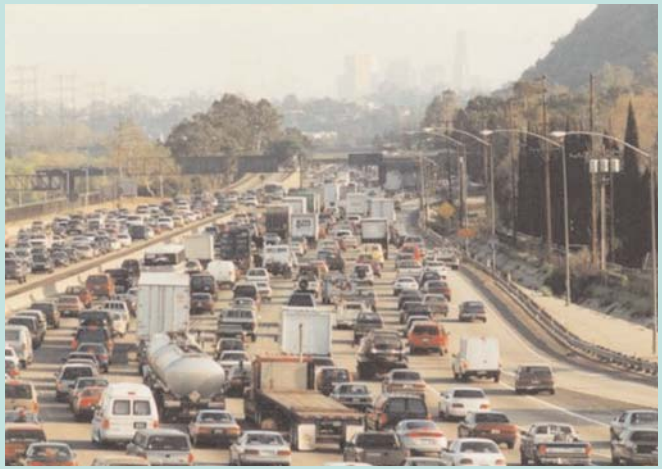


The tragedy of the commons leads to pollution of our air.

This dilemma is one that regions of all sizes and in all parts of the world grapple with. By its very nature the modern metropolis is filled with areas of common and community-wide use – its

transportation system, air, water and natural beauty, just to name a few. As a result, there is an inherent tendency to overuse the commons – to love them to death, in a sense.

Solving this dilemma can be vexing and problematic. It's tempting to simply increase the supply of the commons (e.g., add lanes to the road system), which works for a while but ultimately cannot keep pace with the increased demand. Other potential solutions continue to frustrate those who justifiably worry that regions will suffer if the prevalent thought is that things will all somehow magically work out.



Adding lanes is a tempting fix, but ultimately does not solve the problem.

The Southern California Association of Governments (SCAG) is the only regional planning organization in Southern California that covers the big picture of addressing a metropolitan area and its issues related to commons. SCAG has been exploring solutions – in the form of a regional vision called the "Compass" project – that possibly will reduce the "tragedy of the commons."

While there are many facets to the Compass project, among the most noteworthy is the creative approach that could be used to manage transportation, other than by increasing supply. The beauty of the Compass project is that it points to a combination of strategies that may just work. What those of us involved in the Compass project strive for is simple yet complex: we are exploring a more civilized option in keeping the regional commons in good condition by creating a cooperative agreement that allows for independence while also improving the quality of life.

The Nature of the Metropolis

Southern California is many things to many people – the region boasts an enviable setting, with a moderate climate and varied terrain that ranges from sandy beaches to rolling hills, snow-capped mountains to captivating deserts. Its diverse cultural mix provides residents and visitors with a strong sense of community, endless entertainment possibilities, and abundant

These green hills of Ventura County help make Southern California a desirable place to live.

enrichment opportunities. The region – whose dynamic economy is the 12th largest in the world and one of the largest concentrations of employment, income, business, industry and finance – promises that prosperity is within reach for everyone. All of this, to millions of people, continues to make Southern California a very desirable place to live.

Despite its sheer size, it often is not recognized by its residents as one of the largest metropolises in the world. Called "citistates" by Neil Pierce, large settlements such as Southern California are the source of most of our economic growth and soon will become where the vast majority of people live. This century will see the formation of many citistates of 20 million residents of more – and Southern California not only will be among them, it will be a leader in many ways.

It is the nature of the American metropolis, however, that regions are politically divided into many local governments, and for good reason. Some of the most important local services, such as police and fire protection, are provided most efficiently by smaller units of governments. Land-use decisions, too, typically are best handled at a small scale – by a small city or neighborhood.

But in many cases, local governments must cooperate for some services – transportation being a good example. Because large capital projects such as a regional freeway or transit system are beyond the ability of individual cities to fund or create, regional agencies have been created.

Perhaps the interesting thing about the Southern California region is that its regionalism is so obvious when viewed from the large scale (such as from space or by satellites). People recognize that their community is not defined by the city or county boundaries but by the metropolis itself. Nevertheless, the prevailing opinion has been, even among esteemed land-use and regional planning colleagues, is that it is really several regions, or is simply too large to manage.

While there are many strong sub-regional forces in this region, the obvious also is true – that this is one region, and our failure to comprehend this is both a lack of readily accessible regional data and a failure of imagination. Certainly if huge metropolitan areas such as New York and London can understand and define their regional issues, Southern California can as well.

The Compass project points to this overarching theme as the foundation of all that the region hopes to accomplish. Compass strives to bring a regional approach that is valid, that adds important perspectives, and that provides a strong context of sub-regional and local perspectives. All of these elements are essential for managing the future of this dynamic area.

Scenario Planning: A New Approach

Looking into options for Southern California requires going far beyond the traditional planning approaches used in most cities. One extremely useful tool for large regional planning is a model known as "scenario planning, which has been used effectively to help metropolitan areas plan for a future that is, by definition, unpredictable.

The future is not fixed. Scenarios show us that various futures are possible, depending on the choices we make.

Scenarios essentially are stories about what might be. They are not forecasts, and they are not predictions. They are possible futures that are based on what already exists, on trends that are evident, on the values and preferences of a region, and on decisions that might actually shape future outcomes. They are created by considerable public input. Usually three or four scenarios are constructed as a way to compare outcomes and learn about the forces shaping the future. The point, of course, is to find out which strategies work best in which scenarios. If a strategy works in any scenario, it is deemed robust – it's a safe bet. If a strategy works in only one scenario, it is fragile and should be approached cautiously, with a strong awareness of the possible downsides.

The purpose of this growth visioning process is to determine how to create a shared regional vision with strategies that are as robust as possible.

Models

One of the problems in developing realistic scenarios is the size and complexity of such a huge region. To help manage this problem, computer models were used extensively in developing these scenarios. They act as representations of reality that are used to learn, to teach and to explore new possibilities.

For Compass, three computer models developed by SCAG were used in preparing and evaluating the scenarios.

- A forecasting model used to develop future demographics and economic factors.
- A land-use model that provides detailed information about the 35,000 square miles within the SCAG region.
- A transportation model used to design and evaluate future transportation systems.

Land Use and Transportation Strategies

In keeping with the philosophy of scenario planning, a research project was begun in partnership with the SCAG Regional Transportation Plan team to examine several scenarios and to see what effects the various land-use alternatives would have on transportation performance. While many theories have been discussed in the past, there has been little applied pragmatic work to examine what realistic choices are available to the residents of Southern California. This research was undertaken with the understanding that experimentation of this type would inform both the SCAG Regional Transportation Plan and the Compass Vision.

To study the effect of alternative land-use designs on regional transportation performance, two "bookend" land-use scenarios were created for the Southern California region. These became known as the PILUT (Planning for Integrated Land Use and Transportation) scenarios. PILUT 1 and PILUT 2 are like two different snapshots of the future – they imply different consequences for the region. The two scenarios were built with the idea that the information gained would help create the Growth Vision. The idea was that perhaps one scenario would evolve into a vision of the future, or elements of both would be combined to create a regional vision. They were compared with a trend projection, or an extrapolation of current trends applied to the landscape and policies in place during the past decade.

Building the PILUT Scenarios

The scenarios were built by modeling development types, representing a mix of land uses, throughout the region. The 15 development types are based on existing areas in Southern California.

The components of the development types are the "building types," which were established based on real world examples found within the Southland. The building types represent a wealth of data – from jobs and housing types to the mix of land uses to building height and parking requirements – applied at the smallest level of geography available (about five acres). Each development type represents a unique grouping of building types. Development types, therefore, carry with them all the details of life necessary to understand the virtual place they represent.

At their most basic level, development types represent households and employees for a given amount of land. In addition to this simple representation of density, other related information can be gleaned as well, such as the amount of impervious surface, percentage of rental units, single-family and multi-family mix, infrastructure costs, and other derived assumptions. Scenario population was derived using development types, allowing for direct comparisons between them via evaluation criteria such as land consumption, comparative infrastructure costs, and housing and job profiles.

PILUT 1

This alternative is often referred to as the "infill" scenario. It is based on an intense realization of the growth potential found in the Coastal Basin of Los Angeles and Orange counties and in the San Fernando Valley. In PILUT 1, both jobs and housing growth would be focused on existing centers and corridors throughout the region. The majority of the workshop maps employed similar strategies for accommodating growth.

In this scenario the city of Los Angeles, building upon its growing multi-ethnic population, would be transformed into an international city rivaling any in the world. Los Angeles would be home to significant amounts of growth, most of it occurring through infill development. The intensive network of transportation corridors would require a great deal of reinvestment, creating highly desirable places to live near the jobs of the central city, as well as locating both jobs and households near excellent transit service.

PILUT 1 focuses growth in areas that are already developed.

Beyond the Coastal Basin, cities would experience a large amount of investment. To reduce trips and make transit more widely available, development that might currently locate along interchanges instead would be focused on the combination of existing well-connected road networks, transit access and existing services. This development would be mixed use, with close proximity to goods and services for new households.

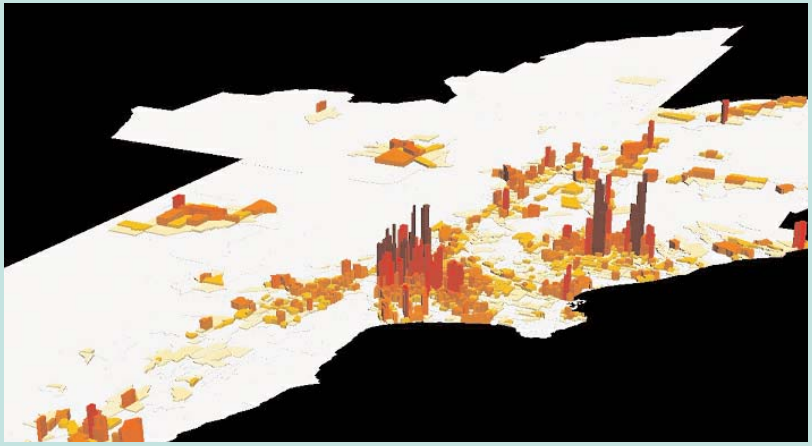
PILUT 2

This alternative is often referred to as the "fifth ring" scenario. It is based on a broad distribution of future growth in the region. While the basin is still popular, an increasing share of growth will locate in newer cities. Places such as Palmdale and Ontario would become regional centers, with growth similar to that experienced by Orange County in the '60s and '70s. Because most of the development occurs at the edge of what is developed today, many currently separate towns and cities would grow together. Growth of the outer ring cities would transform the region, bringing economic growth to areas that have seen mostly housing development during the last decade. The region will become even more polycentric, with Palmdale, San Bernardino/Riverside, and Los Angeles operating as the three large centers from which growth extends.

With the outward expansion in business growth, Los Angeles would not see the extent of growth seen in PILUT 1. With job growth focused around the Ontario airport, San Bernardino and Riverside would merge to become one unified job destination. Palmdale would grow at a rate and density similar to Las Vegas during the last decade – minus the casinos, of course.

There would be a significant number of new jobs coming to these emerging areas as manufacturing finds its place among the new investments in airports and centers. Accompanying all of these jobs are thousands of new homes, ensuring a balanced mix of jobs and housing that will allow the transportation system to work most efficiently.

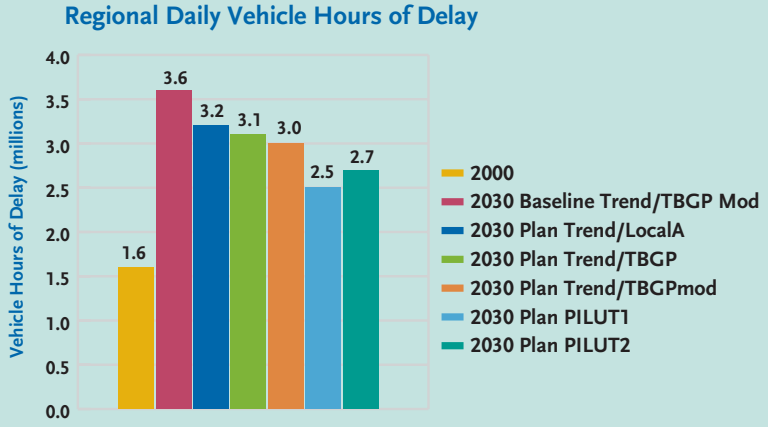
Within the centers themselves, housing will play a smaller role, since commerce is the undeniable king. These areas, however, would be home to a significant number of homes, primarily multi-family with some small lot single-family homes at the edge. Redevelopment and infill would continue to play a role in developing new housing, likely continuing at roughly the same pace as today.



PILUT 2 places more growth in the High Desert.

PILUT Performance

The two PILUT scenarios, both using land use integrated with transportation, turned out far better in the modeling results than the trend-based scenarios and the composite of local plans. Specifically, with the same amount of investment, there was significantly less congestion and more transit and walking than if the region continues as is (the complete results are available on the SCAG website). When the results are taken in whole, it is clear that either of the PILUT land-use scenarios would be superior to the trend scenarios – and they would achieve the equivalent of billions of dollars of transportation investments. Clearly, smart land-use choices are one of the best potential strategies that can and should be used.

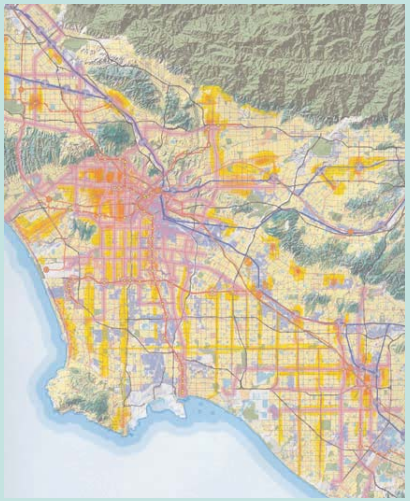


Putting it Together: the Growth Vision

Lessons Learned, Discoveries

Fundamental among our "lessons learned" is that the physical limits on developable land, from mountains and streams to existing development, will require finding new ways for the region to grow. Unable to rely on a never-ending supply of usable vacant land, cities and developers will need to look toward mixed-use development and locating new jobs and houses in developed areas that are capable of supporting growth.

The region is rich with efficient and well-connected centers and corridors. These are prime areas where investment in infrastructure can act as a catalyst to focus growth. Development in these areas provides residents with many options for travel – from foot to bus to car – and minimizes reliance on scarce vacant land. Modeling has shown that intensifying growth in these areas, along with creating a mix of uses, has a great effect on reducing regional congestion and the need for travel.



Southern California is fortunate to have well-connected transportation infrastructure in many areas

Residents of the Southland are more likely to accept higher-density development, especially when it brings investment to areas in need or preserves the region's open space. There is increasing evidence that traditional forms of higher density housing, when combined with the proper amenities and urban environment, are successful in the marketplace.

The amount of land that the region might consume is not as dependent on differing policy choices as it is in many smaller regions surrounded by rural land. In the above cases, the infill scenario (PILUT1) consumed 300,000 acres, the fifth ring scenario (PILUT2) 500,000 acres, and the trend scenario 350,000 acres. While these are large numbers, they are comparable to the land consumption forecast of other smaller regions such as Nashville or Austin with only a fraction of the population increase.

The strategy of combining compact, mixed-use development near major transportation infrastructure proved to be greatly beneficial in accommodating future growth. There is considerable evidence that driving is reduced in areas where land use and transportation are integrated and densities are higher. In a congested region such as the Southland, integration of land use and transportation has an even greater effect.

A Proposed Vision for Southern California

The issue of protecting the transportation commons is a real conundrum for Southern California. According to surveys conducted by the SCAG team in 2002, transportation is the #1 growth related issue by far. People clearly want a complex solution – they consistently reject simple solutions such as having all roads or all transit. They have a mixed reaction to infill – the idea is intriguing and popular, but it can be fearful when it gets close to home.

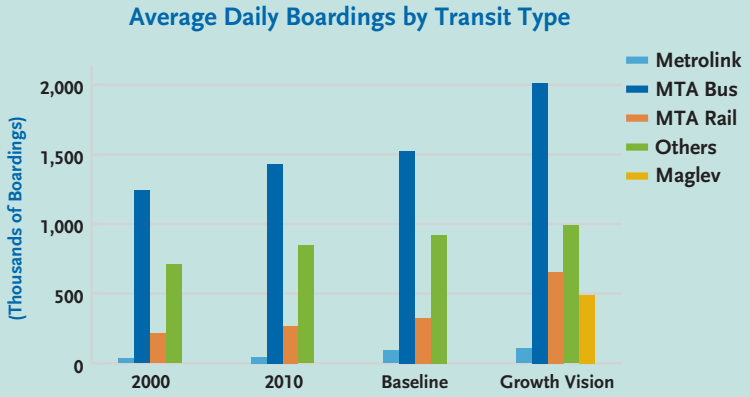
The key is to find a way to integrate the benefits of the strategies into shaping how the region will grow and change. Clearly, this will rest heavily on the many benefits, but an infill strategy also can be appealing for different reasons – downtown and main street revitalization is a popular and efficient way to reduce transportation demand. If the right places can be identified by the entities with local, sub-regional, and regional vision, the region will have a winning combination when it comes to infill.

The creation of the Growth Vision alternative is one way to combine these principles into a viable strategy – and to improve the regional commons by a cooperative strategy. It's important to note that there are many ways to configure the Growth Vision alternative and still achieve the same (or better) results. The important decisions are the principles, strategies and performance of the results. In crafting a practical Growth Vision for the region, we should strive to achieve high performance and beneficial results – while tailoring the land use and investments to local needs and desires.

Results

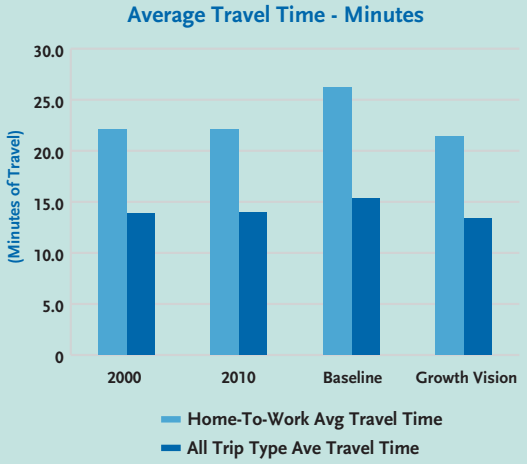
To test the ideas the team built and tested a scenario – with some impressive benefits. Certainly, while the specifics may change, the best overall improvement in transportation is derived from a strategy based on increasing supply and dampening demand.

In the Growth Vision alternative, the Riverside and San Bernardino High Desert modeling zones absorb the most greenfield development, or new development on vacant land.



Ventura and Orange counties have the least development on vacant land. Los Angeles Basin absorbs the most growth – both households and employees – through infill, far more than any other modeling zone. Orange County also absorbs nearly half of its new households through infill.

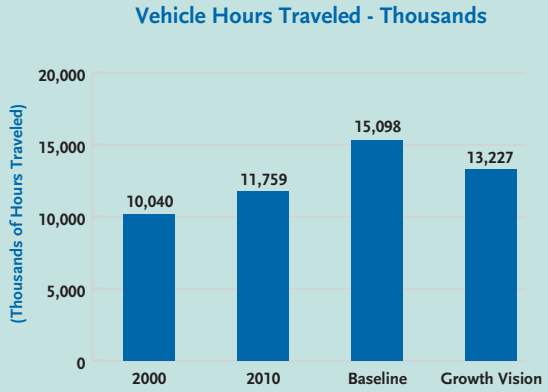
The Growth Vision alternative has much higher transit ridership than the baseline alternative of continuing with current trends.



Total daily transit boardings increased 48 percent in the Growth Vision alternative compared to the baseline. Metropolitan Transit Authority bus boardings increase 32 percent over the baseline and increase 62 percent over the current level. The baseline increases only 22 percent over the current level.

While the baseline increases the current average travel time to work by 18 percent, the Growth Vision alternative actually decreases the average travel time by 3 percent. The Growth Vision alternative also decreases the average travel distance to work, while the baseline increases average travel distance. The Growth Vision alternative decreases average travel distance to work by 2 percent as compared to the baseline.

Both the baseline and the Growth Vision alternatives decrease the average travel distance for all trips compared to the current average travel time. The Growth Vision alternative, however, decreases the average travel time for all trips by 3.6 percent compared to the current time, while the baseline increases the average travel time by 10 percent, from 13.9 minutes to 15.3 minutes. The Growth Vision alternative decreases average travel time by 12.4 percent compared to the baseline.



The Growth Vision alternative performs even better when considering total hours of travel. While the baseline increases hours of travel by 50 percent compared to the current level, the Growth Vision alternative increases the hours of travel by only 30 percent compared to the current level — reducing the hours of travel by 13 percent compared to the baseline.

While the rate for driving alone decreases in both alternatives, the Growth Vision alternative shows a greater increase in the transit mode split. The percentage of people using transit to get from home to work or school increases from less than 5 percent currently and in the baseline to 7.5 percent in the Growth Vision alternative. This represents an increase of 56 percent.

Strategies And Performance

Many Los Angeles area residents may ask why the Growth Vision performs better than the baseline scenario. What strategies contributed to the Growth Vision's superior performance? These carefully constructed strategies provide an important explanation for these questions.

The Growth Vision alternative was created by developing a mix of land uses following certain guidelines:

- Locate growth in areas with robust existing transportation infrastructure (i.e., lots of streets)
- Locate growth in centers and along transportation corridors
- Locate growth near transit corridors/stations
- Locate jobs near housing and vice versa

- Locate heavy trip-generating development in areas with robust existing transportation infrastructure
- Avoid sensitive environmental features such as steep slopes, wetlands and stream corridors

Adhering to these guidelines resulted in the following development patterns, which explains the excellent performance of the Growth Vision:

Compact, corridors and centers focused development

As described above, the Growth Vision is not much more compact than the baseline scenario. But in the Growth Vision alternative, growth was located, as much as possible, in centers and along corridors. Growth was primarily located in existing centers and corridors, but if none existed, new centers and corridors were created.

Centers and corridors often have robust transportation networks that can accommodate more growth.

Locating growth in centers improves transportation performance in several ways. First, the centers themselves usually have a strong street network. There are many streets, options, and ways to reach a destination, so that not everyone uses the same road at the same time. Secondly, centers usually are easy to access. They usually are near freeway exits or at the intersection of other important roadways. Finally, centers usually are accessible by transit, with transit possibly providing mobility within the center as well. These factors allow centers to absorb growth without as much strain on the transportation system.

In addition, when employment and housing are located in centers and along corridors, trips become shorter. Housing, shopping, errands, recreation, entertainment and employment are more likely to be nearby. Even if housing or employment is elsewhere, the center or corridor encourages trip chaining for other needs such as shopping and errands.

Mixed- use development

The Growth Vision employs mixed-use development, which ensures a mix of jobs and housing. Similar to the centers-focused strategy, mixed-use development brings daily errands within reach, shortening the two-thirds of trips that are not related to commuting.

Transit-oriented development

The Growth Vision located as much growth as possible near transit corridors and stations. In some cases, transit stations grew into mixed use, pedestrian-friendly centers, designed so that

The Growth Vision located growth near transit stations and corridors.

people can access them via transit and then walk to other destinations.

Centers-based, transit-oriented development is particularly important for employment. Dispersed employment is nearly impossible to serve via transit because it is too expensive and time-consuming. For commuting by transit to be feasible, employment density is even more important than housing density. Dispersed housing can be served by park-and-ride facilities, but dispersed employment cannot. Destinations (employment) must be close to transit stations. In the Growth Vision, employment density near transit corridors/stations was very high, in order to locate as many jobs as possible near transit, and to make transit a viable commute option.

What's Next?

To become a long-term blueprint for the region, the strategies must evolve into a vision – a common path that reflects the diverse ideas and passions of many people and interests with a shared goal of working together to create a better future.

Fifty years ago, Southern California had a common vision for its future. That vision was based on a shared set of values as well as workable strategies needed to achieve that vision. In today's world, regional problems and their potential solutions are much more complex. Fortunately, there are many efforts under way in the Southland to craft a viable solution that will match the today's regional values. Compass only one of many important efforts. Regardless of varying opinions, everyone's ultimate goal is the same: to identify solutions that will allow us to move into the future with confidence and optimism.

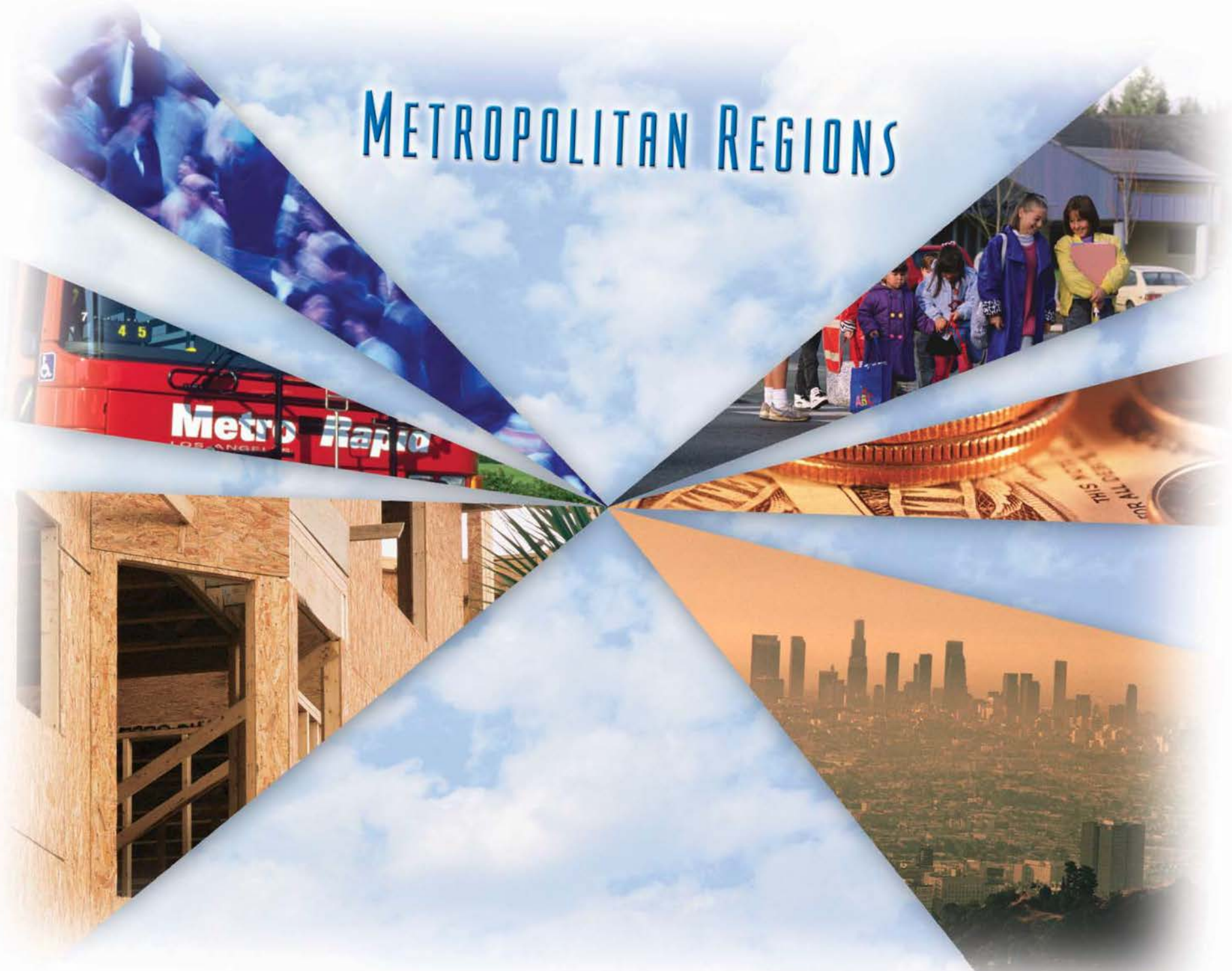
Finding a common vision will help make the future better for ourselves as well as the next generation.

While the solutions remain elusive, it is clear that there are shared values in this region that form the basis of a strong common vision. It is also clear that the Southern California region is in the position of the fisherman worried about the declining fishery. The commons is under stress, and things are getting worse. If we don't cooperate, we will all be worse off – both individually and collectively. SCAG cannot develop or implement this vision alone. The region's leadership and the creation of a shared vision will require the efforts and collaboration of hundreds of groups and thousands of leaders.

The key to success now is the most difficult – discovering the specific action that people can agree on to make the region of their hopes come to fruition. To this end, SCAG, its member governments, and the hundreds of other organizations all must contribute and work together. SCAG, for its part, is ready to do its part to protect the regional commons.

John Fregonese is the Principal at Fregonese Calthorpe Associates, the lead consulting firm for SCAG's Growth Visioning project – Southern California Compass.

Metropolitan Regions



Metropolitan Regions

In order to fully assess the progress of Southern California, it is useful to compare the performance of the SCAG region with other large metropolitan regions in the nation.

Currently, there are nine metropolitan regions in the nation with more than 5 million residents (Figure 67). They are also designated as Consolidated Metropolitan Statistical Areas (CMSAs) by the U.S. Census Bureau. Among them, four are located in the Northwest (New York, Washington, DC, Philadelphia and Boston), two in the Midwest (Chicago and Detroit), one in the South (Dallas) and two in the West (SCAG region and San Francisco Bay Area). In 2002, only two had their population exceeding 10 million, the New York region (21.4 million) and the SCAG region (17.2 million). The other regions had their population between 5 and 10 million. Total population in the nine largest metropolitan regions exceeded 86 million in 2002, about 30 percent of the nation's population.

Socio-Economic Indicators

Population Growth

Between 2000 and 2002, among the nine largest metropolitan regions, the SCAG region achieved the largest population increases of approximately 674,000 people. Southern California also experienced the 3rd fastest growth rate (4.1 percent) following Dallas (6.2 percent) and Boston (5.7 percent) during the same period.

Figure 67

Population by Metropolitan Region

Rank	Metropolitan Region Name	Population 2000	Population 2002	Population Increase 2000-2002 Number	Population Increase 2000-2002 % Change
1	New York–Northern New Jersey–Long Island, NY–NJ–CT–PA CMSA	21,199,865	21,446,497	246,632	1.2%
2	SCAG Region*	16,516,006	17,190,436	674,430	4.1%
3	Chicago–Gary–Kenosha, IL–IN–WI CMSA	9,157,540	9,345,689	188,149	2.1%
4	Washington–Baltimore, DC–MD–VA–WV CMSA	7,608,070	7,764,019	155,949	2.0%
5	San Francisco–Oakland–San Jose, CA CMSA	7,039,362	7,126,545	87,183	1.2%
6	Philadelphia–Wilmington–Atlantic City, PA–NJ–DE–MD CMSA	6,188,463	6,261,007	72,544	1.2%
7	Boston–Worcester–Lawrence, MA–NH–ME–CT CMSA	5,819,100	6,152,066	332,966	5.7%
8	Dallas–Fort Worth, TX CMSA	5,221,801	5,545,719	323,918	6.2%
9	Detroit–Ann Arbor–Flint, MI CMSA	5,456,428	5,509,312	52,884	1.0%
	Total	84,206,635	86,341,290	2,134,655	2.5%

**The SCAG region includes Imperial, Los Angeles, Orange, Riverside, San Bernardino and Ventura counties. With the exception of Imperial, the other five counties belong to the Los Angeles-Riverside-Orange Consolidated Metropolitan Statistical Area (CMSA).*

*** For specific counties included in each CMSA above, please see the Statistical Abstract of the United States: 2002, pages 908-916.*

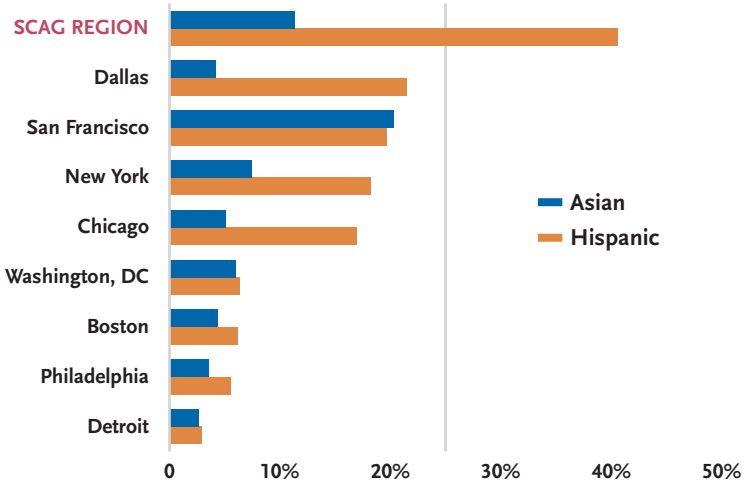
Source: Data in 2000 is based on the 2000 Census, and data in 2002 is based on the Census July 1, 2002 estimates.

Demographic Diversity

Among the nine largest metropolitan regions in the nation, Southern California has the highest Hispanic population share (41 percent) of the region's population, significantly higher than Dallas (22 percent) which placed second. The SCAG region also had the second highest share of Asian population following the San Francisco Bay Area.

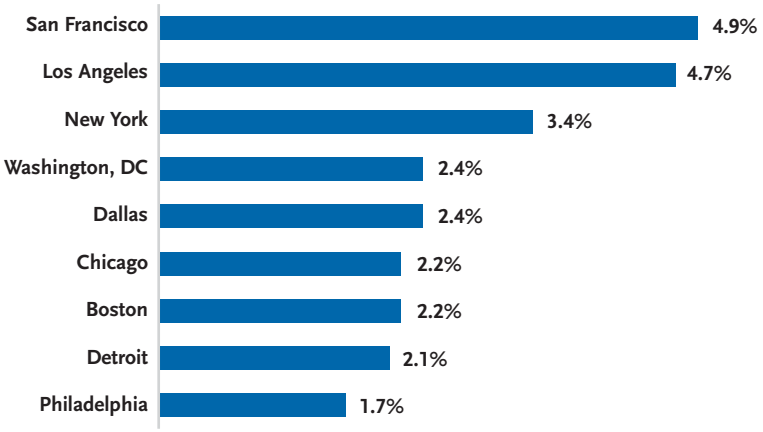
The demographic transformation since 1960 has made Southern California one of the most demographically diverse metropolitan regions, not only in the nation but also in the world. Currently, there is no single racial or ethnic group with more than half of the total population. In addition, 4.7 percent (or 770,000 people) of the SCAG region's total population belonged to two or more races in 2000, the second highest among the nine largest metropolitan regions following the San Francisco Bay Area.

Figure 68
Hispanic and Asian Populations by Metropolitan Region
(Percent of Total Population in Each Region)



Source: 2000 Census

Figure 69
Mixed-Race Population by Metropolitan Region
(Share of Each Region's Total Population)



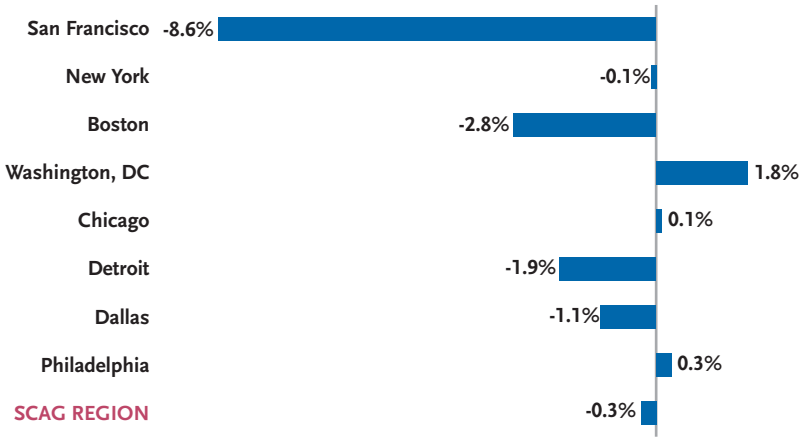
** Mixed-race population are those belonging to two or more races*
Source: 2000 Census

Average Payroll per Job

In 2001 (the most current data available), the average payroll per job in the region decreased slightly by 0.3 percent from 2000 after adjusting for inflation. Among the nine largest metropolitan regions in the nation, the SCAG region ranked 5th in the percentage change of average payroll per job from 2000 to 2001. The San Francisco Bay Area suffered a sharp decline of 8.6 percent in its average payroll per job in 2001.

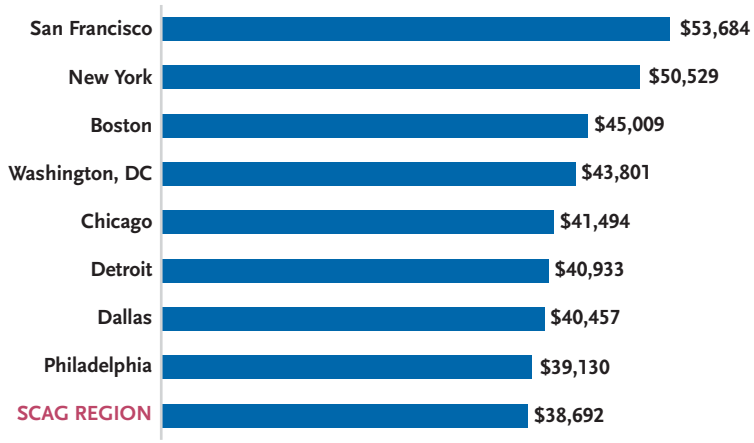
In 2001, the SCAG region ranked last in average payroll per job among the nine largest metropolitan regions. Though the 2002 payroll data is still not available, sectors with significant job losses in the region, such as manufacturing and information sectors, had higher than average payrolls per job. Hence, average payroll per job in the region was likely to continue to decline in 2002.

Figure 70
Average Payroll Per Job by Metropolitan Region
(Percent Change during 2000-2001)*



**With inflation adjustment based on the U.S. Bureau of Labor Statistics*
Source: U.S. Bureau of Economic Analysis

Figure 71
Average Payroll Per Job by Metropolitan Region, 2001



Source: U.S. Bureau of Economic Analysis

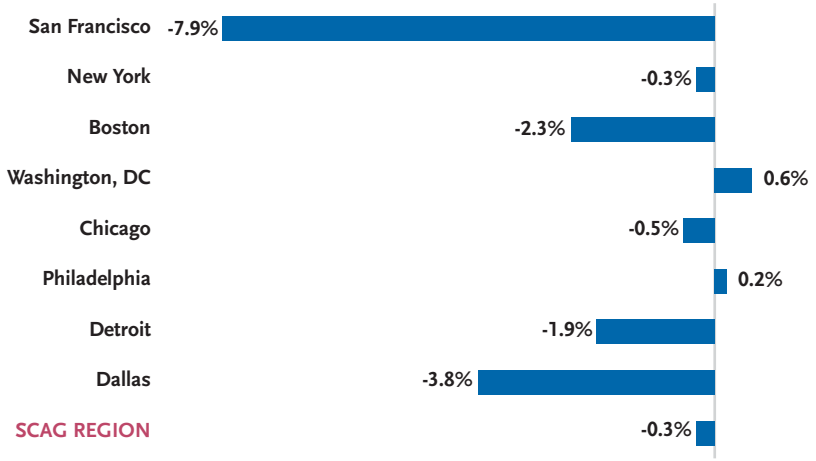
Income

In 2001 (the most current data available), per capita personal income in the region decreased slightly by 0.3 percent from 2000 after adjusting for inflation. The San Francisco Bay Area suffered a sharp decline of 7.9 percent in its per capita personal income. Changes in per capita income generally followed the pattern of changes in average payroll per job.

Data on per capita personal income in 2002 is still not available and is scheduled to be released in May 2004 by the U.S. Bureau of Economic Analysis. However, estimates made by university researchers indicate that the region's per capita income continued to decline in 2002.[1]

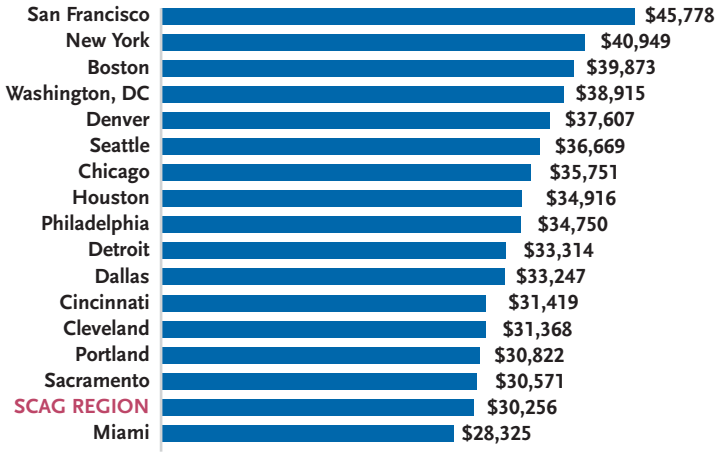
Among the 17 largest metropolitan regions in the nation, the SCAG region ranked 16th in per capita income in 2001 and most likely in 2002 also (after dropping from the 4th highest in 1970 to 7th highest in 1990, to 16th place in 2000).

Figure 72
Per Capital Personal Income by Metropolitan Region
(Percent Change during 2000-2001)*



** With inflation adjustment based on the U.S. Bureau of Labor Statistics*
Source: U.S. Bureau of Economic Analysis

Figure 73
Per Capital Income by Metropolitan Region, 2001

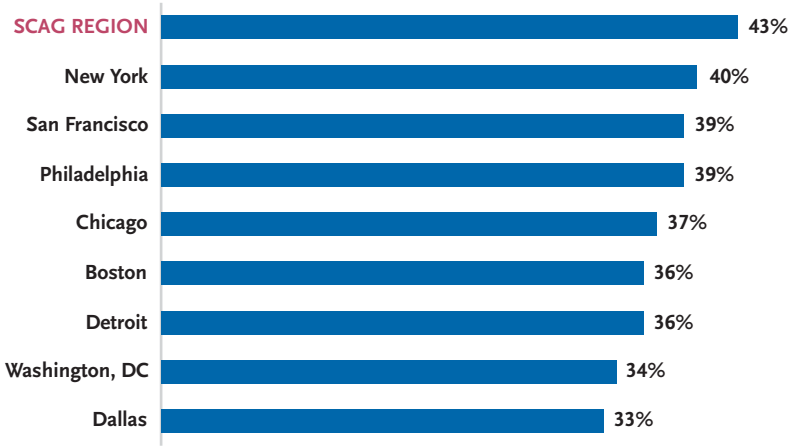


Source: U.S. Bureau of Economic Analysis

Rental Cost Burden

Based on the 2000 Census, the SCAG region had the highest rental cost burden. About 43 percent of the region's rental households had their rents at or greater than 30 percent of the household incomes, the highest among the nine largest metropolitan regions in the nation. With no growth in household income and continuing increases in rents, rental cost burden has been rising further since 2000. In 2002, among the approximately 7.2 million renters in the SCAG region, 52 percent or more than 3.6 million renters spent 30 percent or more of their income on rent.

Figure 74
Rental Cost Burden by Metropolitan Region, 1999
(Renters Paying 30 Percent or More of Household Income on Rent)

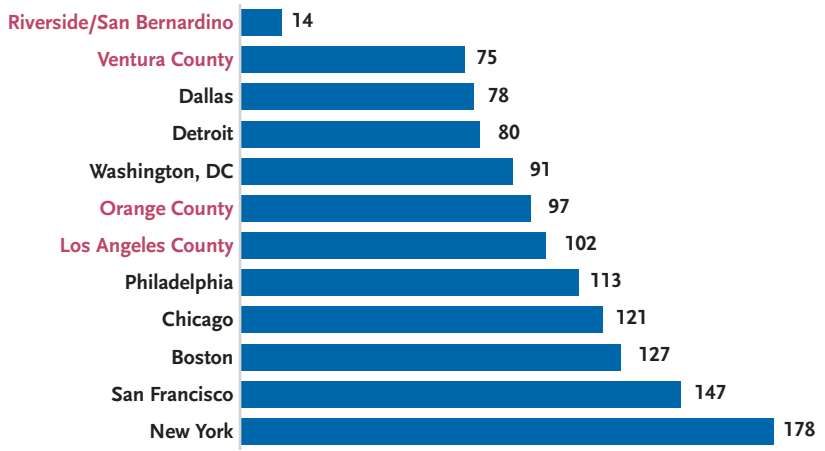


Source: 2000 Census

Development Patterns

In terms of development patterns, among the 83 metropolitan areas in the nation, Riverside/San Bernardino counties ranked as the most sprawling area, Ventura County ranked 9th, Orange County ranked 41st and Los Angeles County ranked 45th. (Imperial County was not part of the study.)

Figure 75
Sprawling Development Pattern Scores by Metropolitan Area, 2000



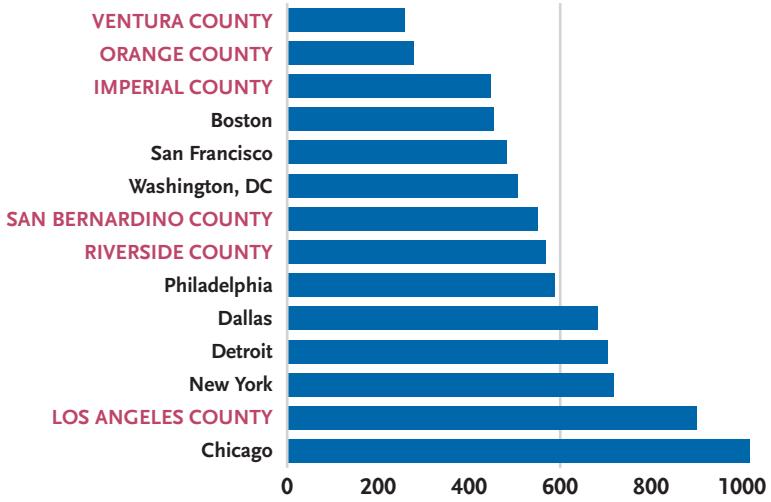
Note: Average score is 100 and areas with lower scores indicating more sprawling development patterns than areas with higher scores. All areas are Metropolitan Statistical Areas (MSAs) unless noted otherwise.

Source: Smart Growth America

Violent Crimes

In 2002, violent crime rates in Los Angeles County, though reduced by a half since 1990, were still the second highest of large metropolitan areas in the nation following Chicago. Orange and Ventura counties had substantially lower violent crime rates than most large metropolitan areas.

Figure 76
Violent Crimes by Metropolitan Area, 2002
(Per 100,000 Population)



**Based on Metropolitan Statistical Areas unless noted otherwise. Data for Chicago is based on crimes in Cook County in 2001 since 2002 data is not available.*

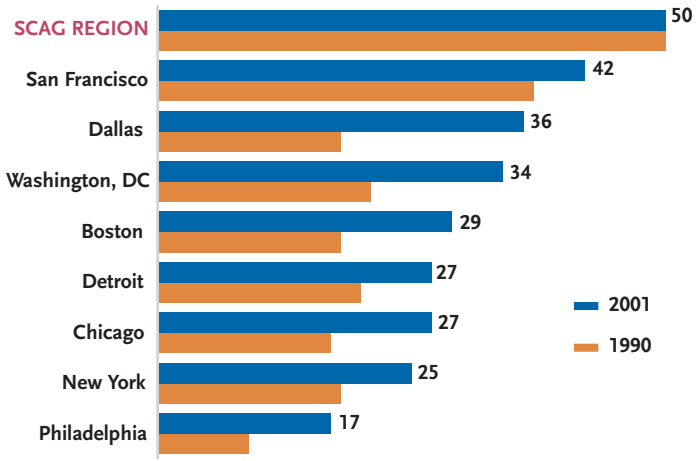
Source: FBI 2002 Crime Report

Transportation

Highway Congestion

In 2001, people traveling on the roadways in the SCAG region experienced a total of 50 hours of delay per person, the highest among the metropolitan areas in the nation. Nevertheless, between 1990 and 2001, annual delay per person stayed almost unchanged in the SCAG region while increased significantly in other large metropolitan areas.

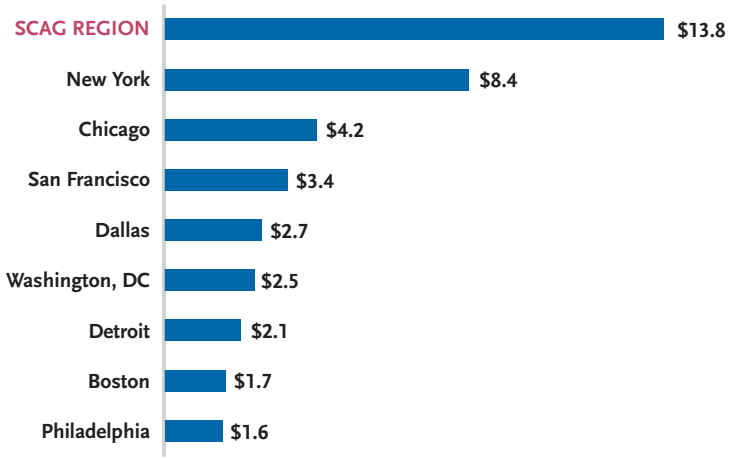
Figure 77
Annual Hours of Delay per Person by Metropolitan Area



Source: Texas Transportation Institute

Since 1990, among the metropolitan areas in the nation, the SCAG region experienced the highest total cost due to traffic congestion. Total cost includes the estimated value of additional time as well as wasted fuels due to congestion. Between 1990 and 2000, total cost of congestion in the region increased from $8.6 billion to $13.8 billion, an increase of more than $5 billion or 60 percent.

Figure 78
Total Congestion Cost by Metropolitan Region, 2001
(Billion Dollars)

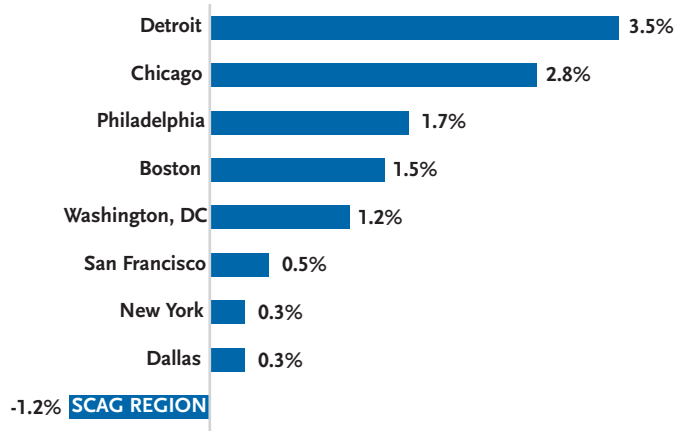


**Includes the costs from delay as well as additional fuels used.*
Source: Texas Transportation Institute

Vehicle Ownership

Among the nine largest metropolitan regions, Southern California was the only region where the percentage of households owning at least a car decreased during the 1990s. Declining household income in the region is a primary factor for the declining vehicle ownership rates.

Figure 79
Change in Household Vehicle Ownership Rate by Metropolitan Region*
(1990 - 2000)



** Change in the percentage of households that owned at least one vehicle between 1990 and 2000.*

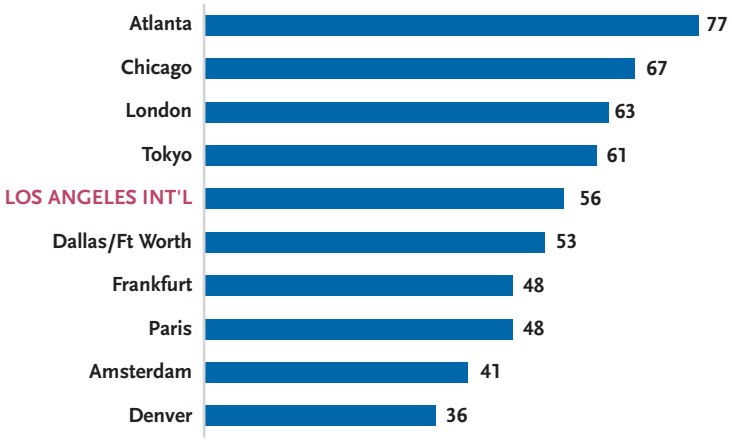
Source: 1990 and 2000 Census

Airports

In 2002, among the ten largest airports in the world, Los Angeles International Airport (LAX) ranked 5th in passenger traffic behind Atlanta, Chicago, London and Tokyo. Total passengers at LAX dropped from more than 61 million in 2001 to 56 million in 2002, a loss of more than 5 million passengers or 9 percent of its annual passenger traffic. Among the top ten international airports, LAX experienced the largest percentage drop in passenger traffic between 2001 and 2002.

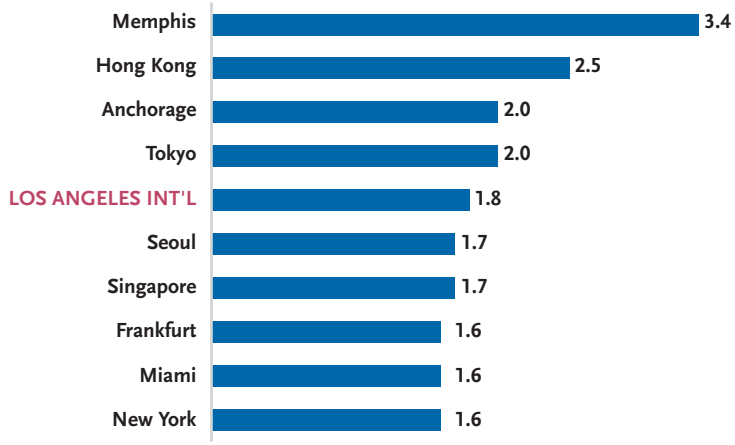
LAX also ranked 5th in air cargo volumes in 2002 following Memphis, Hong Kong, Anchorage and Tokyo. In 2002, Tokyo (Narita) Airport surpassed LAX in total cargo traffic. Among the top ten cargo airports in the world, seven experienced higher growth in cargo shipment than LAX in 2002.

Figure 80
Top 10 Passenger Airports in the World, 2002
(Total Passengers in Millions)



Source: Airports Council International

Figure 81
Top 10 Cargo Airports in the World, 2002
(Total Cargo in Million Metric Tons)

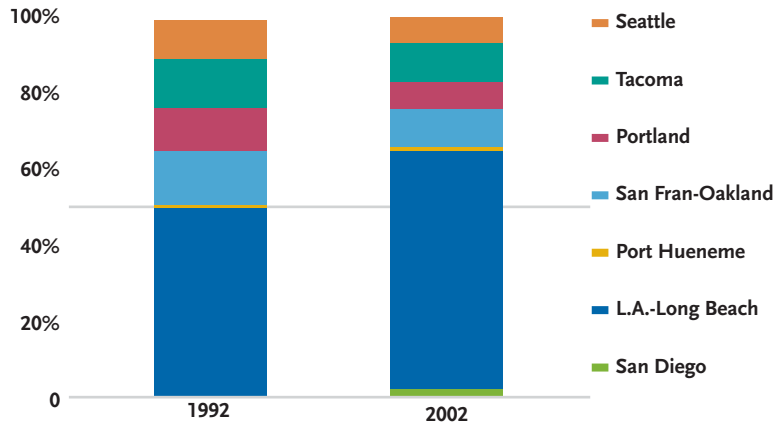


Source: Airports Council International

Ports

Ports of Los Angeles and Long Beach have strengthened their roles among the West Coast ports since 1992. Specifically, among all major West Coast ports, traffic share at the twin-ports increased from below 50 percent in 1992 to 62 percent in 2002. In 2002, the Los Angeles/Long Beach port complex ranked third in the world in container traffic (10.7 millions of TEUs – twenty-foot equivalent units) following Hong Kong (19.1 millions of TEUs) and Singapore (16.9 millions of TEUs).

Figure 82
Cargo at Major West Coast Ports
(Tonnage Share)



Source: Los Angeles Economic Development Corporation

ENDNOTES

Executive Summary

1. Yearly employment data for 2003 was not available when completing this State of the Region Report in November 2003. However, various estimates made by university researchers indicated that the region's job losses in 2003 would be very similar to the 2002 level. Specifically, researchers at the California State University (CSU), Long Beach and CSU Fullerton estimated a decline of approximately 26,000 jobs in the region in 2003, as compared to the 22,000-job loss in 2002. Please see *Regional Economic Forecast for Southern California, 2004-2005*, published by the Southern California Association of Governments, which contains the 2003 employment estimates by the two universities.

2. Data on per capita personal income in 2002, scheduled for release in May 2004 by the U.S. Bureau of Economic Analysis, was not available when completing this State of the Region Report in November 2003. However, estimates made by researchers at CSU Long Beach and CSU Fullerton indicated that the region's real per capita income continued to decline in 2002 from 2001 after the 0.3 percent loss in 2001 from 2000. Please see *Regional Economic Forecast for Southern California, 2004-2005*, published by the Southern California Association of Governments.

3. See endnote 1 above.

4. See endnote 2 above.

Population

1. U.S. Census Bureau, 1960, 1980 and 2000 Census.

2. Southern California Association of Governments. *The State of the Region 2002*, p. 75, Figure 69, available: http://www.scag.ca.gov/publications/.

The Economy

1. U.S. Bureau of Economic Analysis. *Regional Economic Information System*.

2. Job growth in the region in 2001 at 70,000 was a revised number by the California Employment Development Department, lowered from its original estimates of 100,000.

3. See endnote 1 under Executive Summary.

4. Data on employment by sector discussed in this section is based on the Labor Market Information published by the California Employment Development Department.

5. California Department of Finance.

6. See endnote 2 under Executive Summary.

7. U.S. Census Bureau. 2003. *Income in the United States: 2002*.

8. Ibid.

9. California Association of Governments. *The State of the Region 2002*, p. 26, Figure 26, available: http://www.scag.ca.gov/publications/

10. U.S. Census Bureau. 2003. *Poverty in the United States: 2002.*

11. Ibid.

12. Ibid.

13. Southern California Association of Governments. *The State of the Region 2002*, p. 77, Figure 74.

14. Jargowsky, Paul A. 2003. *Stunning Progress, Hidden Problems: The Dramatic Decline of Concentrated Poverty in the 1990s*, published by the Brookings Institution. High poverty neighborhoods are those neighborhoods where 40 percent or more of their population are in poverty.

15. U.S. Census Bureau, *American Community Survey*, 2000 and 2002.

16. All taxable sales data in this section is from the California State Board of Equalization.

17. Data on direct international trade employment is from the *International Trade Trends and Impacts, the Los Angeles Region*, published by the Los Angeles Economic Development Corporation in 2003. Direct international trade employment includes activities related to moving commodities in and out of the customs district and does not include any manufacturing activities.

18. Los Angeles Economic Development Corporation. 2003. *International Trade Trends and Impacts, the Los Angeles Region*.

19. Data provided by the staff of the Imperial Valley Association of Governments.

Housing

1. U.S. Census Bureau, 2000 Census.

2. Southern California Association of Governments. *The State of the Region 2002*, p. 75, Figure 69, available: http://www.scag.ca.gov/publications/.

3. Southern California Association of Governments. *The State of the Region 2002*. p. 79, Figure 77.

4. Southern California Association of Governments. *The State of the Region 2002*. p. 80, Figure 79.

5. U.S. Census Bureau, American Community Survey, 2000 and 2002.

Transportation

1. Southern California Association of Governments. 2003. *Year 2000 Post-Census Regional Travel Survey: Final Report of Survey Results*, p.5.

2. California Department of Transportation. *2001 Assembly of Statistical Reports*.

3. Southern California Association of Governments. *The State of the Region 2002*, p. 44, Figure 41.

4. Southern California Association of Governments. 2003. *Year 2000 Post-Census Regional Travel Survey: Final Report of Survey Results*, p.5.

5. U.S. Bureau of Transportation Statistics. *Transportation Statistics Annual Report 2001*, p. 139.

6. U.S. Bureau of Transportation Statistics. *National Transportation Statistics 2002*. p.148.

7. 1990 and 2000 Census

8. Southern California Association of Governments. *The State of the Region 2002*, p. 47, Figure 45.

9. U.S. Census Bureau, *American Community Survey*, 2000 and 2002.

10. Southern California Association of Governments. *The State of the Region 2002*, p. 81, Figure 82 and p. 82, Figure 83.

11. U.S. Census Bureau, *American Community Survey*, 2000 and 2002.

12. Ibid.

13. Data in the Telework section is from the *2002 Telework Study: Final Report* published by the Southern California Association of Governments.

14. U.S. Census Bureau.

15. Southern California Association of Governments. 2003. Aviation System Status (Staff Memo).

16. Airports Council International.

17. U.S. Census Bureau.

18. Los Angeles Economic Development Corporation, 2003. *International Trade Trends and Impacts, the Los Angeles Region*, p.4.

The Environment

1. South Coast Air Quality Management District.

2. Ibid.

3. Ibid.

4. Ibid.

5. Ibid.

6. California Air Resources Board.

7. South Coast Air Quality Management District.

8. Ibid.

9. SCAG staff estimates based on various water management plans in the region.

10. Ibid.

11. On October 16, 2003, a historic agreement was reached regarding the allocation of water from the Colorado River for Southern California. Part of this complex agreement contains that the Imperial Irrigation District (IID) will sell water to the San Diego County Water Authority for at least 75 years in the nation's biggest shift of water from farms to cities. In addition, the Metropolitan Water District can also buy water from the IID.

12. Metropolitan Water District. 2003. *A Report on Metropolitan's Water Supplies*.

13. Ibid.

14. Natural Resources Defense Council. 2003. *Testing the Waters: A Guide to Water Quality at Vacation Beaches*.

15. Ibid.

16. California Integrated Waste Management Board, available: http://www.ciwmb.ca.gov/Landfills/tonnage/.
The CIWMB obtains disposal information from returns filed with the California State Board of Equalization by disposal facility (landfill) operators. The figures reflect the amount of waste that is landfilled, or disposed of, in the SCAG region, as reported by each facility operator, rather than the total amount of waste generated in the region.

17. California Integrated Waste Management Board. 2000. *Achievement, Progress and Promise: A 10-Year Status Report of the California Integrated Waste Management Act*.

Quality of Life

1. Existing urban footprints are areas that have been developed.

2. Transportation Research Board. 1996. *Transit Research Cooperative Program Report 16. Transit and Urban Form*.

3. Ewing, Reid., et al. 2003. *Measuring Sprawl and Its Impact*. Published by the Smart Growth America.

4. Ibid.

5. Southern California Association of Governments. *The State of the Region 2002*, p. 76, Figures 71 and 72.

Metropolitan Regions

1. See endnote 2 under Executive Summary.

LIST OF MAPS

The Thomas Brothers Network was used in SCAG maps.

LIST OF FIGURES

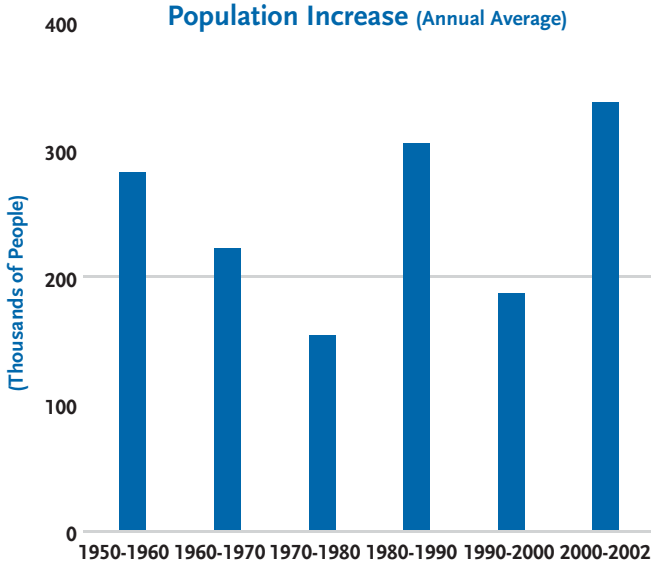
** Figures shown in the Appendix*

** Figures shown in the Appendix*

** Figures shown in the Appendix*

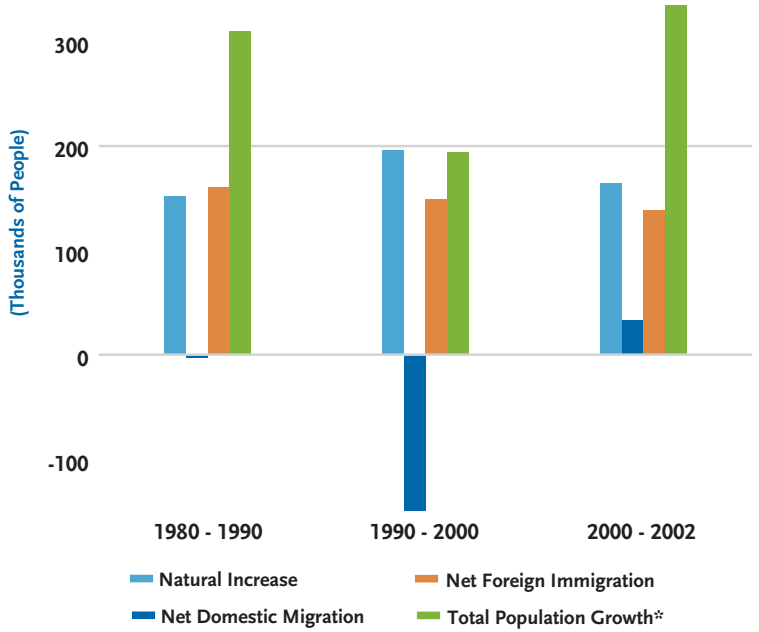
APPENDIX OF ADDITIONAL FIGURES

Figure 2a
Population Increase (Annual Average)



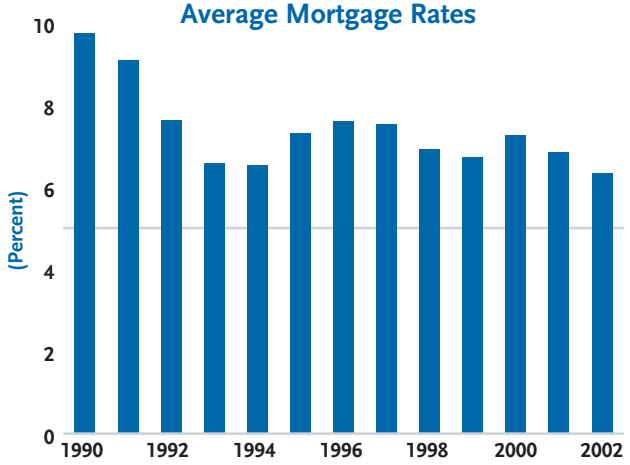
Source: U.S. Census Bureau and California Department of Finance

Figure 4a
Population Growth by Types of Source
(Annual Average)



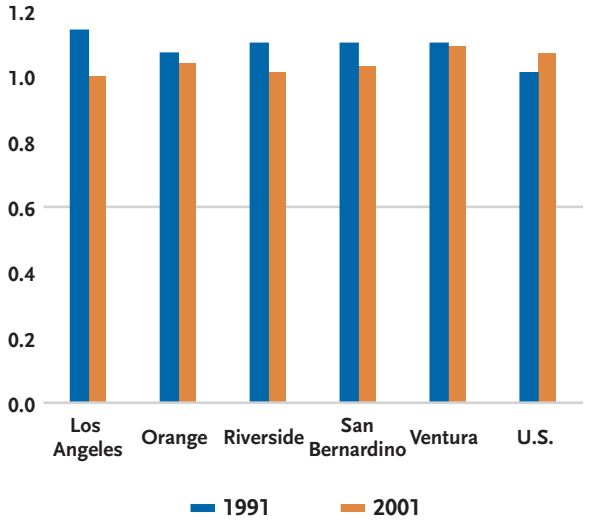
** Total Population Growth = Natural Increase + Net Domestic Migration + Net Foreign Immigration*
Source: California Department of Finance

Figure 31a
Average Mortgage Rates



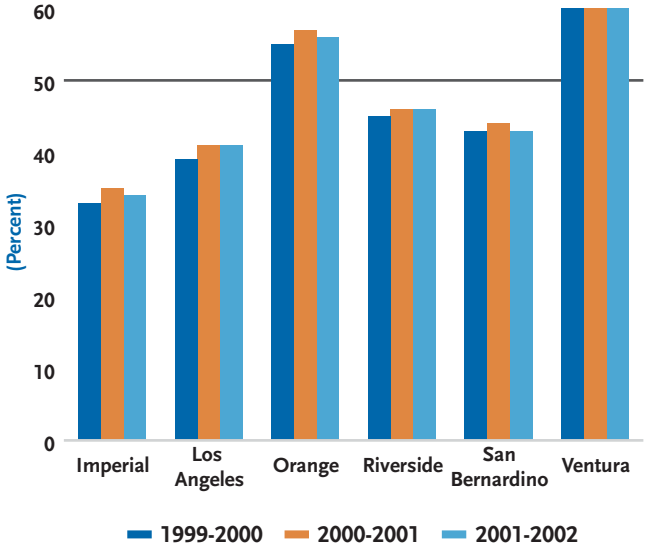
Source: Real Estate Research Council of Southern California

Figure 37a
Vehicles per Licensed Drivers



Source: SCAG 1991 and 2001 Travel Surveys and U.S. Bureau of Transportation Statistics

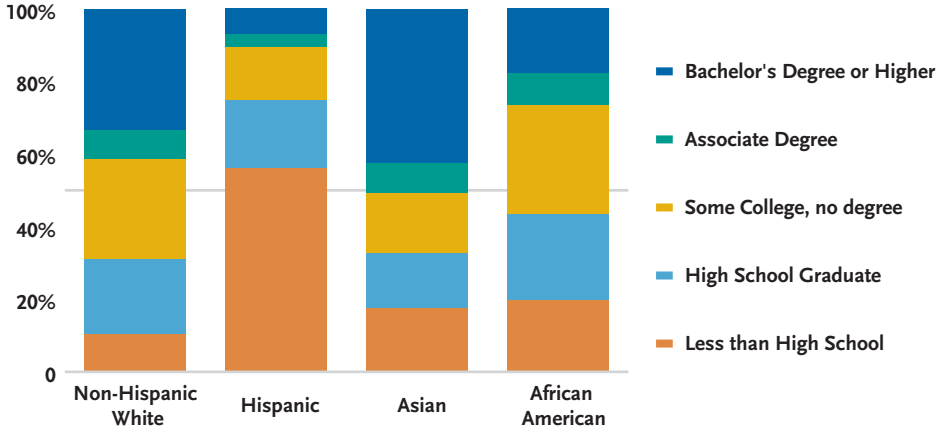
Figure 57a
Reading Test Score for 8th Grade
(Percent above National Median Score)



** Standford 9 Test. Performed better than the nation if more than 50% of the students were above the national median*

Source: California Department of Education

Figure 61a
Educational Attainment by Race/Ethnicity
(Population 25 Years and Over)



Source: 2000 Census

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- Providing quality information services and analysis for the region.
- Using an inclusive decision-making process that resolves conflicts and encourages trust.
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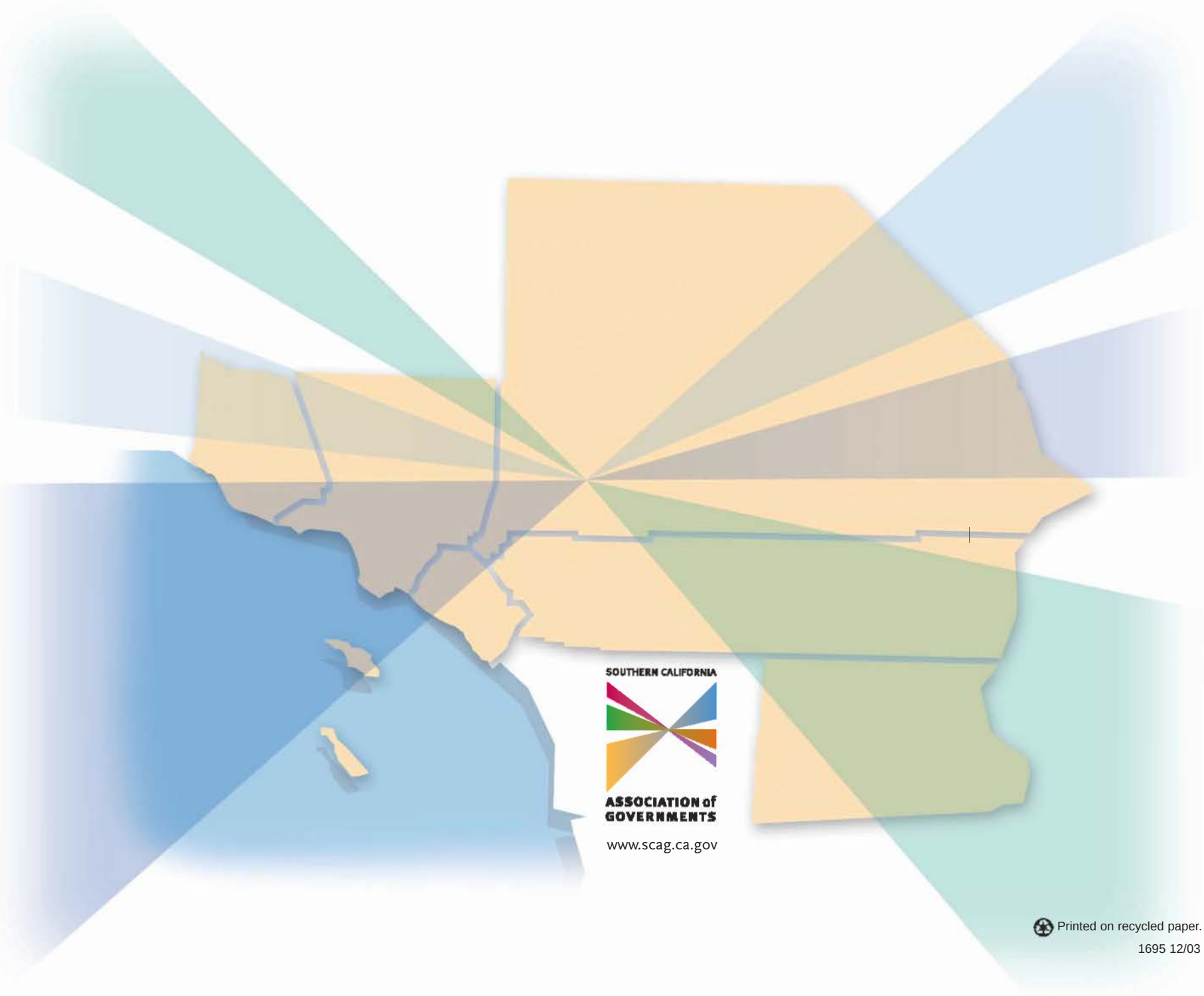

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