

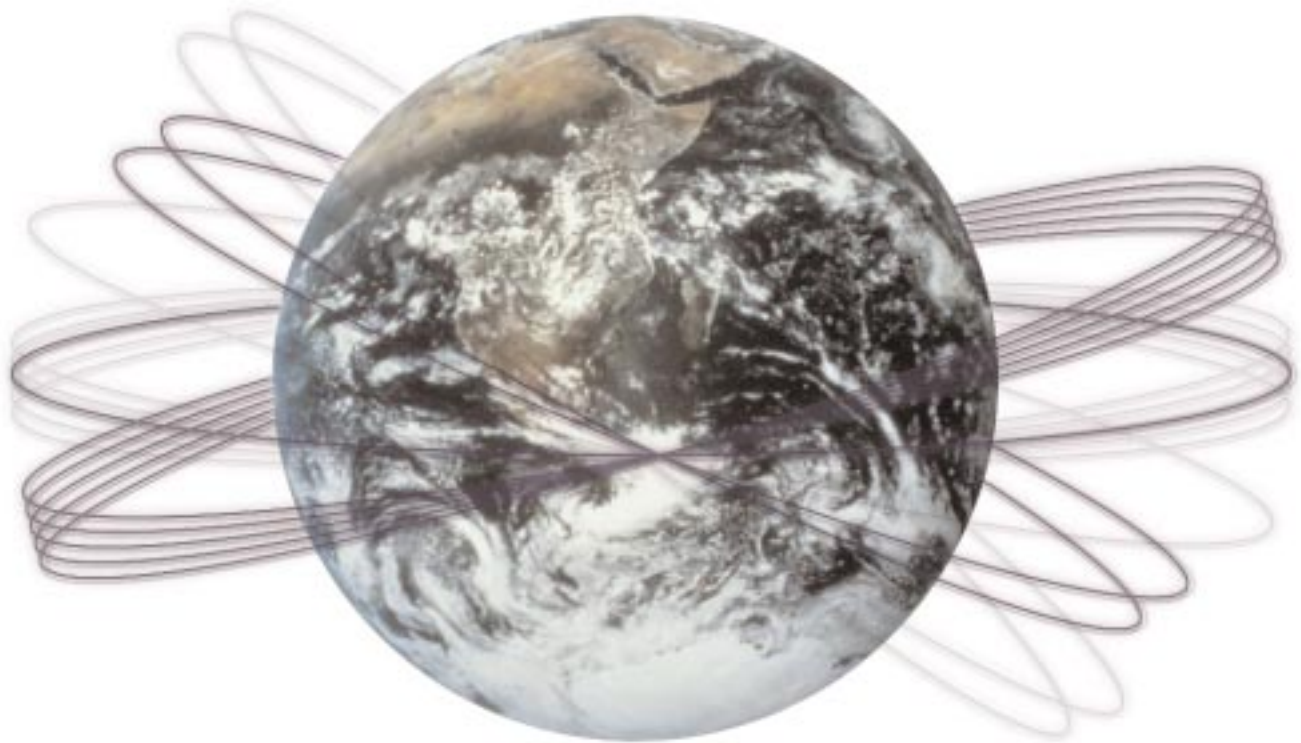
S A N D A G

# INFO

JANUARY-FEBRUARY 2000, NO. 1

THREE DOLLARS

## *TRAFFIC BY THE NUMBERS* *in the San Diego Region*



*EVERY WEEKDAY, MOTORISTS IN THE SAN DIEGO REGION  
DRIVE THEIR VEHICLES ALMOST 3,000 TIMES  
AROUND THE EARTH!*

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## **INTRODUCTION**

The region's recent recovery from the economic recession earlier in the decade means large increases in the number of people, jobs and cars in the San Diego region. These gains, along with similar trends in the 1980s, have resulted in a dramatic increase in the number of vehicle miles traveled (VMT). In 1978, the average number of vehicle miles traveled each weekday was 34 million miles. By 1999, this figure had more than doubled to over 70 million miles. This increase in the use of our freeways and roads is apparent to anyone using them, and important to those responsible for building and maintaining a smoothly functioning transportation system.

SANDAG compiles vehicle count information for over 4,000 individual roadway segments in the annual report, *San Diego Region Average Weekday Traffic Volumes*. In the most recent publication, data for 1995 through 1999 is reported. Traffic volumes also are illustrated on three display-size traffic flow maps covering the San Diego Metropolitan Area, North San Diego County, and the mostly rural East San Diego County.

Each of the region's 19 jurisdictions measures the number of vehicles on local streets and major roads. Caltrans, the California Department of Transportation, conducts vehicle counts at designated locations along each freeway. Vehicle miles of travel is then calculated by multiplying the number of vehicles on a particular freeway or street segment by the length of the segment.<sup>1</sup>

SourcePoint, a non-profit corporation chartered by SANDAG, can conduct detailed transportation analysis using traffic volume information and other transportation, demographic, and economic information. For more information about these and other SANDAG/SourcePoint services and publications, call (619) 595-5300 or visit our website ([www.sandag.org](http://www.sandag.org)).

The following two sections examine current and historic traffic volume information in different ways. The first looks at volumes in terms of vehicle miles of travel. The second evaluates the load on our transportation system in terms of the average number of vehicles that are on the road during an average weekday. A collection of graphs charting the 1995 to 1999 numeric and percent change in traffic volumes for the region's 13 freeways also is presented.

<sup>1</sup> For example, if 1,000 vehicles travel daily over a two-mile roadway segment, the vehicle miles traveled (VMT) would be 2,000.

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## VEHICLE MILES OF TRAVEL (VMT)

In an average weekday, motorists in the San Diego region drive more than 70 million miles—equivalent to traveling around the world almost 3,000 times! This figure represents a gain of over 6½ million vehicle miles of daily travel during the last four years (1995 to 1999). In just the last year alone, VMT has increased by about two million vehicle miles (See Table 1.) This one-year increase is more than the 1¼ million vehicle mile increase in the 1990 to 1994 time period, when the region was in the midst of one of the most severe economic recessions in history.

In addition to total VMT figures, Table 1 shows VMT data for freeways, other state highways, arterials, and local streets. Of the various roadway types, freeways have experienced the greatest VMT changes, both in numeric increases and percentages. In 1978 freeways carried less than half of the total regional vehicle travel. By 1999 they carried 55 percent of all regional VMT. Freeway VMT on a typical weekday has more than doubled during the past 21 years (from 16 million miles to more than 38 million miles). However, the total miles of freeway in the region has increased by only nine percent, from 289 to 316 miles.

*In just the last year alone,  
VMT has increased by about  
two million vehicle miles.*

**Table 1**  
**VEHICLE MILES TRAVELED (VMT)—1978 to 1999<sup>1,2</sup>**  
**San Diego Region**

Year	Total		Freeways		Other State Highways		Local Arterials/Collectors		Other Local Streets	
	VMT ('000s)	% Change From Previous Year	VMT ('000s)	% Change From Previous Year	VMT ('000s)	% Change From Previous Year	VMT ('000s)	% Change From Previous Year	VMT ('000s)	% Change From Previous Year
1978	34,412	—	15,903	—	1,575	—	13,987	—	2,947	—
1979	35,364	2.8%	16,521	3.9%	1,599	1.5%	14,264	2.0%	2,980	1.1%
1980	35,720	1.0%	16,575	0.3%	1,613	0.9%	14,519	1.8%	3,013	1.1%
1981	36,720	2.8%	17,099	3.2%	1,610	-0.2%	14,968	3.1%	3,043	1.0%
1982	38,017	3.5%	17,788	4.0%	1,673	3.9%	15,486	3.5%	3,070	0.9%
1983	40,068	5.4%	19,019	6.9%	1,774	6.0%	16,162	4.4%	3,113	1.4%
1984	43,619	8.9%	21,424	12.6%	1,910	7.7%	17,135	6.0%	3,150	1.2%
1985	46,053	5.6%	22,749	6.2%	1,988	4.1%	18,103	5.6%	3,213	2.0%
1986	49,406	7.3%	24,603	8.1%	2,150	8.1%	19,380	7.1%	3,273	1.9%
1987	53,367	8.0%	26,893	9.3%	2,283	6.2%	20,858	7.6%	3,333	1.8%
1988	56,494	5.9%	28,894	7.4%	2,356	3.2%	21,880	4.9%	3,364	0.9%
1989	59,120	4.6%	30,818	6.7%	2,415	2.5%	22,506	2.9%	3,381	0.5%
1990	61,082	3.3%	31,986	3.8%	2,549	5.5%	23,083	2.6%	3,464	2.5%
1991	61,064	0.0%	31,865	-0.4%	2,552	0.1%	23,166	0.4%	3,481	0.5%
1992	61,838	1.3%	32,320	1.4%	2,616	2.5%	23,386	0.9%	3,516	1.0%
1993	61,494	-0.6%	31,890	-1.3%	2,578	-1.5%	23,481	0.4%	3,545	0.8%
1994	62,836	2.2%	33,016	3.5%	2,604	1.0%	23,644	0.7%	3,572	0.8%
1995	63,752	1.5%	33,419	1.2%	2,737	5.1%	24,015	1.6%	3,581	0.3%
1996	64,646	1.4%	34,126	2.1%	2,772	1.3%	24,159	0.6%	3,589	0.2%
1997	66,359	2.6%	35,401	3.7%	2,763	-0.3%	24,597	1.8%	3,598	0.3%
1998	68,577	3.3%	36,767	3.9%	2,887	4.5%	25,138	2.2%	3,785	5.2%
1999	70,543	2.9%	38,446	4.6%	3,063	6.1%	25,246	0.4%	3,788	0.1%
<b>21 Year</b>										
<b>Change</b>	<b>36,131</b>	<b>105%</b>	<b>22,543</b>	<b>142%</b>	<b>1,488</b>	<b>94%</b>	<b>11,259</b>	<b>80%</b>	<b>841</b>	<b>29%</b>

<sup>1</sup> 24-hour total vehicle miles of travel on an average weekday.

<sup>2</sup> VMT data prior to 1978 not available.

*Much of the VMT gains over the past four years can be attributed to an improved economy and more employment as well as to population increases.*

Other state highways and major arterials/collectors have shown significant increases in VMT over the past 21 years as well (94% and 80%, respectively). By comparison, vehicle miles traveled on local streets grew more slowly.

Much of the VMT gains over the past five years can be attributed to an improved economy and more employment as well as to population increases. Table 2 shows the annual changes in population, civilian employment and VMT from 1978 to 1999. It is apparent that VMT gains and losses closely mirror trends in employment. The economic “boom” years of the late 1970s and 1980s as well as the current rebound from the recession earlier in the decade are reflected in the large gains in all three measures during those years.

**Table 2**  
**TOTAL POPULATION, CIVILIAN EMPLOYMENT,**  
**AND VEHICLE MILES TRAVELED, 1978 - 1998**  
**San Diego Region**

Year	Population		Civilian Employment		Vehicle Miles Traveled	
	Total	Change from Previous	Total	Change from Previous	Total	Change from Previous
1978	1,773,200	3.6%	669,410	9.7%	34,412,000	— <sup>1</sup>
1979	1,831,300	3.3%	712,130	6.4%	35,364,000	2.8%
1980	1,873,300	2.3%	722,580	1.5%	35,720,000	1.0%
1981	1,921,800	2.6%	746,380	3.3%	36,720,000	2.8%
1982	1,965,100	2.3%	756,440	1.3%	38,017,000	3.5%
1983	2,003,500	2.0%	805,100	6.4%	40,068,000	5.4%
1984	2,055,700	2.6%	860,800	6.9%	43,619,000	8.9%
1985	2,109,300	2.6%	915,900	6.4%	46,053,000	5.6%
1986	2,182,900	3.5%	960,500	4.9%	49,406,000	7.3%
1987	2,260,700	3.6%	1,011,700	5.3%	53,367,000	8.0%
1988	2,341,000	3.6%	1,078,400	6.6%	56,494,000	5.9%
1989	2,432,800	3.9%	1,125,900	4.4%	59,120,000	4.6%
1990	2,511,400	3.2%	1,145,700	1.8%	61,082,000	3.3%
1991	2,560,800	2.0%	1,115,000	-2.7%	61,064,000	0.0%
1992	2,611,500	2.0%	1,113,000	-0.2%	61,838,000	1.3%
1993	2,625,100	0.5%	1,131,600	1.7%	61,494,000	-0.6%
1994	2,650,700	1.0%	1,149,500	1.6%	62,836,000	2.2%
1995	2,669,200	0.7%	1,155,300	0.5%	63,752,000	1.5%
1996	2,694,900	1.0%	1,175,900	1.8%	64,646,000	1.4%
1997	2,763,400	2.5%	1,230,800	4.7%	66,359,000	2.6%
1998	2,828,300	2.2%	1,273,500	3.5%	68,577,000	3.3%
1999	2,883,500	2.0%	1,316,300	3.4%	70,543,000	2.9%
<b>21 Year</b>						
<b>Change</b>	<b>63%</b>		<b>97%</b>		<b>105%</b>	

<sup>1</sup> VMT data prior to 1978 is not available.

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## **AVERAGE WEEKDAY DAILY TRAFFIC VOLUMES—FREEWAYS**

Map 1 shows the region's current 316 miles of freeways. Interstate 8 between Interstate 15 and Fairmount Avenue carries the highest volume of traffic in the region—almost 300,000 vehicles per day. Fast approaching this volume is Interstate 15 between Miramar Way and State Route 163, with 294,000 vehicles per day. Other high volume freeway segments are Interstate 805 between Interstate 8 and Adams Avenue (253,000 vehicles) and Interstate 5 between Carmel Valley Road and Interstate 805 (also at 253,000 vehicles).

Figures 1 through 13 show the change in traffic volumes from 1995 to 1999 on all of the region's freeways (see Map 1). Each figure illustrates the four-year numeric and percentage change in the average daily number of vehicles on a particular freeway by segment.

"Volume change" on a particular segment of freeway is the numeric difference between 1995 and 1999 average weekday traffic volumes. "Percent change" is the volume change (1995–1999) divided by that freeway segment's 1995 base year volume. Volume change emphasizes traffic growth on heavily traveled freeway; percent change emphasizes growth on lightly traveled freeways.

Figure 1 shows that on Interstate 5, many segments approached or exceeded an increase of 20,000 vehicles daily in just the last four years. Given recent population and employment growth rates, it is not surprising that increases like this are occurring on most of the other freeways as well. In fact, during the last four years, increases of over 40,000 vehicles per day have been reported on at least one or more segment of all the following freeways: I-5, I-8, I-15, Route 163, and I-805.

Percentage increase in traffic volumes is also interesting. For example, some freeway segments show 40 percent increases on relatively new freeways (such as both ends of Route 56 in Carmel Valley), and on older, low-volume segments that have been affected by recent development (such as Interstate 8 in the Alpine and Viejas Casino area.)

The graphs do display some anomalies, such as identical increases for several freeway segments in a row or a somewhat random, abrupt increase. Most of these are due to the fact that in the past Caltrans was able to report only one traffic volume count for several adjacent freeway links. However, volumes for more freeway segments are being reported as new traffic counting installations are added.

### **GLOSSARY OF TERMS**

**Arterials/Collectors:** All significant roadways and surface streets (under the control of local jurisdictions) that carry the majority of local road traffic—usually more than 20,000 vehicles per day.

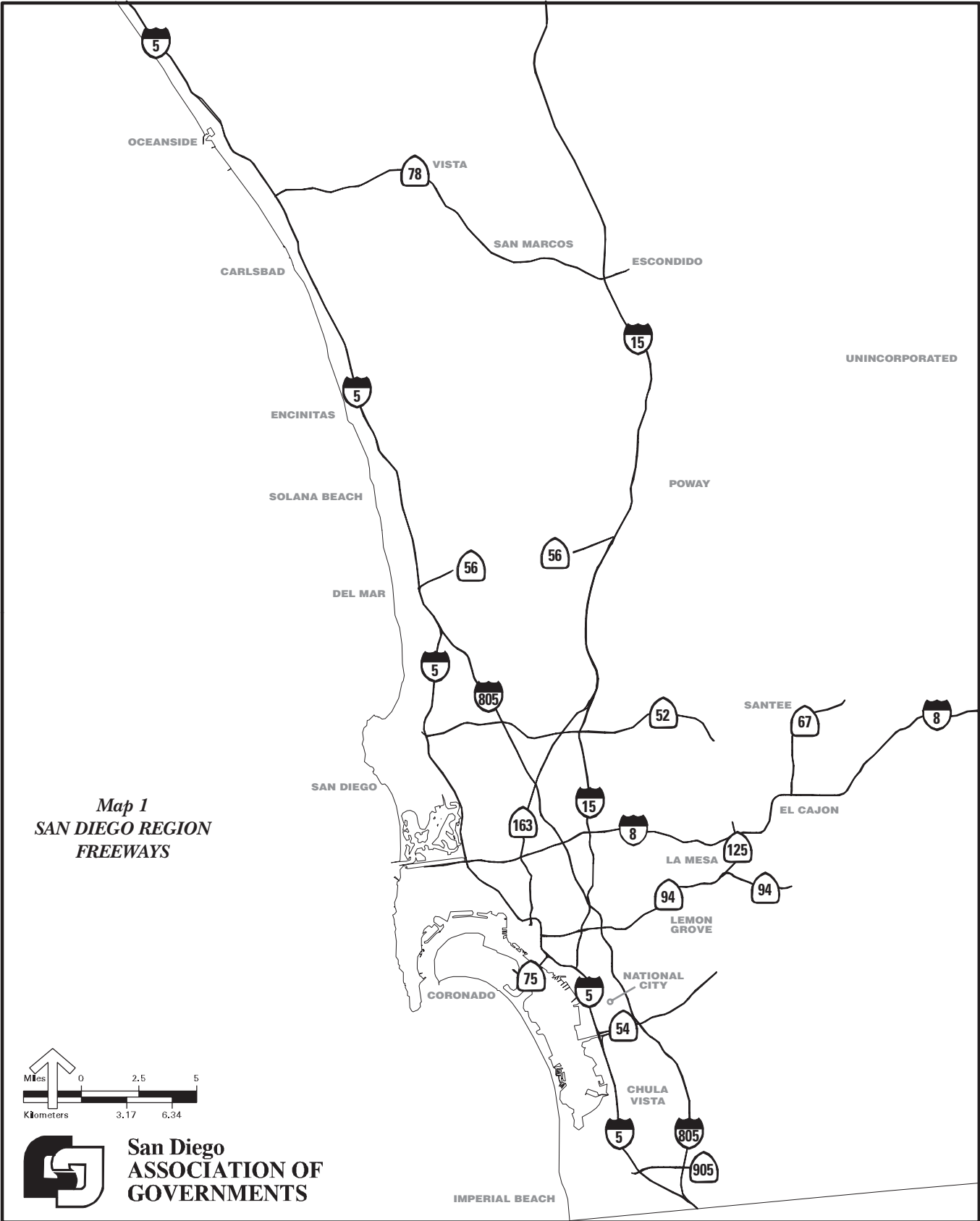
**Average Weekday Traffic (AWDT):** The total 24-hour count of vehicles (in both directions) on any particular roadway segment for an average weekday.

**Freeways:** Fully controlled access highways with grade separated interchanges (maintained by the California Department of Transportation [Caltrans]).

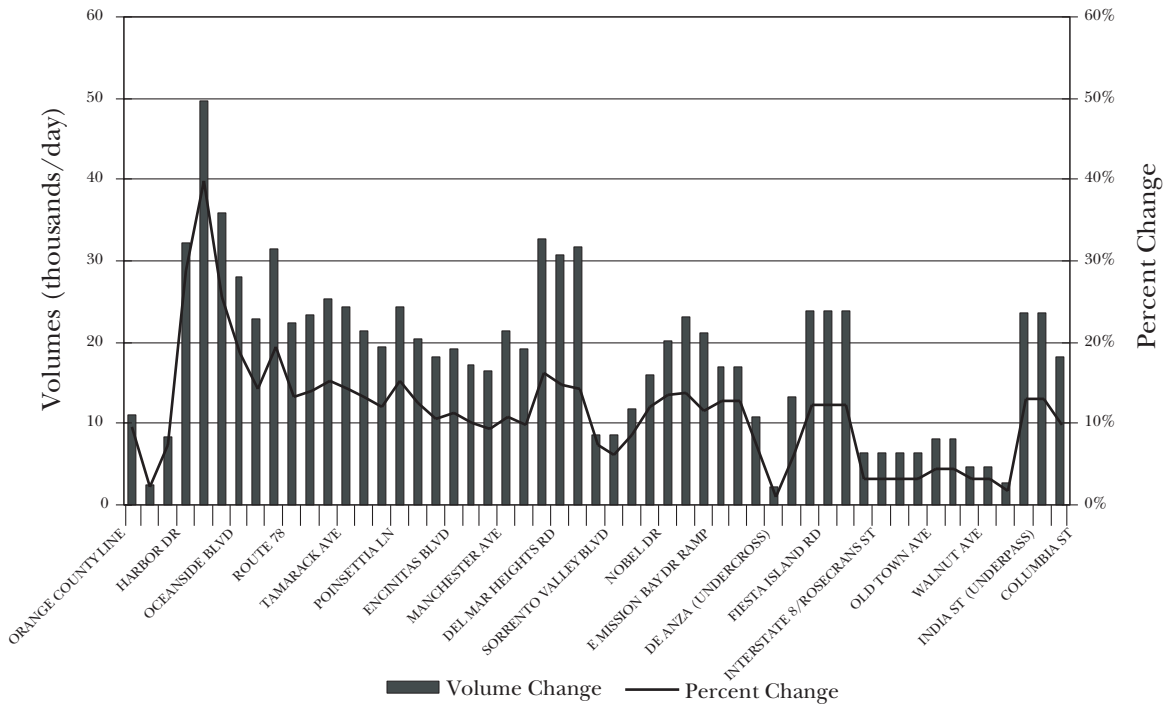
**Other State Highways:** Arterials/collectors that are official State Numbered Routes (maintained by Caltrans).

**Segment:** Any piece of roadway that is bounded by two breakpoints (usually significant cross streets, roadways or endpoints). The segment length can vary from a few hundred feet in urban areas and near freeways to several miles in rural areas.

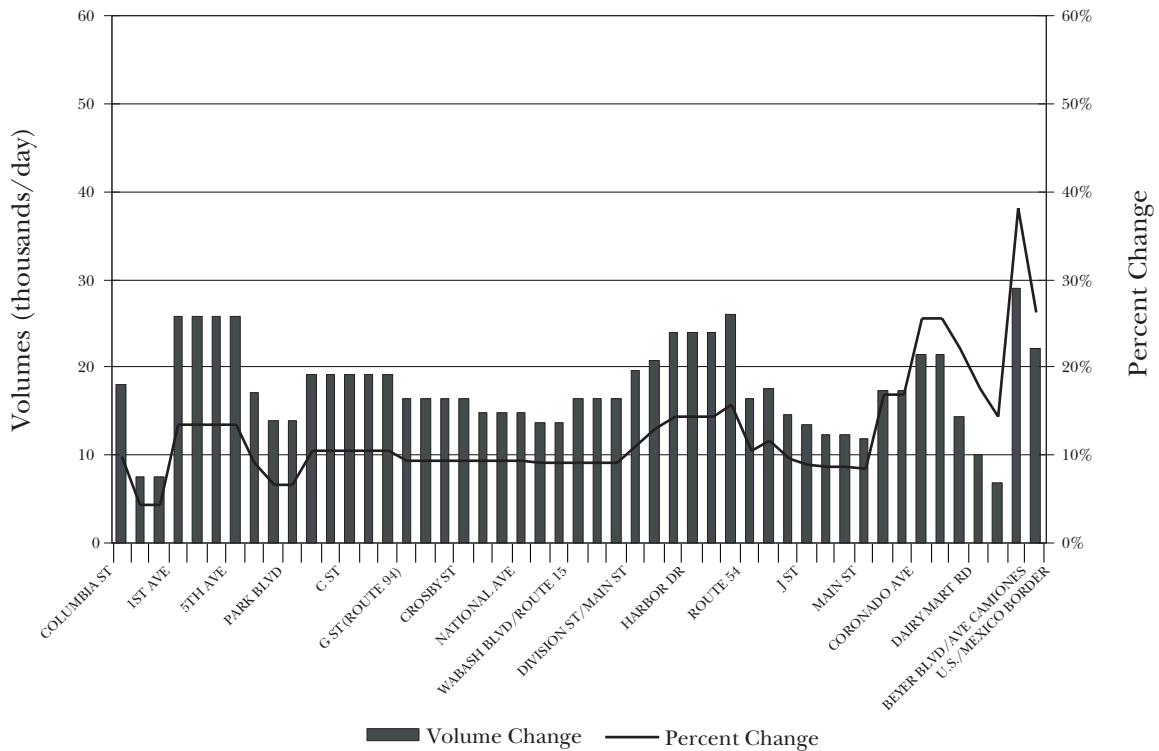
**Vehicle Miles Traveled (VMT):** The length of a roadway segment, in miles, multiplied by the AWDT on that segment. Total VMT for the region is calculated by summing the VMT of all of the region's roadway segments.



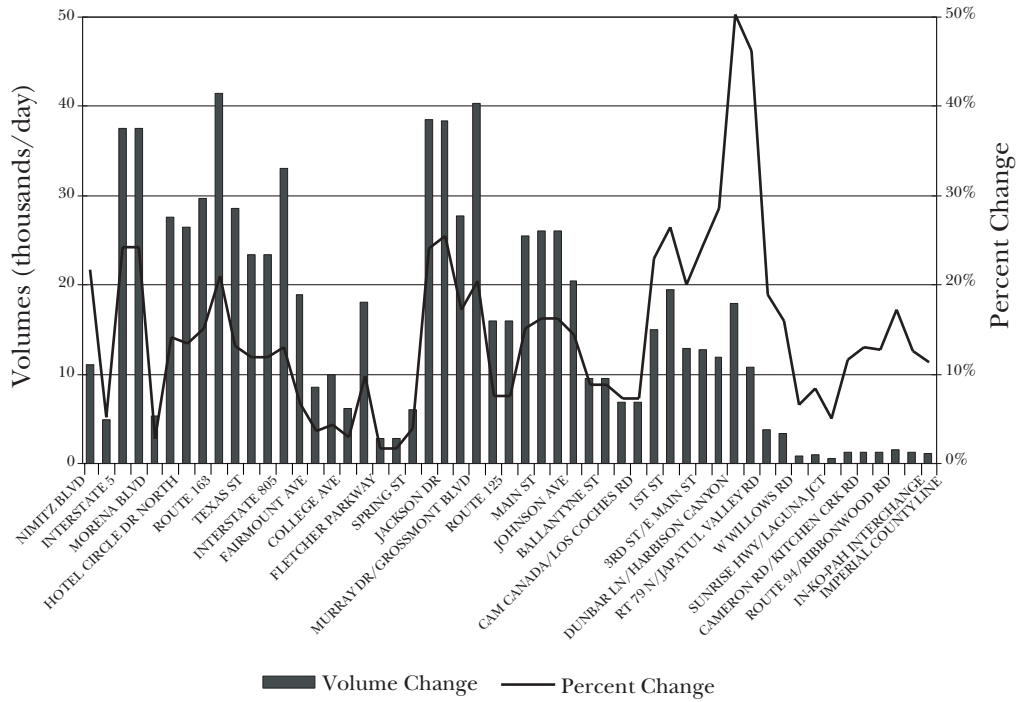
**Figure 1**  
**INTERSTATE 5**  
**Volume and Percent Change 1995-1999**



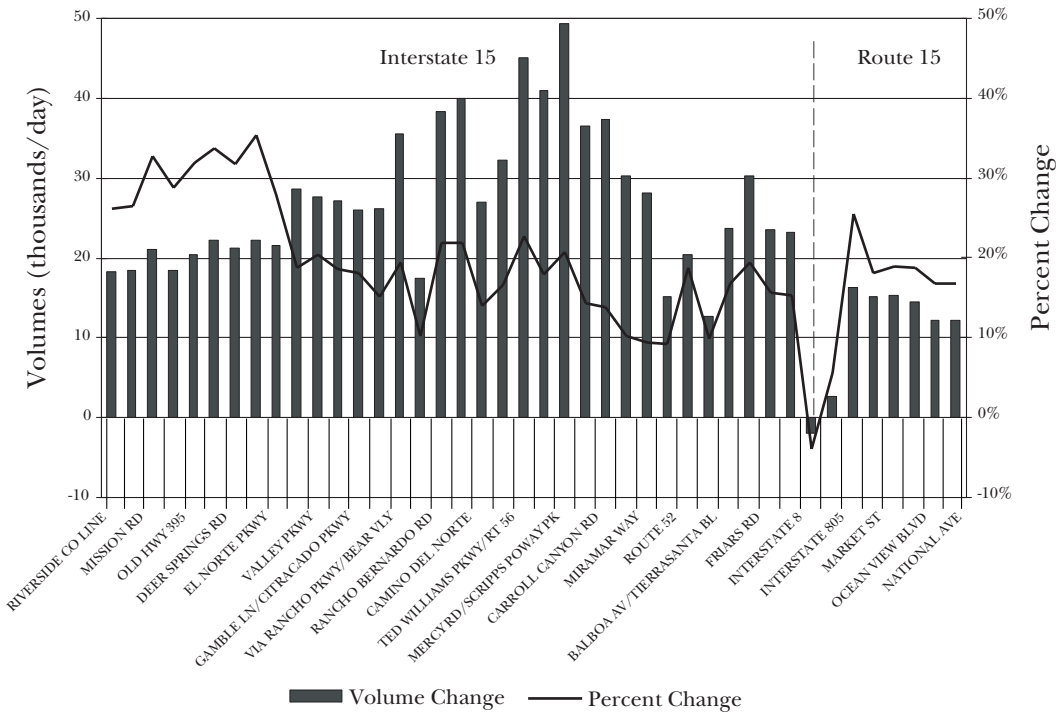
**INTERSTATE 5**  
**Volume and Percent Change 1995-1999**  
**(cont.)**



**Figure 2**  
**INTERSTATE 8**  
**Volume and Percent Change 1995-1999**

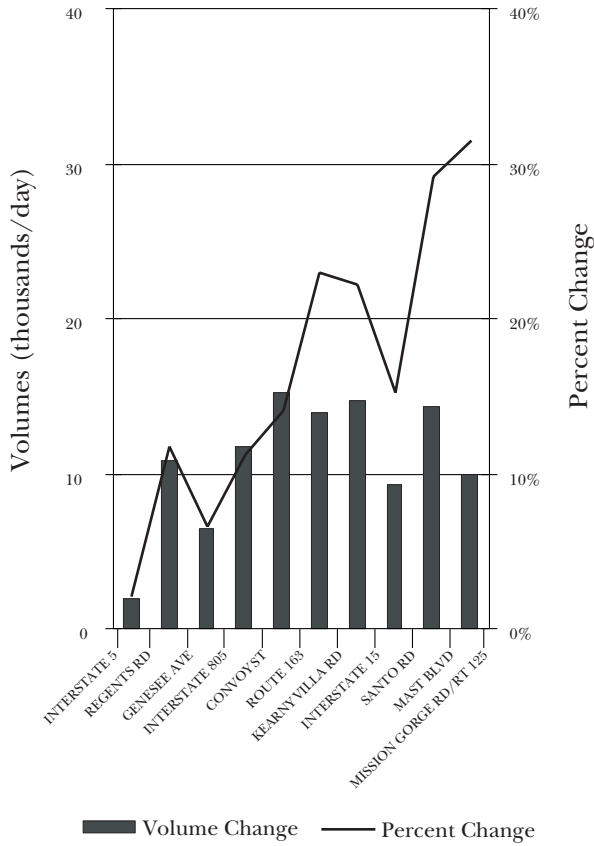


**Figure 3**  
**INTERSTATE 15/ROUTE 15<sup>1</sup>**  
**Volume and Percent Change 1995-1999**

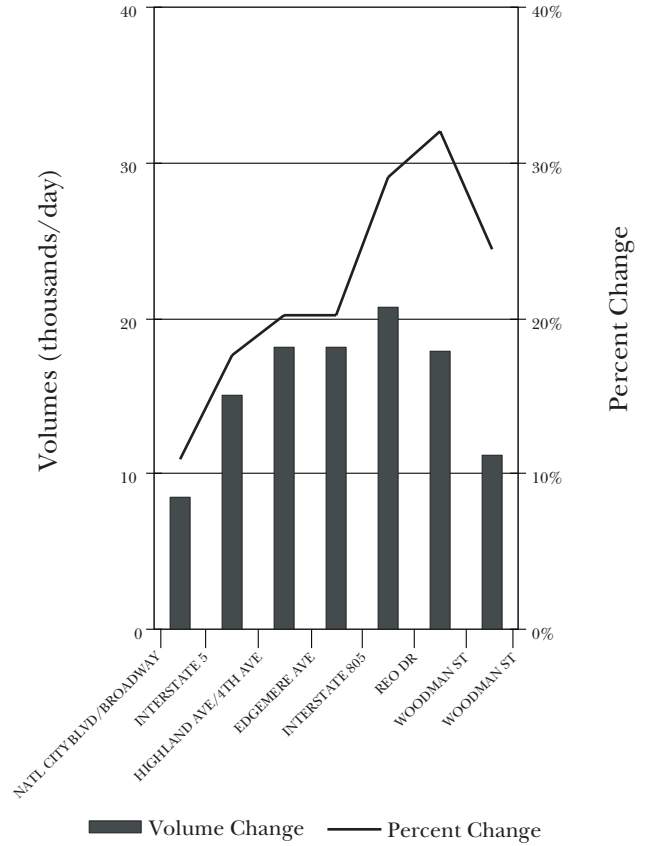


<sup>1</sup> Traffic volume data was collected prior to the completion of Interstate 15 through the Mid-City area.

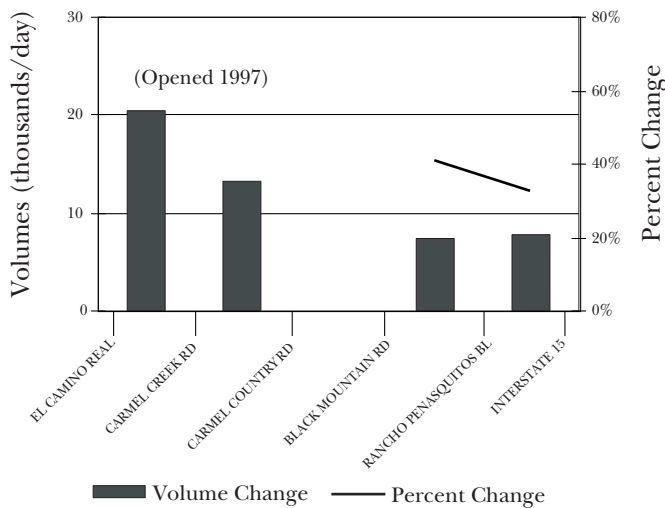
**Figure 4**  
**ROUTE 52**  
**Volume and Percent Change 1995-1999**



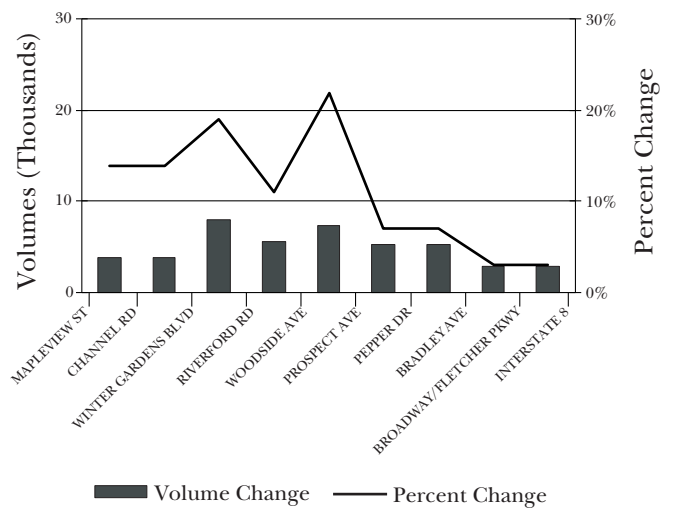
**Figure 5**  
**ROUTE 54**  
**Volume and Percent Change 1995-1999**



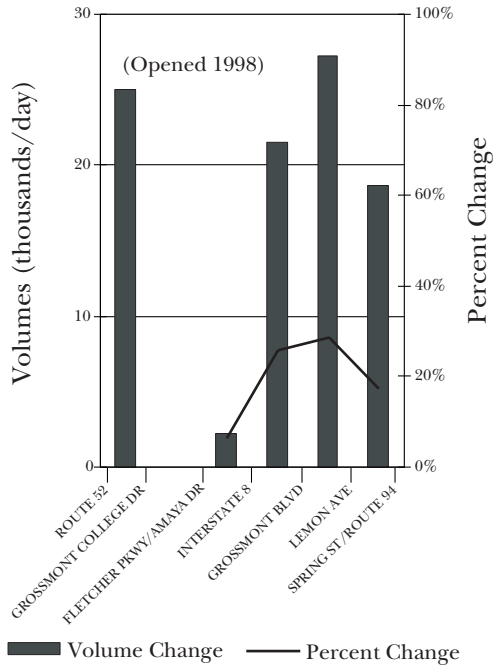
**Figure 6**  
**ROUTE 56**  
**Volume and Percent Change 1995-1999**



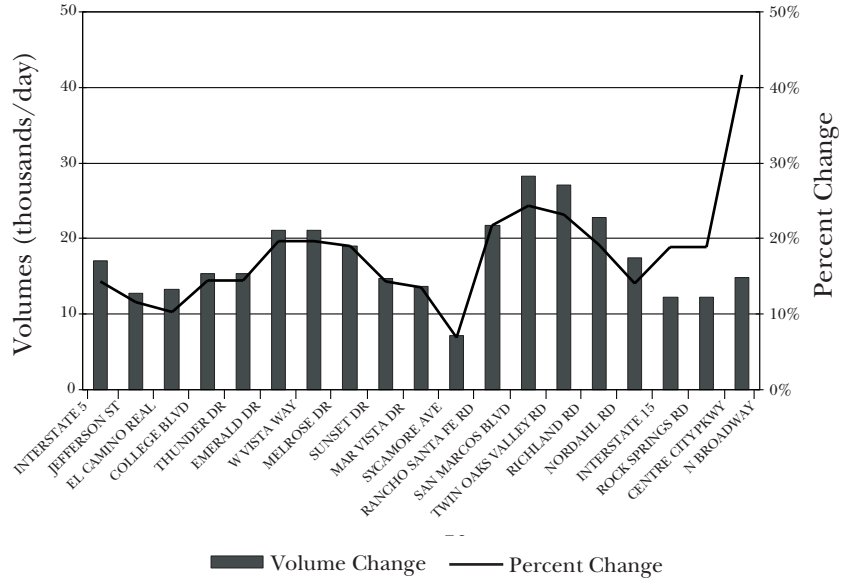
**Figure 7**  
**ROUTE 67**  
**Volume and Percent Change 1995-1999**



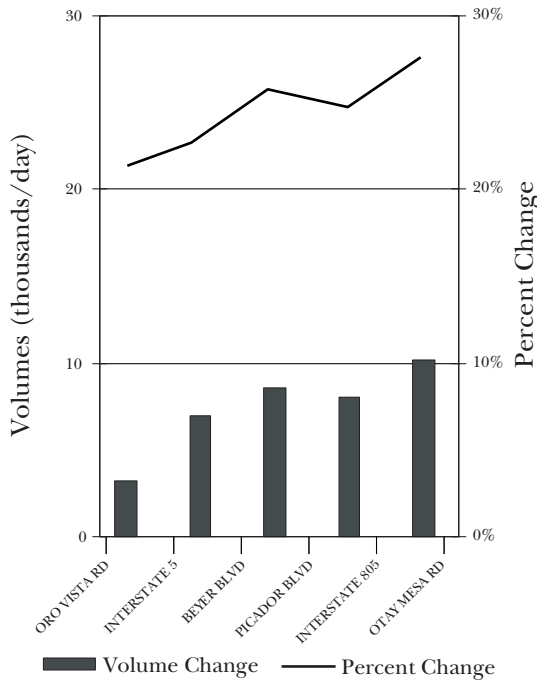
**Figure 8**  
**ROUTE 125**  
**Volume and Percent Change 1995-1999**



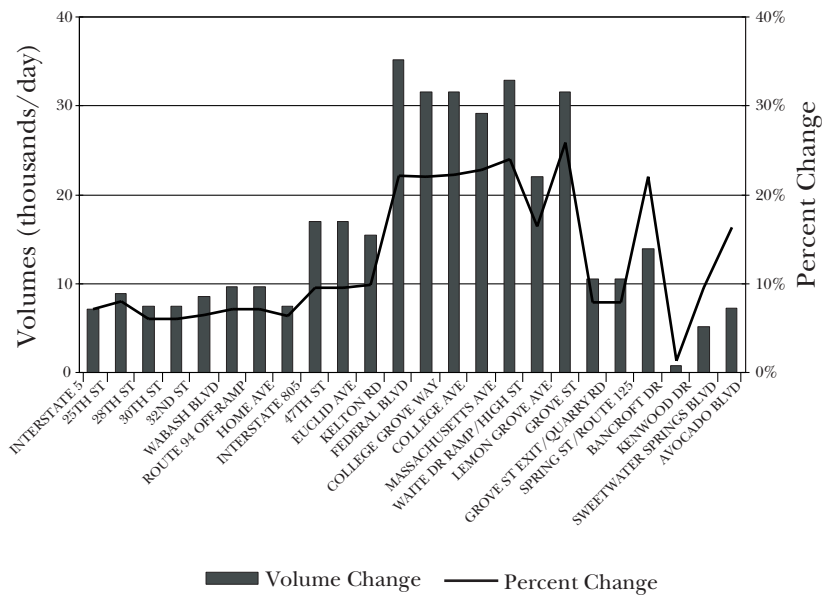
**Figure 9**  
**ROUTE 78**  
**Volume and Percent Change 1995-1999**



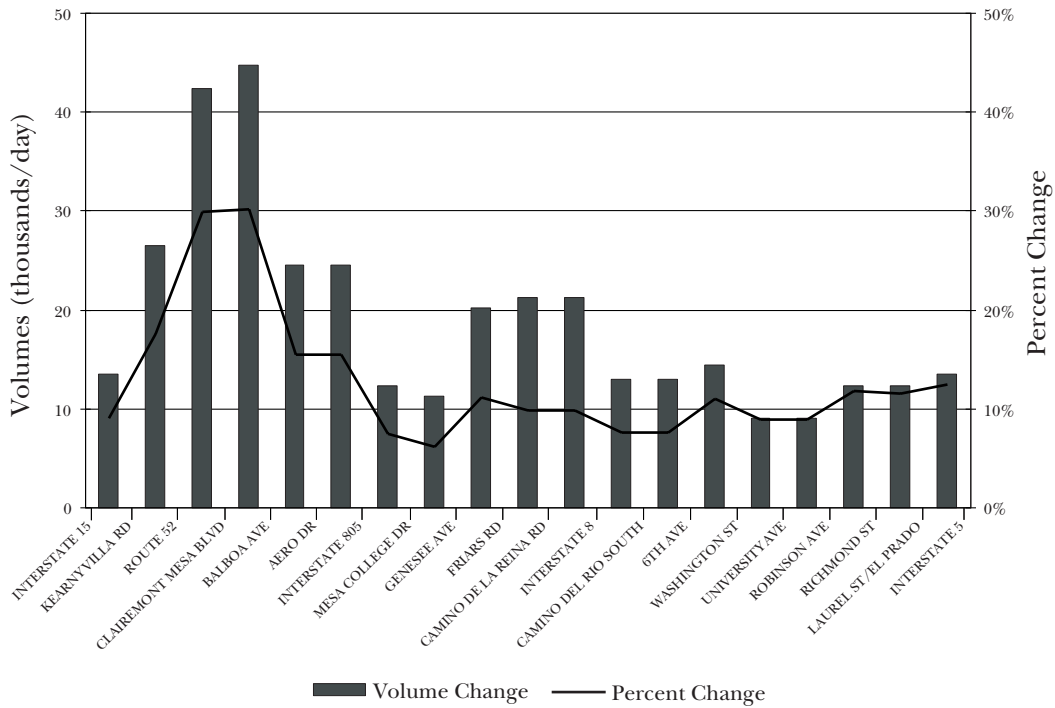
**Figure 10**  
**ROUTE 905**  
**Volume and Percent Change 1995-1999**



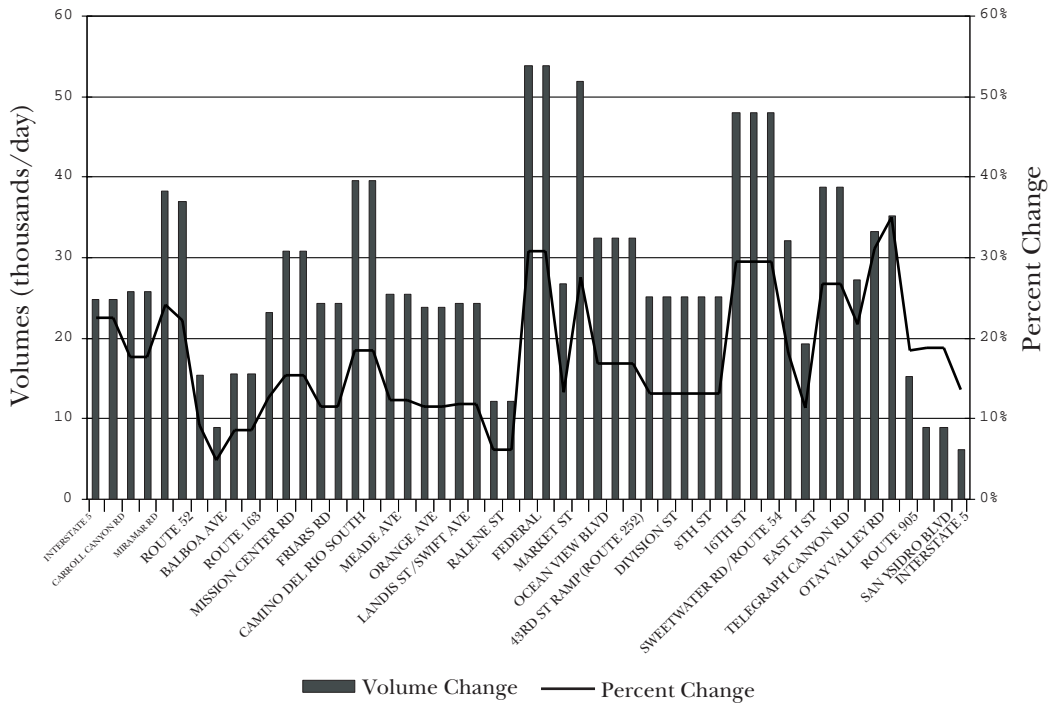
**Figure 11**  
**ROUTE 94**  
**Volume and Percent Change 1995-1999**



**Figure 12**  
**ROUTE 163**  
**Volume and Percent Change 1995-1999**



**Figure 13**  
**INTERSTATE 805**  
**Volume and Percent Change 1995-1999**





# SANDAG INFO

*INFO* presents information produced as part of the San Diego Association of Governments' overall planning program. The series, published every other month, contains population, housing, employment, land use, transportation, criminal justice and other data, as well as occasional reports on other subjects of general interest. This report is financed with federal funds from the U.S. Department of Transportation, state funds from Caltrans, and local funds from SANDAG member jurisdictions.

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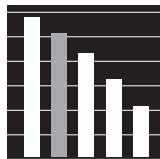
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## Future Issues of INFO



### Daytime Population

The number of people living in communities throughout the region is well documented through the census and current population and housing estimates. An important, but more difficult to obtain figure is the number of people located in a given area during the day. For example, the resident night time population of a commercial area is probably very low, but the daytime population may skyrocket. This information, presented in this *INFO*, is important for emergency service providers, planners, and marketers.



### 2020 Forecast – Subregional Demographic Characteristics

SANDAG has prepared annual estimates of the region's population by age, sex, ethnicity, and income for many years. Similar information has recently been developed as part of the Regional Growth Forecast process through the year 2020. For the first time, forecasted trends in the demographic make-up of subregional areas, jurisdictions, and neighborhoods can be evaluated. This *INFO* will highlight significant findings from our newest forecast-related data product.



### January 1, 2000 Population and Housing Estimates

Current estimates of the region's population and housing units will be presented for jurisdictions, major statistical areas, and subregional areas. This information will be compared to estimates from previous years to examine trends in the region's population growth.

### ON THE COVER

In an average weekday, motorists in the San Diego region drive 70 million miles—equivalent to traveling around the world almost 3,000 times! The region's recent recovery from the economic recession earlier in the decade has meant large increases in the number of people, jobs and cars in the San Diego region. In just the last year alone, the number of vehicle miles traveled (VMT) has increased by over two million miles. This one-year increase is more than the gain in the entire four-year period between 1990 and 1994.