

1.0 PURPOSE AND NEED

1.1 PURPOSE OF PROJECT

The purpose of the proposed SR-22/West Orange County Connection (SR-22/WOCC) project is to improve both existing and future mobility and enhance safety throughout the corridor while minimizing environmental and economic impacts. Currently, the traffic conditions on many segments of SR-22 are operating at a poor level of service and are expected to worsen in the future. In addition, there are areas of SR-22 which experience higher accident rates, which could be improved operationally with the implementation of the SR-22/WOCC proposed project. The study area includes SR-22, bounded east by SR-55 and the Los Angeles County line to the west, including the interchanges between SR-22 and the connecting I-405, I-605, and I-5 freeways within these same boundaries (see Figure 1.2-2, Project Study Area Map). SR-22 represents a major link to other freeway systems within the Orange County area and is an important component of the county's transportation system (see Figure 1.2-1, Regional Location Map).

In addition to standardizing features on the SR-22 corridor and addressing the capacity deficiency problems, the SR-22/WOCC proposed project would adhere to the South Coast Air Quality Management District's (SCAQMD) Air Quality Management Plan (AQMP) to reduce the criteria pollutants in the South Coast Air Basin by providing HOV lanes and connectors, allowing for higher speeds and reduced congestion, which have been demonstrated to reduce pollutants. The project would thus comply with the criteria pollutants standards set forth by the United States Environmental Protection Agency and the California Air Resources Board (CARB). By providing another means of connecting the HOV network in the region, the proposed project would also provide an incentive for commuters to utilize alternate travel modes. With projected population and employment growth trends indicating increased transportation volumes, implementing the identified Preferred Alternative would help to alleviate the current and projected congestion and operational deficiencies.

The proposed SR-22/WOCC project would provide standard features to the extent possible on the SR-22 corridor and address the capacity deficiency problem to help reduce congestion-related accidents. Operational improvements include geometric improvements that provide standard lane widths and shoulder widths, on-and-off ramp improvements, resurfacing or new pavements, and upgrading existing roadways. These can help reduce congestion-related accidents and result in improved safety on the freeways mainlines and ramps. For instance, geometric improvements to the freeway and freeway ramps are generally expected to reduce run-off-the-road and hit-fixed-object type accidents. These fixed objects include Metal Beam Guard Rails (MBGR), headwalls and call boxes. Furthermore, upgrading the existing facilities could help reduce accidents by improving lighting, lane delineation, merging and sight distances, and driver visibility.

Major Investment Study (MIS) Process

To address congestion and meet future traffic demand, the following set of project goals were established during the Major Investment Study (MIS) process by the Orange County Transportation Authority (OCTA), the California Department of Transportation (Caltrans), and the SR-22/West Orange County Connection Steering Committee. Throughout the rest of this document, Caltrans will be referred to as "the Department." The SR-22/WOCC seeks to accomplish the following goals:

- Improve mobility and enhance safety in the SR-22/WOCC study area
- Maximize cost-effectiveness of the SR-22/WOCC improvements
- Minimize adverse and maximize beneficial environmental impacts to SR-22/WOCC communities
- Minimize negative and maximize positive economic impacts to SR-22/WOCC communities. (Further discussion of the MIS process is provided in Section 10 of this document.)

1.2 NEED FOR PROJECT

1.2.1 Existing Facilities and Services

The SR-22 corridor is a freeway with six general-purpose lanes (three in each direction) that provides connections to five major freeways: Interstate 605 (I-605), Interstate 405 (I-405), Interstate 5 (I-5), State Route 57 (SR-57) and State Route 55 (SR-55). Built in the 1960s, SR-22 is one of only two east/west freeways in Orange County. SR-22 extends 21 kilometers (13 miles) from just west of I-405 eastward to SR-55, providing accessibility for commuters between Orange and Los Angeles Counties, and access to major arterial corridors in central Orange County. Consequently, SR-22 has become a vital link in providing mobility to residents, workers, and visitors. Figure 1.2-1, Regional Location Map, provides the regional location of the SR-22/WOCC. Figure 1.2-2, Project Study Area Map, shows the SR-22/WOCC study area, including portions of SR-55, SR-57, I-5, I-405 and I-605 in Orange County.

SR-22 has fenced right of way and is access controlled, with access limited to on and off ramps, while crossing traffic uses grade separated undercrossings and overcrossings. There is no pedestrian or bicycle access to SR-22. The freeway does not include dedicated facilities for transit. Bus service on city arterials within the study area is provided by OCTA. SR-22 is one of few freeways in Orange County that lack HOV facilities such as "carpool lanes." HOV lanes are in place on other freeways (SR-55, SR-57, I-5, I-405, I-605) in the County.

Currently, SR-22 does not have sufficient capacity to meet the demands of the area. Congestion, high accident rates and reduced travel speeds currently experienced on SR-22 are a result of several contributing factors. The most significant causative factors stem from the limited number of lanes to handle vehicle volumes, closely spaced on-and off-ramps, merging of multiple freeways, non-standard lane and shoulder widths, non-standard weaving distances and the lack of auxiliary lanes. Key areas of concern are: 1) limited lane availability on SR-22 and the lack of continuity between HOV and non-HOV facilities; 2) inadequate weaving distances along the freeway due to the close proximity of on/off-ramps along the mainline; 3) high traffic volumes at the interchange where the I-5, SR-57 and SR-22 meet; 4) an outdated four-quadrant cloverleaf interchange configuration at Beach Boulevard that creates a low-speed, low-capacity condition with short weave sections; and 5) non-standard lane or shoulder widths at several locations along the corridor; 6) lack of connectivity between HOV lanes on adjacent freeways via direct connectors causing interrupted flow of non-HOV traffic due to HOV lane users having to weave through several lanes.

1.2.2 Existing Capacity Problems

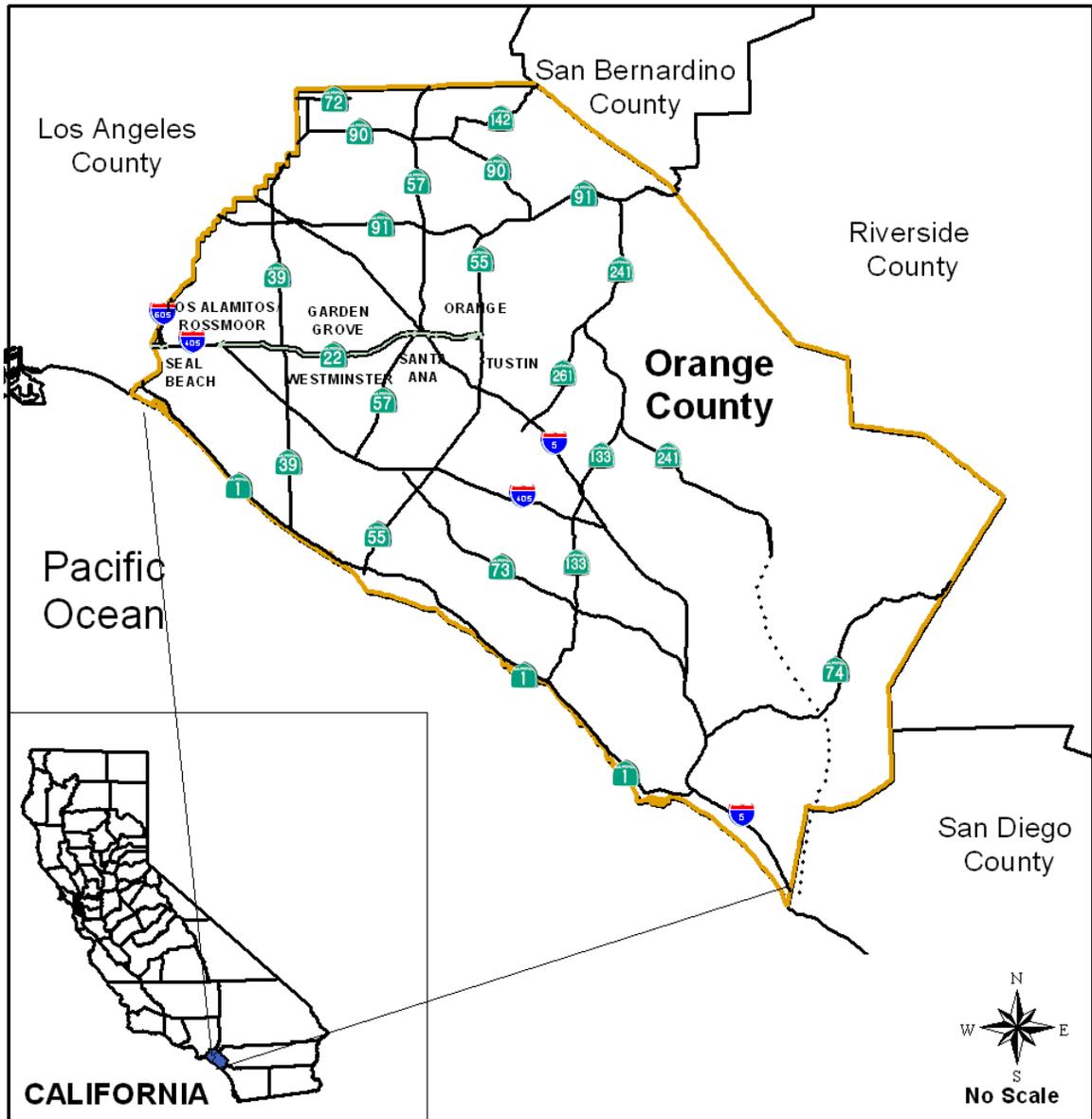
The ability of a highway to accommodate traffic is typically measured in terms of levels of service (LOS). Based on the ratio of traffic volume to the design capacity of the facility, LOS is expressed as a range from LOS A (free traffic flow with low volumes and high speeds resulting in low densities) to LOS F (traffic volumes exceed capacity and result in forced flow operations at low speeds resulting in high densities). Refer to Figure 1.2-3 for a pictorial representation of the six levels of service.

The Department's Office of Traffic Data analysis indicates 1996 traffic volumes experienced on SR-22 range from 135,000 to 206,000 vehicles daily¹. The 1996 average daily traffic (ADT) on other freeway facilities include 327,000 along I-405, 166,000 on I-605, and 245,000 vehicles on SR-55. Current peak-hour operating conditions along SR-22 are at LOS D to F (very high congestion levels, very low mobility) in each direction of travel throughout most of the freeway's length.

There is insufficient capacity with the SR-22 corridor on the freeway and major adjacent arterial streets to accommodate the existing and projected 2020 travel demands between the SR-55 interchange and the Los Angeles County line at I-405 and I-605. The corridor is also inadequate to accommodate travel to and from destinations within the proposed project area. The situation is aggravated by a lack of continuous parallel arterial routes and available arterial/intersection capacity. Currently, there are no major programs for the SR-22 corridor to implement Transportation System Management (TSM),

¹ Available at the Department of Transportation, District 12

Transportation Demand Management (TDM), and Intelligent Transportation System (ITS) strategies. TSM refers to traffic management through system enhancements, such as ramp meters to space on-ramp merging volume thus reducing freeway slow downs and changeable message signs to divert traffic from accidents or breakdowns. TDM seeks to reduce congestion by reducing the demand on the system, primarily by encouraging other modes (transit, carpooling, etc.). ITS refers to “high-tech” strategies used by both management approaches, although most commonly TSM. SR-22 is the only freeway in central Orange County that has not been the subject of a recent corridor-specific planning effort and is one of the few freeways in Orange County without HOV facilities.

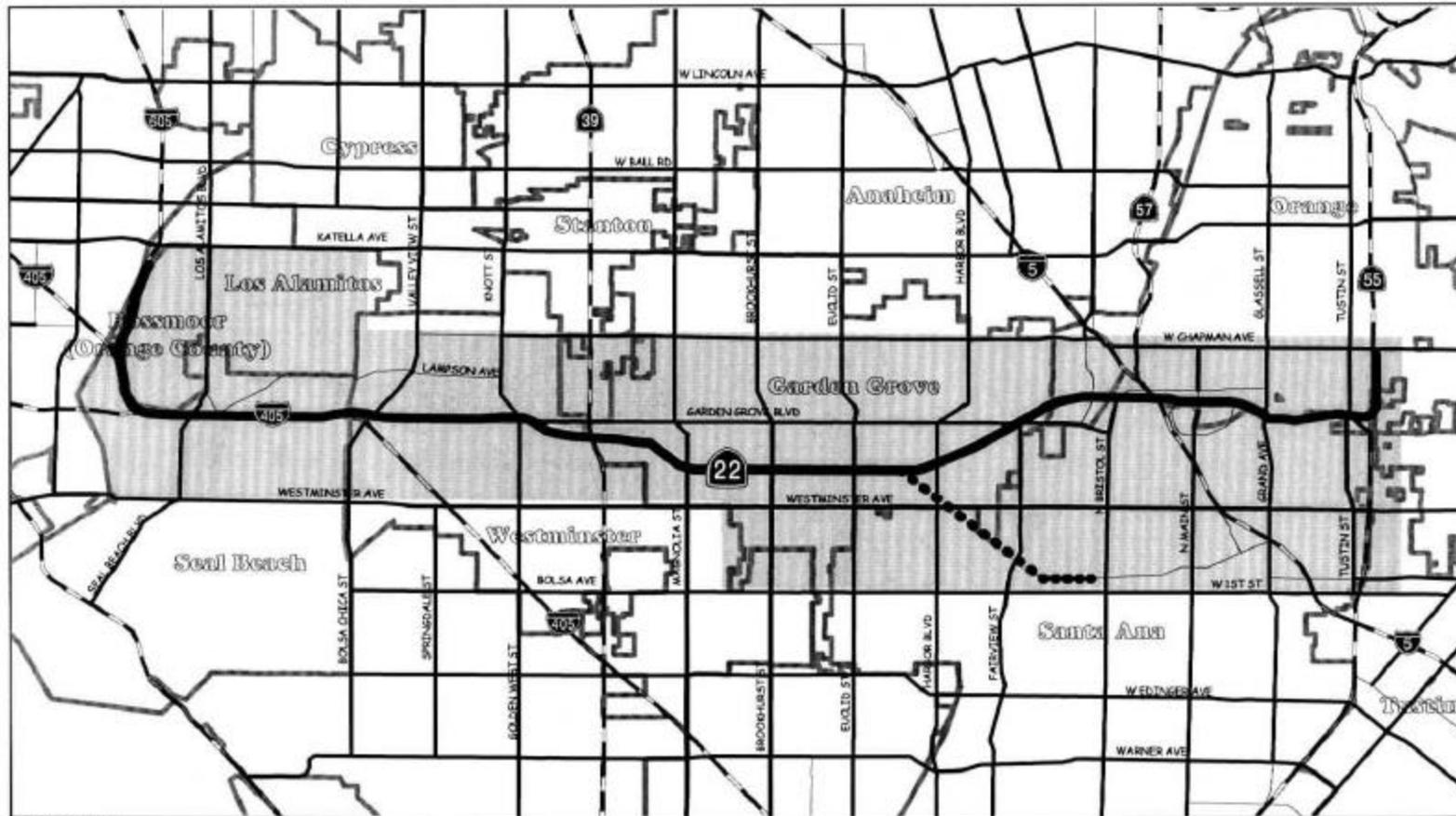


- LEGEND**
- Orange County
 - County Boundary
 - SR-22/ WOCC Project
 - Proposed Toll Road
 - Major Roads
 - Interstate Highway
 - State Route

**SR-22/ West Orange County Connection Project
(SR-22/ WOCC)
Regional Location Map**

Figure 1.2-1





Source: ESRI 1998.

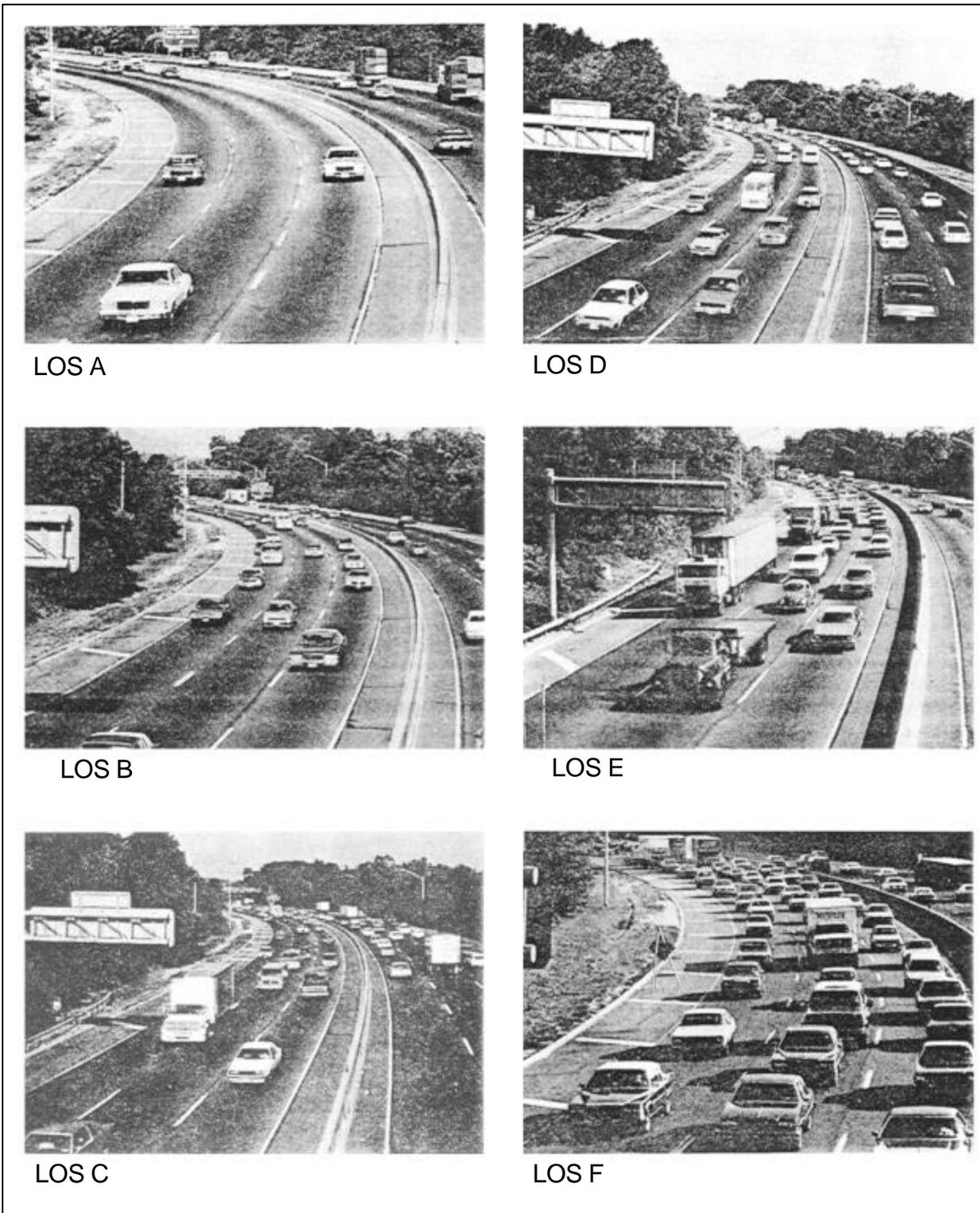
LEGEND

-  Freeway Improvements
-  Pacific Electric Right-of-way
-  Federal or State Highway
-  Primary Arterial
-  City Boundary
-  Study Area



**SR-22 / West Orange County Connection Project
Project Study Area Map**

Figure 1.2-2



SR-22 / West Orange County Connection Project
Levels of Service

Figure 1.2-3

1.2.3 Projected Traffic Demands

A. POPULATION GROWTH TRENDS

Population growth trends within the study area were analyzed using 1980, 1990 and 2000 U.S. Census data and the 1996 Orange County Projections (up to 2020) (OCP 96)². The population projections for the study area sum up the population counts for each city along the SR 22/ WOCC corridor. The annual growth rate indicates the percent change per year in the population averaged between decades. For example, the change in population in the City of Seal Beach between 1980 and 1990 is -0.34 percent per year. In other words, the annual growth rate is -0.34% and the City of Seal Beach experienced a progressive decrease in population during this decade. The population data are presented in Table 1.2-1.

**Table 1.2-1
POPULATION PROJECTIONS AND GROWTH TRENDS**

Jurisdiction	1980 ^a	1990 ^a	2000 ^a	2010 ^b	2020 ^b
Seal Beach	25,975	25,098	34,455	32,969	32,964
<i>Annual Growth Rate</i>	—	-0.34%	3.73%	-0.43%	0.00%
Westminster	71,133	78,118	88,207	95,302	106,895
<i>Annual Growth Rate</i>	—	0.98%	1.29%	0.47%	1.22%
Garden Grove	123,307	143,050	165,196	169,588	171,116
<i>Annual Growth Rate</i>	—	1.60%	1.55%	0.34%	0.09%
Santa Ana	203,713	293,742	337,977	361,631	372,943
<i>Annual Growth Rate</i>	—	4.42%	1.51%	0.32%	0.31%
Orange	91,788	110,658	128,821	153,564	157,124
<i>Annual Growth Rate</i>	—	2.06%	1.64%	0.58%	0.23%
Tustin	32,317	50,689	67,504	87,507	89,641
<i>Annual Growth Rate</i>	—	5.68%	3.32%	1.93%	0.24%
Study Area	548,233	701,355	822,160	900,561	930,683
<i>Annual Growth Rate</i>	—	2.79%	1.72%	0.95%	0.33%
Orange County	1,932,709	2,410,556	2,865,828	3,105,324	3,224,062
<i>Annual Growth Rate</i>	—	2.47%	1.89%	0.84%	0.38%

Note: Unincorporated area of Rossmore is included in Seal Beach totals.

Sources: ^a 1980, 1990, and 2000 U.S. Census of Population and Housing

^b Orange County Projections, 1996

Historic population figures documented between 1980 and 1990 reveal that the cities of Tustin and Santa Ana had annual growth rates significantly higher than the overall Orange County average of 2.47 percent (5.68 and 4.42 percent, respectively). Annual population growth rates in all of the other cities within the project study area were below the county average, ranging from -0.34 to 2.06 percent.

Between 2000 and 2020, the population in the study is predicted to grow by 13.2 percent while Orange County's population as a whole is expected to grow by 12.6 percent. The population estimates through 2020 show that, although Orange County as a whole will continue to grow, annual population growth rates will begin to slow down. In most of the corridor cities, the annual rate of growth peak in either 1990 or 2000, and then growth is expected to slow over the next 20 years. A few cities (Garden Grove, Orange, Santa Ana and Tustin) show reduced annual growth rates in 2000. Table 1.2-3 shows that the annual growth rate between 2000 and 2010 for the majority of the corridor cities drop by more than 50 percent. The same pattern is expected to occur between 2010 and 2020.

² Available at OCTA.

B. EMPLOYMENT TRENDS

Employment trends within the study area were analyzed using the 1996 Orange County Projections (OCP 96). The employment projections for the study area sum up the population counts for each city along the SR 22/ WOCC corridor. The annual growth rate indicates the average percent change per year in the number of people employed between time periods. For example, the change in employment in the City of Los Alamitos between 1995 and 2000 is 6.09 percent per year. In other words, the annual growth rate is 6.09% and the City of Los Alamitos experienced a growth in the number of people employed between 1995 and 2000. The employment projections are presented in Table 1.2-2.

According to OCP 96, the 1995 total employment in Orange County was 1,241,897 persons (Table 1.2-2). The corridor cities had a total employment of 396,474 in 1995. Over the next 20 years, annual growth in Orange County employment is projected to range from 2.25 to 2.43 percent, while the aggregate employment growth in the corridor cities will range from 2.00 to 2.50 percent, annually. This represents an increase in employment of 53.2 percent for the county as a whole and 44.6 percent for the corridor cities. However, by 2020, cities within the corridor are predicted to have nearly the same rate of employment growth as the county as a whole. Redevelopment efforts on the part of some of the corridor cities are a contributing factor to this employment trend.

**Table 1.2-2
EMPLOYMENT PROJECTIONS**

Jurisdiction	1995	2000	2010	2020
Los Alamitos	10,211	10,833	12,023	12,676
<i>Growth Rate</i>	—	6.09%	10.98%	5.43%
Seal Beach	7,781	8,166	8,946	10,443
<i>Growth Rate</i>	—	4.95%	9.55%	16.73%
Westminster	24,357	26,414	33,960	37,730
<i>Growth Rate</i>	—	8.45%	28.57%	11.10%
Garden Grove	42,901	45,320	47,297	49,637
<i>Growth Rate</i>	—	5.64%	4.36%	4.95%
Santa Ana	182,631	193,099	232,843	307,197
<i>Growth Rate</i>	—	5.73%	20.58%	31.93%
Orange	86,100	94,267	109,996	128,586
<i>Growth Rate</i>	—	9.49%	16.69%	16.90%
Tustin	42,493	47,785	58,864	69,631
<i>Growth Rate</i>	—	12.45%	23.19%	18.29%
Sum of Corridor Cities	396,474	425,884	503,929	615,900
<i>Growth Rate</i>	—	7.42%	18.33%	22.22%
Orange County	1,241,897	1,381,692	1,717,280	2,116,560
<i>Growth Rate</i>	—	11.26%	24.29%	23.25%

Source: Orange County, 1996

C. FUTURE OPERATION LEVELS

According to OCP 96 projections, population is expected to grow by 22 percent (despite slowing growth rates) and employment by 70 percent between 1995 and 2020. (Note: OCP 96 uses 1995 as the base year for calculating growth.) This projected increase in future economic growth will result in increased traffic and congestion, causing reduced travel speeds and longer commute times. With the anticipated county growth, future transportation systems are expected to experience an increase in travel delays of 114 percent and work-related travel durations will increase by 15 minutes.

Traffic forecasts for 2020 in the study area indicate that daily traffic volumes are expected to increase by 8.1 to 19.8 percent along the freeway. Peak-hour LOS in 2020 is forecast at LOS F in 15 of 30 segments studied, LOS E in six segments, and acceptable (LOS D or better) in the

other nine segments. For more information on traffic, refer to Sections 3.7 and 4.7 of this document.

Year 2020 Traffic forecasts for SR-22, performed as part of OCTA's *The Corridor Major Investment Study (MIS) Final Evaluation Report* (June 1997), indicate that traffic volumes are expected to increase approximately 8 to 20 percent along most segments. Other freeway facilities would also experience an increase in weekday traffic, ranging from an increase in ADT of two percent on I-405 to an increase of 24 percent on SR-55. *The Corridor Major Investment Study Final Evaluation Report* is available at the Department, OCTA and libraries (see Table of Contents for the list of libraries).

1.2.4 Safety Issues

Currently, portions of SR-22 do not conform to recommended Federal and State highway design standards (although they are within the range of acceptable deviations from the standard). Existing shoulder widths and vertical clearances, for example, are non-standard in various areas. Narrow lanes reduce clearance in adjacent lanes that cause drivers to reduce speed, resulting in a reduction in speed and capacity. Furthermore, congestion-related accidents are linked to these problems. Other portions of the freeway are old and could be improved through installation of more up-to-date technology.

The Traffic Accident Surveillance and Analysis System (TASAS) Accident Rate Summary provides information for SR-22 for a three-year period, from January 1, 1995 to December 30, 1997. Information compiled by the Department's TASAS Table C – High Accident Concentration Locations shows the areas where the incidence of accidents is high compared to the statewide average. These data reveal fifteen areas of high accident concentrations, spanning from 15 percent above the expected rate of accidents (at Post Mile 2.58) to 486 percent above the expected rate of accidents at the eastbound on-ramp at Beach Boulevard. This is a clear indication that portions of the freeway experience periods of operation that do not meet the average operational levels for similar facilities. Areas defined as High Accident Concentration Locations are mostly near interchanges, many in the vicinity of The City Drive. Freeway congestion, weaving difficulties and high volumes along the mainline are factors contributing to the higher than average accident rates at these locations. From a corridor perspective, the SR-22 average accident rate compares favorably with similar facilities statewide.

1.2.5 Local Access

Improving interchange efficiency would provide a higher level of operation and throughput for entering and exiting traffic along SR-22 and local streets. Short sight lines or ramps with insufficient storage can result in accidents and congestion on the freeway and surface streets..

1.2.6 Regional Access

SR-22 provides an east/west connection to the primary north/south freeways in the region – I-5, I-405, I-605 (via I-405), SR-55 and SR-57. Only State Route 91 provides a similar east/west connection in Orange County. The lack of HOV facilities on SR-22 and HOV direct connectors at crossing freeways causes a discontinuity for regional HOV traffic. Vehicles using the HOV lanes on the connecting freeways must exit the HOV facilities and use general-purpose lanes on SR-22, I-405 or I-605. There is little incentive or opportunity for individual drivers to switch from single-occupancy vehicles (SOVs) to carpooling or transit without dedicated facilities for this purpose. If SOV drivers cannot decrease their commute times because there are no dedicated lanes for HOVs or buses only, they are more likely to forego carpooling or using transit in favor of driving alone. In addition, there are no existing or future programs in the SR-22 corridor to implement TSM, TDM, and ITS strategies, other than those currently planned as part of the SR-22/WOCC project. See Figure 1.2-4, HOV system map.

Regional transit is available in the area. Metrolink and Amtrak provide rail service. Metrolink connects Orange County with Los Angeles, Riverside, San Bernardino, Ventura, and San Diego Counties. Amtrak provides some duplication of this service (especially to Los Angeles County), but, more importantly, more distant access to the remainder of California and throughout the United States. There is no rail within the SR-22/WOCC study area.

Bus service provided by OCTA is available within cities along the SR-22 corridor, but it is limited by the lack of HOV facilities on SR-22.

1.2.7 Project Status/Project History

In September 1989, a Project Study Report (PSR) (SR-22 HOV and General Purpose Lane Improvements Final Report; DKS Associates, August 3, 1989) was approved. The PSR proposed increasing freeway capacity and reducing congestion and passenger delay through expansion of the “triangular” network of HOV lanes located on adjacent routes. Improvement alternatives for SR-22 included options for mixed flow and HOV lanes. Direct freeway-to-freeway HOV connectors were not evaluated in the PSR.

In July 1997, the Orange County Transportation Authority (OCTA) initiated a Major Investment Study (MIS) as a first step toward evaluating a variety of alternatives for the SR-22 transportation corridor to improve mobility in the SR-22/WOCC study area. In coordination with affected Federal, State, and local agencies, OCTA formed a Steering Committee to assist in guiding the development of the study to address the transportation needs and problems in the study area.

On August 10, 1998, the OCTA Board met to review the process and consider the next actions in the environmental compliance and preliminary engineering for the study alternatives. The Board agreed to proceed with preparation of the draft environmental document and preliminary engineering. This decision was based on recommendations from OCTA staff. There were ten original alternatives that were examined. These were refined to a set of six (see Section 2.1.2 for details). On November 9, 1998, the OCTA Board recommended three of the MIS alternatives to be carried forward as the “build alternative” for further study, along with the No Build Alternative and the TSM/Expanded Bus Service Alternative.

In January 2000, during technical analyses for the internal administrative draft of the DEIR/EIS, the identification of potential environmental impacts associated with the Full Build Alternative (then known as the Build Alternative) led to the decision to study an additional build alternative in an attempt to avoid or minimize right-of-way and environmental impacts, thereby bringing the total number of alternatives for the DEIR/EIS phase of project analysis to four: the No Build Alternative, the TSM/Expanded Bus Service Alternative, the Full Build Alternative, and the Reduced Build Alternative.

As presented in the DEIR/EIS, the Reduced Build Alternative was created by eliminating the following elements of the Full Build Alternative from the project design: the new arterial in the former Pacific Electric right-of-way, the HOV connectors between SR-22 and I-5, and the HOV connectors between SR-22 and SR-55. These dismissed features, if included, would have resulted in significant right of way, costs, and adverse operational impacts to I-5 and SR-55 absent additional capital improvements on these freeways to relieve added traffic demand. Thus, these features would not meet the goals and objectives of the proposed SR-22/WOCC project.

On February 12, 2001, SCAG released a Letter of Completion for the SR-22/WOCC Final MIS. According to the SCAG letter, “the range of alternatives studied in the SR-22 West Orange County Connection Final MIS Evaluation Report is sufficient to meet the requirements of the regionally significant transportation investments study (RSTIS) guidelines (per FHWA). Adequate public involvement was utilized in the planning process through workshops and public hearings. Moreover, public agency involvement was facilitated through numerous meetings and RSTIS Peer Review Group Meetings.” (MIS available at the Department and OCTA)

The OCTA Board also requested that the Southern California Association of Governments (SCAG) include improvements to the study area in the 1998 Regional Transportation Plan (RTP). As a result, the SCAG 1998 RTP includes the addition of HOV lanes on SR-22 between Valley View Street (near I-405) and SR-55. The direct HOV connectors at SR-22/I-405 and I-405/I-605 are also included in the RTP, as separate items. Figures 4.8-2 through 4.8-5 show the project's inclusion in the RTP. Regional environmental analysis of the proposed project were evaluated at the project level in the Final Master Environmental Impact Report (FMEIR) of April 1998.

The current adopted 2001 Regional Transportation Plan (RTP) includes all elements of the SR-22/WOCC. These include construction of HOV lanes along the eastbound and westbound lanes of SR-22/WOCC (Mainline) HOV, as well as the HOV connectors at I-405/I-605 and SR-22/I-405, all of which

are features of the identified Preferred Alternative. The goals for the 2001 RTP³ include transit restructuring, providing HOV lanes, mixed-flow lanes, increased Metrolink service, park-and-ride facilities, and the preservation and management of regional and local roadways.

The 2001 RTP environmental document is titled "Update Program Environmental Impact Report (PEIR)". According to this PEIR, significant environmental impacts identified for the 2001 RTP project include: population, employment and housing, land use, transportation, air quality, noise, aesthetics and views, biological resources, cultural resources, energy, and public services and utilities. For instance, there is the potential to disrupt and displace residences and businesses which would remain a significant impact as improvements to smart streets, interstate highways (including SR-22, SR-57, and SR-73) and transit (Centerline project) could require acquisition of rights-of-way thus displacing businesses or residences. However, under the no project option for freeway improvements such as SR-22, traffic conditions would worsen (2001 RTP PEIR, 124). For more information on the 2001 RTP FEIR, please visit the SCAG website at <http://www.scag.ca.gov/publications/>. A hard copy of the document is available upon request from SCAG, at (213) 236-1800.

The West Orange County Connection portion of the study was evaluated for system connectivity and included the portion of I-405 between I-605 and SR-22 and the portion of I-605 between I-405 and Katella Avenue. The complexity of the highway system (the number of freeways and choices for travel) in the western part of the county makes travel difficult for unfamiliar drivers. More direct traffic flow can be realized by capitalizing on opportunities to improve connectivity among the HOV lanes on these freeways, thus reducing congestion due to HOV users having to weave across mixed flow lanes to switch to and from HOV lanes.

The benefits of utilizing a former rail transit corridor, the former Pacific Electric right-of-way, to relieve congestion on existing facilities and improve mobility in the central part of the county were also considered in the MIS. The former Pacific Electric right-of-way extends south of SR-22 in a southeast direction toward central Santa Ana. Access to governmental offices, including the county seat and many federal government offices in central Santa Ana is currently hindered by a lack of direct routes from the many surrounding freeways. Redevelopment of the former Pacific Electric right-of-way as a transportation facility would provide an opportunity for a direct link between the state highway system and a major destination / employment center. Use of this corridor as an arterial to downtown Santa Ana was included in the Full Build Alternative analysis. No right-of-way has yet been acquired for the project. OCTA owns the former Pacific Electric right-of-way.

1.3 PLANNING CONTEXT

The purpose of this section is to provide information regarding the relationship between state, regional, and local transportation plans and the proposed facility improvements. How well the proposed facility improvements would operate in conjunction with these plans and how they would serve to complement goals identified within the plans can be facilitated by a description of these plans.

1.3.1 Air Quality Management Plan

The South Coast Air Quality Management District (SCAQMD) is a regional regulatory agency with the primary responsibility for improving air quality in the South Coast Air Basin, which includes multi-county jurisdictions such as Orange and the non-desert portions of Los Angeles, Riverside, and San Bernardino counties. The SCAQMD is a co-lead agency, along with the Southern California Association of Governments (SCAG), in preparing the Air Quality Management Plan (AQMP), which identifies a number of air pollution reduction goals and policies and emission-control measures. The AQMP is required to meet the requirements of the federal Clean Air Act (CAA) and the air quality planning requirements of the California Clean Air Act (CCAA) for attaining federal and state ambient air quality standards (AAQS). The AQMP is part of the State Implementation Plan (SIP), which demonstrates that AAQS would be met by 2020. The CAA contains provisions to ensure that transportation plans, programs, and projects approved or funded by Federal Highway Administration (FHWA) or Federal Transit Administration (FTA) in air quality non-attainment or maintenance areas are in conformity with the SIP.

³ Available at OCTA.

Implementation of the AQMP requires a cooperative partnership between governmental agencies at the Federal, State, regional, and local levels. At the federal level, the Environmental Protection Agency (EPA) is responsible for oversight of state air quality planning and implementation to meet CAA requirements. On the state level, the California Air Resources Board (CARB) is responsible for regulating mobile source emissions and fuels, oversight of local and regional air quality planning and implementation, and CAA planning for state air quality requirements. The SCAQMD directly regulates stationary sources of pollution, plans for mobile and area source emissions reductions, and ensures regional air quality plan conformance. SCAG, as the regional Metropolitan Planning Organization (MPO), is responsible for developing a Regional Transportation Plan (RTP) that identifies how the AQMP's transportation and land use emissions reduction budget targets will be met.

The 1997 AQMP,⁴ adopted by the SCAQMD Governing Board on November 15, 1996, incorporates a combination of technical and policy provisions developed in cooperation with the EPA, CARB, and SCAG. Air pollutant emission control strategies outlined within the AQMP include a number of transportation-related measures. Two of the measures contained in the AQMP that directly relate to the proposed SR-22 improvements are the introduction of HOV lanes and HOV connectors to help improve traffic flow. Improved traffic flow, in turn, increases vehicle engine efficiencies and emissions characteristics, improving air quality at both the regional and local scales.

The 1997 AQMP also addresses notable regulatory rules promulgated since the preparation of the 1994 Plan. These include the implementation of Phase II reformulated fuels in 1996, the replacement of Regulation XV rideshare program with an equivalent emission reduction program, and new incentive programs for generating emission credits. Other highlights of the 1997 Plan are noted below.

- Use of the most current air quality information (1995), including special particulate matter data from the PM₁₀ Technical Enhancement Program;
- Improved emissions inventories; especially for motor vehicles, fugitive dust, and ammonia sources;
- A similar, but fine tuned overall control strategy with continuing emphasis on flexible, alternative approaches including intercredit trading;
- A determination that certain control measures contained in the 1994 AQMP, are infeasible, most notably the future indirect source measures;
- Enhanced modeling for particulates;
- Separate analyses for the desert portions within the District's jurisdiction: the Coachella Valley within the newly designated Salton Sea Air Basin; and the Antelope Valley within the Mojave Desert Air Basin;
- Attainment to the federal Post-1996 Rate-of-Progress Plan and the Federal Attainment Plans for ozone and carbon monoxide;
- A maintenance plan for nitrogen dioxide; and
- An attainment demonstration and State Implementation Plan Revision for PM₁₀.

In 1999, the ozone plan portion of the 1997 AQMP was amended in conjunction with a settlement of litigation by environmental groups challenging the 1997 plan to provide the following:

- Greater emission reductions in the near-term than would occur under the 1997 AQMP;
- Earlier adoption of the measures that would otherwise be contained in the next three years update of the AQMP; and
- Additional flexibility relative to substituting new measures for infeasible measures and recognition of the relevance of cost effectiveness in determining feasibility.

In April 2000, U.S. EPA approved the 1999 ozone SIP to the 1997 plan. The 1999 Amendment in part addressed the State's requirements for a triennial plan update.

Under existing conditions, the South Coast Air Basin is in non-compliant status with several criteria pollutants. They include: carbon monoxide (CO), ozone (O₃), and particulate matter (PM₁₀). The Basin is designated as a serious nonattainment area for carbon monoxide by both USEPA and ARB. The Basin is designated by both the USEPA and the ARB as an extreme ozone nonattainment area. For PM₁₀, EPA designates the Basin as serious nonattainment while ARB designates the Basin as simply nonattainment.

⁴ Available at OCTA.

Implementation of the WOCC proposed project could aid to improve the Basin's AQMP to comply with these criteria pollutants.

1.3.2 SCAG Regional Transportation Plan

As the federally designated MPO for a major portion of Southern California, SCAG adopts and periodically updates a long-range RTP for Los Angeles, Orange, San Bernardino, Riverside, Ventura, and Imperial Counties. The CAA and federal transportation statutes require the SCAG RTP. It is part of the AQMP, providing detailed planning information for transportation project implementation. The RTP is revised on a periodic basis for inclusion in AQMP revisions. Pursuant to 23 C.F.R. §450.322(a), the RTP must be reviewed and updated by the designated MPO at least once every three years in order to confirm its validity and its consistency with current and expected transportation and land use conditions and trends, and to extend its forecast period.

Goals for the 2001 RTP⁵ include transit restructuring, providing HOV and mixed-flow lanes, increased Metrolink service, park-and-ride facilities, and the preservation and management of regional and local roadways. All features of the SR-22/WOCC proposed project are included in the 2001 adopted SCAG RTP. Construction of the direct HOV connectors is specifically included in the RTP Constrained Project/Program.

1.3.3 OCTA – 1998 *FastForward* Plan

In 1998, OCTA's Board of Directors approved a long-range transportation plan called *FastForward: Transportation Solutions for the Next Generation (FastForward)*.⁶ Two of *FastForward's* eight goals were:

- To create a balanced and integrated transportation system that enhances mobility for a growing population employment base
- To develop and maintain an effective street and freeway network to support the efficient movement of people and goods

In addition, several overarching policies were adopted:

- Provide transportation choices
- Optimize the present transportation system
- Link land use and transportation planning
- Meet intercounty travel needs
- Address expanded tourism and recreational travel

FastForward also identified what travel would be like in the year 2020 if investment were limited to only improvements included in the short-term Regional Transportation Improvement Program (RTIP). This was called the Baseline Scenario. In 1998, baseline assumptions included:

- Measure M Transportation Improvements
 - Freeway projects on I-5, State Route 91 (SR-91), and SR-57
 - Regional street and road projects
 - Local street and road projects
 - Transit projects
- OCTA Board-adopted Corridor Locally Preferred Strategy (LPS)
 - Forty-nine-percent increase in weekday fixed route bus service by 2015
 - One thousand more commuter rail seats
 - Street improvements to support expanded bus service
 - Study of a future urban rail system

⁵ Available at the Department & OCTA.

⁶ Available at OCTA.

- OCTA ACCESS paratransit service to meet the mandates of the Americans with Disabilities Act (ADA)

The Baseline Scenario assumed the following projects would be completed:

- Combined Transportation Funding Program projects
- Widening of I-5 northward to SR-91 and adding HOV lanes northward to the Los Angeles County line
- An HOV system along SR-91 and SR-57 to the Los Angeles County line
- Widening SR-55 from 17th Street to SR-91
- I-405/SR-55 transitway
- I-405/State Route 73 (SR-73) freeway-to-freeway connectors
- SR-55/SR-73 freeway-to-freeway connectors
- Widening Laguna Canyon Road north of El Toro Road
- Foothill, Eastern, and San Joaquin Hills Transportation Corridors
- Beach Boulevard, Moulton Parkway, Imperial Highway, and Katella Avenue Smart Streets

This constrained Baseline Scenario revealed that, by 2020, average peak-period travel speeds would decline and it would take an average 13 more minutes to make a one-way work trip. SR-22 would be especially congested.

The *FastForward* long-range plan included projects and services to meet goals. Among the improvements were HOV lanes along SR-22. *FastForward* also called for an analysis of direct HOV-lane connectors at freeway-to-freeway interchanges on SR-22, and of a direct-access expressway from SR-22 at Newhope Street to the Santa Ana Civic Center, using the OCTA-owned former Pacific Electric right-of-way. The results of these studies are part of the Major Investment Study, approved on November 9, 1998 by the OCTA Board of Directors.

1.3.4 OCTA – Master Plan of Arterial Highways

The purpose of the *1995 Master Plan of Arterial Highways (MPAH)*⁷ is to effectively serve existing and projected traffic demands throughout Orange County by establishing a comprehensive network of arterial highway systems. Originally part of Orange County's Advance Planning Program (General Plan) Transportation Element, the MPAH is now administered by OCTA. As part of the county's general plan, the MPAH was supported by text and information necessary to comply with statutory requirements for general plans. Under OCTA's administration, the policies and procedures of the MPAH are communicated through the *Guidance for the Administration of the Master Plan of Arterial Highways* (OCTA, 1995).

As a key component of Orange County's transportation policy, the MPAH provides classification and definition of countywide circulation systems. These systems play a major role in regional travel by connecting to and complementing the state highway system and local street network. The MPAH map depicts a network of major thoroughfares comprising freeways, transportation corridors, and five main arterial highway classifications. The MPAH classifications are a statement of policy intended to reserve adequate right-of-way for future highway improvements. Consistency with the MPAH is necessary to maintain the integrity of the regional highway network.

Improvements identified on the MPAH for the SR-22 study area include the following:

- A proposed primary arterial to downtown Santa Ana along the former Pacific Electric right-of-way
- Build-out of Metropolitan Avenue in the City of Orange
- Beach Boulevard eight-lane Smart Street designation
- Upgrades to major arterials: Los Alamitos Boulevard, Seal Beach Boulevard, Valley View Street, Brookhurst Street, Harbor Boulevard, Fairview Street, Bristol Street, Main Street, Grand Avenue (south of SR-22), and Tustin Avenue
- Upgrades to primary arterials: Knott Street, Beach Boulevard, Magnolia Street, Euclid Street, Haster Street, The City Drive, Grand Avenue (north of SR-22), Garden Grove Boulevard, La Veta Avenue, and Westminster Boulevard

⁷ Available at OCTA.

1.3.5 Other Projects Proposed

See Table 2.2-2 (OCTA's *Fastforward* Long-Range Transportation Plan) and Section 2.5 (Status of Other Projects and Proposals within the Area) for a full list of other projects planned within the limits of Orange County.

1.3.6 Local Planning Context

Local jurisdictions (cities and counties) have sole jurisdiction over land use and zoning. They support regional transportation plans through local implementation programs. Local governments participate in the Clean Cities program, acting to include air quality considerations in their local decision-making whenever possible. Individual cities also provide support in developing and implementing the transportation control measures outlined in the AQMP. SCAG is responsible for helping local governments coordinate their efforts and for ensuring that the region's transportation projects, programs, and plans conform to the AQMP. Local jurisdictions provide fair share reduction of vehicle pollution through adoption of a series of optimal Transportation Control Measures (TCMs). TCMs include such capital-based actions as HOV lanes, transit improvements, and traffic flow improvements.

Local transportation-related planning decisions, as well as improvements outlined in the general plan circulation elements of local cities, generally recognize the related transportation needs and planning activities of the surrounding county, region, and state, and provide support to these plans through implementation of transportation improvement-based goals and policies. The following is a list of some of the relevant policies in local planning documents:

- The circulation system shall be implemented in a manner that achieves the established traffic level of service policy (County of Orange, *Transportation Element*, August 1995).
- Comprehensive traffic improvement programs shall be established to ensure that all new development provides necessary transportation facilities and intersection improvements as a condition of development approval (County of Orange, *Transportation Element*, August 1995).
- The county shall take all actions possible to ensure that the implementation of the general plan is consistent with the provisions of the Measure M Countywide Growth Management Program in order to bring about improved regional coordination in the areas of growth management, traffic improvements, and public service (County of Orange, *Land Use Element*, March 1995).
- Consider development of freeways and/or rapid transit systems and endorse such proposals when it is considered to be in the community's best interest (City of Seal Beach, *General Plan, Circulation Element*, 1997).
- Utilize TDM measures, where appropriate, to discourage the single-occupant vehicle, particularly during the peak hours. Potential TDM policies include, but are not limited to: ridesharing, carpooling and vanpooling, flexible work schedules, and telecommuting (City of Westminster, *General Plan*, 1996).
- Investigate all Federal, State, and OCTA programs that may be beneficial to the City of Westminster (City of Westminster, *General Plan*, 1996).
- Coordinate with the Department, and all other appropriate jurisdictions, to evaluate and implement feasible freeway crossing and access improvements (City of Westminster, *General Plan*, 1996).
- Use the former Pacific Electric right-of-way in a beneficial manner that does not preclude the use of the property for alternative transportation purposes in the future (*Garden Grove General Plan Land Use Element*, 1995).
- Coordinate roadway improvements with applicable regional, state and federal transportation plans and proposals (*Tustin General Plan*, 1994).
- Support the completion of the Orange County MPAH (*Tustin General Plan*, 1994).
- Support capacity and noise mitigation improvements such as HOV lanes, general-purpose lanes, auxiliary lanes and noise barriers on the I-5 and SR-55 freeways (*Tustin General Plan*, 1994).
- Monitor and coordinate with the Department freeway work as it affects Tustin's roadway and require modifications as necessary (*Tustin General Plan*, 1994).

Section 4.6.1 of this document includes an analysis of each project alternative's consistency with land use plan and policies within the study area.⁸

1.4 CONCLUSIONS

As previously discussed, the purpose of the proposed SR-22/WOCC project is to improve mobility (both existing and future) and enhance safety, while minimizing environmental and economic impacts. SR-22 represents a major link to other freeway systems within the Orange County area and is an important component of the county's transportation system.

As one of eight key transportation facilities in central Orange County, SR-22 is included in the goals and policies of the various jurisdictions within the study area. Most of these are general policies such as the following:

- Promoting the safe and efficient movement of people and goods
- Establishing comprehensive traffic-improvement programs
- Working with the local and regional agencies to facilitate freeway improvements
- Coordinating local improvements with regional plans

These policies, as they relate to SR-22 and proposed transportation improvements, are further discussed throughout this document in Section 3.6.2, Land Use and Development, and Section 4.6, Community Impact Assessment.

Under existing conditions, the SR-22 and its major adjacent arterial streets do not meet the transportation goals and policies of the various jurisdictions within the study area. In addition, the SR-22 does not meet the capacity needs of the area. It is one of the few freeways in Orange County without HOV facilities and the only freeway in central Orange County that has not been the subject of a recent corridor-specific planning effort. The lack of major programs for the SR-22 corridor to implement Transportation System Management (TSM), Transportation Demand Management (TDM), and Intelligent Transportation System (ITS) strategies has further contributed to congestion problems. With projected population and employment growth trends indicating increased transportation volumes, SR-22 can be expected to experience worsening operational conditions.

The following section (Section 2.0) presents the alternatives proposed to address the purpose of and need for the SR-22/WOCC project. Section 3 describes the existing corridor environmental setting, and the adverse environmental impacts of each of the alternatives are addressed in Section 4.0.

⁸ The local planning documents cited herein are available at OCTA.

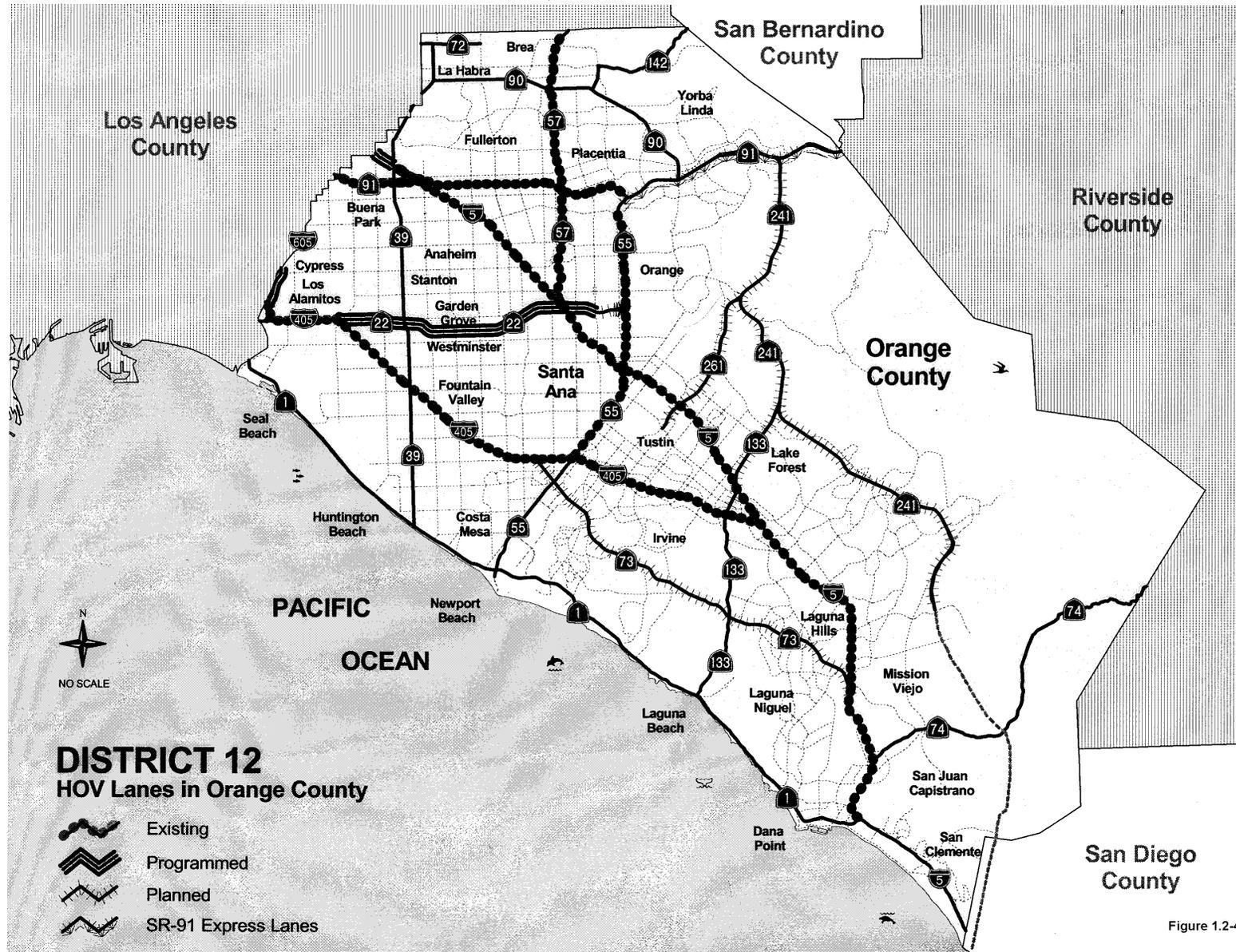


Figure 1.2-4

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