

Transportation Concept

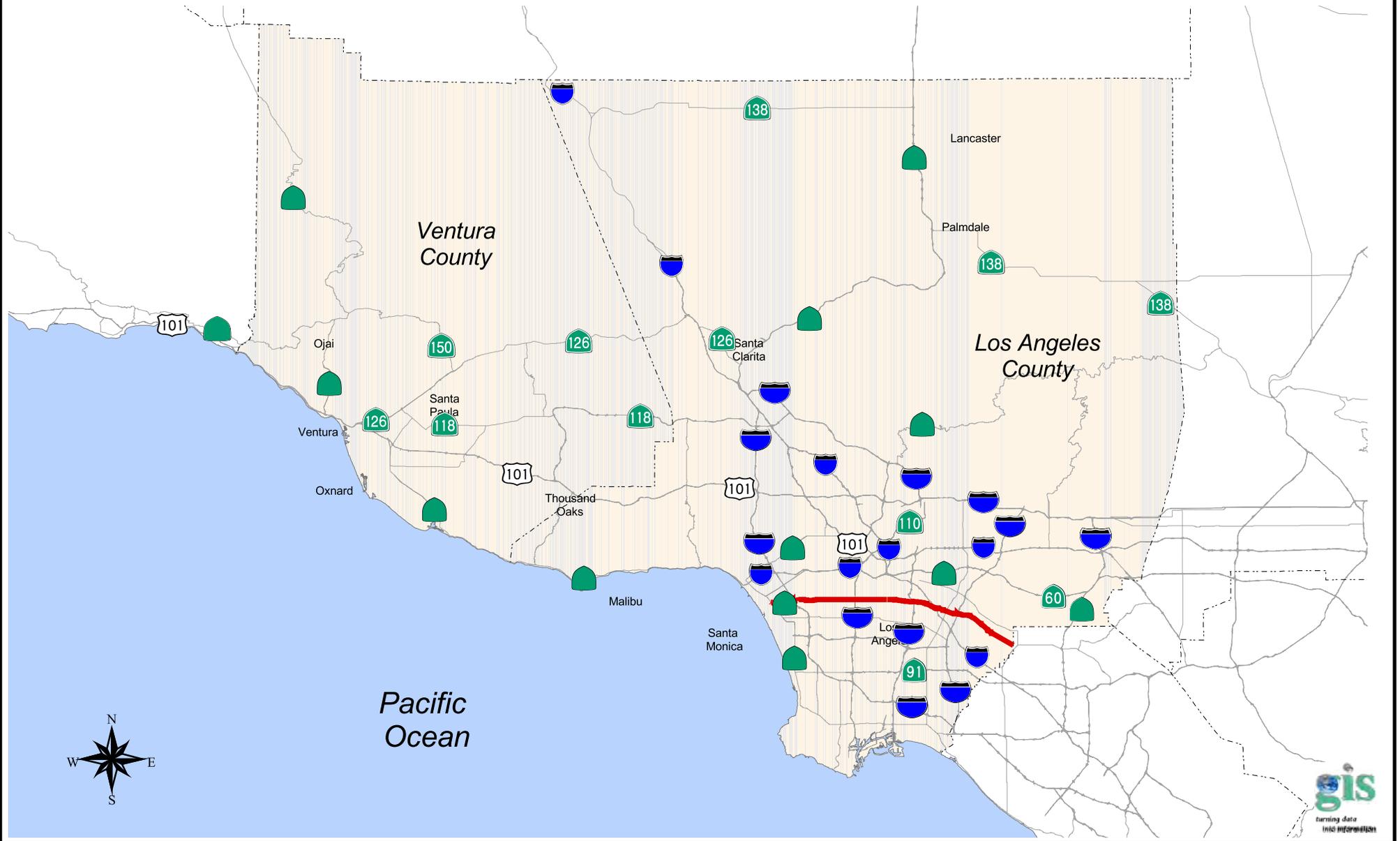
Report



*California Department of Transportation
District 7
Office of Advance Planning
System Planning Unit*



State Route 90 Transportation Concept Report



TRANSPORTATION CONCEPT REPORT

STATE ROUTE 90

P.M. .092 – 28.17

PREPARED BY DISTRICT 7 DIVISION OF PLANNING

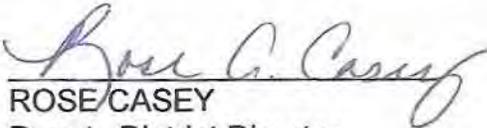
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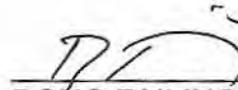
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Date 9/30/04

Date 10/19/04

TRANSPORTATION CONCEPT REPORT

STATE ROUTE 90

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I. Disclaimer

This Transportation Concept Report (TCR) is a planning document prepared by the California Department of Transportation (Caltrans) based on the data available up to the date of its publication.

This TCR identifies the present geometric and operational characteristics of the transportation facility for which it was prepared, the anticipated demand in 20 years, and the suggested improvements to satisfy the future demand.

The future improvements to the transportation facility identified in this TCR are recommendations for study purposes and shall not be binding upon the State of California and/or Caltrans for implementation. Caltrans, in collaboration with local and regional transportation agencies, and upon conduct of further studies and availability of funds, may proceed with implementation of any or all of the identified future improvements or may select improvements in lieu of those identified in this document. Any identified improvements should not be construed as being 100% publicly funded.

II. DOCUMENT SUMMARY

While this Transportation Concept Report (TCR) is divided into twelve sections, three of the sections, VIII, X and XI are the heart of the document. They include detailed segment summaries (Section VIII), a list of suggested improvements (Section X) and Transportation Concept and Conclusions (Section XI). All of the other sections provide a context for analyzing the State Route 90 (SR-90) corridor and document the data resources studied.

The basic aim of this document is to suggest a configuration for SR-90 that will meet projected demands within a framework of programming, implementation constraints and regional policy.

The recommended transportation concept for SR-90 is to maintain the existing facility. Since there are no plans for capacity improvements in segment 5 beyond the year 2020, it is recommended that this portion of Route 90 be deleted from the State Highway System. The Ultimate Transportation Concept is to preserve right-of-way in segment 1 for the possibility of future additional lanes if necessary.

Segment	Limits	Existing Facility (lanes)	Alternative Concept #1	Alternative Concept #2	Maintain Current D/C	LOS "D" Attainment	UTC
1	Jct. Rte 1 to Begin Fwy.	2C	2C	2C	3C	4C	3C
2	Begin Fwy. to Rte. 405	3MF	3MF	3MF	4MF	3MF	3MF
3	Rte. 405 to End Fwy.	3MF	3MF	3MF	4MF	3MF	3MF
4	End Fwy. to Slauson Ave.	3C	3C	3C	4C	3C	3C
5	Slauson Ave. to OCL	UNCONSTRUCTED					

C = Conventional

MF = Mixed Flow

OCL = Orange County Line

UTC = Ultimate Transportation Concept

III. DOCUMENT PURPOSE

This Transportation Concept Report (TCR) is an internal Caltrans planning tool intended to provide an initial look at developments within the State Route 90 (SR-90) corridor over the next twenty years. Its primary focus is to identify "need"--defined as the difference between forecast demand and capacity. It analyzes this need in three ways: 1) it documents current conditions; 2) it contrasts projected future demand with planned facilities (capacity); and 3) it proposes future development alternatives to address the shortfalls between demand and capacity.

As an initial step in the planning process, its observations and conclusions serve as a reference for more complex and specific reports such as Feasibility Studies, Major Investment Studies (within the SCAG region these studies are now referred to as "Regionally Significant Transportation Investment Studies (RSTIS)", and Project Studies.

This TCR is composed of a series of proposed alternatives for the development of SR-90. The alternatives are included in the Segment Summaries, Section VIII. The recommended alternative, which is to maintain the existing facility, is based on existing and future plans--primarily the LACMTA Long Range Plan and the Caltrans District System Management Plan. The Attain LOS "D" alternative is based on the number of "lane equivalents" necessary to reach LOS "D"--by definition, the lowest adequate level of service rating.¹ The Ultimate Transportation Corridor (UTC) alternative is considered the maximum reasonable development of a highway facility within the corridor. The UTC is intended to identify potential right of way needs.

1. Please note: The Attain LOS "D" alternative is provided as a way to illustrate future congestion and capacity needs and **not as a suggestion for programming.**

SYSTEM PLANNING:

An Overview

PURPOSE:

System Planning provides the basis for an effective transportation decision-making process, which is responsive to the public demand for mobility of people and goods.

OBJECTIVE:

- Identify, analyze and display transportation problems on a consistent statewide basis to enable fully informed decisions on the programming of system improvements and on system operations and maintenance.
- Allow department management to make short-term decisions that are consistent with long-term objectives.
- Communicate with the public on the levels of transportation service, which the state can or cannot provide.

PRODUCTS:

1) District System Management Plan (DSMP)

The DSMP is a strategic and policy-planning document that presents how the district envisions the transportation system will be maintained, managed and developed over the next twenty years and beyond. It is developed in partnership with regional and local transportation planning agencies, congestion management agencies, transit districts and air quality planning agencies. It considers the entire transportation infrastructure, regardless of jurisdiction, and addresses all modes and services, which move people, services, and goods. As a management tool, it informs federal, state, regional and local agencies, the public and the

private sector of the district's plan for developing, managing and maintaining the transportation system.

2) Route Concept Report (RCR), Transportation Concept Report (TCR) or Corridor Study

RCR's, TCR's and Corridor Studies analyze a route or corridor and establish a twenty-year transportation planning concept. They identify modal options and various needs to accomplish the twenty-year concept. The concept analysis considers operating level of service (LOS), modal facility type, vehicle occupancy of all modes and capacity needs. The studies identify "unconstrained" needs.

3) Transportation System Development Plan (TSDP)

The TSDP identifies transportation system improvements for the various options analyzed in the DSMP and TCR's. It covers the four-years immediately following the five-year STIP period and uses high and low funding scenarios. It provides a priority list for use in programming on- and off-system improvements.

Document Schedule:

DSMP - Generally, the same as the SCAG Regional Transportation Plan. The anticipated completion date is September 2005.

TCR's - Ongoing; updated as conditions change.

TSDP – Generally precedes STIP priority list; due from the District by March 15th of odd numbered years. The anticipated completion date is September 2005.

The Legislative Mandate

Long-Term System Planning

Added: Government Code Statutes of 1987, Chapter 878

65086 (a) The Department of Transportation shall carry out long-term state highway system planning to identify future highway improvements and new transportation corridors through route concept reports.

(b) The department, in conjunction with transportation planning agencies, shall develop specific project listings for the initiation of project studies reports resulting in project candidates for inclusion in regional transportation plans and the state transportation improvement program as required by Section 14529.

IV. Regional Threshold Criteria and Policies

I. CALTRANS: California Transportation Plan:

- 1) Provide safety and security
- 2) Maintain system/investment
- 3) Manage network as a seamless intermodal system
- 4) Develop airport ground access

II. CALTRANS: District System Management Plan:

- 1) District 7 has established **LOS F0** with freeway speeds of approximately 25 mph lasting from 15 minutes to 1 hour as the minimum acceptable LOS for the Freeway System.

III. 1997 Final Proposed Congestion Management Plan

LOS "E" unless base year is lower

IV. Los Angeles County Metropolitan Transportation Authority (LACMTA) 2001 Long Range Plan

Long Range Plan Goals:

1. Mobility – improve traffic flow, relieve congestion, and enable resident, workers, and visitors to travel freely and quickly throughout Los Angeles County
2. Air Quality – improve air quality by reducing mobile source emissions, increasing the number and percentage of people using transit or ridesharing, and improving the efficiency of the transportation system
3. Access - pursue activities and make investments that enable all residents, workers, and visitors, to access the many economic, educational, social, medical, cultural, recreational, and governmental opportunities and resources in Los Angeles County

Baseline Plan Recommendations (Highways):

1. SR-90 Freeway Extension

V. SCAG 2004 Regional Transportation Plan Regional Goals

- 1) Maximize mobility and accessibility for all people and goods in the region
- 2) Ensure travel safety and reliability for all people and goods in the region
- 3) Preserve and ensure sustainable regional transportation system
- 4) Maximize the productivity of our transportation system
- 5) Protect the environment, improve air quality and promote energy efficiency
- 6) Encourage land use and growth patterns that complement our transportation investments

VI. TEA 21--Generally:

- 1) Maintain TDM
- 2) Provide for intelligent transportation systems (ITS)
- 3) Expands funding to include intermodal terminals at seaports

V. ROUTE DESCRIPTION

Pursuant to statutes relating to the California Department of Transportation, Route 90 runs from; Route 1 northwest of the Los Angeles World Airports (LAWA) to Route 91 in Santa Ana Canyon passing near La Habra.

PURPOSE OF ROUTE:

State Route 90 is an east/west arterial that provides commuter and commercial travel through an urban corridor. The entire route, with the exception of the unconstructed portion, functions as a terminal truck access route to the national network for the Surface Transportation Assistance Act (STAA), which designates all or portions of routes for truck access. Segment 1 and a portion of segment 2 are within the coastal zone.

The purpose of Route 90 is shown in the following table:

Seg.	PM	Description	Route Purpose	Facility Type
1	0.92 to R1.03	Rte. 1 to begin freeway	Local, commute, truck access	Expressway
2	R1.03 to 2.65	Begin freeway to Rte. 405	Local, commute, truck access	Freeway
3	2.65 to T3.11	Rte. 405 to end freeway	Local, commute, truck access	Freeway
4	T3.11 to T3.26	End freeway to Slauson Ave.	Local, commute, truck access	Expressway
5	T3.26 to 28.17	Slauson Ave. to Orange County Line	Unconstructed	

FUNCTIONAL CLASSIFICATION:

Route 90 is a state conventional highway/freeway divided facility, and is a subset of the National Highway System. For the purpose of this analysis, this route is examined in 5 segments based on traffic volumes, connections to local streets or

state highways, and freeway interchanges. The criteria used for segmentation and functional class for each segment is shown in the following table:

Seg.	PM	Description	Functional Classification	Criteria
1	0.92 to R1.03	Rte. 1 (Lincoln Blvd.) to begin freeway (Culver Blvd.)	P4-Urban Principal Arterial entirely within an urban area without control (conventional highways)	Conventional Highway to Expressway
2	R1.03 to 2.65	Begin freeway (Culver Blvd.) to Rte. 405	P3-Urban Principal Arterial entirely within an urban area with control (freeways and expressways)	Expressway to Interstate Highway
3	2.65 to T3.11	Rte. 405 to end freeway	P3-Urban Principal Arterial entirely within an urban area with control (freeways and expressways)	Interstate Highway to Expressway
4	T3.11 to T3.26	End freeway to Slauson Ave.	P3-Urban Principal Arterial entirely within an urban area with control (freeways and expressways)	Expressway to County Line
5	T3.26 to 28.17	Slauson Ave. to Orange County Line	Unconstructed	

VI. SOCIO ECONOMICS

State Route 90 traverses two Southern California Association of Governments (SCAG) Regional Statistical Areas, which are identified as Santa Monica and Culver City. This route serves the beach communities of Venice, Playa Del Rey, and Marina Del Rey, as well as two unincorporated areas of Los Angeles, the communities of Ladera Heights and Baldwin Hills (via Slauson Avenue), and Culver City.

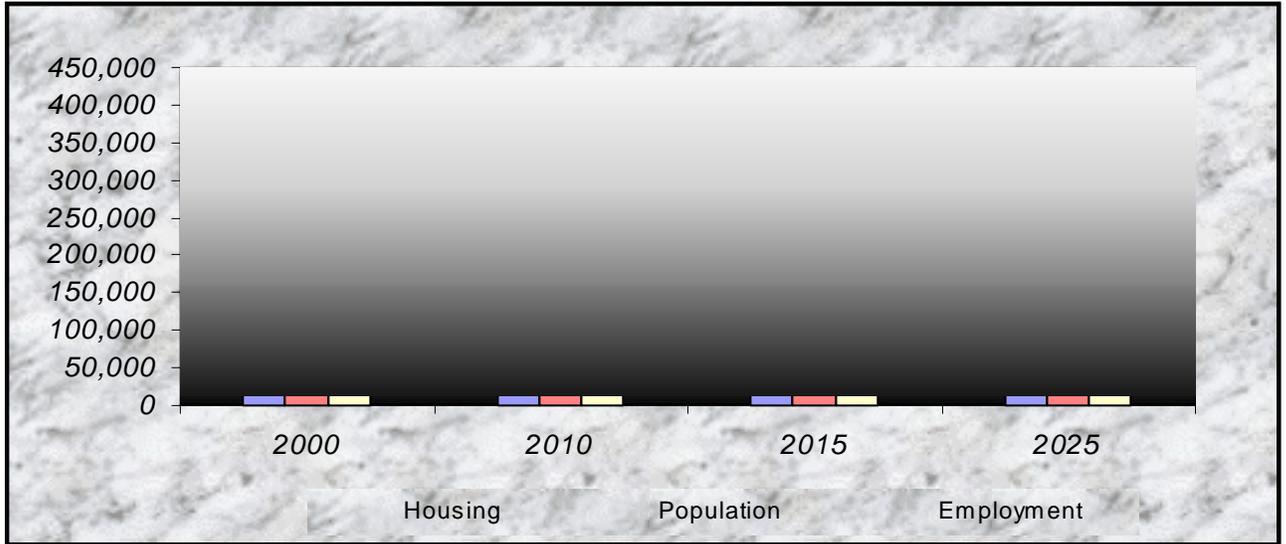
Land use along the SR-90 corridor is comprised of residential, commercial and industrial. The major trip generators in this area are the Fox Hills Mall, Hughes Business Center, the Promenade at the Howard Hughes Center, the Ladera Shopping Center, Daniel Freeman Marina Hospital and the Villa Marina Shopping Center.

Potential trip generators include the Playa Vista Phase I project, located on Jefferson Boulevard, north of SR-90, which is now under construction. This project consists of residential units, office and retail space and community service use. The LAX Master Plan Alternative D, which is at the environmental review stage, proposes to expand the Los Angeles World Airport. The Village at Playa Vista project also located on Jefferson Boulevard north of SR-90 is pending project approval.

Growth forecasts (see socio-economic data) predict an 18-28% growth in Population and Housing and a 15-18% rise in employment for the 2 RSAs that the constructed Route 90 traverses. Based on these projections significant growth is anticipated for the entire corridor. The density of development around the area and the intensity of specific types of land-uses dictate the number of vehicle trips that could be generated for the area onto a route.

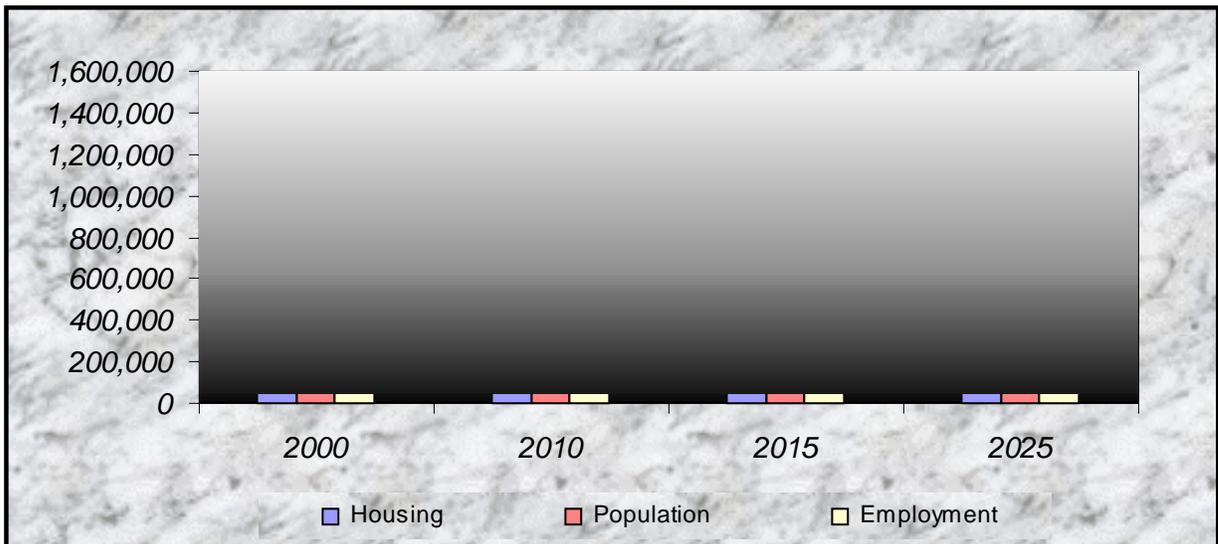
The following graphs illustrate projected growth in the areas surrounding Route 90 between the years 2000 and 2025. Included are data on housing, population and employment. These graphs are provided to give perspective to socio-economic conditions along the Route 90 corridor:

SANTA MONICA REGIONAL STATISICAL DEMOGRAPHIC AREA



	2000	2010	2015	2025	% Change
Housing	<i>155,842</i>	<i>167,477</i>	<i>174,610</i>	<i>192,597</i>	<i>24%</i>
Population	<i>351,963</i>	<i>377,656</i>	<i>387,661</i>	<i>415,309</i>	<i>18%</i>
Employment	<i>193,182</i>	<i>212,266</i>	<i>218,460</i>	<i>228,720</i>	<i>18%</i>

CULVER CITY REGIONAL STATISTICAL AREA



	2000	2010	2015	2025	% Change
Housing	<i>453,766</i>	<i>488,748</i>	<i>512,682</i>	<i>580,110</i>	<i>28%</i>
Population	<i>1,241,344</i>	<i>1,328,911</i>	<i>1,365,226</i>	<i>1,481,903</i>	<i>19%</i>
Employment	<i>596,056</i>	<i>643,665</i>	<i>659,359</i>	<i>683,849</i>	<i>15%</i>

VII. ACCIDENT RATES AND SAFETY

INTRODUCTION

District traffic safety and accident data are based on the Traffic Accident Surveillance and Analysis System (TASAS). This database provides accident rates using a three-year average along selected routes. The TASAS data, which is displayed graphically on the following pages, covers the period of January 1, 2001 through December 31, 2003.

First Graph: Fatal Plus Injury Per Million Vehicle Miles

The first graph, "Fatal Plus Injury Per Million Vehicle Miles" (F+I/MVM), shows the rate of fatal and non-fatal injuries on State Route 90 during the coverage period. This graph has two graph lines, "Average" and "Actual". The "Actual" is based on specific data for accidents on State Route 90. The "Average" line represents a Statewide Average Accident Rate (SWA) for highway segments of the same type with similar characteristics in the state.

According to the accident data obtained from the TASAS database the actual percentage of Fatal + Injury accidents that occurred in segment one is slightly higher than the SWA. However, the percentage of accidents begins to decline in segment 2 and falls below the SWA along the remainder of the route.

Second Graph: Total Accidents Per Million Vehicles Miles

The second graph, "Total Accidents Per Million Vehicle Miles" (Total/MVM) includes all accidents (fatal, non-fatal injury and accidents without injuries) within the coverage period. As in the first graph, the "Actual" is based on specific State Route 90 data and "Average" represents a statewide average for comparable road segments.

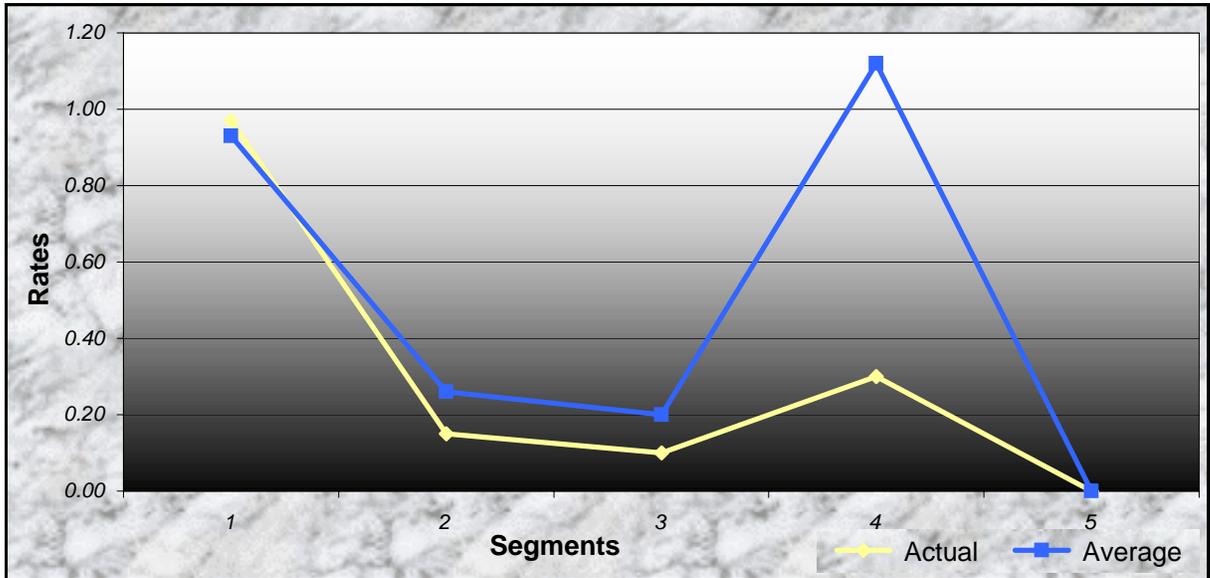
According to the accident data obtained from the TASAS database the total percentage of Fatal + Injury accidents that occurred falls below the SWA along the entire route.

Safety

The accident data that is provided in this TCR is intended to support informed and responsible decision-making by transportation planners and programmers. Research into the connection between congestion and safety is being performed by Caltrans and within the national and international transportation communities. Future TCR's will document the state of that research.

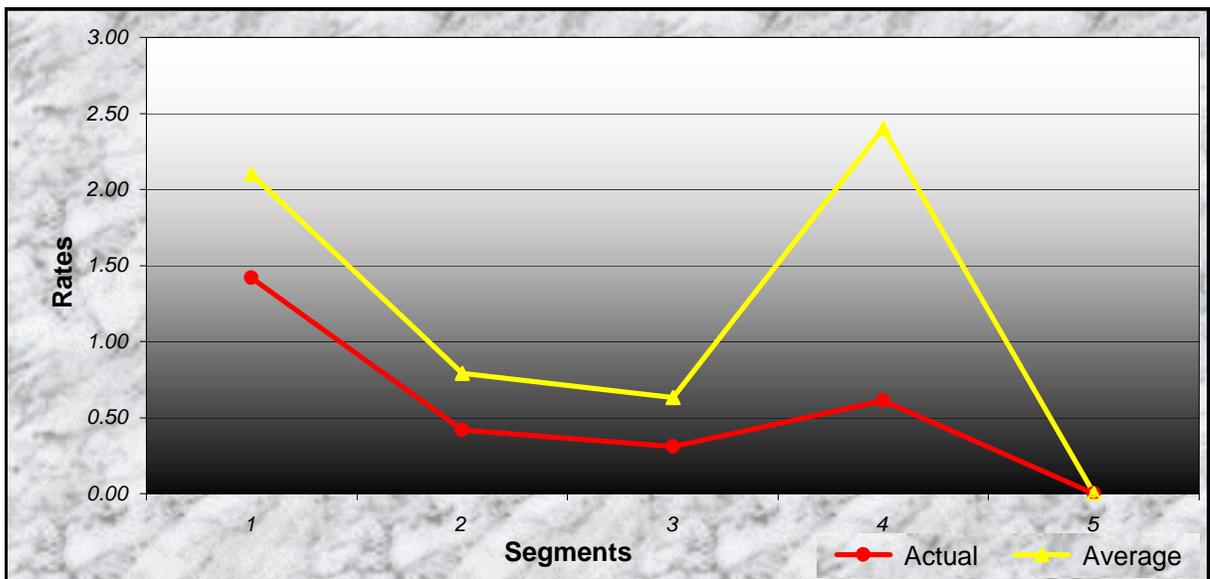
STATE ROUTE 90 ACCIDENT RATES

Fatal + Injury (Per Million Vehicle Miles)



	1	2	3	4	5
Actual	0.97	0.15	0.10	0.30	unconstructed
Average	0.93	0.26	0.20	1.12	unconstructed

Total Accidents (Per Million Vehicle Miles)

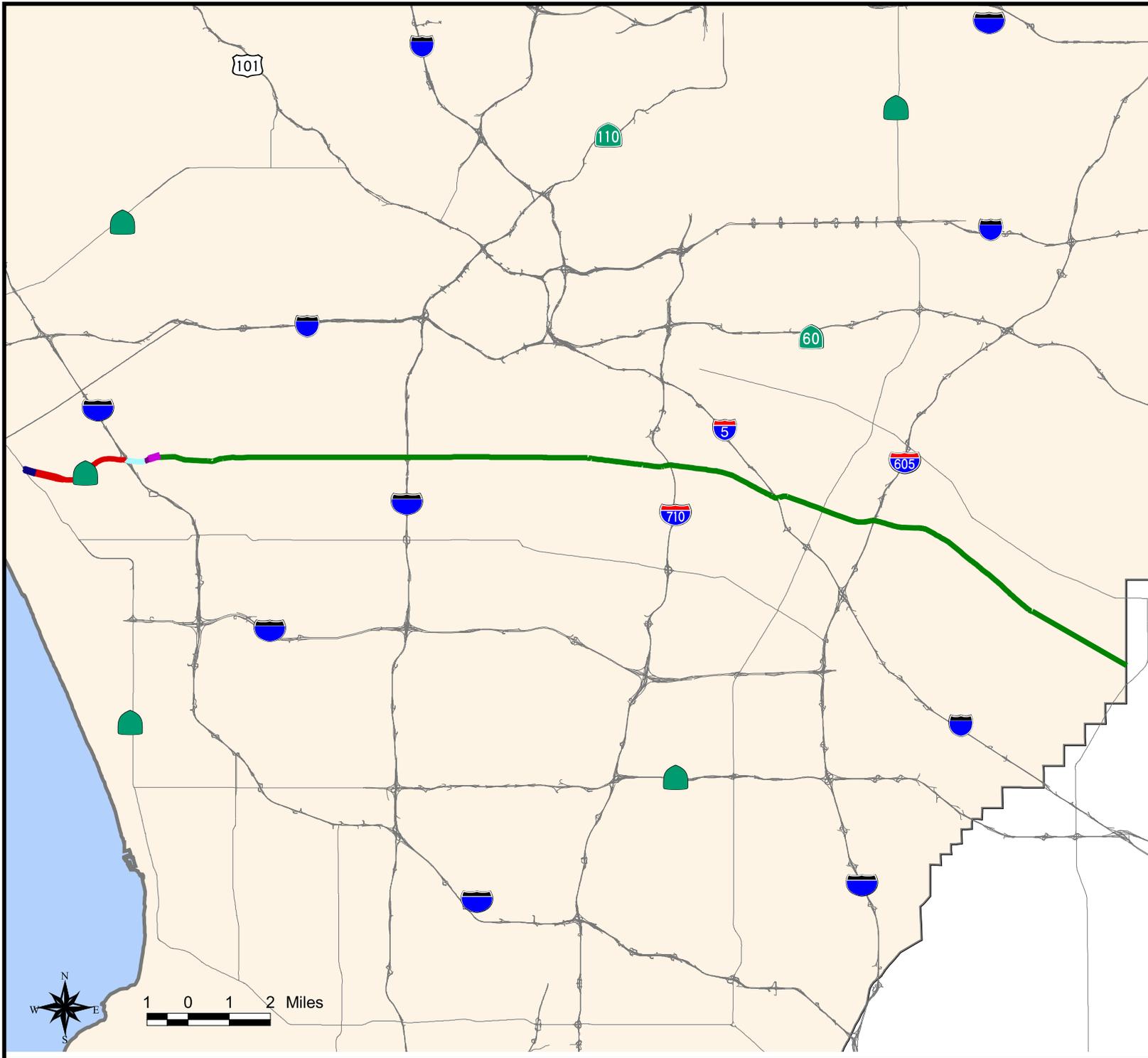


	1	2	3	4	5
Actual	1.42	0.42	0.31	0.61	unconstructed
Average	2.10	0.79	0.63	2.40	unconstructed

VIII. SEGMENT SUMMARIES INTRODUCTION

This TCR analyzes the conditions on SR-90 using the “segment” as the study unit. Segments are generally defined as “freeway interchange to freeway interchange”, “county line to freeway interchange”, or “freeway interchange to end of freeway”. The map on the following page illustrates these segments.

Each summary describes the segment’s current and projected operating characteristics, existing configuration, projected traffic demand and proposed alternative improvements.



DISTRICT 7
Los Angeles & Ventura Counties

**State Route 90
TCR Segmentation**

LEGEND

Segment No.	Description
1	Jct. Rte. 1 to Begin Fwy.
2	Begin Fwy. to Rte. 405
3	Rte. 405 to End Fwy.
4	End Fwy. to Slauson Ave.
5	Slauson Ave. to OCL

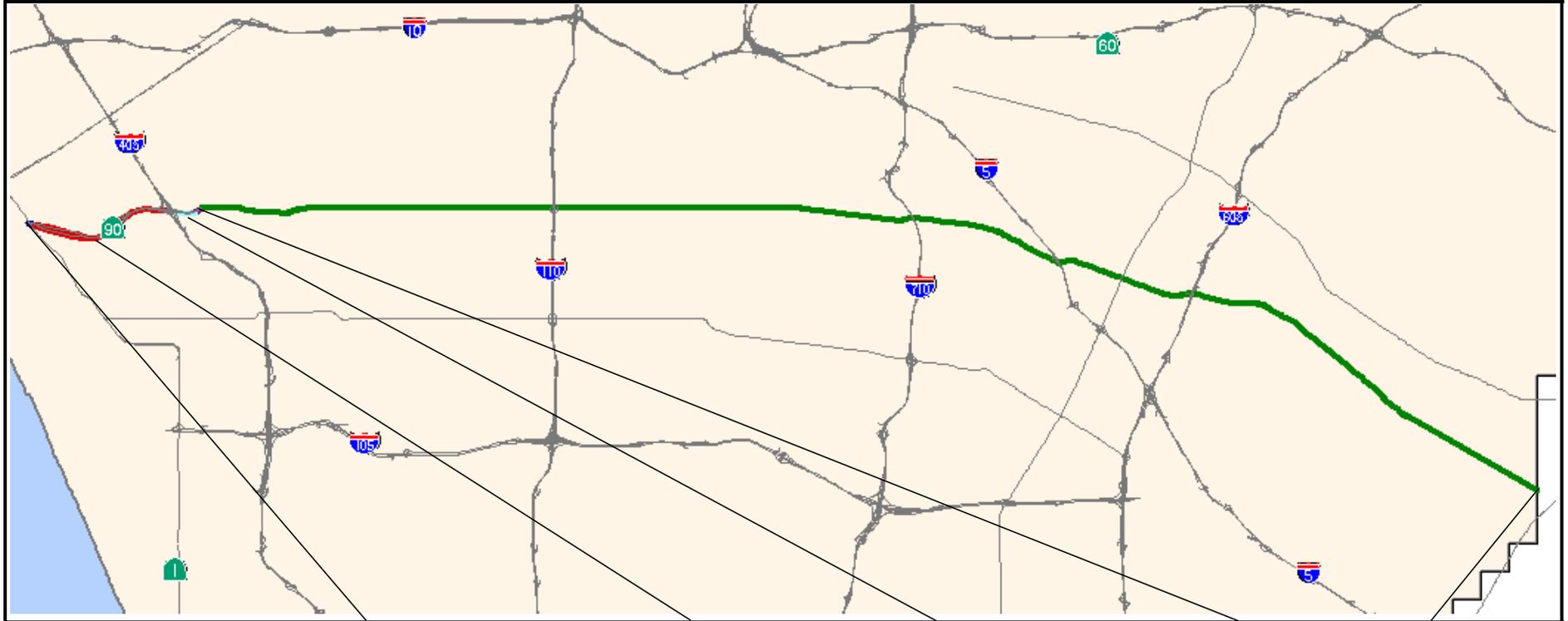
Highways
 Traversable State Highways

- State
- Interstate
- U.S.

- Airports
- Municipal
 - Military



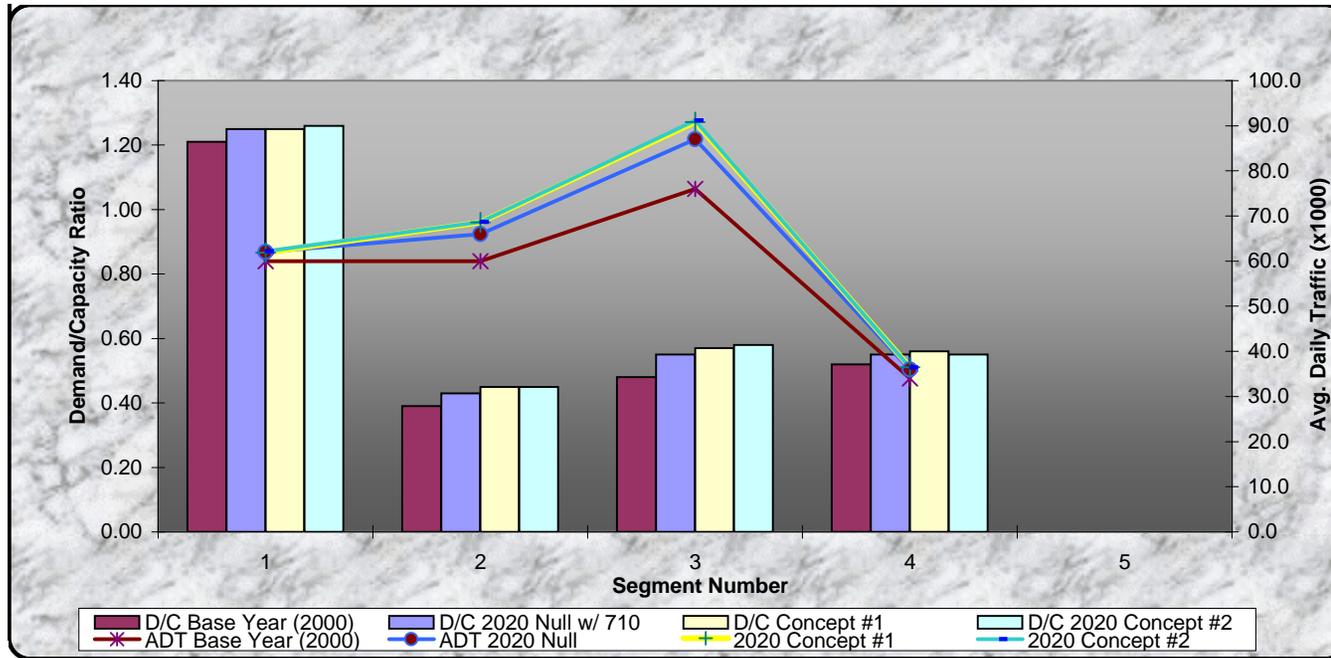
State Route 90 Concept Summary - Segment Configuration



Segment #	1	2	3	4	5
Existing					
Demand / Capacity	1.21	0.39	0.48	0.52	
Avg. Daily Traffic (x1,000)	60	60	76	34	
Number of Lanes	2	3	3	3	
Pk.hour Level Of Service	F0	B	B	B	
2020 Null With Route 710 (Main Line)					
Demand / Capacity	1.25	0.43	0.55	0.55	
Avg. Daily Traffic (x1,000)	62	66	87	36	
Number of Lanes	2	3	3	3	
Pk.hour Level Of Service	F0	B	C	C	
2020 Concept (Alternative #1)					
Demand / Capacity	1.25	0.45	0.57	0.56	
Avg. Daily Traffic (x1,000)	61.9	68.6	90.8	36.5	
Number of Lanes	2	3	3	3	
Pk.hour Level Of Service	F0	B	C	C	
2020 Concept (Alternative #2)					
Demand / Capacity	1.26	0.45	0.58	0.55	
Avg. Daily Traffic (x1,000)	62.2	68.7	91.2	36.4	
Number of Lanes	2	3	3	3	
Pk.hour Level Of Service	F0	B	C	C	

unconstructed

State Route 90 Concept Summary - Level of Service



Segment #	1	2	3	4	5
Base Year (2000)					
Demand / Capacity	1.21	0.39	0.48	0.52	
Avg. Daily Traffic (x1,000)	60.0	60.0	76.0	34.0	
Number of Lanes	2	3	3	3	Unconstructed
Pk.hour Level Of Service	F0	B	B	B	
2020 Null with Route 710					
Demand / Capacity	1.25	0.43	0.55	0.55	
Avg. Daily Traffic (x1,000)	62.0	66.0	87.0	36.0	
Number of Lanes	2	3	3	3	Unconstructed
Pk.hour Level Of Service	F0	B	C	C	
2020 Concept (Alternate #1)					
Demand / Capacity	1.25	0.45	0.57	0.56	
Avg. Daily Traffic (x1,000)	61.9	68.6	90.8	36.5	
Number of Lanes	2	3	3	3	Unconstructed
Pk.hour Level Of Service	F0	B	C	C	
2020 Concept (Alternate #2)					
Demand / Capacity	1.26	0.45	0.58	0.55	
Avg. Daily Traffic (x1,000)	62.2	68.7	91.2	36.4	
Number of Lanes	2	3	3	3	Unconstructed
Pk.hour Level Of Service	F0	B	C	C	

STATE ROUTE 90 - SEGMENT 1 SUMMARY

DESCRIPTION	
Limits:	Route 1 (Lincoln Blvd) to Begin Freeway (Culver Blvd.)
Post Miles:	0.92 to R1.03

Purpose
Local commute facility.

Classification	
Functional Classification:	P4-Urban Principal Arterial within an urban area without control
MPAH Designation:	
Other Systems:	

Ultimate Concept	
Main Line	HOV Lane(s)
3	N/A

Physical Characteristics	
Terrain:	Flat
Mainline R/W	194'
Median / Outside Shoulder:	22'/10'
Design Speed (MPH)	50
Bridge Structures:	none

Corridor Characteristics	
Trucks (% of ADT):	1.9
Express Transit (lines):	437
Operators:	Commuter Express
Rail Service:	none
Park & Ride Lots (Spaces):	none

Accident Rates			
per Million Vehicle Miles (MVM) (1/2000 to 12/2003)			
ACTUAL		AVERAGE	
Fatal + Injury	Total	Fatal + Injury	Total
0.97	1.42	0.93	2.1

TRAFFIC DATA										
	EXISTING (2000)		2020 NULL (w/o Route 710)		2020 NULL (with Route 710)		2020 CONCEPT (Alt1)		2020 CONCEPT (Alt2)	
	Main Line	HOV Lane(s)	Main Line	HOV Lane(s)	Main Line	HOV Lane(s)	Main Line	HOV Lane(s)	Main Line	HOV Lane(s)
Average Daily Traffic (ADT)	60,000		61,800		62,000		61,900		62,200	
Lanes Configuration (ea. direction)	2		2		2		2		2	

Volume		EXISTING (2000)		2020 NULL (w/o Route 710)		2020 NULL (with Route 710)		2020 CONCEPT (Alt1)		2020 CONCEPT (Alt2)	
AM Peak Hour	E	1,930		1,990		2,000		1,990		2,000	
AM Peak Hour	W	1,870		1,930		1,930		1,930		1,940	
PM Peak Hour	E	2,300		2,370		2,380		2,370		2,390	
PM Peak Hour	W	2,210		2,280		2,280		2,280		2,290	

Speed (mph)		EXISTING (2000)		2020 NULL (w/o Route 710)		2020 NULL (with Route 710)		2020 CONCEPT (Alt1)		2020 CONCEPT (Alt2)	
AM Average	E	39		38		38		38		38	
AM Average	W	40		39		39		39		39	
PM Average	E	32		31		31		31		31	
PM Average	W	34		33		33		33		33	

Service Characteristics		EXISTING (2000)		2020 NULL (w/o Route 710)		2020 NULL (with Route 710)		2020 CONCEPT (Alt1)		2020 CONCEPT (Alt2)	
Level Of Service, AM	E	F0		F0		F0		F0		F0	
Level Of Service, AM	W	E		F0		F0		F0		F0	
Level Of Service, PM	E	F0		F0		F0		F0		F0	
Level Of Service, PM	W	F0		F0		F0		F0		F0	
Directional Split (%) AM	E	51%		51%		51%		51%		51%	
Directional Split (%) PM	E	51%		51%		51%		51%		51%	

NOTES: 2020 Concept Alternates 1 & 2 are both modeled with I-710 gap closure built between I-10 and I-210
Speeds are estimated and are for comparative purposes only

STATE ROUTE 90 - SEGMENT 2 SUMMARY

DESCRIPTION	
Limits:	Begin Freeway (Culver Blvd.) to Rte. 405
Post Miles:	R1.03 to 2.65

Purpose
Local commute facility.

Classification	
Functional Classification:	P3-Urban Principal Arterial within an urban area with control
MPAH Designation:	
Other Systems:	

Ultimate Concept	
Main Line	HOV Lane(s)
3	N/A

Physical Characteristics	
Terrain:	Flat
Mainline R/W	194'
Median / Outside Shoulder:	22'/10'
Design Speed (MPH)	50
Bridge Structures:	none

Corridor Characteristics	
Trucks (% of ADT):	3.3
Express Transit (lines):	437
Operators:	Commuter Express
Rail Service:	none
Park & Ride Lots (Spaces):	none

Accident Rates			
per Million Vehicle Miles (MVM) (1/2000 to 12/2003)			
ACTUAL		AVERAGE	
Fatal + Injury	Total	Fatal + Injury	Total
0.15	0.42	0.26	0.79

TRAFFIC DATA										
	EXISTING (2000)		2020 NULL (w/o Route 710)		2020 NULL (with Route 710)		2020 CONCEPT (Alt1)		2020 CONCEPT (Alt2)	
	Main Line	HOV Lane(s)	Main Line	HOV Lane(s)	Main Line	HOV Lane(s)	Main Line	HOV Lane(s)	Main Line	HOV Lane(s)
Average Daily Traffic (ADT)	60,000		65,900		65,900		68,600		68,700	
Lanes Configuration (ea. direction)	3		3		3		3		3	

Volume		EXISTING (2000)		2020 NULL (w/o Route 710)		2020 NULL (with Route 710)		2020 CONCEPT (Alt1)		2020 CONCEPT (Alt2)	
AM Peak Hour	E	1,940		2,130		2,130		2,220		2,220	
AM Peak Hour	W	1,910		2,100		2,100		2,180		2,190	
PM Peak Hour	E	2,280		2,500		2,500		2,610		2,610	
PM Peak Hour	W	2,240		2,460		2,460		2,560		2,560	

Speed (mph)		EXISTING (2000)		2020 NULL (w/o Route 710)		2020 NULL (with Route 710)		2020 CONCEPT (Alt1)		2020 CONCEPT (Alt2)	
AM Average	E	55		55		55		55		55	
AM Average	W	55		55		55		55		55	
PM Average	E	55		55		55		55		55	
PM Average	W	55		55		55		55		55	

Service Characteristics		EXISTING (2000)		2020 NULL (w/o Route 710)		2020 NULL (with Route 710)		2020 CONCEPT (Alt1)		2020 CONCEPT (Alt2)	
Level Of Service, AM	E	A		B		B		B		B	
Level Of Service, AM	W	A		A		A		B		B	
Level Of Service, PM	E	B		B		B		B		B	
Level Of Service, PM	W	B		B		B		B		B	
Directional Split (%) AM	E	50%		50%		50%		50%		50%	
Directional Split (%) PM	E	50%		50%		50%		50%		50%	

NOTES: 2020 Concept Alternates 1 & 2 are both modeled with I-710 gap closure built between I-10 and I-210
Speeds are estimated and are for comparative purposes only

STATE ROUTE 90 - SEGMENT 3 SUMMARY

DESCRIPTION	
Limits:	Rte. 405 to End Freeway
Post Miles:	2.65 to T3.11

Purpose
Local commute facility.

Classification	
Functional Classification:	P3-Urban Principal Arterial within an urban area with control
MPAH Designation:	
Other Systems:	

Ultimate Concept	
Main Line	HOV Lane(s)
3	N/A

Physical Characteristics	
Terrain:	Flat
Mainline R/W	194'
Median / Outside Shoulder:	16'/2'-4'
Design Speed (MPH)	60
Bridge Structures:	none

Corridor Characteristics	
Trucks (% of ADT):	2.5
Express Transit (lines):	437
Operators:	Commuter Express
Rail Service:	none
Park & Ride Lots (Spaces):	none

Accident Rates			
per Million Vehicle Miles (MVM) (1/2000 to 12/2003)			
ACTUAL		AVERAGE	
Fatal + Injury	Total	Fatal + Injury	Total
0.10	0.31	0.20	0.63

TRAFFIC DATA										
	EXISTING (2000)		2020 NULL (w/o Route 710)		2020 NULL (with Route 710)		2020 CONCEPT (Alt1)		2020 CONCEPT (Alt2)	
	Main Line	HOV Lane(s)	Main Line	HOV Lane(s)	Main Line	HOV Lane(s)	Main Line	HOV Lane(s)	Main Line	HOV Lane(s)
Average Daily Traffic (ADT)	76,000		87,200		87,300		90,800		91,200	
Lanes Configuration (ea. direction)	3		3		3		3		3	

Volume		EXISTING (2000)		2020 NULL (w/o Route 710)		2020 NULL (with Route 710)		2020 CONCEPT (Alt1)		2020 CONCEPT (Alt2)	
AM Peak Hour	E	2,430		2,790		2,790		2,900		2,920	
AM Peak Hour	W	2,490		2,860		2,860		2,980		2,990	
PM Peak Hour	E	2,800		3,210		3,220		3,350		3,360	
PM Peak Hour	W	2,810		3,220		3,230		3,360		3,370	

Speed (mph)		EXISTING (2000)		2020 NULL (w/o Route 710)		2020 NULL (with Route 710)		2020 CONCEPT (Alt1)		2020 CONCEPT (Alt2)	
AM Average	E	55		55		55		55		55	
AM Average	W	55		55		55		55		55	
PM Average	E	55		55		55		54		54	
PM Average	W	55		55		55		54		54	

Service Characteristics		EXISTING (2000)		2020 NULL (w/o Route 710)		2020 NULL (with Route 710)		2020 CONCEPT (Alt1)		2020 CONCEPT (Alt2)	
Level Of Service, AM	E	B		B		B		B		B	
Level Of Service, AM	W	B		B		B		B		B	
Level Of Service, PM	E	B		B		C		C		C	
Level Of Service, PM	W	B		C		C		C		C	
Directional Split (%) AM	E	49%		49%		49%		49%		49%	
Directional Split (%) PM	E	50%		50%		50%		50%		50%	

NOTES: 2020 Concept Alternates 1 & 2 are both modeled with I-710 gap closure built between I-10 and I-210
Speeds are estimated and are for comparative purposes only

STATE ROUTE 90 - SEGMENT 4 SUMMARY

DESCRIPTION	
Limits:	End Freeway to Slauson Avenue
Post Miles:	T3.11 to T3.26

Purpose
Local commute facility.

Classification	
Functional Classification:	P3-Urban Principal Arterial within an urban area with control
MPAH Designation:	
Other Systems:	

Ultimate Concept	
Main Line	HOV Lane(s)
3	N/A

Physical Characteristics	
Terrain:	Flat
Mainline R/W	194'
Median / Outside Shoulder:	22'/2'-4'
Design Speed (MPH)	60
Bridge Structures:	none

Corridor Characteristics	
Trucks (% of ADT):	2.4
Express Transit (lines):	437
Operators:	Commuter Express
Rail Service:	none
Park & Ride Lots (Spaces):	none

Accident Rates			
per Million Vehicle Miles (MVM) (1/2000 to 12/2003)			
ACTUAL		AVERAGE	
Fatal + Injury	Total	Fatal + Injury	Total
0.30	0.61	1.12	2.40

TRAFFIC DATA										
	EXISTING (2000)		2020 NULL (w/o Route 710)		2020 NULL (with Route 710)		2020 CONCEPT (Alt1)		2020 CONCEPT (Alt2)	
	Main Line	HOV Lane(s)	Main Line	HOV Lane(s)	Main Line	HOV Lane(s)	Main Line	HOV Lane(s)	Main Line	HOV Lane(s)
Average Daily Traffic (ADT)	34,000		36,200		36,200		36,500		36,400	
Lanes Configuration (ea. direction)	3		3		3		3		3	

Volume											
AM Peak Hour	E	1,080		1,150		1,150		1,160		1,160	
AM Peak Hour	W	1,480		1,580		1,570		1,590		1,580	
PM Peak Hour	E	780		830		830		840		840	
PM Peak Hour	W	1,270		1,350		1,350		1,360		1,360	

Speed (mph)											
AM Average	E	45		45		45		45		45	
AM Average	W	45		45		45		45		45	
PM Average	E	45		45		45		45		45	
PM Average	W	45		45		45		45		45	

Service Characteristics											
Level Of Service, AM	E	B		B		B		B		B	
Level Of Service, AM	W	B		C		C		C		C	
Level Of Service, PM	E	A		A		A		A		A	
Level Of Service, PM	W	B		B		B		B		B	
Directional Split (%) AM	E	42%		42%		42%		42%		42%	
Directional Split (%) PM	E	38%		38%		38%		38%		38%	

NOTES: 2020 Concept Alternates 1 & 2 are both modeled with I-710 gap closure built between I-10 and I-210
Speeds are estimated and are for comparative purposes only

STATE ROUTE 90 - SEGMENT 5 SUMMARY

DESCRIPTION	
Limits:	Slauson Ave. to Orange County Line
Post Miles:	T3.26 to 28.17

Purpose

Classification	
Functional Classification:	
MPAH Designation:	
Other Systems:	

Ultimate Concept	
Main Line	HOV Lane(s)

Physical Characteristics	
Terrain:	
Mainline R/W	
Median / Outside Shoulder:	
Design Speed (MPH)	
Bridge Structures:	

Corridor Characteristics	
Trucks (% of ADT):	
Express Transit (lines):	
Operators:	
Rail Service:	
Park & Ride Lots (Spaces):	

Accident Rates			
per Million Vehicle Miles (MVM) (1/96 to 12/98)			
ANNUAL		AVERAGE	
Total	Fatal + Injury	Total	Total

TRAFFIC DATA										
	EXISTING (2000)		2020 NULL (w/o Route 710)		2020 NULL (with Route 710)		2020 CONCEPT (Alt 1)		2020 CONCEPT (Alt 2)	
	Main Line	HOV Lane(s)	Main Line	HOV Lane(s)	Main Line	HOV Lane(s)	Main Line	HOV Lane(s)	Main Line	HOV Lane(s)
Average Daily Traffic (ADT)										
Lanes Configuration (ea. direction)										

Volume										
AM Peak Hour	E									
AM Peak Hour	W									
PM Peak Hour	E									
PM Peak Hour	W									

Speed (mph)										
AM Average	E									
AM Average	W									
PM Average	E									
PM Average	W									

Service Characteristics										
Level Of Service, AM	E									
Level Of Service, AM	W									
Level Of Service, PM	E									
Level Of Service, PM	W									
Directional Split (%) AM	E									
Directional Split (%) PM	E									

UNCONSTRUCTED

NOTES: 2020 Concept Alternates 1 & 2 are both modeled with I-710 gap closure built between I-10 and I-210
Speeds are estimated and are for comparative purposes only

IX. ROUTE ANALYSIS

EXISTING FACILITY: Route 90 varies in number of lanes, type of highway facility, median width, R/W and shoulder widths.

ALTERNATE ROUTES: The nearest parallel conventional State Highway is Route 187, Venice Boulevard, approximately 1 mile north of SR-90. Slauson Avenue and Jefferson Boulevard serve as parallel city street routes. Manchester Avenue is located approximately 2 miles south of the route, Interstate 105 is approximately 4 miles south and Interstate 10 is approximately 4 miles north of the route.

CURRENT OPERATING CONDITIONS: Existing average daily traffic along the SR-90 corridor range from 60,000 to 76,000 in segments 1 through 3 and decreases to 34,000 in segment 4 (Slauson Avenue).

The area of concern is segment 1, which runs from SR-1 (Lincoln Blvd.) to Beginning of Freeway (Culver Blvd.). This segment is congested during peak periods, with delays, backup, bottlenecks and stop and go conditions during the AM and PM peak period.

OPERATING DEFICIENCIES: Congestion results primarily from a lack of capacity to accommodate existing and projected traffic demand. Operating deficiencies occur when the existing facility or projected LOS falls below the concept LOS. A deficiency also exists on urban freeways when the LOS is F0 or below (i.e. F1, F2, etc.).

Currently, an operating deficiency exists on segment 1, which operates at level of service F0 during the AM peak and PM peak.

STATE ROUTE 90 - CONGESTION MEASURES

SPEED										
	AVERAGE SPEEDS (mph)									
	2000* EXISTING		2020 NULL* (withouth I-710)		2020 NULL* (with I-710)		2020 CONCEPT* Alternate 1		2020 CONCEPT* Alternate 2	
	Main Line	HOV	Main Line	HOV Lane(s)	Main Line	HOV Lane(s)	Main Line	HOV Lane(s)	Main Line	HOV Lane(s)
Segment 1	32		31		31		31		31	
Segment 2	55		55		55		55		55	
Segment 3	55		55		55		54		54	
Segment 4	45		45		45		45		45	
Segment 5	Unconstructed		Unconstructed		Unconstructed		Unconstructed		Unconstructed	

DEMAND / CAPACITY RATIOS										
	2000* EXISTING		2020 NULL* (without I-710)		2020 NULL* (with I-710)		2020 CONCEPT* Alternate 1		2020 CONCEPT* Alternate 2	
	Main Line	HOV Lane(s)	Main Line	HOV Lane(s)	Main Line	HOV Lane(s)	Main Line	HOV Lane(s)	Main Line	HOV Lane(s)
	Segment 1	1.21		1.25		1.25		1.25		1.26
Segment 2	0.39		0.43		0.43		0.45		0.45	
Segment 3	0.48		0.55		0.55		0.57		0.58	
Segment 4	0.52		0.55		0.55		0.56		0.55	
Segment 5	Unconstructed		Unconstructed		Unconstructed		Unconstructed		Unconstructed	

LEVEL OF SERVICE										
	2000* EXISTING		2020 NULL* (without I-710)		2020 NULL* (with I-710)		2020 CONCEPT* Alternate 1		2020 CONCEPT* Alternate 2	
	Main Line	HOV Lane(s)	Main Line	HOV Lane(s)	Main Line	HOV Lane(s)	Main Line	HOV Lane(s)	Main Line	HOV Lane(s)
	Segment 1	F0		F0		F0		F0		F0
Segment 2	B		B		B		B		B	
Segment 3	B		C		C		C		C	
Segment 4	B		C		C		C		C	
Segment 5	Unconstructed		Unconstructed		Unconstructed		Unconstructed		Unconstructed	

HOURS OF DELAY										
	2000* EXISTING		2020 NULL* (without I-710)		2020 NULL* (with I-710)		2020 CONCEPT* Alternate 1		2020 CONCEPT* Alternate 2	
	Main Line	HOV Lane(s)	Main Line	HOV Lane(s)	Main Line	HOV Lane(s)	Main Line	HOV Lane(s)	Main Line	HOV Lane(s)
	Segment 1	0		0		0		0		0
Segment 2	0		0		0		0		0	
Segment 3	0		0		0		0		0	
Segment 4	0		0		0		0		0	
Segment 5	Unconstructed		Unconstructed		Unconstructed		Unconstructed		Unconstructed	

Speed values are estimates and are to be used for comparative purposes only

Delay values are estimates and are to be used for comparative purposes only

*: Worst condition during peak hours

Rail Transit Service:

There are no existing rail services within the route 90 Corridor.

Bus Transit:

The Commuter Express Transit Line 437, operated privately under contract with the City of Los Angeles, serves Venice, Marina Del Rey, Mar Vista, and Culver City as an express line to central Los Angeles, utilizing surface streets along the SR-90 corridor to access the I-10 freeway to Downtown Los Angeles. This express service operates Monday through Friday providing service to Downtown Los Angeles.

Park and Ride:

Currently, there are no Park-and-Ride lots in the near vicinity that would utilize SR-90.

GOODS MOVEMENT

The economic vitality and well being of the Los Angeles region depends upon the safe and timely transport of goods as well as people. Current levels of congestion are detrimental to this vitality, and future projections indicate that this situation will get much worse. In terms of freight alone, the SCAG RTP forecasts the amount of cargo brought into the Region by seaports and airports to greatly increase over the next 25 years as international trade volume triples. The 2004 SCAG RTP states that the SCAG model projects an increase of over 110 percent in truck vehicle miles traveled (VMT) by 2030. Significant actions need to be taken to protect the economic well being of the region. These include improved rail service, including more grade separations; additional and improved intermodal transfer facilities; truck lanes on major truck routes; improved access to and enhanced cargo handling capabilities at seaports; and improved air cargo accessibility with separation from passenger activities at airports. Some of the specific conditions affecting SR-90 are as follows:

Truck: SR-90 is a part of the State Freeway and Expressway system. It is designated as a Terminal Access Route of the Federal Surface Transportation Assistance Act (STAA) from Route 1 to Slauson Avenue. The annual truck traffic volumes for the year 2000 range from 1.9 to 3.3 percent of the Average Daily Traffic (ADT) volumes.

Airports: The Los Angeles World Airport is located approximately four miles from the intersection of Route 1 and Route 90.

X. IMPROVEMENTS

These seven programming documents provide a mechanism for project funding within the region. The following is a brief description of each.

Regional Transportation Improvement Program (RTIP) -- A five-year list of proposed transportation projects. The Regional Transportation Planning Agency (RTPA) submits the RTIP to the California Transportation Commission (CTC) as a request for State Funding. If RTIP projects have federal funding components, they will also appear in the FTIP once selected for the STIP (see below).

Interregional Improvement Program (IIP) -- A five-year program developed by Caltrans that includes projects developed through the Interregional Road System Plan, Intercity Rail, Soundwall, Toll Bridge, and Aeronautics programs.

State Transportation Improvement Program (STIP) -- A five-year list of transportation projects proposed in RTIP's and PSTIP's that the CTC adopts. Those projects that have federal funding components will also appear in the FTIP and FSTIP.

State Highway Operation and Protection Program (SHOPP) -- A ten-year Master Plan and a four-year program limited to projects related to State highway safety and rehabilitation.

Federal Transportation Improvement Program (FTIP) -- A 3 to 5 year list of all transportation projects proposed for federal funding under TEA-21, within the planning area of an MPO. An MPO develops the FTIP and the Director of Caltrans approves it. In air quality non-attainment areas, the plan must conform to a State Implementation Plan.

Federal State Transportation Improvement Program (FSTIP) -- A three-year list of transportation projects proposed for funding under ISTEA developed by the State in cooperation with MPO's and in consultation with local non-urbanized

governments. The FSTIP includes all FTIP projects as well as other federally funded rural projects.

Traffic Operations Program Strategies (TOPS) -- A program developed by Caltrans and the CHP to ensure the safety and service of California motorists by implementing the latest in interactive/integrated transportation management and information systems. Caltrans and the CHP use sophisticated electronic technologies to process and analyze freeway traffic data, to monitor traffic flow in order to rapidly detect and effectively respond to incidents and resulting congestion. Implementation of TOPS includes minor operational improvements i.e. geometric upgrades and major capital improvements i.e., geometric upgrades fiber optics/closed circuit cable television monitoring system, changeable message signs and ramp meters) and major capital improvements (i.e., HOV lanes, ramp upgrades, auxiliary lanes, and freeway connector metering. Also included in the plan are additional freeway lanes, direct HOV connectors, and Changeable Message Signs (CMS) and Highway Advisory Radio (HAR).

PROGRAMMED IMPROVEMENTS

The following table lists major Route 90 capacity enhancement and operational improvement projects programmed for construction.

Segment	PPNO¹	PM	Description	Est. Cost	Start	Complete²
2	2012A	01.2 – 01.8	Construct Bridge, widen & restripe roadway.	\$14 M (Capital Cost) \$6.4 M (Support Cost)	10/04	01/06

PPNO¹ : Planning and Program Number

Complete²: Target Completion Date

Other Improvements:

The Ballona Creek Bike Path project extends approximately 8 miles through the cities of Los Angeles and Culver City, and connects with the Beach Bike Path. The project seeks to improve access to the Bike Path and make connections between Baldwin Hills, Ballona Creek and the Pacific Ocean Park to Playa Del Rey.

The California Department of Parks and Recreation, Congressmember Jane Harman and Los Angeles County Proposition "A" is funding the project. The City and other State agencies have also committed resources to the project.

The scope of the project is to improve and develop several public access points, repair the bike path, create seating areas, install new signage and add native plant landscaping for habitat enhancement. The first phase of the project, bike path trailhead improvements at Centinela Avenue in the City of Los Angeles, is expected to be completed by December 2004.

XI. TRANSPORTATION CONCEPT AND CONCLUSIONS

TRANSPORTATION CONCEPT: The transportation concept describes the operating conditions and physical facilities required to provide those conditions that could exist on SR-90 after considering the conclusions, priorities, and strategies discussed in the District System Management Plan (DSMP), the SCAG Regional Transportation Plan (RTP), and other planning documents. The route concept represents what could reasonably be accomplished to facilitate the mobility of traffic desiring to use the route. It assumes that management improvement strategies and system operation management improvements to maximize the efficiency on SR-90 will be implemented.

The transportation concept is composed of a Level of Service (LOS) and facility component. The concept LOS indicates the minimum level of service the District would allow on a route prior to proposing an alternative to improve operating conditions. The concept facility is the facility that could be developed to maintain or attain the concept LOS.

The recommended transportation concept for SR-90 is to maintain the existing facility. Since there are no plans for capacity improvements in segment 5 beyond the year 2020, it is recommended that this portion of Route 90 be deleted from the State Highway System. The Ultimate Transportation Concept is to preserve right-of-way in segment 1 for the possibility of future additional lanes if necessary.

CONCLUSIONS: Modeling data indicate that future traffic on this route will remain similar to current conditions. Thus the recommended transportation concept for this route is to maintain only.

XII. BIBLIOGRAPHY

District System Management Plan, California Department of Transportation, District 7, August 16, 1996

2000 Highway Capacity Manual, Transportation Research Board National Research Council, October 2000

Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) (P.L. 102-240) December 1991

Manual for Applying the California Transportation Commission's Policy Guidelines for Funding Interchanges and Crossings, California Department of Transportation, April 1984

NEXTEA (Re-Authorization of the Intermodal Surface Transportation Efficiency Act of 1991) (ISTEA) (P.L. 102-240), December 1991

Project Development Procedures Manual, Chapter 4—Programming, California Department of Transportation, July 1997

2004 Regional Transportation Plan, (Adopted), Southern California Association of Governments, (2002)

Route 90 Route Concept Report, California Department of Transportation, District 7, (January,1991)

Statutes Related to Programming and Funding Transportation Projects, California Department of Transportation, Transportation Programming Program, July 1996

2000 Traffic Volumes on California State Highways, California Department of Transportation, Traffic Operations Program, June 2001

GLOSSARY

AADT: (Average Annual Daily Traffic) Denotes that the daily traffic is averaged over one calendar year.

ADT: (Average Daily Traffic) The average number of vehicles passing a specified point during a 24-hour period.

AQMD: (Air Quality Management District) A regional agency, which adopts and enforces regulations to achieve and maintain state and federal air quality standards.

AQMP: (Air Quality Management Plan) The plan for attaining state air quality as required by the California Clean Air Act of 1988. The plan is adopted by air quality districts and is subject to approval by the California Air Resources Board.

AVO: (Average Vehicle Occupancy) The average number of persons occupying a passenger vehicle along a roadway segment intersection, or area, as typically monitored during a specified time period. For the purpose of the California Clean Air Act, passenger vehicles include autos, light duty trucks, passenger vans, buses, passenger rail vehicles and motorcycles.

AVR: (Average Vehicle Ridership) The number of employees who report to a worksite divided by the number of vehicles driven by those employees, typically averaged over an established time period. This calculation includes crediting vehicle trip reductions from telecommuting, compressed workweeks and non-motorized transportation.

Caltrans: (California Department of Transportation) The owner/operator of the state highway system. State agency responsible for its safe operation and maintenance. Proposes projects for intercity rail, interregional roads, and sound walls. The implementing agency for most state highway projects, regardless of program, and for the Intercity Rail program.

CBD: (Central Business District) The downtown core area of a city, generally an area of high land valuation, traffic flow, and concentration of retail business offices, theaters, hotels, and service businesses.

CCTV: (Closed Circuit Television)

CE: (Commuter Express) Operated by Los Angeles Department of Transportation

CEQA: (California Environmental Quality Act) A statute that requires all jurisdictions in the State of California to evaluate the extent of environmental degradation posed by proposed development or project.

CMA: (Congestion Management Agency) The agency responsible for developing the Congestion Management Program and coordinating and monitoring its implementation.

CMAQ: (Congestion Mitigation Air Quality program) Part of ISTEA, this is a funding program designed for projects that contribute to the attainment of air quality goals.

CMP: (Congestion Management Program) A legislatively required countywide program, which addresses congestion problems.

CMS: (Changeable Message Sign)

CMS: (Congestion Management System) Required by ISTEA to be implemented by states to improve transportation planning.

COG: (Council of Governments) A voluntary consortium of local government representatives, from contiguous communities, meeting on a regular basis, and formed to cooperate on common planning and solve common development problems of their area. COGs can function as the RTPAs and MPOs in urbanized areas.

Commute Hours: AM and PM peak commute travel times. Generally, between the hours of 5:00 a.m. to 9:00 a.m. and 4:00 p.m. to 7:00 p.m., Monday through Friday.

Concept: A strategy for future improvements that will reduce congestion or maintain the existing level of service on a specific route.

Congestion: Defined by Caltrans as, reduced speeds of less than 35 miles per hour for longer than 15 minutes.

CTC: (California Transportation Commission) A body established by Assembly Bill 402 (AB 402) and appointed by the Governor to advise and assist the Secretary of the Business, Transportation and Housing Agency and the Legislature in formulating and evaluating state policies and plans for transportation.

D/C: (Demand-to-Capacity ratio) The relationship between the number of vehicle trips operating on a facility, versus the number of vehicle trips that can be accommodated on that facility.

DSMP: (District System Management Plan) A part of the system planning process. A district's long-range plan for management of transportation systems in its jurisdiction.

Extended Commute: Service hours beyond the normal commute hours. Generally, in the evening, this refers to transit service until 10:00 p.m.

F+I Actual: (Fatal Plus Injury Actual) Contains specific data for accidents that are State highway related. Each accident record contains a ramp, intersection or highway postmile address that ties it to the Highway database.

F+I Average: (Fatal Plus Injury Average) The Statewide Average Accident Rate (SWA) is based on a rated segment. The accident-rating factor (ARF) indicates how the existing segment compares to other segments on the State Highway System. The ARF is a comparison of the segment's accident rate to the statewide average accident rate for roads of the same type and having similar characteristics. Accident severity as well as accident frequency is considered in calculating the ARF. If the total number of accidents is less than three, there will not be a

calculation for the ARF. If there are more than two, but less than twenty-five total accidents, an accident-rating factor will be generated, but there will not be an accident severity flag listed. If there are more than twenty-five accidents, an accident rating factor and severity flag will be generated.

F+I/MVM: (Fatal Plus Injury per Million Vehicle Miles) The fatality rate of those killed in vehicles plus the injury rate of those injured in vehicles.

FAI: (Federal Aid Interstate) Highway program established in 1956 for national defense purposes, these roadways interconnect the major nationwide population and economic centers. Also, there is a federal funding category for these routes.

FHWA: (Federal Highway Administration)

Free-flow Speed: Speed that occurs when density and flow are “zero”.

Freeway Capacity: The maximum sustained 15 minute rate of flow that can be accommodated by a uniform freeway segment under prevailing traffic and roadway conditions in a specified direction.

FSP: (Freeway Service Patrol) A special team of tow truck drivers who continuously patrol freeways during commuter hours to help clear disabled automobiles.

HSR: (High Speed Rail) A regional system that will connect major regional activity centers and significant inter-/multi-modal transportation facilities.

I/C: (Interchange) A system of interconnecting roadways in conjunction with one or more grade separations providing for the interchange of traffic between two or more roadways on different levels.

ICES: (Intermodal Corridors of Economic Significance) Significant National Highway System Corridors that link intermodal facilities most directly, conveniently and efficiently to intrastate, interstate and international markets.

IRRS: (Interregional Road System) A series of interregional state highway routes, outside the urbanized areas, that provide access to, and links between, the state's economic centers, major recreational areas, and urban and rural regions.

ISTEA: (Intermodal Surface Transportation Efficiency Act) Federal legislation and funding Program adopted in 1991. It provides increased funding and program flexibility for multi-modal transportation programs. Update: ISTEA expired on September 30, 1997. In December 1997, Congress passed and the President signed a six-month extension of the law, holding funding to current levels and keeping program structure and formulas intact. This extension expired on March 31, 1998, with an obligation deadline of May 1, 1998. On June 9, 1998, the President signed into law PL 105-178, the Transportation Equity Act for the 21st Century (TEA-21) authorizing highway, highway safety, transit and other surface transportation programs for the next 6 years. TEA-21 builds on the initiatives established in the 1991 ISTEA.

ITIP: (Interregional Transportation Improvement Program) An improvement program that makes up 25% of the STIP. 60% of this program is for improvements on Interregional Routes in non-urbanized areas and intercity rail. 40% is to fund projects of interregional significance (for the interregional movement of people and goods).

ITMS: (Intermodal Transportation Management System) A quick-response statewide sketch planning tool to assist planners in evaluating proposals in order to improve spending decisions. It provides the capability to analyze the current transportation network and to evaluate the impacts of investment options at the corridor area or statewide level.

ITS: (Intelligent Transportation Systems) The application of electronics and computer information systems to transportation.

ITSP: (Interregional Transportation Strategic Plan) Caltrans guiding framework for implementing the Interregional Improvement Program under Senate Bill 45.

IVHS: (Intelligent Vehicle Highway Systems) The development of application of electronics, communications or information processing (including advanced traffic management systems, public transportation systems, satellite vehicle tracking systems, and advanced vehicle communications systems) used alone or in combination to improve the efficiency and safety of surface transportation systems.

LAX: (Los Angeles International Airport)

LOS: (Level of Service) A qualitative measure describing operational conditions within a traffic stream; generally described in terms of such factors as speed and travel time, freedom to maneuver, traffic interruptions, comfort and convenience, and safety.

MF: (Mixed Flow) Traffic movement having automobiles, trucks, buses, and motorcycles sharing traffic lanes.

Model: (1) A mathematical or conceptual presentation of relationships and actions within a system. It is used for analysis of the system or its evaluation under various conditions. (2) A mathematical description of a real-life situation, that uses data on past and present conditions to make a projection about the future.

Model, Land Use: A model used to predict the future spatial allocation of urban activities (land use), given total regional growth, the future transportation system, and other factors.

Model, Mode Choice: A model used to forecast the proportion of total person trips on each of the available transportation modes.

Model, Traffic: A mathematical equation or graphic technique used to simulate traffic movements, particularly those in urban areas or on a freeway.

MPO: (Metropolitan Planning Organization) According to U.S. Code, the organization designated by the governor and local elected officials as responsible, together with the state, for the transportation planning in an urbanized area. It serves as the forum for cooperative decision making by principal elected officials of general local government.

Multi-modal: Pertaining to more than one mode of travel.

NHS: (National Highway System) will consist of 155,000 miles (plus or minus 15 percent) of the major roads in the U.S. Included will be all Interstate routes, a large percentage of urban and rural principal arterials, the defense strategic highway network, and strategic highway connectors.

Null: A concept that includes only existing projects and those projects which may or may not be constructed but are programmed in the 1996 STIP.

Peak: (Peak Period, Rush Hours): (1) The period during which the maximum amount of travel occurs. It may be specified as the morning (a.m.) or afternoon or evening (p.m.) peak. (2) The period during which the demand for transportation service is the heaviest. (AM Peak period represents 6:30 a.m. to 8:30 a.m. and PM Peak period represents 3:00 p.m. to 6:00 p.m.)

Performance Indicator: Quantitative measures of how effective an activity, task, or function is being performed. In transportation systems, it is usually computed by relating a measure of service output or use to a measure of service input or cost.

PM: (Post Mile) Is the mileage measured from a county line or the beginning of a route to another county line or the ending of the route. Each post mile along a route in a county is a unique location on the State Highway System.

PMT: (Passenger Miles Traveled) The number of miles traveled by all passengers on a transportation mode such as transit.

PPN: (Planning and Program Number) Used in the State Transportation Improvement Program (STIP) to identify projects.

PSR: (Project Study Report) The pre-programming document required before a project may be included in the STIP.

Public Transportation: Transportation service to the public on a regular basis using vehicles that transport more than one person for compensation, usually but not exclusively over a set route or routes from one fixed point or another. Routes and schedules may be determined through a cooperative arrangement. Subcategories include public transit service, and paratransit services that are available to the general public.

Ridesharing: Two or more persons traveling by any mode, including but not limited to, automobile, vanpool, bus, taxi, jitney, and public transit.

RMP: (Regional Mobility Plan) The equivalent to the federal and state required Regional Transportation Plan (RTP) for the SCAG region.

Roadway Characteristics: The geometric characteristics of the freeway segment under study, including the number and width of lanes, lateral clearances at the roadside and median, free-flow speeds, grades and lane configurations.

RSA: (Regional Statistical Area) An aggregation of census tracts for the purpose of sub-regional demographic and transportation analysis within the Southern California Association of Governments (SCAG) area.

RTIP: (Regional Transportation Improvement Program) A list of proposed transportation projects submitted to the CTC by the regional transportation planning agency, as a request for state funding through the FCR and Urban and Commuter Rail Programs. The individual projects are first proposed by local jurisdictions (CMAs in urbanized counties), then evaluated and prioritized

by the RTPA for submission to the CTC. The RTIP has a seven-year planning horizon, and is updated every two years.

RTP: (Regional Transportation Plan) A comprehensive 20-year plan for the region, updated every two years by the regional transportation-planning agency. The RTP includes goals, objectives, and policies, and recommends specific transportation improvements.

RTPA: (Regional Transportation Planning Agency) The agency responsible for the preparation of RTPs and RTIPs and designated by the State Business Transportation and Housing Agency to allocate transit funds. RTPAs can be local transportation commissions, COGs, MPOs or statutorily created agencies. In the Los Angeles area, SCAG is the RTPA.

SCAB: (South Coast Air Basin) A geographic area defined by the San Jacinto Mountains to the east, the San Bernardino Mountains to the north, and the Pacific Ocean to the west and south. The entire SCAB is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD).

SCAG: (Southern California Association of Governments) The Metropolitan Planning Organization (MPO) for Ventura, Los Angeles, Orange, San Bernardino, Riverside and Imperial counties that is responsible for preparing the RTIP and the RTP. SCAG also prepared land use and transportation control measures in the 1994 Air Quality Management Plan (AQMP).

SHOPP: (State Highway Operation and Protection Program) A four-year program limited to projects related to State highway safety and rehabilitation.

SR: (State Route)

STAA: (Surface Transportation Assistance Act)

STIP: (State Transportation Improvement Program) A list of transportation projects, proposed in RTIPs and the PSTIP, which are approved for funding by the CTC.

STP: (Surface Transportation Program) Part of ISTEA, this is a funding program intended for use by the states and cities for congestion relief in urban areas.

STRAHNET: (Strategic Highway Corridor Network)

TASAS: (Traffic Accident Surveillance and Analysis System) A system that provides a detailed list and/or summary of accidents that have occurred on highways, ramps or intersections in the

State Highway System. Accidents can be selected by location, highway characteristics, accident data codes or any combination of these.

TCM: (Transportation Control Measure) A measure intended to reduce pollutant emissions from motor vehicles. Examples of TCMs include programs to encourage ridesharing or public transit usage, city or county trip reduction ordinances, and the use of cleaner burning fuels in motor vehicles.

TCR: (Transportation Concept Report) Formerly Route Concept Report (RCR) this report analyzes a transportation corridor service area, establishes a twenty-year transportation planning concept and identifies modal transportation options and applications needed to achieve the twenty-year concepts.

TDM: (Transportation Demand Management) Demand based techniques for reducing traffic congestion, such as ridesharing programs and flexible work schedules enabling employees to commute to and from work outside of peak hours.

TEA-21: (Transportation Equity Act for the 21st Century) Signed by President Clinton on June 9, 1998. TEA-21 builds on the initiatives established in the ISTEA Act of 1991. This new Act combines the continuation and improvement of current programs with new initiatives to meet the challenges of improving safety as traffic continues to increase at record levels, protecting and enhancing communities and the natural environment as we provide transportation, and advancing America's economic growth and competitiveness domestically and internationally through efficient and flexible transportation.

TMC: (Transportation Management Center) A focal point that can monitor traffic and road conditions, as well as train and transit schedules, and airport and shipping advisories. From here, information about accidents, road closures and emergency notifications is relayed to travelers.

TOPS: (Traffic Operations Strategies) An implementation plan to improve the overall operation of the State transportation system.

TOS: (Traffic Operation System) Computer based signal operation.

TOT/MVM: (Total Accidents Per Million Vehicle Miles)

Traffic Conditions: Any characteristics of the traffic stream that may affect capacity or operations, including the percentage composition of the traffic stream by vehicle type and driver characteristics (such as the differences between weekday commuters and recreational drivers).

TSM: (Transportation System Management) That part of the urban transportation Process undertaken to improve the efficiency of the existing transportation system. The intent is to make better use of the existing transportation system by using short-term, low capital transportation improvements that generally cost less and can be implemented more quickly than system development actions.

TW: (Transitway)

Vehicle Occupancy: The number of people aboard a vehicle at a given time; also known as auto or automobile occupancy when the reference is to automobile travel only.

Vehicle Trip: A one-way movement of a vehicle between two points.

V/C: (Volume/Capacity).

VMT: (Vehicle Miles Traveled) (1) On highways, a measurement of the total miles traveled in all vehicles in the area for a specified time period. It is calculated by the number of vehicles multiplied by the miles traveled in a given area or on a given highway during the time period. (2) In transit, the number of vehicle miles operated on a given route or line or network during a specified time period.