



Transportation Concept Report

Interstate 5 District 7 June 2013



Approvals:

Michael Mink
District Director
Date: 7/22/13

AJB Path
Deputy District Director
Planning, Public Transportation & Local Assistance
Date: 7-22-2013

Disclaimer

The information and data contained in this document are for planning purposes only and should not be relied upon for final design of any project. Any information in this Transportation Concept Report (TCR) is subject to modifications as conditions change and new information is obtained. Although planning information is dynamic and continually changing, the D7 Office of Transportation Planning makes every effort to ensure the accuracy and timeliness of the information contained in the TCR. The information in the TCR does not constitute a standard, specification, or regulation, nor is it intended to address design policies and procedures.

TCR Table of Contents

About the Transportation Concept Report.....	1
Stakeholder Participation.....	1
Executive Summary.....	2
Corridor Overview	5
Route Description	8
Route Designation and Characteristic.....	9
Community Characteristics.....	11
RSA of Cities Along Rte 5	12
System Characteristics.....	18
Ramp Meters Listing.....	19
Active Transportation	23
Transit Facility and Freight.....	24
Goods Movement and Environmental Consideration	25
Corridor Performance.....	26
Key Corridor Issues.....	27
Corridor Concept.....	29
Planned and Programmed Projects and Strategies.....	31
Conclusion	34
Appendix.....	35

ABOUT THE TRANSPORTATION CONCEPT REPORT

System Planning is the long-range transportation planning process for the California Department of Transportation (Caltrans). The System Planning process fulfills Caltrans' statutory responsibility as owner/operator of the State Highway System (SHS) (Gov. Code §65086) by identifying deficiencies and proposing improvements to the SHS. Through System Planning, Caltrans focuses on developing an integrated multimodal transportation system that meets Caltrans' goals of safety, mobility, delivery, stewardship, and service.

The System Planning process is primarily composed of four parts: the District System Management Plan (DSMP), the Transportation Concept Report (TCR), the Corridor System Management Plan (CSMP), and the Transportation System Development Plan (TSDP). The district-wide **DSMP** is a strategic policy and planning document that focuses on maintaining, operating, managing, and developing the transportation system. The **TCR** is a planning document that identifies the existing and future route conditions as well as future needs for each route on the SHS. The **CSMP** is a complex, multi-jurisdictional planning document that identifies future needs within corridors experiencing or expected to experience high levels of congestion. The CSMP serves as a TCR for segments covered by the CSMP. The **TSDP** is a list of planned and partially programmed transportation projects used to recommend projects for funding. These System Planning products are also intended as resources for all stakeholders.

TCR Purpose

California's State Highway System needs long range planning documents to guide the logical development of transportation systems as required by law and as necessitated by public, stakeholders, and system users. The purpose of the TCR is to evaluate current and projected conditions along the route and communicate the vision for the development of each route in each Caltrans District during a 20-25 year planning horizon. The TCR is developed with the goals of increasing safety, improving mobility, providing excellent stewardship, and meeting community and environmental needs along the corridor through integrated management of the transportation network, including the highway, transit, pedestrian, bicycle, freight, operational improvements and travel demand management components of the corridor.

STAKEHOLDER PARTICIPATION

Stakeholder participation was sought throughout the development of the I- 5 TCR. Outreach involved internal and external stakeholders. Both internal and external stakeholders were asked to review the document for comments. The process of including and working closely with stakeholders adds value to the TCR, allows for outside input and ideas to be reflected in the document, increases credibility, and helps strengthen public support and trust.

EXECUTIVE SUMMARY: INTERSTATE 5

This TCR analyzes I-5 conditions using the "segment" as the study unit. Segments are generally defined as "freeway interchange to freeway interchange", "county line to freeway interchange" or "freeways interchange to end of freeway". The map on the Corridor Overview section illustrates these segments. The Concept – 2035 matrix describes the segment's projected operating characteristics, existing configuration, projected traffic demand and Concept Lanes.

The main purpose of this TCR is to evaluate current and projected conditions along the route and suggest a configuration for the route that will meet projected demand within a framework of programming and implementation constraints and regional policy.

Historically the freeway system in Southern California is highly congested and this trend will continue into the future. Due to our financial, environmental, right of way and political constraints, it is very difficult for Caltrans to continue to add more lanes to the system. With these limitations, Caltrans D7 office has established LOS F0 as the minimum acceptable level of service on the freeway system (1996 District System Management Plan).

The 2035 concept facility intent is to show how much additional capacity is needed to achieve the desired LOS.

CONCEPT – 2035 Facility

Segment Description	Existing Facility (each direction)	ADT	Dir Split	Peak Hour	Truck Peak Hour	2035 Baseline RTP (Both direction)	LOS "D" Attainment (Both Direction)	Concept Attainment	
1 Orange Co. Line to I-605	3 MF	315,000	54.2%	19,900 (6.3%)	730 (3.7%)	8MF	14	10	
						VC			LOS
						1.14			F0
2. I-605-I-710	4 MF	311,900	50.4%	18,900 (6.1%)	600 (3.0%)	8 MF	12	9	
						VC			LOS
						1.224			F0
3. I-710 to East LA I/C	5 MF	348,900	52.8%	20,200 (5.8%)	330 (1.7%)	10 MF	13	10	
						VC			LOS
						1.065			F0
4. East LA I/C to I-10	4 MF	282,500	52.4%	19,300 (6.8%)	500 (2.6%)	9 MF	13	9	
						VC			LOS
						1.153			F0
5. I-10 to I-110	4 MF	295,200	53.6%	19,790 (6.7%)	1700 (8.4%)	9 MF	13	9	
						VC			LOS
						1.210			F0
6. I-110 to SR-2	4 MF	317,000	54.8%	21,130 (6.7%)	1700 (7.9%)	8 MF	15	11	
						VC			LOS
						1.321			F1
7. SR-2 to SR 134	5 MF	305,700	55.6%	22,000 (7.2%)	1300 (6.1%)	10MF	14	10	
						VC			LOS
						1.152			F0
8. SR 134 to SR 118	4 MF	287,000	56.7%	19,800 (6.9%)	1000 (5.2%)	8 MF+ 2 HOV	14	10	
						VC			LOS
						1.118			F0
9. SR – 170 to SR-118	5 MF	377,000	63.2%	25,230 (6.7%)	900 (3.7%)	10 MF+2HOV	19	14	
						VC			LOS
						1.154			F0
10. SR- 118 to I 405	3 + 1 HOV	241,000	60.6%	15,400 (6.4%)	700 (4.3%)	6MF +2HOV	12	9	
						VC			LOS
						1.242			F0
11. I-405 to I 210	5MF+1 HOV +2TL (TL begins at PM 43.93)	419,200	63.4%	27,500 (6.6%)	1000 (3.6%)	10MF+2HOV	22	16	
						VC			LOS
						1.531			F3
12. I-210 to SR-14	6 MF+1 HOV +2TL (2TL ENDS at PM 46.35)	493,200	69.8%	34,700 (7.0%)	1800 (5.3%)	10 MF +2HOV	28	20	
						VC			LOS
						1.991			F3
13. SR-14 to SR-126	4 MF+1 HOV + 2TL(TL ends at PM 46.35)	285,800	61.5%	20,000 (7.0%)	1800 (8.8%)	10MF + 2HOV	15	11	
						VC			LOS
						1.053			F0
14. SR-126 to (S) to SR 126 (N)	4 MF	188,000	60.0%	12,850 (6.9%)	1600 (12.5%)	8MF	10	8	
						VC			LOS
						0.969			E
15. SR-126 (N) to SR 138 (S)	4 MF	152,300	58.4%	10,300 (6.8%)	1800 (17.9%)	8MF	8	6	
						VC			LOS
						0.773			D
16. SR-138 (S) to Kern Co. Line	4 MF	129,200	50.1%	8,500 (6.6%)	2000 (23.9%)	8MF	8	4	
						VC			LOS
						0.545			C

Source: 2012-2035 RTP/SCS

** The number of lanes in the LOS D Attainment column is for both directions. LOS D Attainment indicate how many lanes it would require to achieve LOS D. It is meant show the severity of future conditions and what it will take to achieve LOS D. Caltrans is not suggesting that is is our plan to build the facility to achieve the LOS D.*

** The number of lanes in the FOS FO attainment column is for both directions. The data in the LOS FO attainment column is only meant to show the severity of congestion on our system and what it would require to achieve that level of service. We recognize the difficulty in achieving the desired LOS given the financial, environmental, right of way and political constraints. However, it is Caltrans' goal to provide improved mobility when feasible.*

** The 2035 Baseline includes all planned and programmed projects in the 2012-2035 RTP/SCS.*

** We used 2008 for existing and 2035 for future to be consistent with the 2012-2035 RTP/SCS.*

**Sometimes the model output implies that there would be aux. lanes (each direction) and aux. lanes are given only half capacity. That is why there are instances where we have odd number of lanes for both directions.*

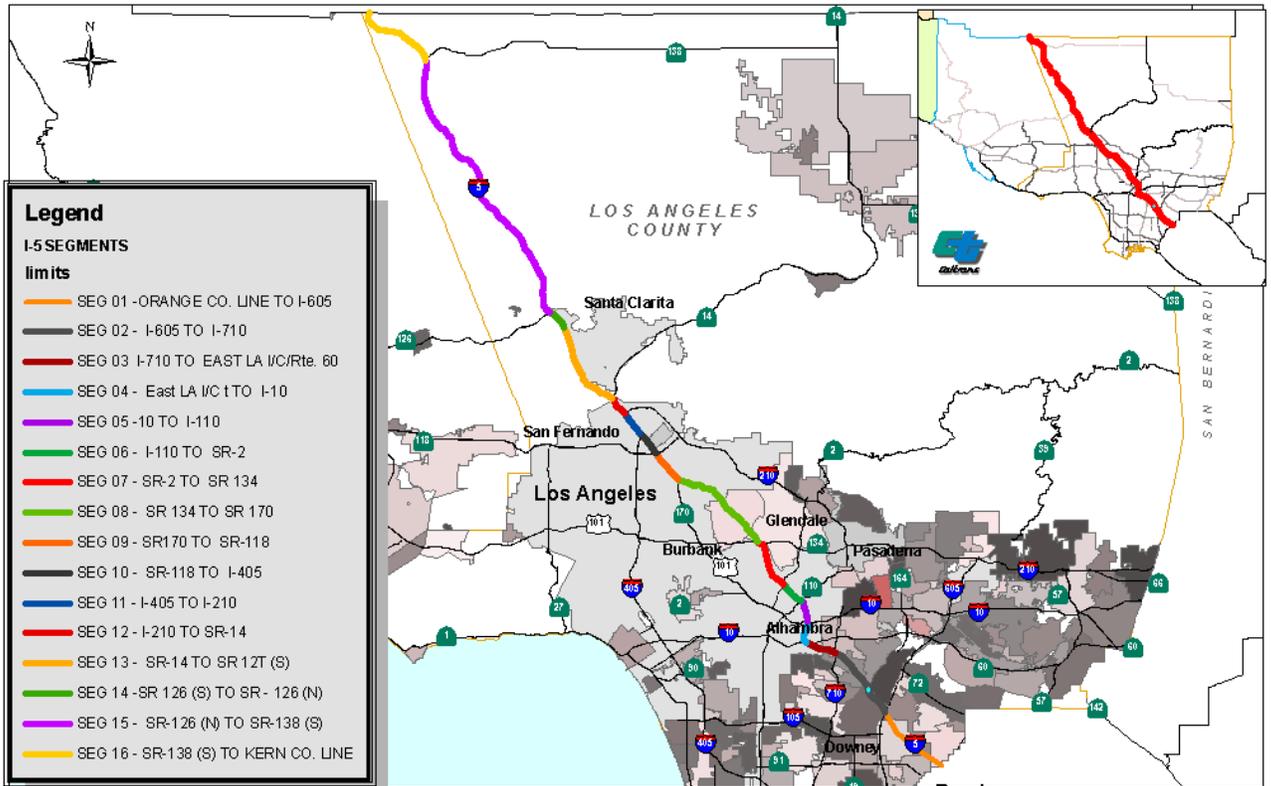
Concept Rationale

Traffic volume is forecasted to increase on I-5 in 2035 and will require additional lanes to achieve the acceptable concept level of service. Several capacity improvements are planned, programmed, and recommended for this corridor in the 2012 RTP..

The concept facility recommended in this TCR is the facility that could be developed to maintain or attain the concept LOS which is F0 for our district.

CORRIDOR OVERVIEW

I-5 - SEGMENTS MAP



District 7 - Advance Planning
 Map by - Skb. October 2011

ROUTE SEGMENTATION

Route 5 is a major North South Interstate route that is used for international, interstate, inter-regional travel and shipping. In addition, it is used as a commuter route. The purpose of Route 5 is shown in the following table:

Santa Ana Freeway

SEGMENT	POST MILE	DESCRIPTION	RTE PURPOSE	FACILITY TYPE
<u>1-3</u>	0.00-16.47	Orange Co. line to East LA Interchange	Interstate/Interregional/ and commute travel	Freeway

Golden State Freeway

SEGMENT	POST MILE	DESCRIPTION	RTE PURPOSE	FACILITY TYPE
<u>4-14</u>	16.47 – R55.48	East LA Interchange To Route 126	Interstate/Interregional/ and commute travel	Freeway
<u>15-16</u>	R55.48-R88.61	Route 126 to Kern Co. line	Interstate, Interregional	Freeway

Segment	Location Description	Beginning PM	End PM
1	Orange Co. Line to I-605	0.00	6.85
2	I - 605 I - 710	6.85	13.78
3	I - 710 to East L.A I/C	13.78	16.47
4	East L.A I/C to I-10	16.47	18.45
5	I - 10 to I -110	18.45	20.44
6	I - 110 to SR - 2	20.44	22.55
7	SR - 2 to SR 134	22.55	27.08
8	SR - 134 to SR 170	27.08	36.36
9	SR - 170 to SR - 118	36.36	39.37
10	SR - 118 to I 405	39.37	41.60
11	I - 405 to I 210	41.60	R44.01
12	I - 210 to SR - 14	R44.01	R45.58
13	SR - 14 to SR - 126 (S)	R45.58	R53.57
14	SR - 126 (S) to SR - 126 (N)	R53.57	R55.48
15	SR - 126 (N) to SR - 138 (S)	R55.48	R81.49
16	SR - 138 (S) to Kern Co. Line	R81.49	R88.61

This TCR analyzes Route 5 conditions using the "segment" as the study unit. Segments are generally defined as "freeway interchange to freeway Interchange," "county line to freeway interchange" or "freeway interchanges to end of freeway".

ROUTE DESCRIPTION

Pursuant to Statutes relating to the California Department of Transportation, Route 5 runs from the international boundary near Tijuana, Mexico to the Oregon state line via National City, San Diego, Los Angeles, the westerly side of the San Joaquin Valley, Sacramento and Eureka; also passing near Santa Ana, Glendale, Woodland, and Red Bluff. This transportation Concept report (TCR) addresses the portion of Route 5 located in Los Angeles County. In District 7, Route 5, spans a distance of 88.6 miles from the Orange County Line in the south to the Kern County Line in the north. It is known as the Santa Ana Freeway from the Orange County Line to the downtown Los Angeles Central Business District (CBD) and the Golden State Freeway from the CBD north to the Kern County Line.

The route traverses several incorporated cities in District 7: La Mirada, Santa Fe Springs, Norwalk, Downey, Commerce, Los Angeles, Burbank, Glendale, and Santa Clarita. Route 5 also traverses the communities of East Los Angeles, Castaic, and Gorman

ROUTE DESIGNATION AND CHARACTERISTICS

Segment No	Strategic Highway Network	Scenic Highway	Interregional Road System Route	High Emphasis Route	Focus Route	Federal Functional Classification	Goods Movement Route
1	Yes	No	Yes	Yes	No	Interstate	Yes
2	Yes	No	Yes	Yes	No	Interstate	Yes
3	Yes	No	Yes	Yes	No	Interstate	Yes
4	Yes	No	Yes	Yes	No	Interstate	Yes
5	Yes	No	Yes	Yes	No	Interstate	Yes
6	Yes	No	Yes	Yes	No	Interstate	Yes
7	Yes	No	Yes	Yes	No	Interstate	Yes
8	Yes	No	Yes	Yes	No	Interstate	Yes
9	Yes	No	Yes	Yes	No	Interstate	Yes
10	Yes	No	Yes	Yes	No	Interstate	Yes
11	Yes	No	Yes	Yes	No	Interstate	Yes
12	Yes	No	Yes	Yes	No	Interstate	Yes
13	Yes	No	Yes	Yes	No	Interstate	Yes
14	Yes	No	Yes	Yes	No	Interstate	Yes
15	Yes	No	Yes	Yes	No	Interstate	Yes
16	Yes	No	Yes	Yes	No	Interstate	Yes

ROUTE DESIGNATION AND CHARACTERISTICS

Segment No	Truck Designation	Rural/Urban/Urbanized	Metropolitan planning Organization	Regional Transportation Planning Agency	Congestion Management Agency	Local Agencies
1	National Network	Urbanized	SCAG	METRO	METRO	METRO
2	National Network	Urbanized	SCAG	METRO	METRO	METRO
3	National Network	Urbanized	SCAG	METRO	METRO	METRO
4	National Network	Urbanized	SCAG	METRO	METRO	METRO
5	National Network	Urbanized	SCAG	METRO	METRO	METRO
6	National Network	Urbanized	SCAG	METRO	METRO	METRO
7	National Network	Urbanized	SCAG	METRO	METRO	METRO
8	National Network	Urbanized	SCAG	METRO	METRO	METRO
9	National Network	Urbanized	SCAG	METRO	METRO	METRO
10	National Network	Urbanized	SCAG	METRO	METRO	METRO
11	National Network	Urbanized	SCAG	METRO	METRO	METRO
12	National Network	Urbanized	SCAG	METRO	METRO	METRO
13	National Network	Urbanized	SCAG	METRO	METRO	METRO
14	National Network	Urbanized	SCAG	METRO	METRO	METRO
15	National Network	Urbanized	SCAG	METRO	METRO	METRO
16	National Network	Urbanized	SCAG	METRO	METRO	METRO

COMMUNITY CHARACTERISTICS

Pursuant to Statutes relating to the California Department of Transportation, Route 5 runs from the international boundary near Tijuana, Mexico to the Oregon state line via National City, San Diego, Los Angeles, the westerly side of the San Joaquin Valley, Sacramento and Yreka; also passing near Santa Ana, Glendale, Woodland, and Red Bluff.

This transportation Concept report (TCR) addresses the portion of Route 5 located in Los Angeles County. In District 7, Route 5, spans a distance of 88.6 miles from the Orange County Line in the south to the Kern County Line in the north. It is known as the Santa Ana Freeway from the Orange County Line to the downtown Los Angeles Central Business District (CBD) and the Golden State Freeway from the CBD north to the Kern County Line. The route traverses several incorporated cities in District 7: La Mirada, Santa Fe Springs, Norwalk, Downey, Commerce, Los Angeles, Burbank, Glendale, and Santa Clarita. Route 5 also traverses the communities of East Los Angeles, Castaic, and Gorman.

LAND USE

Route 5 is a major north south Interstate route that is used for international, interstate, Intraregional and travel and shipping. In addition, it is used as a commuter route. Route 5 is part of the Federal Aid Interstate (FAI) system, which is a subset of the National Highway System. For the purpose of this analysis, the route has been divided into 16 Segments based on traffic volume, connections to local streets of State Highways, freeway interchanges and the county boundary. The criteria for segmentation and functional class for each segment is shown in the following table:

Santa Ana Freeway

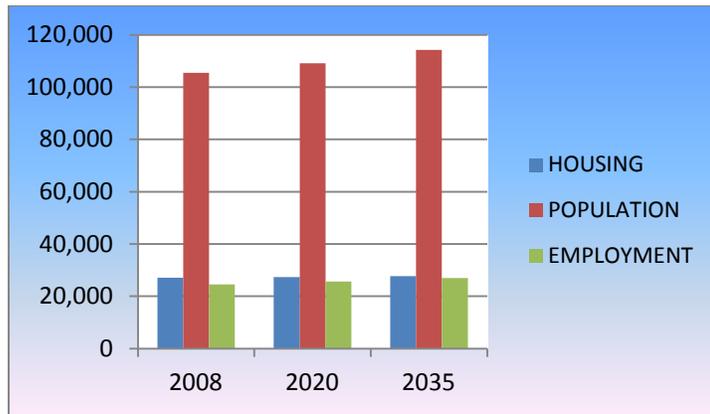
SEG	P.M	CRITERIA	FUNCTIONAL CLASS
1-3	0.00-16.47	County Line to Freeway Interchange	NHS URBAN INTERSTATE

SEG	P.M	CRITERIA	FUNCTIONAL CLASS
4-13	16.47- R53.57	Freeway Interchange to Freeway Interchange	NHS URBAN INTERSTATE
13-15	R45.58 – R81.49	Freeway Interchange to Freeway Interchange	NHS URBAN INTERSTATE
16	R81.49 – R88.61	Freeway Interchange to County Line	NHS URBAN INTERSTATE

Here are some projected socioeconomic growths in some major cities along Route 5 Corridor per the SCAG 2012-2035 RTP/SCS GROWTH FORECAST.

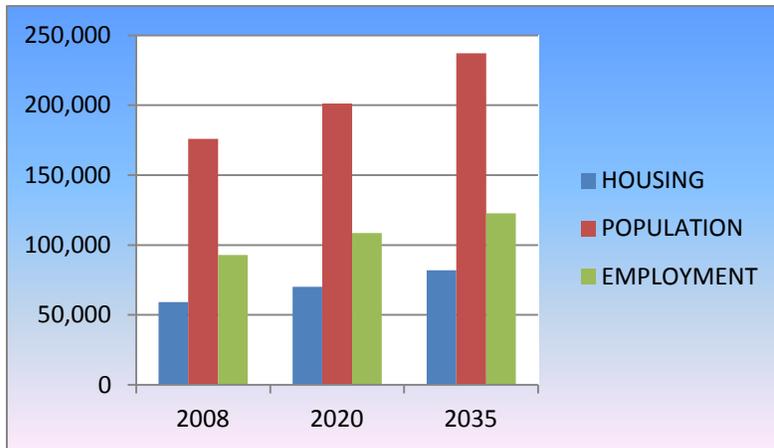
CITY OF NORWALK

	2008	2020	2035	2008 - 2020 CHANGE	2008 - 2035 CHANGE
HOUSING	27,100	27,400	27,700	1.11%	2.21%
POPULATION	105,500	109,100	114,200	3.41%	8.25%
EMPLOYMENT	24,600	25,700	27,000	4.47%	9.76%



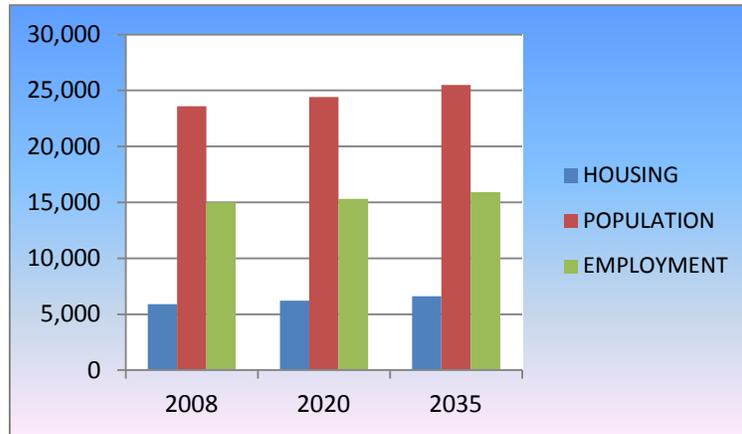
CITY OF SANTA CLARITA

	2008	2020	2035	2008 - 2020 CHANGE	2008 - 2035 CHANGE
HOUSING	59,300	70,100	81,900	18.21%	38.11%
POPULATION	175,900	201,100	237,100	14.33%	34.79%
EMPLOYMENT	92,900	108,700	122,600	17.01%	31.97%



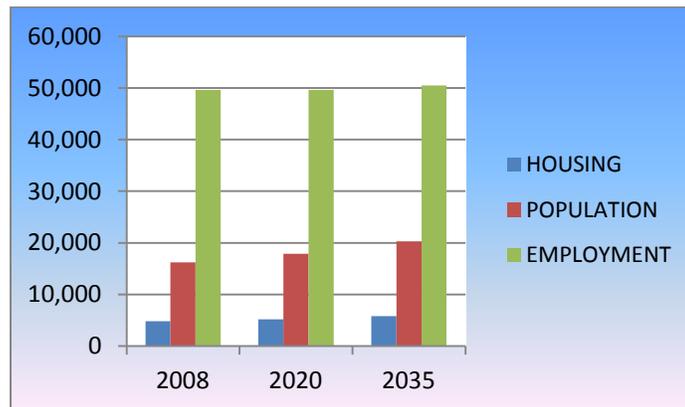
CITY OF SAN FERNANDO

	2008	2020	2035	2008 - 2020 CHANGE	2008 - 2035 CHANGE
HOUSING	5,900	6,200	6,600	5.08%	11.86%
POPULATION	23,600	24,400	25,500	3.39%	8.05%
EMPLOYMENT	15,000	15,300	15,900	2.00%	6.00%



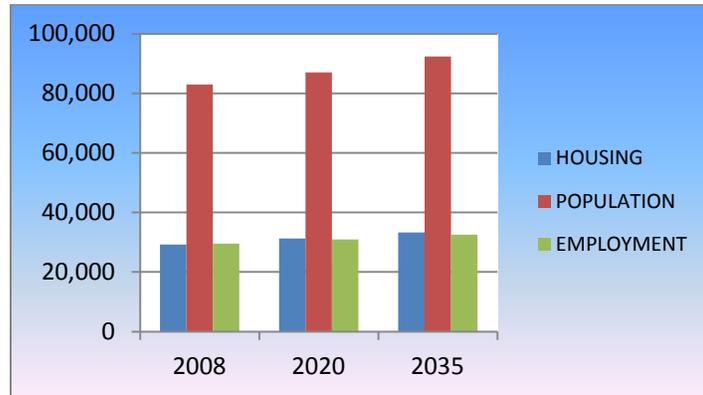
**CITY OF SANTA
FE**

	2008	2020	2035	2008 - 2020 CHANGE	2008 - 2035 CHANGE
HOUSING	4,800	5,200	5,800	8.33%	20.83%
POPULATION	16,200	17,900	20,300	10.49%	25.31%
EMPLOYMENT	49,600	49,600	50,500	0.00%	1.81%



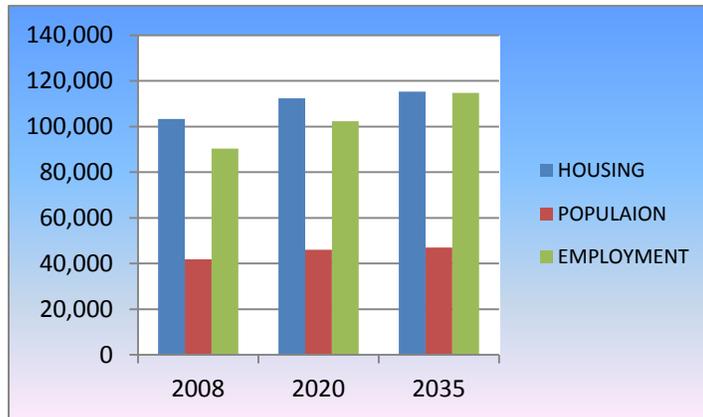
CITY OF ALHAMBRA

	2008	2020	2035	2008 - 2020 CHANGE	2008 - 2035 CHANGE
HOUSING	29,200	31,300	33,300	7.19%	14.04%
POPULATION	83,000	87,000	92,400	4.82%	11.33%
EMPLOYMENT	29,600	31,000	32,500	4.73%	9.80%



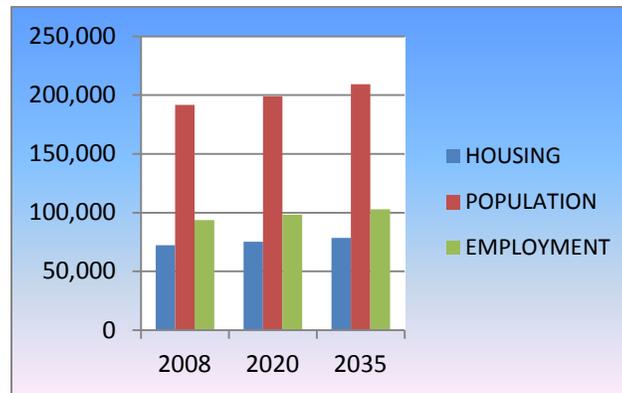
CITY OF BURBANK

	2008	2020	2035	2008 - 2020 CHANGE	2008 - 2035 CHANGE
HOUSING	103,300	112,400	115,300	8.81%	11.62%
POPULATION	41,900	46,000	47,000	9.79%	12.17%
EMPLOYMENT	90,300	102,300	114,700	13.29%	27.02%



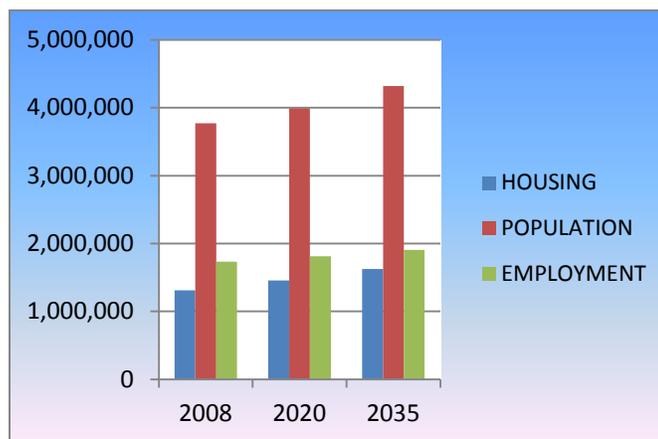
CITY OF GLENDALE

	2008	2020	2035	2008 - 2020 CHANGE	2008 - 2035 CHANGE
HOUSING	72,200	75,200	78,600	4.16%	8.86%
POPULATION	191,600	198,900	209,300	3.81%	9.24%
EMPLOYMENT	93,600	98,200	103,000	4.91%	10.04%



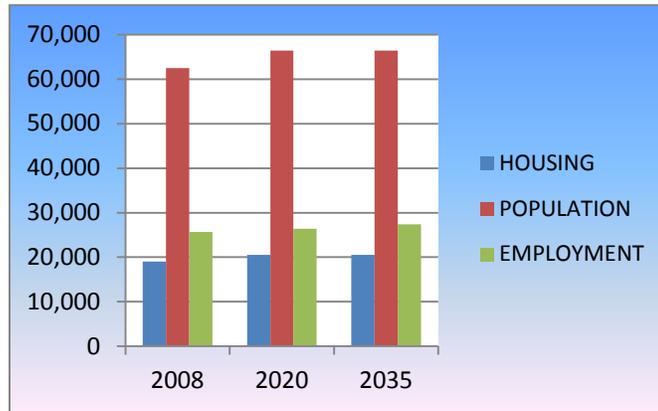
CITY OF LOS ANGELES

	2008	2020	2035	2008 - 2020 CHANGE	2008 - 2035 CHANGE
HOUSING	1,309,900	1,455,700	1,626,600	11.13%	24.18%
POPULATION	3,770,500	3,991,700	4,320,600	5.87%	14.59%
EMPLOYMENT	1,735,200	1,811,700	1,906,800	4.41%	9.89%



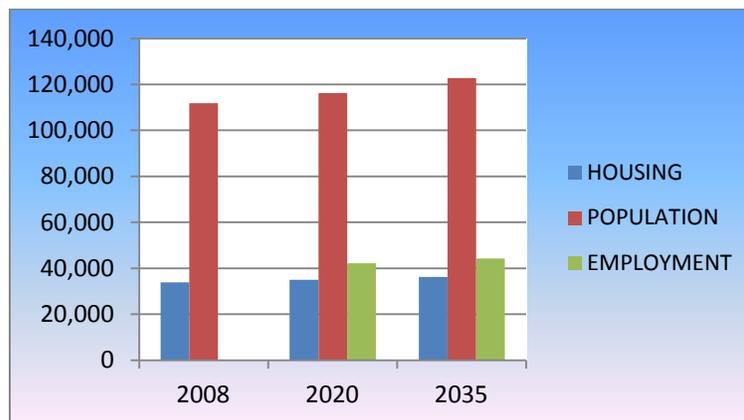
CITY OF MONTEBELLO

	2008	2020	2035	2008 - 2020 CHANGE	2008 -2035 CHANGE
HOUSING	19,000	20,500	20,500	7.89%	7.89%
POPULATION	62,500	66,400	66,400	6.24%	6.24%
EMPLOYMENT	25,700	26,400	27,400	2.72%	6.61%



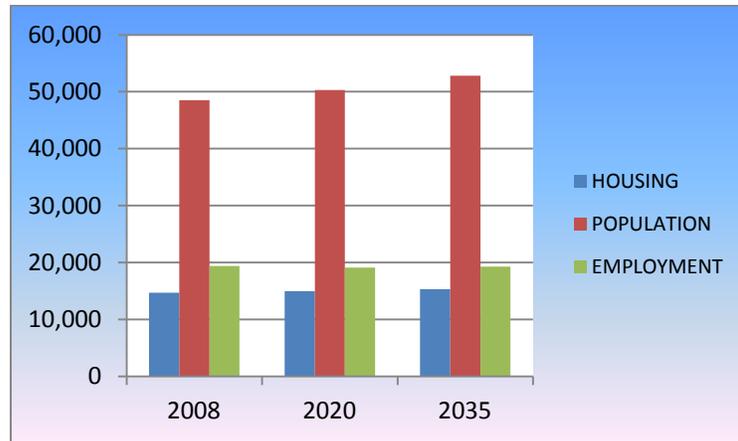
CITY OF DOWNEY

	2008	2020	2035	2008 - 2020 CHANGE	2008 -2035 CHANGE
HOUSING	33,900	35,000	36,200	3.24%	6.78%
POPULATION	111,800	116,200	122,700	3.94%	9.75%
EMPLOYMENT	40,200	42,200	44,200	4.98%	9.95%



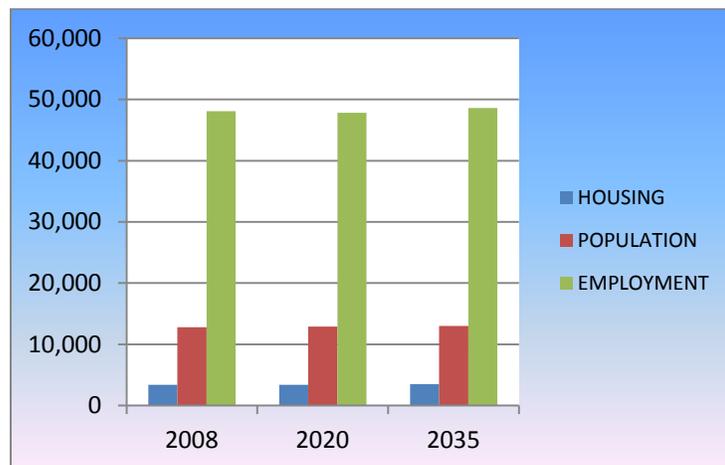
**CITY OF LA
MIRADA**

	2008	2020	2035	2008 - 2020 CHANGE	2008 -2035 CHANGE
HOUSING	14,700	15,000	15,300	2.04%	4.08%
POPULATION	48,500	50,300	52,800	3.71%	8.87%
EMPLOYMENT	19,400	19,100	19,300	-1.55%	-0.52%



**CITY OF
COMMERCE**

	2008	2020	2035	2008 - 2020 CHANGE	2008 -2035 CHANGE
HOUSING	3,400	3,400	3,500	0.00%	2.94%
POPULATION	12,800	12,900	13,000	0.78%	1.56%
EMPLOYMENT	48,100	47,800	48,600	-0.62%	1.04%



SYSTEM CHARACTERISTICS

Existing Facility					
Segment	Facility Type	Mixed-Flow Lanes (each way)	Managed Lanes (each way)	Centerline Miles	Lane Miles
0.00- 6.85	Freeway	3 MF		6.85	20.55
2. 6.85-13.78	Freeway	4MF		6.93	27.72
3 13.78-16.47	Freeway	5MF		2.69	13.45
4 16.47-18.45	Freeway	4MF		1.98	7.92
5 18.45-20.44	Freeway	4MF		1.99	7.96
6 20.44-22.55	Freeway	4MF		2.11	8.44
7 22.55-27.08	Freeway	5MF		4.53	22.65
8 27.08-36.36	Freeway	4MF		9.28	37.12
9 36.36-39.37	Freeway	5MF		3.01	15.05
10 39.37-41.60	Freeway	3MF	1 HOV	2.23	8.92
11 41.60-R44.01	Freeway	5MF	1 HOV + 2 TL	2.41	19.28
12 R44.01-R45.58	Freeway	6 MF	1 HOV + 2 TL	1.57	14.13
13 R45.58-R53.57	Freeway	4 MF	1 HOV + 2 TL	7.99	55.93
14 R53.57-R55.48	Freeway	4MF		1.91	7.64
15 R55.48-R81.49	Freeway	4MF		26.01	104.04
16. R81.49-R88.61	Freeway	4MF		7.12	28.48

RAMP METERS ON RTE 5			
POSTMILE	DIRECTION	LOCATION	COMMENT
SEGMENT 1 (0.00 – 6.85)			
1.06	SB	Valley View	Operational
1.11	NB	Valley View	Operational
1.56	NB	Alondra	Operational
1.67	SB	Alondra Marquart	Operational
2.27	SB	Carmelita	Operational
2.51	NB	Carmelita	Operational
3.28	SB	Rosecrans	Operational
3.62	SB	Firestone SB	Operational
4.28	SB	Norwalk	Operational
4.36	NB	Norwalk NB	Operational
4.58	NB	Norwalk SB	Operational
4.89	SB	Imperial	Operational
4.96	NB	Imperial	Operational
5.25	NB	Pioneer	Operational
6.04	SB	Orrday	Operational
6.2	NB	Florence & Orr-day	Operational
6.5	SB	Florence	Operational
SEGMENT 2 (6.85 – 13.78)			
8.21	SB	Lakewood NB	Operational
8.27	NB	Lakewood NB	Operational
8.35	SB	Lakewood SB	Operational
8.42	NB	Lakewood SB	Operational
8.92	NB	Paramount	Operational
8.93	SB	Paramount	Operational
9.87	SB	Slauson	Operational
10.76	SB	Garfield / Bandini	Operational
11.54	SB	Washington	Operational
12.68	SB	Eastern & Atlantic	Operational
SEGMENT 3 (13.78 – 16.47)			
14.35	NB	Downey	Operational
14.76	SB	Ditman	Operational
15.77	SB	Concord	Operational
16.49	SB	Eight	Operational
16.47	SB	Seven	Operational
SEGMENT 4 (16.47 – 18.45)			
16.47	SB	Seven	Operational
17.44	SB	Fourth	Operational

RAMP METERS ON RTE 5			
17.93	SB	Cesar Chavez	Operational
18.45	SB	Mission	Operational
SEGMENT 5 (18.45 – 20.44)			
18.45	SB	Mission	Operational
18.77	NB	Marengo	Operational
19.45	SB	Broadway	Operational
20	NB	Pasadena	Operational
20.33	SB	Ave. 26	Operational
20.44	SB	Duvall	Operational
SEGMENT 6 (20.44 -22.55)			
20.44	SB	Duvall	Operational
21.1	NB	Riverside	Operational
21.71	SB	Stadium Way	Operational
21.8	NB	Stadium Way	Operational
22.55	NB	Fletcher	
SEGMENT 7 (22.55 – 27.08)			
22.55	NB	Fletcher	Operational
23.58	SB	Glendale	Operational
23.86	NB	Glendale	Operational
24.17	SB	Los Feliz EB	Operational
24.36	NB	Los Feliz	Operational
24.5	SB	Griffith PK	Operational
24.54	NB	Los Feliz WB	Operational
25.85	SB	Colorado	Operational
25.9	NB	Colorado	Operational
26.35	SB	Zoo Dr.	Operational
27.08	SB	Western EB	Operational
SEGMENT 8 (27.08 – 36.36)			
27.08	SB	Western EB	Operational
27.7	SB	Western WB	Operational
27.77	NB	Western EB	Operational
27.92	NB	Western WB	Operational
28.2	SB	Alameda EB	Operational
28.3	SB	Alameda WB	Operational
28.4	NB	Alameda EB	Operational
28.45	NB	Alameda WB	Operational
28.9	SB	Verdugo	Operational
29.27	NB	Olive	Operational
29.68	SB	Burbank EB	Operational
29.89	SB	Burbank WB	Operational

RAMP METERS ON RTE 5			
29.97	NB	Burbank BL	Operational
30.69	NB	Lincoln	Operational
30.69	SB	Lincoln	Operational
31.41	NB	Buena Vista	Operational
31.41	SB	Buena Vista	Operational
32.28	SB	Hollywood Way	Operational
32.41	NB	Hollywood Way	Operational
33.23	SB	Roscoe	Operational
33.58	SB	Sunland	Operational
33.72	NB	Sunland	Operational
34.24	SB	Penrose	Operational
34.78	NB	Tuxford	Operational
34.88	SB	Tuxford	Operational
35.07	NB	Lankershim	Operational
35.07	SB	Lankershim	Operational
35.84	NB	Sheldon	Operational
35.84	SB	Sheldon	Operational
36.36	SB	Branford	Operational
SEGMENT 9 (36.36 – 39.37)			
36.36	SB	Brandford	Operational
37.3	SB	Osborne EB	Operational
37.37	NB	Osborne EB	Operational
37.47	SB	Osborne WB	Operational
37.55	NB	Osborne WB	Operational
37.84	SB	Terra Bella	Operational
38.34	SB	Van Nuys EB	Operational
38.55	SB	Van Nuys WB	Operational
39.14	SB	Paxton St.	Planned
39.31	NB	Paxton St.	Planned
39.37	SB	Chatsworth	Planned
SEGMENT 10 (39.37 – 41.60)			
39.37	SB	Chatsworth	Planned
39.91	SB	Brand	Planned
40.05	SB	San Fernando Mission EB	Planned
40.31	SB	San Fernando Mission WB	Planned
40.44	NB	San Fernando Mission	Planned
41.60	SB	Roxford	Planned
SEGMENT 11 (41.60 – R44.01)			

RAMP METERS ON RTE 5			
41.60	SB	Roxford	Planned
42.79	NB	Roxford	Planned
R44.01	SB	Calgrove	Operational
SEGMENT 12 (R44.01 – R45.58)			
R44.01	SB	Calgrove	Operational
R45.58	SB	Calgrove	Operational
SEGMENT 13 (R45.58 – R53.57)			
R45.58	SB	Calgrove	Operational
49.22	NB	Calgrove	Planned
50.18	SB	EB Lyons	Operational
50.43	NB	Lyons	Planned
50.47	SB	WB Lynos / Pico Cyn.	Operational
51.42	NB	Mc Bean Pkwy EB	Operational
51.42	SB	WB Mc Bean Pkwy.	Planned
51.6	NB	WB Mc Bean Pkwy.	Planned
51.78	SB	Mc Bean Pkwy WB	Operational
52.3	SB	Valencia BL	Operational
52.46	NB	Valencia BL	Operational
52.46	NB	Valencia BLVD	Planned
52.46	SB	Valencia BLVD WB	Operational
53.41	SB	Magic Mountain	Planned
53.57	NB	Magic Mountain	Planned
SEGMENT 14 (R53.57 –R55.48)			
53.57	NB	Magic Mountain	Planned
55.39	SB	Rye Cyn.	Operational
SEGMENT 15 (R55.48 – R81.49)			
56.47	SB	Hasley Cyn.	Planned
56.75	NB	Hasley Cyn.	Planned
58.83	SB	Parker Rd	Planned
59.7	SB	Lake Hughes	Planned
SEGMENT 16 (R81.49-R88.61) – NONE			

SOURCE: 2011 RMDP

TRANSIT FACILITY

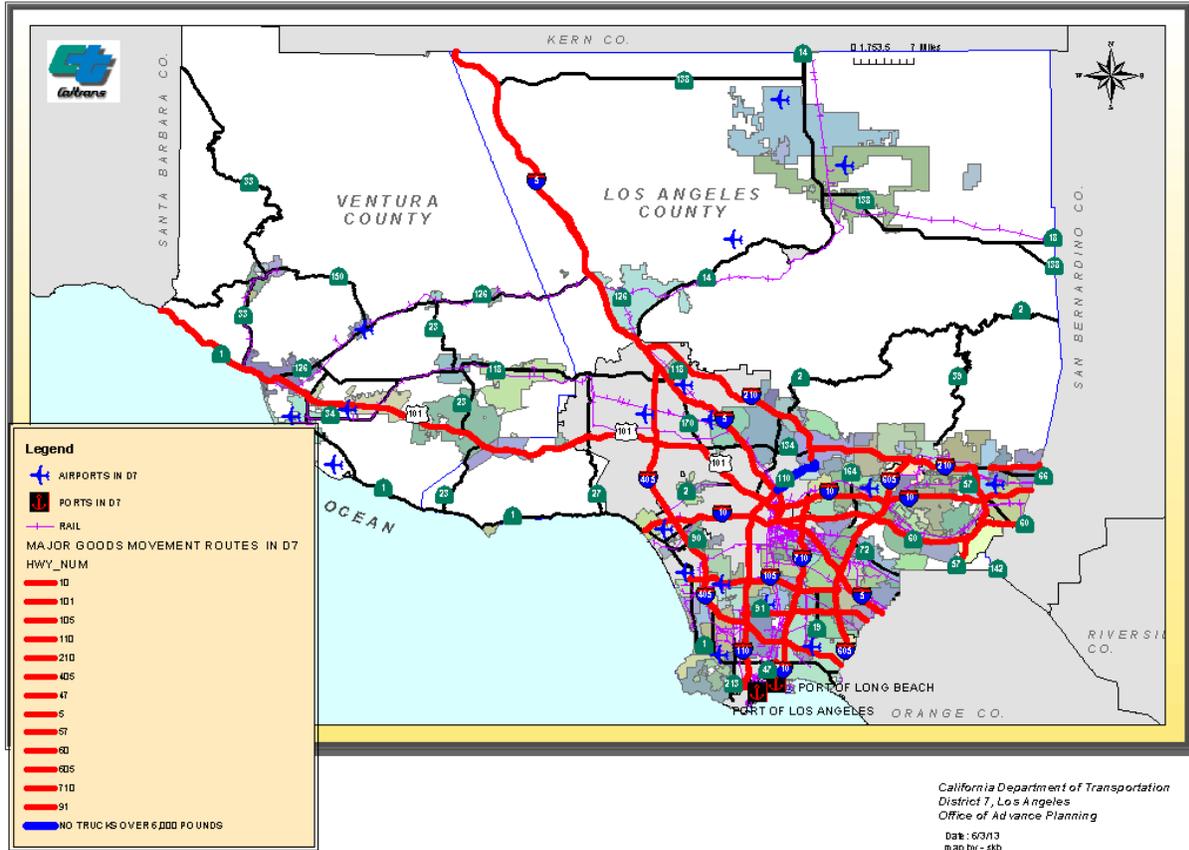
Along Route 5 are various transit systems which comprise of bus lines that transverse across the route. There are bus services within and between various cities along I-5 . The Metro lines, Light Rail, operate within the jurisdiction of Los Angeles County. Within Los Angeles and Long Beach Metro Blue Lines shuttle passengers between the two cities. Metro Expo line, operates from Union station to North Hollywood, Metro Green line from Playa Del Ray to Norwalk, Gold Line from Union station to East Los Angeles, and the Metro Orange line operate from Chatsworth to Union station. There is also Metro Silver line that runs from the Harbor Gateway to Union station.

FREIGHT

Goods movement along the I- 5 Corridor is comprised of truck traffic between the port of Long Beach and Port of Los Angeles. Freight traffic also serves distribution centers in all the cities along the route. Trucks from the Ports use I-710 to I – 5 going to the Inland Empire or other destinations.

Freight Facility Table			
Facility Type / Freight Generator	Location	Mode	Name
Los Angeles Transportation Center (LATC)	Los Angeles	Train	Union Pacific
East Los Angeles (ELA)	Los Angeles	Trucks	various
Goods	Port Hueneme	Air cargo plane	various

D7 GOODS MOVEMENT CORRIDOR MAP



ENVIRONMENTAL CONSIDERATION

California is known for traffic congestion and its impacts. Pollution of various types is typical in this region. Air quality, noise and water pollution are common. Below is the latest attainment/nonattainment status of SR-91 Corridor which falls in the South Coast Air Basin.

POLLUTANTS	STATE DESIGNATION
Ozone (1hr)	Nonattainment
Ozone (8hr)	Nonattainment
CO (8hr)	Attainment
PM10 (24 hr.)	Nonattainment
PM2.5 (24 hr.)	Nonattainment
NO2 (Annual)	Nonattainment
SO2 (1 hr)	Attainment
Lead	Nonattainment

CORRIDOR PERFORMANCE

BASIC SYSTEM OPERATIONS							
SEGMENT	AADT 2008	AADT 2035	LOS 2008	LOS 2035	LOS CONCEPT	VMT 2008	VMT 2035
1	253,900	315,000	F2	F0	F0	1,697,400	2,261,700
2	301,500	311,900	F0	F0	F0	1,943,100	2,015,000
3	342,600	348,900	F0	F0	F0	618,900	630,700
4	274,560	282,500	F0	F0	F0	281,200	289,300
5	287,300	295,180	F0	F0	F0	291,600	299,400
6	310,200	316,000	F2	F1	F0	241,222	246,500
7	294,000	305,700	F1	F0	F0	1,031,100	1,022,000
8	233,910	287,000	F0	F0	F0	2,132,385	2,620,700
9	303,700	377,000	F0	F0	F0	638,300	791,200
10	167,400	241,000	F0	F0	F0	257,400	377,100
11	295,000	419,000	F2	F3	F0	351,000	498,800
12	271,800	493,000	F3	F3	F0	195,000	305,100
13	170,440	263,500	E	F0	F0	1,257,800	2,047,900
14	112,300	187,600	B	E	E	152,000	251,890
15	72,500	152,300	B	D	D	1,651,500	3,626,200
16	67,000	129,200	A	C	C	424,800	810,000

TRUCK TRAFFIC				
SEGMENT	Total Average Annual Daily Truck Traffic (AADT) 2008	Total Trucks (% of AADT) 2008	Heavy Duty Annual Daily Truck Traffic (AADT) 2008	Heavy Duty Truck (% of AADT) 2008
1	15,800	6.2	6200	39.2
2	18,900	6.2	7700	40.7
3	16,400	5.4	6800	41.4
4	15,700	7.2	800	50.0
5	14,700	5.4	8900	60.5
6	14,800	5.1	9000	60.8
7	18,300	6.2	10,600	57.9
8	17,600	7.5	10,200	57.9
9	22,100	7.8	13,100	59.2
10	13,100	7.8	8700	66.74
11	19,200	6.8	11,000	57.3
12	25,900	10.74	15,000	58.0
13	20,100	12.0	15,000	74.6
14	19,100	17.0	14,300	74.8
15	18,200	25.1	13,500	74.1
16	17,700	26.0	13,600	76.8

KEY CORRIDOR ISSUES/CORRIDOR CONCEPTS

This transportation Concept report (TCR) addresses the portion of Route 5 located in Los Angeles County.

In District 7, Route 5, spans a distance of 88.6 miles from the Orange County Line in the south to the Kern County Line in the north. It is known as the Santa Ana Freeway from the Orange County Line to the downtown Los Angeles Central Business District (CBD) and the Golden State Freeway from the CBD north to the Kern County Line.

For the purposes of analysis in this report, Route 5 is divided into these two freeway names. The route traverses these major cities in District 7: La Mirada, Santa Fe Springs, Norwalk, Downey, Commerce, Los Angeles, Burbank, Glendale, and Santa Clarita. Route 5. Also traverses the communities of East Los Angeles, Castaic, and Gorman.

The Golden State Freeway (I-5) is the backbone of California's freeway system, running north-south from the Mexican border to Oregon and then to Canada. It is a key transportation route for the movement of people, goods and services throughout the state. Recognizing the importance of I-5's economic role, the California Department of Transportation (Caltrans) District 7, serving Los Angeles and Ventura counties, is investing more than two billion dollars in improvements to the corridor over the next five years.

In 2011, the California Department of Transportation (Caltrans) District 7 began a five-year construction schedule for freeway widening and improvements on the Golden State Freeway and the Santa Ana Freeway (Interstate 5) in Los Angeles County.

As California's population increases, so do roadway traffic volumes. Interstate 5 is a vital north-south artery for the travelling public and it is one of the state's most heavily-used corridors to move goods and services between the borders of Mexico and Canada. The I-5 corridor is one of the most congested freeways in the Los Angeles basin, also providing a direct connection between Southern California's two largest counties, Orange and Los Angeles. A drop from 10 lanes in Orange County to six lanes in Los Angeles County causes significant congestion and travel delays northbound. The insufficient number of lanes and growing demand clog this freeway segment in each direction.

Caltrans and its major transportation partners, the Los Angeles County Metropolitan Transportation Authority (Metro) and the Federal Highway Administration (FHWA), are investing \$3.2 billion in 17 Interstate 5 Corridor Improvement Projects, funded through a combination of federal, state and local sources.

Until 2016, there will be constructions on 14 segments of I-5 from the LA/Orange County line to north of State Route 126. Three of the 11 projects in northern LA County that expand from SR-134 in Burbank to SR-126 have already completed construction.

The I-5 Corridor Improvements Projects, extending 6.7 miles between the LA/Orange County line to I-605 will be at Valley View Avenue, Alondra Boulevard, Carmenita Road, Rosecrans Avenue, Imperial Highway, and Florence Avenue. The improvements at these locations of the Santa Ana Freeway include widening the roadway to add one HOV or carpool lane and one general purpose lane, constructing a concrete median barrier, adding center medians and shoulders, widening existing outer shoulders and many other safety features. Interchanges, bridges, ramps, a pedestrian overcrossing, sound walls and adjacent frontage roads will be constructed, reconstructed or modified.

The entire I-5 South Corridor in LA County will be widened in each direction.

Once completed, these improvements will relieve current and future congestion, improve traffic flow and air quality, reduce freeway noise and encourage ridesharing. Motorists will experience an easier, smoother and less congested transition at the LA County/Orange County line.

By 2013, all six projects, totaling nearly \$1.6 billion, will go in construction and are expected to be completed in 2016.

CORRIDOR CONCEPTS

CONCEPT RATIONALE

The improvements listed below will enhance safety, improve traffic flow, reduce congestion, encourage ridesharing, decrease surface street traffic and improve air quality:

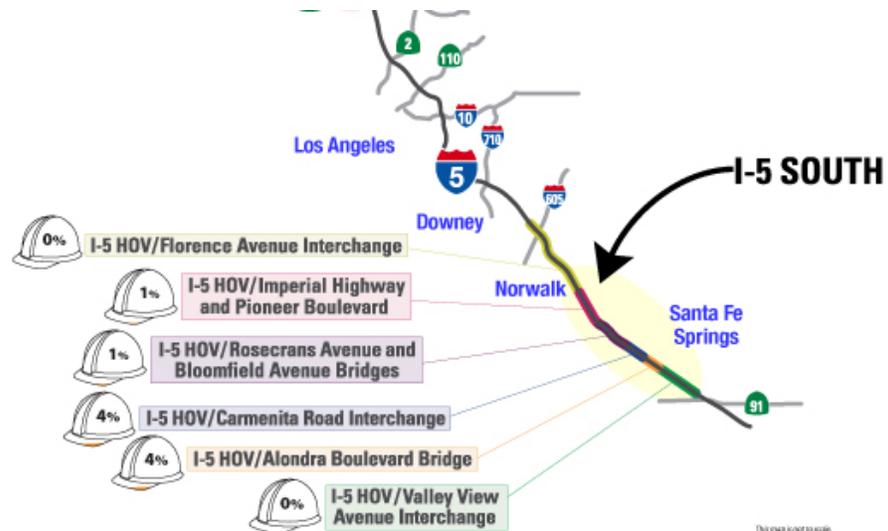
- High-Occupancy Vehicle (HOV or carpool) Lanes – Carpool lanes for vehicles with two or more passengers
- Direct HOV Connectors – Carpool lane connections so motorists can travel from one freeway directly to another without leaving the HOV lane
- Interchange Improvements – Upgraded on- and off-ramps, bridge widening and/or bridge reconstruction
- Truck Lanes – New lanes designated for truck traffic
- Pavement Replacement – Extends roadway life, reduces maintenance costs and closures, provides a smoother ride for motorists
- Grade Separation – Bridges used to separate levels at which cars, trains, and/or pedestrians cross
- Pedestrian Overcrossing – Bridge for pedestrians to cross over freeway

Most of these improvements are funded through a combination of federal, state and local resources. Additionally, several projects have been partially funded through the American Recovery and Reinvestment Act (ARRA).

I-5 NORTH PROJECTS



I-5 SOUTH PROJECTS



When the above projects are completed, it will improve freeway Level of Service during AM and PM peak hours. It will also increase throughput to accommodate current and future demand.

PLANNED AND PROGRAMMED PROJECTS AND STRATEGIES

No.	County	From	To	Description	Completion By
RTP 2012 CONSTRAINED PROJECTS LIST					
1	LA	Route 134	Route 170	From 134 – Rte 170 – HOV Lanes (8 – 10 Lanes) RTP ID LA 000358	2014
2	LA			In Santa Clarita – From Rte 14 to Pico Cyn/Lyons Ave in the southbound direction and from Rte 14 to Gavin Cyn Road in the Northbound direction. Const. TRUCK CLIMBING LANES. RTP ID LA E0465	2018
3	LA	Route 118	Rte 14	From Rte 118 – Rte 14 from 10 – 12 lanes HOV Lanes. RTP ID LA 0D192	2015
4	LA			Western Avenue I/C – Phase I – Realignment of I-5 NB OFF & ON RAMPS AT WESTERN. RTP ID LA 0C8012	2014
5	LA			I-5 Lake Hughes Rd – INTERSECTION IMPROVEMENTS AND WIDENING to provide additional lanes RTP ID LA 0D463	2015
6	LA			Parker Road Intersection improvements RTP ID LA 0D462	2015
7	LA	From Orange Co. Line	Rte 605	Carmenita INTERCHANGE IMPROVEMENTS RTP ID LA 0D73B	2014
8	LA	From Orange Co. Line	Rte 605	WIDEN FOR HOV & MF LANES, RECONSTRUCT VALLEY VIEW RTP ID LA 0373	2018
9	LA	From I-605	Rte 710	NORWALK, SANTA FE SPGS, DOWNEY, MONTEBELLO (COMMERCE ON I-5 ENV. STUDIES FOR WIDNING W/HOV AND MF FROM 605 TO 710 RTP ID LA 0D72	2023
10	LA	From Rte 14	To Weldon Cyn Rd.	Construct HOV Lane and Phase 3(from Sr14 to Parker Rd) OC, Truck and Aux Lanes RTP ID LA 0G440	2018
11	LA	In LA from Chamberlain St.	Larkspur St	Sound wall construction part of Rte 5 from 118 to 14 HOV project RTP ID LA 0D74	2016
12	LA	5/14 Interchange		Rte 5/14 Interchange & HOV lanes on Rte 14 – Construct 2 Elevated Lanes – HOV Connector RTP ID LA 996134	2014
13	LA	I-5/I-405 – SOUTH	NORTH	I-5/I-405 Carpool Lane Partial connector (South t North) RTP ID LA 1HO103	2030
14	LA	Pico Canyon	Parker Road	In LA/Santa Clarita on Rte 5 from Pico Cyn to Parker Rd, HOV and Aux Lane Improvements RTP ID LA ITL 1001	2027
15	LA	From Rte 170	Rte 118	One HOV lane in each direction (10-12 lanes) including the reconstructions of the I-5/SR-170 MF connector and the construction of the I-5/SR-170 HOV to HOV connector RTP ID LA 000357	2014

No.	County	From	To	Description	Completion By
METRO 2009 LRTP LISTING (UNFUNDED AND PARTIALLY FUNDED PROJECTS)					
1	LA	I-605	I-710	CARPOOL AND MF LANES	
2	LA	I-5	SR-2 IC.	INTERCHANGE PROJECT	
3	LA	I-5	I-10	INTERCHANGE PROJECT	
4	LA	I-5	SR-14	INTERCHANGE PROJECT	
5	LA	I-5	SR134	INTERCHANGE PROJECT	
6	LA	I-5	I-405	INTERCHANGE	
7	LA	SR-14	I-405	ADDITIONAL LANES NB AND SB BETWEEN SR-14 AND I-405	
8	LA	SR-134	I-110	ADDITIONAL LANE NB AND SB BETWEEN SR-134 AND I-110	
9	LA	I-5/14/210		IMPROVEMENTS	
10	LA	I-5/SR-2 IC.		IMPROVEMENTS I-5/SR-2 INTERCHANGE	
11	LA	I-5/I-110 IC		IMPROVE I-5/I-110 INTERCHANGE	
12	LA	DITMAN	CALZONA ST.	CONSTRUCT SB AUX. LANE ON I-5 FROM DITMAN TO CALZONA ST.	
13	LA	MARIETTA ST.	LORENA ST.	CONSTRUCT SB AUX. LANE ON I-5 FROM MARIETTA ST. TO LORENA ST.	
14	LA	SR-134	I-110	ADD HOV LANE IN BOTH DIRECTIONS BETWEEN SR-134 AND I-110	
15	LA	I-605	SR-60	ADD 1 HOV LANE EACH DIRECTION FROM I-605 TO SR-60	
16	LA	I-5 AND I-605		HOV CONNECTOR (PARTIAL CONNECTOR FROM WEST TO SOUTH & FROM WEST TO NORTH)	

No.	County	From	To	Description	Completion By
METRO 2009 LRTP LISTING (UNFUNDED AND PARTIALLY FUNDED PROJECTS)					
17	LA	ORANGE CO. LINE	605	ADD 2 HOV LANES AND 2 MF LANES	
18	LA	SR-14	SR-126	1 MF LANE (BOTH DIRECTIONS)	
19	LA	SR-126/I-5 IC.		INTERCHANGE PROJECT	
20	LA	SR-14	SR-126	ADD HOV AND TRUCK LANES ON I-5	
21	LA	SR-14/I-5 IC		ADD HOV DIRECT CONNECTOR TO SR-14/I-5 INTERCHANGE	
22	LA	WELDON CANYON RD	SR-14	ADD MF LANE ON I-5	
23	LA	CALGROVE AVENUE	SR-126 WEST	ADD 2 TRUCK LANE AND 2 HOV LANES	
24	LA	LAKE HUGHES RD	KERN CO. LINE	ADD 1 TRUCK CLIMB LANE	
25	LA	SR-126 WEST	LAKE HUGHES RD.	ADD 1 TRUCK CLIMB LANE AND 1 HOV LANE	
26	LA	SR-14	CALGROVE ROAD	ADD 2 TRUCK AND 2 HOV LANES	
27	LA	SR-14	I-405	ADD TRUCK LANE ON I-5	
28	LA	I-5/I-10		WIDEN OVERCROSSING AND RELOCATE RAMPS AT CESAR CHAVEZ DRIVE	
Demonstration Projects from Compass Blueprint (Compass Blueprint is a new way to look at how Southern California grows. It is driven by Mobility, Livability, Prosperity and Sustainability.)					
<p>LA MIRADA I-5 SPECIFIC PLAN – The specific plan area is located adjacent to I-5 corridor and is an attempt to plan for the freeway reconfiguration.</p> <p>BURBANK DOWNTOWN DEVELOPMENT STANDARDS – located directly northeast of I-5 corridor, standards are concerned with building design, and do not impact traffic flows to or from the corridor.</p>					

CONCLUSION

Traffic volume is forecasted to increase on Route 5 due to the growth in population, housing and employment along this route and throughout the region. Growth in the region will continue to create mobility challenges and put additional stresses on our transportation system. Southern California is not only an important component of California's economy but it is also vital to the United States and world's economy as a whole. It is critical that mobility be maintained and improved in order to sustain the economic growth that is expected.

Caltrans also support programs such as Transit Oriented Development (TOD). TOD is a moderate to higher density development, located within easy walk of major transit stop. Generally with a mix of residential, employment and shopping opportunities designed for pedestrians. Research have shown that these types of development increase the number of trips made by transit, walking and cycling thus reducing the number of car trips and reducing tailpipe emissions.

SCAG's 2012-2035 Regional Transportation Plan /Sustainable Communities Strategy (RTP/SCS) identifies High Quality Transit Areas (HQTAs) meeting definitions established in SB 375. These areas are intended to direct and prioritize future growth, and further, establish eligibility for certain types of projects to access CEQA streamlining. However, residential and other types of development along freeways can be associated with increased health risk due to emissions exposure. Therefore, future projects should refer to available information resources, including but not limited to SCAG's 2012-2035 RTP/SCS Environmental Justice Appendix and Program Environmental Impact Report.

In addition to sustaining the economic vitality of the region, mobility is also an important component in enhancing the quality of life for the residents in this region. Route 5 is only one component of the transportation infrastructure but it plays a critical role in providing mobility for the region. In order to improve mobility, additional capacity will be required beyond those planned and programmed in the 2012 RTP to maintain an acceptable level of service through 2035.

Appendix

GLOSSARY OF TERMS – ACRONYMS, DEFINITIONS AND RESOURCES

Acronyms

AADT- Annual Average Daily Traffic
ADT- Average Daily Traffic
CALTRANS - California Department of Transportation
CMA - Congestion Management Agencies
FHWA - Federal Highway Administration
GHG - Green House Gas
HCP - Habitat Conservation Plan
HCS - Highway Capacity Software
ITS - Intelligent Transportation System
LOS - Level of Service
MPO - Metropolitan Planning Organizations
PID - Project Initiation Document
PSR - Project Study Report
RTP - Regional Transportation Plan
RTIP - Regional Transportation Improvement Program
RTPA - Regional Transportation Planning Agencies
SCS - Sustainable Community Strategies
SHOPP - State Highway Operation Protection Program
STIP - State Transportation Improvement Program
TDM - Transportation Demand Management
TMS - Transportation Management System
TSN - Transportation System Network
VMT - Vehicle Miles Traveled

Definitions

AADT – Annual Average Daily Traffic is the total volume for the year divided by 365 days. The traffic count year is from October 1st through September 30th. Traffic Counting is generally performed by electronic counting instruments moved from location throughout the State in a program of continuous traffic count sampling.

Base year – The year that the most current data is available to the Districts

Bikeway Class I (Bike Path) – Provides a completely separated right of way for the exclusive use of bicycles and pedestrians with cross flow by motorists minimized.

Bikeway Class II (Bike Lane) – Provides a striped lane for one-way bike travel on a street or highway.

Bikeway Class III (Bike Route) – Provides for shared use with pedestrian or motor vehicle traffic.

Capacity – The maximum sustainable hourly flow rate at which persons or vehicles reasonably can be expected to traverse a point or a uniform section of a lane or roadway during a given time period under prevailing roadway, environmental, traffic, and control conditions.

Concept LOS – The minimum acceptable LOS over the next 20-25 years

Corridor – A broad geographical band that follows a general directional flow connecting major sources of trips that may contain a number of streets, highways, bicycle, pedestrian, and transit route alignments. Off system facilities are included as informational purposes and not analyzed in the TCR.

Facility Concept – Describes the facility and strategies that may be needed within 20-25 years. This can include capacity increasing, State Highway, bicycle facility, pedestrian facility, transit facility, non-capacity increasing operational improvements, new managed lanes, conversion of existing managed lanes to another managed lane type or characteristic, TMS field elements, transportation demand management and incident management.

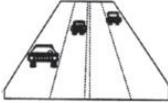
Facility Type – The facility type describes the state highway facility type. The facility could be freeway, expressway, conventional, or one-way city street.

Headway – The time between two successive vehicles as they pass a point on the roadway, measured from the same common feature of both vehicles.

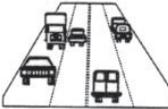
Horizon Year – The year that the future (20-25 years) data is based on.

ITS – Intelligent Transportation System improves transportation safety and mobility and enhances productivity through the integration of advanced communications technologies into the transportation infrastructure and in vehicles. Intelligent transportation systems encompass a broad range of wireless and wire line communications-based information and electronics technologies to collect information, process it, and take appropriate actions.

LOS – Level of Service is a qualitative measure describing operational conditions within a traffic stream and their perception by motorists. A LOS definition generally describes these conditions in terms of speed, travel time, freedom to maneuver, traffic interruption, comfort, and convenience. Six levels of LOS can generally be categorized as follows:



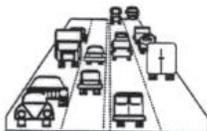
LOS A describes free flowing conditions. The operation of vehicles is virtually unaffected by the presence of other vehicles, and operations are constrained only by the geometric features of the highway.



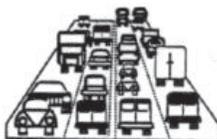
LOS B is also indicative of free-flow conditions. Average travel speeds are the same as in LOS A, but drivers have slightly less freedom to maneuver.



LOS C represents a range in which the influence of traffic density on operations becomes marked. The ability to maneuver with the traffic stream is now clearly affected by the presence of other vehicles.



LOS D demonstrates a range in which the ability to maneuver is severely restricted because of the traffic congestion. Travel speed begins to be reduced as traffic volume increases.



LOS E reflects operations at or near capacity and is quite unstable. Because the limits of the level of service are approached, service disruptions cannot be damped or readily dissipated.



LOS F a stop and go, low speed conditions with little or poor maneuverability. Speed and traffic flow may drop to zero and considerable delays occur. For intersections, LOS F describes operations with delay in excess of 60 seconds per vehicle. This level, considered by most drivers unacceptable often occurs with oversaturation, that is, when arrival flow rates exceed the capacity of the intersection.

Multimodal – The availability of transportation options using different modes within a system or corridor, such as automobile, subway, bus, rail, or air.

Peak Hour – The hour of the day in which the maximum volume occurs across a point on the highway.

Peak Hour Volume – The hourly volume during the highest hour traffic volume of the day traversing a point on a highway segment. It is generally between 6 percent and 10 percent of the ADT. The lower values are generally found on roadways with low volumes.

Planned Project – A planned improvement or action is a project in a financially constrained section of a long-term plan, such as an approved Regional or Metropolitan Transportation Plan (RTP or MTP), Capital Improvement Plan, or measure.

Post Mile – A post mile is an identified point on the State Highway System. The milepost values increase from the beginning of a route within a county to the next county line. The milepost values start over again at each county line. Milepost values usually increase from south to north or west to east depending upon the general direction the route follows within the state. The milepost at a given location will remain the same year after year. When a section of road is relocated, new milepost (usually noted by an alphabetical prefix such as "R" or "M") are established for it. If relocation results in a change in length, "milepost equations" are introduced at the end of each relocated portion so that mileposts on the remainder of the route within the county will remain unchanged.

Programmed Project – A programmed improvement or action is a project in a near-term programming document identifying funding amounts by year, such as the State Transportation Improvement Program or the State Highway Operations and Protection Program.

Route Designation – A route's designation is adopted through legislation and identifies what system the route is associated with on the State Highway System. A designation denotes what design standards should apply during project development and design. Typical designations include but not limited to National Highway System (NHS), Interregional Route System (IRRS), and Scenic Highway System.

Segment – A portion of a facility between two points.

TDM – Transportation Demand Management programs designed to reduce or shift demand for transportation through various means, such as the use of public transportation, carpooling, telework, and alternative work hours. Transportation Demand Management strategies can be used to manage congestion during peak periods and mitigate environmental impacts.

TMS – Transportation Management System is the business processes and associated tools, field elements and communications systems that help maximize the productivity of the transportation system. TMS includes, but is not limited to, advanced operational hardware, software, communications systems and infrastructure, for integrated Advanced Transportation Management Systems and Information Systems, and for Electronic Toll Collection System.

Urban – 5,000 to 49,999 in population designates an urban area. Limits are based upon population density as determined by the U.S. Census Bureau.

Urbanized – Over 50,000 in population designates an urbanized area. Limits are based upon population density as determined by the U.S. Census Bureau.

VMT – Is the total number of miles traveled by motor vehicles on a road or highway segments.

RESOURCES

Air Quality Management Plan, South Coast Air Quality Management District, December, 2012

2008 Annual Average Daily Truck Traffic on the California State Highway System

2008 Traffic Volumes on California State Highways

Congestion Management Program for Los Angeles County, Los Angeles County Metropolitan Transportation Authority, October, 2010

Corridor System Management Plan – I-5 NORTH CORRIDOR – September, 2010

Corridor System Management Plan – I-5 SOUTH CORRIDOR –September, 2010

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

Draft Interregional Transportation Strategic Plan – Dec. 2012

DRAFT Southern California Mobility Plan – August 2012

Long-Range Transportation Plan. Los Angeles County Metropolitan Transportation Authority, 2009

2012-2035 Regional Transportation Plan, (Adopted), Southern California Association of Governments, April 2012

Ramp Meter Development Plan - December 2011

Transportation Concept Report – ROUTE 5 – November, 1998