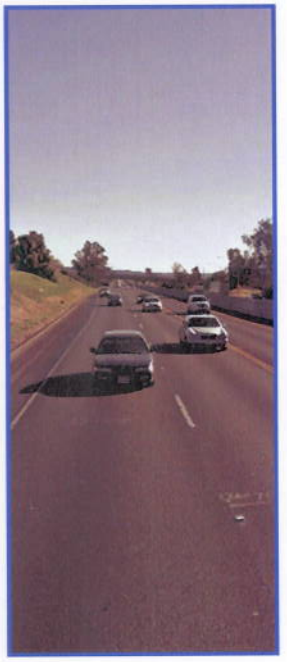
TRANSPORTATION CONCEPT REPORT
State Route 60
District 8
September 2012



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California Department of Transportation
Caltrans Improves Mobility Across California

Approvals:

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9/24/12
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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 primarily produces four products: the District System Management Plan (DSMP), the Transportation System Development Plan (TSDP), the Transportation Concept Report (TCR), and the Corridor System Management Plan (CSMP). The district-wide **DSMP** is a strategic policy and planning document that focuses on maintaining, operating, managing, and developing the transportation system. The **TSDP** is a list of planned and partially programmed transportation projects used to recommend projects for funding. The **TCR** evolves from the development of the DSMP and TSDP and is used to document the existing and future route conditions as well as future needs for each route on the SHS. Similar to the TCR, the **CSMP** is a more 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. These System Planning products are also intended as resources for stakeholders, the public, partners, and regional and local agencies.

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.

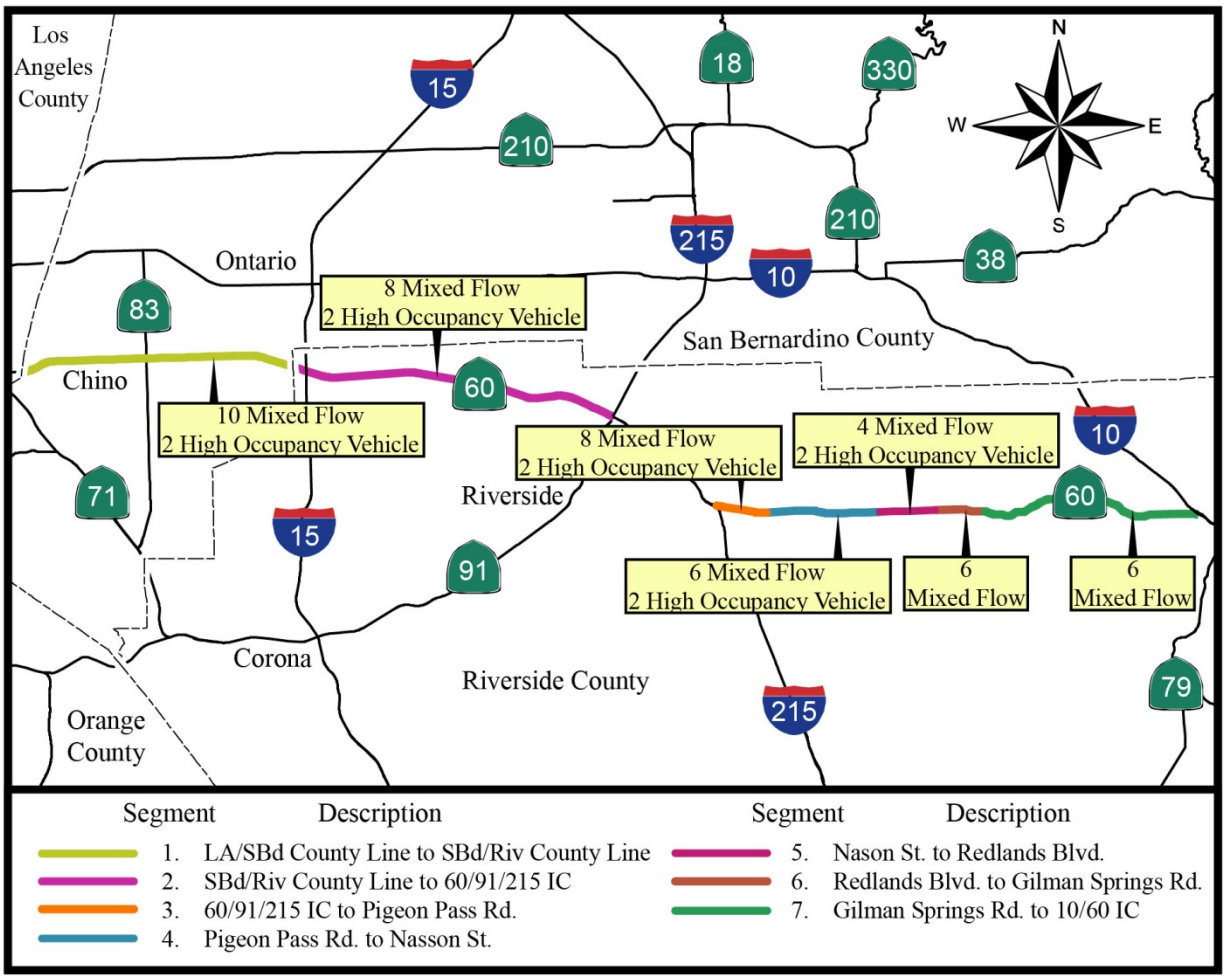
EXECUTIVE SUMMARY: STATE ROUTE 60

Concept Summary Table

CONCEPT – 2035 Facility

Segment	ADT	Dir. Split	Peak Hour	Truck Peak Hour	No-Build		Planned SCAG RTP		LOS "D" Minimum Requirement	Concept
1	271,300	51%	18,200 (6.7%)	1,400 (7.5%)	8 MF/2 HOV		8 MF/2 HOV		12 MFE	10 MF/2 ML
					V/C	**LOS**	**V/C**	**LOS**		
					0.93	E	0.93	E		
2	177,400	52%	13,100 (7.4%)	900 (7.2%)	8/6[1] MF/2 HOV		8/6[1] MF/2 HOV		10 MFE	8 MF/2 ML
					V/C	**LOS**	**V/C**	**LOS**		
					0.84	D	0.84	D		
3	163,200	60%	13,900 (8.5%)	1,100 (7.6%)	4 MF/2 HOV		4 MF/2 HOV		10 MFE	8 MF/2 ML
					V/C	**LOS**	**V/C**	**LOS**		
					1.33	F	1.33	F		
4	138,400	56%	8,900 (6.4%)	720 (8.1%)	4 MF/2 HOV[2]		4 MF/2 HOV[2]		8 MFE	6 MF/2 ML
					V/C	**LOS**	**V/C**	**LOS**		
					1.13	F	1.13	F		
5	119,500	54%	9,000 (7.5%)	780 (8.7%)	4 MF/2 HOV		4 MF/2 HOV		6 MFE	4 MF/2 ML
					V/C	**LOS**	**V/C**	**LOS**		
					0.55	C	0.84	C		
6	100,700	53%	7,600 (7.5%)	570 (7.5%)	4 MF		4 MF		6 MFE	6 MF
					V/C	**LOS**	**V/C**	**LOS**		
					1.02	F	1.02	F		
7	96,500	56%	7,700 (8.6%)	750 (8.6%)	4 MF		4 MF/1 T		6 MFE	6 MF
					V/C	**LOS**	**V/C**	**LOS**		
					1.21	F	1.21	F		

[1] *6 MF is between Valley Way undercrossing and 60/91/215 Interchange (PM7.5-12.2) only and was used for this analysis.*
[2] *HOV is from PM 19.1 to 19.7 only.*



Concept Rationale

Traffic is forecast to increase on SR-60 and will require additional lanes to achieve the concept level of service "D" through 2035. A significant increase in freight and commuter traffic is expected throughout the corridor. Several capacity improvements are planned or recommended.

Proposed Projects and Strategies

No capacity increasing, mainline improvements are currently planned or programmed for SR-60.

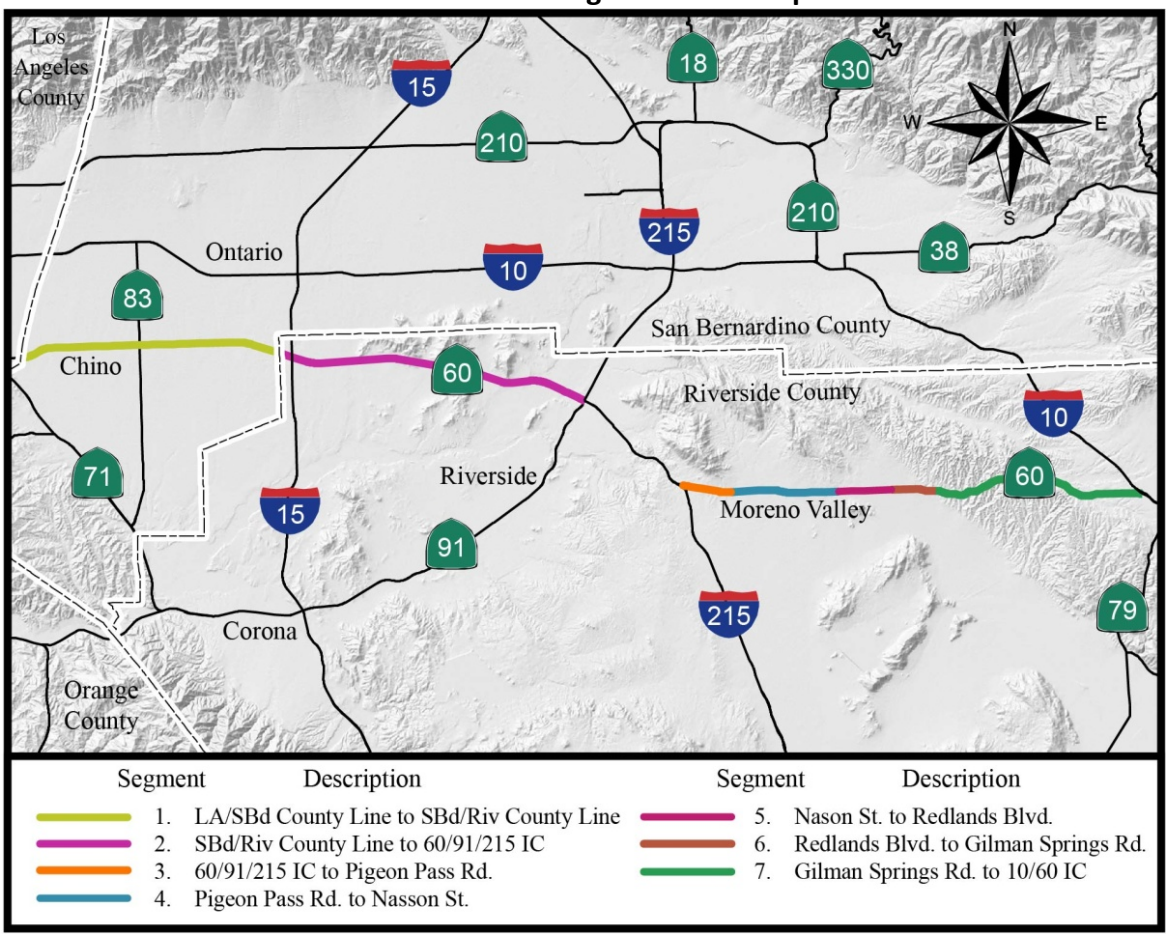
To achieve the SR-60 concept, improvements are needed beyond those listed as financially constrained in the 2012 RTP. The addition of two mixed-flow lanes is recommended for Segment 1. The addition of two mixed-flow lanes is recommended east of Valley Way in Segment 2. The addition of four mixed-flow lanes is recommended for Segment 3. The addition of two mixed-flow lanes is recommended for Segments 4, 6, and 7.

CORRIDOR OVERVIEW

ROUTE SEGMENTATION

State Route 60			
Segment	**County**	**Post Miles**	**Description**
1	SBd	R0.0-R9.9	LA/SBd County Line to SBd/Riv County Line
2	Riv	R0.0-12.2	SBd/Riv County Line to 60/91/215 Interchange
Break in Route			
3	Riv	R12.2-14.3	60/215 East Interchange to Pigeon Pass Road
4	Riv	14.3-18.4	Pigeon Pass Road to Nason Street
5	Riv	18.4-20.4	Nason Street to Redlands Blvd.
6	Riv	20.4-22.1	Redlands Blvd. to Gilman Springs Road
7	Riv	22.1-30.5	Gilman Springs Road to 10/60 Interchange

State Route 60 Segmentation Map



ROUTE DESCRIPTION

State Route 60 (SR-60) is an east-west principal arterial traversing the urbanized and rural areas of Los Angeles, San Bernardino, and Riverside Counties. Beginning near the junction of Interstate Route 5 (I-5) and I-10 in Los Angeles, SR-60 terminates at its junction with I-10 in the city of Beaumont, Riverside County. Within District 8, SR-60 runs a distance of approximately 40.5 miles. SR-60, the freeway-expressway ranges from four lanes in rural areas to ten lanes in the Urbanized Areas.

For the purposes of this study, the route is divided into seven segments. SR-60 serves the industrial/commercial centers of Los Angeles County and the Inland Empire, including the Ontario International Airport. Segments 1 through 6 carry heavy amounts of commuter traffic including those destined for employment centers in Orange and Los Angeles counties. Segment 7 mostly serves interregional and interstate traffic.

Route Designation and Characteristics

Seg.	Freeway and Expressway System	National Highway System	Strategic Highway Network	Scenic Highway	Interregional Road System Route	High Emphasis Route	Focus Route	Federal Functional Classification	Goods Movement Route	Truck Designation	Rural/ Urban/ Urbanized	Metropolitan Planning Organization	Regional Transportation Planning Agency	Congestion Management Agency	Local Agencies	Tribes	Air District	Terrain
1	Yes	Yes	No	No	No	No	No	Other Freeway or Expressway	Yes	National Network	Urbanized	SCAG	SCAG	SANBAG	Chino, Ontario	No	South Coast AQMD	Level
2	Yes	Yes	No	No	No	No	No	Other Freeway or Expressway	Yes	National Network	Urbanized	SCAG	SCAG	RCTC	Eastvale, Jurupa Valley, Riverside	No	South Coast AQMD	Level
Break in Route																		
3	Yes	Yes	No	No	No	No	No	Other Freeway or Expressway	Yes	National Network	Urbanized	SCAG	SCAG	RCTC	Riverside, Moreno Valley, Riv Co.	No	South Coast AQMD	Rolling
4	Yes	Yes	No	No	No	No	No	Other Freeway or Expressway	Yes	National Network	Urbanized	SCAG	SCAG	RCTC	Moreno Valley	No	South Coast AQMD	Rolling
5	Yes	Yes	No	No	No	No	No	Other Freeway or Expressway	Yes	National Network	Urbanized	SCAG	SCAG	RCTC	Moreno Valley	No	South Coast AQMD	Rolling
6	Yes	Yes	No	No	No	No	No	Other Freeway or Expressway	Yes	National Network	Rural	SCAG	SCAG	RCTC	Moreno Valley, Riv Co.	No	South Coast AQMD	Rolling
7	Yes	Yes	No	No	No	No	No	Other Freeway or Expressway	Yes	National Network	Rural	SCAG	SCAG	RCTC	Baumont, Riv Co.	No	South Coast AQMD	Rolling

COMMUNITY CHARACTERISTICS AND LAND USE

Segment 1 traverses the developed cities of Chino and Ontario with commercial and residential land uses. Segment 2 traverses the developed areas of Riverside County, and the city of Riverside with industrial/commercial and residential land uses. Segment 3 traverses the developed areas of Moreno Valley with industrial/commercial land uses. Segment 4 traverses developed areas of Moreno Valley with commercial and residential land uses. Segment 5 traverses sparsely developed areas of Moreno Valley with commercial and residential land uses. Segment 6 traverses sparsely developed areas of Moreno Valley with industrial/commercial land uses. Segment 7 traverses undeveloped areas of Riverside County and the city of Beaumont.

SYSTEM CHARACTERISTICS

Existing Facility					
Segment	**Facility Type**	**Mixed-Flow Lanes**	**Managed Lanes**	**Centerline Miles**	**Lane Miles**
1	Freeway	8	2	9.9	99.0
2	Freeway	8	2	12.2	122.0
Break in Route					
3	Freeway	4	2	2.1	12.6
4	Freeway	4	2	4.1	24.6
5	Freeway	4	2	2.0	12.0
6	Freeway	4	0	1.7	6.8
7	Freeway/expressway	4	0	8.4	33.6

Concept Facility					
Segment	**Facility Type**	**Mixed-Flow Lanes**	**Managed Lanes**	**Centerline Miles**	**Lane Miles**
1	Freeway	10	2	9.9	118.8
2	Freeway	8	2	12.2	122.0
Break in Route					
3	Freeway	8	2	2.1	21.0
4	Freeway	6	2	4.1	32.8
5	Freeway	4	2	2.0	12.0
6	Freeway	6	0	1.7	10.2
7	Freeway/expressway	6	0	8.4	50.4

TMS Elements				
Segment	**Signalized Intersections 2008**	**Planned Additional Signalized Intersections 2035**	**Ramp Meters 2008**	**Ramp Meters 2035**
1	0	0	17	17
2	0	0	2	20
Break in Route				
3	0	0	3	3
4	0	0	6	7
5	0	0	0	5
6	0	0	0	0
7	0	0	0	0

BICYCLE FACILITY

Bicycles are not permitted on most of SR-60.

Bicycle Facility Table		
Segment	**Bicycle Access Prohibited**	**Facility Description**
1	Yes	Bicycles are not permitted on the freeway shoulders.
2	Yes	Bicycles are not permitted on the freeway shoulders.
Break in Route		
3	Yes	Bicycles are not permitted on the freeway shoulders.
4	Yes	Bicycles are not permitted on the freeway shoulders.
5	Yes	Bicycles are not permitted on the freeway shoulders.
6	Yes	Bicycles are not permitted on the freeway shoulders.
7	Yes	Bicycles are not permitted on the freeway shoulders. On the expressway portion from Jackrabbit Trail (PM 27.9) to the I-10 (PM 30.5) bicycles are permitted.

PEDESTRIAN FACILITY

Pedestrian are not permitted on most of SR-60.

Pedestrian Facility Table		
Segment	**Pedestrian Access Prohibited**	**Facility Description**
1	Yes	Pedestrian are not permitted on the freeway shoulders.
2	Yes	Pedestrian are not permitted on the freeway shoulders.
Break in Route		
3	Yes	Pedestrian are not permitted on the freeway shoulders.
4	Yes	Pedestrian are not permitted on the freeway shoulders.
5	Yes	Pedestrian are not permitted on the freeway shoulders.
6	Yes	Pedestrian are not permitted on the freeway shoulders.
7	Yes	Pedestrian are not permitted on the freeway shoulders. On the expressway portion from Jackrabbit Trail (PM 27.9) to the I-10 (PM 30.5) pedestrians are permitted.

TRANSIT FACILITY

There are no transit facilities or routes planned through this corridor.

Transit Facility Table			
Segment	**Mode & Collateral Facility**	**Name**	**Route End Points**
1	Bus	Omnitrans, Riverside Transit Agency	Chino, Ontario
	Rail	Metrolink	Los Angeles Union Station, Riverside
	Park and Ride	Montecito Baptist Church	Chino, Ontario
2	Bus	Omnitrans, Riverside Transit Agency	Ontario, Eastvale, Jurupa Valley
	Rail	Metrolink	E. Ontario Metrolink Station
	Park and Ride	Mira Loma-Mission	Jurupa Valley
	Park and Ride	Glen Avon-Country Village	Jurupa Valley
	Park and Ride	Riverside-Orange	Riverside
3	Bus	Riverside Transit Agency	Riverside, Moreno Valley
	Park and Ride	Moreno Valley Mall	Moreno Valley
	Park and Ride	Moreno Valley-Pigeon Pass	Moreno Valley
Break in Route			
4	Bus	Riverside Transit Agency	Moreno Valley
5	Bus	Riverside Transit Agency	Moreno Valley
6	Bus	Riverside Transit Agency	Moreno Valley
7	Bus	Riverside Transit Agency	Riv Co., Beaumont

FREIGHT

Freight traffic volumes are significant throughout the SR-60 corridor. Freight traffic on SR-60 is caused by its proximity to Ontario International Airport (ONT), industrial and warehousing land uses, and the Ports of Long Beach and Los Angeles.

In 2011, ONT handled 33,800 tons of air cargo including freight and mail. Online retailers deliver to the Inland Empire using ONT because of improved shipping times compared to Orange County or Los Angeles International Airport.[3] Increases in online purchasing and new industrial/warehouse land uses in the Inland Empire are expected to increase freight traffic in the future.

There are industrial and warehousing facilities adjacent to SR-60 at various locations. These facilities add freight traffic on SR-60. Over 40 million square feet of industrial space is located within the city of Chino. The city of Ontario has approximately 97.0 million square feet of industrial space. In east Moreno Valley, there are plans to construct a World Logistics Center consisting of approximately 41.6 million square feet of logistics. Currently there is a 1.8 million square foot distribution center for a major retailer in east Moreno Valley.

[3] Liset Marquez, *Cargo up at L.A./Ontario International Airport*, 8-14-2012, http://www.sbsun.com/ci_21310227/cargo-up-at-l-ontario-international-airport (August 2012)

The Ports of Long Beach and Los Angeles handle over 40 percent of all U.S. international containerized cargo. Trucks use SR-60 in conjunction with I-10, I-15, I-40, and I-710 to transport goods throughout the country. A significant volume of port traffic travels north from the ports using I-710 and then east on SR-60.

Freight Facility Table			
Facility Type/Freight Generator	**Location**	**Mode**	**Name**
Airport	Ontario	Airplane	Ontario International Airport
Industrial and Warehousing Land Uses	Ontario	Truck	Various
Industrial and Warehousing Land Uses	Chino	Truck	Various
Industrial and Warehousing Land Uses	County of Los Angeles	Truck	Various
Warehousing and Logistics	East Moreno Valley	Truck	World Logistics Center
Port	Long Beach	Ship	Port of Long Beach
Port	Los Angeles	Ship	Port of Los Angeles

CORRIDOR PERFORMANCE[4]

Basic System Operations							
Segment	**AADT 2008**	**AADT 2035**	**LOS 2008**	**LOS 2035**	**LOS Concept**	**VMT 2008**	**VMT 2035**
1	221,600	271,300	D	E	D	2,216,000	2,713,000
2	137,400	177,400	D	D	D	1,677,700	2,166,100
Break in Route							
3	127,000	163,200	F	F	D	265,400	341,100
4	90,000	138,400	D	E	D	369,000	567,400
5	72,000	119,500	C	D	D	144,000	239,000
6	55,400	100,700	D	F	D	94,200	171,300
7	44,000	96,500	D	F	D	369,600	810,600

Truck Traffic				
Segment	**Total Average Annual Daily Truck Traffic (AADT) 2008**	**Total Trucks (% of AADT) 2008**	**5+ Axle Average Annual Daily Truck Traffic (AADTT) 2008**	**5+ Axle Trucks (% of AADTT) 2008**
1	27,100	12%	16,600	61%
2	17,200	13%	4,200	24%
Break in Route				
3	14,000	11%	6,000	43%
4	9,900	11%	6,000	61%
5	7,900	11%	6,000	76%
6	8,900	16%	6,000	67%
7	7,000	16%	5,000	71%

[4] Corridor Performance table is based on 2008 Caltrans traffic data and SCAG Model 2035.

Peak Period Traffic Data				
Segment	**Peak Direction**	**Time of Day**	**VMT 20008**	**VMT 2035**
1	Westbound	6am-9am/3am-7pm	157,300	181,800
2	Westbound	6am-9am/3am-7pm	119,100	160,300
Break in Route				
3	Eastbound	6am-9am/3am-7pm	24,200	29,000
4	Eastbound	6am-9am/3am-7pm	32,700	36,300
5	Eastbound	6am-9am/3am-7pm	12,600	17,925
6	Eastbound	6am-9am/3am-7pm	8,100	12,800
7	Eastbound	6am-9am/3am-7pm	34,400	69,700

KEY CORRIDOR ISSUES

In conjunction with I-5, I-10, I-15 and I-710, SR-60 provides for the movement of people and goods in a southerly direction toward San Diego and in northerly and easterly directions through California and beyond. These highways provide access to three international airports (Los Angeles, Ontario, and Palm Springs), four major seaports (Port Hueneme, Long Beach, Los Angeles, and San Diego), and two rail corridors, the Burlington Northern Santa Fe and the Union Pacific lines. High volumes of seasonal Southern California recreational traffic use SR-60 as a means to connect with other state routes for access to the Colorado River and to other destinations in California, Arizona, Nevada, Utah, and beyond. SR-60 is also a major commuter route for Inland Empire residents who work in Los Angeles County.

CORRIDOR CONCEPT

CONCEPT RATIONALE

Traffic is forecasted to increase on SR-60 in 2035 and will require additional lanes to achieve the concept level of service "D". A significant increase in freight and commuter traffic is expected throughout the corridor. Several capacity improvements are planned, programmed, and recommended for this corridor.

PLANNED AND PROGRAMMED PROJECTS AND STRATEGIES

Segment	County	Post Miles	Location	Lead Agency	Project
2012 Regional Transportation Improvement Program (RTIP) Projects					
1	SBd	R5.9	Ontario	Ontario	Improve Grove Ave. IC
1	SBd	R6.9	Ontario	Ontario	Improve Vineyard Ave. IC
2	Riv	R6.7-7.5	Sunnyslope	Riv Co.	Reconstruct/widen Valley Way IC and ramps
4-5	Riv	17.0-18.9	Moreno Valley	Moreno Valley	Widen Nason St. OC
	Riv	18.1-18.9	Moreno Valley	Moreno Valley	Reconstruct/widen Nason St. IC and ramps
5	Riv	18.9-19.8	Moreno Valley	Moreno Valley	Reconstruct/widen Moreno Beach Dr. IC and ramps

Segment	County	Post Miles	Location	Lead Agency	Project
5-6	Riv	19.0-21.0	Moreno Valley	Moreno Valley	Reconstruct/widen Redlands Blvd. IC and ramps
	Riv	20.0-22.0	Moreno Valley	Moreno Valley	Reconstruct/widen Theodore St. IC and ramps
6-7	Riv	21.0-23.0	Moreno Valley	Moreno Valley	Reconstruct/widen Gillman Springs Rd. IC and ramps
7	Riv	28.0-30.2	Beaumont	Baumont/ Riv Co.	Construct new Potrero Blvd. IC and ramps
2012 Financially Constrained Regional Transportation Plan (RTP) Projects					
1	SBd	R1.5-R9.9	Chino/ Ontario	Caltrans	Improve auxiliary lanes and connectors
	SBd	R2.1-R3.0	Chino	Caltrans/ Chino	Improve Central Ave. IC
	SBd	R3.6	Chino	Caltrans	Improve Mountain Ave. IC
	SBd	R4.6-R5.0	Ontario	Ontario	Widen Euclid Ave. off ramps
	SBd	R7.6-R7.8	Ontario	Ontario	Widen Archibald Ave. off ramps
1-2	SBd/Riv	R9.5-R0.0	Ontario	Caltrans	Improve Haven Ave. IC
2	Riv	R0.9-11.9	Jurupa Valley/ Riverside	Caltrans	Add auxiliary lanes
	Riv	R2.5-R3.5	Jurupa Valley	Caltrans/ Riv Co.	Reconstruct and widen County Village Rd. IC and ramps
	Riv	9.1-10.1	Jurupa Valley	Riv Co.	Reconstruct and widen Rubidoux Blvd. IC and ramps
	Riv	11.2-R12.2	Riverside	Riverside	Reconstruct and widen Main St. IC and ramps
4	Riv	14.8-15.8	Moreno Valley	Moreno Valley	Reconstruct and widen Heacock St. IC and ramps
	Riv	15.9-16.9	Moreno Valley	Moreno Valley	Reconstruct and widen Perris Blvd. IC and ramps
6-7	Riv	22.1-30.0	Riv Co./ Beaumont	Caltrans/ RCTC	Add EB truck climbing lane
Strategic Plan Projects (Unconstrained)					
No projects are planned					

PROJECTS AND STRATEGIES TO ACHIEVE CONCEPT

The TSDP provides a district-wide list of recommended state highway concepts. To achieve the concept, the following improvements are recommended in addition to SCAG's financially constrained plan.

SEGMENT	LOCATION	DESCRIPTION
1	R0.0-R9.9	Add 2 MF (1 MF in each direction)
2	R0.0-R12.2	Add 2 MF at lane drop (1 MF in each direction, PM 7.5-12.2)
Break in Route		
3	R12.2-14.3	Add 4 MF (2 MF in each direction)
4	14.3-18.4	Add 2 MF (1 MF in each direction)
5	18.4-20.4	N/A
6	20.4-22.1	Add 2 MF (1 MF in each direction)
7	22.1-30.5	Add 2 MF (1 MF in each direction)

Appendix A
GLOSSARY OF TERMS AND ACRONYMS

Acronyms

AADT – Annual Average Daily Traffic
ADT – Average Daily Traffic
AQMD – Air Quality Management District
Caltrans – California Department of Transportation
CMA – Congestion Management Plan
CSS – Context Sensitive Solutions
FHWA – Federal Highway Administration
GHG – Green House Gas
HCP – Habitat Conservation Plan
HCS – Highway Capacity Software
HOV – High Occupancy Vehicle Lane
HOT – High Occupancy Toll Lane
IC – Interchange
ITS – Intelligent Transportation System
LOS – Level of Service
MF – Mixed-Flow Lane
MFE – Mixed-Flow Lane Equivalent
ML – Managed Lane
MPO – Metropolitan Planning Organizations
NOA – Naturally Occurring Asbestos
NCCP – Natural Community Conservation Plan
OC – Overcrossing
PID – Project Initiation Document
PM – Post Mile
PSR – Project Study Report
RCTC – Riverside County Transportation Commission
Riv – Riverside County
RTP – Regional Transportation Plan
RTIP – Regional Transportation Improvement Program
RTPA – Regional Transportation Planning Agency
SANBAG – San Bernardino Associated Governments
SBd – San Bernardino County
SCAG – Southern California Association of Governments
SCS – Sustainable Community Strategies
SHOPP – State Highway Operation Protection Program
STIP – State Transportation Improvement Program
T – Truck Lane
TDM – Transportation Demand Management
TMS – Transportation Management System
TSN – Transportation System Network
UC – Undercrossing
V/C – Volume to Capacity Ratio
VMT – Vehicle Miles Traveled

Definitions

Annual Average Daily Traffic (**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. The resulting counts are adjusted to an estimate of annual average daily traffic by compensating for seasonal influence, weekly variation and other variables which may be present. Annual ADT is necessary for presenting a statewide picture of traffic flow, evaluating traffic trends, computing accident rates, planning and designing highways, and other purposes.

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.

Capital Facility Concept – The 20-25 year vision of future development on the route to the capital facility. The capital facility can include capacity increasing, state highway, bicycle facility, pedestrian facility, transit facility (Intercity Passenger rail, Mass Transit Guideway etc.), grade separation, and new managed lanes.

Concept LOS – The minimum acceptable level of service over the next 20-25 years.

Conceptual Project – A conceptual improvement or action is a project that is needed to maintain mobility or serve multimodal users, but is not currently included in a financially constrained plan and is not currently programmed. It could be included in a General Plan or in the unconstrained section of a long-term plan.

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 for 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.

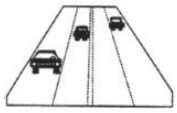
Facility Type – The facility type describes the state highway facility type. The facility could be freeway, expressway, conventional, or one-way city street.

Freight Generator – Any facility, business, manufacturing plant, distribution center, industrial development, or other location (convergence of commodity and transportation system) that produces significant commodity flow, measured in tonnage, weight, carload, or truck volume.

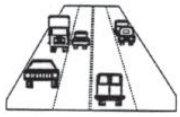
Headway – The time between two successive vehicles as they pass a point on the roadway, measured from the same common feature of both vehicles.

Intelligent Transportation System (ITS) – 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.

Level of Service (LOS) – It 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. 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 is 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.

Mainline – Includes travelway for through traffic but not freeway to freeway interchanges, local road interchanges, ramps, or auxiliary lanes.

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 six percent and 10 percent of the Annual Daily Traffic (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-25 Year Concept – This dataset may be defined and re-titled at the District's discretion. In general, the Post-25 Year concept could provide the maximum reasonable and foreseeable roadway needed beyond a 20-25 year horizon. The post-25 year concept can be used to identify potential widening, realignments, future facilities, and rights-of-way required to complete the development of each corridor.

Post Mile (PM) – A post mile is an identified point on the State Highway System. The milepost values increase from the beginning of a route within a count to the next county line. The milepost values start over again at each county line. Mile post values usually increase from south to north or west to east depending upon the general direction the route follows within the state. The mile post 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, "mile post equations" are introduced at the end of each relocated portion so that mile posts on the reminder 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.

Rural – Fewer than 5,000 in population designates a rural area. Limits are based upon population density as determined by the U.S. Census Bureau.

Segment – A portion of a facility between two points.

System Operations and Management Concept – Describes the system operations and management elements that may be needed within 20-25 years. This can include Non-capacity increasing operational improvements (Auxiliary lanes, channelization's, turnouts, etc.), conversion of existing managed lanes to another managed lane type or characteristic (e.g. HOV lane to HOT lane), TMS Field Elements, Transportation Demand Management, and Incident Management.

Transportation Demand Management (TDM) – 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.

Transportation Management System (TMS) – 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.

Vehicle Miles Traveled (VMT) – Is the total number of miles traveled by motor vehicles on a road or highway segments.

Appendix B
RESOURCES

California Department of Transportation: *District 8 District System Management Plan*, December 2011.

County of San Bernardino Land Use Services: *San Bernardino County Land Use Plan*, May 2007

San Bernardino County Non-Motorized Transportation Plan – 2001 Update

City of Ontario. "Manufacturing / Warehouse / Logistics." City of Ontario Website. 2012. http://cityofontario.preview.digitaleyemedia.com/industries/manufacturing-warehouse-logistics.html

Marquez, L. (2012, August 14). Cargo up at L.A./Ontario International Airport. Retrieved from http://www.sbsun.com/ci_21310227/cargo-up-at-l-ontario-international-airport