

*State Route 104*  
***Transportation Concept  
Report***

***DRAFT***



# State Route 104

## Transportation Concept Report

California Department of Transportation, District 3  
Office of Transportation Planning  
Katherine Eastham, Chief

Report Prepared by:

Gabriel Corley  
Associate Transportation Planner

Travel Data  
Office of Travel Forecasting and Modeling  
Dennis Azevedo, Chief

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**APPROVED BY:**

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**JODY E. JONES**  
District Director  
District 3, Marysville

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**DATE**

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**WAYNE A. LEWIS**  
Deputy District Director  
Planning and Local Assistance

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**DATE**

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## **Introduction to the Transportation Concept Report**

### ***What is a Transportation Concept Report?***

A Transportation Concept Report (TCR) is a long-term planning document that the District Transportation Planning Office prepares for each State highway, or portion thereof, in its jurisdiction. The purpose of a TCR is to provide a plan on how a highway will be developed and managed so that it operates at the targeted level of service over a twenty-year period.

In addition to the 20-year Route Concept, the TCR includes an Ultimate Concept, which is the ultimate goal for the route beyond the twenty-year planning horizon. Ultimate Concepts must be used cautiously, however, because unforeseen changes in land use and other variables make forecasting beyond twenty years difficult.

As owner/operator of the State highway system, Caltrans has a duty to establish a long-range vision for its highways and determine overall strategies for their management. This is achieved by taking into consideration the numerous factors encompassed in the human and natural environments in which a particular route exists. During development of a TCR, every effort is made to arrive at a similar level of service standard used by a local jurisdiction. Caltrans strives to have local, regional, private sector, and State consensus on corridor Concepts, planning strategies, and improvement priorities.

Whenever a General Plan is updated, State highways within the jurisdiction should be recognized and included in the circulation system. The jurisdiction should also adopt the Concept Level of Service (LOS) standard indicated in the TCR, along with the Concept Improvements described in the TCR as necessary to meet the Concept LOS. During development of a TCR, Caltrans works with their local partners, and every effort is made to arrive at a similar level of service standard used by a local jurisdiction. The jurisdiction has the option of adopting a higher LOS standard and acknowledging the inconsistency with the TCR and the associated funding participation limitations by the State for State highway improvements.

The TCR is a reference document with segment-specific information presented in a concise and readable format that allows the user to easily access -- in one place in the document -- all the data and information that pertains to a particular segment of the route. Because of this format, there is a certain amount of repetition in the TCR, as information pertaining to adjacent segments of the route is repeated in the relevant sections of the TCR.

The TCR first presents an overview of the route's current condition, the general context in which it exists, and Caltrans' general vision for its future. The route is then divided into segments for analysis. Each segment's Fact Sheet contains a variety of technical, statistical, historical, and other useful information that provide a deeper understanding of the route and a context for the Concepts developed for it.

TCRs include:

- Right-of-way widths.
- Inventory of biological resources known to exist in the vicinity of the highway.
- Maps showing the general location of rare species and natural communities.
- Right-of-way and environmental information relative to the route or route segment, and not considered project specific.
- Right-of-way needs defined when the appropriate environmental and engineering studies are completed.
- Glossary of terms and acronyms.
- References used to prepare the report.

District 3 is continually striving to improve the quality and usefulness of its TCRs through continuous updates and streamlining the overall TCR format.

## ***Route Concept Development***

A Transportation Concept Report (TCR) assesses a highway's current and future operating conditions and uses that and other information to establish a 20-year Route Concept for each segment of the route. A Route Concept is comprised of a Concept Level of Service and a description of the Concept Facility. The TCR then determines the nature and extent of improvements needed to attain the Route Concept.

### ***Concept Level of Service***

Concept Level of Service (LOS) reflects the minimum level or quality of operations that is appropriate for each route segment, and is considered to be reasonably attainable within the 20-year planning period. Caltrans also uses the Concept Level of Service as the CEQA level of significance threshold when evaluating the impacts of local development plans and projects. A significant impact is identified if a specific local development plan or project results in a level of service on the highway segment or intersection that is below the Concept LOS, and must be mitigated.

Typical Concept LOS standards in District 3 are LOS D in rural areas and LOS E in urban areas. However, some heavily-congested route segments now have a Concept LOS F because the improvements or travel demand reductions required to bring the level of service to E are not considered feasible. Level of service is established through travel forecasting data analysis, using regional models where available. (See the Glossary for a definition of Level of Service.)

### ***Concept Facility***

The description of a facility reflects its number of travel lanes, and degree of access onto the highway by local streets and driveways. (See the Glossary for an explanation of Access Control.) The Concept Facility will provide the amount of vehicle-carrying capacity necessary to achieve the Concept LOS. In some cases, people-carrying capacity will also be incorporated. Auxiliary lanes are not considered a part of the mainline roadway and, therefore, are not included in the number of travel lanes indicated in a Concept.

### ***Concept Improvements***

The range of improvements available to achieve a Route Concept is heavily influenced by environmental, political, and fiscal conditions. In many areas, planned projects are subject to meeting air quality conformity standards. Unanticipated safety projects and routine roadway

maintenance are not included in Route Concept Improvements, although both will occur throughout the corridor as needed.

Because a highway is but one part of an interconnected transportation network, District 3 takes a corridor approach to developing TCRs. The corridor may include additional transportation systems, such as bus or rail transit service, bicycle and pedestrian facilities, heavy rail, a seaport, airports, interregional bus service, local roadways, and facilities for neighborhood electric vehicles used frequently by older citizens for local mobility. All of these systems reduce excess highway demand by providing travelers and shippers of goods with non-highway or non-driving options. Expansion of those that can provide a notable improvement to mobility within the corridor are included as Concept Improvements.

Where a Concept LOS is F, the TCR recommends general operational improvements and alternate modes of travel as starting places for further study. However, because the number of route segments with a Concept LOS F is expected to increase, operational (that is, non-capacity-increasing) improvements are now the primary strategy for optimizing the operation of the existing highway infrastructure. To fully integrate this strategy, future TCRs will include an operational analysis of heavily-congested urban route segments. The results of this analysis will determine which specific operational improvements will become Concept Improvements.

# Transportation Concept Report Summary

**Table 1 – Concept Summary**

Segment	County	Post Kilometer	Post Mile	Level of Service			Existing Facility*	20-Year Concept Facility*	Ultimate Facility
				2000	2020 No Build	Concept			
1	SAC	0.000/ 2.654	0.000/ 1.649	E	E	E	2C	2C	2C
2	SAC	2.655/ 12.551	1.650/ 7.799	E	E	E	2C	2C	2C
3	SAC	12.552/ 28.464	7.800/ 17.687	D	D	D	2C	2C	2C

## Concept Rationale

State Route 104 (SR 104) is a non-interregional route that extends 17.7 miles eastward from State Route 99 (SR 99) in Galt in Sacramento County to the Amador County. SR 104, which serves mostly local area traffic, winds through flat to rolling terrain with most land uses consisting of rural residential and agriculture. East of Galt, SR 104 travels through the communities of Herald and Clay. The lone recreational area along the route is Rancho Seco Recreational Area, which offers boating, fishing, camping, picnicking, and hiking. Near by is the Sacramento Metropolitan Utility District's (SMUD) Rancho Seco Power Plant, which is presently decommissioned. The Consumnes Power Plant is currently being built on site, one-half mile south of the decommissioned Rancho Seco Power Plant.

SR 104 is a two lane facility, so large trucks and other slow moving vehicles will slow traffic flow, which may result in sizable queues along some areas of the route. Local and regional commuters use SR 104 as a direct route from lone to Galt and SR 99. Despite the occasional queuing of vehicles, traffic congestion is not a continuous major problem over the entire length of SR 104.

The present Levels-of-Service (LOS) for SR 104 range from “D” to “E.” The LOS is created by lack of shoulders, volume, and few passing opportunities. The District LOS Concept is the same as current levels.

## Segment Summary

### Segment 1 (SR 99 PM 0.000 – 1.649/KPM 0.000 – 2.654)

Segment 1 is a two-lane conventional highway. The route begins at the SR 99 and SR 104 interchange on Twin Cities Road within the City of Galt. This entire segment borders Galt to the south and the County of Sacramento to the north. The land use is a mix of Ag/low/med residential, commercial, and public. Segment 1 is straight with an 8 foot shoulder and sidewalk on the Eastbound side, and a 1 foot dirt shoulder on the westbound side, and many access points (e.g., residential driveways).

### Segment 2 (Marengo Road PM 1.650 – 7.800/KPM 2.655 – 12.551)

Segment 2 is a two-lane conventional highway that runs easterly from Marengo Road to the Folsom South Canal. This segment is primarily rural residential, and passes through the rural communities of Herald. Narrow or no shoulders, and access points (e.g., residential driveways) are common segment characteristics. Trucks also slow traffic flow within the segment.



Segment 3 (Folsom South Canal PM 7.800 – 17.687/KPM 12.553 – 28.464)

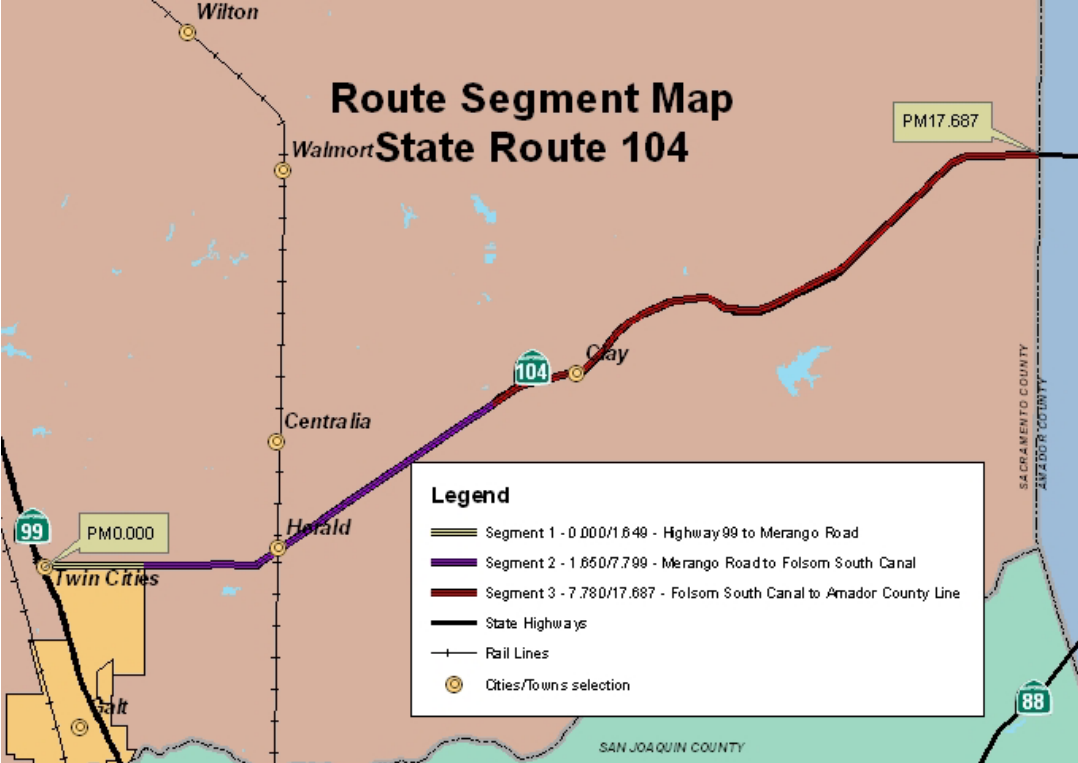
Segment 3 is a two-lane conventional highway that runs easterly from the Folsom South Canal to the Sacramento/Amador Countyline. This segment is mostly rural residential with some public utility and recreational uses, passing through the community of Clay, and near the Consumnes Power Plant and the Rancho Seco Recreational Area. This segment has more curves and uneven grades than segments 1 and 2. Curves, low grades, narrow or no shoulders, and many access points (e.g., residential driveways) are common along the route. Trucks impact traffic flow within the segment. The segment within District 3 ends at the Amador County line. SR 104 continues into District 10 to SR 88 and SR 149.


**Map 1 – Route Location Map**

**Map 1 - Route Location Map - State Route 104**



Map 2 – Route Segment Map

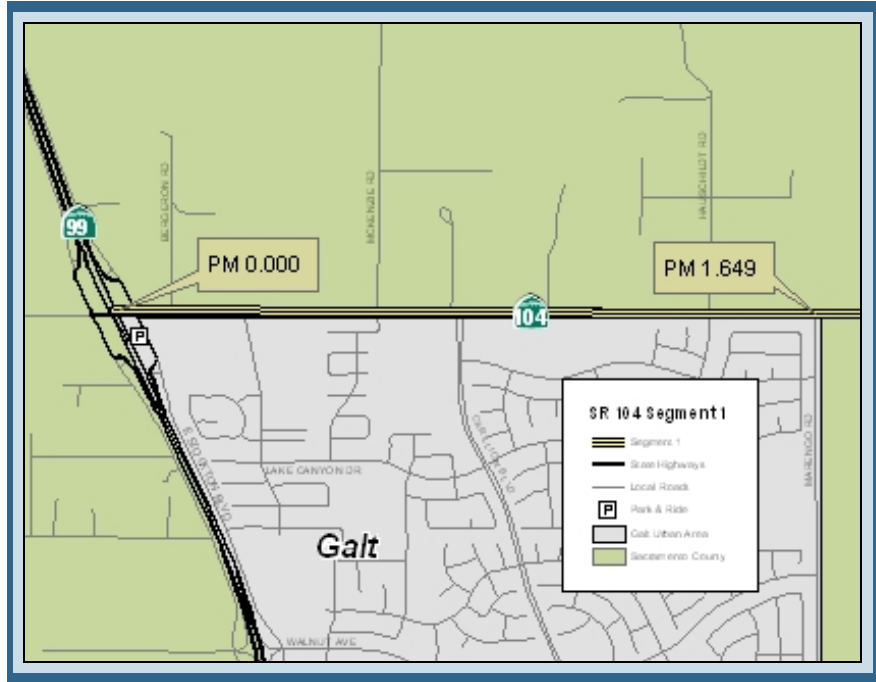


 Office of Transportation Planning  
August 2005



Segment Description: SR 99 to Marengo Road

Photolog Link (Internal Use) <http://onramp.dot.ca.gov/photolog/ROADPHOTOS/SAC/>



County Location Map		Postmile Limits	Concept Summary	
Starting Postmile	0.000	<b>Existing Facility Type:</b> 2 Lane Conventional		
Ending Postmile	1.649	<b>Concept Facility, Long-Term Horizon</b> 2 Lane Conventional		
Length, Hwy Log	1.649 miles	<b>Ultimate Facility, Beyond Horizon</b> 2 Lane Conventional		
Traffic Data				Concept Performance
Annual Traffic Volume Growth Rate				2.70
Base Year of Data	2005	Existing Facility, Base Year	2015, No Improvements	2025, No Improvements
Planning Horizon Yr.	2025	Year 2025, with Concept Improvements and Other Concept Actions		
Level of Service (LOS)	E	E	E	Caltrans LOS: E
Volume/Capacity [V/C] Ratio	0.32	0.40	0.49	<b>Traffic Data Notes</b>
Average Annual Daily Traffic	8428	10567	12707	
Peak Hour Volume	906	1113	1366	
Peak Hour Directional Split	65.00%	65.00%	65.00%	
Percent Trucks	3.90%	3.90%	3.90%	

Local Jurisdiction LOS Standards	Main-street	Local LOS Standard	Source of LOS Standard	Year of Source	Approximate postmiles/locations where this community or area borders on the Segment	Group of Highways to which LOS Applies
Sacramento County, Areas Outside Communities	No	D/E	General Plan	1993	PM 0.000 to 1.649	
Galt	No			0		

Improvement Projects Needed to Meet Concept				Cost Estimate, \$1,000's	Estimated Year
Type of Improvement	Project Description		Project Limits		
	NO CONCEPT IMPROVEMENTS AT PUBLICATION				

Needed Projects, not critical to Concept Performance		Project Limits	Cost Estimate, \$1,000's	Estimated Year
Type of Improvement	Project Description			
	NO PROJECTS NEEDED BESIDES CONCEPT PROJECTS			

Planned Projects (Not Currently Programmed)		Postmile Limits	Project Initiation Document Status	Cost (\$1,000's)	Comments (other Plans, funding committed/needed, etc.)
Plan Document	Project Description				
SACOG MTP	State Route 104 (Twin Cities Road) and 99 - Twin Cities Road Interchange. Widen overpass to four lanes with addition of bike lanes.	0.000	Not Underway	\$10,000	SACOG MTP

Programmed (Funded) Projects		Postmile Limits	STIP Line Yr	SHOPP Line Yr	Comments	Total Cost (\$1,000's)
Document and Year	EA Code (ID)	Project Description				
		NO PROGRAMMED PROJECTS				

### MAJOR ISSUES AND CHALLENGES

Segment 1 is a two-lane conventional highway. The route begins at the SR 99 and SR 104 interchange on Twin Cities Road within the City of Galt. This entire segment borders Galt to the south and the County of Sacramento to the north. The land use is a mix of Ag/low/med residential, commercial, and public. Segment 1 is straight with an 8 foot treated shoulder and sidewalk on the Easbound side, and a 8 foot shoulder on the westbound side with no sidewalk and many access points (e.g., residential driveways). This segment also includes a continuous middle turn lane with occasional right turn lanes for the eastbound lane.

Large trucks and slow moving vehicles will occasionally affect traffic flow, which may result in sizable queues along some areas of the segment. More local and regional commuters use SR 104 as a direct route from lone to Galt and SR 99. Despite the occasional queuing of vehicles, traffic congestion is not a continuous major problem over this segment.

Currently, the Annual Average Daily Traffic (AADT) for this segment is 8,428 with a Level-of-Service (LOS) of "E." Over the next 20 years, this traffic volume is expected to reach approximately 12,707 per day, and will continue to operate at LOS "E."

To permit sufficient shared right of way use between motorist, bicyclists, and pedestrians, the shoulders on the westbound side of this segment will need to be classified and striped as a Class II bikeway and a sidewalk will need to be constructed. The current standard for outside shoulders on a 2-lane undivided conventional highway is approximately 8 feet. The average shoulder width for Segment 1 is at 8 feet on westbound side, but not the eastbound side due to the sidewalk.

- Provide a Class II bike facility (bike route) on wb shoulder to match that on the eb shoulder.
- Provide a sidewalk on wb shoulder to match that on the eb shoulder.
- Build new overcrossing/interchange at State Route 99 junction.
- Add passing lanes.

## Goods Movement Discussion

### HIGHWAY CLASSIFICATION / SYSTEM DESIGNATIONS

Functional Classification	Minor Arterial	National Truck Network:	Non National Truck System
National Highway System	Non NHS	Scenic Route	Non Scenic
Freeway-Expwy / Access	Conventional Highway	Lifeline Route	Non Lifeline
Rural/Urban Character	To Be Entered	Statewide Significance:	Non Interregional Route System
General Terrain	To Be Entered		

### LAND USE / DEVELOPMENT IMPACTS

Current Land Use Zoning Type:	Future (Long Range, ~20-Year) Land Use:
Commercial/Residential/Public/Agricultural	Commercial/Residential/Public/Agricultural
Land Use Discussion, Including Current Uses and Planned Changes, Development Issues, Needed Mitigation (Not Yet Approved):	
<p>On the south side of State Route (SR) 104, within the city of Galt, land uses are mixed: commercial, low to high density residential, and public. The City of Galt has built a commercial center on the southeast corner of the SR 104 and SR 99 Interchange, and plan to construct a gas station on this same quadrant. On the North side of SR 104, within the county of Sacramento, land use is predominantly agricultural-residential. The Sacramento Area Council of Governments (SACOG) Housing, Population &amp; Employment Projections for 1999-2020, projects that the City of Galt will realize an increase of 117% (3,549) in employment, 69% (4,415) in housing units, and 66% (12,450) in population by the year 2020.</p>	
Mitigation Progress (other than commitments discussed above under Programmed Projects)	

### RIGHT OF WAY

#### Current Right of Way as Summarized from Highway Log

	Number of Lanes	2	Feet	Meters
Average Lane Width:			11.00	3.35
Average Shoulder Width			4.00	1.22
Average Median Width:			0.00	0.00

#### CALTRANS INTRANET RESOURCES FOR RIGHT OF WAY INFORMATION

Digital Highway Inventory Photography Program (DHIPP):

<http://svhqdhipp:8080/dhipp/view.html>

North Region Document Retrieval System (DRS):

<http://10.168.0.22/falcon/websuite.htm>

**RIGHT OF WAY DISCUSSION--COMPARISON OF CURRENT EXTENT TO CONCEPT NEEDS**

Right of way along the facility varies between 80 and 110 feet. There is sufficient right of way to support the concept improvements.

**AIR QUALITY/ENVIRONMENTAL STATUS**

**Air Quality Management District:** Sacramento Metro Air Quality Management District

**Air Basin for this Segment** Sacramento Valley

*For Current Federal and State Air Quality Standard Area Designations and Other Information regarding the Above Air Basin and Air Quality Management District, please enter the following URL in a web browser:*

[pd.dot.ca.gov/env/air/](http://pd.dot.ca.gov/env/air/)

**Environmental Constraints**

*The following is a broad overview of known major environmental constraints and issues:*

**MODAL INTEGRATION AND COORDINATION**

**Public Transit (Local Service):** South County Transit

**Commuter Services (Commuter Rail, Express Bus):** N/A

**Intercity Services (Amtrak, Intercity Bus Routes):** N/A

**Airports and Air Travel** N/A

**Paratransit, Dial-a-Ride, Social Services Transportation:** South County Transit

**NonMotorized Modes (Pedestrian, Bicycle, Trails)** There is a Class II Bike facility and sidewalk on the EB side of the roadway

**Modal Integration (Transfer Facilities, Multi-Modal Coordination Options Not Captured Above):**

- TRANSIT: South County Transit (SCT) provides dial-a-ride bus service Monday-Saturday along Segment 1. For more information, call (800) 338-8676 or visit <http://www.sctlink.com>

- BICYCLES: There is a Class II Bike facility on the EB side of the roadway. Currently, there is no existing Class II or III bike facility on the WB side of the Roadway. However, bicyclists are permitted to use the roadway (i.e. shared roadway).

-Park & Ride: Caltrans owns and maintains the Twin Cities/State Route 104 East Park-and-Ride. It is located at the southeast quadrant of the SR 99 and SR 104 interchange in the City of Galt. There are 80 auto spaces and 4 bicycle lockers. On average, 26% of the auto spaces are occupied. The bike lockers are in poor condition and only 3 of the 4 lockers are useable. The lot has good signage on SR 99 Southbound. Currently there is no transit at this facility.

Caltrans should increase efforts to maintain and upgrade all Park-and-Ride lots. Efforts include working with regional, local, and transit agencies to provide transit stop facilities for commuters. In addition, maintained bicycle lockers, landscape designs, and facility maintenance would provide an aesthetically pleasing site that can attract patrons, benefit commuter demand, and encourage modal connectivity.

For more information on Park-and-Ride, call (916) 859-7965

### TRUCK VOLUMES

	Daily Truck Volumes		% Trucks of Truck AADT	% Trucks of Total AADT
3 Axle	130	3 Axle	20.3%	1.6%
4 Axle	61	4 Axle	9.5%	0.8%
5+ Axle	124	5+ Axle	19.4%	1.6%
Total:	315	Total:	49.2%	3.9%

### TRAFFIC COLLISION RATES (Per Million Vehicle Miles)

Actual Accident Rate on Highway Segment		Statewide Average Rate for Highway Type	
Fatal-plus-Injury Collision Rate::	Total Collision Rate::	Fatal-plus-Injury Collision Rate:	Total Collision Rate:
0.66	1.33	0.63	1.49
Source: TASAS Accident data from January 2000 to September 2003			
<i>Statewide average rates are calculated for all facilities of a similar type.</i>			





Segment Description: Marengo Road to Folsom South Canal

Photolog Link (Internal Use) <http://onramp.dot.ca.gov/photolog/ROADPHOTO/S/SAC/>

**County Location Map**

**Postmile Limits**

**Concept Summary**

Starting Postmile

1.650

**Existing Facility Type:**

2 Lane Conventional

Ending Postmile

7.799

**Concept Facility, Long-Term Horizon**

2 Lane Conventional

**Ultimate Facility, Beyond Horizon**

2 Lane Conventional

Length, Hwy Log

6.149 miles

**Traffic Data**

Annual Traffic Volume Growth Rate

3.40

**Concept Performance**

Base Year of Data  
Planning Horizon Yr.

2005

2025

Existing Facility, Base Year

2015, No Im-provements

2025, No Im-provements

Year 2025, with Concept Improvements and Other Concept Actions

Level of Service (LOS)

E

E

E

Caltrans LOS: E

Volume/Capacity [V/C] Ratio

0.16

0.20

0.25

**Traffic Data Notes**

Average Annual Daily Traffic

4055

5329

6603

Peak Hour Volume

427

548

695

Peak Hour Directional Split

65.00%

65.00%

65.00%

Percent Trucks

3.90%

3.90%

3.90%



Local Jurisdiction LOS Standards Community (or Area Outside Communities)	Main-street	Local LOS Standard	Source of LOS Standard	Year of Source	Approximate postmiles/locations where this community or area borders on the Segment	Group of Highways to which LOS Applies
Sacramento County, Areas Outside Communities	No	D/E	General Plan	1993	PM 1.650 to 7.799	

Improvement Projects Needed to Meet Concept		Project Limits	Cost Estimate, \$1,000's	Estimated Year
Type of Improvement	Project Description			
	NO CONCEPT IMPROVEMENTS AT PUBLICATION			

Needed Projects, not critical to Concept Performance		Project Limits	Cost Estimate, \$1,000's	Estimated Year
Type of Improvement	Project Description			
	NO PROJECTS NEEDED BESIDES CONCEPT PROJECTS			

Planned Projects (Not Currently Programmed)		Postmile Limits	Project Initiation Document Status	Cost (\$1,000's)	Comments (other Plans, funding committed/needed, etc.)
Plan Document	Project Description				
	NO PROJECTS PLANNED				

Document and Year	EA Code (ID)	Project Description	Postmile Limits	STIP Line Yr	SHOPP Line Yr	Comments	Total Cost (\$1,000's)
SHOPP		CPUC Rail Crossing at Herald Road - Install improved warning devices and repair crossing surface.					

### MAJOR ISSUES AND CHALLENGES

Segment 2 is a two-lane conventional highway that runs easterly from Marengo Road to the Folsom South Canal. This segment is primarily rural residential, and passes through the rural communities of Herald. Narrow or no shoulders, and access points (e.g., residential driveways) are common segment characteristics.

Large trucks and slow moving vehicles will occasionally hinder traffic flow, which may result in sizable queues along some areas of the segment. Local and regional commuters use SR 104 as a direct route from Lone to Galt and SR 99. Despite the occasional queuing of vehicles, traffic congestion is not a continuous major problem over this segment.

Currently, the Annual Average Daily Traffic (AADT) for this segment is 4,055 with a Level-of-Service (LOS) of "E." Over the next 20 years, this traffic volume is expected to reach approximately 6,603 per day, and will continue to operate at LOS "E."

To permit sufficient shared right of way use between motorist and bicyclists, the shoulders for this segment will need to be widened. The current standard for outside shoulders on a 2-lane undivided conventional highway is approximately 8 feet. The average shoulder width for Segment 2 is less than 3-feet. Once the shoulders are widened to meet current design standards, signs should be posted at various locations to indicate that the segment is a Class III bike facility (bike route).

- Widen shoulders to 8-foot standard.
- Provide a Class III bike facility (bike route) throughout segment.

### Goods Movement Discussion

## HIGHWAY CLASSIFICATION / SYSTEM DESIGNATIONS

Functional Classification	Minor Arterial	National Truck Network: Non National Truck System
National Highway System	Non NHS	Scenic Route Non Scenic
Freeway-Expwy / Access	Conventional Highway	Lifeline Route Non Lifeline
Rural/Urban Character	To Be Entered	Statewide Significance: Non Interregional Route System
General Terrain	To Be Entered	

## LAND USE / DEVELOPMENT IMPACTS

Current Land Use Zoning Type:	Future (Long Range, ~20-Year) Land Use:
Agricultural/Residential	Agricultural/Residential
Land Use Discussion, Including Current Uses and Planned Changes, Development Issues, Needed Mitigation (Not Yet Approved):	
Along Segment 2 of State Route (SR) 104, land uses are primarily agricultural-residential and general agriculture.	
Mitigation Progress (other than commitments discussed above under Programmed Projects)	

## RIGHT OF WAY

### Current Right of Way as Summarized from Highway Log

Number of Lanes	2	<i>Feet</i>	<i>Meters</i>
Average Lane Width:	11.00	3.35	
Average Shoulder Width	4.00	1.22	
Average Median Width:	0.00	0.00	

### CALTRANS INTRANET RESOURCES FOR RIGHT OF WAY INFORMATION

Digital Highway Inventory Photography Program (DHIPP):

<http://svhqdhipp:8080/dhipp/view.html>

North Region Document Retrieval System (DRS):

<http://10.168.0.22/falcon/websuite.htm>

### RIGHT OF WAY DISCUSSION--COMPARISON OF CURRENT EXTENT TO CONCEPT NEEDS

Right of way along the facility varies between 60 and 80 feet. There is sufficient right of way to support the concept improvements.

## AIR QUALITY/ENVIRONMENTAL STATUS

**Air Quality Management District:** Sacramento Metro Air Quality Management District

**Air Basin for this Segment** Sacramento Valley

*For Current Federal and State Air Quality Standard Area Designations and Other Information regarding the Above Air Basin and Air Quality Management District, please enter the following URL in a web browser:*

[pd.dot.ca.gov/env/air/](http://pd.dot.ca.gov/env/air/)

### Environmental Constraints

*The following is a broad overview of known major environmental constraints and issues:*

## MODAL INTEGRATION AND COORDINATION

**Public Transit (Local Service):** South County Transit (SCT) with limited service

**Commuter Services (Commuter Rail, Express Bus):** N/A

**Intercity Services (Amtrak, Intercity Bus Routes):** N/A

**Airports and Air Travel**

N/A

- BICYCLES: Currently, there is no existing Class II or III bike facility on this segment of SR 104. However, bicyclists are permitted to use the roadway (i.e. shared roadway).

**Paratransit, Dial-a-Ride, Social Services Transportation:** South County Transit (SCT) with limited service

**NonMotorized Modes (Pedestrian, Bicycle, Trails)** Currently, there is no existing Class II or III bike facility on this segment of SR 104. However, bicyclists are permitted to use the roadway (i.e. shared roadway)

### Modal Integration (Transfer Facilities, Multi-Modal Coordination Options Not Captured Above):

- TRANSIT: South County Transit (SCT) provides limited dial-a-ride bus service Monday-Saturday along Segment 2. The most easterly point of service is State Route 104 and Alta Mesa Road. For more information, call (800) 338-8676 or visit <http://www.sctlink.com>

- BICYCLES: Currently, there is no existing Class II or III bike facility on this segment of SR 104. However, bicyclists are permitted to use the roadway (i.e. shared roadway).

TRUCK VOLUMES				
	Daily Truck Volumes		% Trucks of Truck AADT	% Trucks of Total AADT
3 Axle	130	3 Axle	20.3%	1.6%
4 Axle	61	4 Axle	9.5%	0.8%
5+ Axle	124	5+ Axle	19.4%	1.6%
Total:	315	Total:	49.2%	3.9%

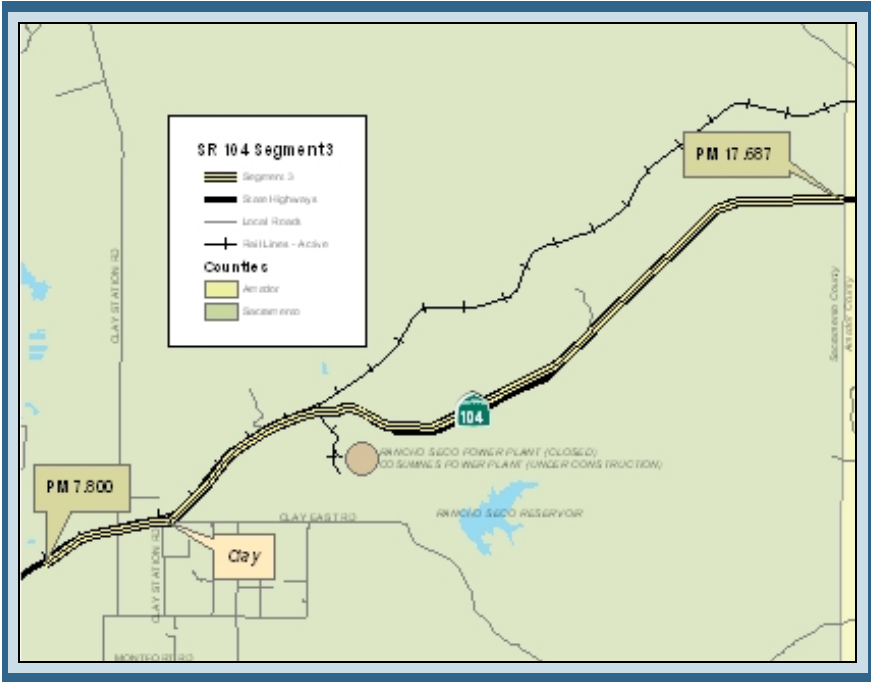
TRAFFIC COLLISION RATES (Per Million Vehicle Miles)			
Actual Accident Rate on Highway Segment		Statewide Average Rate for Highway Type	
Fatal-plus-Injury Collision Rate::	Total Collision Rate::	Fatal-plus-Injury Collision Rate:	Total Collision Rate:
0.41	0.85	0.47	0.98
Source: TASAS Accident data from January 2000 to September 2003			
<i>Statewide average rates are calculated for all facilities of a similar type.</i>			



Segment Description: Folsom South Canal to Amador County Line (PM 11.350 is PM Prefix R)

Photolog Link (Internal Use) <http://onramp.dot.ca.gov/photolog/ROADPHOTO/S/SAC/>

<a href="#">County Location Map</a>	<b>Postmile Limits</b>	<b>Concept Summary</b>
	Starting Postmile 7.800	<b>Existing Facility Type:</b> 2 Lane Conventional
	Ending Postmile 17.68	<b>Concept Facility, Long-Term Horizon</b> 2 Lane Conventional
	Length, Hwy Log miles	<b>Ultimate Facility, Beyond Horizon</b> 2 Lane Conventional



<b>Traffic Data</b>				Annual Traffic Volume Growth Rate	1.60	<b>Concept Performance</b>
Base Year of Data	2005	Existing Facility, Base Year	2015, No Improvements	2025, No Improvements	Year 2025, with Concept Improvements and Other Concept Actions	
Planning Horizon Yr.	2025					
Level of Service (LOS)	D	D	D		Caltrans LOS: D	
Volume/Capacity [V/C] Ratio	0.17	0.20	0.22		<b>Traffic Data Notes</b>	
Average Annual Daily Traffic	3921	4526	5130			
Peak Hour Volume	475	541	621			
Peak Hour Directional Split	63.00%	63.00%	63.00%			
Percent Trucks	3.90%	3.90%	3.90%			

<u>Local Jurisdiction LOS Standards</u>	Main-street	Local LOS Standard	Source of LOS Standard	Year of Source	Approximate postmiles/locations where this community or area borders on the Segment	Group of Highways to which LOS Applies
Sacramento County, Areas Outside Communities	No	D/E	General Plan	1993	PM 7.800 to 17.687	

<b>Improvement Projects Needed to Meet Concept</b>				Cost Estimate, \$1,000's	Estimated Year
Type of Improvement	Project Description		Project Limits		
	NO CONCEPT IMPROVEMENTS AT PUBLICATION				

<b>Needed Projects, not critical to Concept Performance</b>				Cost Estimate, \$1,000's	Estimated Year
Type of Improvement	Project Description		Project Limits		
	NO PROJECTS NEEDED BESIDES CONCEPT PROJECTS				

Planned Projects (Not Currently Programmed)		Postmile Limits	Project Initiation Document Status	Cost (\$1,000's)	Comments (other Plans, funding committed/needed, etc.)
Plan Document	Project Description				
	NO PROJECTS PLANNED				

Programmed (Funded) Projects		Postmile Limits	STIP Line Yr	SHOPP Line Yr	Comments	Total Cost (\$1,000's)
Document and Year	EA Code (ID)	Project Description				
		NO PROGRAMMED PROJECTS				

### MAJOR ISSUES AND CHALLENGES

Segment 3 is a two-lane conventional highway that runs easterly from the Folsom South Canal to the Sacramento/Amador Countyline. This segment is mostly rural residential with some public utility and recreational uses, passing through the community of Clay, and near the Consumnes Power Plant and the Rancho Seco Recreational Area. This segment has more curves and uneven grades than segments 1 and 2, but they are still minimal. Curves, low grades, narrow or no shoulders, and many access points (e.g., residential driveways) are common along the route. Trucks slow traffic flow within the segment. While the segment ends at the Amador County line, the Route continues on to SR 88 and 149 in lone.

Large trucks and slow moving vehicles will occasionally affect traffic flow, which may result in sizable queues along some areas of the segment. More local and regional commuters use SR 104 as a direct route from lone to Galt and SR 99. Despite the occasional queuing of vehicles, traffic congestion is not a continuous major problem over this segment.

Currently, the Annual Average Daily Traffic (AADT) for this segment is 3,921 with a Level-of-Service (LOS) of "D." Over the next 20 years, this traffic volume is expected to reach approximately 5,130 per day, and will continue to operate at LOS "D."

To permit sufficient shared right of way use between motorist and bicyclists, the shoulders for this segment will need to be widened. The current standard for outside shoulders on a 2-lane undivided conventional highway is approximately 8 feet. The average shoulder width for Segment 2 is less than 3-feet. Once the shoulders are widened to meet current design standards, signs should be posted at various locations to indicate that the segment is a Class III bike facility (bike route).

- Widen shoulders to 8-foot standard.
- Provide a Class III bike facility (bike route) throughout segment.

### Goods Movement Discussion

## HIGHWAY CLASSIFICATION / SYSTEM DESIGNATIONS

Functional Classification	Minor Arterial	National Truck Network:	Non National Truck System
National Highway System	Non NHS	Scenic Route	Non Scenic
Freeway-Expwy / Access	Conventional Highway	Lifeline Route	Non Lifeline
Rural/Urban Character	To Be Entered	Statewide Significance:	Non Interregional Route System
General Terrain	To Be Entered		

## LAND USE / DEVELOPMENT IMPACTS

Current Land Use Zoning Type:	Future (Long Range, ~20-Year) Land Use:
Agricultural/Residential/Public/Recreational	Agricultural/Residential/Public/Recreational
Land Use Discussion, Including Current Uses and Planned Changes, Development Issues, Needed Mitigation (Not Yet Approved):	
Along Segment 3 of State Route (SR) 104, land uses are primarily general agriculture and resource conservation, with some agricultural-residential, public, and recreational.	
The Consumnes Power Plant is currently under construction one half mile south of the of the closed Rancho Seco Power Plant, and the Rancho Seco Recreational Area is also along this segment.	
Mitigation Progress (other than commitments discussed above under Programmed Projects)	

## RIGHT OF WAY

### Current Right of Way as Summarized from Highway Log

Number of Lanes	2	<i>Feet</i>	<i>Meters</i>
Average Lane Width:		10.00	3.05
Average Shoulder Width		4.00	1.22
Average Median Width:		0.00	0.00

### CALTRANS INTRANET RESOURCES FOR RIGHT OF WAY INFORMATION

Digital Highway Inventory Photography Program (DHIPP):

<http://svhqdhipp:8080/dhipp/view.html>

North Region Document Retrieval System (DRS):

<http://10.168.0.22/falcon/websuite.htm>

### RIGHT OF WAY DISCUSSION--COMPARISON OF CURRENT EXTENT TO CONCEPT NEEDS

Right of way along the facility varies between 60 and 100 feet. There is sufficient right of way to support the concept improvements.



## AIR QUALITY/ENVIRONMENTAL STATUS

**Air Quality Management District:** Sacramento Metro Air Quality Management District

**Air Basin for this Segment** Sacramento Valley

*For Current Federal and State Air Quality Standard Area Designations and Other Information regarding the Above Air Basin and Air Quality Management District, please enter the following URL in a web browser:*

[pd.dot.ca.gov/env/air/](http://pd.dot.ca.gov/env/air/)

### Environmental Constraints

*The following is a broad overview of known major environmental constraints and issues:*

## MODAL INTEGRATION AND COORDINATION

**Public Transit (Local Service):** South County Transit (SCT) provides limited dial-a-ride bus service on Tuesday along Segment 3

**Commuter Services (Commuter Rail, Express Bus):** N/A

**Intercity Services (Amtrak, Intercity Bus Routes):** N/A

**Airports and Air Travel** N/A

**Paratransit, Dial-a-Ride, Social Services Transportation:** Limited dial-a-ride bus service on Tuesday along Segment 3

**NonMotorized Modes (Pedestrian, Bicycle, Trails)** Currently, there is no existing Class II or III bike facility on this segment of SR 104. However, bicyclists are permitted to use the roadway (i.e. shared roadway).

### Modal Integration (Transfer Facilities, Multi-Modal Coordination Options Not Captured Above):

- TRANSIT: South County Transit (SCT) provides limited dial-a-ride bus service on Tuesday along Segment 3. The most easterly point of service is State Route 104 and Clay Station Road. For more information, call (800) 338-8676 or visit <http://www.sctlink.com>

- BICYCLES: Currently, there is no existing Class II or III bike facility on this segment of SR 104. However, bicyclists are permitted to use the roadway (i.e. shared roadway).

TRUCK VOLUMES				
	Daily Truck Volumes		% Trucks of Truck AADT	% Trucks of Total AADT
3 Axle	130	3 Axle	20.3%	1.6%
4 Axle	61	4 Axle	9.5%	0.8%
5+ Axle	124	5+ Axle	19.4%	1.6%
Total:	315	Total:	49.2%	3.9%

TRAFFIC COLLISION RATES (Per Million Vehicle Miles)			
Actual Accident Rate on Highway Segment		Statewide Average Rate for Highway Type	
Fatal-plus-Injury Collision Rate::	Total Collision Rate::	Fatal-plus-Injury Collision Rate:	Total Collision Rate:
0.87	1.31	0.51	1.06
Source: TASAS Accident data from January 2000 to September 2003			
<i>Statewide average rates are calculated for all facilities of a similar type.</i>			

## Appendix A: Current Design Standards

From Highway Design Manual, November 1, 2001

### Paved Shoulder Width

<i>Conventional Highways – Multilane Undivided</i>	
Left	Right
--	2.4 meters (approx. 8 feet)

### Traveled Way Width

<i>Conventional Highways – Multilane Undivided</i>
3.6 meters (approx. 12 feet)

### Bicycle Facilities

	Minimum Width of Traveled Way	Minimum Horizontal Clearance to Obstructions	Minimum Vertical Clearance to Obstructions
Class I Bikeway (One-way)	2.4 meters (approx. 8 feet)	0.6 meters (approx. 2 feet)	2.5 meters (approx. 8 feet)
Class I Bikeway (Two-way)	1.5 meters (approx. 5 feet)	0.6 meters (approx. 2 feet)	2.5 meters (approx. 8 feet)
Class II Bikeway (parking permitted with striped parking or stall)	1.5 meters (approx. 5 feet)	--	--
Class II Bikeway (parking permitted without parking stripe or stall)	3.3 meters (approx. 11 feet)	--	--
Class II Bikeway (parking prohibited)	1.5 meters (approx. 5 feet)	--	--
Class III Bikeway	* Note	--	--

\* Note: Minimum width is dependent on many factors, including the volume and character of vehicular traffic on the road, typical speeds, vertical and horizontal alignment, sight distance, and parking conditions.

## Appendix B: Bridge Information

TCR Segment ID	Postmile	Bridge Number	Structure Name	Structure Type	Length [meters]	Width [meters]	Sidewalks [meters]	Year Built	Year Widened	Min. Vert. Clearance [meters]
SAC-104-1	0.010	24 0144	Route 104/99 Separation	Concrete Continuous – Tee Beam	63.4	10.9	1.6/0.6	1958		
SAC-104-2	4.300	24 0042	Skunk Creek	Concrete – Slab	10.4	10.4		1918	1968	
SAC-104-2	5.180	24 0041	Rolling Draw	Concrete Continuous – Slab	7.0	10.4		1918	1968	
SAC-104-2	5.440	24 0040	Windmill Draw	Concrete Continuous – Slab	7.0	10.4		1918	1968	
SAC-104-2	5.780	24 0039	Griffith Creek	Concrete Continuous – Tee Beam	19.8	10.4		1918	1968	
SAC-104-2	7.750	24 0335	Folsom South Canal	Concrete – Culvert	8.5	0.0		1972		
SAC-104-3	9.940	24 0038	Clay Creek	Concrete – Culvert	9.8	10.4		1968		
SAC-104-3	13.920	24 0037	Hadselville Creek	Concrete – Culvert	9.1	0.0		1968		

## Appendix E: Glossary and Acronyms

Acronyms and Terms taken from the "Caltrans Acronyms & Transportation Terms Commonly Used in System and Advanced Planning"

### A

**Air Basin:** An area or territory that contains similar meteorological and geographical conditions. In California, the Air Resources Board (ARB) has established nine air basins.

**Annual Average Daily Traffic (AADT):** The average 24-hour traffic volume, which is the total number of vehicles during a stated period divided by the number of days in that period. Unless otherwise stated, the period is a year.

**Average Daily Traffic (ADT):** The average 24-hour traffic volume, which is the total number of vehicles during a stated period divided by the number of hours in that period. Unless otherwise stated, the period is a 24-hour period.

### C

**Capacity Enhancement:** Projects that increase the carrying capacity of a route such as additional lanes, or operational improvements such as ramp metering.

**Channelization:** The separation or regulation of conflicting traffic movements into definite paths or travel by the use of pavement markings, raised islands or other suitable means to facilitate the safe and orderly movement of both vehicles and pedestrians.

**Class I Facility or Bikeway:** Class I bikeways (bike paths) are facilities with exclusive right of way, with cross flows by motorists minimized. Section 890.4 of the Streets and Highways Code describes Class I bikeways as serving "the exclusive use of bicycles and pedestrians".

**Class II Facility or Bikeway:** Class II bikeways (bike lanes) for preferential use by bicycles are established within the paved area of highways. Bike lane stripes

are intended to promote an orderly flow of traffic, by establishing specific lines of demarcation between areas reserved for bicycles and lanes to be occupied by motor vehicles.

**Class III Facility or Bikeway:** Class III bikeways (bike routes) are intended to provide continuity to the bikeway system. Bike routes are established along through routes not served by Class I or II bikeways, or to connect discontinuous segments of bikeway (normally bike lanes). Class III facilities are shared facilities, either with motor vehicles on the street, or with pedestrians on sidewalks, and in either case bicycle usage is secondary. Class III facilities are established by placing Bike Route signs along roadways.

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

**Conventional Highway:** A highway without control or access, which may or may not be divided. Grade separations at intersections or access control may be used when justified at spot locations.

### E

**Expressway:** An arterial highway for through traffic, which may have partial control access, but which may or may not be divided or have grade separations at intersections.

### F

**Focus Routes:** A subset of the 34 High Emphasis Routes (see definition). The focus routes represent 10 IRRS corridors that should be of the highest priority for completion to minimum facility standards in a 20-year period.

**Freeway:** A divided arterial highway for through traffic with full control of access and with grade separations at intersections.

## H

**High Emphasis Routes:** Routes that are characterized as being the most significant Interregional Road System (IRRS) routes. More importantly, these routes are significant in interregional travel and to maintaining and improving mobility across the entire state.

**Highway Adoption:** California Transportation Commission (CTC) establishment of a specific highway route location.

## I

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

**IRRS:** Interregional Road System

## K

**KPM:** Kilometer Post-mile

**Kilometer Post-mile (KPM):** Using kilometers and counties, the Post-mile system identifies specific and unique locations in the California highway system.

## L

**Level-of-Service (LOS):** A rating using performance measures (e.g., traffic volumes, vehicle/capacity ratios, vehicle delay times), that characterizes operational conditions within a traffic stream and perception of those measures by motorists and passengers.

**LOS:** Level-of-Service

## M

**Median:** The portion of a divided highway separating the traveled ways for traffic in opposite directions.

## N

**National Highway System (NHS):** The Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991 included the Interstate Highway System in the 155,000-mile National Highway System (NHS). The NHS approved by Congress in 1995, provides an interconnected system of principal arterial routes to serve major travel destinations and population centers, international border crossings, as well as ports, airports, public transportation facilities, and other intermodal transportation facilities. NHS routes must also meet national defense requirements and serve interstate and interregional travel.

**NHS:** National Highway System

## P

**Paratransit:** A variety of small, often flexibly scheduled route transportation services using low-capacity vehicles, such as vans, to operate within normal urban transit corridors or rural areas. These services usually serve the needs of persons that standard mass transit services would serve with difficulty, or not at all. Often, the patrons include the elderly and persons with disabilities.

**Peak:** The period during which the maximum amount of travel occurs. It may be specified as the morning (AM) or afternoon (PM) peak, or peak hours.

**PM:** Post-mile

**Post-Mile (PM):** Using miles and counties, the post-mile (PM) system identifies specific and unique locations in the California highway system.

## R

**Regional Transportation Plan (RTP):**

State mandated documents to be developed biennially by all region transportation planning agencies (RTPAs). They consist of policy, action and financial elements.

**Regional Transportation Planning Agency (RTPA):**

Created by AB 69 (1972) to prepare regional transportation plans and designated by the Business, Transportation and Housing secretary to receive and allocate transportation funds. RTPAs can be Councils of Government (COGs), Local Transportation Commissions (LTCs), Metropolitan Planning Organizations (MPOs), or statutorily created agencies.

**Route Concept:** The Department's judgement on existing and future facilities given present and future financial, environmental, planning and engineering factors.

**RTP:** Regional Transportation Plan

**Rural:** An area with a population of less than 2,500, and located outside the U.S. Census *urban area* boundary.

**S**

**Shared Roadway:** Shared Roadways have no bikeway designation. For example, many rural highways are used for intercity touring and recreational travel. However, the limited use and lack of continuity makes it inappropriate to designate these facilities for bikeways. The development and maintenance of a 4 foot-paved roadway shoulder with a 4-inch stripe can improve the safety and convenience of motorists and bicyclists.

**SHOPP:** State Highway Operation and Protection Program

**Shoulder:** The portion of the roadway contiguous with the traveled way for accommodation of stopped vehicles, for emergency use, and for lateral support of base surface courses.

**SR:** State Route

**State Highway Operation and Protection Program (SHOPP):**

A 4-year program limited to projects related to state highway safety, maintenance, and operation.

**State Route (SR):** State highways within the State, other than Interstate and US routes, which serve intrastate and interstate travel. These highways can be freeways, expressways or conventional highways.

**T**

**TCR:** Transportation Concept Report

**TDM:** Transportation Demand Management

**Transit:** Generally refers to passenger service provided to the general public along established routes with fixed or variable schedules at published fares.

**Transportation Concept Report (TCR):**

Also known as a Route Concept Report (RCR), a document that identifies current operating conditions, future deficiencies, a Route Concept and Concept Level of Service, and improvements to the route or corridor that will achieve the concept.

**Transportation Demand Management**

**(TDM):** "Demand-based" techniques for reducing traffic congestion, such as ridesharing programs and flexible work schedules that enable employees to commute to and from work outside of peak travel periods.

**U**

**Urban Area:** An area with a population of 2,500 to 49,999, and not located within U.S. Census *urbanized area* boundaries.

**Urbanized Area:** An area with a U.S. Census population of 50,000 or more, and includes *urban area* boundaries.