Transportation Concept Report

State Route (SR) 219

District 10

September 2016

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California Department of Transportation

Provide a safe, sustainable, integrated, and efficient transportation system to enhance California's economy and livability

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TABLE OF CONTENTS

ABOUT THE TRANSPORTATION CONCEPT REPORT 1

STAKEHOLDER PARTICIPATION 1

EXECUTIVE SUMMARY 2

- Concept Summary 3
- Concept Rationale 3
- Proposed Projects and Strategies 3

CORRIDOR OVERVIEW 4

- Route Segmentation 4
- Map 5
- Route Description 6
- Community Characteristics 7
- Land Use 10
- System Characteristics 11
- Bicycle Facility 12
- Pedestrian Facility 14
- Transit Facility 15
- Freight 17
- Environmental Considerations 19

CORRIDOR PERFORMANCE 20

KEY CORRIDOR ISSUES 21

CORRIDOR CONCEPT 21

- Concept Rationale 21
- Planned and Programmed Projects and Strategies 22
- Projects and Strategies to Achieve Concept 22

APPENDIX 23

- Appendix A: Glossary of Terms and Acronyms 23

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) (California Government Code §65086) by evaluating conditions and proposing enhancements to the SHS. Through System Planning, Caltrans focuses on developing an integrated multimodal transportation system that meets Caltrans' goals of safety and health; stewardship and efficiency; sustainability, livability and economy, system performance, and organization excellence.

The System Planning process comprises four parts: the District System Management Plan (DSMP), the DSMP project list, the 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 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 DSMP Project List 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 stakeholders, the public, and partner, 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 California Government Code (CGC) §65086 and as necessitated by the 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 to 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

The State Route 219 TCR employed an outreach strategy consistent with local Metropolitan Planning Organization (MPO) outreach conducted with the development of the Overall Work Program (OWP). This strategy avoids duplicative effort, and reduces public confusion as to the aims of local and regional transportation planning. As the OWP intends to meet federal requirements outlined in Volume 23 Code of Federal Regulations (CFR) section 450.314, and in the Moving Ahead for Progress in the 21st Century Act (MAP-21), external stakeholder needs can be addressed by local partner outreach efforts related to the OWP. Development of the TCR includes initial outreach to internal partners—including traffic operations, traffic safety, project management, maintenance, environmental support, as well as others.

EXECUTIVE SUMMARY

The SR 219 corridor is a four to six lane goods movement facility and regional arterial for communities located in northern Stanislaus County. Completely within Stanislaus County, SR 219 runs east-west, starting from the SR 99 Kiernan Interchange in Salida and ending at SR 108 (McHenry Avenue). As a Terminal Access Truck Route consistent with the provisions of the Surface Transportation Assistance Act (STAA), SR 219 provides a connection between Salida, Modesto, Riverbank, and Oakdale, linking local agriculture, manufacturing, and shipping business with the National Truck Network (NTN). Trucks can utilize SR 219 to access SR 99 without having to use SR 108, which goes through the local traffic of Modesto proper.

For purposes of analysis and evaluation, SR 219 was categorized into one segment only. The reason for this classification is that at 4.8 miles long, the nine signaled intersections (seven if excluding the SR 99 ramp signals) along the highway are not located at distances that would facilitate uninterrupted expressway conditions.

The SR 219 TCR evaluates the need for improvements and expansion of the facility between a base year (BY) of 2015 and a horizon year (HY) of 2040. SR 219 east of Sisk Road meets its concept level of service (LOS) of D for 2015. By HY of 2040, the projected growth in traffic volume will not increase to the level that necessitates lane expansion of SR 219. Further study is advised for the section between the SR 99/Kiernan Avenue Interchange and Sisk Road. The Stanislaus Council of Governments (StanCOG) does list a programmed expansion of SR 219 to six lanes in its 2014 Regional Transportation Plan (RTP).

The BY and HY LOS for pedestrians and bicycles is deficient on all portions of SR 219, necessitating improvements, except for the stretch between SR 99 and Sisk Road and for locations east of Stratos Way to SR 108. The approximately 0.275 mile portion of the highway between SR 99 and Sisk features BY and HY LOS of pedestrians and bicycles comparable to or better than the automobile LOS.

Operational and multimodal improvements are the main priorities for SR 219. Complete Streets principles and Context Sensitive Solutions apply, considering SR 219's location near Modesto and the potential for future mixed use development along the corridor and in nearby communities. Most portions of SR 219 have wide shoulder Class II bike facilities and no sidewalks, though sidewalks do exist at generally the west and east ends of the route. Pedestrians and bicycles are allowed on the current facility, often sharing the shoulder.

Class I bike path capability on SR 219 from Sisk Road to SR 108 is advocated in StanCOG'S 2013 Non-Motorized Master Transportation Plan (NMTP). There is a future need for a Class I facility, considering that, in addition to deficient current bicycle LOS in most sections between Sisk and McHenry, two public schools are operating adjacent to and north of SR 219, and that Modesto has plans to expand development next to and north of SR 219[1].

There is fixed-route and deviated fixed-route (DFR) transit serving the corridor.

As one of several east-west routes connecting Stanislaus County communities to SR 99, SR 219 plays a role in channeling commute activity between the San Joaquin Valley and the San Francisco Bay Area (Bay Area), as well as activity within D10 among communities east of SR 219 and Modesto, Manteca, and Stockton.

[1] http://sv06web1/ppm/pmsu/projinfo/factsheets/10-0A872_.pdf

Concept Summary

CONCEPT SUMMARY					
Seg.	Segment Description	Existing Facility	20-25 Year Capital Facility Concept	20-25 Year System Operations and Management Concept	Post-25 Year Concept
SR 219	SR 99 to SR 108	4E to 6E	4E to 6E	Operations, Safety	6E
Seg.: segment; **E**: expressway					

Concept Rationale

SR 219 is not on the Interregional Road System (IRRS). Thus, its concept LOS is D. Currently, the facility performs better than the minimum concept LOS standard. However, further modelling is needed to determine current and 2040 performances from the SR 99/Kiernan Bridge to Sisk Road. Current macro level traffic modelling reveals current and future LOS deficiencies in this area. On the other hand, this section of SR 219 is under construction at the time of writing. The Kiernan Avenue Bridge project is extending the ramps and adding auxiliary lanes to SR 99, upgrading signals, and widening Kiernan Avenue from Salida Boulevard to Sisk Road.[2] More detailed analysis is needed to determine how the new project upgrades will affect current and future behavior.

North Modesto and Riverbank feature future development along the SR 219 and Claribel Avenue corridors. Also in consideration is the planned construction of the North County Corridor (NCC), which would connect foothill communities, North Modesto, Riverbank, and Oakdale to SR 99 via a new expressway alignment that replaces the existing SR 108. Pending growth in this region is a factor in the StanCOG RTP's programmed Tier I listing of an expansion to a six-lane facility for SR 219 from SR 99 to McHenry Avenue.

According to the 2015 DSMP, approximately 25% of the workforce in the District engages in interregional commuting, with 15% of that 25% leaving the District to get to work.[3] Most commutes leaving the District go to either Sacramento or to the Bay Area. With the employment gap in D10 projected to be over 120,000 in 2022,[4] more workers will have to leave the District daily for commuting purposes. This activity, along with attendant development and job distribution patterns, could affect performance on east-west routes. If a large percentage of these workers are going to the Bay Area, then SR 152, SR 132, SR 120, I-5, I-205, and I-580 will be further utilized.

Operational improvements will be a consideration at intersections to accommodate increased levels of commuting by synchronizing signals and adjusting signal timing, so as to allow more uninterrupted flow in east-west directions during peak hour travel times. Also a consideration is establishing access management from local streets that protects uninterrupted flow on SR 219 to the extent that it is possible.

Commuter behavior would likely affect SR 219 in the form of pass through trips from communities further east, as the SR 219 corridor itself currently features few residential subdivision land uses. SR 219 has an interchange with SR 99 in Salida, a community in which 14% of its workforce commutes to the Bay Area.[5]

Proposed Projects and Strategies

SR 219 is programmed to become a six lane facility for its entire length from SR 99 to SR 108, according to the 2014 StanCOG RTP.[6] The project is listed as Tier I with a construction year of 2020. The widening is in anticipation

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[2] Project Report Route 99/Route 219 (Kiernan Avenue) Interchange http://sv06web1/ppm/pmsu/projinfo/psr_pssr/10-0L330_.pdf
[3] District 10 2015 District System Management Plan, approved June 19th, 2015, p. 12
[4] District 10 2015 District System Management Plan, approved June 19th, 2015, p. 12
[5] Census Transportation Planning Products (CTPP); American Community Survey (ACS), 2006-2010 5-Year Estimates
[6] Stanislaus Council of Governments 2014 Regional Transportation Plan, Appendix K, adopted June 2014

for the connection of the NCC to the currently existing SR 219. SR 219 currently performs at an LOS that is less congested than its minimal acceptable LOS of D, and the pavement condition of the roadway is good.

The 2014 StanCOG RTP lists the NCC as a Tier I programmed project that will enhance connectivity and circulation between foothill communities, the cities of Riverbank and Oakdale, Modesto, and SR 99. With a construction year of 2022, the corridor will replace sections of SR 108 in Riverbank and Oakdale by allowing for the construction of a bypass south of Riverbank and Oakdale. The expressway bypass will extend from a junction with SR 108/SR 120 east of Oakdale and connect to SR 219 at the SR 108 (McHenry Avenue) intersection. Whether or not the SR 219 designation will be kept is not decided. However, System Planning supports the realignment of McHenry/SR 108 through Modesto from downtown to SR 219 and the naming of the NCC at SR 219 to SR 108.

There are projects endorsing bicycle accessibility. StanCOG lists a Class I facility to be installed from Sisk Road to SR 108.[7] It is listed as a First-Tier priority. Local agencies have plans to install Class I and Class II bicycle paths on roads that intersect with SR 219, especially on Sisk Road, Dale Road, Tully Road, and on a former Union Pacific (UP) railroad right of way between Tully Road and SR 108.

CORRIDOR OVERVIEW

ROUTE SEGMENTATION

ROUTE SEGMENTATION			
Seg.	**Location Description**	**County Route Beg. PM**	**County Route End PM**
SR 219	SR 99 to SR 108	STA 219 PM 0.076	STA 219 PM 4.858
Seg.: segment; **PM**: post mile; **Beg.**: beginning			

Segmentation of SR 219 followed District 10 practice—segments conformed to land use planning agency boundaries, 10% or greater changes in daily or peak hour volume, changes in population density (rural versus urban), intersections with other state highways, gradient or terrain, changes in truck route designation, and changes in facility. At about 4.8 miles, SR 219 did not exhibit enough change to facilitate the designation of more than one segment. With nine signals throughout the segment, their placement is not distant enough to allow the corridor to behave like a free-flow expressway. Though there is a change in volume from the west end to the east end of the corridor, SR 219 overall is too short and its geographical characteristics too similar to separate into two or more segments.

SR 219 starts at the southbound SR 99 exit (STA 219 PM 0.076) and ends at the intersection of McHenry Avenue (SR 108) (STA 219 PM 4.858). Portions of SR 219 are located within the census-designated place (CDP) of Salida, while other areas border the Modesto city limits. From Dale Road to SR 108, the route runs a quarter-mile south of Modesto's General Plan boundary.[8]

[7] 2013 Stanislaus Council of Governments Non-Motorized Transportation Master Plan, adopted October, 2013
[8] https://www.modestogov.com/ced/projects/gp-amendment.asp, accessed March 5th, 2016

Sisk Rd.
Stoddard Rd.
219
Claribel Rd.
SALIDA
Dale Rd.
Carver Rd.
Tully Rd.
108
99
MODESTO
Stanislaus
108
132
132
Caltrans
System Planning & Goods Movement
SR 219 TCR CORRIDOR
Highway Segment
Highways
Rail
Urban Areas
Miles
0
0.6
1.2
December 2015

ROUTE DESCRIPTION

Almost five miles long, SR 219 is an east-west highway originally built to conventional highway standards. SR 219 was improved to expressway standards. It begins in Salida at the exit of the southbound SR 99 off-ramp and ends at the intersection with SR 108. The route is entirely in Stanislaus County, and, at certain locations, coincides with the northern border for portions of the City of Modesto. SR 219 will continue to function as a route for commuters and local traffic, as well as a goods movement route for agriculture, light industrial, and commercial trucks. It is used as a travel route to SR 99 for residents in Oakdale and Riverbank, and it provides access for employees and patients of Kaiser Hospital off of Dale Road. The route has numerous commercial businesses along the west and east ends of the highway, an elementary school between Dale and Culver Roads, and a California Highway Patrol (CHP) field office near Stoddard Road. The route is bike and pedestrian accessible and has bus transit. The role SR 219 serves in the SHS in D10 is minor. It is primarily a conduit for traffic to SR 99 for communities north and east of Modesto that affords the opportunity to access SR 99 without entering Modesto.

Route Location:

SR 219 (Legislative Route [LR] 13) is located in the County of Stanislaus in the San Joaquin Valley in the Modesto metropolitan area. It begins at the southbound exit of SR 99 at STA 219 PM 0.076 in the unincorporated community of Salida and ends at the intersection with SR 108 (LR 109) north of the City of Modesto at STA 219 PM 4.858. The route runs in an east-west direction, coinciding with the northern border of the City of Modesto in locations near Dale Road and is a quarter-mile south of northern limits to Modesto's General Plan boundary. From west to east, SR 219 goes over SR 99 as Kiernan Bridge, intersects Sisk Road, Stoddard Road, Dale Road, Carver Road, and Tully Road before ending at SR 108.

Route Purpose:

SR 219 functions as a route for commuters, local traffic, and goods movement. It connects SR 99, Oakdale, and Riverbank, and provides access for employees and patients of Kaiser Hospital, numerous businesses in close proximity to SR 219, including a CHP field office. Businesses west of Sisk Road cater to automobile and truck travel on SR 99. Businesses located south of the McHenry SR 219 intersection specialize in automobile retail consistent with automobile dealerships and services found on SR 108.

Transit between SR 99 and Dale Road on SR 219 provides travel options between Vintage Faire Mall, Kaiser, and Salida or Ripon. Transit on eastern areas of SR 219 connect downtown Modesto, Escalon, or Oakdale to locations along McHenry Avenue, to locations in north Modesto, and to connections with Kaiser and the Vintage Faire Mall. Four fixed transit bus routes operate on SR 219, three of which are operated by the Modesto Area Express (MAX) and one of which is operated by Stanislaus Regional Transit (StaRT). There are two deviated fixed route services: the Ripon Blossom running on SR 219 from SR 99 to Dale Road, and e-Trans running on SR 219 between McHenry Avenue and Dale Road. As transit mostly operates on arterials and collectors, buses do not provide last mile destination services to all locations. MAX does operate a dial-a-ride service seven days a week 365 days a year.

Bicycle access exists on SR 219 as signed Class II. Class II lanes on the new Kiernan/SR 99 Bridge connect bicycle facilities west of SR 99 to facilities east of SR 99. Bicycle access promotes multimodal capability by providing travel alternatives. Pedestrian access is also allowed, though most locations do not have sidewalks, due to the undeveloped context between Stoddard Road and Stratos Way.

Major Route Features:

SR 219 functions as a city street due to its multiple access points and signals. With exception to the area between SR 99 and Sisk Road, SR 219 is straight and features adequate right of way that can meet future needs. SR 219 also has a former railroad crossing between Tunson Road and Pentacost Drive.

Route Designations and Characteristics:

SR 219 is on the Freeway and Expressway System (FES). A principal arterial, it is on the National Highway System (NHS). It is not on the Strategic Highway Network (STRAHNET), not listed as a scenic highway, and not on the Interregional Road System (IRRS). Its concept LOS in D10 is designated as D in both urban and rural segments. As SR 219 is on the FES, its minimal concept facility is a four-lane expressway.

SR 219 is not listed as a goods movement route nor is it on the National Truck Network (NTN). However, SR 219 is designated in the Surface Transportation Assistance Act (STAA) of 1982 as Terminal Access Truck Route (TA).

SR 219 is in an urban (5,000 to 50,000 population) location, which is Salida. It is also in an urbanized location (50,000 or greater), which is Modesto's sphere of influence. SR 219 is within the planning jurisdiction of one Metropolitan Planning Organization (MPO), the Stanislaus Council of Governments (StanCOG). Local land use planning agencies include the City of Modesto and the County of Stanislaus. There are no federal recognized tribes located near the SR 219 corridor. The air district is the San Joaquin Valley Unified Air Pollution Control District. The terrain is flat.

ROUTE DESIGNATIONS AND CHARACTERISTICS	
County of Stanislaus	
	SR 219
Freeway & Expressway System	Yes
National Highway System	Yes
Strategic Highway Network	No
Scenic Highway	No
Interregional Road System	No
Federal Functional Classification	Other Principal Arterial
Goods Movement Route	No
Truck Designation	Terminal Access (TA)
Rural/Urban/Urbanized	Urban and Urbanized
Metropolitan Planning Organization	StanCOG
Regional Transportation Planning Agency	StanCOG
Congestion Management Agency	StanCOG
County Transportation Commission	N/A
Local Agency	County of Stanislaus and City of Modesto
Tribes	No
Air District	San Joaquin Valley Unified Air Pollution Control District
Terrain	Flat
StanCOG: Stanislaus Council of Governments; **N/A**: not applicable	

COMMUNITY CHARACTERISTICS

The purpose of the Community Characteristics section is to identify possible transportation-related environmental justice issues and potential needs for a targeted public outreach for a community, consistent with Caltrans' Director's Policy 21 (DP-21), which recognizes the importance of Environmental Justice in planning policy.

Population and Commute Characteristics:

2010 population of incorporated cities and unincorporated communities along SR 219 totaled to approximately 215,000. Individual counts were as follows: City of Modesto: 201,165, and the census designated place of Salida: 13,722.[9] 2000 population for Modesto was 188,856, and for Salida it was 18,070.[10] Modesto's annual growth rate from 2000 to 2010 was 0.611%. Salida's annual growth rate from 2000 to 2010 was a -2.4%.

SR 219 features few points of direct access to residential areas, making SR 219 a minor trip origin for commuting behavior. Communities east of SR 219, Riverbank and Oakdale, are more likely to be commute trip origin points for traffic behavior on SR 219. This is why these two cities are included in the Community Characteristics section, even though they are not adjacent to SR 219 right of way. The 2010 population of Riverbank totaled to approximately 22,678. Year 2000 population for Riverbank was 15,826.[11] The 2010 population for Oakdale was 20,675, and its 2000 population was 15,503. Riverbank's annual growth rate from 2000 to 2010 was 3.02%. Oakdale's annual growth rate from 2000 to 2010 was a 2.5%.

Race, Ethnicity, Income for Modesto and Salida:

Racial composition for Modesto is as follows: 65% white, 4.2% African American, 1.2% Native American, 6.7% Asian, 1% Pacific Islander, 15.5% some other race, and 6.3% two or more races. 35.5% identify as Hispanic or Latino.[12] The racial composition of Salida is as follows: 61.8% white, 3.2% African American, 0.8% Native American, 4.9% Asian, 0.6% Pacific Islander, 22.8% from other races, and 5.9% two or more races. 46.8% identify as Hispanic or Latino. As indicated, Hispanics or Latinos are a significant community along the SR 219 corridor. Planning strategies sensitive to their interests are likely to appeal to broader public support.

There are 75,044 households in Modesto and 4,204 in Salida. The median age is as follows: Modesto, 34.2; and Salida, 31.2 years. Percent renter occupied housing is 43% for Modesto, and 21.8% in Salida. Median annual household income (California median income is $61,094) is as follows: Modesto, $47,607; and Salida, $72,872. The percent of total population with income below 2011 federal poverty lines was 20.5% for Modesto and 9.2% for Salida. For the State of California the figure is 15.9 percent.

Salida's median income is above the state median. The CDP has a lower percentage of total population with income below the federal poverty line than the state figure. This figure may be related to 14% of Salida workers commuting to higher paying Bay Area jobs. Modesto has a median income below the state median and higher percentages of population with income below the poverty line. Only 6% of its workforce commute to the Bay Area.[13] The data suggest the presence of economic challenges in Modesto. Policies promoting multimodal transportation and development sustainability need to be sensitive to the needs of various income earners.

Race, Ethnicity, Income for Riverbank and Oakdale:

Racial composition for Riverbank is as follows: 65.9% white, 2.1% African American, 1.2% Native American, 3.4% Asian, 0.4% Pacific Islander, 21.8% some other race, and 5.2% two or more races. 52.1% identify as Hispanic or Latino.[14] The racial composition of Oakdale is as follows: 80.1% white, 0.8% African American, 1.0% Native American, 2.2% Asian, 0.2% Pacific Islander, 11.5% from other races, and 4.1% two or more races. 26.1% identify as Hispanic or Latino. As indicated, Hispanics or Latinos are a significant group in SR 219's trip origin communities.

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[9] U.S. Census, 2010, Population Finder and Quick Facts; 2009-2013 American Community Survey (ACS) 5-Year Profiles
[10] U.S. Census, 2010, Population Finder and Quick Facts; 2009-2013 American Community Survey (ACS) 5-Year Profiles
[11] U.S. Census, 2010, Population Finder and Quick Facts; 2009-2013 American Community Survey (ACS) 5-Year Profiles
[12] U.S. Census, 2010, Population Finder and Quick Facts; 2009-2013 American Community Survey (ACS) 5-Year Profiles
[13] Census Transportation Planning Products (CTPP); American Community Survey (ACS), 2006-2010 5-Year Estimates
[14] U.S. Census, 2010, Population Finder and Quick Facts; 2009-2013 American Community Survey (ACS) 5-Year Profiles

The number of households is as follows: Riverbank: 6,579, and Oakdale: 7,288. The median age is as follows: Riverbank, 30.9; and Oakdale, 34.9 years. Percent renter occupied housing is 27.8% for Riverbank, and 38.9% in Oakdale. Median annual household income is as follows: Riverbank, $59,183; and Oakdale, $53,785. The percent of total population with income below 2011 federal poverty lines was 12.5% for Riverbank and 17.5% for Oakdale. Riverbank has a lower percentage of total population with income below the federal poverty line than Oakdale and the state figure. This may be related to workers in Riverbank having closer access than Oakdale to a highway transportation network that connects to jobs in Modesto, Stockton, the Bay Area, and Sacramento. Riverbank possesses approximately one percentage point more of its workers who commute to the Bay Area than Oakdale does.[15] Another possible factor is that Oakdale has a higher percent of residents ages 65 and above: 12.7. Riverbank's percent for this segment of the population is 9.2. Salida's is 7.8% and Modesto's is 12.3%. The data suggest that Oakdale has more residents living on fixed incomes, which could play a role in calculating the city's median income. The age category of 65 and over is projected to increase in size over the next 10 years. Policies need to be sensitive to the needs of different age segments.

Community Profiles:

Modesto

Founded in 1870 and incorporated in 1884, the City of Modesto is known today as a hub for agricultural activity in the San Joaquin Valley. The city is surrounded by rich fertile farmland which specializes in the production of almonds, walnuts, and corn silage, among other commodities. The area also features milk and poultry operations. Stanislaus County ranks sixth in the state in farm production. Modesto is home to Del Monte Foods, Frito Lay, and Foster Farms Dairy. The city is also home to the world's largest family-owned winery, E & J Gallo Winery.[16] The Gallo Glass Company, a subsidiary of Gallo Winery, is also the world's largest wine bottle manufacturer.[17]

Modesto has local sites of interest that act as regional trip destinations. One of them is the five-anchor Vintage Faire Mall, located on Dale Road and Standiford Avenue near SR 99. Modesto is famous as the setting for the 1973 George Lucas film *American Graffiti*. Modesto is also one of the birthplaces of modern rock and roll, as it was where the Maddox Brothers in the 1930s and 1940s developed their slap bass technique that would later become a formative element of the genre.[18] Modesto features the 1883-built McHenry Mansion, the downtown-located Gallo Center for the Arts, the 1920s-era State Theatre, the turn-of-the-century tree-lined Graceada Neighborhood, Downtown Modesto, and John Thurman Field, home of the Modesto Nuts baseball team. Modesto is served by Modesto City-County Airport, as well as Modesto Amtrak Station, which features passenger rail service to San Francisco, Sacramento, and rail/bus service to Los Angeles.

Salida

Salida, located along SR 99 northwest of Modesto, was where the Central Pacific Railroad built a station in the 1870s.[19] The name given to the station was *salida*, which means "exit" in Spanish, as the station was the last stop in Stanislaus County. The town was laid out in the shape of a triangle, and it features a downtown located along Broadway Avenue. Downtown Salida includes oak tree-lined streets and a shaded walk trail located in a central median. Following Broadway northeast leads to the start of SR 219 at the SR 99 bridge. Almond cultivation is a significant economic activity for the community.

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[15] Census Transportation Planning Products (CTPP); American Community Survey (ACS), 2006-2010 5-Year Estimates
[16] http://gallo.com/family/OurFamily.html, accessed March 7, 2016
[17] https://www.modestogov.com/about/, accessed March 7, 2016
[18] http://www.rockabillyhall.com/maddoxrose.html, accessed March 7, 2016
[19] https://en.wikipedia.org/wiki/Salida,_California, accessed March 7, 2016

Salida features trip attractors near SR 99 and SR 219. The community is host to private colleges and academies located on either Kiernan Court, which empties into westbound SR 219 between Sisk Road and SR 99, or on Pirrone Road. These institutions are located on SR 99 frontage roads. Kiernan Court does not have access to Pirrone Road. This lack of access leads to traffic using Sisk Road to access locations on Pirrone Road instead. Other trip attractors in Salida include the Salida Central Library, located on Sisk Road south of SR 219, Blue Diamond Growers processing plant located on Sisk Road and SR 219, as well as an outdoor recreational facility and game center on the corner of Bangs Avenue and Sisk Road.

LAND USE

LAND USE	
Segment	**Place Type**
SR 219	Corridor (4B), Rural Settlements and Agricultural Lands (5B), Dedicated Use Areas (4C)
4B: Arterial streets with a variety of fronting development types, characterized by inadequate walk and bike environments, low land use efficiency **5B**: Scattered dwelling units and supporting commercial uses and public facilities, no significant subdivisions and limited non-agricultural land use, lands in agricultural or grazing use **4C**: Large tracts of land used for commercial purposes such as business or industrial park or warehousing, or for recreational purposes	

SR 219 is under the general plan jurisdiction of two land use planning agencies: the City of Modesto and Stanislaus County. The 2008 Modesto General Plan (GP) affects sections east of Sisk Road. The City's sphere of influence extends north relative to SR 219 in areas east of Sisk Road and west of McHenry Avenue. The Stanislaus GP affects sections of Salida. Land use types, such as 4B, 5B, and 4C in the table, are consistent with the place type designations contained in the Smart Mobility Framework.[20]

The route is host to varied land uses. Locations between SR 99 and Sisk Road feature uses specific to SR 99 traffic needs. This 0.275 mile stretch also features the only adjacent residential development along the corridor, located on the north side of the route. Access to the subdivisions is achieved from Sisk Road. Also located in this area are private colleges and academies. Land uses east of Sisk are mostly agricultural with light industrial/warehousing. Also present in the corridor east of Sisk is rural residential, public institutional, medical, and road-side retail.

By 2040 it is expected that the City of Modesto will expand northwards, and the City of Riverbank to expand westwards with development. Future residential development west of incorporated Riverbank and east of Coffee Road could contribute to greater traffic on SR 219, as well as the possibility of future commercial, office, and residential development along the SR 219 corridor in Modesto. This increase will likely, aside from the expansion of SR 219 to six lanes, induce investment and development in transit services and expansion of the transit network. Future growth will require Complete Streets facility enhancement and investment in bicycle, pedestrian, and transit multimodal opportunities. The construction of the NCC would further enhance the need for a complete expressway standard facility.

The 2014 StanCOG RTP plans for a six lane facility.[21] StanCOG's 2013 Non-Motorized Transportation Plan (NMTP) advocates Class I bike paths on SR 219 and shoulder widening.[22] Sidewalks are also a possibility. In order to achieve the 25-year concept, long term right of way (ROW) needs to be ensured where expansion is possible.

Growth projections in D10 suggest more east-west commuting behavior to/from the Bay Area. For the Modesto area along SR 99 in Stanislaus County, the commute will follow two paths—the first northwards on SR 99 onto SR 120 to I-5 to I-205; the second westwards on SR 132 to I-580 north. Continued dependence on higher paying jobs in the Bay Area will require additional resources to further expand the travel facilities and services along these

[20] http://www.dot.ca.gov/hq/tpp/offices/ocp/Appendix_C_SMF_Place_Type_Analysis.pdf, p. 5, accessed March 7, 2016
[21] Stanislaus Council of Governments 2014 Regional Transportation Plan, Appendix K, adopted June 2014
[22] Stanislaus Council of Governments Final Non-Motorized Transportation Master Plan, October 2013

two corridors, leading to more direct east-west connectivity between the San Joaquin Valley and the Bay Area. SR 219 and the potential construction of the NCC will play a role in fostering such access from SR 99 to Riverbank, parts of Modesto, and Oakdale.

SYSTEM CHARACTERISTICS

SR 219 is a principal arterial expressway, though centerline mile intervals suggest the distances between signals may be too short. It is listed on the FES. It is a four-lane facility, two lanes in each direction, with several auxiliary lanes for turning at intersections. It is a six-lane facility from Carver Road to Tully Road.

There are plans for multimodal improvements to bicycle facilities in the SR 219 corridor, such as the installation of a Class I bicycle lane from Sisk Road to SR 108, and the development of new bicycle infrastructure on intersecting north-south roads. The StanCOG 2013 NMTP promotes these enhancements. There are also plans to expand capacity. The 2014 StanCOG RTP features plans for a facility with six lanes.[23] The RTP also identifies the NCC as a future east-west four-lane expressway project that may link to the existing SR 219.[24]

There are eight current locations for Intelligent Transportation System (ITS) elements. Integration with ITS detectors and other electrical elements into the Performance Measurement System (PeMS) is ongoing.

Future improvements to SR 219 ITS elements include the following:

1. Installation of two new changeable message signs (CMS): an east bound CMS east of Stoddard Road and a west bound CMS west of Carver Road.
2. Install seven closed circuit television cameras (CCTV) at the junctions of SR 99, Sisk Road, Stoddard Road, Dale Road, Carver Road, Tully Road, and SR 108. CCTVs will provide real-time video feedback of traffic and weather conditions for better traffic monitoring of existing signals and the newly installed ramp metering systems on SR 99 ramps. CCTVs help identify the type of response needed and reduce the response time of incidents.
3. Install a permanent count station at Carver Road and four traffic monitoring station (TMS) sites for real-time speed monitoring through the Performance Measurement System (PeMS).
4. Upgrade communication between the Traffic Management Center (TMC) and existing/proposed ITS elements by installing an integrated fiber optic system for the complete length of SR 219. Two mini hubs will be installed: one at the junction with SR 99 and one at the junction with SR 108.

[23] Stanislaus Council of Governments 2014 Regional Transportation Plan, Appendix K, adopted June 2014
[24] North County Corridor Expressway Public Information Meeting Summary Report, March 6, 2014

SYSTEM CHARACTERISTICS	
Existing Facility	
	SR 219
Facility Type	Expressway
General Purpose Lanes	4 to 6
Lane Miles	20.472
Centerline Miles	4.858
High Occupancy Vehicle (HOV)	None
High Occupancy Vehicle Characteristics	None
High Occupancy Toll (HOT)	None
High Occupancy Toll Express	None
Toll	None
Toll Characteristics	None
Bus Rapid Transit (BRT)	None
Auxiliary %	N/A
Passing Lanes	None
Truck Climbing Lanes	None
20 to 25 Year Concept Facility	
Facility Type	Expressway
General Purpose Lanes	4 to 6
Lane Miles	20.472 to 29.15
Centerline Miles	4.858
HOV	None
HOT	None
Toll	None
BRT	None
Auxiliary %	N/A
Passing Lanes	None
Truck Climbing Lanes	None
Post 25 Year Facility	
N/A	

ITS Elements		
	Location	**Element**
Intelligent Transportation System Elements (Base Year)	SR 99 SB	SL
	SR 99 NB	SL
	Sisk Road	SL
	Stoddard Road	SL
	Dale Road	SL
	W/O Morrow Road	CCTV
	W/O Morrow Road	CMS (eastbound)
	W/O Morrow Road	RWIS
	W/O Morrow Road	TMS
	E/O Pentacost Drive	CCTV
	E/O Pentacost Drive	CMS
	E/O Pentacost Drive	RWIS
	E/O Pentacost Drive	TMS
	W/O Stratos Way	Count Station
N/A: data not available; **SB**: Southbound; **NB**: Northbound; **W/O**: West Of; **E/O**: East Of; **SL**: Signal; **CCTV**: Closed Circuit Television Camera; **RWIS**: Roadside Weather Information System; **TMS**: Traffic Monitoring Station; **CMS**: Changeable Message Sign		

BICYCLE FACILITY

Bicycles are allowed on SR 219. There are Class II lanes that run on SR 219 from SR 99 to SR 108. The facilities feature marked and posted signage as well as wide paved shoulders in areas between signaled intersections. The bikeways provide paved shoulders anywhere from four to over eight feet wide that separate the bicyclist from the automobile travel lane with a solid white edge line stripe.[25] Pedestrians can also access these spaces where sidewalks are not present. Areas near signaled intersections have Class II bike lanes in directions leading into the

[25] Stanislaus Council of Governments Final Non-Motorized Transportation Master Plan, October 2013, Fig. 2-1

intersections, so as to facilitate safer right turn movements. Recent expansion has just taken place on SR 219, so the quality of the shoulder pavement in most locations is in good condition.

The new SR 99/Kiernan Bridge features Class II bike lanes. These lanes improve bicycle connectivity in the corridor and in Salida, as they connect bicycle lanes on the east side of SR 99 to facilities on the west side. Bicycles are not allowed on the on and off ramps to and from SR 99.

Kiernan Court is a Class III bicycle facility. There are unsigned Class III bike lanes on Sisk Road and Stoddard Road on both sides of SR 219. Bikes are allowed on Nutcracker Lane. There are signed Class III and Class II bike lanes on Dale Road south of SR 219. Dale Road north of SR 219 has unsigned Class III facilities. Bikes are allowed on Morrow Road. There are unsigned Class III facilities on Carver Road north and south of SR 219. There are unsigned Class III facilities north and south of SR 219 on Tully Road. Bikes are allowed on Tunson Road, Pentacost Drive, and Stratos Way. McHenry Avenue near SR 219 currently has a Class III bike facility.

Proposed improvements from agencies include a ten foot wide Class I facility on the north side of SR 219 from Sisk Road to SR 108.[26] The proposal includes widening shoulders by two feet from Sisk to SR 108. The NMTP lists the proposed Class I facility as a first-tier priority, but the facility is not specifically listed in Appendix K of the RTP. A Class II facility is proposed on Sisk Road south of SR 219, a proposed Class II on Kiernan Court, and a Class II on Tully Road south of SR 219.[27] A Class I facility is proposed on Dale Road south of SR 219, and a Class I is proposed on an old railroad bed south of SR 219 between Tully and SR 108. A planned Class I is featured on Claribel Road east of SR 219, as well as a planned Class III on McHenry.

Based on 2016 ARTPLAN conceptual analysis, current bicycle LOS on SR 219 averages in the D to E range. 2040 projections place bicycle LOS as unchanged. This analysis suggests that a consistent facility from Salida west of SR 99 to east of McHenry Avenue is needed to bring the bicycle LOS to standard with automobile LOS. The Highway Design Manual (HDM) states that bicycle and pedestrian facilities should provide a level of service that is at least comparable to the highway automobile LOS.[28] Class I enhancement is recommended in the 2013 StanCOG NMTP for SR 219 from Sisk Road to SR 108. These are improvements that System Planning supports.

In addition to addressing LOS forecasting deficiencies with bicycle LOS, the need for a Class I facility becomes clearer as Modesto develops adjacent to and north of SR 219. Mixed use development increases the need to accommodate bicycle accessibility, and Caltrans supports Complete Streets policies of installing bicycle facilities in appropriate locations along state highways. Preserving right of way and prioritizing a Class I facility for construction now better enhances the corridor's ability to accommodate multimodal use later when land along SR 219 does develop.

Class I bicycle facilities also enhance alternative transportation access for students. There are currently five schools located in the SR 219 corridor: Stanislaus Elementary School on SR 219 between Morrow and Carver Roads, Joseph A. Gregori High School located on Pirrone Road north of SR 219, Sisk Elementary School located between Sisk Road and SR 99, Modesto Christian School located on Sisk Road north of Pirrone Road, and Salida Elementary School located in Salida west of SR 99. As future residential areas develop along the corridor, a Class I facility could prove a significant component of a corridor that ensures students have access to schools with multimodal means.

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[26] Stanislaus Council of Governments Final Non-Motorized Transportation Master Plan, October 2013

[27] Stanislaus Council of Governments Final Non-Motorized Transportation Master Plan, October 2013

[28] http://www.dot.ca.gov/hq/oppd/hdm/pdf/english/chp0100.pdf, Highway Design Manual, 102.2 Design Capacity and Quality of Service (Pedestrians and Bicycles), 100-4

BICYCLE FACILITY								
	ID	Post Mile	Location Description	Bicycle Access Prohibited	Bike Class Facility	Paved Shoulder Width	Description	Speed Limit
SR 219	1A	0.076-0.157	SR 99 SB onramp to SR 99 NB exit ramp	No	II	>5 ft.	Flat	30
	1B	0.157-0.280	SR 99 NB exit ramp to beg. RT to Sisk Rd.	No	II	6 ft.	Flat	30
	1C	0.280-0.350	Beg. RT to Sisk Rd. to Sisk Rd.	No	II	4 ft.	Flat	30
	1D	0.350-0.390	Sisk Rd. to Beg. RT to Nutcracker Ln.	No	II	>4ft.	Flat	30
	1E	0.390-0.850	Beg. RT to Nutcracker Ln. to Nutcracker	No	II	4 ft.	Flat	30-50
	1F	0.850-0.900	Nutcracker Ln. to Stoddard Rd.	No	II	4 ft.	Flat	50
	1G	0.900-1.100	Stoddard Rd. to Chapman Rd.	No	II	>6 ft.	Flat	50
	1H	1.100-1.350	Chapman Rd. to Quinturn Ln.	No	II	>6 ft.	Flat	50
	1I	1.350-1.750	Quinturn Ln. to beg. RT to Dale Rd.	No	II	>6 ft.	Flat	55
	1J	1.750-1.850	Beg. RT to Dale Rd. to Dale Rd.	No	II	4 ft.	Flat	55
	1K	1.850-2.970	Dale Rd. to west school entrance	No	II	>6 ft.	Flat	55
	1L	2.970-3.107	West school ent. to east school entrance	No	II	>6 ft.	Flat	25
	1M	3.107-3.255	East school ent. to beg. RT to Carver Rd.	No	II	>6 ft.	Flat	55
	1N	3.255-3.360	Beg. RT to Carver Rd. to Carver Rd.	No	II	4 ft.	Flat	55
	1O	3.360-3.780	Carver Rd. to beg. RT to Tully Rd.	No	II	>6 ft.	Flat	55
	1P	3.780-3.880	Beg. RT to Tully Rd. to Tully Rd.	No	II	4 ft.	Flat	55
	1Q	3.880-4.005	Tully Rd. to beg. RT to Tully Rd.	No	II	4 ft.	Flat	55
	1R	4.005-4.565	Beg. RT to Tully Rd. to Stratos Way	No	II	>6 ft.	Flat	45-55
	1S	4.565-4.742	Stratos Way to Beg. RT to SR 108	No	III	varies	Flat	45
	1T	4.742-4.858	Beg. RT to SR 108 to SR 108	No	II	4 ft.	Flat	45
Beg.: beginning; **Ent.**: entrance; **NB**: northbound; **SB**: southbound; **RT**: right turn; **Ln.**: lane; **Rd.**: road; **III**: class 3 bike lane; **II**: class 2 bike lane; **ft.**: feet								

PEDESTRIAN FACILITY

Sidewalks run from the southbound on/off ramps of SR 99 to the intersection of Sisk Road, though there are gaps due to current construction. In addition to Class II bicycle lanes, the new Kiernan Avenue Bridge over SR 99 will have sidewalks on both sides. Improvements include sidewalks, painted crosswalks, and yellow Americans with Disability Act (ADA) compliant curb ramps on all four corners of the southbound and northbound on/off ramp intersections on both sides of the bridge. ADA ramps are located on both curb sides of the eastbound SR 219 entrance to Burger King and the Vineyard 76 Station. ADA ramps on both sides and a painted white crosswalk are located at the intersection with Kiernan Court and westbound SR 219. ADA ramps and painted white crosswalks are located on all sides of the intersection with Sisk Road. The right turn from eastbound SR 219 to southbound Sisk Road features ADA ramps on both sides, as well as a painted crosswalk. It is east of the Sisk Road intersection where paved sidewalks end.

There is a four foot wide sidewalk along the eastbound SR 219 from Nutcracker Lane to the intersection of Stoddard Road, though there is a gap between PM 0.725 and the entrance to the CHP station. There is no sidewalk along the westbound SR 219 from Stoddard Road to Sisk Road. There are no painted crosswalks or ADA curb ramps at the Stoddard Road intersection. The southwest corner of Stoddard Road has a sidewalk and a non-yellow curb ramp.

There is no sidewalk on either side of SR 219 from Stoddard Road to Dale Road. At the Dale Road intersection there are sidewalks at all four corners, as well as yellow ADA curb ramps. There are painted white crosswalks on the south, east, and north legs of the intersection. The sidewalks do not extend past the intersection. There are no sidewalks on either side of the highway between Dale Road and the entrance to Stanislaus Elementary School. At the west entrance to the school there are painted yellow crosswalks, sidewalks, and ADA curb ramps at all four corners, as well as sidewalks and ADA curb ramps located in the median of the highway. The school features a protective sound wall running parallel to SR 219 that separates students from the highway right of way.

Sidewalks and crosswalks do not appear again until the SR 108 intersection at the end of the route. The sidewalk along the eastbound SR 219 begins at the west entrance to Ray's Carpets Flooring Studio and ends at SR 108. The

sidewalk along the westbound SR 219 begins at the SR 108 intersection and ends west of Showcase Auto Sales, at approximately PM 4.675. There are painted white crosswalks, sidewalks, and ADA curb ramps on all four sides of the SR 108 intersection. There are sidewalks on both sides, as well as a painted white crosswalk, at the intersection with westbound SR 219 and Pentacost Drive. The sidewalks do not extend past the intersection.

In locations without sidewalks, pedestrians can use the paved shoulders with bicyclists.

2015 ARTPLAN conceptual analysis has determined that LOS for pedestrians ranges from C to F. 2040 projections without improvements indicate that LOS from SR 99 to Sisk Road will be D, and LOS will remain either E or F for all remaining portions of SR 219.

SR 219 from Sisk Road to McHenry Avenue does not feature in 2013 StanCOG NMTP future pedestrian improvement priority areas. However, the area from SR 99 to Sisk Road is next to a pedestrian priority area located along Broadway Avenue in Salida.[29] System Planning and Goods Movement supports efforts to preserve right of way that include room for future pedestrian amenities along all areas of the SR 219, so as to ensure a pedestrian facility that is at least comparable to automobile LOS, and that will provide a Complete Streets corridor that can meet the multimodal needs of future development.

PEDESTRIAN FACILITY						
Seg.	**Seg ID**	**Post Mile**	**Location Description**	**Ped Access**	**Sidewalk Present**	**Sidewalk Width**
SR 219	1U	0.076-0.157	SR 99 SB onramp to SR 99 NB exit ramp	Y	Yes	4-8ft.
	1V	0.157-0.280	SR 99 NB exit ramp to beg. RT to Sisk Rd.	Y	Yes	4-8ft.
	1W	0.280-0.350	Beg. RT to Sisk Rd. to Sisk Rd.	Y	Yes	4-8ft.
	1X	0.350-0.390	Sisk Rd. to Beg. RT to Nutcracker Ln.	Y	No	N/A
	1Y	0.390-0.520	Beg. RT to Nutcracker Ln. to Nutcracker	Y	No; eastbound, yes	4-8ft.
	1Z	0.520-0.725	Nutcracker Ln. to PM 000.725	Y	No; eastbound, yes	4-8ft.
	1AA	0.725-0.785	PM 000.725 to CHP Field Office	Y	No	N/A
	1AB	0.785-0.850	CHP Field Office to Stoddard Rd.	Y	No; eastbound, yes	4-8ft.
	1AC	0.850-0.900	Stoddard Rd. to Beg. RT to Stoddard Rd.	Y	No	N/A
	1AD	0.900-1.100	Beg. RT to Stoddard Rd. to Chapman Rd.	Y	No	N/A
	1AE	1.100-1.350	Chapman Rd. to Quinturn Ln.	Y	No	N/A
	1AF	1.350-1.750	Quinturn Ln. to beg. RT to Dale Rd.	Y	No	N/A
	1AG	1.750-1.850	Beg. RT to Dale Rd. to Dale Rd.	Y	No	N/A
	1AH	1.850-2.970	Dale Rd. to west school entrance	Y	No	N/A
	1AI	2.970-3.107	West school ent. to east school entrance	Y	No; westbound, yes	4-8ft.
	1AJ	3.107-3.255	East school ent. to beg. RT to Carver Rd.	Y	No	N/A
	1AK	3.255-3.360	Beg. RT to Carver Rd. to Carver Rd.	Y	No	N/A
	1AL	3.360-3.780	Carver Rd. to beg. RT to Tully Rd.	Y	No	N/A
	1AM	3.780-3.880	Beg. RT to Tully Rd. to Tully Rd.	Y	No	N/A
	1AN	3.880-4.005	Tully Rd. to beg. RT to Tully Rd.	Y	No	N/A
	1AO	4.005-4.565	Beg. RT to Tully Rd. to Stratos Way	Y	No	N/A
	1AP	4.565-4.675	Stratos Way to PM 004.675	Y	No	N/A
	1AQ	4.675-4.742	PM 004.675 to beg. RT to SR 108	Y	No; westbound, yes	4-8ft.
	1AR	4.742-4.858	Beg. RT to SR 108 to SR 108	Y	Yes	4-8ft.
Beg.: beginning; **Ent.**: entrance; **NB**: northbound; **SB**: southbound; **RT**: right turn; **Ln.**: lane; **Rd.**: road; **Y**: yes; **N**: no; **ft.**: feet						

TRANSIT FACILITY

SR 219 is served by the Ripon Blossom Express, Escalon's e-Trans Route 1, Stanislaus Regional Transit (StaRT) Route 60, and the Modesto Area Express (MAX). The MAX operates routes 22, 27, and 28 on various portions of the corridor. MAX operates a dial-a-ride service in Modesto's sphere of influence for areas not served by fixed route transit.

[29] Stanislaus Council of Governments Final Non-Motorized Transportation Master Plan, October 2013

Route Number 22 is a fixed route that connects Downtown Modesto to Vintage Faire Mall during weekdays. The route runs briefly on SR 219 on Sundays from Stratos Way to SR 108. Its Sunday schedule is 8:45AM to 6:40PM, the bus running once an hour.[30]

Route Number 27 is a fixed route that connects Downtown Modesto to locations in north Modesto. Running mostly on McHenry Avenue, the route briefly operates on the SR 219 from Stratos Way to SR 108. Operating on weekdays from 6:30AM to 7:25PM, and on Saturdays from 8AM to 5:55PM, the route runs a bus once an hour.[31]

Route Number 28 is composed of two fixed route types: the Pelandale Loop and the Kiernan Loop. The Pelandale Loop 28 connects the Vintage Faire Mall and the community of Salida. The route runs on SR 219 going west only from Stoddard Road to the highway's western terminus, continuing further on Broadway Avenue into the community of Salida. This version of the 28 also intersects SR 219 on Dale Road going north. It operates weekdays from 7AM to 6:50PM, running a bus once an hour.[32]

The Kiernan Loop 28 connects the Vintage Faire Mall to Salida, but utilizes more of SR 219. The route utilizes both directions of SR 219 from Sisk Road to the highway's western terminus, connecting to Salida. The route travels in an easterly direction on SR 219 from Sisk Road to Dale Road, running east on the highway twice between Stoddard Road and Dale Road, as the 28 loops once via Dale Road, Pirrone Road, Stoddard Road, and back again on SR 219. The bus operates on weekdays from 6:30AM to 7:20PM, running a bus once an hour. On Saturday the 28 for both variations operates on SR 219 only from Sisk Road to its western terminus into the community of Salida. Its Saturday hours are from 7:55AM to 6:25PM, running a bus once an hour.

The Ripon Blossom Express is a deviated fixed route (DFR) that connects locations in Ripon to the Vintage Faire Mall. Using the SR 219 from SR 99 to Dale Road, the bus also makes stops at Kaiser Permanente. The bus makes two one-hour roundtrips in the morning and two in the afternoon on Tuesdays and Thursdays. The route operates from 9:25AM to 2:34PM.[33]

Escalon runs e-Trans Route 1 DFR service from Downtown Escalon to the Vintage Faire Mall, Kaiser Permanente, the corner of Standiford Avenue and McHenry Avenue, and other locations on SR 219. The bus makes three one-hour roundtrips Monday through Friday. Operating hours are from 8:12AM to 5:12PM.[34]

The StaRT Route 60 operates a bus on Saturdays on SR 219 from SR 108 to Dale Road. Hours of operation are 6:15AM to 8:28PM. The bus runs every two hours.

Routes that run adjacent to, but not on, the SR 219 are the StaRT weekday Route 60, which runs on SR 108, and the MAX to ACE (Altamont Corridor Express) and MAX to BART (Bay Area Rapid Transit) commuter services that use SR 99. Neither of the commuter routes have stops within a quarter-mile of SR 219.

StanCOG Fiscal Year (FY) 2015/16 Unmet Transit Needs did not identify any short term unmet transit needs.[35] However, enhancements to transit in the SR 219 corridor can be aided by long term planning strategies that endorse centralized, mixed-use, jobs/housing balanced, non-car dependent land use development. These characteristics are consistent with goals expressed in Chapter 6 of the 2014 StanCOG RTP.

The California High Speed Rail Authority has selected a potential route for California High Speed Rail (CHSR) through Modesto. The route will connect Sacramento to Southern California, traversing the San Joaquin Valley

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[30] http://www.modestoareaexpress.com/routes/route_22.aspx, accessed March 7, 2016
[31] http://www.modestoareaexpress.com/routes/route_27.aspx, accessed March 7, 2016
[32] http://www.modestoareaexpress.com/routes/route_28.aspx, accessed March 7, 2016
[33] http://www.cityofripon.org/Home/Blossom_Express/Blossom-Express.html, accessed March 7, 2016
[34] http://cityofescalon.org/e-documents/transit/eTrans%20Ride%20Guide%207-2015.pdf, accessed March 7, 2016
[35] http://www.stancog.org/pdf/tnas/utn-analysis-report-2015-2016.pdf, accessed March 11, 2016

and crossing the Tehachapi Mountains at Tehachapi Pass. Unless plans change, high speed rail will do little to affect activity on SR 219, as no stop is planned in Salida or in SR 219's immediate vicinity.[36] Funding, construction year, and exact alignment in Stanislaus County have not been finalized.

TRANSIT FACILITY									
	Type	Name	Route End Points	Headway	Operating Period	Stations/Stops		Amenities (excluding end points)	Bikes Allowed
						Cities	Post miles		
SR 219	Trad. Bus	MAX 28	Vintage Faire Mall via Salida	1hr.	M-F: 0700-1850 Sat: 0755-1825	Modesto	PM 0.251, PM 0.644	No amenities	Y
	Trad. Bus	MAX 28	Vintage Faire Mall via Salida	1hr.	M-F: 0630-1920 Sat: 0755-1825	Modesto	PM 0.251, PM 0.644	No amenities	Y
	DFR Bus	Ripon Blossom	Ripon Library to Vintage Faire Mall	1hr.	T,Th: 0925-1434	Modesto, Ripon	Off System	No amenities	Y
	DFR Bus	E-Trans Route 1	Downtown Escalon to Vintage Faire Mall	3 to 5hrs.	M-F: 0812-1712	Modesto, Escalon	PM 4.798	No amenities	Y
	Trad. Bus	StaRT 60	Modesto To Oakdale	2hrs.	Sat: 0615-2028	Modesto	Off System	No amenities	Y
	Trad. Bus	MAX 22	Downtown Modesto to Vintage Faire Mall	1hr.	Sun: 0845-1840	Modesto	PM 4.79	Bench	Y
	Trad. Bus	MAX 27	Downtown Modesto to Kiernan & SR 108	1hr.	M-F: 0630-1925 Sat: 0800-1755	Modesto	PM 4.79	Bench	Y
PM: post mile; **Trad.**: traditional; **DFR**: deviated fixed route; **MAX**: Modesto Area Express; **Y**: yes; **N/A**: data not available									

FREIGHT

SR 219 is a TA truck route and serves a connecting function to SR 99 for freight from areas near Riverbank, Oakdale, North Modesto, and foothill communities. SR 219 is the only TA route in the area that connects east Stanislaus communities to SR 99 while mostly avoiding going into a local street network. This unique role adds to the significance SR 219 plays as a truck route within the region.

At the junction with SR 108, 2014 annual average daily truck traffic (AADTT) is approximately 1,338. Annual average daily traffic (AADT) is 14,868. The average truck volume is about 9%, with more than half of trucks having five or more axles. AADTT is likely to be greater in locations between SR 99 and Sisk Road, due to the presence of SR 99, one of the State's major shipping corridors.

A Union Pacific railroad spur from Escalon at one point crossed at grade on SR 219 between Tunson Road and Pentacost Drive, but the track has been removed. The road surface has been completely redeveloped.

SR 219 between SR 99 and Sisk Road features freight originators specializing in mostly agricultural equipment manufacturing or rentals. The majority of these enterprises are located adjacent to SR 99 on frontage roads, such as Salida Boulevard. Locations between Sisk Road and Stoddard Road have a mixture of mostly agricultural or distribution goods movement. An industrial park located south of SR 219 is host to several truck freight-utilizing enterprises. This area makes or distributes goods ranging from dairy farming, dairy equipment, almonds, die-casting and machining, to education equipment and wholesale seafood.

Locations between Dale Road and Tully Road are composed of agricultural freight generators ranging from dairy operations to agricultural equipment and fertilizer. The eastern end of SR 219 near McHenry Avenue is characterized by the presence of several auto dealerships on SR 108. Also located in the area is a mixture of steel manufacturing, equipment rentals, agricultural production, and distribution facilities.

[36] http://www.hsr.ca.gov, accessed March 7, 2016

The following is a list of businesses that use trucks in the SR 219 area. Not all truck traffic is year-round, as several companies feature seasonal commodities. Traffic impact analysis is needed to depict which enterprises use trucks often and the times of year that feature greater truck use. The following table describes SR 219 goods movement, but it does not display how many trucks used, the leading routes trucks take, or the peak seasons trucks operate.

FREIGHT FACILITY					
	Facility Type/Freight Generator	**Location**	**Mode**	**Name**	**Major Commodity**
SR 219	Manufacturer	Kiernan Ct. and SR 219	trucks	Beeler Industries	Ag. processors
	Renter	Salida Blvd. next to SR 99	trucks	U-Haul	Rental moving eq.
	Retailer	Salida Blvd.	trucks	Holt Ag Solutions	Ag. Eq. and machinery
	Manufacturer	Toomes Rd.	trucks	Flory Industries	Nut harvesting eq.
	Renter	Salida Blvd.	trucks	Blue Line Rental	Equipment rental
	Agriculture	Ladd Rd.	trucks	Rocking S Dairy	Dairy
	Agriculture	Stoddard Rd.	trucks	Grover Landscape Services Inc.	Nursery
	Distribution	Stoddard Rd.	trucks	MTC Distributing	Groceries and sundries
	Distribution	Technology Dr.	trucks	Nasco Catalog Outlet	Education supplies
	Distribution	Enterprise Way	trucks	Milk Rite USA	Dairy eq.
	Supplier	Enterprise Way	trucks	Salida AG Chemical	Ag. chemicals and eq.
	Agriculture	Nutcracker Ln.	trucks	Blue Diamond Growers	Almonds
	Retailer	SR 219	trucks	Red Barn Equipment Sales	Ag. equipment
	Supplier	Enterprise Way	trucks	Zarate Foods	Wholesale seafood
	Manufacturer	Technology Dr.	trucks	Lamar Tool and Die Casting	Die-casting & machining
	Distribution	Bangs Ave.	trucks	Veterinary Service Inc.	Animal health products
	Agriculture	Carver Rd.	trucks	BV Farms	Cattle, Ag. eq.
	Agriculture	SR 219	trucks	Bolero	Sod, seed, fertilizer
	Storage Rental	SR 219	RVs	Westra RV Storage	Storage
	Agriculture	Carver Rd.	trucks	DeBoer Farms	Ag.
	Agriculture	Ladd Rd.	trucks	Rocking S Dairy	Dairy
	Manufacturer	SR 219 & McHenry Ave.	trucks	Bambacigno Steel	Steel
	Retailer	McHenry Ave.	trucks	Mistlin Honda	Cars
	Retailer	W. Galaxy Way	trucks	Valley Lexus	Cars
	Retailer	McHenry Ave.	trucks	American Chevrolet	Cars
	Retailer	McHenry Ave.	trucks	Modesto Toyota	Cars
	Retailer	McHenry Ave.	trucks	Central Valley Volkswagon	Cars
	Retailer	E. Galaxy Way	trucks	Central Valley Hyundai	Cars
	Retailer	McHenry Ave.	trucks	Central Valley Nissan	Cars
	Retailer	McHenry Ave.	trucks	Central Valley Chrysler	Cars
	Retailer	McHenry Ave.	trucks	Modesto Scion	Cars
	Retailer	McHenry Ave.	trucks	Valley BMW	Cars
	Retailer	McHenry Ave.	trucks	Modesto Subaru	Cars
	Retailer	McHenry Ave.	trucks	Acura of Modesto	Cars
	Various	SR 219	trucks	Modesto Industrial Park	Various
	Supplier and renter	Bitritto Ct.	trucks	California High Reach	Heavy and aerial eq.
	Landscaping	SR 108	trucks	Nagel Landscape and Maint.	Landscaping
	Distribution	Jerusalem Ct.	trucks	Al's Distribution Center	Furniture
	Agriculture	Ladd Rd.	trucks	Haley Farms	Ag.
	Agriculture	Galaxy Way	trucks	Modesto Seed Company, Inc.	Vegetable and grass seeds
	Storage Rental	Tunson Rd.	Trucks, RVs	Derrel's Mini Storage Inc.	Storage, RV storage
RV: recreational vehicle; **Inc.**: incorporated; **Co.**: company; **Ag.**: agriculture; **eq.**: equipment; **Maint.**: maintenance					

ENVIRONMENTAL CONSIDERATIONS

Environmental considerations allow planners to estimate the cost and duration of studies for improvements to SR 219. The scan reveals that the corridor is located near 100-year flood plains that could be affected by climate change. There are low to moderate degrees of impacts due to leaking underground tanks. There is a low degree of impact to wetlands and special status species, and there is a high degree of impact to cultural resources. There are moderate to high degrees of impacts due to possible hazardous waste from lead. Stanislaus County is in non-attainment for the 1 hour/8 hour ozone standards, in 2.5 particulate matter, and is in maintenance for carbon monoxide. See the table below for further details on the environmental scan. The UP Railroad used to cross SR 219 near the eastern end of the corridor.

ENVIRONMENTAL SCAN			
Segment			SR 219
Section 4(f) Land			N/A
Farmland/Timberland			UBU, PF, RRL, FLI, SARC
Environmental Justice			N/A
Cultural Resources			High
Visual Aesthetics			None
Geology/Soils/Seismic			N/A
Floodplain			100 yr. vicinity
Climate Change Vulnerability			Low
Hazardous Materials			Moderate/High lead
Naturally Occurring Asbestos			N/A
Air Quality	**Ozone**		Non Attainment
	PM	**2.5**	Non Attainment
		10	Maintenance
	Carbon Monoxide		Maintenance
Noise			N/A
Waters and Wetlands			Stanislaus River
Wild and Scenic Rivers			None
Special Status Species			Low
Fish Passage			None
Habitat Connectivity			None
PF: Prime Farmland; **UBU**: Urban & Built-up Land; **RRL**: Rural Residential Land; **SARC**: Semi-Agricultural and Rural Commercial Land; **FLI**: Farmland of Local Importance; **N/A**: data not available; **PM**: particulate matter			

CORRIDOR PERFORMANCE

CORRIDOR PERFORMANCE	
SR 219	
Basic System Operations	
AADT (BY)	21,026
AADT (HY)	41,452
VMT (BY)	100,502
VMT (HY)	198,141
DVHD (35 MPH) (BY)	N/A
Truck Traffic	
Total AADTT (BY)	1,908
Total Trucks (% AADT) (BY)	9
5+ Axle AADTT (BY)	973
5+Axle Trucks (%AADT) (BY)	4.6
Bottlenecks Data	
Bottleneck Existing	N/A
Peak Hour Traffic Data	
Peak Period Length	1 hr.
Peak Hr. Direction	Eastbound
Peak Hr. Time of Day	17:30
Managed Lane Performance	
N/A	
Reliability	
N/A	
BY: Base Year; **HY**: Horizon Year; **AADT**: Annual Average Daily Traffic; **VMT**: Vehicle Miles Traveled; **N/A**: data not available; **DVHD**: Daily Vehicle Hours of Delay; **AADTT**: Annual Average Daily Truck Traffic; **V/C**: Volume over Capacity; **hr.**: Hour	

ARTPLAN 2015 current conceptual planning analysis indicates that SR 219 performance east of Sisk Road is within an acceptable concept LOS standard for a four lane non-IRRS expressway. The 2040 AADT projections suggest that SR 219 will not experience the deficiency needed to require facility expansion. The current Traffic Demand Model (TDM) into 2040 features a growth rate of about 2.5%, which results in a projected LOS of C for the SR 219 in 2040. Even with earlier modelling records with higher growth rates from 2000 adjusted to account for 2040 projections, results do not indicate the SR 219 deficient below concept LOS D, which is the Caltrans minimum standard LOS acceptable for non-IRRS routes in D10. Table 1 of Appendix U of the 2014 StanCOG RTP depicts LOS criteria for four-lane state highways that is comparable to a 2040 LOS of B to C for SR 219 without improvements.[37] According to Table 1, AADT would have to be at least 56,800, beyond the minimum LOS C performance standard for Stanislaus County, in order to demonstrate a need for enhancement on a non-IRRS facility.

The StanCOG 2014 RTP lists the six-lane expansion of SR 219 as a Tier I, State Transportation Improvement Program (STIP) programmed project with a construction year of 2020. StanCOG and the County of Stanislaus regard the six-lane expansion as necessary due to the following reasons: planned expansion of the NCC to SR 219, modelling that indicates higher growth rates, and traffic counts conducted after the completion of the SR 219 four-lane expansion that showed immediate increases in traffic volumes.

The far western portion of SR 219 is the one section that the 2015 and 2040 corridor analysis indicates as deficient. However, due to improvements under construction at the time of writing to the SR 99/Kiernan Interchange and to SR 219 from the interchange to Sisk Road, more detailed micro-level study is needed to gauge the performance of the facility both currently and into 2040.

Built-out geographical constraints in this area also suggest more modelling is needed. The length from the southbound SR 99 off ramp exit to the Sisk Road intersection is about 0.275 miles. Included in this stretch of SR

[37] http://www.stancog.org/pdf/rtp/appendix-u-operational-analysis.pdf, p. 2

219 is the Kiernan Bridge, SR 99 on/off ramp entrances/exits, right in/right out access points on the north and south sides of the route (Kiernan Court and Vineyard 76 gas station), and approaches to Sisk Road. The close proximity of Sisk Road to the interchange, as well as access to local streets and businesses, further requires a more detailed model of traffic behavior in this area. Macro-level modelling alone may not be enough to measure SR 219's performance from SR 99 to Sisk Road.

There are differences in AADT between the western and eastern ends of SR 219. AADT lessens the further east the SR 219 goes. Differences in 2040 projected volumes between the model results, the existing growth rate, and the State VMT growth rate lessen toward the east end of the route as well. Most vehicular activity takes place in the western section. Total truck AADT is about 9% for the entire route, though SR 219 only has one truck counting location at the junction of SR 108. Corridor performance also shows that the percentage of five-axle trucks out of total trucks is above 50%. More truck counting locations are needed to better gauge truck traffic.

Peak hour length and time of day are estimates. The expectation on highways on the SHS is to have a peak hour factor (PHF) within a range of 0.88 to 0.92, and to have that PHF increase through time with local development and population growth.

Although LOS has been employed as a State standard by which congestion impacts may be measured for the California Environmental Quality Act (CEQA), the Federal Highway Administration (FHWA) currently emphasizes delay as a more appropriate highway performance measure. Both of these standards might reflect initial conditions of uninterrupted flow consistent with freeways and expressways, rather than conventional highways, and of speed limits in the range of 40 to 55 MPH. There is a need for updated traffic and truck counting data on state highways. Otherwise, data will derive from estimated calculations which may not reflect recent changes in volume, truck numbers, and highway capacity.

KEY CORRIDOR ISSUES

To summarize the findings of this TCR, the key corridor issues are as follows:

- As a component of the SHS, SR 219 provides a connection to SR 99 for communities north and east of Modesto, as well as foothill communities that use SR 108/SR 120.
- Current modelling does not exhibit a need to expand the entirety of SR 219 to six lanes by 2040, although the 2014 StanCOG RTP does feature programmed six-lane expansion.
- The corridor needs Complete Streets multimodal improvements that meet the needs of commuters and future residents, such as a Class I bicycle facility from Sisk Road to SR 108.

CORRIDOR CONCEPT

CONCEPT RATIONALE

SR 219 is not on the IRRS. This means the concept LOS is D. Currently, SR 219 meets at least an LOS of D. For 2040, modelling does not indicate a need to expand the facility to a six-lane expressway, with the possible exception for an approximately 0.275 mile portion between SR 99 and Sisk Road. This area, due to its constrained geography and current construction, should be the subject of further analysis in order to better gauge current and future performance of the facility.

StanCOG considers future development in North Modesto and in Riverbank, as well as the potential construction of the NCC, in its listing of the expansion of the SR 219 to six lanes in its 2014 RTP. The NCC could concentrate east-west regional traffic into the SR 219 corridor, as SR 219 connects to SR 99, and SR 219 is the only state highway STAA Terminal Access route located between SR 120 and SR 132. It is also the only principal arterial between SR 120 and Palendale Avenue. To access SR 99, SR 219 provides an alternative to SR 108, which goes through downtown Modesto after it leaves McHenry Avenue.

Accommodating future sidewalks and Class I bicycle infrastructure is recommended in order to meet future multimodal needs of residents and local commuters. The StanCOG NMTP endorses Class I bicycle paths along SR 219. Enhancements in bus transit can be achieved in part through long-term local investments in compact, mixed-use, pedestrian scaled, centralized development that incentivizes transit rather than driving.

More commuters from the San Joaquin Valley into the Bay Area are expected. This increase in east-west traffic flow may have an impact on SR 219, especially near the SR 99 interchange. Future construction of the east-west NCC could play a role in interregional commuting. Regardless of its construction, operations improvements that facilitate east-west traffic flow on SR 219 during peak hours may help in reducing future congestion.

PLANNED AND PROGRAMMED PROJECTS AND STRATEGIES

The table below lists all planned and programmed (fiscally constrained) projects on the SR 219 corridor. Projects that primarily address SR 108 deficiencies, as opposed to those of SR 219, are not included in this listing. This table includes projects that have active funding. Although lane expansion is the only programmed project listed for SR 219, System Planning supports projects that promote the multimodal needs of transit, bicycles, and pedestrians.

PLANNED AND PROGRAMMED PROJECTS AND STRATEGIES						
	Description	**Planned or Programmed**	**Location**	**Source**	**Purpose**	**Phase**
SR 219	Widen to 6 lanes	Programmed	SR 99 to McHenry Ave. (SR 108)	StanCOG 2014 RTP	Capacity Enh.	N/A
RTP: Regional Transportation Plan; **Ave.**: Avenue; **Enh.**: Enhancement; **N/A**: Not Available						

PROJECTS AND STRATEGIES TO ACHIEVE CONCEPT

The table below lists all unfunded projects and strategies that could be implemented on the corridor to achieve concept. This table only includes projects that have no current funding:

PROJECTS AND STRATEGIES TO ACHIEVE CONCEPT						
	Description	**Planned or Programmed**	**Location**	**Source**	**Purpose**	**Phase**
SR 219	Class I bicycle facility	Planned	County of Stanislaus, City of Modesto	NMTP	Connectivity	N/A
	Shoulder widening	Planned	County of Stanislaus, City of Modesto	NMTP	Safety	N/A
NMTP: StanCOG 2013 Non-Motorized Transportation Master Plan; **SP&GM**: System Planning and Goods Movement						

APPENDIX

APPENDIX A
GLOSSARY OF TERMS AND ACRONYMS

ACRONYMS

AADT: Annual Average Daily Traffic
AADTT: Average Annual Daily Truck Traffic
ACE: Altamont Corridor Express
ADA: Americans with Disabilities Act of 1990
BART: Bay Area Rapid Transit
BRT: Bus Rapid Transit
BY: Base Year
Caltrans: California Department of Transportation
CDP: Census Designated Place
CEQA: California Environmental Quality Act
CFR: Code of Federal Regulations
CGC: California Government Code
CHP: California Highway Patrol
CHSR: California High Speed Rail
CO: Carbon Monoxide
CMA: Congestion Management Agencies
CP: Community Plan
CSMP: Corridor System Management Plan
CTC: County Transportation Commission
D10: District 10
DFR: Deviated Fixed Route
DSMP: District System Management Plan
DVHD: Daily Vehicle Hours Driven
FES: Freeway and Expressway System
FFC: Federal Functional Classification
FHWA: Federal highway Administration
FLI: Farmland of Local Importance
FSI: Farmland of Statewide Importance
GL: Grazing Land
GP: General Plan
HCS: Highway Capacity Software
HOT: High occupancy toll lane
HOV: High occupancy vehicle lane
HSR: High Speed Rail
HY: Horizon Year
IMS: Inter-changeable Message Sign
IRRS: Interregional Road System
ITS: Intelligent Transportation System
I-5: Interstate 5
LAFCO: Local Agency Formation Commission
LOS: Level of Service
LR: Legislative Route
MAP-21: Moving Ahead for Progress in the 21st Century, current federal highway transportation legislation
MAX: Modesto Area Express

MPH: Miles per Hour
MPO: Metropolitan Planning Organization
N/A: Not Available, or Not Applicable
NB: Northbound
NCC: North County Corridor
NHS: National Highway System
NMTP: Non-Motorized Transportation Master Plan
NR: Natural Resources
NTN: National Truck Network
OWP: Overall Work Program
PA&ED: Planning Analysis and Environmental Design
PeMS: Performance Measurement System
PF: Prime Farmland
PHF: Peak Hour Factor
PID: Project Initiation Document
PM: post mile
RBTP: Regional Bicycle Transportation Plan
RMP: Resource Management Plan
ROW: Right of Way
RRL: Rural Residential Land
RTP: Regional Transportation Plan
RTPA: Regional Transportation Planning Agency
RV: Recreational Vehicle
SARC: Semi-agricultural and Rural Commercial Land
SB: Southbound
SHS: State Highway System
SOP: Status of Projects
SR: State Route
STA: County of Stanislaus
STAA: Surface Transportation Assistance Act of 1982
StanCOG: Stanislaus Council of Governments
StaRT: Stanislaus Regional Transportation
STRAHNET: Strategic Highway Network
TA: Terminal Access
TCR: Transportation Concept Report
TMS: Traffic Monitoring Station
UBU: Urban and Built-up Land
UF: Unique Farmland
US: United State Highway
V/C: Volume (of traffic) to Capacity
VDL: Vacant or Disturbed Land
VMT: Vehicle Miles Traveled

GLOSSARY OF TERMS

Annual Average Daily Traffic (AADT) -- The total volume for the year divided by 365 days. 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.

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

Bikeway Class IV -- A Class II bikeway accompanied by a barrier, separation, or a partition that physically separates bicyclists from motorists

Bottlenecks – A bottleneck is a location where traffic demand exceeds the effective carrying capacity of the roadway. In most cases, the cause of a bottleneck relates to a sudden reduction in capacity, such as a lane drop, merging and weaving, driver distractions, a surge in demand, or a combination of factors.

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 to 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.

Centerline Miles -- The mileage of the median or the center line on a highway in one direction for a specified segment length

Concept LOS – The minimum acceptable LOS over the next 20 to 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 fiscally 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.

Conventional Highway – A highway classification with at grade intersections

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.

Expressway – A highway classification with some level of restriction on having at grade intersections

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 – 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

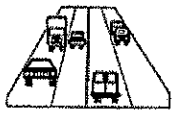
Horizon Year – The year that the future (20 to 25 years) data is based on

Intermodal Freight Facility – Intermodal transport requires more than one mode of transportation. An intermodal freight facility is a location where different transportation modes and networks connect and freight is transferred (or "transloaded") from one mode, such as rail, to another, such as truck.

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.

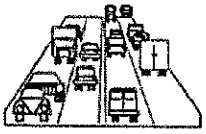
Level of Service (LOS) -- A qualitative measure describing operational conditions within a traffic stream and their perception by motorists. A LOS definition generally describes these conditions in terms of speed, travel time, freedom to maneuver, traffic interruption, comfort, and convenience. Six levels 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.

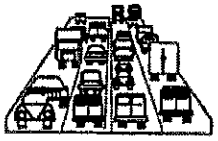


LOS B is also indicative of free-flow conditions. Average travel speeds are the same as in LOS A, but drivers have slightly less freedom to maneuver.

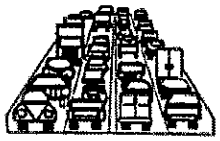
LOS C represents a range in which the influence of traffic density on operations becomes marked. The ability to maneuver with the traffic stream is now clearly affected by the presence of other vehicles.



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 is 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 to be unacceptable, often occurs with oversaturation, that is, when arrival flow rates exceed the capacity of the intersection.

Multi-modal – 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 ten percent of the ADT. The lower values are generally found on roadways with low volumes.

Peak Period – A part of the day during which traffic congestion on the road is at its highest. Normally, this happens twice a day, once in the morning and once in the evening—the time periods when the most people commute. Peak Period is defined for individual routes, not a District or statewide standard.

Planned Project – A planned improvement or action is a project in a fiscally 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 to 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 – 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. 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 reminder of the route within the county will remain unchanged.

Programmed Project – A project in a near-term programming document identifying funding amounts by year, such as the State Transportation Improvement Program (STIP) or the State Highway Operations and Protection Program (SHOPP)

Railroads:

Class I – The Surface Transportation Board (STB) defines a Class I railroad in the U.S. as a carrier having annual operating revenues of $250 million or more. This class includes the nation's major railroads. In California, Class I railroads include Union Pacific Railroad (UP) and Burlington Northern Santa Fe Railway (BNSF).

Class II – STB defines a Class II railroad in the U.S. as having annual carrier operating revenues of less than $250 million but more than $20 million. Class II railroads are considered mid-sized freight-hauling railroad in terms of operating revenues. They are considered "regional railroads" by the Association of American Railroads (AAR).

Class III – Railroads with annual carrier operating revenues of $20 million or less. The typical Class III is a short line railroad, which feeds traffic to or delivers traffic from a Class I or Class II railroad.

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 are not limited to, the National Highway System (NHS), Interregional Route System (IRRS), and the 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 to 25 years. This can include non-capacity increasing operational improvements (auxiliary lanes, channelization, 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 (TDM), and Incident Management.

System Preservation – The unmet needs estimate for preserving the state's transportation system. This incorporates three elements: preventive maintenance, rehabilitation and reconstruction, and regulatory mandates.

- Preventive maintenance applies cost-effective treatments to existing transportation infrastructure in order to preserve it, slowing down future deterioration of a transportation facility (without significantly increasing the structural capacity). Preventive maintenance strategies are typically applied to assets that are in good condition and have significant remaining service life. This ensures the structural integrity of transportation systems that serve people and freight.

- Rehabilitation and reconstruction strategies are applied to transportation infrastructure that is in fair to poor condition. The goal here is to restore assets to an acceptable operating condition.

- Preservation efforts also include the cost of regulatory mandates. Examples of regulatory mandates include storm water retrofitting required by the Clean Water Act (CWA) and state water quality control boards, and improvements required by the Americans with Disabilities Act (ADA).

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. TDM strategies can be used to manage congestion during peak periods and mitigate environmental impacts.

Tier I – Partially programmed projects

Tier II – Fiscally constrained projects that are not programmed. Projects in this category must be from a fiscally constrained document/list (such as the fiscally constrained project list in an RTP) and not from an unconstrained document (such as a TCR).

Tier III – Projects that the District will advocate to be included in fiscally constrained project lists (RTP, SHOPP) during the 20 to 25 year planning horizon. These are projects that are not currently in a fiscally constrained project list.

Tier IV – Projects that have a demonstrated need within the 20 to 25 year time horizon and have been identified as high priority by the District but are unlikely to receive funding within the 20 to 25 year time horizon. These are likely projects that will be programmed if an unexpected funding source becomes available, like an initiative or local measure.

Tier V – Other projects identified as needed by the District: these may be within the 20 to 25 year time horizon, beyond the 20 to 25 year time horizon, or only conceptual inn nature.

Transportation Management System (TMS) -- 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, integrated Advanced Transportation Management Systems and Information Systems, and the 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) – The total number of miles traveled by motor vehicles on road or highway segments