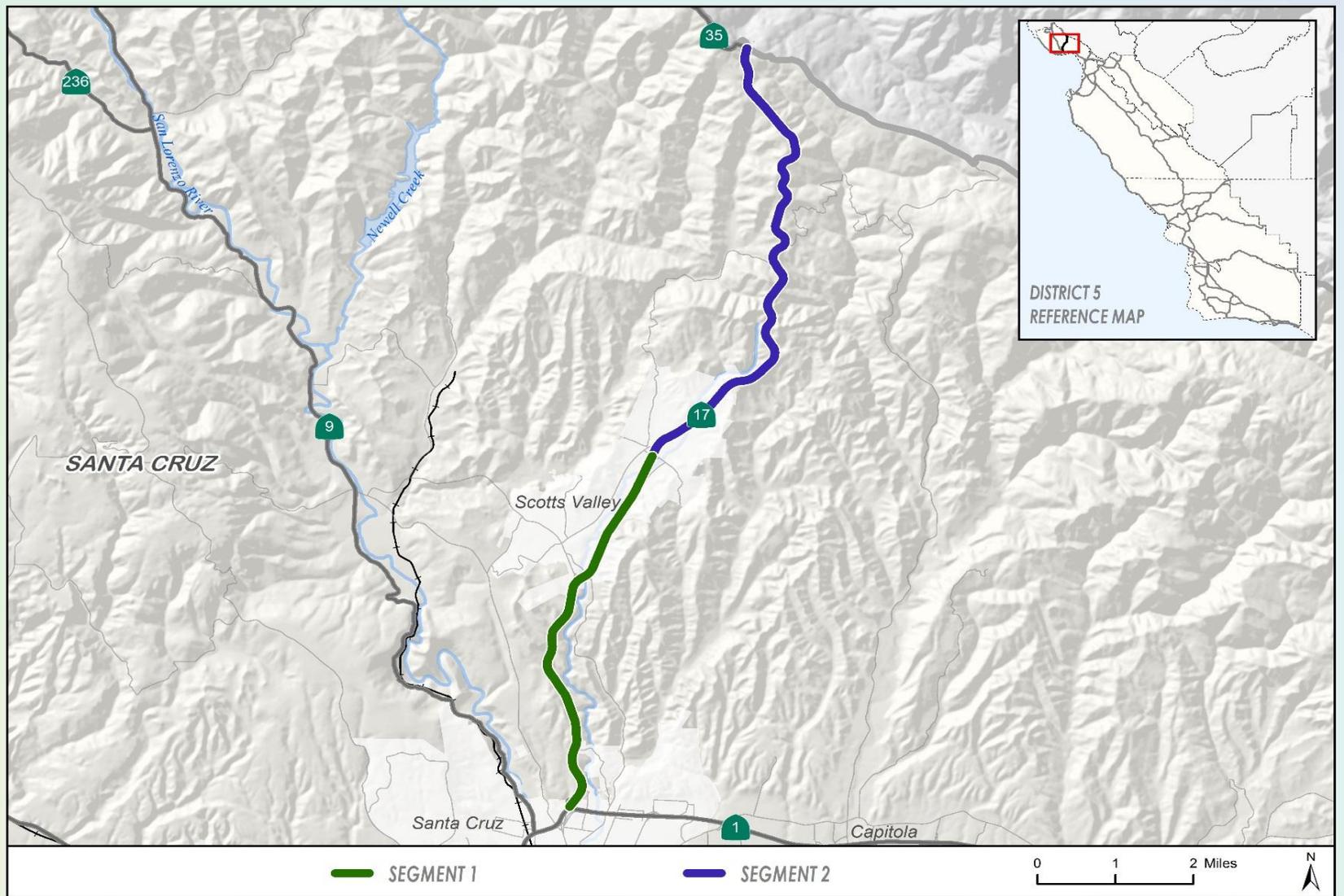


4 CORRIDOR DATA SHEET STATE ROUTE 17



CONTENT:	TRAFFIC DATA	PLANNING DATA	APPENDICES
<ul style="list-style-type: none"> - Daily Traffic Data - Peak Hour Traffic Data - Historic AADT by Year - Historic AADT by Location - 2013 Peak Hour Congestion Maps - 2040 Peak Hour Congestion Maps 	<ul style="list-style-type: none"> - Location Description - Highway Type and Designations - Highway Characteristics - Modal - Intelligent Transportation Systems - Freight - Cultural & Scenic - Environmental 	<ul style="list-style-type: none"> - Appendix A: Pavement Conditions - Appendix B: Traffic Performance - Appendix C: Historic AADT Details - Appendix D: Glossary and References 	

SR 17 Corridor Data Sheet

Prepared by District 5 Transportation Planning

Inputs: PM Peak Hour Analyzed
Base Year 2013
Horizon Year 2040
AMBAG Regional Model 2014

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Last Saved: 2/25/2015

The information and data contained in this document are for planning purposes only and should not be relied upon for final design of any project. Any information in this TCR is subject to modification as conditions change and new information is obtained. Although planning information is dynamic and continually changing, the District 5 System Planning Division makes every effort to ensure the accuracy and timeliness of the information contained in the TCR. The information in the TCR does not constitute a standard, specification, or regulation, nor is it intended to address design policies and procedures and shall not be used as a substitute for project specific analysis, including but not limited to, traffic impact studies, that pertain to any private or public development proposal.

Segment 1 Traffic Data: SR 17

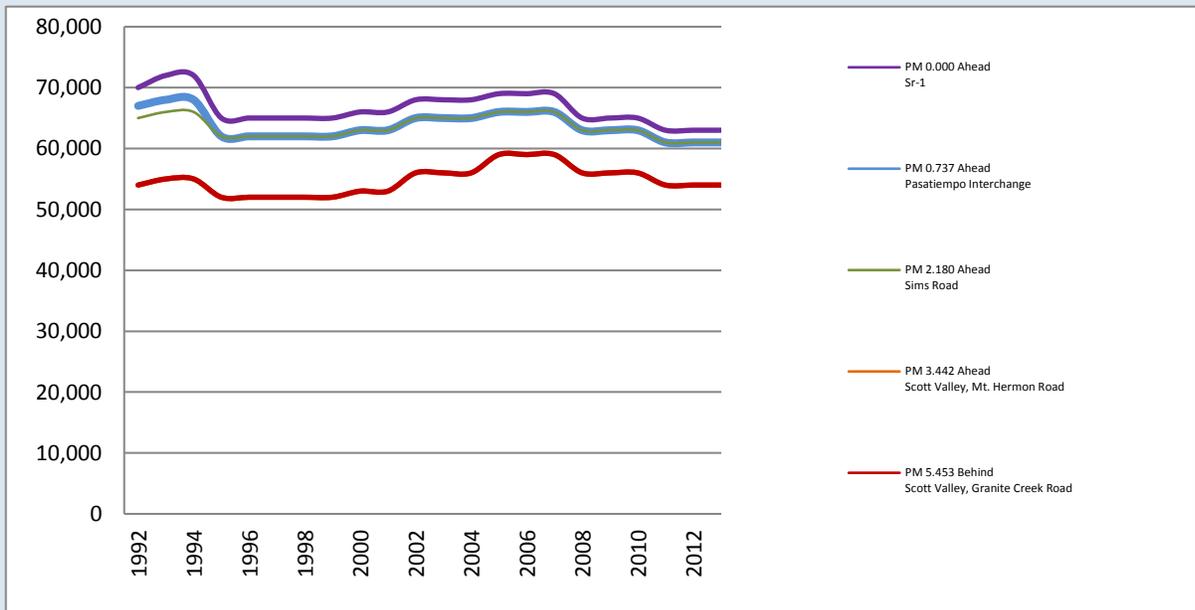
Daily Traffic Data

AADT Base Year 2013	54,000 to 63,000
AADT Horizon Year 2040	68,200 to 77,100
AADT: Growth Rate (Vehicles/Year)	520 to 710
VMT Base Year 2013	320,000
VMT Horizon Year 2040	389,700

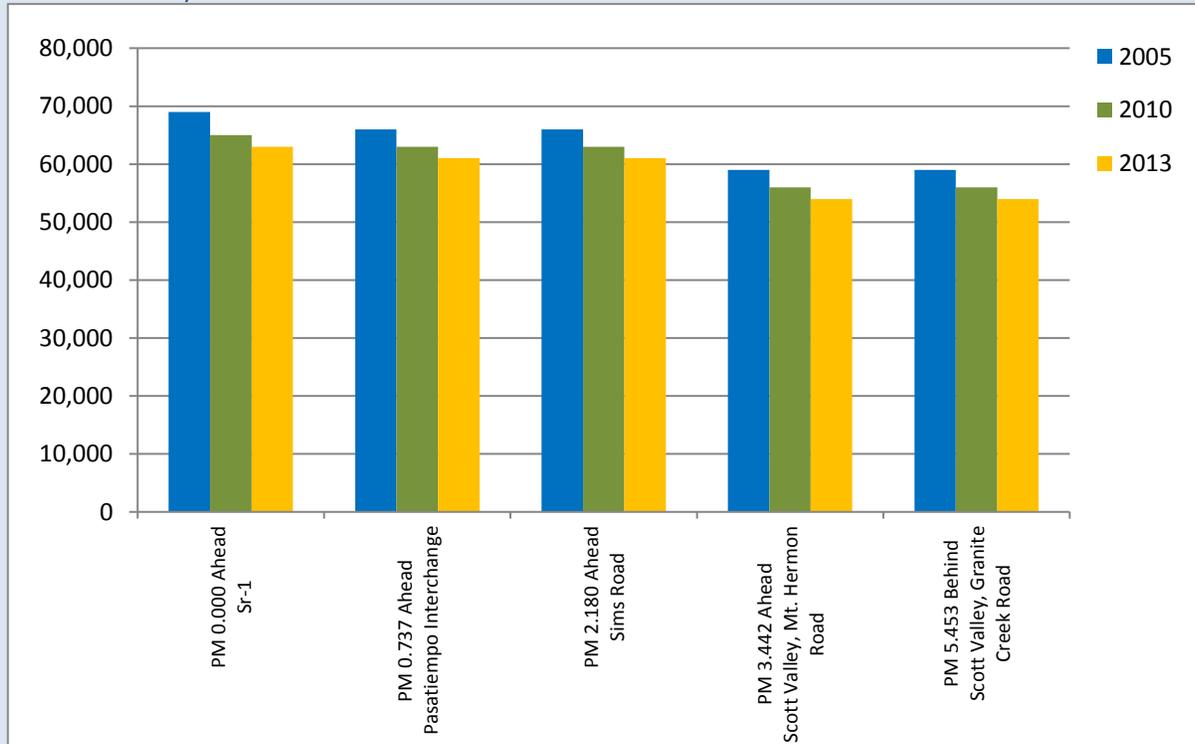
PM Peak Hour Traffic Data

	Northbound	Southbound
Segment Length (Miles)	5.453	
PM Peak Hour Directional Split Base Year 2013	41.1% to 53.3%	46.7% to 58.9%
PM Peak Hour Directional Split Horizon Year 2040	41.9% to 51.4%	48.6% to 58.1%
PM Peak Hour Volume Base Year 2013	5,200 to 5,700	
	2,100 to 2,900	2,500 to 2,500
PM Peak Hour Volume Horizon Year 2040	6,000 to 6,700	
	2,700 to 3,400	3,100 to 3,700
PM Peak Hour Growth Rate (vehicles/year)	42 to 62	
PM Peak Hour VMT Base Year 2013	13,300	15,800
PM Peak Hour VMT Horizon Year 2040	15,900	19,000
PM Peak Hour VHT Base Year 2013 (Model based)	244	301
PM Peak Hour VHT Horizon Year 2040 (Model)	329	445
PM Peak Hour V/C Base Year 2013	0.468 to 0.662	0.581 to 0.695
PM Peak Hour V/C Horizon Year 2040	0.591 to 0.776	0.712 to 0.817
PM Peak Hour LOS Base Year 2013	B to C	C
PM Peak Hour LOS Horizon Year 2040	C to D	C to D
PM Speed (mph) Base Year 2013 (Model based)	47.4 to 64.8 mph	44.3 to 63.2 mph
PM Speed (mph) Horizon Year 2040 (Model based)	37.5 to 64.0 mph	32.2 to 57.5 mph

Historic AADT by Year

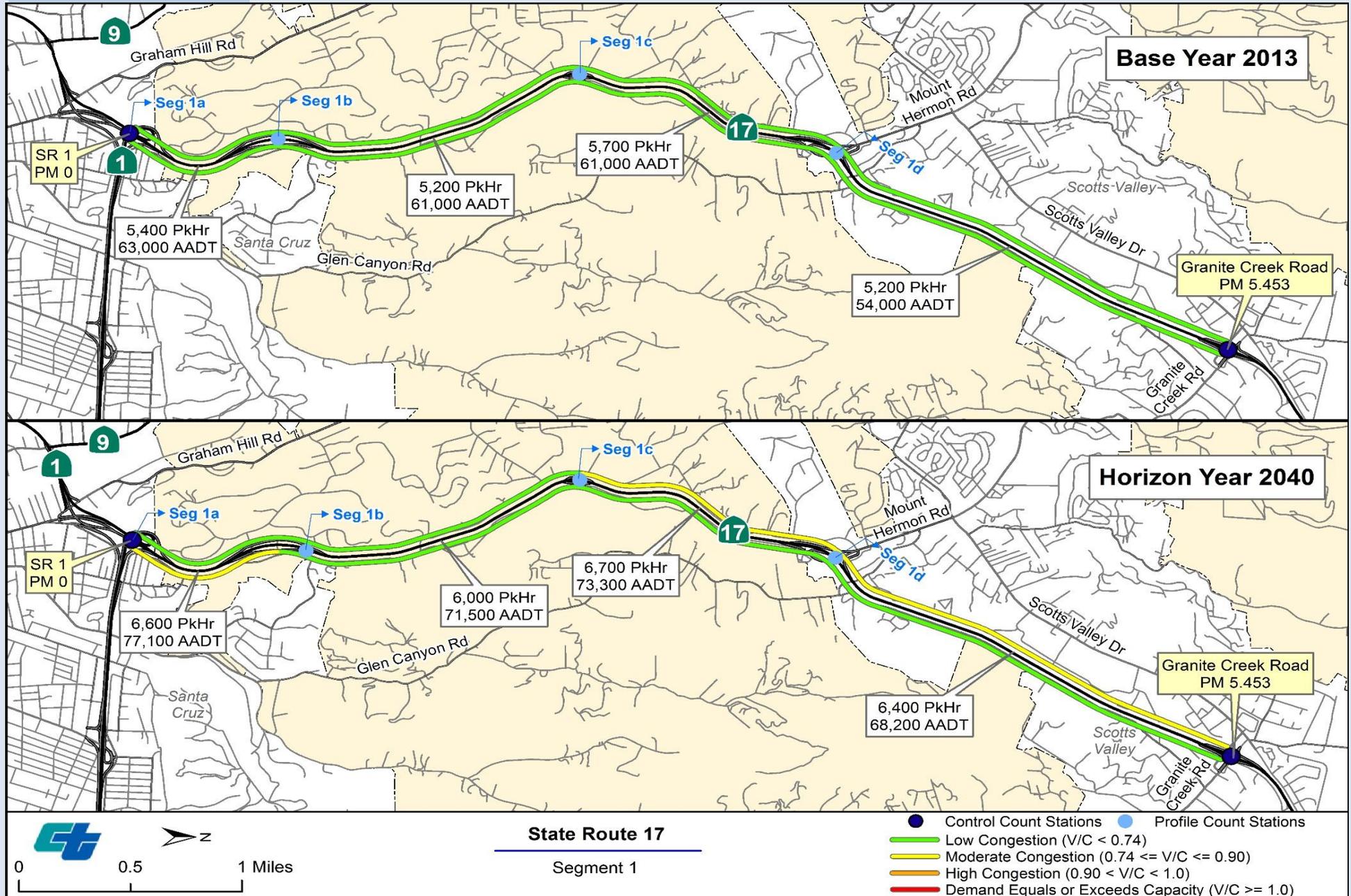


Historic AADT by Location



Segment 1 Traffic Data: SR 17

PM Peak Hour Congestion**



**Last Modified: 1/22/2015 3:04:34 PM

Segment 1 Planning Data: SR 17

Location Description

Segment Description	From SR 1 to Granite Creek Rd
Urban/Rural	Urban
Local Planning Jurisdiction	SCCRTC/AMBAG
County	Santa Cruz
City	Santa Cruz; Scotts Valley
Prevalent Land Use	Low Density Residential

Highway Type

Freeway/Expressway System	Yes
Facility Type	Expressway/Freeway
Functional Classification	Freeway or Expressway

Highway Designations

National Highway System	No
Interregional Road System	High Emphasis Route
Scenic Highway	Eligible

Highway Characteristics

Number of Lanes	4
Pavement Condition Right	No Distress
Pavement Condition Left	No Distress
Shoulder Width Right (ft)	0 ft @ Madrona Dr; Carbonera Crk o/c
Shoulder Width Left (ft)	8 ft+ all other locations (left & right)

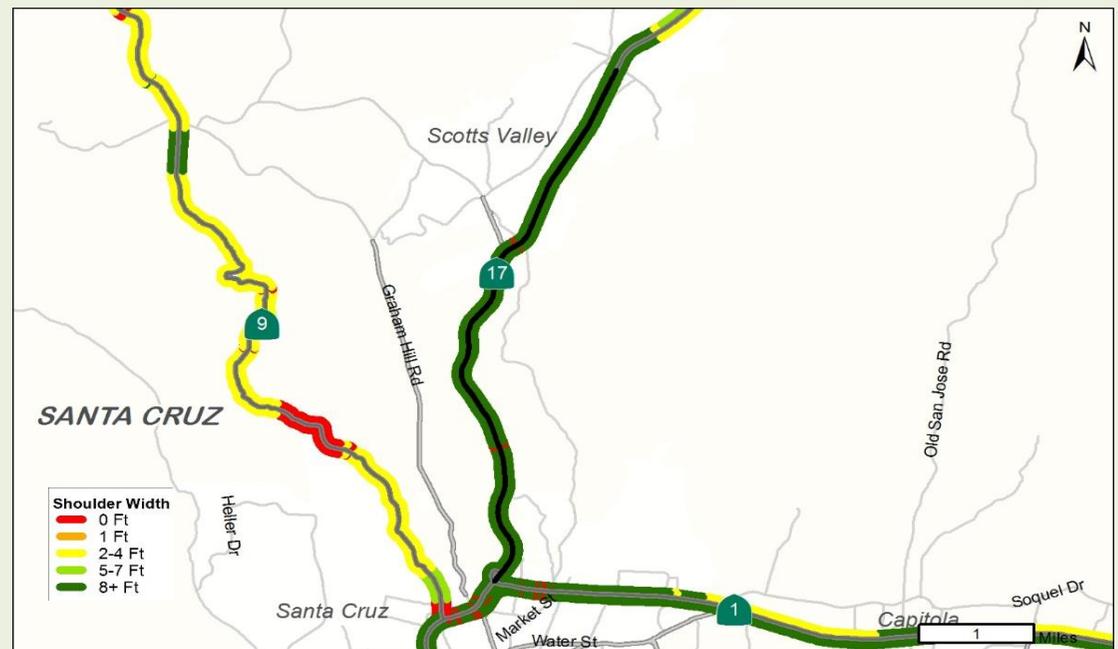
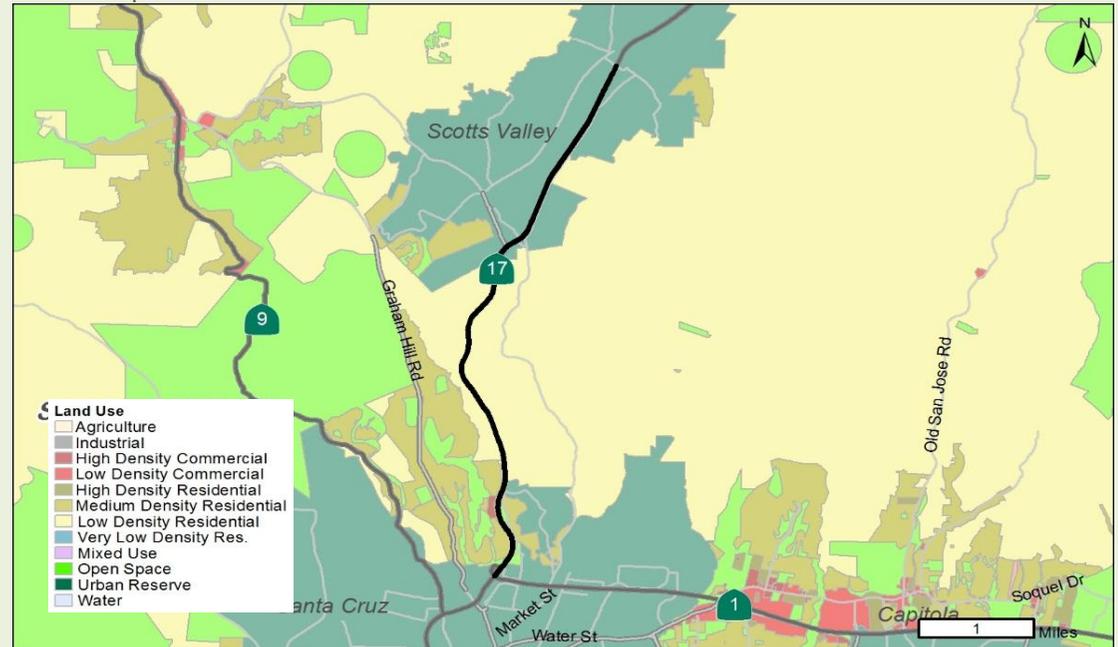
Modal

Airports Served	N/A
Bicycle Access	Closed
AMTRAK Bus Stations	Cavallaro Transit Center, Scotts Valley
AMTRAK Rail Stations	N/A
AMTRAK Thruway Bus	Yes
Other Adjacent/Near Facilities	17 Express
Rail/SHS Crossings	No
Rail Crossing Description	N/A

Intelligent Transportation Systems

Signals/Mile	0
Other Features: Call Box(s); Changeable Message Sign(s); Closed Circuit TV; Vehicle Detection	

Status Map



Shoulder Width

Segment 1 Planning Data: SR 17

Freight

Percent Trucks	Approx. 3%
Key Freight Highway	No
California Truck Network	Terminal Access
Annual Freight Tonnage	20,000,001+
Freight VMT	10,001 - 20,000
Reported Freight Issues: SR 17 truck climbing lane project previously denied for environmental concerns.	

Cultural & Scenic

Historic Bridges	No
Lighthouses	No
Vista Points	No
Parks	N/A
Federal Lands	N/A
Landmarks	N/A

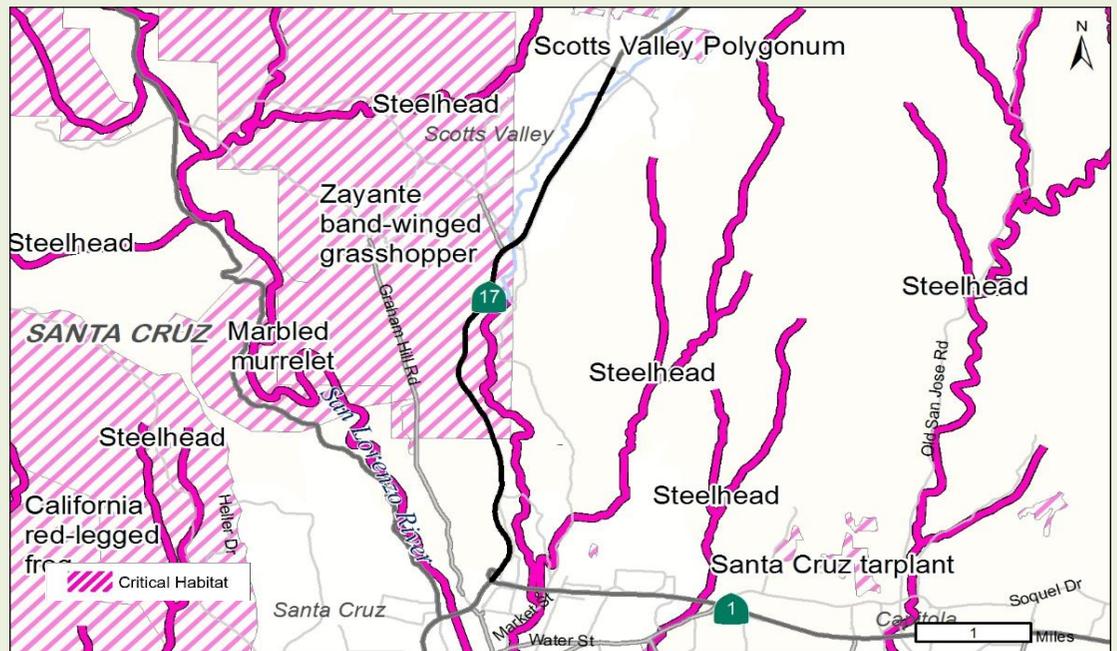
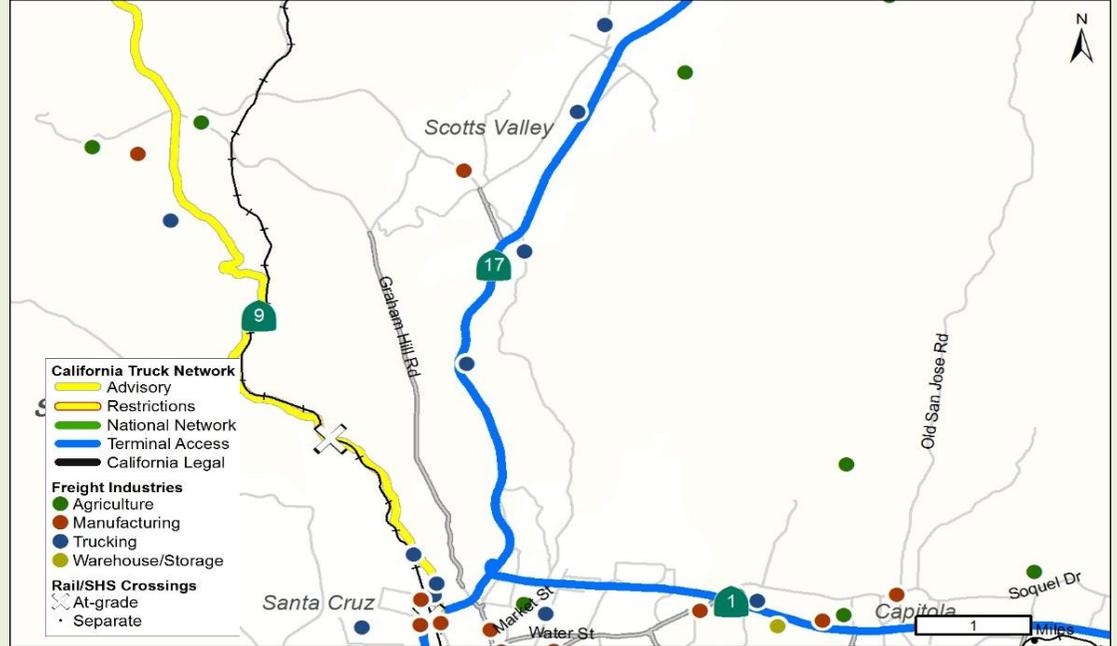
Environmental

Surrounding Vegetation	Coastal Scrub
Coastal Zone	No
Water Crossing Description	Carbonera Creek
Flood Zone	100 Year Flood Plain @ Carbonera Creek
Critical Habitat	Zayante Band-Winged Grasshopper

Air Quality Standards: Monterey Bay Unified APCD

Criteria Pollutant	State	Federal
Ozone	Nonattainment	Unclassified/Attain.
Carbon Monoxide	Unclassified/Attain.	Unclassified/Attain.
Nitrogen Dioxide	Attainment	Unclassified/Attain.
Sulfur Dioxide	Attainment	Attainment
Particulate Matter (10)	Nonattainment	Attainment
Particulate Matter (10)	Attainment	Unclassified/Attain.
Lead	Attainment	Unclassified/Attain.

Culverts



Puma GPS Points

Segment 2 Traffic Data: SR 17

Daily Traffic Data

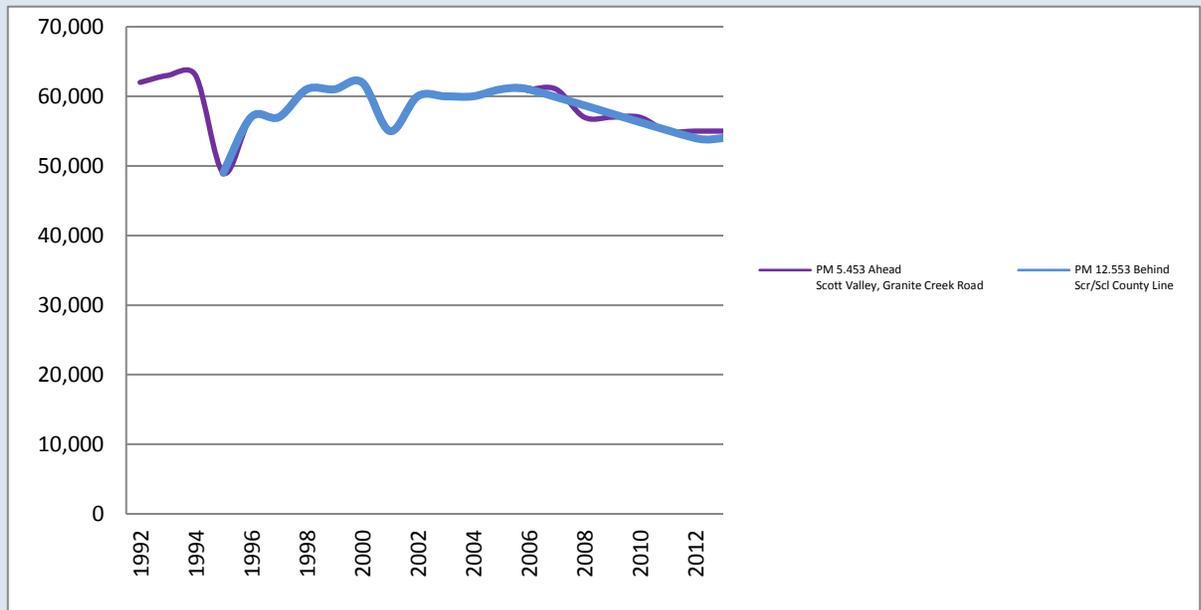
AADT Base Year 2013	54,500
AADT Horizon Year 2040	75,000
AADT: Growth Rate (Vehicles/Year)	1030
VMT Base Year 2013	387,000
VMT Horizon Year 2040	532,600

PM Peak Hour Traffic Data

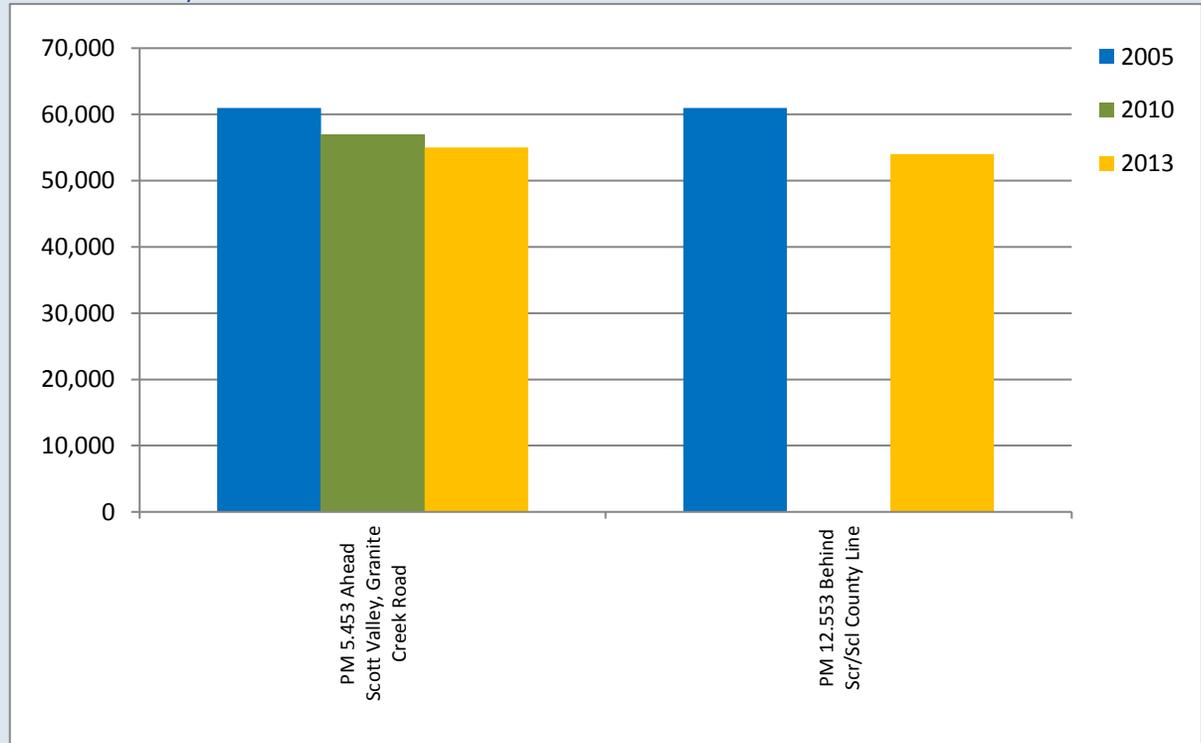
	Northbound	Southbound
Segment Length (Miles)	7.1	
PM Peak Hour Directional Split Base Year 2013	35.9%	64.1%
PM Peak Hour Directional Split Horizon Year 2040	37.1%	62.9%
PM Peak Hour Volume Base Year 2013	4,500	
	1,600	2,900
PM Peak Hour Volume Horizon Year 2040	6,100	
	2,300	3,800
PM Peak Hour Growth Rate (vehicles/year)	79	
PM Peak Hour VMT Base Year 2013	11,500	20,500
PM Peak Hour VMT Horizon Year 2040	16,000	27,200
PM Peak Hour VHT Base Year 2013 (Model based)	240	534
PM Peak Hour VHT Horizon Year 2040 (Model)	355	more than 980*
PM Peak Hour V/C Base Year 2013	0.412	0.761
PM Peak Hour V/C Horizon Year 2040	0.576	1.009
PM Peak Hour LOS Base Year 2013	B	D
PM Peak Hour LOS Horizon Year 2040	C	F
PM Speed (mph) Base Year 2013 (Model based)	47.9 mph	38.4 mph
PM Speed (mph) Horizon Year 2040 (Model based)*	47.9 mph	27.8* mph

*Speeds and VHT cannot be determined for subsegments with LOS F

Historic AADT by Year

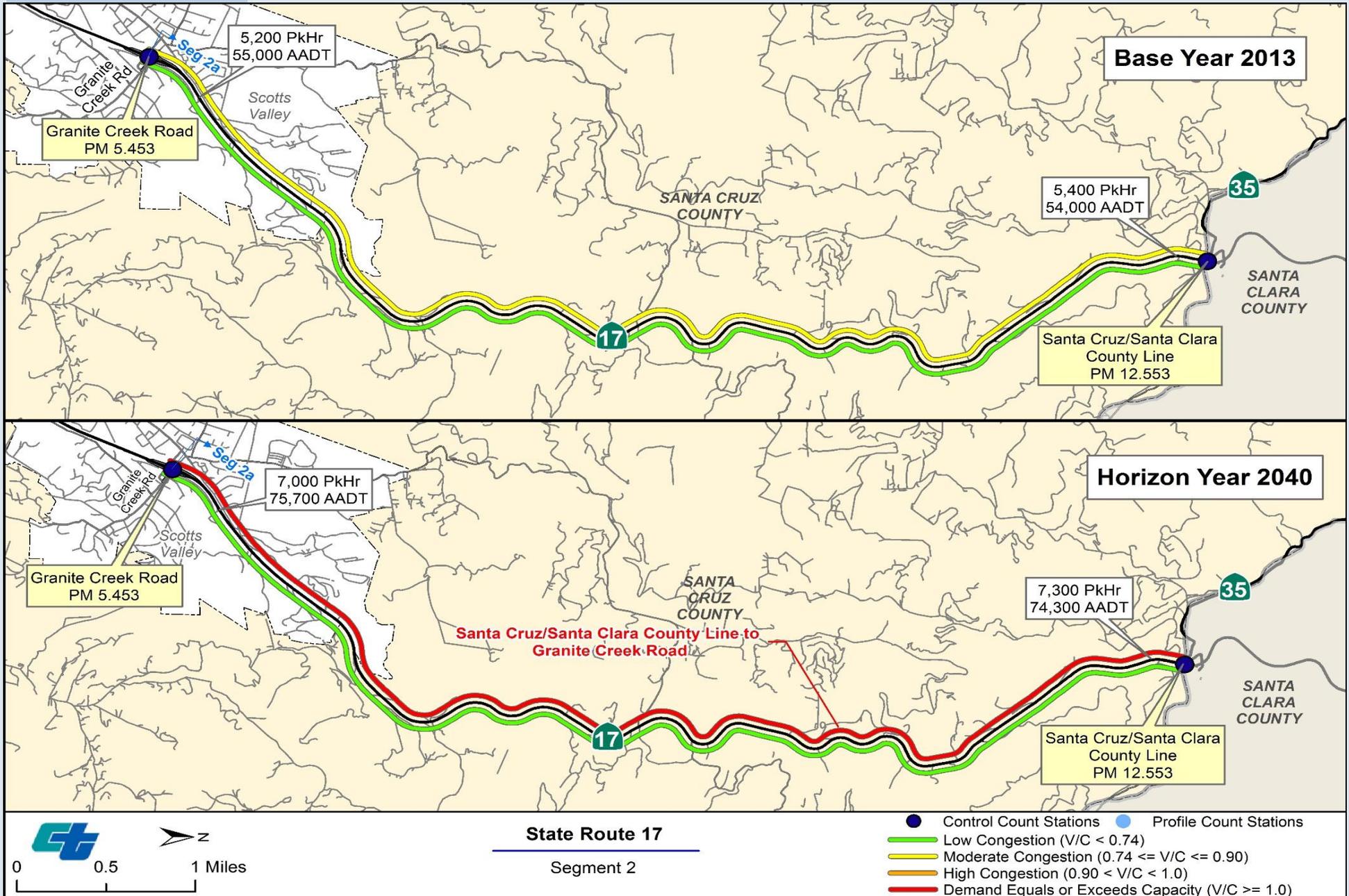


Historic AADT by Location



Segment 2 Traffic Data: SR 17

PM Peak Hour Congestion**



**Last Modified: 1/23/2015 11:25:10 AM

Segment 2 Planning Data: SR 17

Location Description

Segment Description	From Granite Creek Rd to SCL county
Urban/Rural	Both urban (SV) & rural
Local Planning Jurisdiction	SCCRTC/AMBAG
County	Santa Cruz
City	Scotts Valley
Prevalent Land Use	Low Density Residential

Highway Type

Freeway/Expressway System	No
Facility Type	Conventional
Functional Classification	Principle Arterial

Highway Designations

National Highway System	No
Interregional Road System	High Emphasis Route
Scenic Highway	Eligible

Highway Characteristics

Number of Lanes	4
Pavement Condition Right	Ride
Pavement Condition Left	Major/Ride
Shoulder Width Right (ft)	0-8+
Shoulder Width Left (ft)	0-8+

Modal

Airports Served	N/A
Bicycle Access	Open
AMTRAK Bus Stations	N/A
AMTRAK Rail Stations	N/A
AMTRAK Thruway Bus	Yes
Other Adjacent/Near Facilities	17 Express
Rail/SHS Crossings	No
Rail Crossing Description	N/A

Intelligent Transportation Systems

Signals/Mile	0
Other Features: Call Box(s); Changeable Message Sign(s); Closed Circuit TV; Vehicle Detection	

Status Map



Shoulder Width

Segment 2 Planning Data: SR 17

Freight

Percent Trucks	Approx. 3%
Key Freight Highway	No
California Truck Network	Terminal Access
Annual Freight Tonnage	20,000,001+
Freight VMT	10,001 - 20,000
Reported Freight Issues: SR 17 truck climbing lane project previously denied for environmental concerns.	

Cultural & Scenic

Historic Bridges	No
Lighthouses	No
Vista Points	No
Parks	N/A
Federal Lands	N/A
Landmarks	Vine Hill Elementary School

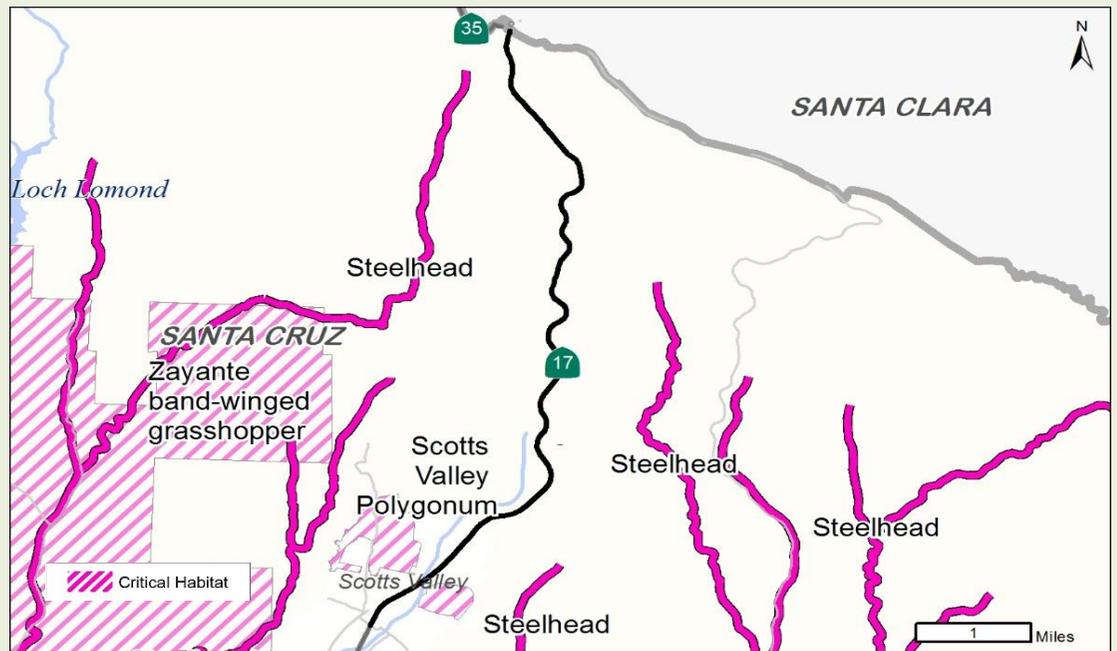
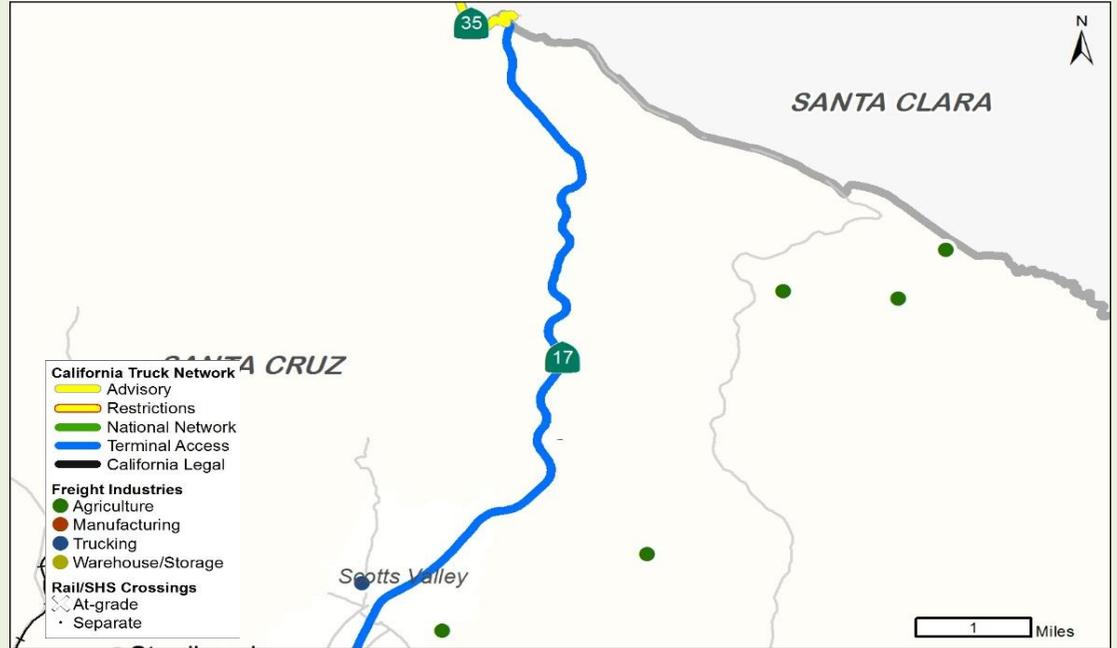
Environmental

Surrounding Vegetation	Coastal Oak Woodland
Coastal Zone	No
Water Crossing Description	Carbonera Creek
Flood Zone	100 Year Flood Plain @ Carbonera Creek
Critical Habitat	Scotts Valley Polygonum

Air Quality Standards: Monterey Bay Unified APCD

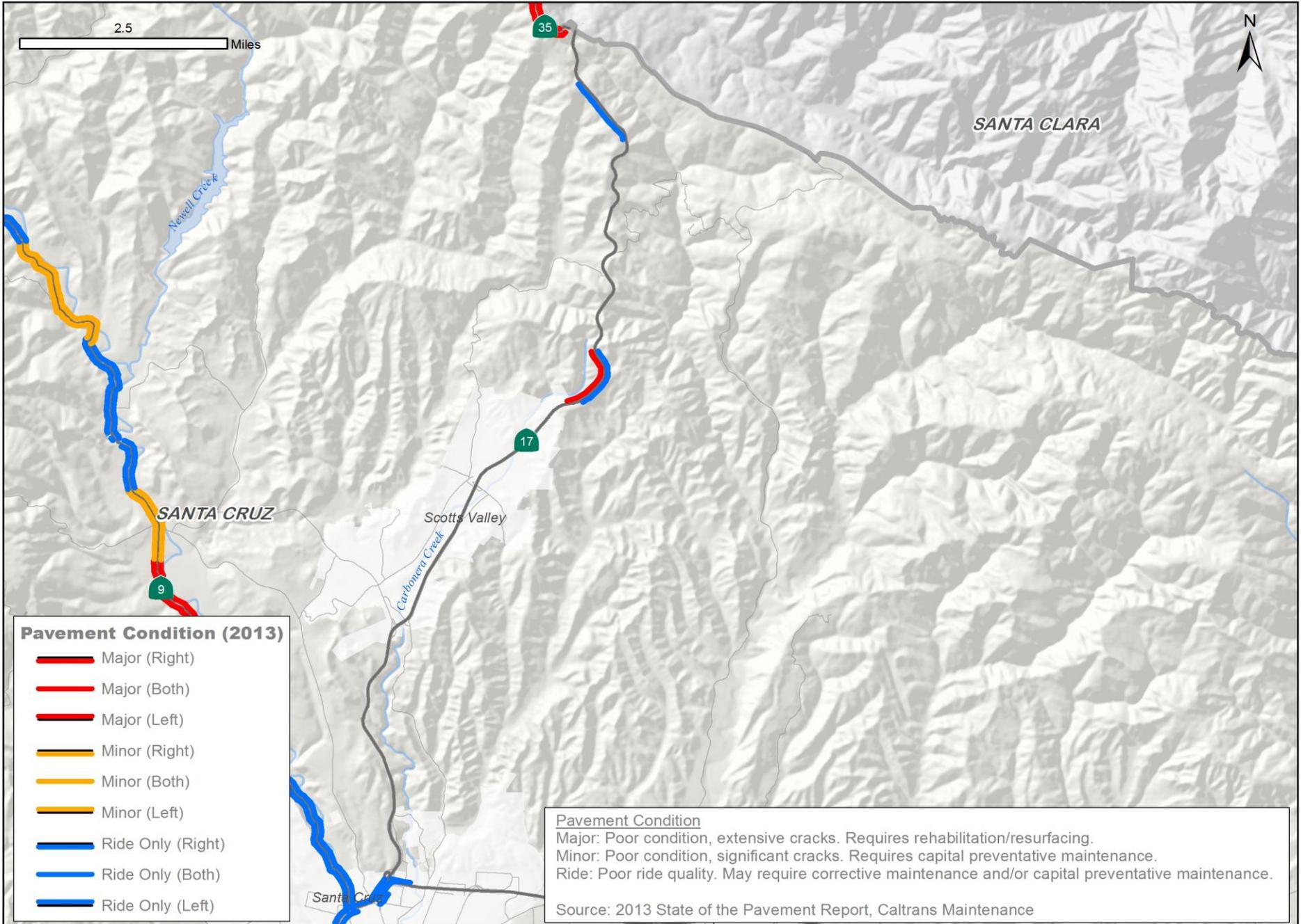
Criteria Pollutant	State	Federal
Ozone	Nonattainment	Unclassified/Attain.
Carbon Monoxide	Unclassified/Attain.	Unclassified/Attain.
Nitrogen Dioxide	Attainment	Unclassified/Attain.
Sulfur Dioxide	Attainment	Attainment
Particulate Matter (10)	Nonattainment	Attainment
Particulate Matter (10)	Attainment	Unclassified/Attain.
Lead	Attainment	Unclassified/Attain.

Culverts



Puma GPS Points

Appendix A: Pavement Conditions



Appendix B: Traffic Performance

Segment Label	Begin Co	Rte	Begin PM	End PM	Begin Name	End Name	2013 ADT Volume	2013 Daily VMT	2013 PM Volume	2013 PM NB Volume	2013 PM SB Volume	2013 PM Peak Direction	2013 PM VMT	2013 PM NB VMT	2013 PM SB VMT	2013 PM NB Adjusted Capacity	2013 PM SB Adjusted Capacity	2013 PM NB VC	2013 PM SB VC	2013 PM NB LOS	2013 PM SB LOS	2013 PM NB Model Based Speed	2013 PM SB Model Based Speed	2013 PM VHT (Model)	2013 PM NB VHT (Model)	2013 PM SB VHT (Model)	
AMBAG 2014 SCS Model Growth Rates and Splits																											
1a	SCR	17	0.000	0.737	SR-1	Pasatiempo Interchange	63,000	46,431	5,400	2,880	2,520	NB	3,980	2,123	1,857	4,348	4,335	0.66	0.58	C	C	47.4	49.5	82	45	38	
1b	SCR	17	0.737	2.180	Pasatiempo Interchange	Sims Road	61,000	88,023	5,200	2,521	2,679	SB	7,504	3,638	3,866	4,400	4,400	0.57	0.61	C	C	48.3	44.3	163	75	87	
1c	SCR	17	2.180	3.442	Sims Road	Scott Valley, Mt. Hermon Road	61,000	76,982	5,700	2,574	3,126	SB	7,193	3,249	3,944	4,480	4,500	0.57	0.69	C	C	56.4	50.1	136	58	79	
1d	SCR	17	3.442	5.453	Scott Valley, Mt. Hermon Road	Scott Valley, Granite Creek Road	54,000	108,594	5,200	2,135	3,065	SB	10,457	4,293	6,164	4,560	4,607	0.47	0.67	B	C	64.8	63.2	164	66	97	
2a	SCR	17	5.453	12.553	Scott Valley, Granite Creek Road	Scr/Scl County Line	54,500	386,950	4,507	1,617	2,891	SB	32,001	11,477	20,523	3,920	3,800	0.41	0.76	B	D	47.9	38.4	774	240	534	

Sources:

Base Year Peak Hour Volumes - Caltrans Traffic Data Branch and TSN

Growth Rates - AMBAG Regional Model 2014

Directional Splits - Model

Appendix B: Traffic Performance

Segment Label	Begin Co	Rte	Begin PM	End PM	Begin Name	End Name	PM Growth Rate	ADT Growth Rate	2040 ADT Volume	2040 Daily VMT	2040 PM Volume	2040 PM NB Volume	2040 PM SB Volume	2040 PM Peak Direction	2040 PM VMT	2040 PM NB VMT	2040 PM SB VMT	2040 PM NB Adjusted Capacity	2040 PM SB Adjusted Capacity	2040 PM NB VC	2040 PM SB VC	2040 PM NB LOS	2040 PM SB LOS	2040 PM NB Model Based Speed	2040 PM SB Model Based Speed	2040 PM VHT (Model)	2040 PM NB VHT (Model)	2040 PM SB VHT (Model)
AMBAG 2014 SCS Model Growth Rates and Splits																												
1a	SCR	17	0.000	0.737	SR-1	Pasatiempo Interchange	43	521	77,058	56,792	6,564	3,373	3,191	NB	4,838	2,486	2,352	4,348	4,335	0.78	0.74	D	C	37.5	41.1	124	66	57
1b	SCR	17	0.737	2.180	Pasatiempo Interchange	Sims Road	42	524	71,477	103,142	6,034	2,903	3,131	SB	8,706	4,189	4,518	4,400	4,400	0.66	0.71	C	C	40.3	32.2	244	104	140
1c	SCR	17	2.180	3.442	Sims Road	Scott Valley, Mt. Hermon Road	51	614	73,281	92,480	6,716	3,039	3,676	SB	8,475	3,836	4,640	4,480	4,500	0.68	0.82	C	D	51.8	39.8	191	74	117
1d	SCR	17	3.442	5.453	Scott Valley, Mt. Hermon Road	Scott Valley, Granite Creek Road	62	712	68,245	137,241	6,435	2,697	3,738	SB	12,941	5,423	7,518	4,560	4,607	0.59	0.81	C	D	64.0	57.5	216	85	131
2a	SCR	17	5.453	12.553	Scott Valley, Granite Creek Road	Scr/Scl County Line	79	1,026	75,020	532,643	6,094	2,259	3,835	SB	43,264	16,039	27,225	3,920	3,800	0.58	1.01	C	F	45.2	27.8	1,335	355	980

Sources:

Base Year Peak Hour Volumes - Caltrans Traffic Data Branch and TSN

Growth Rates - AMBAG Regional Model 2014

Directional Splits - Model

Appendix C: Historic AADT Details

AADT	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Segment 1																						
PM 0.000 Ahead Sr-1	70,000	72,000	72,000	65,000	65,000	65,000	65,000	65,000	66,000	66,000	68,000	68,000	68,000	69,000	69,000	69,000	65,000	65,000	65,000	63,000	63,000	63,000
PM 0.737 Ahead Pasatiempo Interchange	67,000	68,000	68,000	62,000	62,000	62,000	62,000	62,000	63,000	63,000	65,000	65,000	65,000	66,000	66,000	66,000	63,000	63,000	63,000	61,000	61,000	61,000
PM 2.180 Ahead Sims Road	65,000	66,000	66,000	62,000	62,000	62,000	62,000	62,000	63,000	63,000	65,000	65,000	65,000	66,000	66,000	66,000	63,000	63,000	63,000	61,000	61,000	61,000
PM 3.442 Ahead	54,000	55,000	55,000	52,000	52,000	52,000	52,000	52,000	53,000	53,000	56,000	56,000	56,000	59,000	59,000	59,000	56,000	56,000	56,000	54,000	54,000	54,000
PM 5.453 Behind	54,000	55,000	55,000	52,000	52,000	52,000	52,000	52,000	53,000	53,000	56,000	56,000	56,000	59,000	59,000	59,000	56,000	56,000	56,000	54,000	54,000	54,000
Segment 2																						
PM 5.453 Ahead Scott Valley, Granite Creek Road	62,000	63,000	63,000	49,000	57,000	57,000	61,000	61,000	62,000	55,000	60,000	60,000	60,000	61,000	61,000	61,000	57,000	57,000	57,000	55,000	55,000	55,000
PM 12.553 Behind Scr/Scl County Line				49,000	57,000	57,000	61,000	61,000	62,000	55,000	60,000	60,000	60,000	61,000	61,000						54,000	54,000

Appendix D: Glossary and References

100-YEAR FLOOD – Areas of 1-percent-annual-chance flooding. Source: FEMA Digital Flood Insurance Rate Map, 2010. www.fema.gov/msc

500-YEAR FLOOD – Areas of 0.2-percent-annual-chance flooding. Source: FEMA Digital Flood Insurance Rate Map, 2010. www.fema.gov/msc

AIR QUALITY STANDARDS – Designations in relation to the California standards and National standards Source: California Air Resource Board (ARB), 2013. www.arb.ca.gov/desig/desig.htm

AM/PM PEAK – The part of day when most traffic congestion occurs. Source: Caltrans Historical Counts.

ANNUAL AVERAGE DAILY TRAFFIC (AADT) – Total volume of vehicle traffic for a year divided by 365 days. Source: Caltrans Traffic Operations, 2012. <http://traffic-counts.dot.ca.gov/>

ANNUAL FREIGHT TONNAGE – Tons per year. Source: Freight Analysis Framework, 2007. www.ops.fhwa.dot.gov/freight/freight_analysis/faf/

ATTAINMENT – Air quality in the area meets the standard. Source: California ARB, 2013. www.arb.ca.gov/desig/desig.htm

ATTAINMENT/UNCLASSIFIED – An Environmental Protection Agency (EPA) designation which, in terms of planning implications, is essentially the same as Attainment. Source: California ARB, 2013. www.arb.ca.gov/desig/desig.htm

BASE YEAR – The initial year of the forecast period. Source: Caltrans Historical Counts.

FREEWAY/EXPRESSWAY SYSTEM – Concept of how the route is managed as defined in the Streets and Highways Code §250-257. Source: Caltrans, 2014. www.leginfo.ca.gov/.html/shc_table_of_contents.html

FREIGHT VMT – Truck Vehicle Miles Traveled. Source: Freight Analysis Framework, 2007. www.ops.fhwa.dot.gov/freight/freight_analysis/faf/

FUNCTIONAL CLASSIFICATION – System by which roads are grouped according to the type of service and amount of traffic the facility carries. Used to determine design standards of roads and determines Federal Aid funding eligibility. Source: FHWA, 2012. http://dot.ca.gov/hq/tsip/hseb/func_clas.html

GROWTH RATE – The forecasted change in vehicles per year from the base year to the horizon year. Source: AMBAG Regional Model 2014.

HIGH EMPHASIS ROUTE – Route with high interregional importance. Source: Caltrans Interregional Transportation Strategic Plan, 2013. www.dot.ca.gov/hq/tpp/offices/oasp/itsp.html

HORIZON YEAR – 2040 - The future forecast year used in the long range model. Source: AMBAG Regional Model 2014.

INTERREGIONAL ROAD SYSTEM – Subset of State Highway System that provides connectivity among all California's regions. Source: Caltrans Interregional Transportation Strategic Plan, 2013. www.dot.ca.gov/hq/tpp/offices/oasp/itsp.html

CALIFORNIA LEGAL – Trucks up to 65 feet are allowed on the SHS except where otherwise prohibited. Source: Caltrans Traffic Operations, 2013. www.dot.ca.gov/hq/traffops/engineering/trucks/

CALIFORNIA TRUCK NETWORK – California Vehicle Code sections related to trucks, summarized here at the planning level only. Note: Caltrans is not responsible for authorizing commercial trucks, other than issuing permits for oversize or overweight loads. Source: Caltrans Traffic Operations, 2013. www.dot.ca.gov/hq/traffops/engineering/trucks/

CRITICAL HABITAT – Critical habitat for threatened and endangered species. Source: US Fish and Wildlife Service, 2014. www.fws.gov/gis/data/national/index.html

DISTRICT KEY FREIGHT HIGHWAY FACILITY – Route key to freight operations. Source: California Central Coast Commercial Flows Study, 2012. www.dot.ca.gov/dist05/planning/goods_movement.htm

FACILITY TYPE – Description of existing operations. Source: Caltrans TSN, 2011.

FLOOD ZONE – Special flood hazard areas. Source: FEMA Digital Flood Insurance Rate Map, 2010. www.fema.gov/msc

FOCUS ROUTE – Highest priority routes for completion to minimum facility concept standards Source: Caltrans Interregional Transportation Strategic Plan, 2013. www.dot.ca.gov/hq/tpp/offices/oasp/itsp.html

Appendix D: Glossary and References

MAJOR (PAVEMENT CONDITION) – Poor condition, extensive cracks. Requires rehabilitation/resurfacing. Source: Caltrans Pavement Condition Survey, 2013. http://dot.ca.gov/hq/maint/Pavement/Offices/Pavement_Management/index.html

MINOR (PAVEMENT CONDITION) – Poor condition, significant cracks. Requires capital preventative maintenance. Source: Caltrans Pavement Condition Survey, 2013. http://dot.ca.gov/hq/maint/Pavement/Offices/Pavement_Management/index.html

NATIONAL HIGHWAY SYSTEM – The national system designated by Congress that includes the Interstate Highway System and other nationally significant highways and thoroughfares used for interstate and interregional travel, national defense, intermodal connection, and interstate commerce. Source: Caltrans Highway System Engineering, 2013. <http://dot.ca.gov/hq/tsip/hseb/map21nhs.html>

NATIONAL NETWORK – Allows for conventional tractor/semitrailer combinations. Source: Caltrans Traffic Operations, 2013. www.dot.ca.gov/hq/traffops/engineering/trucks/

NONATTAINMENT – Air quality in the area fails to the applicable standard. Source: California ARB, 2013. www.arb.ca.gov/desig/desig.htm

PAVEMENT CONDITION – Measurement of surface characteristics including roughness, cracking, and faulting (Caltrans, 2013). Source: Caltrans Pavement Condition Survey, 2013. http://dot.ca.gov/hq/maint/Pavement/Offices/Pavement_Management/index.html

PEAK HOUR DIRECTIONAL SPLIT – The percent of traffic volume in the predominant direction of flow as determined from the regional travel model. Source: AMBAG Regional Model 2014.

PEAK HOUR TRAFFIC VOLUME – Represents an estimate of the heaviest traffic flow during the peak hour. Source: Caltrans Traffic Operations, 2012. <http://traffic-counts.dot.ca.gov/>

PERCENT TRUCKS – Rounded percentage of truck counts. Source: Caltrans Traffic Operations, 2012. <http://traffic-counts.dot.ca.gov/>

PREVALENT LAND USE – California County and local government existing land use designations. Source: UC Davis Information Center for the Environment, 2007. http://ice.ucdavis.edu/projects/land_use

RAIL/SHS CROSSINGS – At-grade crossings. Source: National Transportation Atlas Database, 2011. <http://www.rita.dot.gov/bts/>

RIDE (PAVEMENT CONDITION) – Poor ride quality. May require corrective maintenance and/or capital preventative maintenance. Source: Caltrans Pavement Condition Survey, 2013. http://dot.ca.gov/hq/maint/Pavement/Offices/Pavement_Management/index.html

RURAL – Areas outside urban land uses. Source: US Census, 2000). <http://www.census.gov/>

SCENIC HIGHWAY PROGRAM – Program to protect and enhance the natural scenic beauty of California highways and adjacent corridors, through special conservation treatment. Source Caltrans Landscape Architecture, 2014. http://www.dot.ca.gov/hq/LandArch/scenic_highways/scenic_hwy.htm

SERVICE ACCESS – National Network trucks may travel up to one mile from the off ramp to obtain services. Source: Caltrans Traffic Operations, 2013. www.dot.ca.gov/hq/traffops/engineering/trucks/

SURROUNDING VEGETATION – Land cover dataset. Source: US Forest Service & California Department of Forestry and Fire Protection, 1979. http://frap.fire.ca.gov/data/frapgisdata-land_cover.php

TERMINAL ACCESS – National Network trucks may exit and travel on these SHS routes. Source: Caltrans Traffic Operations, 2013. www.dot.ca.gov/hq/traffops/engineering/trucks/

UNCLASSIFIED – Insufficient data to designate area, or designations have not been made. Source: California ARB, 2013. www.arb.ca.gov/desig/desig.htm

URBAN - Represent densely developed territory and encompass residential, commercial, and other non-residential urban land uses. Source: US Census, 2000. <http://www.census.gov/>

VEHICLE HOURS OF TRAVEL (VHT) – A statistic representing the total number of vehicles multiplied by the total number of hours vehicles are traveling.

VEHICLE MILES TRAVELED (VMT) – Number of miles vehicles travel. Can be calculated for the peak hour and/or the entire day.

VOLUME TO CAPACITY RATIO (V/C) – The ratio of demand volume to capacity.

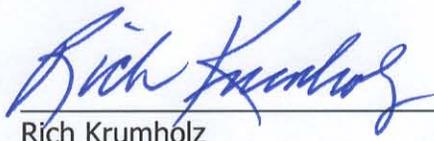
Transportation Concept Report
For
State Route 17 in District 5



DEPARTMENT OF TRANSPORTATION, DISTRICT 5
System Planning Branch
JANUARY 2006

I approve this *Transportation Concept Report* for State Route 17 in District 5 as the guide for future decisions, investigations, and investments in the highway corridor.

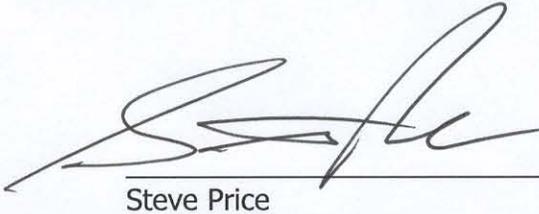
Recommend Approval:

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Deputy District Director
Planning and Local Assistance

Date

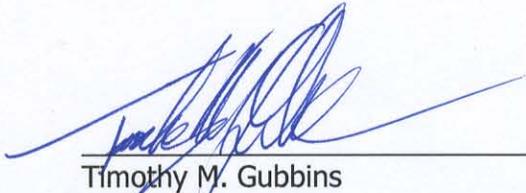
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Steve Price
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R. Gregg Albright
District Director

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APPENDIX B: MAPS AND SEGMENT DATA

APPENDIX C: PROGRAMMED AND CANDIDATE PROJECTS

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EXECUTIVE SUMMARY

This Transportation Concept Report (TCR) is the California Department of Transportation's (Caltrans') long-term planning document for State Route 17 in District 5. The TCR (1) evaluates current and projected conditions along the route; (2) establishes a twenty-year planning vision or concept; and (3) recommends long-term improvements to achieve the concept.

Route 17 originates in District 5 at SR 1 in the City of Santa Cruz. The Route extends northeast 12.55 miles to the Santa Cruz County/Santa Clara County line where it enters District 4. In preparing this TCR, Caltrans has consulted with the Santa Cruz County Regional Transportation Commission (SCCRTC) and the City of Scotts Valley as well as the District 4 System Planning unit and the Santa Clara Valley Transportation Authority.

In addition to accommodating local and regional demand on a state route, Caltrans must ensure that its highways provide reasonable interregional traffic flow, safety, continuity, and efficient goods movement to sustain the State's economy. The TCR identifies areas where goods movement and interregional travel are constrained.

Due to geometric and environmental limitations of the Route 17 corridor, additional travel lanes will not be feasible in the 20-year planning timeframe or the likely longer-term horizon. Therefore, this report addresses interactions between transportation and land use, operational improvements, new technologies, and relationships among providers of transportation services and facilities to a greater extent than is the norm for a TCR. The TCR reviews opportunities to accommodate or reduce travel demand through modal alternatives, local land use policies, and transportation demand management efforts. Here the document reflects analysis presented in the Highway 17 Transportation Improvement Study prepared for the SCCRTC in the year 2000.

As in past concept reports, the Route 17 corridor in Santa Cruz County was analyzed as a single segment. Based upon the major interchange at Granite Creek Road and changes in roadway characteristics beyond the interchange, the route was divided into two sub-segments at that location. For each sub-segment, recent (2003) average traffic counts were compared with projections for the year 2023. The traffic analysis, along with a consideration of alternative ways to accommodate or reduce travel demand, local plans, the flow of interregional traffic, and other factors, became the basis for establishing a traffic concept for the route.

Historically, District 5 has targeted a peak hour concept of LOS C or better for state highways under its jurisdiction. In a growing number of areas in the District, existing development patterns, environmental values, local plans and/or projected growth are such that the concept has been set at LOS D for particular route segments. In a few settings, including Route 17 in Santa Cruz County, additional capacity is not an acceptable or realistic option for realizing LOS D during peak hours. To attain even LOS E on Route 17, the transportation concept must embrace a combination of actions to manage demand and improve operations for vehicles that use the route. Partnerships and commitments have developed that will enhance the effectiveness of operational improvements and other alternatives to widening the highway.

The chart below summarizes the setting, major considerations, and route concept proposed for Route 17 in District 5. The background and analysis that was the basis for the concept is presented in Part Two of this report.

Route 17 in Santa Cruz County: Concept Summary for 2025

ROUTE LIMITS	MAJOR CONSIDERATIONS	Route CONCEPT
SR 1/17 Interchange at Ocean Street in Santa Cruz to Santa Cruz/Santa Clara County line	4-lane freeway transitioning beyond Scotts Valley to a 4-lane conventional highway in rolling and mountainous terrain; large components of week-day regional/interregional commuter traffic between Santa Cruz County communities and job-sites in Santa Clara, Alameda, Contra Costa, and San Mateo Counties and week-end/summer regional/interregional recreational/tourist traffic between inland locations and coastal destinations; mix of slow and sometimes excessively fast-moving vehicles; frequent weather-related obstructions and roadway damage; safety concerns and traffic delay during construction and maintenance activities; non-standard width shoulders in many locations; significant topographic and environmental constraints to widening; multiple at-grade intersections and driveways along sub-segment 1B; inadequacy of SR 9 as reliable parallel alternative route	Peak LOS E or better with operational improvements to optimize capacity, transit and traffic demand management measures to accommodate demand, and maintenance practices to improve reliability

INTRODUCTION

SYSTEM PLANNING AND THE TRANSPORTATION CONCEPT REPORT

System planning is Caltrans' long-range planning process, pursuant to Government Code Section 65086(a) and Caltrans policy. System planning identifies, at the earliest stage, capacity and operational improvements, new technologies, and various alternatives that will optimize corridor capacity, thereby laying the groundwork for transportation system investments that will meet future needs. The system planning process is recorded in three interrelated sets of planning documents: (1) Transportation Concept Reports, (2) District System Management Plan (DSMP), and (3) Transportation System Development Program (TSDP).

THE TRANSPORTATION CONCEPT REPORT

The Transportation Concept Report (TCR) is Caltrans' long-term planning document for an individual state route corridor. The TCR (1) evaluates current and projected conditions for the route; (2) establishes a 20-year planning vision or concept; and (3) recommends long-term improvements to achieve the concept. The TCR documents strategies from long-range plans prepared by Regional Transportation Planning Agencies (RTPAs), Metropolitan Planning Organizations (MPOs), and transit agencies. The TCR also identifies alternatives for accommodating demand within the state highway corridor. When State highways pass through more than one regional planning agency jurisdiction, the District-level TCR addresses the role of the corridor in interregional travel and goods movement. In doing so, the TCR may modify or augment regional strategies to create a single comprehensive, corridor-specific document.

Improvements identified in a TCR are not necessarily tied to a funding source, nor does the document project future funding. Collectively, the TCRs provide the basis for developing the TSDP, State Transportation Improvement Program (STIP) and State Highway Operation and Protection Program (SHOPP) which do address funding availability and are project specific.

TCR IN THE PLANNING PROCESS

Several documents including the TCR and Regional/Metropolitan Transportation Plans prepared by RTPAs and MPOs can lead to identifying transportation needs. The TCR process seeks to attain and reflect a general agreement on the direction of transportation improvements that will meet both local and interregional needs. The diagram at the end of this section represents the interdisciplinary planning effort involved in generating a concept report and how the TCR serves in the project identification process.

The process of generating a TCR involves identifying and evaluating transportation needs in collaboration with internal and external partners including:

1. Caltrans staff from multiple disciplines including safety and operations, forecasting, programming, transit and non-motorized travel, and environmental analysis, for technical and programmatic information

2. Local government agencies and members of the public, for community values and concerns
3. Regional and metropolitan transportation agencies, for regional priorities.

Although the TCR does not function as a programming tool for transportation projects, it serves as a starting point for infrastructure improvements. With a need identified, a project study report evaluates alternatives to achieve the desired transportation improvements. The Project Study Report (PSR) identifies the scope, cost, and schedule for delivering an individual project. The PSR then allows the project to compete for capital funding.

STATE ROUTE 17 IN DISTRICT 5

State Route 17 originates at SR 1 in the City of Santa Cruz in Santa Cruz County and extends northeast 12.55 miles to the Santa Cruz County/Santa Clara County line where it enters Caltrans District 4. The route continues for 13.94 miles in Santa Clara County where it transitions to a six-lane urban freeway before continuing as I-880 from the junction of I-280 and I-880 in the City of San Jose.

The largest component of weekday traffic on the District 5 portion of Route 17 is regional traffic, mainly commuters traveling from Santa Cruz County residences to job sites in Santa Clara, Alameda, Contra Costa and San Mateo Counties. On weekends and summer weekday off-hours, Santa Cruz County becomes the attractor for regional and interregional recreational and tourist trips from Santa Clara County and beyond. The highway also carries local and regional traffic including commuter traffic generated in the cities of Santa Cruz and Scotts Valley, the community of Pasatiempo, and other unincorporated areas.

The high traffic volumes, rugged topography, roadway geometrics, and the environmental sensitivity of the Route 17 corridor present challenges for the District's transportation planners, project managers, and construction and maintenance crews. Numerous projects to improve drainage, add railing, and provide additional warning signage have been completed in the past decade. This TCR presents an opportunity for District 5 to develop a concept for this important facility in consultation with its regional and local partners.

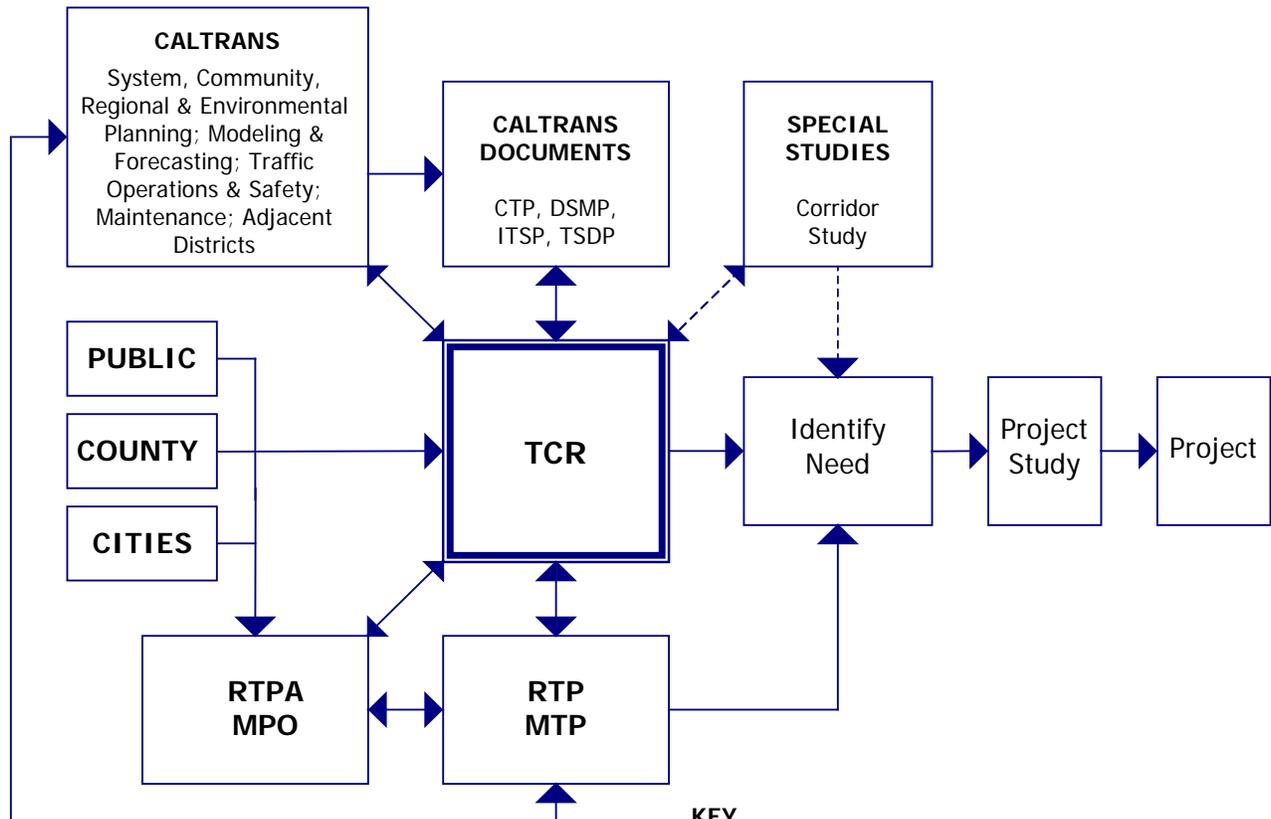
ORGANIZATION OF REPORT

The TCR comprises three parts. Part One provides a broad overview of Route 17, including current characteristics and designations and relevant considerations for developing a vision or concept for the facility.

Part Two presents a detailed analysis of the route. Part Two begins by identifying issues where the statewide perspective reveals concerns that are larger than the single county. This section is followed by a corridor analysis including area description and trends; present and future operating conditions of the highway; and alternatives for improving operations. The analysis concludes by identifying an appropriate 20-year transportation concept. Part Three considers strategies for achieving the 2025 transportation concept for Route 17 through future planning and programming. Environmental factors that will need to be considered are identified. Finally, the ultimate Route 17 transportation corridor, looking beyond the 20-year planning period, is presented.

Three Appendices complete the document. Appendix A provides a glossary of terms used in the TCR. Maps, segment summaries, and data sheets are found in Appendix B. Appendix C identifies programmed and candidate improvements.

FIGURE 1
THE TCR IN THE TRANSPORTATION PLANNING PROCESS



KEY

CTP	California Transportation Plan
DSMP	District System Management Plan
ITSP	Interregional Transportation Strategic Plan
MPO	Metropolitan Planning Organization
MTP	Metropolitan Transportation Plan
RTP	Regional Transportation Plan
RTPA	Regional Transportation Planning Agency
TCR	Transportation Concept Report
TSDP	Transportation System Development Program
	Regular Process
	Special Circumstances

PART ONE: BACKGROUND FOR TRANSPORTATION CONCEPT DEVELOPMENT

ROUTE/CORRIDOR PURPOSE AND CHARACTERISTICS

Although State Route 17 is a lifeline route for residents of Scotts Valley, the community of Pasatiempo, and rural unincorporated areas north and east of Santa Cruz, the route is characterized by the heavy inter-county commuter and tourist traffic passing through its corridor. Despite steep grades, narrow shoulders, tight curves, and scenic beauty, Route 17 has become a specialized workhorse highway. Intelligent transportation system (ITS) components such as closed circuit cameras and changeable message signs help monitor and manage traffic, thereby facilitating regional and interregional travel between Santa Cruz County residences and job sites in Santa Clara County and beyond. On weekends and summer weekdays, Route 17 brings residents of these inland areas to coastal recreational sites and tourist attractions. The route also plays an important role in regional goods movement. As the most direct route between Santa Clara County and the City of Santa Cruz, Route 17 carries a significant amount of truck traffic, more than 30 percent of which are large trucks with 5 or more axles.

For the first six miles, Route 17 is a four-lane freeway over rolling terrain. The remaining six miles are four-lane conventional highway. The latter stretch includes steep sections, sharp curves, non-standard width shoulders, and multiple at-grade intersections and uncontrolled access points. Route 17 continues into Santa Clara County as a four-lane conventional highway.

The major alternate route between Santa Cruz and Santa Clara County is State Route 9, a two-lane facility that follows a longer, more winding circuit through the mountains. The trip from Santa Cruz to Los Gatos that is 17 miles via Route 17 is 38 miles long on SR 9.

ROUTE DESIGNATIONS

The strategic location and environmental setting of Route 17 have resulted in special designations, which provide information regarding status of the facility itself and its intended use. They also indicate the availability of special purpose funding related to the designation.

In 1959, the entire route was named as part of the Freeway and Expressway System (F & E) whose completion has been declared essential to the future development of the State, with provision for control of access to the extent necessary to preserve the value and utility of the facilities. The portion from Granite Creek Road to Los Gatos was deleted from the F & E system in 1973.

The portion of Route 17 between the northern urban limit of Santa Cruz and the southern urban limit of San Jose in Santa Clara County is part of the Interregional Road System (IRRS). The IRRS is a statutorily defined system of 87 state highways that serve the interregional movement of people and goods. Route 17 is one of 34 High Emphasis Routes on the IRRS,

indicating a higher priority for programming and construction to minimum facility standards than other IRRS routes, or non-IRRS routes.

The Federal functional classification of Route 17 is Principal Arterial. This classification recognizes trip lengths and travel densities that are indicative of substantial statewide and interstate travel as Route 17 passes through urban and rural areas and delivers trips between the Central Coast and inland areas. Route 17 is designated as a Federal Aid Primary Route for its entire length.

The entire District 5 portion of Route 17 is eligible for designation as a State Scenic Highway.

ROUTE SEGMENTATION

As in past concept reports, the 12-mile Route 17 corridor in Santa Cruz County has been analyzed as a single segment. The route consists of two sub-segments divided at the interchange with Granite Creek Road. The sub-segment is the basic unit for analysis of the travel volumes, forecasts and associated levels of service, and collision rates upon which the transportation concept has been built. For each sub-segment, recent (2003) average traffic counts were compared with projections for the year 2023. The traffic analysis, along with a consideration of alternative ways to accommodate or reduce travel demand, local plans, the flow of interregional traffic, and other factors, became the basis for establishing a traffic concept for the route. Maps and data sheets with technical descriptions of both sub-segments are included in Appendix B.

PERFORMANCE MEASURES

In this Transportation Concept Report performance of the state highway facility is measured primarily using level of service (LOS) as the indicator for a single desired outcome, mobility. Other indicators address three additional outcomes. Local freight moving facilities are identified and evaluated qualitatively as a measure of the goods movement capability intended to further economic well-being. Collision rates are compared with state averages as a measure of safety and security. Environmental resources known to exist along the transportation corridor are identified in anticipation of the comprehensive evaluation of environmental quality that would attend a major transportation project.

The Safe on 17 Task Force is made up of stakeholder groups including the California Highway Patrol (CHP), local emergency services providers, Caltrans, state and local elected officials, the Santa Cruz County Regional Transportation Commission (SCCRTC), the Metropolitan Transportation Commission, and business groups. Since publication of the Highway 17 Improvement Study in 2001, the Task Force has continued to meet regularly to review projects and programs being planned or implemented for Route 17, which has also been designated as a Safety Corridor by the CHP. An on-going public awareness and enforcement program by the CHP responds to patterns of highway use. Caltrans monitors safety, operations, and maintenance needs on Route 17 on an on-going basis. These combined efforts constitute a dynamic performance measurement and response system.

PRESENT AND FUTURE OPERATING CONDITIONS

The TCR uses traffic forecasts based on local and regional land use designations to project travel demand over a 20-year period. The traffic forecasts are used to determine the resulting level of service (LOS) and to estimate the measures required for acceptable levels of service. If land use patterns and development rates and modal splits change significantly, the time frames in which recommended actions to mitigate congestion are needed will also change.

ALTERNATIVES FOR MANAGING TRAVEL DEMAND

With the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) and its 1998 successor Transportation Equity Act for the 21st Century (TEA-21), the federal government set a new course for planning and funding transportation facilities. These laws stress interconnectivity among transportation modes, enlarge the roles of regional planning agencies, and require the preparation of regional and state transportation plans that are comprehensive and linked. The recently-passed Safe, Accountable, Flexible and Efficient Transportation Equity Act of 2005: A Legacy for Users (SAFETEA-LU) continues this basic framework. In 1997, California Senate Bill 45 directed Caltrans and regional planning agencies to address common issues as partners. All this federal and state transportation legislation promotes balanced and modally-integrated systems with alternatives to single-occupant vehicle driving and alternatives to roadway travel.

In the same time frame, the practice of land use planning has also reacted to the automobile dependence that arises from low-density development with segregated land uses. The reaction has found positive expression in proposals for livable communities. Common features of livable communities are higher densities, mixed uses, and development that are convenient for pedestrians, bicyclists, and transit users. Several communities in District 5 have incorporated aspects of the new models in their General Plans and zoning ordinances.

Transportation professionals have understood for more than two decades that a range of alternatives to the single-occupant automobile must be in place to accommodate demand to travel Route 17. Opportunities for reducing and managing traffic demand have been evaluated while the potential of Intelligent Transportation Systems (ITS) in traffic management has also been recognized and exploited. The TCR identifies major alternative modes and measures that will reduce, accommodate, or manage demand for travel on Route 17 in future years.

GOODS MOVEMENT

In recognition of the critical role of transportation in sustaining economic vitality, the California Legislature in 1989 identified the Interregional Road System (IRRS) that serves interregional people and goods movement in the State of California. Although Route 17 is just over 25 miles in total length through both Santa Cruz and Santa Clara Counties, the route has been designated a High Emphasis Route on the IRRS.

The original blueprint legislation called for a minimum facility of standard of freeway and expressway for most High Emphasis routes with lower volume or mountainous routes meeting

standards for fully improved 32'-40' pavement and improved alignments. As a mountainous route, Route 17 would be expected to attain minimum standard for a conventional highway. Priorities have changed somewhat since the IRRS was identified. First, two 1998 documents, the Interregional Transportation Strategic Plan (ITSP) and the Statewide Goods Movement Strategy directed that a subset of the High Emphasis Routes, the ten Focus Routes, receive the highest priority for Interregional Transportation Improvement Program (ITIP) funding. Second, the most recent planning for goods movement in California has focused on facilities such as seaports, cargo airports, and major intermodal transfer facilities, none of which exists in District 5.

INTELLIGENT TRANSPORTATION SYSTEMS (ITS)

ITS applies advanced technologies and management strategies to increase the safety and efficiency of the surface transportation system. The Central Coast ITS Strategic Deployment Plan, completed in June 2000, provides a framework for developing a variety of ITS activities in Caltrans District 5.

Santa Cruz County, formerly part of heavily urbanized District 4, has the longest experience with Intelligent Transportation Systems elements of any county in District 5. District 4 installed, and continues to manage, certain ITS elements on Route 17; District 5 is deploying others. Existing and future ITS applications that will improve operations on Route 17 are addressed in Part Two.

CONTEXT SENSITIVE SOLUTIONS

In many settings, Caltrans employs Context Sensitive Solutions (CSS) measures. CSS makes use of innovative and inclusive approaches that balance community, aesthetic, historic, and environmental values with transportation safety, maintenance, and performance goals. CSS incorporates a collaborative, interdisciplinary approach involving all stakeholders in finding transportation solutions that support community goals and natural environments. CSS requires careful, imaginative, and early planning, and continuous community involvement.

On Route 17, Caltrans will use CSS as appropriate to ensure that physical improvements reflect community values, honor the route's outstanding scenic qualities, and meet environmental standards.

HOV LANES

The California Transportation Commission requires Caltrans to evaluate the efficacy of High Occupancy Vehicle (HOV) lanes when considering any freeway-widening project within an urban area. Since widening will not be proposed for the largely rural Route 17, HOV lanes will not be a consideration.

PART TWO: SUB-CORRIDOR ANALYSIS AND DETAIL

State Route 17 passes through a single county, Santa Cruz County, before it leaves District 5 and enters Santa Clara County in District 4.

AREA DESCRIPTION AND TRENDS

Santa Cruz County is the northernmost county in District 5. The County has the smallest land area in the District and the second smallest in the State. With a population of 259,000 in the year 2000, Santa Cruz County ranks third in the District and 37th in the State.

Most of the urban population of Santa Cruz County is concentrated in coastal areas along the heavily traveled SR 1 corridor between the principal cities of Watsonville and Santa Cruz. (See maps in Appendix B.) In addition, this area includes Capitola, several unincorporated communities and the campus of the University of California at Santa Cruz (UCSC). The remaining and third largest city in the county is Scotts Valley, which is accessed from Route 17.

Agriculture, tourism, education, and government are major sectors of the Santa Cruz County economy. A number of world-class marine research facilities are located in the county – a fortunate result of the bayside location and proximity to top-ranked institutions of higher learning. The County has demonstrated a long history of support for conservation and environmental protection as evidenced by an early adoption of urban limit lines, public acquisition of land for greenbelts, and high levels of transit and bicycle use.

Increasingly, the county has been affected by the economy of Santa Clara County, where creation of technology-based jobs has exceeded housing production. The SCCRTC estimates that more than 20,000 county residents commute to Silicon Valley job sites on a daily basis. The high tech sector has also gained footing in Santa Cruz County. Technological research and development is a major component of the economy of the City of Scotts Valley, located midway between Santa Cruz and Santa Clara County.

Four state routes carry traffic between Santa Cruz County's coastal cities and inland areas including the Silicon Valley. State Routes 129 and 152 run from Watsonville, the County's fastest-growing city to junctions with US 101 in rural areas of San Benito and Santa Clara Counties respectively. Route 17 originates at SR 1 in Santa Cruz and follows creek drainages and natural passes through the Santa Cruz Mountains to the community of Pasatiempo, the City of Scotts Valley, and on to Santa Clara County where it terminates in the City of San Jose. SR 9 also originates at SR 1 in the City of Santa Cruz. SR 9 winds along the San Lorenzo River and through the mountains before joining Route 17 at Los Gatos in Santa Clara County.

For most Santa Cruz County residents, SR1/SR 17 is the most direct route to inland job sites and other business opportunities. It should be noted that the Association of Monterey Bay Area Governments (AMBAG) forecasts significant growth in employment for Santa Cruz County. New employment opportunities could lessen the extreme jobs/housing imbalance with Santa Clara County, possibly attracting residents of the latter county to local employment centers. The Santa Clara Valley Transportation Authority (VTA) has modeled 2030 traffic for its Santa Cruz

Gateway (State Routes 17 and 9 and local roads). VTA forecasts a small increase in total peak hour traffic through the gateway, and a much less pronounced directional split.

According to census figures adjusted by the State's Department of Finance, the population of Santa Cruz County was 260,200 in January 2005. While the county's population increased 13 percent between 1990 and 2005, the fast-growing cities of Watsonville and Scotts Valley grew 59 percent and 34 percent, respectively, together accounting for 70 percent of the county's growth over the period. Area growth and in particular growth in the number of commuters who rely on Routes 1 and 17, has increased roadway congestion. Broad support now exists for widening SR 1 from Aptos to Route 17 in Santa Cruz. Historically, proposals to add capacity to Route 17 have not received appreciable support, with environmental issues, costs related to the difficult terrain, and lack of adequate alternative facilities during a prolonged construction project cited as obstacles.

CORRIDOR AND INTERREGIONAL CONCERNS

State Route 17 is an important corridor linking coastal and inland activity centers. In recognition of its strategic importance, Route 17 was designated a High Emphasis Route on the Interregional Road System (IRRS).

Interregional Commuter/Recreational Travel – Route 17 serves as a the primary interregional commuter route between residences in the City of Santa Cruz and nearby communities and job centers in Santa Clara, Alameda, Contra Costa, and San Mateo Counties. Route 17 is also the route of choice between the Santa Clara Valley and popular recreational destinations in Santa Cruz. Recreational travel peaks on summer weekends.

Alternatives for crossing the Santa Cruz Mountains from the City of Santa Cruz include SR 9 and SR 152, both of which require significant out-of-direction travel. Therefore, despite steep slopes and tight curves, Route 17, fulfills a critical role in the interregional system. Given the facility's unique geometry and vulnerability to weather-related travel conditions and damage, the heavy demand to travel Route 17 presents safety and congestion concerns. The fact that commuters and travelers bound for recreational destinations share the highway with large trucks is another complicating factor in planning for Route 17.

Goods Movement - Although Route 17 serves primarily for the movement of people, it is the principal and shortest route for delivering goods from Bay Area and Silicon Valley manufacturers and distributors to commercial centers in Santa Cruz County. Trucks account for only about three percent of Average Annual Daily Traffic (AADT). However, 30% of these trucks are large (5 axles or more). While trucks traveling at low speeds in the mountainous sections of the highway have impacts on operations, a Regional Freight Study prepared for AMBAG in 1995 concluded that Route 17 would operate at LOS F even if all truck traffic were removed from the highway.

In the early 1990s and again in the 1999-2001 timeframe, Caltrans evaluated alternatives for constructing a 1.1-mile northbound truck-climbing lane near the grade summit. Based upon project studies completed in the latter timeframe, none of the alternatives would achieve established safety and mobility objectives. With each alternative, new operational problems

would arise from speed differentials of vehicles traveling in the #2 lane and trucks reentering the #2 lane at the end of the climbing lane. A revised project to extend the truck lane over the crest of the grade would have entailed massive cuts into the mountainside, major visual and other environmental impacts, and significantly greater costs than the programmed project. Therefore a revised project was not pursued. Caltrans and the Californian Transportation Commission dropped the programmed project; the SCCRTC did not carry the concept of climbing lanes forward in its most recent Regional Transportation Plan.

Interregional travel issues and goods movement were addressed in the Highway 17 Transportation Improvement Study (May 2000), a comprehensive evaluation of all aspects of the corridor: traffic volumes and characteristics, safety, geometrics, and pavement, as well as measures to improve operations. The SCCRTC commissioned and led this effort with participation by Santa Clara Valley Transportation Agency, Monterey Bay Unified Air Pollution Control District, transit operators, and California Highway Patrol representatives from Santa Cruz and Santa Clara Counties. A team of Caltrans representatives from both Districts 5 and 4 also participated. This TCR references findings and recommendations of the Highway 17 Transportation Improvement Study.

Route 17 is not a route on which local traffic is likely to conflict with regional or interregional traffic. The vast majority of highway trips are for other than local purposes. Therefore any actions that will improve highway operations will facilitate interregional travel.

OPERATING CONDITIONS AND SEGMENT SUMMARIES

State Route 17 in District 5 extends through the Santa Cruz Mountains from SR 1 in the City of Santa Cruz to the Santa Cruz/Santa Clara County line. The entire route experiences week-day commuter traffic between Santa Cruz County communities and job centers in Santa Clara, Alameda, Contra Costa, and San Mateo Counties as well as week-end/summer regional/interregional recreational/tourist traffic between inland locations and coastal destinations. Although the percentage of trucks is not high on Route 17 – around 3 percent, the slow speed of large trucks on steep grades effectively reduces the capacity of the facility; vehicles that can maintain higher speeds collect in the #1 (inside) lane.

Heavy traffic volumes on Route 17, highway geometrics, and travel at excessive speeds, especially during the rainy season have given rise to safety concerns that are shared by transportation professionals, public officials, and the public. The Highway 17 Transportation Improvement Study (2000) identified four locations in Santa Cruz County where the excessive vehicle speed for highway geometrics contributed to collisions: the SR1 interchange, Mt. Hermon Road interchange, Laurel Curve, and Glenwood Curve. Each of these locations and the overall use and condition of the facility were addressed through a series of recommendations in four categories: (1) speeding prevention and enforcement, (2) safety improvements, (3) incident prevention and management, and (4) capital projects to improve geometrics. The Safe on 17 Task Force, whose members come from SCCRTC, Metropolitan Transportation Commission, CHP, and Caltrans, still meets regularly to consider traffic issues along the route and develop recommendations.

For purposes of this report, Route 17 has been divided into two sub-segments.

Sub-segment 1A (P.M. 0.00 /5.45) This sub-segment extends from Ocean Street, just south of the SR1/17 interchange to Granite Creek Road in the City of Scotts Valley. With the exception of a 0.40-mile stretch of expressway through the unincorporated community of Pasatiempo, Sub-segment 1A is a four-lane freeway. The SR 1/17 interchange features a tight hairpin curve known locally as the fishhook. The outdated interchange structure has long been a focus of concern and study. Caltrans is currently completing the design of merge lanes on SR 1 at the interchange. This project will improve safety and operations, but will not replace the hairpin curves or add capacity through the intersection.

The greatest portion of traffic on Sub-segment 1A is regional and interregional traffic moving between SR 1 and destinations northeast of Santa Cruz County. High tech employment opportunities in Scotts Valley also generate commuter trips on Route 17. The sub-segment accommodates local travel and regional trips linking residents of the City of Scotts Valley with employment, shopping and educational opportunities in Santa Cruz. Scotts Valley has expressed interest in developing an additional interchange with an adjacent park and ride facility between the existing interchanges at Mt. Hermon and Granite Creek Roads.

In 2003, ADT on Sub-segment 1A was 62,000 and the facility operated at LOS F during the peak hour. Demand is forecast to reach 70,000 in the year 2023, which would greatly exceed facility capacity. LOS will remain at F.

Sub-segment 1B (P.M. 5.45/12.55) continues from Scotts Valley to the county line. The initial half-mile beyond Granite Creek Road continues as a four-lane freeway. Beyond post-mile 5.95, Route 17 is a 4-lane conventional highway. As it crosses the Santa Cruz Mountains, Sub-segment 1B presents sharp curves and steep grades. Non-standard shoulder widths exist in many areas. A concrete barrier is in place through most of the four- to eight-foot median separating the left and right roadbeds, except where channelization provides for turning movements.

The mountainous portion of the highway is prone to landslides and rockfalls. Heavy winter rains also contribute to roadway damage. Maintenance activity is made difficult by the narrow roadway and shoulders and heavy traffic on the facility. Both planned and responsive (emergency) maintenance activities necessitate lane closures, which affect the reliability of the facility. Safety concerns arise from two main recurring sources: (1) vehicles traveling too fast for the roadway, especially when slow-moving vehicles are present in the outside lanes, and (2) vehicles turning to or from the numerous roads and driveways along the conventional highway. In addition, incidents such as collisions, construction work zones, vehicle breakdowns, and weather effects contribute to concerns for safety, operations, and reliability.

Factors such as topography, environmental resources and construction costs related to topography have ruled out highway widening (additional travel lanes). A truck-climbing lane project was recently considered, but set aside after traffic analyses showed minimal overall improvements to operations and excessive financial and environmental costs. As with maintenance work, any type of construction is complicated by the absence of a suitable alternate route.

In 2003, ADT was 60,000 on Sub-segment 1B and peak hour LOS was F. For the year 2023, volume could reach 77,000, which is well over the theoretical capacity of the facility. The sub-segment would continue to operate at LOS F.

Linkages – SR 1 connects with Route 17 in Santa Cruz County. State Route 35 originates at Route 17 just inside Santa Clara County (Summit Road). SR 35 enters Santa Cruz County approximately 0.20 mile from Route 17 and continues northwest as Skyline Boulevard through Santa Cruz County for approximately eight miles before re-entering Santa Clara County.

ALTERNATIVES FOR MANAGING TRAVEL DEMAND

Passenger Rail -- Passenger rail is not available along the Route 17 corridor in Santa Cruz County. A rail line that formerly linked Santa Cruz and Los Gatos would be prohibitively expensive to reestablish because much of the right-of-way has been sold and original facilities such as tunnels and bridges have deteriorated.

County residents are currently able to access the Bay Area and Sacramento via CalTrain and Amtrak trains by riding the Highway 17 Express Bus from the Metro Station in Santa Cruz to the Highway 17 Express Bus stop in San Jose. (See Urban and Inter-city Transit, below.)

Passenger rail service may be reestablished at some point between the City of Santa Cruz and Pajaro Station in Monterey County where additional passenger services will be available for Los Angeles or San Jose and the Bay Area. Because a train trip from Santa Cruz to Pajaro would entail out-of-direction travel for Santa Cruz County residents whose ultimate destination is north or east, it is not clear how travel demand on Route 17 would be affected.

Freight Rail – There are no existing or planned rail facilities through the Route 17 corridor. An existing rail line through the SR 1 corridor is used to haul sand and gravel and cement from a plant in Davenport to the main Southern Pacific rail line in Pajaro. The availability of this freight service satisfies demand that could otherwise result in additional truck traffic on Route 17.

Urban and Inter-city Transit – Santa Cruz County residents have historically shown strong support for transit services through both ridership and funding. In a ranking of the nation's counties for local transit rides per capita, Santa Cruz falls in the top quartile. The Santa Cruz Metropolitan Transit District (SCMTD) operates a system that serves city residents as well as residents of outlying settlements throughout the County. The County also collects a half-cent sales tax for the exclusive benefit of transit.

Morning and evening inter-county commuter trips have long been the largest components of daily travel on Route 17. Severe roadway damage from the 1989 Loma Prieta earthquake served as the occasion for developing the Highway 17 Express Bus service to accommodate commuters. This highly successful transit service was initially a joint project of the county's transit operator, SCMTD and the Santa Clara Valley Transportation Agency (VTA) to accommodate travel during reconstruction work. The service was put into place quickly with federal emergency funding and cooperation and consent of employee unions in the two counties. In 1999, the SCMTD assumed operational responsibility for the service; VTA

continues to participate in funding and oversight of the service through a Joint Powers Authority.

The Highway 17 Express Bus is a critical element in accommodating and managing travel demand on Route 17. The service is continually evaluated and enhanced with new services such as week-end service, services to the reverse commuter, route extension, and improved intermodal facilities. The recent combination of the Highway 17 Express Bus and the Amtrak Connector Bus function has resulted in overall efficiencies and added utility for the Express service.

With no additional roadway capacity under consideration for Route 17, continued adjustments to optimize transit services must be assumed in planning for acceptable future levels of operation for the facility.

Bikeways – Santa Cruz County offers an extensive network of bike lanes and facilities for the benefit of commuting workers and students as well as recreational cyclists. Through much of Santa Cruz County, bicycling is a viable alternative to motorized travel.

For this TCR, the consideration of bicycle use is driven by the search for ways to reduce demand to travel on the highway. Bicycle use is prohibited on the freeway portions of Route 17. However, an alternate bike route runs parallel to the east of Route 17 from the SR1/17 interchange to Granite Creek Road (i.e., Sub-segment 1A). This is an option for commuters traveling between Scotts Valley and Santa Cruz. While the majority of bicycle use in the rural mountainous parts of the county is recreational rather than a modal alternative to commuter travel, cycling can be an important link in multi-modal travel (i.e., a mode for reaching a bus stop, or a meeting place for vanpool or carpool). Intermodal facilities such as storage lockers make such travel more attractive. All SCMTD buses including the Highway 17 Express Bus are equipped to carry a maximum of two bicycles on the front bumper.

Transportation Demand Management (TDM) – For some employees and students, transit is not workable or attractive. Commute Solutions, under the direction of the Santa Cruz County Regional Transportation Commission, Santa Cruz Area Transportation Management Association, and Pajaro Valley Transportation Management Association, provides additional TDM programs and services in Santa Cruz County. The most common TDM strategies are carpooling and vanpooling, which match or “pool” persons who travel to a common employment site or area. These alternatives are cheaper than single-occupant vehicle (SOV) driving and faster and more direct than transit, with departure and arrival times often tailored to the pool of participants. Telecommuting is another TDM alternative that works well for some workers in the high tech industry and some professional fields. All of these are available and encouraged as alternatives to SOV driving on Route 17.

New Land Use Patterns – Local governments and transportation planning agencies in Santa Cruz and Santa Clara Counties promote mixed-use development that features walkable distances between residences, shopping areas and job-sites. However, the traffic situation on Route 17 reflects regional rather than local land use relationships. A major jobs/housing imbalance underlies commuting patterns between Santa Cruz County and the Silicon Valley.

AMBAG forecasts that the employment growth rate in Santa Cruz County will outpace that of the Silicon Valley over the next 30 years. This could provide welcome opportunities for local residents to live and work in the same community, while balancing out the directional split of commuter traffic on Route 17. Well-planned siting of employment centers and sensitive infill development in Santa Cruz County will provide opportunities to realize more of the transportation benefits of mixed-use development.

The Highway 17 Transportation Improvement Study concluded that the current concentration of Silicon Valley commuters along the SR 1 corridor south of Soquel Drive warrants exploration of opportunities to construct additional park and ride lots for the convenience of these commuters.

Intelligent Transportation Systems (ITS) – Santa Cruz County, formerly part of District 4, has the longest experience with ITS elements of any county in District 5. District 4 installed ITS elements on SR 1 and Route 17 in 1996 and continues to manage certain elements including closed circuit television cameras, changeable and extinguishable message signs, and highway advisory radio from its Transportation Management Center (TMC). Continued management by District 4 is warranted by the high volume traffic flows between Santa Cruz and Santa Clara Counties and the “24/7” operations of the District 4 TMC. The SCCRTC has identified a need for software upgrades to allow personnel in the District 4 TMC to view monitoring station data in real time. District 5’s TMC currently operates 12 hours a day, weekdays only.

Additional ITS elements are planned for the Highway 17 Traffic Operations System (TOS) in Santa Cruz County. When the Central Coast ITS Strategic Plan is fully implemented, the Highway 17 TOS will include the following elements:

- System of smart call boxes along route
- Closed circuit television cameras at approximately one mile spacing through route
- Surveillance station loops at one-half mile spacing through route
- Permanent Changeable Message Signs on route and nearby local roads
- Preprogrammed Extinguishable Message Signs at appropriate locations
- Permanent Highway Advisory Radio at the SR 1/SR 17 interchange
- Road Weather Information System with environmental sensors and information dissemination
- Transit Management including vehicle tracking and surveillance, schedule management, and fare collection.

New ITS technologies are likely to be developed over the 20 year planning horizon replacing or improving some of the existing elements.

Freeway Service Patrol – A collision or disabled vehicle on Route 17 can quickly bring traffic to a crawl or a halt. While ITS can detect and convey information quickly, timely arrival of tow trucks to assist the CHP in clearing collisions and debris is another key element in managing traffic on the highway. The SCCRTC-sponsored Freeway Service Patrol (FSP) provides free service to motorists during commute hours and some weekends. The FSP has been found to be an effective component in minimizing incident-related congestion and maintaining traffic flow on Route 17.

TRANSPORTATION CONCEPT AND STRATEGIES

The previous Route Concept Report (RCR) was prepared by District 4 in 1984. That document indicated that the capacity needed for Route 17 to operate at LOS D in Santa Cruz County would be an 8-lane freeway for Sub-segment 1A and a "6-lane divided including slow moving vehicle lane to the summit" for Sub-segment 1B. Recognizing that existing policy of the Santa Cruz County Regional Transportation Commission would prevent widening, the concept set forth and adopted for Route 17 in Santa Cruz county was "4-lane divided facility with passing lanes for slow moving vehicles."

Subsequent to the 1984 RCR, Caltrans evaluated a northbound truck climbing lane project in a 1.1 stretch of Route 17 approaching the grade summit. Detailed traffic analyses indicated that none of the project alternatives would improve traffic operations. A revised project to extend the project limits over the summit would have entailed major earthmoving with attendant visual and other environmental impacts as well as significantly greater costs than the programmed project.

The transportation concept for Route 17 to the year 2025 is LOS E. The concept facility for Sub-segment 1A is 4-lane freeway; for Sub-segment 1B it is 4-lane expressway. While it is unlikely that Sub-segment 1B can be fully converted to expressway standards, the concept provides direction to minimize, consolidate, and control access to the extent possible. District 4 is not proposing significant changes to Route 17 as it transitions from the Santa Cruz/Santa Clara County line. It will remain a four-lane conventional highway. Passing/climbing lanes are not included in the transportation concept for Route 17.

Recommendations for Route 17 include:

- Coordinate all construction, installation of operational improvements, and maintenance work to minimize lane blockage and traffic delay.
- Improve non-standard interchanges where possible.*
- Convert expressway to freeway where possible (Sub-segment 1A).
- Convert conventional highway sections to expressway where possible (Sub-segment 1B).
- Lengthen turn lanes where possible to minimize deceleration in through lanes (Sub-segment 1B).*
- Construct grade-separated crossings to minimize traffic conflicts (Sub-segment 1B).*
- Construct additional turnouts (Sub-segment 1B).*
- Minimize and consolidate access points (Sub-segment 1B).
- Widen non-standard width travel lanes, shoulders, and bridges (Sub-segment 1B).
- Install/maintain/upgrade ITS elements to maintain operations during incidents, and improve operations.
- Evaluate opportunities to enhance highway projects on Route 17 by incorporating ITS elements.
- Continue to focus on transit, TDMs, and intermodal facilities to reduce demand.
- Support regional ride matching services and dissemination of information on alternatives to solo driving.
- Support incident management program to increase safety, mobility, and reliability on Route 17.

- Consider an additional freeway interchange between existing interchanges at Mt. Hermon Road and Granite Creek Road in Scotts Valley along with intermodal facilities such as a park and ride lot in the context of corridor operations and community access issues.
 - Continue to support efforts of the Safe on 17 Task Force and the Traffic Operations System Oversight Committee to monitor conditions and to identify, develop, and deploy interagency responses.
 - Continue coordination among Caltrans Districts 5 and 4, SCCRTC, Metropolitan Transportation Commission, transportation service providers, and others in transportation planning, programming, service provision, and addressing operational issues.
- * *Recommendation identified in Highway 17 Transportation Improvement Study.*

PART THREE: FUTURE CONSIDERATIONS

The transportation concept for Route 17 was identified in Part Two along with recommended actions for achieving the year 2025 concept. Part Three addresses additional considerations including programming responsibilities, environmental factors to be considered prior to future improvements on Route 17, and looking beyond the year 2025, concerns related to the Ultimate Transportation Corridor.

PROGRAMMING CONCEPT FACILITIES

This TCR supports efforts to implement Transportation Demand Management such as enhanced transit, intermodal facilities, vanpooling, and carpooling. While local agencies would have primary responsibility for actions such as these, Caltrans supports inclusion of related provisions in Regional Transportation Plans and other regional and local planning and programming documents to maximize the utility of Route 17.

Caltrans will take the lead in undertaking many of the actions to improve the highway itself, often in partnership with the RTPA. Under SB 45, the RTPAs program highway improvements in the urbanized areas while Caltrans is responsible for the non-urbanized areas. Caltrans is also charged to plan and provide for interregional travel and goods movement. Caltrans programs and participates in funding projects according to state and regional priorities, type of project (e.g., capacity increasing or safety and operations improvements), location (e.g., metropolitan or rural area), and traffic characteristics (e.g., local, regional, interregional).

Major programmed and candidate projects for Route 17 are identified in Appendix C. Additional non-roadway projects such as the Safe on 17 Task Force, a freeway service patrol, and expansion of the Highway 17 Express Bus service contribute to improved safety and operations or reduce travel demand on the facility.

ENVIRONMENTAL FACTORS

The purpose of this section is to provide a broad overview of the major environmental issues to be considered in planning for appropriate transportation facilities along the Route 17 corridor in Caltrans District 5.

Scenic and Aesthetic Resources – The Route 17 corridor offers vistas of great beauty as it passes through the heavily forested Santa Cruz Mountains. Route 17 is eligible for designation as a Scenic Highway under the State Scenic Highway Program.

Cultural Resources - The Route 17 corridor travels through areas of sensitivity for cultural resources. Numerous prehistoric archaeological sites have been documented in Scotts Valley and along Carbonera Creek and its tributaries. Historic-period cultural resources are also scattered throughout the Santa Cruz Mountains. Potential project-related impacts to archaeological, cultural, and historical resources must be evaluated in compliance with the California Environmental Quality Act (CEQA) and, if federal funds are involved, the National Environmental Policy Act (NEPA) for a project proposing changes to Route 17. Environmental compliance could require a complete assessment of cultural resources through a detailed

cultural resources study, further investigation of known cultural sites, as well as redesign of the project or mitigation of impacts.

Biological Resources – The Route 17 corridor in Santa Cruz County extends from its southern end at Route 1 in the City of Santa Cruz, northeast to the Santa Clara County line. The Route passes through the Santa Cruz, Felton, Laurel, and Los Gatos US Geologic Survey Quadrangle Maps. Away from the cities of Santa Cruz and Scotts Valley, the route passes through forested rural residential lands. Although corridor habitats have been altered, there is still the potential for sensitive biological resources, especially in and around major drainages. The first eight miles of the route parallels Carbonera Creek, which crosses under the roadway three times, the upper reaches of Burns Creek cross under the route near P.M. 12.4, and other small intermittent drainages are present along the entire route.

Sensitive biological resources known to occur along Route 17 include, but may not be limited to, State or Federal listed species such as California red-legged frog (*Rana aurora draytonii*), steelhead trout (*Oncorhynchus mykiss irideus*), Zayante band-winged grasshopper (*Timerothropis infantilis*), Ohlone tiger beetle (*Cindela ohlone*), Scotts Valley spineflower (*Chorizanthe robusta var. hartwegii*), Ben Lomond spineflower (*Chorizanthe pungens var. hartwegiana*), Scotts Valley polygonum (*Polygonum hickmanii*), Santa Cruz wallflower (*Eysimum tetetifolium*), and marsh sandwort (*Arenaria paludicola*). Potential project-related impacts to biological resources must be evaluated in compliance with the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). Environmental compliance would require further investigation to determine the full extent and nature of biological resources present in the State right-of-way.

Air Quality – Route 17 in District 5 is located within the North Central Coast Air Basin (NCCAB). The Monterey Bay Unified Air Pollution Control District has jurisdiction over the air quality in the NCCAB (which includes Santa Cruz, San Benito, and Monterey Counties). Under the Federal Clean Air Act, the area has recently been re-designated as an Attainment area for ozone. Under the California Clean Air Act, the air basin has been designated non-attainment for ozone and inhalable particulates (also known as particulate matter smaller than 10 microns in diameter, or PM₁₀). The NCCAB has been designated either unclassified or in attainment of all other state and federal ambient air quality standards for criteria pollutants.

Noise - Any proposal on Route 17 that will change either the horizontal or vertical alignment or increase the number of through traffic lanes will require analysis of potential noise impacts. If it is determined through the noise analysis that significant impacts may result, mitigation measures may be required. Typical noise mitigation measures include barriers such as earthen berms and sound walls.

Route 17 passes through rural areas with few sensitive receptors such as residences or schools. The potential for noise impacts will increase in the more developed areas.

Water Quality – Route 17 is located within the Central Coast Regional Water Quality Control Board's (RWQCB) jurisdiction. The design and construction of road projects must adhere to the requirements found in the Caltrans National Pollutant Discharge Elimination System (NPDES) permit (Order No. 99-06-DWQ, No. CAS000003), the *Caltrans Storm Water Management Plan*

(SWMP), the *Caltrans Project Planning and Design Guide*, the *Construction Site Best Management Practices Manual*, and *Caltrans Standard Specifications*.

Hazardous Materials - A hazardous material is any substance, including waste, which may result in adverse effects to health, safety, and the environment. Caltrans policy is to manage a hazardous materials program to protect its activities, employees, the public, and the environment from the injurious effects of hazardous materials and waste. Any proposed project on Route 17 will include an assessment during the planning phase of the potential to encounter hazardous materials. If found, Caltrans policy is to avoid or fully mitigate these materials prior to construction.

ULTIMATE TRANSPORTATION CORRIDOR

The ultimate transportation corridor (UTC) is viewed as the maximum development of a state highway corridor, including parallel facilities, beyond the 20-year planning horizon. The UTC is used to identify potential widenings, realignments, future facilities and rights-of-way required to complete the development of each corridor. This information is critical for working with local and regional land use planning agencies to address right-of-way preservation.

Ultimately, Route 17 should be completed as a four-lane freeway with standard median and shoulders and additional slow vehicle lanes on steep slopes. Caltrans owns a minimum of 160 feet of right-of-way through the Route 17 corridor. This right-of-way would be adequate for standard traveled way, shoulders, and median for a four-lane freeway centered within the current right-of-way. However, additional right-of-way could be required to provide for drainage and slopes or major horizontal or vertical realignments, and would certainly be required for each of two to three interchanges that could be constructed along Sub-segment 1B.

CONCLUSION

In preparing this report, Caltrans has used traffic forecasts to determine the future levels of service on Route 17. Based on these forecasts and a qualitative analysis of alternatives, Caltrans identified concept levels of service for the route as well as recommended actions for maintaining acceptable operations. The land use patterns and development adjacent to the state facility have a substantial impact on LOS. Most alternative transportation modes and the land use changes are in the hands of the local agencies and are therefore up to them to implement and monitor. Caltrans District 5 will continue to work with regional and local agencies in planning and programming transportation projects to meet demand for safe and efficient travel through the Route 17 corridor. Additionally, in the interest of preserving the safety and operational integrity of the State Highway, the District's Development Review (IGR)/California Environmental Quality Act (CEQA) program will continue to work with local agencies to identify and evaluate transportation issues at an early stage of planning for new development.

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APPENDIX A: Definitions, Acronyms, and Abbreviations

Access Control	The condition where the right of owners or occupants of abutting land or other persons to access a highway is fully or partially controlled by public authority.
ADA	Americans with Disabilities Act – Landmark 1990 civil rights legislation barring discrimination against people with disabilities in all major areas of life. As it relates to provision of transportation services, the ADA requires transportation providers ensure nondiscriminatory, accessible service for disabled individuals, and that public transportation providers operating fixed route bus service provide paratransit service comparable to the fixed routes.
ADT	Average Daily Traffic – The average number of vehicles passing a specific point during a 24-hour period. Similarly, Average Annual Daily Traffic is AADT, where the average is further normalized by averaging an entire year's traffic flows.
Air Basin	An area or territory containing similar meteorological and geographic conditions. In California, the Air Resources Board (ARB) has established nine air basins.
Arterial Highway	A general term denoting a highway primarily used for through traffic usually on a continuous route.
Auxiliary Lane	The portion of the roadway for traffic weaving, truck climbing, speed change, or other purposes supplementary to through traffic movement.
Average Travel Speed (ATS)	One of the performance measures used to estimate level-of-service (LOS) on a highway. The facility length divided by the average travel time of all vehicles traversing the facility, including all stopped delay times.
CEQA	California Environmental Quality Act (1970) - A law requiring governmental decision-makers be provided adequate information about the potentially significant environmental impacts of proposed projects. CEQA also mandates ways to avoid or significantly reduce damage to the environment.
Channelization	The separation or regulation of conflicting traffic movements into definite paths of 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.
Clear Recovery Zone	An area clear of fixed objects adjacent to the roadway established to provide a recovery zone for vehicles that have left the traveled roadway. Minimum distances have been established. However, when an object (i.e., a tree) is desired to be retained, guardrails or some other similar structure are used to prevent head-on collisions with those fixed objects.
Climbing Lane	A lane added on an uphill grade for use by trucks, recreational vehicles and other heavy vehicles when their speeds are significantly reduced by the grade.
Concept	A strategy for future improvements that will reduce congestion, improve the mobility of people and goods and/or maintain the existing level of service on a specific route.
Conformity	Process to assess the compliance of any Federally funded or approved transportation plan, program, or project with air quality implementation plans. The conformity process is defined by the Clean Air Act.
Continuous Left-turn lane	A lane that simultaneously serves left turning vehicles traveling in opposite directions.
Conventional Highway	A highway without access control, which may or not be divided by a median. Grade separations at intersections or access controls may be used when justified at spot locations.
CMP	Congestion Management Program – A comprehensive program designed to reduce auto-related congestion through roadway improvements, travel demand management (TDM) and coordinated land-use planning among all local jurisdictions. This program is voluntary, but had been required of every county in the state prior to the implementation of the CMS.

CMS	<p>Congestion Management System – A system required of all Transportation Management Areas (TMA). Often adopted as a part of the CMP, the CMS is primarily composed of the principal arterials in the region.</p> <p style="text-align: center;">- ALSO -</p> <p>Changeable Message Signs – Electronic signs that can change the message it displays and often used along highways to alert and redirect traffic when travel conditions demand or provide “Amber Alert” notifications.</p>
CTC	<p>California Transportation Commission – A body appointed by the governor responsible for the State Transportation Improvement Program (STIP), the development of the Regional Transportation Plan Guidelines, and statewide transportation policy.</p>
Collector	<p>Surface street providing access and traffic circulation within residential, commercial, and industrial areas to adjacent parcels of land.</p>
Couplet	<p>A pair of parallel one-way roadways running in opposite directions. This offers the potential for increasing capacity within tight city blocks where the existing roadway cannot be widened, and a parallel roadway exists that either can accommodate additional traffic or can be modified to do so.</p>
Design Exception	<p>Written record documenting the engineering decision(s) leading to an exception to a design standard. Exceptions are possible for both mandatory and advisory design standards.</p>
DSMP	<p>District System Management Plan – A document prepared by each Caltrans district. The DSMP identifies Caltrans priorities for highway system improvement and is used by both Caltrans and external agencies.</p>
Design Speed	<p>A speed selected to establish specific minimum geometric (horizontal, vertical, site distance) design elements for a particular segment of road.</p>
Easement	<p>A right to use or control the property of another for designated purposes.</p>
EIR/EIS	<p>Environmental Impact Report/Environmental Impact Statement – An analysis of the environmental impacts of proposed land development and transportation projects. An EIR is prepared in response to State requirements found in CEQA. An EIS is conducted for federally funded or approved projects per the National Environmental Policy Act (NEPA – 1969). The normal procedure is to circulate a “draft” document to the public and involved agencies for comments.</p>
ERM	<p>Emergency Response Management – A component of the ITS system, these systems enable the rapid deployment of emergency vehicles and personnel to the scene of an accident.</p>
Expressway	<p>An arterial highway with at least partial control of access, which may or may not be divided or have grade separations at intersections.</p>
FHWA	<p>Federal Highway Administration - An agency under the U.S. Department of Transportation (US DOT) responsible for all federal highway programs.</p>
Focus Routes	<p>These routes are a subset of the 34 High Emphasis (HE) IRRS routes. They represent the ten routes or corridors that should be the highest priority for completion to minimum facility standards in order to serve higher volume interregional trip movements.</p>
Freeway	<p>A divided arterial highway with full control of access and with grade separations at intersections. A freeway, as defined by statute, is also a highway in respect to which: (1) the owners of abutting lands have no right or easement of access to or from their abutting lands; or (2) such owners have only limited or restricted right or easement of access. This statutory definition also includes expressways.</p>
F & E System	<p>Freeway and Expressway System – The statewide system of highways declared by the Legislature to be essential to the future development of California. The F&E System has been constructed with a large investment of funds for the ability of control access, in order to ensure the safety and operational integrity of the highways.</p>

Freeway Capacity	The maximum sustained 15-minute flow rate, expressed in passenger cars per hour per lane (pc/h/ln), that can be accommodated by a uniform freeway segment under prevailing traffic and roadway conditions in one direction of flow.
Frontage Road	A local street or road auxiliary to and located on the side of an arterial highway for service to abutting property and adjacent areas. These roads also allow for control of access onto the highway system.
Functional Classifications	A grouping of streets and highways sorted as to the character of service they are intended to provide.
GIS	Geographic Information Systems – Computerized data management system designed to capture, store, retrieve, analyze, and report on geographic and demographic information in a visual format, usually in the form of a map.
Goods Movement	The general term referring to the flow of commodities, modal good movement systems, and goods movement institutions.
Grade Separation	A crossing of two highways or a highway and a railroad at different levels with one bridging the other.
Interchange	A system of interconnecting roadways in conjunction with one or more grade separations providing for the interaction of traffic between two or more roadways on different levels.
HE Routes	High Emphasis Routes - The most critical routes of the Interregional Road System (IRRS), as well as the most critical for interregional travel and the state as a whole.
HCM	Highway Capacity Manual – A manual describing the relationships between roadway capacity and travel/flow characteristics, and containing procedures for calculating the level-of-service (LOS) of a roadway or intersection.
HOV lanes	High Occupancy Vehicle lanes – A travel lane on a roadway segment whose use is restricted to vehicles where a predetermined minimum number of occupants are in the vehicle, usually more than one person.
Initial Study	A preliminary study prepared by the lead agency to determine whether an environmental impact report (EIR) or negative declaration (ND) must be prepared pursuant to CEQA.
IRRS	Interregional Road System – A series of interregional state highway routes, outside the urbanized areas, which provides access to, and links between, the State's economic centers, major recreational centers, and urban and rural areas.
ISTEA	Intermodal Surface Transportation and Efficiency Act – Federal transportation legislation signed into law in 1991 that substantially changed the way transportation funding decisions are made. The Act emphasized diversity, balance of modes, and the preservation of the existing system. It was superseded by TEA 21 in 1998 and SAFETEA-LU in 2005.
Intermodal Transportation	The process of applying a system approach to transportation in which goods and people are transported in a continuous and efficient manner between origin and destination, using two or modes in the most efficient manner.
ITIP	Interregional Transportation Improvement Program – A program prepared biennially by Caltrans that includes interregional highway and intercity rail projects proposed for funding through the STIP. This program represents 25% of the total STIP budget, with the other 75% in the RTIP. Sixty percent of the ITIP funds are programmed and expended for improvements to state highways outside the boundaries of urbanized areas (populations greater than 50,000) and for intercity rail projects. RTPAs/MPOs may propose projects for consideration by Caltrans for inclusion in the ITIP.

ITS	Intelligent Transportation System – This is a general term to describe a range of advanced electronic and information technologies that can be used to improve the safety, operational efficiency, and productivity of the transportation system.
ITSP	Interregional Transportation Strategic Plan – A plan identifying six key objectives for implementing the Interregional Improvement Program (IIP) and strategies and actions to focus improvements and investments. This document also addresses development of the IRRS and intercity rail in California, and defines a strategy that extends beyond the current STIP.
Interstate Highway System	The system of highways that connects the principal metropolitan areas, cities, and industrial centers of the United States. The Interstate System also connects the US to internationally significant routes in Mexico and Canada.
LCP	Local Coastal Plan – A guide for the development of land within the coastal areas of California. The zoning ordinances of the jurisdictions within the region implement provision of the LCP.
LOS	Level of Service - Term used to describe the quality of operation of a highway facility. It is a qualitative measure of the effect of such factors as speed and travel time, traffic interruptions, freedom to maneuver, driving comfort, convenience, safety and operation cost. In this report, LOS is based on peak traffic hours. On urban street systems, the quality of flow is most frequently controlled by traffic conditions at signalized intersections. The flow characteristics are defined in six levels of service.
LOS A	Describes a condition of free flow, with low volumes and high speeds. Traffic density is low, with speeds controlled by driver desires, speed limits, and physical roadway conditions.
LOS B	This zone allows stable flow, with operating speeds beginning to be restricted somewhat by traffic conditions. Drivers still have reasonable freedom to select their speed and lane of operation.
LOS C	This zone still allows stable flow, but the higher volumes more closely control speeds and maneuverability. Most of the drivers are somewhat restricted in their freedom to select their own speed, change lanes, or pass.
LOS D	This level approaches unstable flow, with tolerable operating speeds being maintained though considerably affected by changes in operating conditions. Fluctuations in volumes and temporary restrictions to flow may cause substantial drops in operating speeds.
LOS E	This level cannot be described by speed alone, but represents operations at even lower operating speeds than in level D, with volumes at or near the capacity of the highway. Flow is unstable, and there may be stoppages for brief periods of time.
LOS F	Describes forced flow operation at low speeds, where volumes are below capacity. These conditions usually result from vehicles backing up from a restriction downstream. Speeds are reduced substantially and stoppages may occur for short or long periods of time because of the downstream congestion. In the extreme, both speed and volume can drop to zero.
Median	The portion of a divided highway separating the traveled ways for traffic in opposite directions.
MPO	Metropolitan Planning Organization – The organization designated by the governor as responsible for transportation planning and programming activities, as required under federal law, in an urbanized area. The MPO serves as the forum for cooperative decision making by a regional board made up of local elected officials and city and county staff. The MPO is responsible for development of the federal long-range transportation plan and multi-year funding programs, and the selection and approval of transportation projects using federal funds.

NAAQS	National Ambient Air Quality Standards – Standards set by the federal EPA for the maximum levels of air pollutants that can exist in the outdoor air without unacceptable effects on human health or the public welfare.
NEPA	National Environmental Policy Act (1969) – Federal legislation establishing the requirements and procedures for documenting the environmental impacts of federally funded projects, including transportation improvements.
NHS	National Highway System – Required under Section 1006 for ISTEA, the NHS is a 155,000-mile system comprised of major highways serving interstate and interregional travel, connecting major population centers, ports, airports, public transportation facilities, major travel destinations, international border crossings, and major military installations.
NTN	National Truck Network – This network is comprised of the National System of Interstate and Defense Highways. Sometimes referred to as just National Network (NN). This network is part of the larger Surface Transportation Assistance Act (STAA) network that also includes Terminal Access (TA) and Service Access (SA) routes.
Park and Ride Lots	Parking lots along highway corridors that allow for drivers to park their car/truck and ride with another individual or use a transit system, reducing the number of vehicles on the road. Some lots may also offer bicycle lockers.
Platoon	A group of vehicles traveling together as a group, either voluntarily or involuntarily because of signal control, geometrics, lack of passing opportunities or other factors.
Programming	The process of scheduling high-priority projects for development and implementation.
PID	Project Initiation Document – A document required for all projects before it can be considered for funding or programming into the STIP or the SHOPP. The PID may be any of a number of documents including a Project Study Report (PSR), Project Study Report/Project Development Support (PSR/PDS), Project Scope and Summary Report (PSSR), or a Noise Barrier Scope and Summary (NBSSR).
PTSF	Percent time spent following – A performance measure used to estimate level of service on a two-lane highway. It is the average percentage of the travel time that vehicles must travel in platoons behind slower vehicles due to the inability to pass.
Public Participation	The active and meaningful involvement of the public in the development of transportation plans and programs.
Ramp metering	A traffic management strategy that utilizes a system of traffic signals on freeway entrance and connector ramps to regulate the volume of traffic entering a freeway corridor. This is to maximize the efficiency of the freeway and thereby minimize the total delay in the transportation corridor.
Relinquishment	A transfer of the State’s rights, title and interest in and to a highway, or portion thereof, to a city or county.
RTP	Regional Transportation Plan – the RTP is a long-range plan (20-year horizon) to improve a region’s state highways; local streets, roads and bikeways; airport and marine facilities; transit, paratransit, and passenger rail services. As a guide for the development of these facilities, the RTP describes the priorities for making investments in a region’s transportation system.
RTPA	Regional Transportation Planning Agency – The county level, or multi-county level, agency responsible under state law for the preparation of RTPs and allocation of funds. RTPAs can be local transportation commissions, Councils of Governments, MPOs, or statutorily created agencies.
Right-of-Way	Real estate acquired for transportation purposes, which includes the facility itself (highway, fixed guideway, etc.) as well as associated uses (maintenance structures, drainage systems, roadside landscaping, etc.).

Roadbed	Those portions of the roadway extending from curb line to curb line or shoulder line to shoulder line. Divided highways are considered to have two roadbeds.
Roadway Characteristics	The geometric characteristics of the roadway segment under study, including the number and width of lanes, right-shoulder lateral clearance, interchange/intersection spacing, vertical alignment, and lane configurations.
RWIS	Road Weather Information System – This ITS system collects pavement temperature, visibility, wind speed and direction, and precipitation data and presents the data in a usable format to transportation system operators, for the public.
Rural	An area with a population under 5000.
Rural Local	Roadways that provide access to adjacent lands and provide service to travel over relatively short distances as compared to collectors or other highway systems.
Rural Other Principal Arterial	All non-Interstate Principal Arterials which will serve corridor movements having trip length and travel density characteristics indicative of substantial statewide or interstate travel. These roadways will also serve all urban areas of 50,000 and over population and a large majority of those with population of 25,000 and over. They should also provide an integrated network without stub connections except where unusual geographic or traffic flow conditions dictate otherwise.
SAFE	Service Authority for Freeway Emergencies – State legislation (SB-1199), enacted in 1985, authorized the establishment of local SAFEs for the purposes of installing, maintaining, and operating a network of motorist-aid call boxes. The program is funded by a \$1 per year fee on all registered motor vehicles within the county.
SAFETEA-LU	The Safe, Accountable, Flexible, Efficient Transportation Equity Act – A Legacy for Users – Federal legislation enacted in 2005. SAFETEA-LU authorizes the Federal Surface Transportation Programs (FSTP) for highways, highway safety, and transit for the 5-year period from 2005-2009. This legislation superseded TEA-21, but maintains its basic structure and builds on its key initiatives.
Scenic Corridor	A band of land that is visible from and generally adjacent to, but outside of, the highway right-of-way having scenic, historical, or other aesthetics characteristics.
Scenic Highway	An officially designated portion of the State Highway System traversing areas of outstanding scenic beauty and/or historic character. Designations include: All American Road, National Scenic Byway, U.S. Forest Service Byway, Historic Highway and State Scenic Highway.
Scoping	An activity of the lead agency in the environmental process ensuring the inclusion of all significant issues and maximum participation for the development of the EIR/EIS.
Segment	A portion of the highway identified for analysis that is homogenous in nature.
SB-45 (1997)	Senate Bill 45 of the 1997 California State Legislature – State legislation enacted in 1997 that substantially changed the process for allocating state and federal transportation funds through the STIP. The major changes include consolidation of several prior STIP funding programs into two broad programs, increased programming flexibility, authority, and accountability for regional agencies and full accounting of all project costs in the STIP. SB-45 initially shortened the STIP period from 7 to 4 years. However, a five-year program was established with the 2002 STIP under Assembly Bill (AB) 2928.
Shoulder	The portion of the roadway contiguous with the traveled way for accommodating stopped vehicles, for emergency use, and for lateral support of the roadbed base and surface courses.

<p>SHOPP</p>	<p>State Highway Operation and Protection Plan – A program of projects adopted by Caltrans to preserve and protect the state highway system and provides for its safe operation. SHOPP projects include traffic safety, pavement and bridge rehabilitation, seismic retrofit, earthquake and storm damage repair and traffic operational improvements. These projects are maintained on a four-year list that is updated every two years.</p>
<p>SIP</p>	<p>State Implementation Plan – A document prepared by each State, with input from local Air Pollution Control Districts (APCDs) describing the existing air quality conditions and measures that will be taken to attain and maintain national ambient air quality standards (NAAQS). In California, the California Air Resources Board (CARB or ARB) prepares the SIP.</p>
<p>SR</p>	<p>State Route – State highways within the State, other than Interstate and US routes, which serve interstate and intrastate travel. These highways can be freeways, expressways or conventional highways depending on their access control.</p>
<p>STAA Network</p>	<p>Surface Transportation Assistance Act Network – This network was created by federal legislation in 1982 and is made up of the National Network (NN), Terminal Access (TA) and Service Access (SA) routes. This legislation requires states to allow large trucks on these specific routes.</p>
<p>STIP</p>	<p>State Transportation Improvement Program – A statewide program of transportation projects adopted biennially by the CTC that governs the expenditure of state revenues for transportation. The STIP consists of transportation projects proposed in the RTIPs and ITIP, and approved by the CTC.</p>
<p>STRAHNET</p>	<p>Strategic Highway Network - a federal designation for the system of highways providing access to major U.S. military installations.</p>
<p>TA Route</p>	<p>Terminal Access Route – Portions of State routes and local roads that can accommodate STAA trucks. TA routes allow STAA trucks to (1) travel between NTN routes, (2) reach a truck's operating facility, or (3) reach a facility where freight originates, terminates, or is handled in the transportation process.</p>
<p>TASAS</p>	<p>Traffic Accident Surveillance and Analysis System – A system providing a detailed list or summary of collisions occurring on highways, ramps, or intersections in the State Highway System. Collision histories can be accessed by location, highway characteristics, accident data codes or any combination of these by State safety engineers for evaluation and recommendations.</p>
<p>TCM</p>	<p>Transportation Control Measure – Any strategy to reduce vehicle trips, vehicle use, vehicle miles traveled, vehicle idling, or traffic congestion for the purpose of reducing motor vehicle emissions.</p>
<p>TDM</p>	<p>Transportation Demand Management – The implementation of measures that encourage people to change their mode of travel, travel during off-peak periods, or not make the trip alone at all, e.g., ridesharing, telecommuting, pricing incentives and parking management.</p>
<p>TE</p>	<p>Transportation Enhancements – A program under ISTEA, TEA-21, and SAFETEA-LU, which sets aside a portion of Surface Transportation Program (STP) funds for several categories of projects whose purpose is to enhance the transportation system. Enhancement funds can be used for bicycle and pedestrian facilities, landscaping and scenic highway programs, restoration of historic rail stations, and various other purposes.</p>
<p>TEA-21</p>	<p>Transportation Equity Act for the 21st Century – Federal legislation enacted in 1998. TEA-21 authorizes the Federal Surface Transportation Programs (FSTP) for highways, highway safety, and transit for the 6-year period from 1998-2003. This legislation superseded ISTEA, but maintained its basic structure and built on its key initiatives. TEA-21 has been superseded by SAFETEA-LU.</p>

<p>TMC</p>	<p>Traffic Management Center – A building, or portion of a building, that serves as a focal point to monitor traffic and road conditions, as well as train and transit schedules, and airport and shipping advisories. From this point, information about accidents, road closures and emergency notifications is relayed to the public.</p>
<p>Transportation Stakeholders</p>	<p>In transportation, stakeholders include FHWA, CTC, RTPA/MPO(s), transportation departments and commissions, cities and counties, Native American Tribal Governments, economic development and business interests, resource agencies, interest groups, the public, the Legislature, and the Governor.</p>
<p>TSDP</p>	<p>Transportation System Development System – A TSDP identifies a reasonable, comprehensive and effective range of transportation improvements on State highways. It is Caltrans statement of priorities for improvements after negotiating and joint planning efforts with regional agencies.</p>
<p>TSM</p>	<p>Transportation System Management – TSM is (1) a process orientated approach to solving transportation problems considering both long and short-range implications, and (2) a services and operations process, in which low capital, environmentally-responsive, efficiency-maximizing improvements are implemented on existing facilities.</p>
<p>TTAC</p>	<p>Technical Transportation Advisory Committee - A regional advisory committee that serves as a communication link between a RTPA/MPO and all other transportation agencies within a county or specified area. TTACs review and make policy recommendations on fiscal matters, fund allocations, special studies, and planning documents for submittal to the appropriate board(s). The committee will usually consist of representatives from the cities, county, transit agencies, APCD, RTPA/MPO, and Caltrans.</p>
<p>Urbanized Area</p>	<p>One or more places and the adjacent densely settled surrounding area that together include at least 50,000 people. "Densely settled" means having a population density of 1000 persons per square mile (generally) based on census blocks. Some small portions of an area not reaching the density threshold are included for spatial continuity</p>
<p>Urban Collector</p>	<p>The collector street system provides land access service and traffic circulation within residential neighborhoods, commercial and industrial areas. It differs from the arterial system in that facilities on the collector system may penetrate residential neighborhoods, distributing trips from the arterials through the area to the ultimate destination. Conversely, the collector street also collects traffic from local streets in residential neighborhoods and channels it into the arterial system. In the central business district, and in other areas of like development and traffic density, the collector system may include the street grid, which forms a logical entity for traffic circulation.</p>
<p>Urban Local</p>	<p>Comprised of all facilities not on one of the higher systems. It serves primarily to provide direct access to abutting land and access to the higher order systems. It offers the lowest level of mobility and usually contains no bus routes. Service to through traffic movement usually is deliberately discouraged.</p>
<p>Urban Minor Arterial</p>	<p>Interconnects with and augments the urban principal arterial system and provides service to trips of moderate length at a somewhat lower level of travel mobility than principal arterials. This system also distributes travel to geographic areas smaller than those identified with the higher system. The minor arterial street system includes all arterials not classified as a principal and contains facilities that place more emphasis on land access than the higher system, and offers a lower level of traffic mobility. Such facilities may carry local bus routes and provide intra-community continuity, but ideally should not penetrate identifiable neighborhoods. This system should include urban connections to rural collector roads where such connections have not been classified as urban principal arterials.</p>
<p>Urban Other Principal Arterial</p>	<p>This system consists of all non-Interstate principal arterials.</p>

Urban Principal Arterial – Other Fwys/Expwys	Connecting links of non-Interstate rural principal arterials. Connecting links of rural minor arterials.
US Route	A network of highways of statewide and national importance. These highways can be freeways, expressways, or conventional highways.

APPENDIX B: Maps and Segment Data

Development Centers Santa Cruz County

-  State Route 17
-  Rail
-  Urban Areas
-  Cities
-  Park & Ride
-  Airport

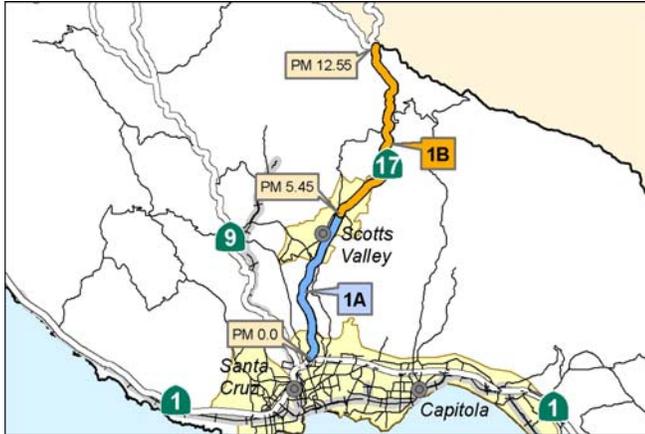


Caltrans
District 5
System
Planning



0 5 10 Miles

ROUTE 17 – SANTA CRUZ COUNTY - SEGMENT 1



SEGMENT SPECIFICATIONS			
Segment	Begin	End	Description
1A	0.00	5.45	SR 1/17 Interchange at Ocean Street to Granite Creek Road
1B	5.45	12.55	Granite Creek Road to Santa Cruz/Santa Clara County Line
Segment Concept : LOS E / 4-lane freeway (1A) and 4-lane expressway (1B)			

SEGMENT FEATURES

Environmental Constraints:	<ul style="list-style-type: none"> ▪ Scenic and historic resources ▪ Special status species/habitat ▪ Geologic and seismic 	<ul style="list-style-type: none"> ▪ Archaeological and cultural resources ▪ Topography ▪ Aesthetics
Multimodal Facilities:	<ul style="list-style-type: none"> ▪ Santa Cruz County Metropolitan Transit (Metro) ▪ Highway 17 Express Bus/ Amtrak Connector 	<ul style="list-style-type: none"> ▪ Park and Ride Lots ▪ Carpools and vanpools supported by Commute Solutions
Land Uses along Corridor :	<ul style="list-style-type: none"> ▪ Heavily forested privately owned land with scattered rural homesites and businesses ▪ Urban Commercial and Industrial in Santa Cruz and Scotts Valley 	
Major Traffic Generators:	<ul style="list-style-type: none"> ▪ Tourist Destinations in Santa Cruz and Monterey Counties ▪ Employment Centers in Santa Cruz, Scotts Valley, and out-of-county (Santa Clara County and beyond) ▪ Pasatiempo Golf Course and Paradise Park Horse Show Grounds 	

IDENTIFIED LEVELS OF SERVICE – EXISTING AND FUTURE :

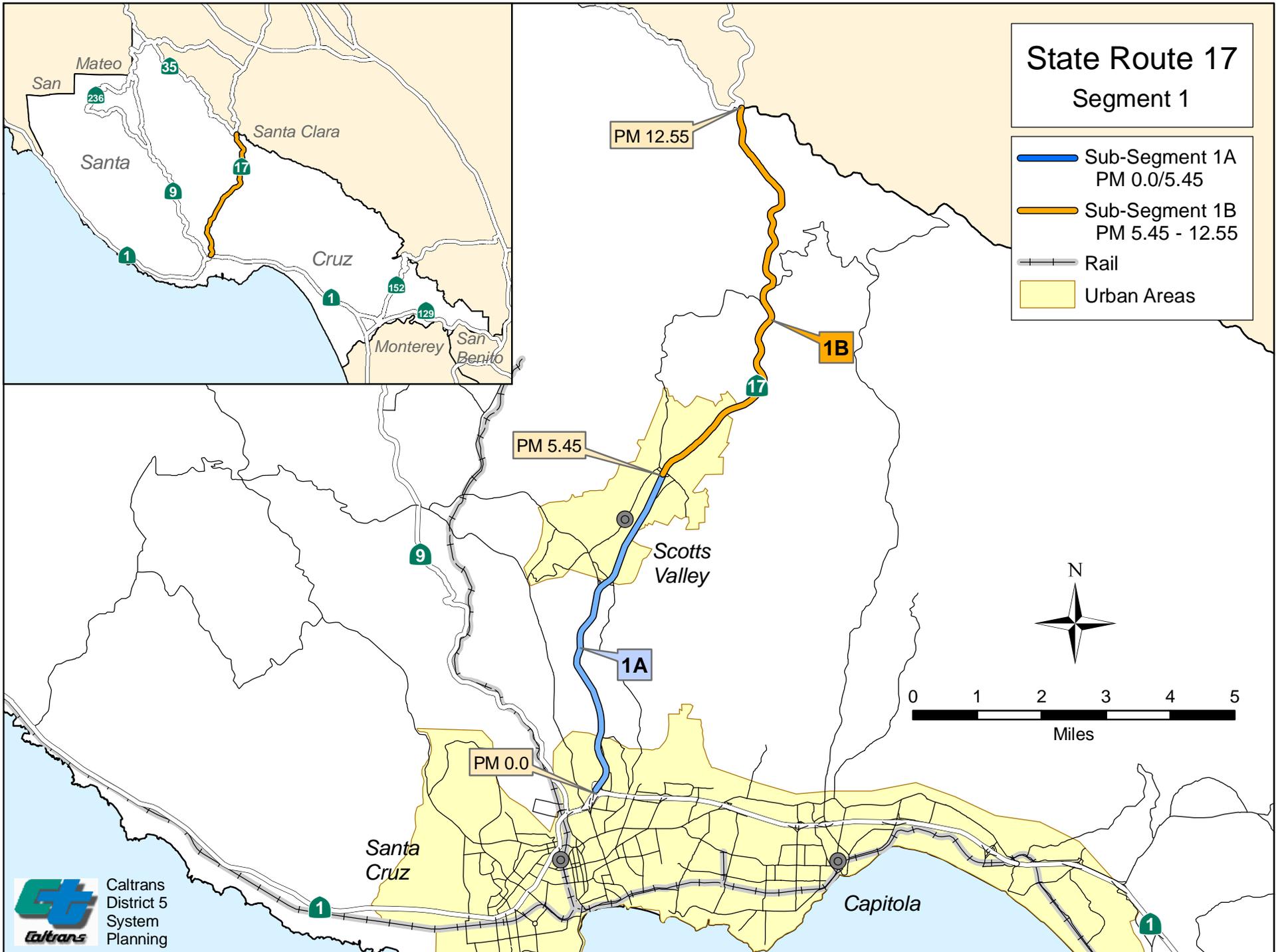
- Route 17 is presently operating at peak LOS F and is projected to remain at peak LOS F through year 2023.

RECOMMENDED ACTIONS :

- Convert remaining expressway to freeway in Sub-segment 1A.
- Convert conventional highway sections to expressway where possible in Sub-segment 1B).
- Widen non-standard width travel lanes, shoulders, and bridges (Sub-segment 1B).
- Improve non-standard freeway interchanges where possible.
- Consider additional freeway interchange between existing interchanges at Mt Hermon Road and Granite Creek Road in Scotts Valley.
- Lengthen turn lanes where possible to minimize deceleration in through lanes (Sub-segment 1B).
- Construct grade-separated crossings to minimize conflicting traffic movements (Sub-segment 1B).
- Construct additional turnouts.
- Minimize and consolidate access points (Sub-segment 1B).
- Install/maintain/upgrade ITS elements to maintain operations during incidents, support goods movement, and improve overall safety and operations.
- Continue to focus on transit, TDMs, and intermodal facilities to reduce demand.
- Support regional ride matching services and dissemination of information on alternatives to solo driving
- Support incident management programs to increase safety, mobility, and reliability on Route 17.
- Continue to support Safe on 17 Task Force efforts to monitor conditions and to identify, develop, and deploy interagency responses.
- Coordinate all highway projects to minimize lane blockage and traffic delay.

State Route 17 Segment 1

-  Sub-Segment 1A
PM 0.0/5.45
-  Sub-Segment 1B
PM 5.45 - 12.55
-  Rail
-  Urban Areas



Caltrans District 5 - Segment Data Sheet

Santa Cruz County	Route	17	Segment/(Sub-segment)	1A
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Segment/sub-segment Location				
	PM start	PM end	Length	Description
	0.00	5.45	5.45	SR 1 to Granite Creek Road

Existing Roadbed Information				
	Number of lanes	4	Lane Width	12 ft.
	Terrain	Rolling	ROW Width	160 ft.
	Signalized Intersections	None	Shoulder Width	3-8 ft.
	Bicycle Facilities	Prohibited	Median Width	22-60 ft.

Route Designations	
Functional Classification	Principal Arterial
Facility Type:	Freeway and Expressway
Trucking Designations	Terminal Access Route
National Highway System	No
Interregional Road System	Yes
Focus Route	No

Operating Characteristics						
Through-traffic flow Analysis	ADT		V/C Ratio		LOS	
	2003	2023	2003	2023	2003	2023
	62,088	70,164	1.33	1.52	F	F
	ADT Ann. Growth (2003-2023)		1.00%	Directional Split		65%
	Peak Hour Volume (2003)		5,992	Peak Hour Truck		3%
Signalized Intersection Analysis	Location		Delay Time (seconds)		LOS	
			2003	2023	2003	2023
	(none)					

Collision Data				
		Segment	Statewide*	3-year period evaluated
	Total Collision Rate	0.69	0.88	Rates are incidents per million vehicle miles from 01/01/01 to 12/31/03
	Fatality Collision Rate	0.011	0.010	
	Fatality & Injury Collision Rate	0.22	0.33	

* Average collision rates statewide for this type facility

Proposed Concept	
Proposed Transportation Concept	LOS E/ 4-Lane Freeway
Comments: Additional right-of-way may be required for interchange at Sims Road to complete freeway through Sub-segment 1A and also for additional interchange in Scotts Valley.	

Caltrans District 5 - Segment Data Sheet

Santa Cruz County	Route	17	Segment/(Sub-segment)	1B
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Segment/sub-segment Location				
	PM start	PM end	Length	Description
	5.45	12.55	7.10	Granite Creek Road to Santa Cruz/Santa Clara County Line

Existing Roadbed Information				
	Number of lanes	4	Lane Width	11-12 ft.
	Terrain	Mountainous	ROW Width	160-170 ft.
	Signalized Intersections	None	Shoulder Width	3-8 ft.
	Bicycle Facilities	Legal Access	Median Width	4-34 ft.

Route Designations	
Functional Classification	Principal Arterial
Facility Type:	Freeway and Conventional
Trucking Designations	Terminal Access Route
National Highway System	No
Interregional Road System	Yes
Focus Route	No

Operating Characteristics						
Through-traffic flow Analysis	ADT		V/C Ratio		LOS	
	2003	2023	2003	2023	2003	2023
	60,000	76,900	1.20	1.44	F	F
	ADT Ann. Growth (2003-2023)		0.84%	Directional Split		65%
	Peak Hour Volume (2003)		6,000	Peak Hour Truck		3%
Signalized Intersection Analysis	Location		Delay Time (seconds)		LOS	
			2003	2023	2003	2023
	(none)					

Collision Data				
		Segment	Statewide*	3-year period evaluated
	Total Collision Rate	1.77	1.67	Rates are incidents per million vehicle miles from 01/01/01 to 12/31/03
	Fatality Collision Rate	0.011	0.017	
	Fatality & Injury Collision Rate	0.48	0.63	

* Average collision rates statewide for this type facility

Proposed Concept	
Proposed Transportation Concept	LOS E/4-lane Expressway
Comments: Projects to widen shoulders, improve drainage, consolidate access, install TOS elements, construct or improve channelization, improve alignments, or rehabilitate pavement should be planned, sequenced, and phased to minimize construction time and delay.	

APPENDIX C: Programmed Projects

MAJOR PROGRAMMED AND PLANNED PROJECTS ON SR 17

County	Location (Postmiles)	Funding	EA	Project
<i>Programmed</i>				
SCr	9.4/9.6	SHOPP	OG410	Widen lanes and shoulders; upgrade drainage and guardrail
SCr	0.2/1.1	STIP	12910	Construct merge lanes (This project also includes construction of merge lanes on SR 1 south of SR 1/SR 17 I/C)
<i>PID/Candidates*</i>				
SCr	5.5/5.8	STIP	49380	Reconstruct interchange at Granite Creek Road
SCr	10.1/11.3	SHOPP	OK320	Improve drainage
* <i>Additional candidate projects may be included in the 2006 SHOPP to be approved by the California Transportation Commission in April 2006.</i>				
<i>Planned: (Source: SCCRTC's RTP)</i>				
SCr	Scotts Valley	Unconstrained		Auxiliary lanes; interchange improvements
SCr	Scotts Valley	Unconstrained		Provide emergency access from Granite Creek Road to SR 17 via Navarra Drive to Sucinto Drive
SCr	Scotts Valley	Unconstrained		Construct new interchange midway between Mt. Hermon Road and Granite Creek Road interchanges
SCr	Vine Hill	Unconstrained		Correct a skew; lengthen a turn pocket; prohibit left turns onto SR 17 from an adjacent driveway