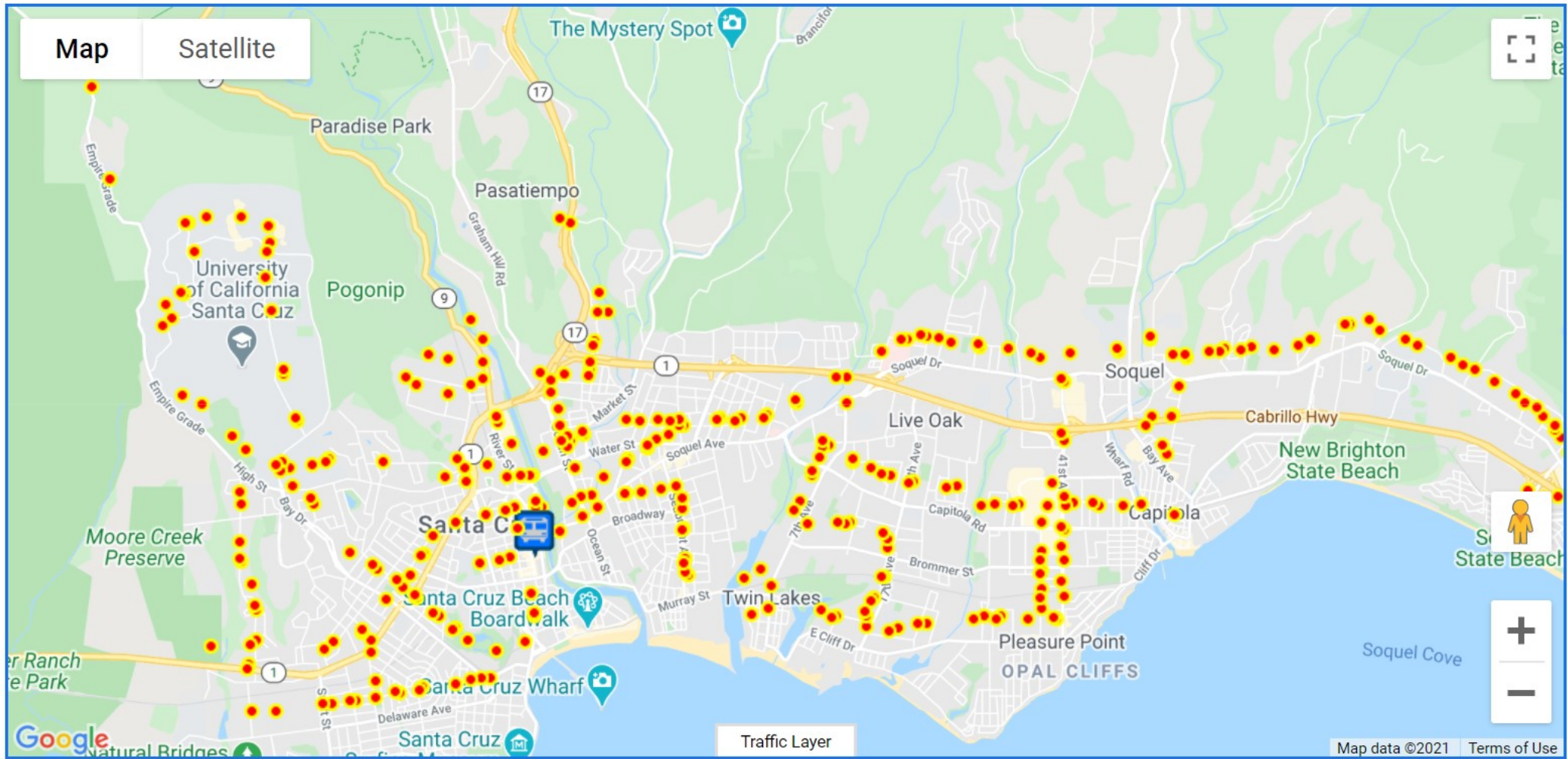


Route:
Pick a Route



VI-9. REGIONAL PLANNING

Collaborating, in mutually beneficial regional partnerships, is the key for ensuring sustainable transportation and land use investments that will affect the future of Santa Cruz and the greater region.

KEY RECOMMENDATIONS

Successful regional collaboration can address:

- Existing and future regional vehicle traffic congestion problems on Highway 1
- The location, extent and balance of future employment and population growth, including the provision of mixed-use development and affordable housing near transit, to preserve open space
- The type and availability of transit services and accessible routes to expand person-trip travel options
- Managing multi-modal travel way capacity more efficiently
- Managing parking availability and cost to increase carpooling and transit, and to encourage more efficient, compact land use
- Expanding regional bicycle and recreational trail networks.

Key partners include UCSC, Metro, SCCRTC, Santa Cruz County, Caltrans, Downtown Merchant's Association and major Santa Cruz employers.

The challenge of transportation planning is that solutions to one issue generally have both beneficial and negative consequences for related issues. Therefore, success relies upon regional collaboration and relying on the principles of sustainable transportation planning. Applying the principles will reflect core community values and help achieve balanced and integrated regional transportation and land use solutions. This approach offers a comprehensive perspective to frame issues and solutions. Santa Cruz should:

- 1. Support regional funding and implementation of key regional projects that can significantly benefit the city, including:**
 - Metrobase Transit District Consolidations Operations Facility
 - Right-of-way acquisition on rail corridor
 - Bike and pedestrian path on rail right-of-way
 - Local bike projects
 - Expanding local and regional bus service
- 2. Ensure, as the proposed Regional Transportation Commission Highway 1 widening project moves forward, that the following criteria are sufficiently**

evaluated so selection and funding of future projects are consistent with the MTS vision and community needs.

- *New travel choices.* Make a major regional transportation investment to provide new travel choices to ensure high-occupancy, high-frequency regional transit service and carpooling that serves local and regional activity centers as the primary means to address vehicle traffic congestion and increase person-trip mobility.
- *Funding availability for transit.* Ensure that Highway 1 widening project capital, operating and maintenance costs, which would be covered by an increase in sales tax, do not reduce funding for bus and transit services. In addition, ensure that sales tax funds are annually available to support other priority transportation projects.
- *Acceptable levels of local street vehicle congestion.* Ensure that there are no significant local street vehicle traffic congestion and increased SOV traffic impacts induced by Highway 1 widening or as a result of construction impacts related to the widening project.
- *Support local transit, carpooling pedestrian and bicycle travel.* Ensure that the design and operations of the widening project connect to the local street system in a manner that can support transit and carpooling operations as a priority on local arterial streets. Additionally, support pedestrian and bicycle connections across the highway to interconnect north and south neighborhoods.
- *Demonstrate sufficient benefits relative to other feasible alternatives to justify project costs and impacts.* Ensure that the future travel benefits and travel time savings for transit and carpooling are sufficient to justify the costs and environmental impacts of a Highway 1 widening project when compared with other feasible alternatives, including a BRT system on the rail corridor.
- *Minimize auto-oriented land use impacts both regionally and locally.* Conduct an evaluation of the land use impacts of a Highway 1 widening project. It should monitor progress in promoting compact, walkable, mixed-use and transit-oriented development (moving away from inducing low density, auto-oriented development). The evaluation should identify other feasible alternatives that support sustainable land use.

BACKGROUND

Regional Setting

The City of Santa Cruz is located on the Monterey Bay between the San Francisco Bay Area to the north and the Monterey Peninsula to the south. As the home for the University of California at Santa Cruz, county government, and several of the County's largest employers, Santa Cruz is an employment center for Santa Cruz County. With coastal mountains, sandy beaches and a vibrant downtown, Santa Cruz is also a major tourist destination and recreation attraction for the San Francisco Bay Area and the Monterey Bay Area.

Population and Employment Growth

As shown in Table 1, Association of Monterey Bay Area Governments (AMBAG) forecasts for population and employment growth for the City and County of Santa Cruz indicate that:

- Local programs can influence 74% of Santa Cruz peak hour travel demand. 50% are local trips and 24% are commute trips into the City.
- 26% are commute trips out of the City, which are significantly less influenced by local programs.
- The City of Santa Cruz contributes less than 20% to total regional PM peak hour trips, declining from 18% in 2000 to 17% in 2020.
- Santa Cruz County's population, residential housing construction and employment are projected to increase at a greater rate than the City's between 2000 and 2020.
- 69 percent of regional population growth by 2020 will be in Watsonville and the unincorporated areas of Santa Cruz County, increasing by 31,561 from 180,334 to 211,895 by 2020.
- Approximately 211,895 people will live in South County, approximately 70 percent of the County's projected 2020 population. Due to South County's low-density development pattern, future growth will continue to contribute to increased auto dependence and is less responsive to transit services.
- A net 19% of the County workforce commutes to areas outside of the County for employment in areas such as Monterey County and the Bay Area, with the majority of these trips going to the Silicon Valley area in Santa Clara County.
- Population in Santa Cruz County is anticipated to increase by 17,8% between 2000 and 2020 growing from 257,739 to 303,646.
- Employment in Santa Cruz County is anticipated to increase by 19% between 2000 and 2020, growing from 140,589 to 168,532 jobs.

Table 1: Population and Employment Growth, Santa Cruz County 2000 - 2020

	2000	Size in Region	2020	Growth	Rate	Percent of Region	Percent of Growth
Employment							
Santa Cruz County	140,589		168,532	27,943	19.9%		
Population							
Capitola	11,172	4%	11,750	578	5.2%	4%	1%
Santa Cruz	55,013	21%	64,386	9,373	17.0%	21%	20%
Scotts Valley	11,218	4%	15,615	4,397	39.2%	5%	10%
Watsonville	43,620	17%	55,875	12,255	28.1%	18%	27%
Unincorporated	136,714	53%	156,020	19,306	14.1%	51%	42%
Santa Cruz County	257,737	100%	303,646	45,909	17.8%	100%	100%
Unincorporated + Watsonville	180,334	70%	211,895	31,561	42%	70%	69%

TRANSPORTATION SETTING

Network

Regionally, State Highway Route I is the major inter and intra county route for the County, following the coast from San Francisco and San Mateo County south through the City of Santa Cruz. Within the city, Highway 1, traverses from the recently improved Mission Street, traverses east to its junction with Highway 17. At Highway 17 Highway 1 forms a four-lane freeway extending south to Watsonville and Monterey County. State Highway 17, which traverses the Santa Cruz mountains, terminates in Santa Cruz and connects Santa Cruz County to the greater San Francisco Bay area.

Highways I and 17 experience average annual daily traffic volumes of up to 110,000 and 66,000, respectively. The two highways serve regional traffic, motorists who commute every day to the high-tech job centers in the Silicon Valley, and motorists who travel into Santa Cruz County to enjoy the scenic recreation opportunities offered by the region. Highway 17 is often subject to high accident rates, primarily due to motorists driving faster than is safe for conditions.

Traffic Volume/Capacity

Annual Average Daily Traffic (AADT) along Route I range from 36,000 near the Monterey County line to in excess of 110,000 near the "fishhook" interchange with Route 17. Between State Park Drive and Morrissey Boulevard, current AADT ranges from 83,000 to 110,000 with the highest daily volumes occurring between the Soquel and Morrissey interchanges.

Peak hour travel demand in the study area exceeds the carrying capacity of the highway. Route 1 operates at Level of Service (LOS) "F" for multiple hours each day. Typical northbound AM mid week recurrent morning congestion lasts for over 3.5 hours; mid week southbound PM congestion lasts for over 4 hours.

Recurrent congestion related queuing on State Route 1 extends for several miles during peak hours. In the PM, southbound traffic queues from the Bay Porter Interchange back through the 1/17 Junction towards Pasatiempo Drive and north on Route 1 towards the Route 9 Junction. In the AM peak period, northbound congested queuing typically extends from Morrissey Drive to beyond Freedom Boulevard. Accidents, events, and other incidents in the corridor can further increase congestion related delays in either direction, on any day, including weekends.

The AMBAG travel forecasting model projects that the 2020 Average Annual Daily Traffic (AADT) volumes in the study area will range from 115,000 near State Park Drive to 144,000 between Morrissey and Soquel. With this projected increase in travel demand, the extent and duration of congestion in the study area will significantly increase. The duration of daily northbound congested conditions would increase by several hours with weekday recurrent congestion related queues extending as far back as Watsonville during both the AM and PM peak periods. In the southbound direction, the anticipated increase in travel demands will further impact Route 17, Route 9, Ocean Street, and Mission Street as congestion queues extend north. Soquel Avenue, Seabright neighborhood, Morrissey Boulevard and the Hwy 1/9 intersection also experience high levels of vehicle traffic.

Accident Data

During the five year period, there were a total of 921 accidents on Hwy 1 from Morrissey-St. Park with no fatalities and 281 injuries resulting in a total accident rate of 1.22, which is below the statewide average rate of 1.60. The types of collisions were rear end (287), hit object (66), and sideswipe (47). The primary collision factors for these types of accidents were speeding (263); improper turn (40), and tailgating (45). The times of the day when a large percentage of these accidents occurred were 8:00 a.m. (60), 9:00 a.m. (36), and 5:00 p.m. (70).

Transit Services

Regional bus routes provide service to destinations in Santa Clara and Monterey Counties. Weekday service is provided by the Highway 17 Express Bus, which serves Santa Cruz, Scotts Valley and San Jose (destinations include the Caltrain Station and San Jose State University). Amtrak buses provide service to downtown Santa Cruz's transit center and to the San Jose Caltrain station, with train connections to San Francisco, Sacramento, Stockton and intermediate cities. Limited Amtrak bus service is also available between Watsonville and San Jose. Greyhound buses serve downtown Santa Cruz, Los Gatos and the San Jose Airport.

Modal Choice/Transit

Although the urbanized portions of the County, especially University oriented areas of Santa Cruz, exhibit support for alternative transportation modes including transit and bicycling, the preponderance of new growth has been at lower, less transit conducive densities in communities and unincorporated area lying south of Santa Cruz. As a result, a recent survey indicates that 83% of the County's workers commute in single occupant vehicles. Those who live in Santa Cruz County and work elsewhere also impact Highway 1. According to the 1990 Census approximately 20% of employed Santa Cruz County residents travel to jobs in Silicon Valley and beyond; a significant proportion of these travelers use Highway 1 to access Highway 17 over the Santa Cruz Mountains.

The Route 1 facility currently includes park and ride lots in support of transit use, vanpools, and high occupancy vehicles. "Express Buses", including Route 17 Express Service are trapped in mixed flow lanes with all other traffic, and no incentives such as ramp meter HOV bypass lanes or mainline HOV lanes exist to encourage ridesharing.

Lack of Alternative Routes

Owing to geography, topography and historical development patterns, Route 1 is the lifeline for transportation through the County and its urbanized areas. While Route 1 is the only continuous route through the County, Soquel Drive/Soquel Ave and other local arterials including Capitola Road and Murray Street/East Cliff Drive, serve as parallel routes within certain sections of the urbanized area. These roadways, however, are themselves congested during peak hours and little opportunity exists to expand their capacity. An underutilized branch rail line provides potential for future transit growth in the corridor, and including potential use for as a bicycle and pedestrian path. The closest parallel State highway for interregional travel is U.S Route 101, which is separated from Route 1 by coastal mountains.

REGIONAL TRANSPORTATION PLANNING

Institutional Context

The regional transportation planning agency for Santa Cruz County is the Santa Cruz County Regional Transportation Commission (SCCRTC). SCCRTC oversees planning and funding programs for local & regional projects using state and federal transportation funds. The City of Santa Cruz has one City representative on the 12-member SCCRTC board and many City transportation projects are funded through grant programs administered by the SCCRTC.

Adopted Plans and Programs

Three regional transportation planning efforts directly affect the future of transportation planning for the City of Santa Cruz:

1. The Master Transportation Investment Study (MTIS), approved by the RTC in 1999, which sets forth a program of \$260 million in transportation projects for the Watsonville - Santa Cruz - UCSC corridor to be pursued over the next 15 years.
2. The Regional Transportation Plan (RTP), adopted by the RTC in October 2001, which is the comprehensive regional transportation planning document providing guidance for transportation policy and projects to improve mobility through 2025 and incorporates the MTIS decision.
3. The 2002 Regional Transportation Improvement Program (RTIP), adopted by the RTC in December 2001, which implements the RTP, proposes how regional funds should be spent to the California Transportation Commission, and is the summary document which tracks state and federal transportation funding through fiscal year 2006/07.

Key Regional Projects

The adopted RTP confirmed the recommendations of the MTIS, with the following projects having significant potential to affect the mobility future for the City of Santa Cruz:

- **Acquisition of the Santa Cruz Branch rail line** for future transportation resource for the community.
- **Development of a bicycle and pedestrian pathway adjacent to the rail line**, where freight operations will continue and future transit options will not be precluded.
- **Implementation of the Highway 1/17 Merge Lanes project**. This project provides operational improvements by widening the existing to add merge lanes between Highway 17 and Morrissey Blvd. It is funded with \$52 million in State Transportation Improvement Program (STIP) funds and is scheduled to start construction in 2004. It can be characterized as the next step toward full highway widening (with Mission St. widening as the first step).
- **Planning for Highway 1 widening from four lanes to six lanes to add HOV lane both ways is beyond the limits of the upcoming Highway 1/17 Merge Lanes project**. This project would modify six interchanges and ten structures, including three additional structures for pedestrian over crossings and sound walls. The extended Highway 1 widening project is not yet funded and will require a local sales or gas tax to enable future construction.

- **Funding for a 15-year growth plan for increasing bus service**, including new buses, bus stops, equipment and upgraded maintenance/operations facilities.
- **Funding for high priority local bike projects**, including around schools, and an **electric bike program** allowing discounted distribution and sale of electric bikes to people committed to driving less.

None of these projects are fully funded yet.

CONSISTENCY WITH MTS GOALS

Table 2 presents 2002 Regional Transportation Improvement Program funded projects and longer-term RTP projects that will affect future City of Santa Cruz travel. The table provides a conceptual evaluation for consistency with the MTS goals. All identified RTIP and RTP projects are consistent with the MTS, with the following comments:

MTS High Priority Projects

The following projects are MTS high priority projects:

- Metrobase Transit District Consolidations Operations Facility.
- Right of Way Acquisition on rail corridor.
- Bike and pedestrian path on rail right-of-way.
- Local bike projects.
- Expanded Bus Service

Projects Requiring Further Evaluation

The proposed Highway 1 widening projects, both the 1) widening of existing on-ramps, adding auxiliary lanes and ramp metering, and 2) adding one HOV lane each direction - widening Highway 1 from 4 to 6 lanes - modification to 6 interchanges and 10 structures, including 3 pedestrian over crossing and sound walls, require additional design and operational information to evaluate project impacts and ensure consistency with MTS goals.

Key questions to be analyzed in the environmental analysis are:

1. The potential effect of increasing SOV use with the addition of HOV lanes.
2. Local street system peak hour traffic impacts associated with increased HOV and SOV traffic including the Highway 1 and Mission Street corridors, as well as on Soquel Avenue.
2. Operational efficiency and travel timesaving with the design of the transitions from Hwy 1 HOV lanes to local city streets including the flow of transit and ridesharing to UC, downtown and employment center locations.

4. Opportunities for new bicycle lanes and pedestrian connections across Highway 1 to link the north and south areas of Santa Cruz together.

A proposed Route 1 strategy for MTS is to

1. Recognize the regional problem;
2. Raise questions regarding the problem and potential solutions for consideration;
3. Identify issues, solutions and alternatives to address potential impacts for environmental analysis. Items identified by the Steering Committee are:
 - Park and ride at Hwy 1/9 is critical.
 - Park and ride all along the Hwy 1 corridor.
 - Transit stops directly along Hwy 1 corridor (on the freeway).
 - Consider Hwy 1 corridor/ROW as accommodating other very high occupancy transit systems (fixed guide way).
 - Increase efficiency of Hwy 1 corridor.
 - Provide better housing opportunities for those working in the City and currently residing in the County.
 - Balance jobs & housing.
 - Widening of all bridges across the corridor to accommodate bike lanes and pedestrian facilities.
 - Parking pricing options.
 - Consider appropriate transit technologies given regional distribution of land use, i.e. that 50% future growth is in low density, auto dependent unincorporated areas of county.
 - Provide land use alternatives in EIR analysis for region.
 - Providing alternatives, including HOV lanes, improve SOV travel.
 - City hire separate EIR consultant to independently evaluate HOV lane impacts.
 - Offer choices.
 - Recommend rationale to council.
 - Ensure that if there is a 1/2 cent sales tax to pay for the widening, that it does not eliminate funding for transit.
 - What are the local street impacts of the Highway 1 widening?

Table 2: Regional Projects

Project	Cost	Consistent MTS	Remarks
Hwy 1 widening - merge lanes cost increases	\$52 million	- Projects Funded in the RTIP that Affect the City --	need additional information to evaluate impacts & insure consistency with MTS goals
Metrobase - Transit District Consolidated Operations Facility	\$31 million	Yes	MTS high priority <i>needs additional funds</i>
Traffic management - Hwy 1 freeway service patrol	\$240,000	Yes	non capacity increasing project that improves safety and traffic flow
Traffic management - Commute solutions	\$444,000	Yes	regional carpool program
Project management - SB45 planning funds	\$230,000	Yes	helps track funding for all projects
Sanctuary Scenic Trail	\$1.5 million		Only \$150,000 currently funded
Santa Cruz Metro Center Rehabilitation	\$6 million		
Highway 17 Bus Purchases	\$4 million		
Santa Cruz Branch Rail Line Acquisition <i>needs additional funds</i>	\$15 million	yes	MTS high priority
Regional Vanpool Incentive Program	\$100,000		
Santa Cruz Area TMA Program	\$90,000/yr		
Electric Bicycle Commuter Incentive Program	\$1 million	yes	<i>needs additional funds</i>
One in Five (Don't Drive) Rideshare Promotion	\$1 million	yes	<i>needs additional funds</i>
Bike & pedestrian path on rail right-of-way only environmental and planning phase funded	\$12 million	yes	MTS high priority
Battery Backup of Signals program	\$200,000		
City of Santa Cruz Projects			
San Lorenzo River bike/pedestrian bridge <i>needs additional funds</i>	\$3 million	yes	MTS high priority
Santa Cruz Multimodal Station at Depot Site	\$4 million		
Broadway-Brommer Bike Path	\$2 million		
Beach Street Contraflow Bikeway	\$600,000		
Front St. pavement rehabilitation	\$325,000	yes	
High St./Highland Ave. pavement rehabilitation	\$611,000	yes	
Water St. pavement rehabilitation	\$195,000	yes	
EastCliff/Murray St. pavement rehabilitation	\$395,000	yes	

Project	Cost	Consistent MTS	Remarks
San Lorenzo/E. Cliff/Riverside pavement rehabilitation	\$900,000	yes	
West Cliff Dr Path Widening	\$888,000	yes	<i>may need additional funds</i>
Mission St/Hwy 1 Lighting	\$1 million	yes	<i>needs additional funds</i>
Water, Soquel, and Broadway pavement rehabilitation	\$395,000	yes	aka "arterial roadway rehab"
Mission St/Hwy 1 Landscaping	\$625,000		

RTP Projects that may be implemented/constructed 2002-2025 (Not currently funded)

Bus service improvements		yes	MTS high priority
-Bus stop improvements	\$7.5 million		
-Fleet preventative maintenance	\$1.1 million		
-Hwy 17 Express Service Expansion	\$21 million		
-Local transit service expansion	\$32.2 million		
-Replacement Buses	\$69 million		
-Metro System Automated Customer Service	\$200,000		
-Transit Alternative Fuel Conversions	\$3.2 million		
-Transit Mobility Training Program Expansion	\$1.2 million		
-Transit Service Operations and maintenance	\$732 million		
-Transit Technological Improvements	\$5 million		
-UCSC Bus Service Expansion	\$12.3 million		
-Web-based Transit Rte Info	\$300,000		
-ADA Paratransit fleet and service	\$21.5 million		
-Countywide Specialized Transportation	\$34.5 million		
-Liftline Consolidated Op Facility	\$10 million		
-Non-ADA Paratransit Service Expansion	\$17 million		
Hwy Improvements			
Adding 1 HOV lane each direction by Widening Hwy 1 from 4 to 6 lanes, Morrissey Blvd to State Park Drive	\$300 million		need additional information to evaluate impacts & insure consistency with MTS goals
Hwy 1/9 intersection modifications and park and ride lot	\$6 million	yes	
Intelligent Transportation Systems on Hwy 1	\$3 million		
Bike/Ped bridge on Hwy1 @ Mattison	\$2 million		
Hwy 1 Ramp Metering	\$2.5 million		

Project	Cost	Consistent MTS	Remarks
Hwy 1/San Lorenzo Bridge Widening	\$10 million		
Hwy 17 ITS	\$7 million		
Hwy 17 Operational Improvements	\$50 million		
Hwy 17 CHP Safety Program	\$2.5 million		
local road improvements (MTS project listing) evaluate impacts & ensure consistency with MTS goals		yes	need additional information to
Neighborhood Traffic Management	\$2.5 million		
Countywide bicycle projects	\$75 million	yes	MTS high priority
Local Arterial EMS and HAR System	\$600,000		
Intracity Rail Transit	\$10 million		Passenger rail in City of SC
Other Regional Projects/Programs			
Bike to Work Project (Ecology Action)	\$620,000		
Electric Vehicle Recharging Stations	\$2 million		
Integrated Transportation Info Center			
Park and Ride Lot Development	\$8 million		
Transit Oriented Development Program	\$5 million		
Car sharing Program (SC TMA)	\$2.5 million		

FINAL

2040

Santa Cruz County REGIONAL TRANSPORTATION PLAN



Santa Cruz County
Regional Transportation Commission
FINAL — JUNE 2018

2040 Santa Cruz County Regional Transportation Plan

Table of Contents

Executive Summary ES-1

Chapter 1 - Why Sustainability?

2040 Regional Transportation Plan 1-1

Why Sustainability? 1-1

System Preservation 1-2

Safety 1-4

Congestion 1-6

Environmental and Public Health 1-6

Greenhouse Gas Emissions 1-6

Air Pollutants 1-8

Obesity 1-8

Economy 1-10

Energy 1-10

Transportation Funding 1-11

Equity 1-11

Public Input is a Critical Component 1-12

Chapter 2 - Transportation Network

Setting 2-1

Transportation System 2-1

State Highways 2-2

Highway 1 Corridor 2-2

Past Highway 1 Projects 2-3

Highway 1 Corridor Improvement Project 2-4

Highway 17 Corridor 2-5

Highway 9 2-6

Highways 236 and 35.....	2-6
Highways 129 and 152.....	2-6
Local City and County Street Network.....	2-7
Transit.....	2-8
Specialized Transportation.....	2-9
Other Providers.....	2-10
Identifying Needs.....	2-10
Rail.....	2-10
Local Corridor.....	2-10
2018 California State Rail Plan.....	2-12
High Speed Rail Plans.....	2-14
Active Transportation.....	2-16
Bike Network.....	2-16
Pedestrian Facilities.....	2-17
Identifying Needs.....	2-17
Bicycle and Pedestrian Projects Underway.....	2-19
Transportation Demand Management.....	2-20
Park and Ride.....	2-21
Transportation System Management.....	2-21
Intelligent Transportation Systems.....	2-22
Aviation.....	2-22

Chapter 3 - Travel Patterns

Population.....	3-1
Employment Opportunities.....	3-3
Where Are We Traveling?.....	3-4
High Use Routes.....	3-6
How Much Are We Traveling?.....	3-10
Vehicle Miles Traveled.....	3-10
Visitors.....	3-11
Goods Movement.....	3-11
How Are We Getting Around?.....	3-14
Bicycle Use.....	3-16
School Trips.....	3-17

Less Trips.....	3-17
Transportation Equity	3-17

Chapter 4 - Vision for 2040

Goals and Policies.....	4-1
Why Do Policies Matter?.....	4-1
Sustainable Rating System.....	4-4
Key Considerations	4-5
GHG Emissions, Senate Bill 375 and Senate Bill 32.....	4-5
GHG Emissions and California Transportation Plan.....	4-5
National Transportation Performance Measures	4-5
Complete Streets.....	4-6
Health and Assembly Bill 441	4-7
Social Equity and Environmental Justice	4-7
Targets.....	4-8

Chapter 5 – Funding Our Transportation System

Introduction	5-1
Available Funds	5-2
Restricted versus Flexible Funds	5-3
New Revenues.....	5-4
Funding Uncertainties.....	5-5
Funding Shortfalls – A Local, State, and Federal Challenge	5-6
Potential Future Revenues.....	5-7
Methodology for Projecting Available Funds.....	5-7

Chapter 6 - Transportation Investments

Identifying Needs	6-1
Prioritizing Projects	6-1
Within Projected Funds (Constrained) Project List.....	6-2
Summary of Constrained Projects	6-2
Goal 1 – Access and Environment.....	6-2
Goal 2 – Improve Safety	6-5
Goal 3 - Maintain the Existing Transportation System and Provide Access Equitably	6-6
Fund Distribution.....	6-8
The Need New Funds (Unconstrained) Project List	6-8

Implementing the Investment Program	6-8
Project Cost	6-9
Funding Decisions	6-11

Chapter 7 - System Performance

GOAL 1. Establish livable communities that improve people's access to jobs, schools, recreation, healthy lifestyles and other regular needs in ways that improve health, reduce pollution and retain money in the local economy.....	7-1
Improve people’s ability to meet most of their daily needs without having to drive.....	7-1
Reduce smog-forming pollutants and greenhouse gas emissions.....	7-1
Improve health by increasing the percentage of trips made using active transportation options, including bicycling, walking and transit.....	7-6
GOAL 2. Reduce transportation related fatalities and injuries for all transportation modes.....	7-8
Improve transportation safety, especially for the most vulnerable users.....	7-8
GOAL 3. Deliver access and safety improvements cost effectively, within available revenues, equitably and responsive to the needs of all users of the transportation system, and beneficially for the natural environment.....	7-10
Maintain the existing system and improve the condition of transportation facilities.....	7-10
Increase transportation revenues.....	7-12

Chapter 8 – Environmental and Air Quality Review

CEQA Required Environmental Review.....	8-1
Biological and Natural Resources	8-2
Cultural Resources	8-2
Environmental Mitigation	8-2
Regional Mitigation	8-3
Advanced Mitigation.....	8-3
Stormwater	8-4
Greenhouse Gas Emissions	8-6
Air Quality Conformity.....	8-6

Chapter 9 - What’s Next?

Climate Adaptation	9-1
Automated Vehicles	9-3
Definitions.....	9-3
Implementation and Timeline.....	9-4
Infrastructure and Planning.....	9-4
State and Federal Policy.....	9-5

Transportation Glossary and Acronym Guide.....GA-1

Appendices

Appendix A – Public Outreach A-1

Appendix B – Regional Transportation Commission and Partner Agency Coordination B-1

Appendix C – 2040 RTP Goals, Policies and Targets C-1

Appendix D – 2014 RTP Performance Measure AnalysisD-1

Appendix E – Funding Projections 2018-2040 E-1

Appendix F – Project List F-1

Appendix G – Escalated Project Costs.....G-1

Appendix H – Regional Transportation Plan Checklist H-1

Appendix I – ResolutionsI-1

This page intentionally left blank

Figures

Figure 1.1 – Local Jurisdiction Annual Pavement Maintenance Budget versus Annual Need	1-3
Figure 1.2 – Santa Cruz County Bicycle and Pedestrian Injuries and Fatalities from 2007 through 2016.....	1-5
Figure 1.3 – Obesity Prevalence and Rates of Active Transportation in Countries of Europe, North America, and Australia	1-9
Figure 1.4 – Public Participation Procedures Based on State and Federal Laws	1-12
Figure 2.1 – Santa Cruz County Primary Transportation Network	2-3
Figure 2.2 – Average Pavement Condition for Local Jurisdictions	2-7
Figure 2.3 – Transit Service Provided by Santa Cruz Metropolitan Transit District (METRO).....	2-8
Figure 2.4 – Santa Cruz Branch Rail Line	2-11
Figure 2.5 – Regional Rail Network Surrounding Santa Cruz County	2-13
Figure 2.6 – Proposed California High Speed Rail Line.....	2-15
Figure 2.7 – Monterey Bay Sanctuary Scenic Trail Network Map.....	2-19
Figure 2.8 – Park and Ride Lots Serving Santa Cruz County	2-20
Figure 3.1 – Historical and Projected Santa Cruz County Population	3-1
Figure 3.2 – Population Data for Santa Cruz County by Jurisdiction	3-2
Figure 3.3 – 2010 Population Density Map	3-2
Figure 3.4 – Historical and Projected Number of Jobs in Santa Cruz County.....	3-3
Figure 3.5 – Unemployment Rates by Jurisdiction within Santa Cruz County	3-3
Figure 3.6 – Job Destinations in Santa Cruz County	3-4
Figure 3.7 – Commute Patterns	3-5
Figure 3.8 – Commute Patterns Into and Out of Santa Cruz County	3-6
Figure 3.9 – Average Daily Traffic Volumes at Most Traveled Segments on State Highways in Santa Cruz County	3-7
Figure 3.10 – Local ADT: Average Daily Traffic Volumes on Selected Local Roadways	3-8
Figure 3.11 – METRO Weekday School Year Average Ridership by Route.....	3-9
Figure 3.12 – Total Transit Ridership for Santa Cruz County Fixed Route Service	3-10
Figure 3.13 – 2015 Daily Truck Volumes on Highways in Santa Cruz County	3-12
Figure 3.14 – Mode Share for All Trips in California	3-14
Figure 3.15 – Mode Share for All Trips in Santa Cruz County	3-14
Figure 3.16 – Mode Share for Work Trips in Santa Cruz County	3-15

Figure 3.17 – Mode Share for Work Trips by City of Residence	3-16
Figure 3.18 – Countywide Bicycle Counts from 2003-2016	3-16
Figure 3.19 – Minority, Low Income and Poverty Areas in Santa Cruz County.....	3-18
Figure 3.20 – Distribution of Senior and Youth Populations in Santa Cruz County	3-19
Figure 3.21 – Historical Trends in Licensed Drivers and Registered Vehicles in Santa Cruz County	3-19
Figure 3.22 – Population Projections for Seniors Age 70 and Over	3-20
Figure 4.1 – Goals of the 2040 Regional Transportation Plan	4-2
Figure 4.2 – Policies of the 2040 Regional Transportation Plan and Outcomes they Advance	4-4
Figure 4.3 – 2040 Regional Transportation Plan Performance Targets and Relationship to Triple Bottom Line.....	4-11
Figure 5.1 – 22-Year Revenue Forecast – \$3.75 Billion	5-2
Figure 5.2 – Major Transportation Revenues in California	5-3
Figure 5.3 – Funding Restrictions by project type.....	5-3
Figure 5.4 – Measure D Investment Categories.....	5-4
Figure 6.1 – Cost of Road Maintenance.....	6-7
Figure 6.2 – Fund Distribution by Mode (\$3.75 billion - Includes Dedicated and Discretionary Funds)	6-8
Figure 6.3 – Typical Stages of Transportation Project Development	6-10
Figure 7.1 – Daily Vehicle Miles Traveled (Total and Per Capita)	7-2
Figure 7.2 – Model Results of Santa Cruz County Daily Vehicle Miles Traveled (Total and Per Capita).....	7-3
Figure 7.3 – Historic and Target Santa Cruz County Greenhouse Gas Emissions from Transportation.....	7-4
Figure 7.4 – Total Modeled CO2 Emissions from Transportation in Santa Cruz County	7-5
Figure 7.5 – Percentage of Vehicle Miles Traveled from Electric Vehicles by Year Assumed in California Air Resources Board Emissions Factor Model (EMFAC2014).....	7-5
Figure 7.6 – 2016 CO2 lbs/capita/day based on fuel sales	7-6
Figure 7.7 – Santa Cruz County Commute Trips Mode Share	7-7
Figure 7.8 – Santa Cruz County Mode Share for All Trips	7-8
Figure 7.9 – Injury and Fatal Collisions – Motor Vehicle, Bicycle and Pedestrian.....	7-9
Figure 7.10 – 2005 to 2017 Pavement Condition Indices for Jurisdictions in Santa Cruz County	7-10
Figure 7.11 – Comparison of Santa Cruz County Pavement Condition Index with other California Counties.....	7-11
Figure 7.12 – Santa Cruz Metro Bus Condition.....	7-11

Figure 9.1 – Relationship of Transportation Planning Timeframe and Infrastructure Service Life to Increasing Climate Change Impacts	9-3
Figure A.1 – Public Outreach	A-4
Figure B.1 – Summary Information for the Regional Transportation Commission, Advisory Committees, and other related agencies	B-6
Figure D.1 – Reliability measures capture the benefits of traffic management.....	D-3
Figure D.2 – Summary of 2014 Project List Performance for Advancing Targets.....	D-14
Figure D.3 – Key Destinations in Santa Cruz County, the Maximum Travel Buffer and the 2035 Travel Buffer	D-16
Figure D.4 – Total 2010 (baseline) population within 30 minutes of key destinations based on existing bicycle, pedestrian and transit infrastructure.....	D-19
Figure D.5 – Total 2010 (baseline) aggregate population within 30 minutes of any key destinations based on existing transit, bicycle and pedestrian infrastructure	D-19
Figure D.6 – Total 2010 Maximum* Population within 30 Minutes of Key Destinations.....	D-20
Figure D.7 – Total 2010 Maximum* Aggregate Population within 30 Minute Walk and Bicycle Trips of Key Destinations.....	D-20
Figure D.8 – Population within 30 minutes of Key Destinations in 2035 based on 2014 RTP Project List	D-21
Figure D.9 – Aggregate Population within 30 Minutes of Key Destination in 2035, based on the 2014 RTP Project List.....	D-21
Figure D.10 – Walk and Bicycle Access Improvements Near Key Destinations for Total Population.....	D-22
Figure D.11 – CO ₂ Emissions versus Average Vehicle Speed.....	D-24
Figure D.12 – Per Capita Reductions of Vehicle Miles Traveled and Greenhouse Gas Emissions for 2014 RTP relative to 2005 for Passenger Vehicles	D-25
Figure D.13 – Postprocessing Reductions of Vehicle Miles Traveled and Greenhouse Gas Emissions for 2014 RTP relative to 2005	D-26
Figure D.14 – 2035 per capita VMT and GHG reductions compared to 2005	D-26
Figure D.15 – Total 2035 VMT and GHG emissions relative to 2005	D-30
Figure D.16 – Per Capita Vehicle Miles Traveled Versus Fuel Economy (mpg) Necessary to Reduce GHG Emissions by 80% from 1990 levels by 2050	D-30
Figure D.17 – Economic Benefit to Santa Cruz County based on reduction in VMT and Fuel Consumption	D-32
Figure D.18 – Travel Time and Travel Time Reliability for Highway 1 Northbound from Watsonville (Hwy 129) to City of Santa Cruz (Ocean St)	D-34
Figure D.19 – Baseline Travel Time Reliability Results.....	D-35

Figure D.20 – The Study Area That Defines the Arterial Roads That Will Be Included in the Countywide Travel Time Reliability Calculation	D-36
Figure D.21 – 2035 Travel Time Reliability Results	D-37
Figure D.22 – 2035 No Project Travel Time Reliability Results	D-38
Figure D.23 – Pedestrian MMNQ Score.....	D-41
Figure D.24 – Pedestrian Network in Downtown Watsonville.....	D-41
Figure D.25 – 2012 Baseline of Pedestrian Network in Downtown Watsonville with MMNQ Score.....	D-42
Figure D.26 – 2035 Pedestrian Network in Downtown Watsonville and the MMNQ Score*	D-43
Figure D.27 – Watsonville Composite MMNQ Score.....	D-43
Figure D.28 – Bike Score: Bicycle MMNQ Score	D-44
Figure D.29 – Bicycle Network Identified for City of Watsonville.....	D-45
Figure D.30 – 2012 Baseline of Bicycle Network in City of Watsonville with MMNQ Score.....	D-46
Figure D.31 – 2035 Scenario of Bicycle Network in City of Watsonville with MMNQ Score*	D-47
Figure D.32 – Santa Cruz County Collision Data	D-50
Figure D.33 – 2008 and 2012 Pavement Condition Index Estimates for Counties in California	D-51
Figure D.34 – Pavement Deterioration Curve - Cost per Mile to Maintain Local Roads	D-52
Figure D.35 – 2012-2013 Pavement Condition Index for Jurisdictions in Santa Cruz County	D-53
Figure D.36 – Pavement Condition Index Relative to Level of Local Street and Road Maintenance Funding through 2035	D-54
Figure D.37 – Transportation Disadvantaged Population within 30 Minutes of Key Destinations – Baseline Conditions	D-57
Figure D.38 – Total Transportation Disadvantaged Population within 30 Minutes of any Key Destination – Baseline Conditions	D-57
Figure D.39 – Minority and Transportation Disadvantaged Population within 30 Minutes of Key Destinations – Maximum Possible.....	D-58
Figure D.40 – Maximum Total Minority and Transportation Disadvantaged Population within 30 Minutes of any Key Destination	D-58
Figure D.41 – Transportation Disadvantaged Population within 30 Minutes of Key Destinations based on 2014 RTP Project List	D-59
Figure D.42 – Total Transportation Disadvantaged Population within 30 Minutes of any Key Destination based on 2014 RTP Project List	D-60
Figure D.43 – Walk and Bicycle Access Improvements near Key Destinations for Transportation Disadvantaged Population .	D-60

2040 Santa Cruz County Regional Transportation Plan

Executive Summary

The Santa Cruz County Regional Transportation Commission (herein referred to as the “RTC” or “Commission”) periodically completes a Regional Transportation Plan according to state guidelines to guide short- and long-range transportation planning and project implementation for the county. This 2040 Regional Transportation Plan (called the “2040 RTP”) is the RTC’s comprehensive planning document that provides guidance for transportation policy and projects through the year 2040. The 2040 RTP is based on a sustainability framework using the Sustainable Transportation Analysis and Rating System (STARS) to identify the goals, policies and thus the projects and programs to achieve a more sustainable transportation system. Sustainability is defined as balancing economic, environmental and equity interests. Individual projects listed in the 2040 RTP must still undergo separate design and environmental processes, and can only be implemented as local, state and federal funds become available. This RTP, along with those from Monterey and San Benito Counties, has also been incorporated into a Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS) covering the three-county Monterey Bay area that will meet state and federal guidelines.

The following is a summary of each chapter in the 2040 RTP.

Chapter 1 – Why Sustainability?

The transportation system not only enables us to get around but it is also interlinked with our health and safety, the quality of the built and natural environment, and the economic vitality of our region. The 2040 Santa Cruz County Regional Transportation Plan endeavors to work towards a sustainable transportation system that addresses the challenges that face transportation in Santa Cruz County now and in the future. The challenges discussed in Chapter 1 include:

- System Preservation – Maintenance needs for the existing transportation network are increasing. Roadway, bikeway, sidewalk, bridge and other repairs must be addressed in parallel with capacity and operational enhancements. If ongoing routine maintenance needs are not addressed, the cost of deferred maintenance will grow exponentially, leaving little funding for new projects.
- Safety – The federal transportation act, Fixing America’s Surface Transportation Act (FAST) identifies safety as a national goal area and requires each state to set Safety Performance Management Targets in order to achieve a significant reduction in motorized and non-motorized traffic fatalities and serious injuries on all public roads. The Metropolitan Planning Organizations must also establish targets in coordination with the state.
- Congestion – Traffic congestion exists in Santa Cruz County and will not go away in the foreseeable future. Population growth and region-wide jobs to housing imbalances that encourage driving as the mode of choice result in more drivers making more automobile trips.

EXECUTIVE SUMMARY

The frequent traffic jams on Highway 1 are the most obvious example of congestion on county roadways.

- Environmental and Public Health - A sustainable transportation system can play a vital role in the environmental health of Santa Cruz County and the health of its residents. Greenhouse gas emissions (GHG) have global environmental and public health effects, and air pollutants can affect both the environment and public health on a regional scale. The link between limited use of active transportation, such as biking and walking, and adult and childhood obesity is increasingly strengthened through research. Strategies for addressing this concern are being discussed at federal, state and local levels.
- Energy – Global energy demands are predicted to grow by 30% by 2040 as emerging economies increase their energy use comparable to other major energy consuming nations. Transportation relies heavily on fossil fuel which is a finite commodity. It cannot be assumed that fossil fuel will be abundant and inexpensive into the foreseeable future.
- Economy – The economic vitality of a region can be affected by transportation in a number of ways. Improved access is likely to positively affect businesses through faster goods movement and increased tourist activity. Implementation of transportation projects can provide jobs, and the smaller the percentage of household income that goes to transportation, the greater the amount of money that is available to go back into the local economy.
- Funding – Funding for transportation in Santa Cruz County has notably improved in the last couple of years. Measure D, approved by Santa Cruz County voters in 2016, provides approximately \$20 million in revenues per year from sales taxes that are dedicated for use on the transportation categories approved by voters. In 2017, the California legislature provided more stable funding for transportation for the first time in nearly 25 years with passage of Senate Bill 1.

The 2040 RTP endeavors to work toward a sustainable transportation system that addresses these challenges and results in safer, healthier and more efficient travel choices that provide improved multimodal access to opportunities such as jobs, education, and healthcare for our residents.

Chapter 2 – Transportation Network

Santa Cruz County has a rich multi-modal transportation network. The county's existing transportation network comprises a broad range of transportation facilities and modes. These include state highways, local streets and roads, an extensive bus system, a specialized transport system for seniors and people with disabilities, bikeways, sidewalks, an airport and a rail line. The most notable improvements to the highways have been on Highway 1 including Mission St, the Highway 1 and 17 interchange and auxiliary lanes between Soquel Drive and Morrissey Boulevard.

In 2012, the RTC became the owner of the Santa Cruz Branch Rail Line that extends almost 32 miles between Davenport and Watsonville. The RTC purchased the rail corridor on behalf of the community to preserve the corridor for existing and future transportation uses, including freight rail, passenger rail service/transit, and bicycle and pedestrian facilities. The Unified Corridor Investment Study is currently underway to perform an analysis of the options for transportation uses of the rail right-of-way as required by Measure D. The Master Plan and Environmental Impact Report for the Monterey Bay Sanctuary Scenic Trail, a network of multiuse trails with the spine along the rail line, have been completed. Thirteen miles of trails along the rail right of way have been funded in full or in part, with

construction to begin as soon as design, engineering and environmental permitting are completed. The first project is scheduled to be completed in 2018.

Transportation system management and transportation demand management programs are also components of the transportation network. Transportation System Management (TSM) projects incorporate operational improvements that improve traffic flow and safety. Examples include signal synchronization, new turning lanes, striping, auxiliary lanes and detectors for assessing real time traffic conditions. Transportation Demand Management includes strategies that reduce the number of people that are driving alone. These strategies include increasing the number of people carpooling, bicycling, telecommuting and taking transit through programs such as Cruz511 traveler information services.

This multi-modal transportation network is crucial to meeting the travel needs of all county residents, including drivers, non-drivers and commercial traffic.

Chapter 3 – Travel Patterns

The majority of the population in Santa Cruz County lives and travels within a small area of the county. The areas of the county with higher population density are primarily along the coast (City of Santa Cruz, Capitola, Live Oak, Soquel and Aptos), in the cities of Watsonville and Scotts Valley, and along portions of the San Lorenzo Valley. Although the distances that people travel within Santa Cruz County are not extensive, increasing the diversity of land uses within neighborhoods to improve access to goods and services can result in even greater reductions in trip lengths.

The patterns of travel within Santa Cruz County are very much dependent on the number of people who live, work and visit the county. Population growth in Santa Cruz County between 2000 and 2010 increased by only 3% but future projections indicate that the growth rate will increase to 12% between 2015 and 2040. Similarly, the number of jobs in Santa Cruz County is forecasted to increase by 18% between 2015 and 2040.

Much effort on this 2040 RTP and the 2040 Metropolitan Transportation Plan has been focused on prioritizing projects that will reduce greenhouse gas emissions primarily from a reduction in vehicle miles traveled (VMT). One vehicle traveling one mile equals one “vehicle mile traveled.” The 2011-2012 California Household Travel Survey (CHTS) data results for the state show that there has been a doubling of walk, transit and bike trips compared to data collected in 2000 and a reduction of drive alone trips of approximately 10%. Mode share data for Santa Cruz County from this CHTS data shows that Santa Cruz County residents bike more often than the state average. The American Communities Survey provides mode share data for the “typical mode taken to work” for Santa Cruz County. The data from 2011-2015 shows that Santa Cruz County residents are choosing to ride their bike to work more often than in 2000, but carpool less, and the percent of drive alone trips remains the same.

Chapter 4 – Vision for 2040

The Santa Cruz County Regional Transportation Commission utilized an independent third party rating system called the Sustainable Transportation Analysis and Rating System (STARS) to develop a sustainability framework for the 2014 RTP. This sustainability framework was used for the 2040 RTP. The goals, policies, performance measures and targets were developed with extensive public and partner input using STARS to form the foundation for a sustainable transportation plan. The measures are shaped

EXECUTIVE SUMMARY

by readily available data and are expected to evolve as new data becomes available. The goals for the 2040 RTP are as follows:

Goal 1: Establish livable communities that improve people’s access to jobs, schools, recreation, healthy lifestyles and other regular needs in ways that improve health, reduce pollution and retain money in the local economy.

Goal 2: Reduce transportation related fatalities and injuries for all transportation modes.

Goal 3: Deliver access and safety improvements cost effectively, within available revenues, equitably and responsive to the needs of all users of the transportation system and beneficially for the natural environment.

For the first time, the Santa Cruz County Regional Transportation Plan identified measurable outcomes, called targets that are each linked to a sustainability goal. Incorporating targets into the goals and policies enables the Regional Transportation Commission to assess how well the long range plan will perform over time in advancing the targets. The assessment of performance is provided in Chapter 7.

Chapter 5 – Financial Plan

Transportation programs and projects in Santa Cruz County are funded from a variety of local, state and federal funding programs. Local sources account for 52% of the transportation revenues, 38% from state and 10% from federal. Based on current and projected revenue sources, approximately \$3.75 billion are reasonably anticipated to be available to finance transportation projects in Santa Cruz County through 2040 (\$170 million per year). The vast majority of anticipated revenues are committed to specific dedicated uses. Over one third of local, state and federal funds can only be used for transit and paratransit projects and operations. A large proportion of these transit revenues come from our county’s dedicated half-cent local sales tax for transit. Airport improvements and highway safety also account for a large portion of the dedicated funds.

In response to ongoing funding shortfalls and the large backlog of maintenance and other projects, Santa Cruz County voters approved Measure D in November 2016, a 30-year half-percent sales tax dedicated to local transportation projects and programs. Measure D provides approximately \$20 million per year in stable funding for projects in Santa Cruz County. In 2017, the California legislature passed Senate Bill 1 – The Road Repair and Accountability Act to stabilize transportation funding and help address the diminishing transportation revenues from the per gallon gasoline and diesel tax.

The Regional Transportation Commission (RTC) has discretion over less than 4% of the funds available for transportation projects in the next 22 years (approximately \$7 million per year). These funds are from regional shares of the State Transportation Improvement Program (STIP) Surface Transportation Block Grant Program (STBG) and SB 1- Local Partnership Program.

It is important to note that transportation funding can be incredibly unpredictable. State and federal actions can result in elimination of certain funding programs or diversion of transportation funds to the State General Fund, as has happened regularly to transit funds over the past several years. Inevitably, some of the funding sources assumed within the financial projections for this plan will not actually be realized. Even if all of the revenues assumed in this document are realized, projected funds are insufficient to keep up with maintenance, operational, safety, and major improvement needs of the region

discussed in Chapter 6. Therefore, this document identifies additional sources for new funds that could potentially become available. The RTC works with entities locally, statewide, and nationally to seek new transportation revenue sources. These could include new local or state gas taxes, transportation impact fee programs, statewide transportation bonds, special federal funding programs (such as economic stimulus bills), special state legislative budget requests, and new grants.

Chapter 6 – Transportation Investments

A list of programs, projects and actions needed to operate, maintain, and improve the transportation system in Santa Cruz County has been developed – based on input from the public and sponsoring agencies -- as part of the Action Element of the RTP. The cost of implementing this list of transportation projects in Santa Cruz County is approximately \$7 billion, whereas the estimated funds available through 2040 is approximately \$3.75 billion – just over half of the estimated need.

Given the significant gap between funding needs for transportation and projected revenues, the projects listed in the RTP must be divided into two groups. Transportation improvements that can be funded with foreseeable transportation revenues between 2018 and 2040 are shown as “Constrained.” This group includes projects with dedicated funding, already funded projects to be constructed in the short term, and planned projects that could be constructed anytime within the 2040 RTP’s 22-year time-line as projected funds become available. Transportation improvements to be implemented only if new revenues are generated or become available show their funding as “unconstrained.” Some projects are identified with both constrained and unconstrained funds, indicating a need for additional funds to complete the entire project, though portions of those projects may be completed using available funding.

In order to determine which projects are prioritized for the constrained list for the 2040 RTP, input was solicited from project sponsors, the public, public interest groups and RTC advisory committees throughout the process in developing the final project list that identifies the projects as either constrained and/or unconstrained.

The within projected funds or constrained project list consists of approximately 220 projects that could be fully implemented and 120 projects that could be partially implemented over the twenty-two year timeframe. These projects and programs address the region’s accessibility, economic, safety and environmental sustainability needs over the next 22 years and constitute the 2040 RTP’s constrained project list described in Chapter 6 with the full list of projects and programs provided in Appendix E. During the next 22 years, approximately \$3.75 billion from federal, state, and local funding sources is projected to be available to finance transportation projects in Santa Cruz County. Over 230 projects are on the unconstrained list, for which additional funds will be needed in order to be implemented.

The 2040 RTP assigns future transportation funds to a range of projects and programs designed to maintain the current transportation system, and improve access, safety and environmental and public health by broadening transportation options. Key proposals, based on available funding, include:

- Maintenance of the existing transportation network including roads, highways, bike lanes, sidewalks, and transit
- Safety and operational improvements to Highways 1, 9, 17, 129 and 152
- Addition of auxiliary lanes on Highway 1 between State Park Drive in Aptos and Soquel Ave
- Bicycle and pedestrian crossings over Highway 1 at Chanticleer and Mar Vista

EXECUTIVE SUMMARY

- Modifications to major arterial roads -- including intersection improvements and bus, pedestrian and bicycle facilities
- Freeway Service Patrol along Highways 1 and 17
- Expanded bus service for high ridership routes to serve University of California Santa Cruz (UCSC), south county and San Jose commuters
- Transit queue jumps and high occupant vehicle signal priority
- Construction of the Monterey Bay Sanctuary Scenic Trail , the Pajaro River Trail, and the San Lorenzo Valley Trail
- Local bicycle and pedestrian projects and programs designed to increase bicycle commuting, and provide safe bicycle and pedestrian routes to schools and key destination areas
- Expansion of specialized transport services in response to projected increases in senior and disabled populations
- Individualized marketing programs to employers to increase carpooling and vanpooling

Development of the RTP project list is a preliminary step towards actual implementation of the projects identified in the 2040 RTP. Prior to the beginning of project construction, a number of steps must be taken which can take from 6 months to 20 years, depending on the particular project's complexity, impacts, level of public interest, funding and environmental requirements, and availability of funds. These steps include: developing a detailed project cost estimate; obtaining local, state and/or federal funds; designing the project; determining the project's environmental impacts; securing right-of-way, if necessary; and throughout the process, incorporating public input.

Chapter 7 – System Performance

Performance-based planning is a strategic approach that uses key information to help inform investment decisions. The performance of the previous regional transportation plan for Santa Cruz County completed in 2014 was analyzed in detail to determine how well the constrained list of transportation projects and programs advance the goals and targets established for the 2014 RTP and affect the county's future. The analysis that was performed is still largely applicable to the 2040 RTP given the project list for the 2040 RTP has not changed substantially from the 2014 version. The performance measure analysis that was developed for the 2014 RTP can be found in **Appendix D** for reference.

The 2040 RTP focuses the system performance on presenting available data that monitors the performance of the transportation system to date. Data is not available at this time to monitor all of the measures in the 2040 RTP although many of the more fundamental indicators (safety, vehicle miles traveled, greenhouse gas emissions, pavement condition) are presented.

Chapter 8 – Environmental and Air Quality Review

The California Environmental Quality Act of 1970 (CEQA) requires that the environmental effects of the 2040 RTP be analyzed. This analysis was prepared as a separate program-level Environmental Impact Report (EIR) released along with the 2040 RTP. The EIR, prepared in coordination with the Association of Monterey Bay Area Governments (AMBAG), Transportation Agency for Monterey County (TAMC), and the San Benito County Council of Governments (SBCOG), collectively evaluates the MTP/SCS and the

Regional Transportation Plans for the Monterey Bay region - Santa Cruz, Monterey, and San Benito Counties. The EIR analyzes the potential environmental impacts of the 2040 RTP, including alternative investment scenarios, and identifies potential mitigation measures for impacts of the transportation program for the whole region. The EIR does not analyze impacts of, or mitigations for, individual projects. The respective agency sponsors will conduct a project-specific review, once funding is received and the project is initiated.

Together Santa Cruz, Monterey, and San Benito Counties comprise the North Central Coast Air basin (NCCAB). Many projects in the plan implement the Monterey Bay Unified Air Pollution Control District's (Air District) approved Transportation Control Measures for the region, which are developed to reduce transportation-related emissions by reducing vehicle use or improving traffic flow. The three county region (or NCCAB) is an attainment area for air quality impacts and therefore exempt from the required conformity analysis.

Chapter 9 – What's Next?

The Santa Cruz County Regional Transportation Plan is a work in progress that will be updated approximately every four years. This chapter identifies a number of considerations that will likely be prominent features of the RTP over the next couple of decades.

Santa Cruz County is susceptible to a wide range of climate change effects. The RTC is aware of the need to undertake efforts to respond to *impacts* of climate change along with the current effort to reduce GHG emissions. Future editions of the RTP may address the impacts of climate change by identifying areas at most risk to sea level rise as well as other additional transportation considerations.

The effects of automated vehicles on future transportation systems are under much debate. Automated vehicles (AVs) are an emerging technology that could bring a number of benefits to the transportation system including increased safety, increased throughput due to driving efficiencies, and improved system management through vehicle data. Conversely, there is also the potential of AVs to drastically increase traffic congestion and the amount of vehicle miles traveled particularly when self-driving vehicles no longer require a person on board. There are many uncertainties associated with AVs including a currently unfolding set of federal and state regulations, resolution of questions around programming ethics, solutions to liability and insurance concerns, potential criminal abuse, and market adoption rates. The RTC will be watching the evolution of this technology for incorporation into future RTPs.

This page intentionally left blank

CHAPTER

1

Why Sustainability?

2040 Regional Transportation Plan

In the state of California, responsibility for transportation planning and coordination is assigned to regional transportation planning agencies. The Santa Cruz County Regional Transportation Commission (referred to as the “Commission” or “RTC”) is the designated regional transportation planning agency (RTPA) for Santa Cruz County. The RTC is required to periodically undertake long-range planning efforts, as a way to set the course for meeting the transportation needs of its respective communities over a 20-plus year timeframe. This long-range planning effort is called the Regional Transportation Plan, or RTP. Planning is an important component to project implementation as it provides a forum for assessing the direction of transportation in our county over the next 20 plus years. It positions our community to receive funding for projects that require a well thought out plan, and helps to develop collaboration on projects.

The *2040 Santa Cruz County Regional Transportation Plan* incorporates sustainability principles in all of its elements: transportation goals and policies (policy element – **Chapter 4**), a financial plan for funding transportation projects (financial element – **Chapter 5**), and a program of short and long-range transportation projects (action element – **Chapter 6**).

The RTC coordinates with the Association of Monterey Bay Area Governments (AMBAG) in developing the Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS) for the tri-county area of Monterey, San Benito and Santa Cruz Counties. AMBAG also develops the population, housing and employment growth projections for the region. The 2040 RTP is consistent with both of these efforts.

Why Sustainability?

Transportation affects many aspects of our lives both directly and indirectly. The transportation system enables us to get around – to work, to school, to stores and other destinations – but it is also interlinked with our health and safety, the quality of the natural environment, and the economic vitality of our region. The *2040 Regional Transportation Plan* reflects a wide spectrum of sustainability objectives for this long range planning effort. A sustainable transportation system requires a plan that encompasses improvements to access, mobility, the environment, public health, safety, the economy and equity, as well as preservation of our current transportation system, all



within financial constraints. A challenge, no doubt, but a strategy that strives to best serve the residents and visitors of Santa Cruz County.

The California Sustainable Communities and Climate Protection Act of 2008 (SB 375) requires the establishment of regional greenhouse gas emission targets and the 2016 California Senate Bill 32 requires the reduction of greenhouse gas emissions by 40% below 1990 levels by 2030. A much greater emphasis is being placed on transportation to reduce the number of vehicle miles we travel through coordination of transportation investments and land use planning. Considering these sustainability requirements and all applicable state, federal, and regional priorities, the *2040 Santa Cruz County Regional Transportation Plan* identifies infrastructure projects and programs that could be implemented through 2040 based on anticipated transportation revenues.

This chapter discusses a number of challenges that face transportation in Santa Cruz County now and in the future. The 2040 RTP endeavors to address these challenges and result in safer, healthier and more efficient travel choices that provide improved multimodal access to jobs, education, healthcare, and other destinations for our residents and visitors.

System Preservation



A well-maintained multimodal transportation system of local roads, highways, bridges, buses, bicycle facilities, pedestrian infrastructure and other transportation components is critical to providing a reliable, seamless, interconnected system. Such a system supports the traveling public and the local economy, reduces wear-and-tear on vehicles, and operates efficiently. Unfortunately, much of the local transportation system is aging and in need of major repair. Due to increased demands on the transportation network and unreliable funding, transportation agencies (cities, counties, Caltrans, and transit

providers), have not been able to keep up with the increasing backlog of maintenance in recent years. Therefore, local voters approved Measure D in November 2016 and the State Legislature approved Senate Bill 1 (SB 1) – the Road Repair and Accountability Act of 2017 – which will enable cities and counties, Caltrans, and transit agencies to finally address significant maintenance, rehabilitation and safety needs.

On a scale of zero (failed) to 100 (excellent), the average pavement condition index (PCI) of local streets in our county’s five jurisdictions has been between 49 and 50 over the last many years hovering around the boundary between “poor” and “at risk”. In 2016, the Pavement Condition Index for Santa Cruz County was 50, the eighth worst Pavement Condition Index in the state.¹ Maintenance of rural roadways can be particularly challenging due to their remote location, susceptibility to storm damage, and low traffic volumes relative to more urban roadways. The winter storms of 2016/2017 caused severe damage to numerous

Santa Cruz County Road Maintenance

- Miles of local roads: 871
- Average Pavement Condition: PCI 50 (out of 100 = poor)
- County has 8th worst PCI rating in CA
- Over \$350 million backlog

roadways in the Santa Cruz Mountains which lowered the 2017 average PCI for roadways in unincorporated areas to 39. Insufficient gasoline tax funding to cities and counties has contributed to a backlog of local road maintenance needs in Santa Cruz County that totals over \$350 million. Measure D and SB 1 provide approximately \$4.5 million and \$7 million per year to local cities and the County of Santa Cruz to start addressing at least some of this backlog. **Figure 1.1** shows there is still a disparity between available funds and funds needed for local road pavement maintenance given the backlog of maintenance that has been accumulating.

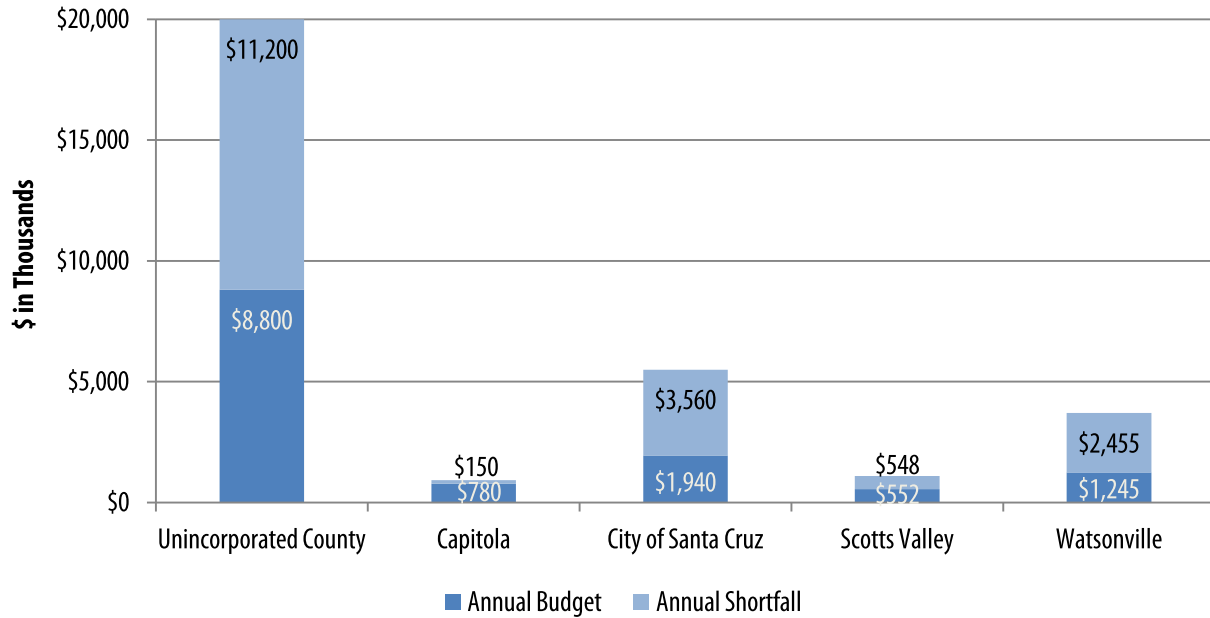


Figure 1.1 – Local Jurisdiction Annual Pavement Maintenance Budget versus Annual Need

Source: California Statewide Local Streets and Roads Needs Assessment (2016) and public works departments

Caltrans has faced a similar challenge maintaining the state highway system (SHS). As noted in the 10-Year State Highway Operation and Protection Program (SHOPP) Plan,² as the roadways and bridges on the SHS age and near the end of their service lives, vehicle and truck traffic have accelerated the deterioration of these assets. Deteriorating highway conditions result in lower operational performance, higher user operating costs (additional vehicle repair costs, increased fuel consumption, increased tire wear, and accelerated vehicle depreciation), and ultimately higher overall long-term costs when needed repairs to the highway are eventually undertaken. In addition, the ever-increasing cost of meeting legal, statutory, and regulatory mandates is a significant contributor to the operating and maintenance needs. Approximately 35% of SB1 revenues are being invested in maintenance and rehabilitation of state highway infrastructure, including pavement, bridges, and culverts.

Maintenance of the transit system is critical to keep existing transit vehicles running and to ensure bus service is reliable. Buses and paratransit vehicles need to be replaced on a regular basis; transit centers require regular upkeep and rehabilitation; bus stops need to be maintained and operations facilities need to be maintained and upgraded. FTA defines the useful life of transit buses as 12 years and 500,000 miles. The Santa Cruz Metropolitan Transit District (METRO) has over 60 fixed-route buses, with an average age of 16 and over 600,000 miles, that need to be replaced or refurbished (2017); and nearly 40 paratransit vans which need to be replaced every 5-10 years.

Safety



Safety is a significant concern in operating the transportation network. The federal transportation act, Fixing America’s Surface Transportation Act (FAST) identifies safety as a national goal area and requires each state to set Safety Performance Management Targets in order to achieve a significant reduction in motorized and non-motorized traffic fatalities and serious injuries on all public roads. The California Department of Transportation (Caltrans) and the Office of Traffic Safety (OTS) has adopted 2018 safety targets in order to meet these requirements. The targets for 2018 include a reduction from 2017 of 7.69% in the number of fatalities and the rate of fatalities (per 100 million VMT), a 1.5% reduction in the number of serious injuries and the rate

of serious injuries (per 100 million VMT) and a 10% reduction in the number of non-motorized fatalities and non-motorized severe injuries.³ These targets are consistent with the California Strategic Highway Safety Plan (SHSP) and the California Strategic Management Plan to reduce fatalities and serious injuries on public roads. The Metropolitan Planning Organizations must also establish targets for these same five measures in coordination with the state.

Primary collision factors as identified by the California Highway Patrol include driving under the influence of alcohol, unsafe speeds, improper turning and more recently distracted driving due to cell phone use. The SHSP has identified various actions that state and local agencies can perform to reduce collisions based on these factors. These include the capital projects on the state highway system funded through the State Highway Operation and Protection Program (SHOPP), added CHP enforcement – especially of vehicle speeds, and local education programs led by a coalition of police departments, health service agencies, and public works.

The safety of those traveling on non-motorized transportation needs to be emphasized. The number of bicyclist and pedestrian injuries and fatalities in our county from 2007 through 2016 are shown in **Figure 1.2**. The California Office of Traffic Safety ranked Santa Cruz County as the worst county in the state for the number of bicyclist collisions in 2014 and 8th highest for the number of pedestrian collisions based on population.⁴ Santa Cruz County has a

2016 Collision Facts

California

- 3680 Total Fatalities
- 13,017 Total Severe Injuries
- 985 Bike and Pedestrian Fatalities
- 3500 Bike and Pedestrian Severe Injuries
- 26.9% Bicycle and Pedestrian Fatalities and Severe Injuries

Santa Cruz

- 21 Total Fatalities
- 117 Total Severe Injuries
- 1722 Total Fatalities and Injuries
- 18.1% Pedestrian Fatalities and Severe Injuries
- 21.9% Bicycle Fatalities and Severe Injuries
- 11 Motorist Fatalities
- 7 Pedestrian Fatalities
- 3 Bicyclist Fatalities

higher percentage of trips by bicycling and walking than the California state average.⁵ Without a better understanding of how many miles people are biking and walking, it is difficult to assess whether the collision rankings for Santa Cruz County are high relative to other regions based on use. Regardless of the rankings, reducing the number of fatalities and injuries for the most vulnerable users of the transportation system is critically important, especially given the multiple benefits of active transportation.

Locally, the Community Traffic Safety Coalition is working to address the traffic safety issues in Santa Cruz County by promoting a “Vision Zero” target for traffic fatalities and serious injuries with an emphasis on non-motorized transportation. The goal of their efforts is for each jurisdiction in Santa Cruz County to adopt a Vision Zero policy and to develop strategies for preventing injuries and deaths among all road users.

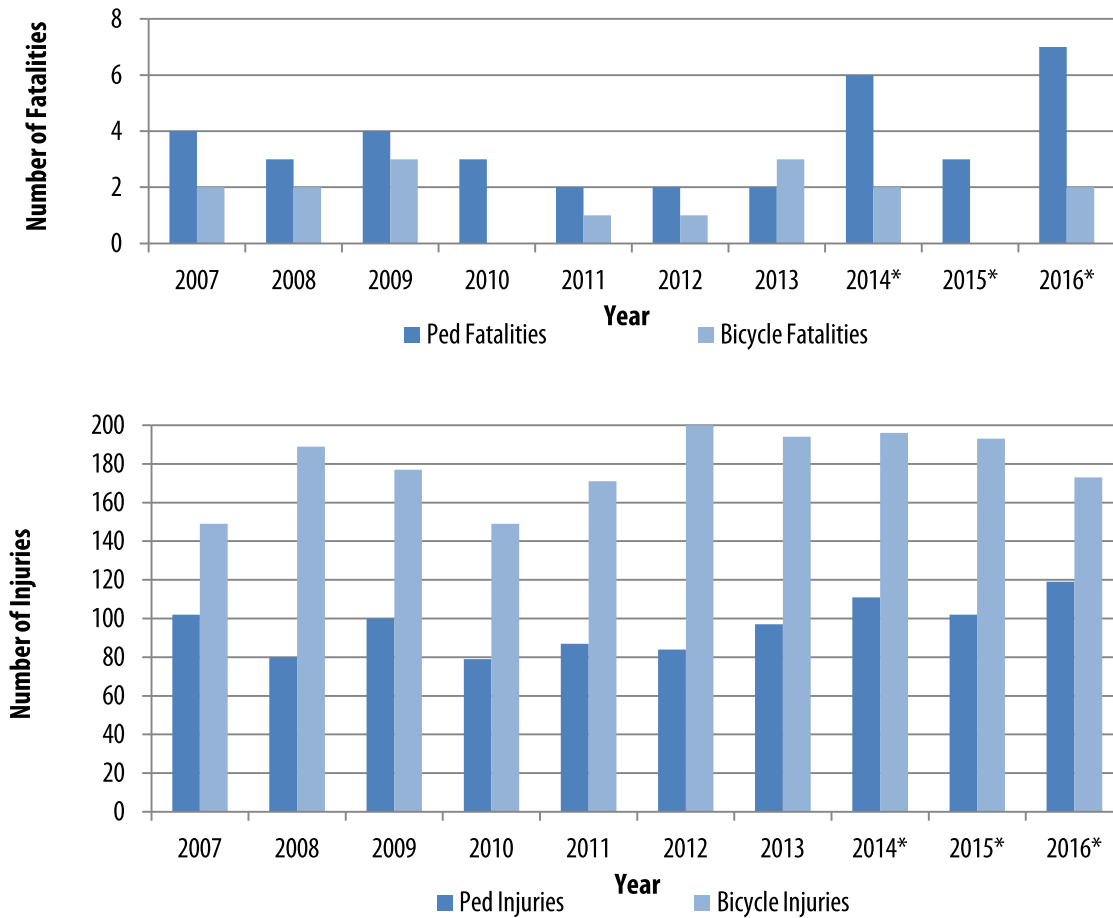


Figure 1.2 – Santa Cruz County Bicycle and Pedestrian Injuries and Fatalities from 2007 through 2016

Source: Statewide Integrated Traffic Records System (SWITRS) via UC Berkeley Transportation Injury Mapping System (TIMS)⁶

Congestion

Traffic congestion has become considerably harder to avoid. Congestion nationwide has increased two to threefold over the last 30 years.⁷ In Santa Cruz County, segments of Highway 1 and a number of our local roads are notorious for being congested particularly at peak commute hours. Congestion on highways and arterials can encourage cut through auto traffic on neighborhood streets which can degrade the local road system and discourage walking and biking. The economic recession at the end of the last decade reduced congestion slightly in Santa Cruz County⁸ but now that the economy has recovered, traffic volumes have increased again to previous highs.

Santa Cruz County residents have suggested many strategies to respond to congestion and reduce how long it takes to get places, but with increased demands on even more limited financial resources, an aging system that is already difficult to maintain, and requirements for reducing greenhouse gas emissions,

it is no longer expected that the community can completely eliminate congestion. The region must find ways to operate and utilize our existing highway and transit networks more efficiently and sustainably over the long term.



Environmental and Public Health

Not only in Santa Cruz County, but all over the world, communities are working to balance the movement of people and goods with environmental and public health priorities. Greenhouse gas emissions have global environmental and public health effects and air pollutants can affect both the environment and public health on a regional scale. The link between limited active transportation, such as biking and walking, and adult and childhood obesity is being strengthened as research and strategies for addressing this concern are being discussed at federal, state and local levels. A sustainable transportation system can play a vital role in the environmental health of Santa Cruz County and the health of its residents.

Greenhouse Gas Emissions

In 2005, Governor Schwarzenegger issued an Executive Order for the state of California to reduce greenhouse gas emissions from all sectors to 1990 levels by 2020 and to 80% below 1990 levels by 2050. To support these goals, the California legislature passed the California Global Warming Solutions Act of 2006 (Assembly Bill 32) which established a statewide target to reduce greenhouse gas (GHG) levels to 1990 levels by 2020.⁹

California Global Warming Solutions Act (AB 32)

- Reduce GHG emissions from all sectors to 1990 levels by 2020

With transportation responsible for approximately 27% of the total GHG emissions nationally¹⁰ and approximately 60% of the total GHG emissions in Santa Cruz County,¹¹ this bill set in motion a series of events that will change transportation planning for decades to come. A decade later in 2016, California Senate Bill 32 was passed expanding upon AB 32 by requiring the reduction of greenhouse gas emissions by 40% below 1990 levels by 2030.¹²

The three primary approaches for reducing greenhouse gas emissions from transportation are through:

- Improvements in vehicle technology creating greater fuel efficiencies
- Improvements in low carbon fuels
- Reduction in the number of vehicle miles traveled

None of these approaches alone will result in meeting the GHG emission reduction targets. Like other regions, pursuit of all three in combination will be necessary. Clean car standards, such as those set forth in regulations approved by the California Legislature, establish specific requirements for increasing the efficiency of, and reducing greenhouse gas emissions from, new passenger vehicles. The Low Carbon Fuel Standard establishes performance standards for reductions in carbon in transportation fuels that fuel producers and importers must meet each year. These measures are anticipated to result in the greatest reductions statewide.



The third approach, reducing the number of vehicle miles that are traveled (VMT), requires changes to how much we drive. While some reductions in VMT are achievable by changes in individual travel behavior, modifications to land use patterns and the transportation system are also needed to support

these changes. Reducing passenger vehicle use is supported through the requirements of the California Sustainable Communities and Climate Protection Act of 2008 (SB 375). The emphasis of this bill is to promote compact, mixed-use commercial and residential infill development and the transportation infrastructure to support it to improve people’s ability to meet many of their daily needs through walking, biking and taking transit thereby reducing the per capita number of vehicle miles traveled.

California Sustainable Communities and Climate Protection Act of 2008 (SB 375)

AMBAG Region Targets (relative to 2005)

- 3% reduction in per capita GHG from passenger vehicle use by 2020
- 6% reduction in per capita GHG from passenger vehicle use by 2035

SB 375 requires each of the state’s 18 metropolitan areas to reduce per capita greenhouse gas emissions from cars and light trucks. The law requires that the Association of Monterey Bay Area Governments (AMBAG) as the metropolitan planning organization for the region develop a new element of the Metropolitan Transportation Plan (MTP) called the Sustainable Communities Strategy (SCS). This strategy coordinates land use and transportation

planning to strive to reach the greenhouse gas (GHG) reduction target established for the region by the California Air Resources Board.

For the Monterey Bay region, the California Air Resources Board's proposed new reduction goals (2017) for per capita GHG emissions from passenger vehicle use of 3 percent and 6 percent by 2020 and 2035 respectively relative to 2005 levels. The previous reduction goals for the AMBAG region were 0 percent by 2020 and 5 percent by 2035 for the 2014 MTP/SCS. SB 375 streamlines the California Environmental Quality Act (CEQA) for housing and mixed-use projects that are consistent with the SCS and meet specified criteria, such as proximity to public transportation. The Santa Cruz County 2040 Regional Transportation Plan has been developed to be consistent with the SCS planning effort of the Association of Monterey Bay Area Governments (AMBAG).

Senate Bill 391 required the California Department of Transportation to prepare the 2040 California Transportation Plan¹³ (CTP) to demonstrate how GHG emissions can be reduced to 1990 levels by 2020 and 80% below 1990 level by 2050. The CTP provides strategies for GHG reduction and recommendations on how agencies can coordinate planning efforts to achieve critical statewide goals.

Air Pollutants

Much progress has been made in the reduction of air pollutants from transportation nationwide in the past several decades.¹⁴ Since the U.S. Clean Air Act was enacted in 1970, there has been a downward trend in the six criteria air pollutants (ozone, lead, particulate matter, carbon monoxide, sulfur oxides, and nitrogen oxides). Although substantial improvements have been made, there is still public health concern over the levels of air pollutants from transportation and many regions in California do not meet the National Ambient Air Quality Standards for these pollutants. Respiratory illness, asthma, cardiovascular disease and lung cancer are all associated with increased levels of air pollutants. Santa Cruz County, as part of the North Central Coast Air Basin, has met the National Ambient Air Quality Standards for all criteria pollutants and thus is not subject to Federal Clean Air Act conformity requirements in this plan. Santa Cruz County is on the "cleanest counties" list for low levels of ozone but is also on the list of top 25 counties with the most polluted short term particulate matter (24 hour PM 2.5) as published by the American Lung Association in their State of the Air 2017 report.¹⁵ Particulate matter 2.5 is emitted from fuel vehicles although numerous other sources exist such as dust, sea spray or fires.

Obesity

A growing body of evidence suggests that the design of our communities influences the likelihood that people will use active transport for their daily travel.¹⁶ The act of walking or biking to school, work, the store, transit or to other places that are a part of our daily routine affect our health. Multiuse trails, bicycle paths, sidewalks, safe street crossings, and availability of public transit are all examples of transportation infrastructure that promote greater physical activity. Combined with increased housing density and mixed land use, people more often choose active forms of transportation which have the potential to lower obesity rates. The relationship between active



transportation and obesity was examined in a study published in 2008 which showed that countries with the highest levels of active transportation had the lowest obesity rates (Figure 1.3).¹⁷

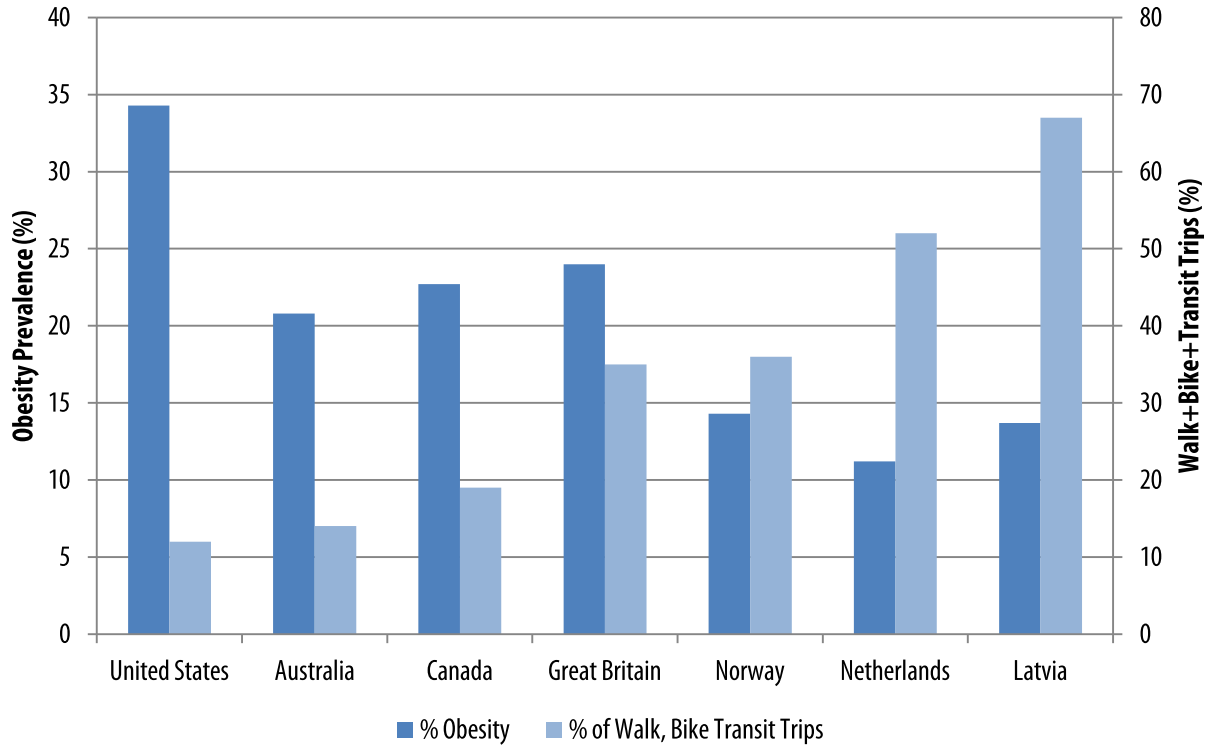


Figure 1.3 – Obesity Prevalence and Rates of Active Transportation in Countries of Europe, North America, and Australia

Source: Journal of Physical Activity and Health¹⁸

The percentage of people in the United States that are obese has almost doubled over the last two decades. In 2013-2014, 37.9% of adults and 17.2% of children and adolescents in the United States were obese compared to 22.9% adults and 10.0% children and adolescents in 1990.¹⁹ Assembly Bill 441, championed by local Assemblyman Bill Monning and signed by Governor Brown in September, 2012, acknowledges the link between transportation infrastructure and health of California residents and required the California Transportation Commission to promote health and health equity as part of the updated 2017 Regional Transportation Plan guidelines. The 2040 California Transportation Plan also promotes active transportation through a goal of “fostering livable and healthy communities and promoting social equity.”

In Santa Cruz County, the number of adults who are overweight and obese increased from 50% in 2007 to 59% in 2015.²⁰ In 2003, Santa Cruz County had a higher percentage of overweight children in low income families than more than half of the counties in California.²¹ The Community Assessment Project identified obesity as a key issue of concern. In 2015, the percentage of healthy children in Santa Cruz County is greater than the statewide average.²² Currently, there are a number of efforts in the county that are working to reduce both adult and childhood obesity through promoting a healthy lifestyle that includes bicycling and walking to school, work or other daily needs.

Economy

Transportation and the economy are linked in a number of ways. Improved access and travel time reliability are likely to positively affect job markets, business delivery markets, freight supply chains, and visitor activity, all allowing businesses in the region to operate more efficiently and maintain their competitiveness. The economic recession that began about 10 years ago was challenging for Santa Cruz County as well as the entire nation. Unemployment rates in Santa Cruz County were up to 12.6% in 2010 from a low of 5.1% in 2000. The economy has mostly recovered with an annual unemployment rate of 6.9% for 2016. But signs of an improved economy include greater use of the transportation system as more people are traveling to work and more goods are being delivered, often resulting in increased levels of congestion and longer travel times. Transportation and the economy are also interlinked as the greater the number of transportation projects implemented, the higher the level of employment there will be for people in this area. Over the next 22 years, this plan proposes to fund \$3.7 billion for transportation that will provide direct economic benefits, such as new construction jobs, as well as the indirect benefits of these investments, such as the demand for services and supplies to support the construction projects. And lastly, the economy can also be affected by the percentage of household income that goes towards transportation costs. The smaller the percentage of household costs needed for transportation, the more money there is available to go into the local economy. By reducing the amount spent on fuel through a reduction in vehicle miles traveled, more dollars are on hand for the local economy. The 2040 RTP strives for a more efficient, desirable, and competitive area where businesses can thrive over the long term.

Energy

Transportation relies heavily on fossil fuels. In 2016, over 71% of petroleum use in the United States was for transportation and over 92% of energy for transportation comes from petroleum.²³ Fossil fuel is a finite commodity and the assumption that fuel will be abundant and inexpensive into the foreseeable future cannot be taken for granted. Global energy demands are predicted to grow by 30% by 2040 as the emerging economies of China, India, Southeast Asia, Africa, and the Middle East continue to increase their use of energy comparable to other major energy consuming nations.²⁴ Energy efficiency measures based on currently available technological solutions could play a large role in reducing energy needs. Only about a fifth of the energy that is used for transportation is converted into useful energy that moves your vehicle down the road, the rest of the energy is lost to engine and driveline inefficiencies and idling.²⁵ The potential to improve fuel efficiency with advanced technologies is enormous. Major energy consuming nations have announced new measures for improving energy efficiencies in the automobile including the fuel economy standard of the U.S. but a significant amount of the potential for improved efficiencies still remains untapped.²⁶

2016 U.S. Energy Facts

- 71% of petroleum used in U.S. is for transportation
- 92% of energy is for transportation in U.S. relies on petroleum

Transportation Funding

Transportation funding in Santa Cruz County comes from a combination of local, regional, state and federal sources. These include sales taxes, taxes and fees collected at the gasoline pump, vehicle registration fees, and bus rider fares, as described in Chapter 5 and Appendix D.

Measure D, approved by Santa Cruz County voters in 2016, provides approximately \$20 million in revenues per year from sales taxes that are dedicated for use on the transportation categories approved by voters and cannot be taken away by the state.



In 2017, the California legislature provided more stable funding for transportation for the first time in nearly 25 years with passage of Senate Bill 1. SB1 was needed because revenues from gasoline taxes have been declining over the last many years for a number of reasons.

- The gas tax had not been indexed to keep up with inflation and thus has lost approximately 38% of its buying power since 1993;²⁷
- Cars and trucks overall have become more efficient and use less gasoline than before, thus per gallon gasoline taxes and fees have not matched use of the transportation system;
- State and federal transportation funding distribution formulas favor major metropolitan areas over smaller areas such as Santa Cruz County; and
- As other parts of the state and nation grow at a faster rate than Santa Cruz County, the county's proportional share of limited transportation funds decreases.

Equity

Transportation planning decisions often have significant equity impacts where equity refers to the fairness with which impacts (benefits and costs) are distributed. Transportation expenditures require significant public resources which can favor some people over others especially given the cost of transportation represents a major share of most household expenditures. The quality of available transportation affects people's economic and social opportunities. Title VI of the federal Civil Rights Act of 1964, Section 11135 of the California Government Code, and Executive Order 12898 on



Environmental Justice require planning agencies to be sensitive to how all residents, particularly disadvantaged communities, may be impacted by possible transportation changes identified in the RTP. The various “costs” associated with transportation include congestion delay, risk of injury, pollution, and undesirable land use impacts. The 2040 RTP has been developed to address the transportation needs of the entire community, and attempts to ensure that no one community enjoys more of the benefits or bears more of the burdens of transportation investments than any other.

Public Input is a Critical Component

One of the RTC’s primary goals is to foster broad public discussion about transportation issues in the community. This serves to deepen public understanding about the complexity of transportation issues and assists the public in providing informed input to the 2040 RTP. Public input is also important in order to ensure that the RTP accurately reflects the transportation issues that are of highest concern to the residents of Santa Cruz County.



The RTC works to engage the public in an informed dialogue and to solicit input from a broad cross-section of the population. Public input is solicited at key stages of the plan development through email, newspaper, social media, RTC website and RTC meetings. Notifications about public hearings are provided through similar means. RTC Advisory Committees are kept informed of the development of the RTP and their input is sought at project milestones. . Consistent with federal requirements (23 CFR 450.316 and 23 CFR 450.322) and the Public Participation Plan for the Monterey Bay region, input from the public and various state, federal and local entities is solicited. **Figure 1.4** outlines the required procedures and methods for public participation based on state and federal laws. Refer to **Appendix A** for details on the public participation process including the timeline when input was solicited. See **Appendix B** for the roles and responsibilities of the Regional Transportation Commission and its partner agencies.

Public Participation Procedures

- Define Purpose & Identify Stakeholders
- Consultation & Coordination with other Agencies
- Consultation with Interested Parties (Boards of Directors and Advisory Committees)
- Public Notice, Public Hearings, Comment Periods (per Brown Act)
- Use of Media & Informational Materials, and Visualization Techniques
- Encourage Bilingual Participation
- Respond to Public Input
- Distribution of Final Documents

Figure 1.4 – Public Participation Procedures Based on State and Federal Laws

Source: AMBAG Public Participation Plan²⁸

Notes for Chapter 1

- ¹ “California Statewide Local Streets and Roads Needs Assessment 2016,” NCE, October 2017, <http://www.savecaliforniastreet.org/read-the-report/>
- ² “State Highway Operation and Protection Program (SHOPP) and Minor Program,” California Department of Transportation, accessed August 2017, <http://www.dot.ca.gov/hq/transprog/shopp.htm>.
- ³ California Department of Transportation, Safety Performance Management, California Target Setting, accessed October 2017, <http://www.dot.ca.gov/trafficops/shsp/target.html>
- ⁴ “2014 OTS Rankings,” California Office of Traffic Safety, accessed August 2017, http://www.ots.ca.gov/media_and_research/Rankings/default.asp.
- ⁵ “American Community Survey 5 Year-Summary,” United States Census Bureau, Means of Transportation to Work for Santa Cruz County and California, accessed August 2017, <http://factfinder2.census.gov>.
- ⁶ “TIMS – Transportation Injury Mapping System,” Safe Transportation Research & Education Center, University of California, Berkeley, accessed August 2017, <http://tims.berkeley.edu>.
- ⁷ David Schrank, Bill Eisele, Tim Lomax, and Jim Bak “Texas A&M Transportation Institute’s 2015 Urban Mobility Scorecard,” Texas A&M Transportation Institute (August 2015), <https://static.tti.tamu.edu/tti.tamu.edu/documents/mobility-scorecard-2015-wappx.pdf>
- ⁸ “Traffic Counts,” California Department of Transportation, Traffic Data Branch, accessed August 2017, <http://traffic-counts.dot.ca.gov>.
- ⁹ California Global Warming Solutions Act of 2006, AB 32 (2006), http://www.leginfo.ca.gov/pub/05-06/bill/asm/ab_0001-0050/ab_32_bill_20060927_chaptered.html.
- ¹⁰ “Sources of Greenhouse Gas Emissions: Transportation Sector Emissions,” U.S. Environmental Protection Agency, accessed September 2017, <https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions>.
- ¹¹ County of Santa Cruz, Planning Department, “County of Santa Cruz – Climate Action Strategy,” approved by County of Santa Cruz Board of Supervisors on February 26, 2013, <http://www.sccoplanning.com/PlanningHome/LongRangePlanning/ClimateActionStrategy.aspx>.
- ¹² Senate Bill 32 (2016), California Legislative Information, accessed September 2017, https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201520160SB32
- ¹³ CTP 2040 California Transportation Plan, Caltrans, June 2016, accessed August 2017, <http://www.dot.ca.gov/hq/tpp/californiatransportationplan2040/Final%20CTP/FINALCTP2040-Report-WebReady.pdf>
- ¹⁴ “National Emissions Inventory (NEI) Air Pollutant Emissions Trends Data,” U.S. Environmental Protection Agency, accessed December 2013, <http://www.epa.gov/ttnchie1/trends/>.
- ¹⁵ “State of the Air 2017,” American Lung Association, accessed September 2017, <http://www.lung.org/assets/documents/healthy-air/state-of-the-air/state-of-the-air-2017.pdf>.

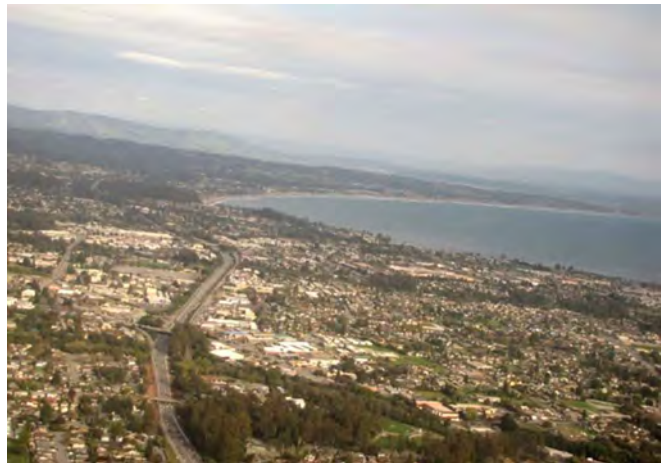
- ¹⁶ Barbara A. McCann and Reid Ewing, “Measuring the Health Effects of Sprawl: A National Analysis of Physical Activity, Obesity and Chronic Disease,” Smart Growth America, Surface Transportation Policy Project (2003).
- ¹⁷ David R. Bassett, Jr., John Pucher, Ralph Buehler, Dixie L. Thompson, and Scott E. Crouter, “Walking, Cycling, and Obesity Rates in Europe, North America, and Australia,” *Journal of Physical Activity and Health* (2008): 795-814.
- ¹⁸ David R. Bassett, Jr., John Pucher, Ralph Buehler, Dixie L. Thompson, and Scott E. Crouter, “Walking, Cycling, and Obesity Rates in Europe, North America, and Australia,” *Journal of Physical Activity and Health* (2008): 795-814.
- ¹⁹ Cheryl D. Fryar, Margaret D. Carroll, and Cynthia L. Ogden, “Prevalence of Overweight, Obesity, and Extreme Obesity Among Adults Aged 20 and Over: United States, Trends 1960-1962 Through 2013-2014,” Centers for Disease Control and Prevention, National Center for Health Statistics, Health E-Stats (July 2016), https://www.cdc.gov/nchs/data/hestat/obesity_adult_13_14/obesity_adult_13_14.pdf, https://www.cdc.gov/nchs/data/hestat/obesity_child_13_14/obesity_child_13_14.htm
- ²⁰ “Health – Santa Cruz County Community Assessment Project, Year 22, 2016,” Applied Survey Research (2016), <http://www.appliedsurveyresearch.org/scccacp/>
- ²¹ “Comprehensive Report 2006, Santa Cruz County Community Assessment Project, Year 12,” Applied Survey Research (2006), http://www.appliedsurveyresearch.org/storage/database/quality-of-life/santacruzcap/cap12_2006/CAP12_Full_Report.pdf.
- ²² “Comprehensive Report 2006, Santa Cruz County Community Assessment Project, Year 12,” Applied Survey Research (2006), http://www.appliedsurveyresearch.org/storage/database/quality-of-life/santacruzcap/cap12_2006/CAP12_Full_Report.pdf.
- ²³ “Energy Informatics,” Lawrence Livermore National Laboratory, accessed October 2017, https://flowcharts.llnl.gov/content/assets/images/energy/us/Energy_US_2016.png
- ²⁴ “World Energy Outlook 2016,” International Energy Agency (2016), <https://www.iea.org/newsroom/news/2016/november/world-energy-outlook-2016.html>.
- ²⁵ “Energy Informatics,” Lawrence Livermore National Laboratory, accessed October 2017, https://flowcharts.llnl.gov/content/assets/images/energy/us/Energy_US_2016.png
- ²⁶ “World Energy Outlook 2016,” International Energy Agency (2016), <https://www.iea.org/newsroom/news/2016/november/world-energy-outlook-2016.html>.
- ²⁷ “CPI Inflation Calculator,” U.S. Bureau of Labor Statistics, accessed October 2017, http://www.bls.gov/data/inflation_calculator.htm.
- ²⁸ Association for Monterey Bay Area Governments, “The Monterey Bay Area Public Participation Plan,” Marina, CA (April 2015), http://ambag.org/programs/met_transp_plann/documents/2015_PPP_FINAL.pdf

CHAPTER 2

Transportation Network

Setting

Santa Cruz County is one of 58 counties in the state of California, and one of the 15 counties bordering the Pacific coastline. Santa Cruz County is on the northern tip of the Monterey Bay and is 65 miles south of San Francisco, 35 miles north of Monterey, and 35 miles southwest of the Silicon Valley. The county's location is both a spectacular natural phenomenon and a limiting factor. The meeting of the redwoods and the sea is a powerful attraction which significantly affects the demand for housing, water, transportation and other infrastructure. The population of Santa Cruz County in 2017 was



276,603 according to the California Department of Finance estimates and the total area of the county is approximately 607 square miles with a land area of 445 square miles.

Transportation System

Santa Cruz County's transportation network includes facilities for private automobiles, transit, bicycles, pedestrians, specialized transportation for seniors and people with physical or mental disabilities, transport of goods and services, and emergency vehicles. Santa Cruz County's main transportation corridors and facilities (**Figure 2.1**) are limited by the area's physical barriers of mountains and the sea. Population settlement patterns are primarily centered along highways, major arterials, and the Santa Cruz Branch rail line. The backbone of the transportation system is the 1,137 total miles of roadway in the county. In the urban areas of the county, arterial roads, including major state highways, make up 14 percent of the roadway miles but carry over 72 percent of the vehicle miles traveled (VMT).¹

Santa Cruz Metropolitan Transit District (METRO) buses serve approximately 400 miles of roads throughout the county and cover the majority of roads designated as arterial and collector routes.² There are 223 miles of bicycle lanes and bicycle paths which generally follow primary transportation corridors. Sidewalks and other pedestrian facilities are also an important part of the transportation network.

State Highways

There are seven state highways in Santa Cruz County – State Routes (SR) 1, 9, 17, 35, 129, 152 and 236 (Figure 2.1). Highways 1 and 17 have segments that are fully grade separated freeways. Caltrans manages the state highway system, and implements highway maintenance and safety projects. Because the cost of ongoing highway maintenance and operations, including safety projects, exceed the amount of funds available to Caltrans through the State Highway Operation and Protection Program (SHOPP), any additional highway projects, such as adding new travel lanes, new auxiliary lanes, or operational improvements, must be funded from other sources. This is challenging for our county because highway projects can be relatively expensive, especially compared to the region’s share of funds. Additionally, truck and automobile traffic volumes are lower than in many areas of the state or nation, which can make it difficult to compete for state and federal funds. Santa Cruz County’s local Measure D sales tax measure, passed in 2016, allocates a portion of the funds to three sets of auxiliary lanes on Highway 1 between Soquel Ave and State Park Drive as discussed below. Measure D funds provide a much needed local source of funds that could more readily leverage additional funds from state and federal sources. Along all highways except for SR 236, the RTC oversees a system of 75 call boxes that connect the user to an operator who will contact services needed (e.g. a tow service, or a relative/friend to assist you). Operation and maintenance of the Call Box Program is funded from a \$1 vehicle registration fee collected by the Department of Motor Vehicles. The RTC also manages the Freeway Service Patrol Program which operates roving tow trucks on both Highways 1 and 17 primarily during peak commute or visitor periods to provide quick fixes or tows for stranded vehicles. Descriptions of each of the Santa Cruz County highways are provided below. For more information about the State Highway System within Santa Cruz County, see the Caltrans Transportation Concept Reports that can be accessed on the Caltrans District 5 website (<http://www.dot.ca.gov/hq/tpp/corridor-mobility/d5-page.html>).

Highway 1 Corridor

Highway 1 is the key thoroughfare running through the most heavily populated areas of the county. Between Watsonville and the City of Santa Cruz, it is a separated freeway with at least two lanes in each direction, with a few auxiliary lanes that connect on-ramps with the next off-ramps. Highway 1 has the highest average daily traffic volumes (number of vehicles) of all local streets and highways, connects the region with other coastal areas to the north and south, and is roughly parallel to Highway 101 for the middle stretch of the state. Highway 1 is also the county’s premier access route to the coast. The rural sections of State Route Highway 1 in the coastal zone are scenic two-lane roads pursuant to California Coastal Act Section 30254. Over the past two decades a number of major capital projects have taken place on Highway 1 in the urban areas in addition to operational projects to improve access and traffic flow.



Past Highway 1 Projects

The **Highway 1 Mission Street** project, finished in 2004 at a cost of \$10.5 million, provided several left turn lanes and two continuous lanes for the length of this main street-type stretch of the corridor through the west side of the City of Santa Cruz. This project helped to alleviate some of the traffic congestion along Mission Street Highway 1 which is exacerbated by its proximity to the University of California, Santa Cruz and the lack of alternative parallel routes. Additions such as lighting, pedestrian crossings, and undergrounding of utilities cost an additional \$3.6 million. This project included extensive community input.

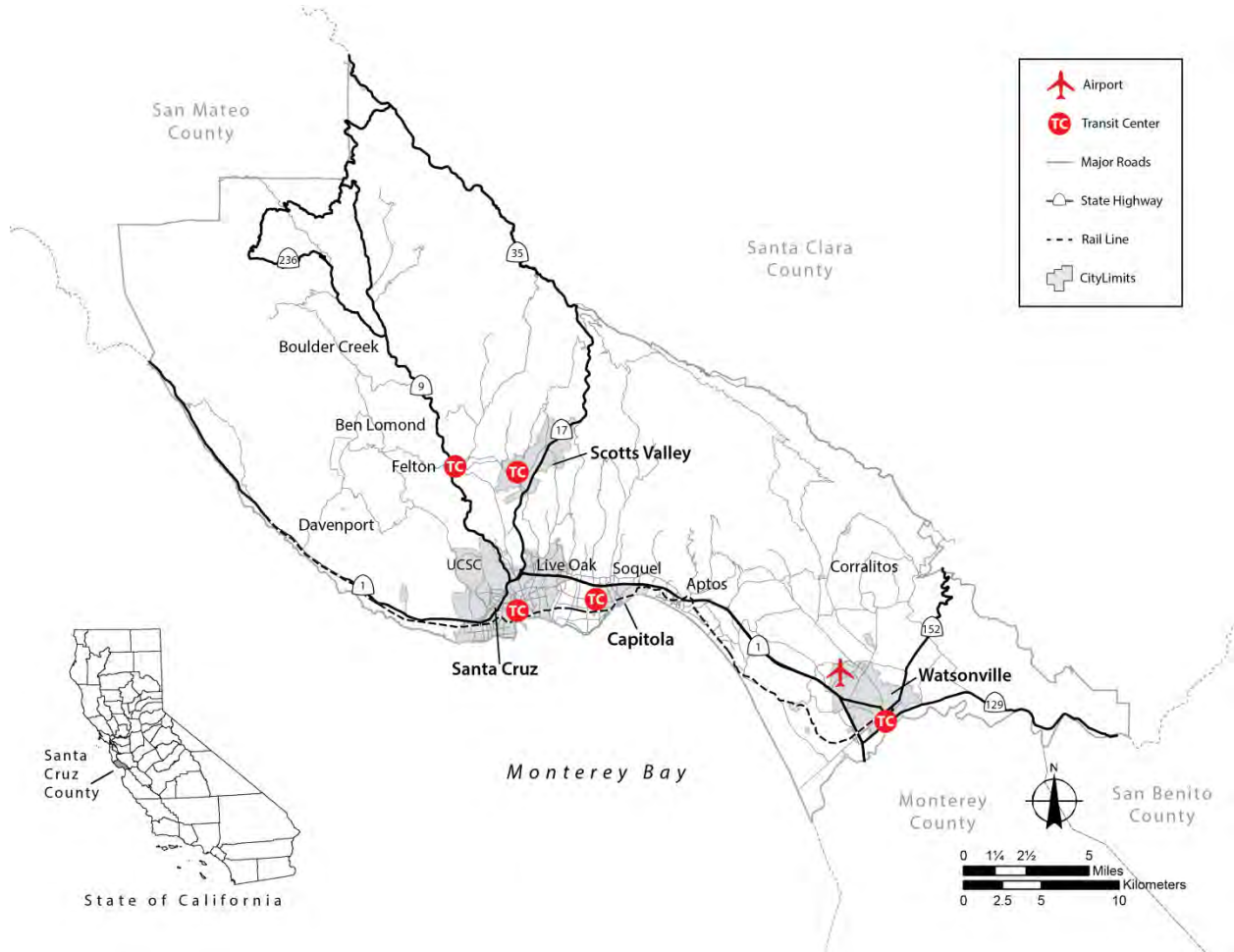


Figure 2.1 – Santa Cruz County Primary Transportation Network

Source: Santa Cruz County Regional Transportation Commission

The **Highway 1/17 Interchange Merge Lanes** project was a major project along the Highway 1 corridor. This project, completed in 2008 at a cost of \$51 million, added merging lanes and sound walls between the junction of Highway 1/17 and the Morrissey Boulevard interchange. Auxiliary lanes in each direction provide longer and safer merging areas; installation of sound walls improves the quality of life for adjacent neighborhoods; and the reconstructed bridges provide improvements to the adjacent riparian corridors. The landscaping portion of the project, completed in 2010, included planting native trees and shrubs, and vines to cover the soundwalls, and installation of an irrigation system to help establish the

plants. Northbound Hwy 1 coming off the fishhook onto Highway 17 was widened in 2016 to accommodate another merge lane for improvements to safety.

In 2012 and 2013, the RTC managed the construction of the **Highway 1 Soquel/Morrissey Auxiliary Lanes** project which adds approximately one mile of auxiliary lanes, in both the northbound and southbound directions, between Soquel Avenue and Morrissey Boulevard. The La Fonda Avenue Bridge was rebuilt to make it wide enough for the new auxiliary lanes (and potentially HOV lanes in the future) and also to improve sidewalks and bicycle lanes across the bridge. The purpose of the project was to improve traffic flow by extending merging areas, shorten the bottleneck, and reduce vehicle delay on the corridor.

Funding for this project was awarded by the California Transportation Commission via a competitive process using Proposition 1B Corridor Mobility Improvement Account (CMIA) bond funds (approved by state voters in 2006) and the region's share of State Transportation Improvement Program (STIP) funds.

Highway 1 Corridor Improvement Project

Since the mid-1980s the RTC and Caltrans have analyzed options to reduce congestion, improve traffic flow, and increase carrying capacity and throughput in the Highway 1 corridor between Watsonville and the City of Santa Cruz. In 2003, the RTC approved use of state and federal funds to initiate preliminary design and environmental review for Highway 1 High Occupancy Vehicle (HOV) lanes between Morrissey Boulevard in Santa Cruz and San Andreas Road/Larkin Valley Road in Aptos.



The project has been divided into two components:

- Tier I - A long term, program level analysis for the future of the Highway 1 corridor between Santa Cruz and Aptos. The Tier I concept for the corridor could be built over time through a series of smaller incremental projects (referred to as Tier II projects).
- Tier II - Project level analysis of a smaller incremental project within the Tier I corridor which would move forward based on available funding. Each of the Tier II projects would have independent utility and benefit to the public and Highway 1 operations.

Three scenarios are being evaluated as part of the Tier I program level environmental analysis to identify the long term vision for the Corridor:

The High Occupancy Vehicle (HOV) Lane Alternative – adds a bus and carpool lane in both the north and southbound direction for the nine mile corridor; includes auxiliary lanes (connecting on-ramps with the next off-ramps) between most interchanges and metering lights on the on-ramps

The Transportation System Management (TSM) Alternative – includes auxiliary lanes (connecting on-ramps with the next off-ramps) between most interchanges and metering lights on the on-ramps

The No Build Alternative

The current Tier II project under environmental review includes north and southbound auxiliary lanes between 41st Avenue and Soquel Drive and a bike/pedestrian overcrossing of Highway 1 at Chanticleer Avenue.

The draft Tier 1 (program level) Highway 1 Corridor Investment program environmental analysis, plus a Tier 2 (detailed) environmental analysis for the 41st Avenue/Soquel Drive Auxiliary Lanes Project and Chanticleer Ave pedestrian/bicycle overcrossing was released for public review in 2015. Over 900 comments were received for which responses are required as part of the final environmental document. In review of the comments received and the changes in regulatory guidelines and requirements, the project team is updating sections of the report. The Highway 1 Tier I/Tier II Environmental Impact Report/Environmental Assessment is scheduled to be finalized in late 2018 or early 2019.

Existing federal, state, or local funding does not cover the cost to operate, maintain, and improve the existing transportation system. Measure D, a ½-cent, 30-year sales tax measure passed in November 2016 by over 2/3 of Santa Cruz County voters. Measure D can supplement historic funding sources to improve the quality of our transportation infrastructure and services in the county.

The Highway Corridors portion of Measure D provides approximately \$150 million for highway corridors over the 30 year life of the measure for the following projects:

- auxiliary lanes between:
 - Soquel Drive and 41st Avenue
 - Bay Ave/Porter St and Park Avenue
 - Park Avenue and State Park Drive
- 2 new bicycle and pedestrian bridges over Highway 1
 - In Live Oak at Chanticleer Avenue
 - In Seacliff/Aptos at Mar Vista Drive
- ongoing safety and operational services including Freeway Service Patrol, Safe on 17, and Cruz511

Highway 17 Corridor

Highway 17 traverses the Santa Cruz Mountains with 2 lanes in each direction, connecting the county with Silicon Valley and the rest of the San Francisco Bay Area. Because Highway 17 straddles both Santa Cruz and Santa Clara Counties, duties such as maintenance, enforcement, transit, safety improvements, and public education are shared by entities on both sides of the summit of the Santa Cruz Mountains. Due to the steep terrain, curves, and high numbers of traffic incidents, a Safe on 17 Task Force was formed in 1998. Components of the Safe on 17 program include additional enforcement by California Highway Patrol to help enforce posted speed limits, construction projects by Caltrans to improve operational efficiency, and a public information and education campaign. Additionally, call boxes and changeable message signs were installed, and the Freeway Service Patrol (FSP) service was initiated.

An Access Management Plan was conducted for State Route 17 by Caltrans in partnership with Santa Cruz County and RTC. The plan identified issues and imbalances on the SR 17 corridor between Granite Creek Road in Scotts Valley and Summit Road at the Santa Cruz/Santa Clara County line through stakeholder engagement. Short and long term access management strategies were identified to address access, mobility and safety needs to help preserve Highway 17 as an efficient interregional corridor.

Highway 9

Highway 9 is a mountainous road connecting Santa Cruz to towns in the San Lorenzo Valley as well as providing another route over the Santa Cruz Mountains to Saratoga and Los Gatos in Santa Clara County. Through San Lorenzo Valley, the highway acts as a main street for the communities of Felton, Ben Lomond, and Boulder Creek. A complete streets plan was prepared by RTC in partnership with Caltrans and County of Santa Cruz for Highway 9 and connecting county roads through San Lorenzo Valley (SLV) that identifies and prioritizes implementation of the most critical and cost effective transportation projects. This plan focuses on safety for pedestrians, bicyclists and motorists; access to schools, businesses, and bus stops; traffic operations, pavement conditions, drainage and other needs in this travel corridor. Projects have been prioritized that can be implemented in the short and mid-term to address transportation challenges on the corridor. Measure D, which was approved by voters in November 2016, includes \$10 million specifically earmarked for high priority transportation projects along the Highway 9 corridor. Plans for reducing congestion through the Highway 1 and Highway 9 intersection, just south of the Mission Street segment of Highway 1, are currently under development by the City of Santa Cruz.

Highways 236 and 35

Highway 236 is a total of 18 miles and makes a loop connecting Highway 9 in Boulder Creek to Big Basin Redwoods State Park. A significant portion of the highway is one lane in each direction and passes through densely forested areas. Highway 35, often referred to as “Skyline Boulevard” is a two-lane road running mostly along the ridge of the Santa Cruz Mountains weaving between Santa Cruz County and Santa Clara County. Because of its scenic views and winding roadway, Highway 35 sees substantial recreational motoring and bicycling use. The winter storms of 2016/2017 washed out a section of Highway 35 near Highway 9 that made the highway impassable. It is unknown when this roadway will be repaired.

Highways 129 and 152

Highways 129 and 152, doubling as main streets through the City of Watsonville, connect south Santa Cruz County with neighboring counties, Highway 101 and the Central Valley to the east. On the western edge, Highway 152 begins at Highway 1 and is named Main Street through the City of Watsonville, then heads up and over the Hecker Pass and county line to Gilroy in Santa Clara County and beyond. The City of Watsonville is discussing with Caltrans options to provide context-sensitive design to enhance “walkability” and the main street character of the roadway, while maintaining operational efficiencies in the corridor. Highway 129 traverses the southern portion of the City of Watsonville and connects with Monterey County near Aromas, providing an important link to Highway 101 near San Juan Bautista. Highway 129 is heavily used for goods movement, particularly for agricultural products as this is the link from Santa Cruz County to Highway 101, a major goods-movement corridor. Caltrans has made numerous improvements to Highway 129 in recent years, including curve realignments, turnouts, additional signage, improved striping and an increased number of roadway reflectors.

Local City and County Street Network

Local streets and roads -- including nearly 900 miles of roads, bridges, curbs and gutters, sidewalks, access ramps, bicycle lanes, stop signs and traffic signals -- are critical components of the region's transportation system. The majority of travel, whether by car, bicycle, bus or foot, is done on local streets and roads. From the moment we open our front door to drive, bike, walk, or bus to work, school, the store, medical facilities or other destinations, we are dependent upon our local streets and roads. Increasingly, local streets and roads reflect 'Complete Streets' that focus on the movement of people, including non-drivers of all ages and abilities, and the variety of travel modes they may use.



The cities of Capitola, Santa Cruz, Scotts Valley and Watsonville and the County of Santa Cruz are responsible for maintaining and improving this multimodal network in Santa Cruz County. However, with such a large network and limited revenues, local jurisdictions are challenged to maintain, reduce congestion through, and add pedestrian and bicycle facilities to the multimodal local street and road network. Each of the five local jurisdiction public works departments rates the condition of their roadways using a Pavement Condition Index (PCI) to better understand the condition of their jurisdiction's road system and prioritize improvement projects. A PCI of 100 is in premium condition, and the optimum score is 70 or greater. The cost to rebuild roadways with lower PCI scores increases exponentially. **Figure 2.2** shows the average PCI for each jurisdiction.

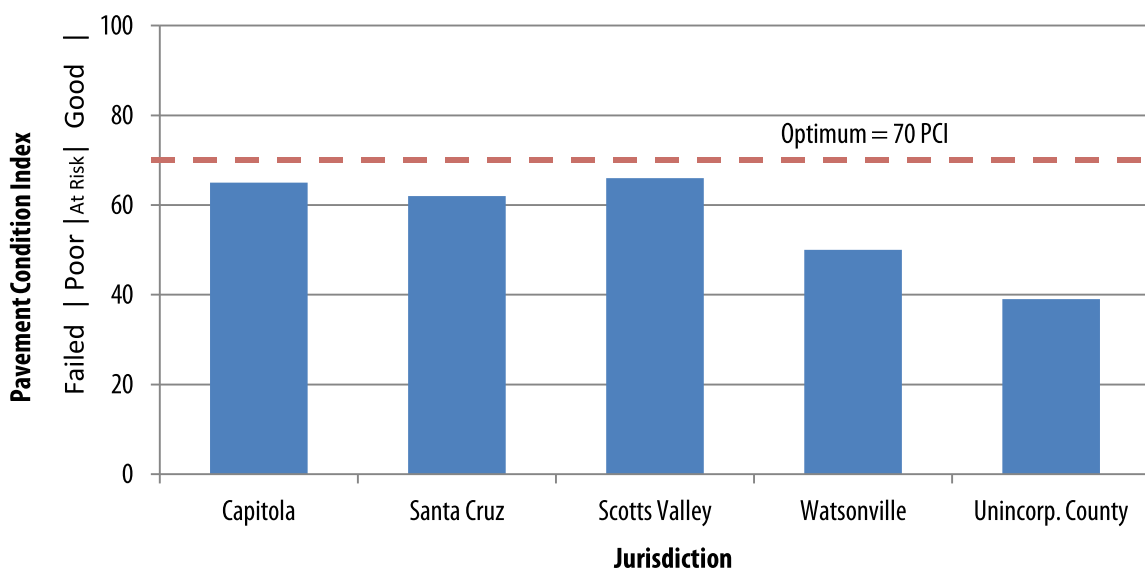


Figure 2.2 – Average Pavement Condition for Local Jurisdictions

Source: Public Works Departments of Santa Cruz County, City of Santa Cruz, Watsonville, Scotts Valley, Capitola. Data collected from 2017.

Transit

Public transit is operated locally by the Santa Cruz Metropolitan Transit District (METRO). Three main types of services provided by METRO are local fixed-route bus service, Highway 17 Express Bus service and ParaCruz services (**Figure 2.3**). METRO operates 26 fixed bus routes on approximately 400 miles of roads. Roadways through the more urban areas where frequency of service is 15 minutes or less is shown in **Figure 2.3**. METRO operates four transit centers in the Santa Cruz County area, including the Santa Cruz METRO Center in Downtown Santa Cruz, the Capitola Mall Transit Center, the Watsonville Transit Center, and the Cavallaro Transit Center in Scotts Valley (**Figure 2.1**).

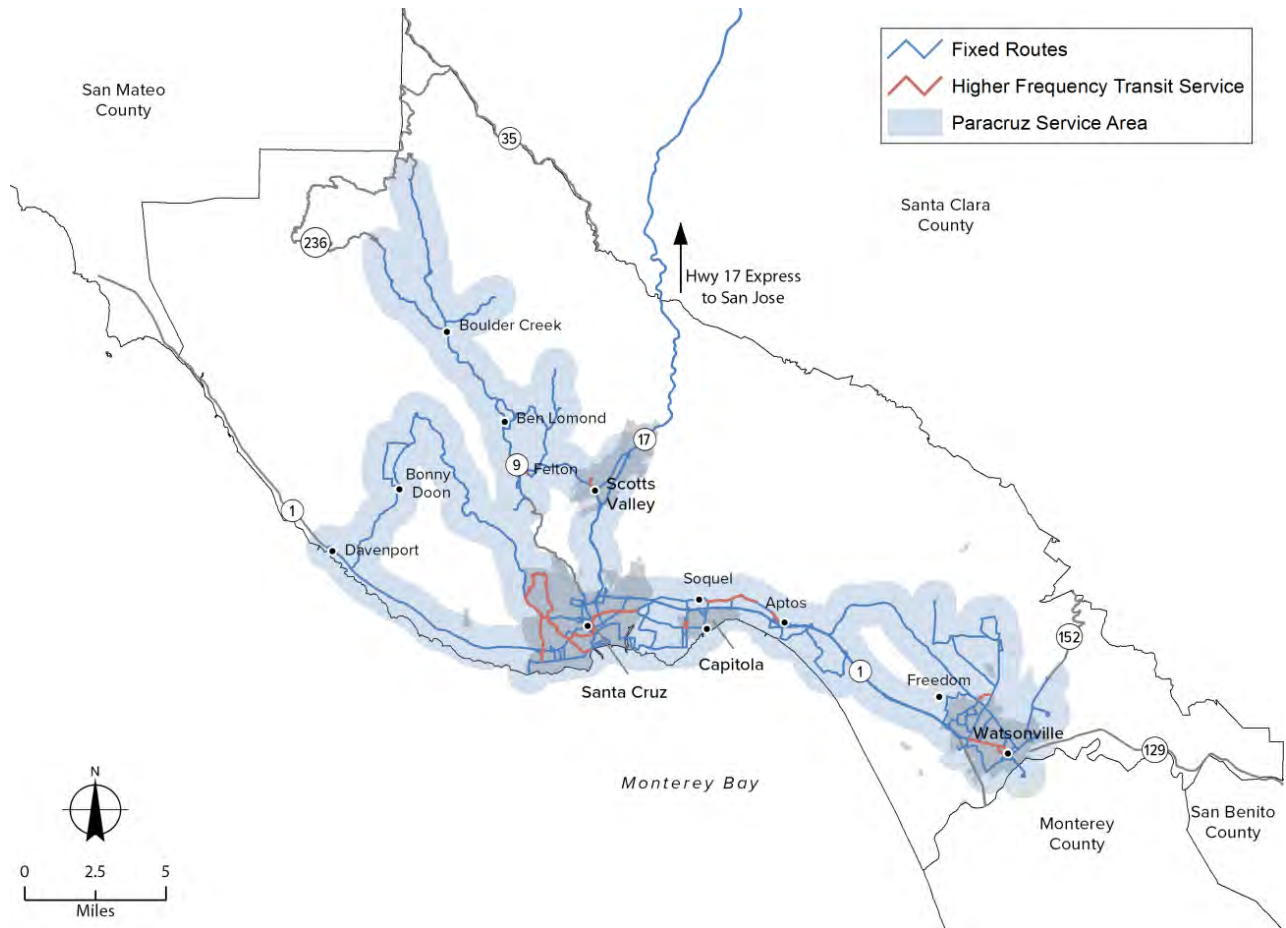


Figure 2.3 – Transit Service Provided by Santa Cruz Metropolitan Transit District (METRO)

Source: Santa Cruz County Regional Transportation Commission and Santa Cruz Metropolitan Transit District, 2018

Trip planning for METRO's fixed route system is available through Google Transit and METRO's Customer Service Department. METRO has a fare card system which allows prepayment of bus fares to speed boarding times and increase customer convenience. The 'Cruz Pass' card can store one of the many different time period passes offered by METRO such as one-day and 31-day passes for express or local buses. The 'Cruz Cash' card can store a monetary value and be used for different ride types at the time of boarding. Funding for METRO is provided by fares, two local sales taxes (including funds from Measure D), Transportation Development Act (TDA) funds and various state and federal dollars. This

funding mix for local public transit is similar to that of other public transit systems across the state and the nation.

Santa Cruz County is also connected to Monterey County by bus service provided by Monterey-Salinas Transit (MST) and to other parts of the state by Greyhound interregional bus services. The Highway 17 Express Bus – which is operated jointly by METRO, Amtrak and the Santa Clara Valley Transportation Authority (VTA) – provides a connection to the San Jose train station which serves the southern part of the San Francisco Bay Area and regional passenger train services (see rail section for details).



Specialized Transportation

Many seniors and people living with disabilities need specialized transportation services to get around Santa Cruz County. This might include lifts or ramps for wheelchairs in vehicles, drivers with special training, or vehicles that kneel or are equipped with other accessible features. The RTC produces a Guide for Specialized Transportation Services that is regularly updated. Included is information about eligibility, schedule, service area, and fee information for over 30 transportation providers or agencies in Santa Cruz County.



The Americans with Disabilities Act (ADA) mandates that complementary paratransit service be provided for people unable to use the fixed route transit due to physical, cognitive and/or psychiatric disabilities. In our region, the ADA-mandated service is ParaCruz and is provided by Santa Cruz Metropolitan Transit District (METRO). METRO ParaCruz provides service to any destination within Santa Cruz County that is within three-quarters (¾) of a mile of an operating bus route. This service is a shared ride service arranged in advance. The fare is \$4 in 2017 (twice the adult fixed route cash fare, as allowed by law).

Another main provider is Community Bridges Lift Line. This non-profit provides or contracts a range of services including local and out-of-county medical transportation, senior center/meal site delivery, bed-to-bed medical, veterans medical transportation and taxi scrip. As the area's designated Consolidated Transportation Services Agency, Community Bridges has a responsibility to work toward consolidating and coordinating specialized transportation services to avoid inefficient and duplicative social service transportation programs. Many of the rides provided by Lift Line are to individuals who are unable to afford ParaCruz or because their origin and/or destination are outside the ParaCruz service area.

Other Providers

Although Metro ParaCruz and Lift Line are the two primary providers of specialized transportation services in the county, other service providers also exist. Non-profit or private for-profit entities, such as the Volunteer Center, Veterans Services, local taxi companies, and First Transit operate specialized transportation services. Each particular service program fills a unique niche for, or offers discounted services to, seniors and people with disabilities.

Identifying Needs

To gain a better understanding about potential deficiencies, the RTC conducts a regular process to solicit input about unmet specialized transportation needs in the community. Social service entities, non-profits, local transportation providers, community organizations and human service advocates, as well as members of the public identify gaps and needs in human service transportation. Input from all these and other sources is incorporated into the development of the RTC Unmet Needs List and federally-mandated Monterey Bay Region Coordinated Public Transit-Human Services Transportation Plan. The most recent version of the Coordinated Plan was finalized in 2013. The plan incorporates these identified needs and presents innovative implementation strategies for closing the gaps and improving the management of mobility services. These strategies help prioritize available funding. The Coordinated Public Transit - Human Services Transportation Plan, which is an element of the Metropolitan Transportation Plan prepared by AMBAG, is available online at www.ambag.org.

Rail

Local Corridor

On October 12, 2012, after more than ten years of extensive due diligence and negotiations, the RTC became the owner of the Santa Cruz Branch Rail Line, thereby placing this cross-county transportation corridor into public hands. The RTC purchased the rail corridor on behalf of the community to preserve the corridor for existing and future transportation uses, including freight rail, passenger rail service/transit, and bicycle and pedestrian facilities. The passage of Measure D requires an analysis to determine the future potential use to better serve Santa Cruz County residents and visitors. The Unified Corridor Investment Study is currently underway to perform an analysis of the options for transportation uses of the rail right-of-way.

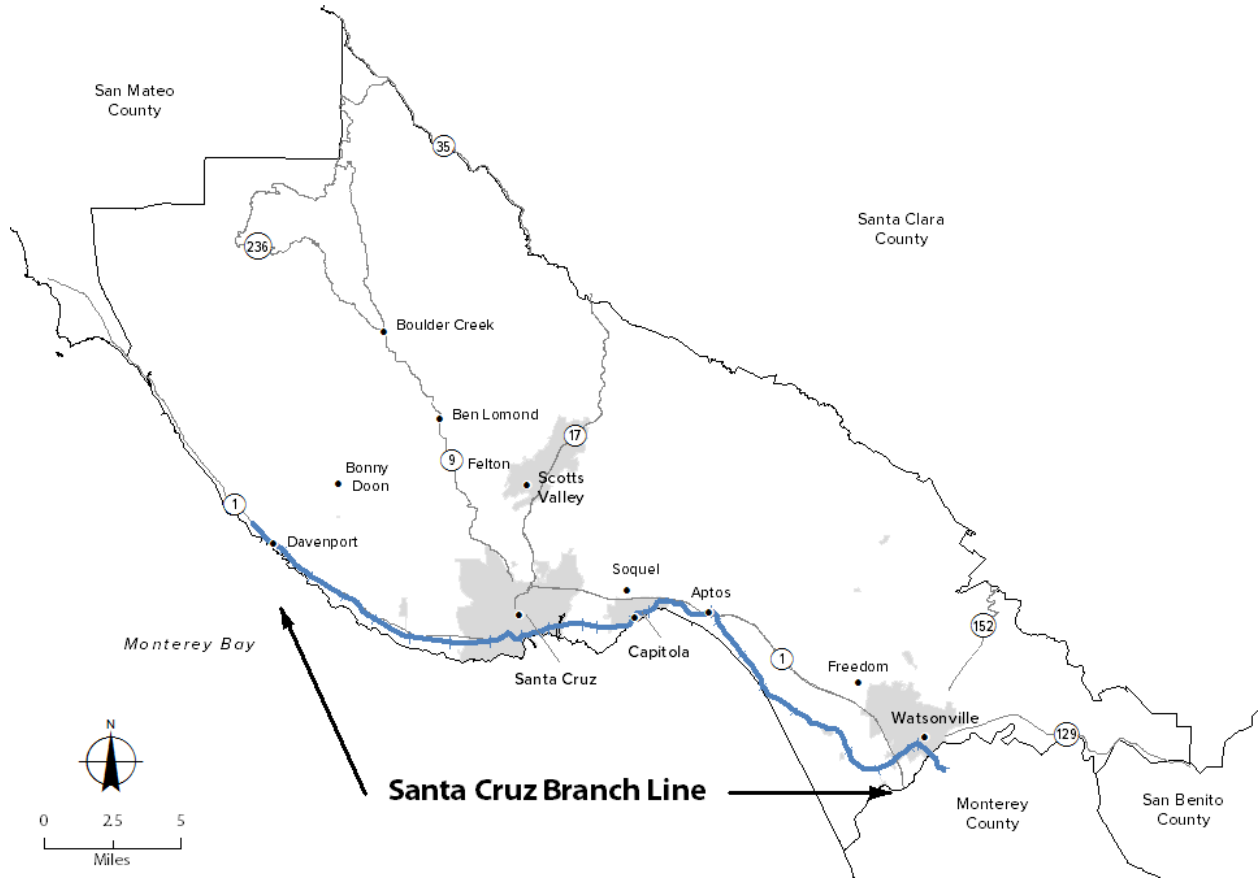


Figure 2.4 – Santa Cruz Branch Rail Line

Source: Santa Cruz County Regional Transportation Commission

This 135-year old transportation corridor parallels Highway 1, extending almost 32 miles from just south of the county line near Watsonville, to Davenport in north Santa Cruz County (Figure 2.4). The right-of-way is generally 50 to 60 feet wide with 37 bridges and trestles, including major crossings of the Pajaro River, Highway 1, Soquel Creek, the Santa Cruz Yacht Harbor and the San Lorenzo River. Adjacent land uses include residential, commercial, industrial, agricultural, and park land/open space. The corridor links major activity centers as it traverses downtown Watsonville, Aptos Village, Capitola Village and the Santa Cruz Beach area near downtown Santa Cruz. Also adjacent to the corridor are many parks and recreational facilities, including: Manresa State Beach, Seacliff State Beach, New Brighton State Park, Simpkins Swim Center, Santa Cruz Yacht Harbor, Natural Bridges State Park and Wilder Ranch State Park. The rail corridor enhances public access to the Monterey Bay National Marine Sanctuary at several key locations consistent with the CA Coastal Act objectives.



On May 17, 2012, the RTC selected Iowa Pacific Holdings as the new operator for the Branch Line. The company, operating freight and excursion passenger service on the Santa Cruz Branch Rail Line under the name Santa Cruz & Monterey Bay Railway (SC&MB), is responsible for operation and general maintenance of the track and rail equipment.

Currently freight service operates from the western boundary of the City of Watsonville along West Beach Street east to the town of Pajaro connecting to the Union Pacific main line. Goods shipped on the rail line in 2017 include construction materials, agricultural products, and raw materials for biofuel production. Freight growth is projected to double in the next 20 years, representing a more significant increase than population growth.³ Shipping goods on the rail network is more efficient, cost effective and emits one-third less greenhouse gas (GHG) than trucks.⁴ One gallon of diesel fuel can move one ton of freight 480 miles by rail.⁵

As part of the purchase agreement between the RTC and the previous property owner, Union Pacific, funding was set aside to upgrade a number of structures on the line. The La Selva Beach trestle was the most extensive of the four bridges upgraded with those funds. The upgrades to the four bridges were completed in 2015. Also in 2015, the RTC completed a report to assess the feasibility of rail transit using the Santa Cruz Branch Rail Line to expand access and mobility, enhance the environment and support economic vitality. The study analyzed a range of public transportation service scenarios and how well each scenario advances community goals and objectives. The project provided capital and operating cost estimates and potential sources of funding. Public input was solicited throughout the project development. The final report was completed in 2015.

The Felton Branch Rail Line owned by Roaring Camp Railroads connects to the Santa Cruz Branch Rail Line near the Santa Cruz Wharf and extends up the San Lorenzo Valley to Felton. Roaring Camp Railroads operates excursion and seasonal passenger rail service between Felton and Santa Cruz during the summer and during the end of the year holidays and also provides freight rail service to the San Lorenzo Valley area when needed.



2018 California State Rail Plan

The 2018 California State Rail Plan⁶ establishes a statewide vision describing a future integrated rail system that provides a faster, more frequent and connected service for moving both people and goods. A statewide rail system offers a viable alternative to driving for both local and long distance trips for all populations, including those who lack access to or cannot afford automobiles, and for people who choose not to drive. The Rail Plan vision provides a framework for realizing the full potential of our existing rail network while reducing greenhouse gas emissions and helping to reduce highway congestion. As shown in **Figure 2.5**, the Santa Cruz Branch Rail Line links to existing and proposed new passenger rail services on the state rail corridor – extending from San Diego to states north of California. The 2022 regional goals of the plan include a station at Pajaro/Watsonville and an analysis of opportunities to improve connections between Santa Cruz, Monterey and the High Speed Rail Line at Gilroy. The mid-term 2027 goals include implementation planning for connecting Santa Cruz and Monterey to the statewide rail network at Gilroy and establishment of hourly service by 2040, if recommended by the 2022 study.

The Transportation Agency for Monterey County is actively pursuing rail service that includes local service as well as greater regional access. Regional service would entail an extension of the Capitol Corridor train system from Sacramento through the San Francisco Bay Area, to Salinas with a stop at Pajaro Station and Castroville. Local light rail service would connect the cities of Seaside and Monterey to Castroville for connections to Pajaro Station and the San Francisco Bay Area and beyond.



Figure 2.5 – Regional Rail Network Surrounding Santa Cruz County

Source: Santa Cruz County Regional Transportation Commission



Photo Credit: Howard Cohen

There are four existing passenger rail services accessible by traveling to neighboring counties. Amtrak provides interstate and cross country train connections with daily service on the Coast Starlight between Vancouver, WA and San Diego, CA with stops in San Jose and Salinas. Caltrain provides commuter service to cities along the peninsula between San Francisco and San Jose with an extension to Gilroy. The Altamont Corridor Express (ACE) provides weekday service between Stockton and San Jose. The Capitol Corridor provides daily service between San Jose and Sacramento/Auburn. The closest access point for all four trains is the San Jose Diridon Station, which can be reached using the Highway 17 Express Bus. For south county residents, Caltrain’s Gilroy or

Amtrak’s Salinas station may be equally close.

A new Amtrak train between northern and southern California called the Coast Daylight is also in the planning phases. The current proposal includes one round trip per day in each direction, with a station stop in Pajaro.

High Speed Rail Plans

Construction of the first segment of high-speed rail is well underway. The construction of Phase 1 began in 2015 and will connect the San Francisco Bay Area to the Los Angeles Basin through the Central Valley. The project is funded in part by Proposition 1A, a bond measure passed by California voters in 2008. According to the State, “California high-speed rail will connect the mega-regions of the state, contribute to economic development and a cleaner environment, create jobs and preserve agricultural and protected lands. By 2029, the system will run from San Francisco to the Los Angeles basin in under three hours at speeds capable of over 200 miles per hour. The system will eventually extend to Sacramento and San Diego, totaling 800 miles with up to 24 stations.”⁷

The closest stations for Santa Cruz County residents will be San Jose or Gilroy. Once high speed rail service is completed, transit connectivity to these stations will be essential in order for Santa Cruz County residents to fully benefit from this new rail system. High Speed Rail will provide important transportation alternatives for travel between San Francisco and Los Angeles.



Figure 2.6 – Proposed California High Speed Rail Line

Source: California High Speed Rail Authority

Active Transportation

Bike Network

The region has an extensive network of bike lanes and paths for commuters and recreational riders. Currently, Santa Cruz County boasts 223 miles of bikeways: 196 miles of bike lanes and 27 centerline miles of separated paths. Bike lanes can be found on most arterials and collector roads and there are an increasing number of separated bike paths and bikeways on low traffic volume neighborhood streets.



Bicycle parking, including bicycle racks and lockers, are located throughout the county.

The area has an active bicycling community which promotes the provision of dedicated bicycle facilities on a variety of road way types to accommodate the varied ability and comfort levels of people in our community. The RTC has a Bicycle Advisory Committee which reviews RTC-funded bicycle projects and programs and advises the RTC and other entities on bicycle related issues.

Bicycle Resources and Programs. There are numerous resources and programs that educate people about bicycling and encourage them to bike in Santa Cruz County. One of the most popular outreach materials produced by the RTC is the

Bicycle Map featuring bicycle paths, lanes, and alternate routes throughout the county. This map is available in a printed or electronic format from the RTC's website. The Bicycle Map contains information on bicycling resources and rules of the road in both English and Spanish.

In addition, there are several ongoing events promoting bicycling and bicycle safety. The RTC has been a primary funder of Ecology Action's Bicycle to Work/School events, which are held twice a year. The events include activities at schools, coffee shops and other sites around the county and draw about 13,000 participants per year. Open Streets events - which temporarily divert automobile traffic and open entire roadways for people to bike, walk, skate in a safe and festive environment - have been occurring annually in a number of locations throughout the county.



The Community Traffic Safety Coalition, partially funded by the RTC, provides ongoing bicycle safety classes, outreach and education programs countywide. Ecology Action's bicycle safety programs geared toward elementary school and pre-school children such as Boltage, "Bicycle Traffic School," and BikeSmart are also funded in part by the RTC.

Pedestrian Facilities

Whether walking to the bus stop, from a parking spot into work, or home from school, everyone is a pedestrian for some portion of their trip. The existing pedestrian network consists of sidewalks built by developers in conjunction with construction projects, private property owners, and by local jurisdictions as part of roadway projects. Ways in which local jurisdictions work towards expanding the pedestrian network is by constructing sidewalks and curb cuts in conjunction with new and redeveloped streets, considering pedestrian access in new designs, filling gaps in the sidewalk network, and working closely with the public to identify where existing pedestrian facilities need attention. In some areas, local jurisdictions are implementing projects to slow vehicular traffic and create more attractive pedestrian facilities. In recent years, more emphasis is being placed on the benefits of “walkability.” Sidewalks and pedestrian-friendly amenities – such as wide sidewalks, crosswalks, curb cuts, landscaping/buffers and benches – are seen as beneficial additions which make communities friendly and livable.



Despite a more recent focus on the community and personal, economic and health benefits of pedestrian travel, extensive gaps and other deficiencies in the pedestrian network still exist. The condition of a sidewalk can constitute a barrier, particularly if there are cracks, lifts, vegetation or other obstructions. Universal access standards are focused on the ease of access for pedestrian facilities, particularly for people with mobility impairments.

Additionally, property owners, not the cities and county, are responsible for maintaining sidewalks in front of their properties and are often unaware or slow to make needed repairs. Currently a significant portion of the county’s pedestrian facilities are not mapped. As additional information about the existing pedestrian network is available, agencies will be able to increase the quality of these facilities, particularly near activity centers.

Identifying Needs

Bicycling. In addition to several major bicycle projects identified individually in the Regional Transportation Plan (RTP), several local jurisdictions have developed Bicycle Plans or Active

Transportation Plans to guide implementation of local policies and funding to support bikeway development, maintenance and support facilities. Members of the general public, RTC’s Bicycle Committee, the City of Santa Cruz’s Transportation Commission, the Community Traffic Safety Coalition, and other entities continue to assist local jurisdictions with prioritizing and promoting local bicycle programs and facilities.

Pedestrian. A number of groups are working collaboratively to improve the pedestrian network. The goal of the RTC’s Elderly & Disabled Transportation Advisory Committee’s Pedestrian Safety Work Group is to “ensure safe and accessible pedestrian travel and access throughout the county for the benefit of all residents.” The Work Group has been actively engaged in the following:

- analyzing pedestrian facilities around priority origin and destination locations,
- assisting in the identification/implementation of improvements to encourage greater transit use and ensure safe/accessible pedestrian travel throughout the region, and
- conducting an outreach campaign to encourage private property owners to maintain the condition of sidewalks adjacent to their property, as required by California law.

The group also focuses on improving pedestrian safety through educating the public about the rules and typical behaviors relevant to pedestrians, bicyclists and motorists. The group has produced brochures titled “What Pedestrians Want Motorists to Know & What Motorists Want Pedestrians to Know” and “What Pedestrians and Bicyclists Want Each Other to Know.”

The Community Traffic Safety Coalition enlists volunteers to complete an annual Pedestrian Safety Observation Survey. The purpose of the study is to track key pedestrian and motorist behaviors that contribute to increased risk of pedestrian injury and fatality. Over 2,800 pedestrians were observed in the 2015 survey. Observations were made at 18 high traffic pedestrian crossings throughout the county.

Bicycling/Pedestrian. An online interactive Hazard Report on the RTC’s website provides a forum for bicyclists and pedestrians to report deficiencies in the network. Individuals can use this form to report hazards that may inhibit bike or pedestrian travel – such as rough pavement, vegetation, drainage issues, traffic signal problems, gaps in the system, and construction obstacles. Completing the form alerts local jurisdictions or the appropriate property owner of the issue.



Entities such as local jurisdictions, the Community Traffic Safety Coalition and Ecology Action are working on improving Safe Routes to School in response to the high numbers of parents driving their children to school. The Safe Routes to School Program brings together parents and traffic engineers at individual school sites to develop infrastructure and traffic flow improvements, and recommend routes for walking and biking. In recent years, this program has developed maps indicating safe routes to school for several local elementary schools.

Caltrans is also actively planning for a multi-modal transportation network to guide the development of non-motorized transportation facilities. In 2017, the first California State Bicycle and Pedestrian Plan, *Toward an Active California* was completed (<http://www.dot.ca.gov/activecalifornia/theplan.html>). This report lays out an ambitious plan to achieve statewide goals to double walking and triple bicycling trips by 2020.

Bicycle and Pedestrian Projects Underway

Monterey Bay Sanctuary Scenic Trail Network (MBSST). In late 2013, the RTC approved the Final Master Plan for the Monterey Bay Sanctuary Scenic Trail Network (MBSST). Master Plans for the trail in both Santa Cruz and Monterey Counties identify how a bicycle and pedestrian pathway will eventually arc the Monterey Bay coastline providing non-motorized coastal access for walkers, joggers, cyclists, people with mobility impairments, families, locals, and visitors. In Santa Cruz County, the 50 mile network can be constructed in segments as funding becomes available. The spine of the trail network in Santa Cruz County will run within the 32-mile rail right-of-way (**Figure 2.7**). Trail spurs provide a braided network with coastal access connections to schools, retail centers, residences and other destinations. Sections of the MBSST Network may be designated as part of the California Coastal Trail (CCT). The CCT is a network of public trails that will extend the entire 1200-mile length of the California Coast and currently is more than half complete. Thirteen miles of projects along the rail right-of-way have been funded in full or in part with construction to begin as soon as design, engineering and environmental permitting are completed. These projects include the north coast from Davenport to Wilder Ranch; the west side of Santa Cruz from Natural Bridges Dr to the Santa Cruz Wharf; the City of Watsonville from Lee Rd to Walker St, and from the Santa Cruz Boardwalk to 17th Ave. The first project on the west side of Santa Cruz is scheduled to be completed in 2018.

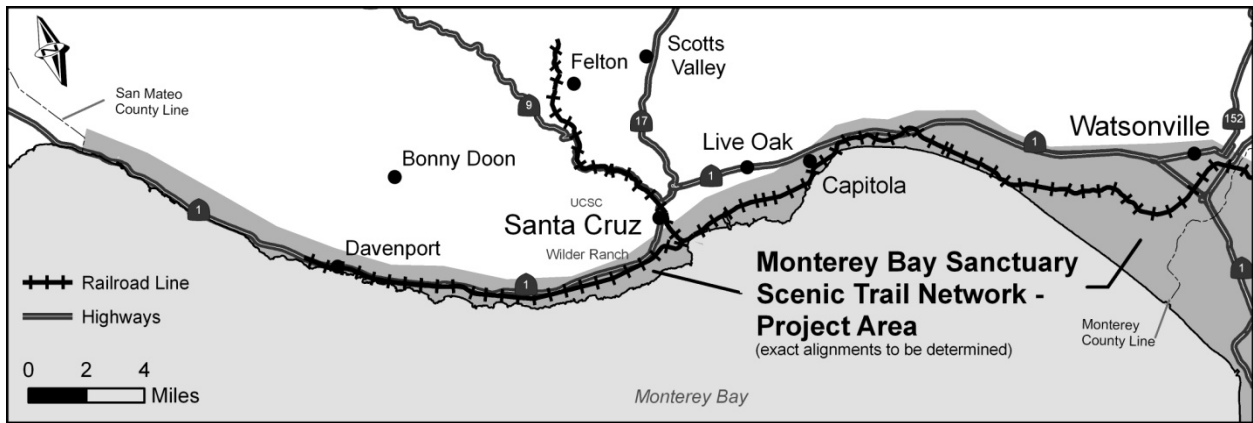


Figure 2.7 – Monterey Bay Sanctuary Scenic Trail Network Map

Source: Santa Cruz County Regional Transportation Commission

Wayfinding Signage. A county-wide bicycle route and way-finding signage program is under development with funds secured by the RTC. This program will be implemented in coordination with the Monterey Bay Sanctuary Scenic Trail Network, as well as the California Coastal Trail, Pacific Coast Route and Caltrans sign requirements.

Other. Bicycling and walking is also facilitated by Safe Routes to School efforts, the UCSC Bicycle Trailer which provides a ride up the hill to campus, and local jurisdiction’s increasing incorporation of Complete Streets principals in an effort to balance and encourage all modes of transportation.

Transportation Demand Management

Transportation Demand Management is a general term for the use of strategies that result in the more efficient use of transportation resources.⁸ These strategies are designed to increase the number of people using sustainable transportation options such as carpooling, bicycling, walking, telecommuting and taking transit. Since 1979, the RTC has worked with partner agencies to implement TDM strategies at a local level as well as at the regional level. Partner agencies include local jurisdictions and non-profits such as Ecology Action and Community Bridges. Regional strategies include traveler information services, carpool/vanpool matching and incentives, employer coordination, and marketing campaigns.

Historically, the RTC has provided commuter assistance and carpool matching in person, on the phone or through third party websites. More recently some of these services and resources were migrated to the RTC website. However, as smart phone ownership increases and more apps providing people with travel resources become available, the expectation is that travel data and assistance be available in real time. To meet this demand the RTC launched a new program Cruz511 in 2015.

Cruz511 is a free traveler information service for up-to-the minute traffic, transit, bicycle and pedestrian information in Santa Cruz County via a mobile-responsive website. It was developed with the mission to provide comprehensive, accurate, reliable and useful multi-modal travel information to meet the needs of Santa Cruz County travelers. For those without online access, RTC still provides a traveler help desk for personalized assistance by email or phone.

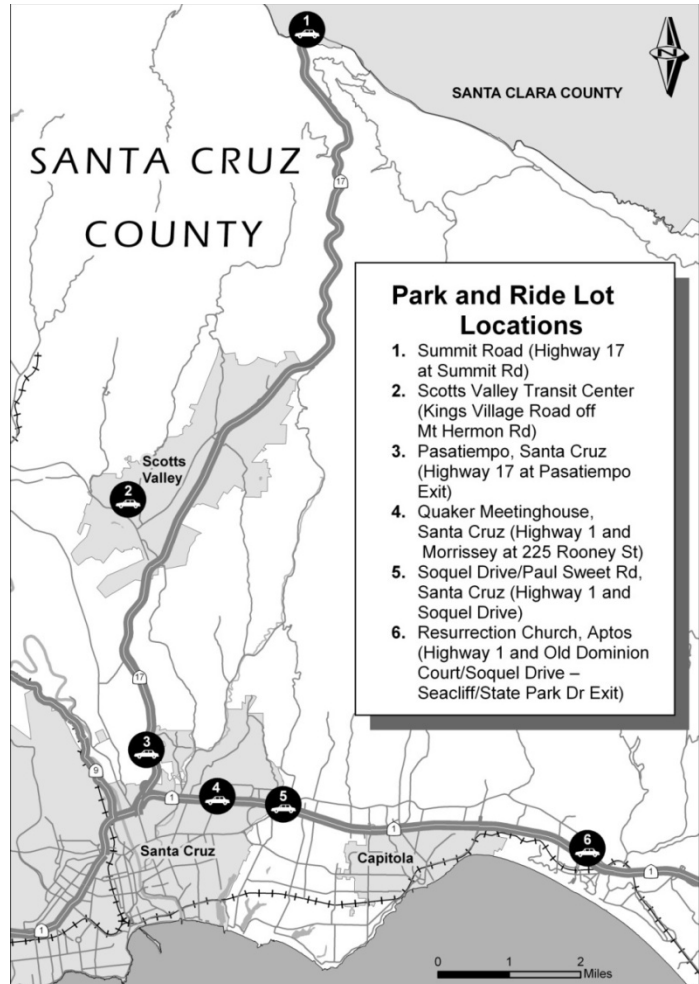


Figure 2.8 – Park and Ride Lots Serving Santa Cruz County

Source: Santa Cruz County Regional Transportation Commission

In keeping with the trend towards people directly accessing information online, the Cruz511 website currently provides more than 50 pages of content-rich resources about using the local transportation network. Among the resources available is a map providing travelers with real-time traffic, construction closures, traffic camera images, and incident feeds. Cruz511 will continue to implement more contemporary easy to use resources to encourage people to use sustainable transportation.



Park and Ride

Park and Ride lots are strategically located pick up spots where commuters can park their cars during the work or school day to meet a carpool, vanpool, or bus ride. There are six Park and Ride lots that serve Santa Cruz county commuters (Figure 2.8), and many more in surrounding counties. Most are located along highways or near transit centers. Parking is free for public use during specified hours, but no overnight parking is allowed. Local park and ride facilities are owned by public agencies or are shared-use lots by agreement with churches. The Cruz511 website has a user guide for additional information.

Transportation System Management

Transportation System Management (TSM) is a strategy of implementing operational projects that can enhance the efficiency of the existing transportation system. Generally, TSM techniques are designed to improve traffic flow and air quality, as well as enhance system accessibility and safety. Often, the costs associated with TSM strategies are lower in cost than constructing new facilities. Examples include intersection and signal improvements (e.g. signal synchronization, HOV queue jumps and signal priority, turning lanes), incident management, auxiliary lanes and ramp metering.



Photo Credit: Tom Ralston

Intelligent Transportation Systems

Santa Cruz County's transportation system runs more efficiently and safely due to a variety of Traffic Operation System (TOS) components. Caltrans installs, operates and maintains these systems and works in cooperation with California Highway Patrol and the RTC to assure they are being used to the greatest benefit. Components include the following:

- **Changeable Message Signs (CMS)** - displays messages about roadway conditions (incidents, delays)
- **Dynamic Curve Warning Signs** - broadcasts driver speeds and cautions drivers about safe speeds
- **Closed Circuit TV (CCTV) Cameras** - displays live traffic conditions online to public and Caltrans TMC
- **Traffic Monitoring Stations** - obtains information about traffic speeds and counts
- **Traffic Management Centers (TMC)** - operators at the Oakland TMC and San Luis Obispo TMC control and operate the individual TOS components
- **QuickMap** - displays real-time traffic speeds, construction zones, incidents reported to the CHP, CMS messages and CCTV images

The Traffic Operations System, which extends along Highway 1 and Highway 17, is used to detect and verify traffic incidents and disseminate traffic information to motorists so they may adjust their travel plans accordingly. This system is critical to traffic flow, since single-incident disruptions, such as crashes or construction projects, are responsible for a good portion of all freeway traffic jams. Better information and communication can improve the county's major commute thoroughfares in an economical way.

Intelligent Transportation Systems (ITS), such as the components of the Traffic Operations System, are developed using a standardized architecture. In response to increased federal emphasis on ITS, the Central Coast ITS Strategic Deployment Plan was developed in 2000 through a multi-agency partnership of Central Coast government agencies including the RTC. The Regional ITS Architecture was later developed to ensure that any intelligent transportation system element implemented in the Central Coast considered all possible links to other aspects of the transportation network, whether the connection between these elements were based on the data they required or the data that they dispersed.

For example, information disseminated through a Changeable Message Sign is directly dependent on the roadway condition data collected by the California Highway Patrol, Caltrans or others. As such, ITS Architecture ensures that investments maximize all existing technological resources and build on existing investments. This RTP is consistent with the Regional ITS Architecture to the maximum extent practicable. The 2014 RTP includes funding for continued coordination with Caltrans and the CHP on the Traffic Operations Systems for Santa Cruz County.

Aviation

The Watsonville Municipal Airport, developed in 1947, serves business and recreational users, and is the only public use airport in Santa Cruz County. The facility serves single and twin engine aircraft and helicopters, as well as turboprop and turbine-powered business jets. Approximately 45 percent of all

general aviation activities for the Monterey Bay Area are served by the Watsonville Airport. The double-runway airport occupies 277 acres, plus has an additional 53 acres of land designated as runway protection zone. There is a helipad and fueling facilities on site. The Watsonville Municipal Airport is owned by the City of Watsonville and is a self-sustaining “enterprise operation” with a staff of thirteen full-time employees.⁹ The airport is home to approximately 330 aircraft and over 60,000 flight operations per year.



According to the Watsonville Municipal Airport annual aviation operations count, runway operations (landings and take offs) will increase to 100,000 by the year 2025, most of which will be general aviation. There are 218 hangars and 80 tie-downs on the property to store aircraft. Other structures are primarily for maintenance, flight training, and sales.

The airport serves as the airport base for several agricultural growers that distribute fruits, berries, and vegetables. In addition to use by private citizens and businesses, the airport is also used for law enforcement (County Sheriff, California Highway Patrol, Coast Guard, and California Fish and Wildlife), medical evacuation, fire suppression and flight instruction. The Regional Airports Economic Impact Study completed by AMBAG in 2006 showed that the Watsonville Airport had a total economic impact of over \$650 million dollars annually for the region.

There are also three private airstrips within the county, located in Bonny Doon, at the Monterey Bay Academy, and Las Trancas/ Big Creek (the latter two operate for private uses amounting to fewer than 10 trips per month). Large passenger airports serving the region are located in San Jose, Monterey, Oakland and San Francisco. Civil aviation helipads maintained for helicopter use include those at Watsonville Community Hospital and Dominican Hospital. There is also a helicopter pad next to Highway 17 in the Santa Cruz Mountains summit area.

Notes for Chapter 2

- ¹ “2015 California Public Road Data,” State of California, Department of Transportation (2016), <http://www.dot.ca.gov/hq/tsip/hpms/hpmslibrary/prd/prd2015.pdf>
- ² “Santa Cruz Metropolitan Transit District Operating Financials and Statistics FY 2010-2013 (through Oct. 2012),” Santa Cruz METRO, accessed January 2014, <http://www.scmttd.com/images/department/planning/transitfactsheet%2012-13.pdf>.
- ³ “2018 California State Rail Plan”, Caltrans, accessed October, 2017, <http://www.dot.ca.gov/californiarail/>
- ⁴ “Freight Locomotive Emissions Overview,” U.S. Environmental Protection Agency (2010), accessed December 2013, <http://www.epa.gov/midwestcleandiesel/sectors/rail/materials/lis.pdf>.
- ⁵ “Environmental Management – Operations,” Union Pacific Railroad, accessed December 2013, <http://www.uprr.com/she/emg/operations.shtml>.
- ⁶ “2018 California State Rail Plan”, Caltrans, accessed October, 2017, <http://www.dot.ca.gov/californiarail/>
- ⁷ “California High-Speed Rail Authority,” State of California, accessed October 2017, <http://www.hsr.ca.gov>.
- ⁸ “Online TDM Encyclopedia,” Victoria Transport Policy Institute (2017), <http://www.vtpi.org/tdm/>.
- ⁹ Rayvon Williams, City of Watsonville Airport Manager, personal communications, October 10, 2017.

CHAPTER 3

Travel Patterns

In planning for the future, an understanding of existing and projected travel patterns is necessary to determine what transportation investments are needed to meet the challenges and opportunities that face Santa Cruz County through 2040. Many factors influence the patterns of where, how much, and how we travel. The amount and distribution of traffic on highways, local roads, bicycle lanes, sidewalks, and buses can fluctuate based on population, the economy, location of jobs and services, travel choices, fuel prices, and other factors.

Population

The patterns of travel within Santa Cruz County are impacted by the number of people who live, work and visit the county. **Figure 3.1** shows the historical trend in population for Santa Cruz County since 1950 as well as the forecast for 2020 through 2040 developed by AMBAG. Currently home to more than a quarter-million people, the population is expected to increase by 12% between 2015 and 2040.

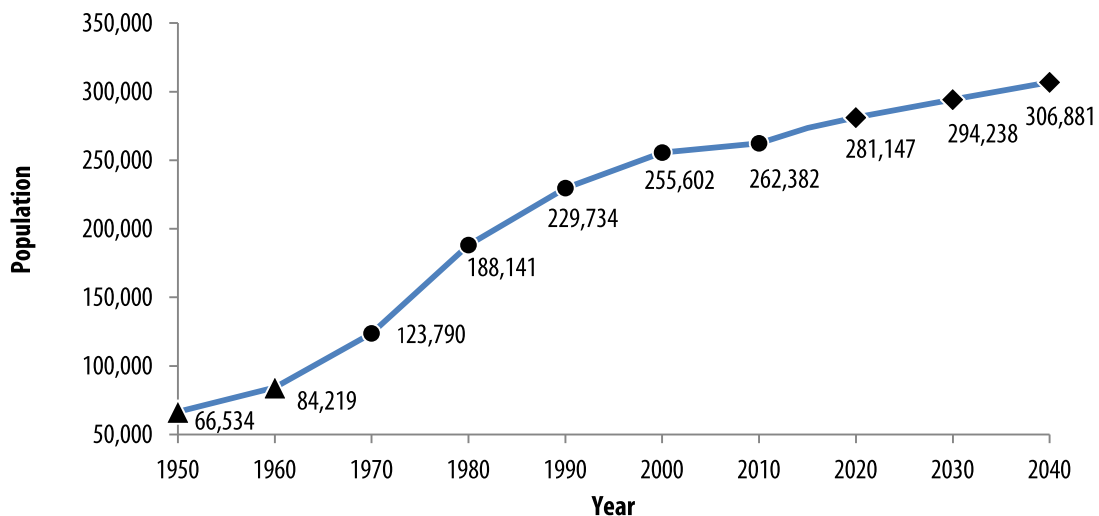


Figure 3.1 – Historical and Projected Santa Cruz County Population

Source: CA Department of Finance (▲), U.S. Census Bureau (●), AMBAG Projections (◆)

The growth rates in the five jurisdictions in Santa Cruz County have varied substantially over the last ten to twenty years (**Figure 3.2**). Growth between 2010 and 2017 has occurred primarily in the City of Santa Cruz (8.5%) and in the unincorporated areas of Santa Cruz County (**Figure 3.2**).

Jurisdiction	1990	2000	2010	2017*	% Change (2010-2017)
Capitola	10,171	10,033	9,918	10,162	2.5%
Santa Cruz	49,711	54,593	59,946	65,070	8.5%
Scotts Valley	8,667	11,385	11,580	12,163	5.0%
Watsonville	31,099	44,265	51,199	53,015	3.5%
Unincorporated	130,086	135,326	129,739	136,193	5.0%
Santa Cruz County Total	229,734	255,602	262,382	276,603	5.42%

Figure 3.2 – Population Data for Santa Cruz County by Jurisdiction

Source: U.S. Census Bureau, *2017 data are estimates from Department of Finance¹

The location of where people live in Santa Cruz County is shown in **Figure 3.3**. This population density map illustrates how the population is clustered primarily along the coast between the City of Santa Cruz and Aptos and in Watsonville, Scotts Valley and the San Lorenzo Valley. A large percentage of people in Santa Cruz County live in urban areas, making it easier to promote shorter trips and active transportation options for reducing congestion and GHG emissions.

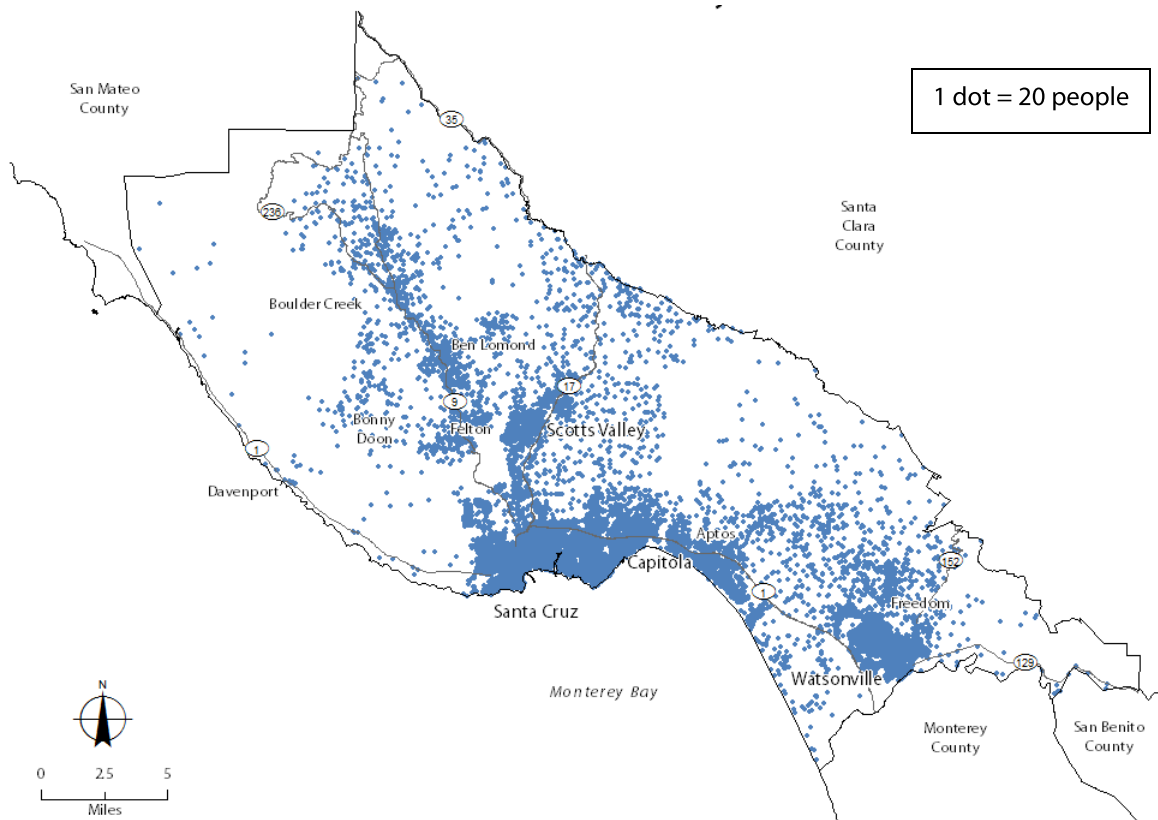


Figure 3.3 – 2010 Population Density Map

Source: U.S. Census Bureau

Employment Opportunities

Employment opportunities are another factor influencing travel patterns. Higher employment rates often means greater traffic volumes as more people are traveling to work, and vice versa, higher unemployment rates often mean less traffic volumes. The number of jobs in Santa Cruz County over the last 20 years was highest in 2000, with unemployment rates as low as 5.1%. With the economic downturn of 2007/2008, jobs dropped significantly in 2010 and unemployment rates reached 13.3% (Figure 3.4, Figure 3.5). In 2016, the unemployment rate decreased to 6.9%.² The City of Watsonville currently has the highest unemployment rates in the county at 8.9% (Figure 3.5). Between 2015 and 2040, the number of jobs is forecast to increase by 18%, higher than the increase in population of 12% over this same timeframe. The locations of existing employment centers within the county are mapped in Figure 3.6.

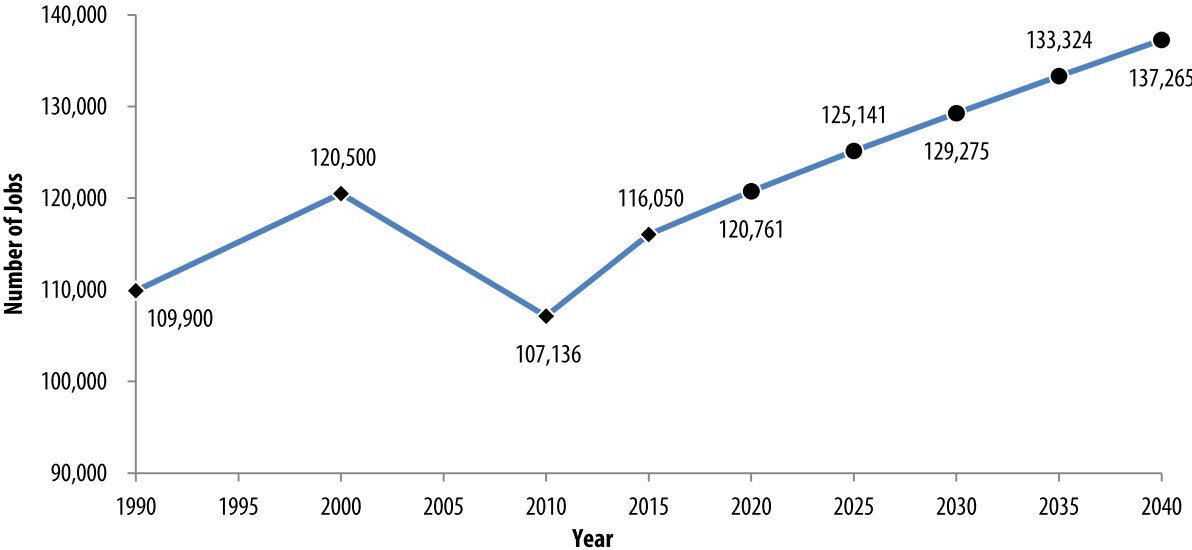


Figure 3.4 – Historical and Projected Number of Jobs in Santa Cruz County

Source: AMBAG Historical (◆), AMBAG Projections (●)

Jurisdiction	2000	2002	2004	2006	2008	2010	2012	2014	2016
	%	%	%	%	%	%	%	%	%
Capitola	2.5	3.6	3.4	3.1	4.1	10.7	9.5	7	5.5
City of Santa Cruz	4.2	6.1	5.8	4.6	6.1	11.9	10.6	7.8	6.1
Scotts Valley	2.2	3.2	3.1	2.6	3.5	12.2	10.8	8	6.3
Watsonville	11.5	16.1	15.4	12.6	16	16.8	15	11.2	8.9
Santa Cruz County	5.1	7.3	7	5.6	7.4	13.3	11.8	8.8	6.9

Figure 3.5 – Unemployment Rates by Jurisdiction within Santa Cruz County

Source: California Employment Development Department³

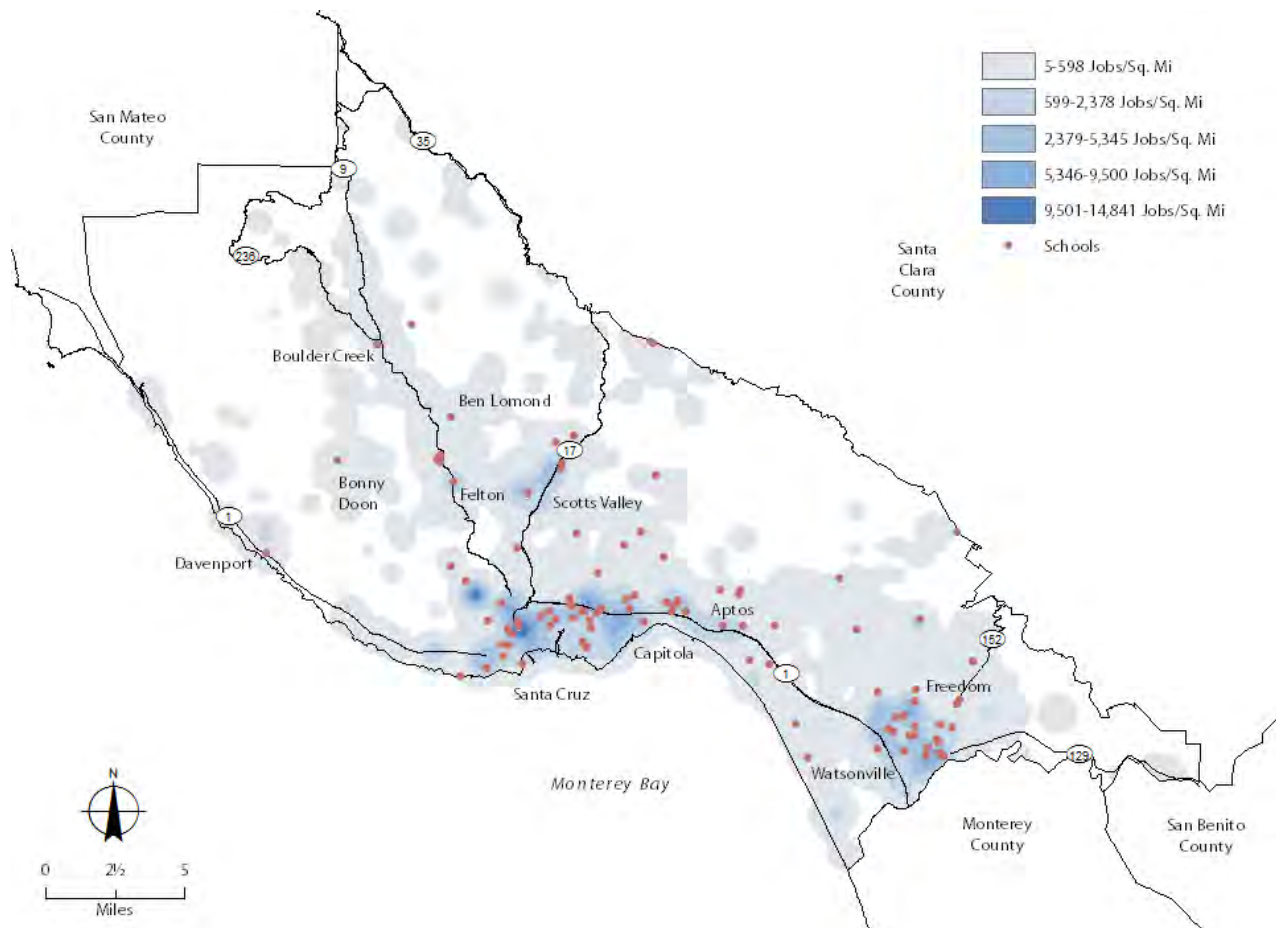


Figure 3.6 – Job Destinations in Santa Cruz County

Source: U.S Census Bureau (On the Map), Center for Economic Studies⁴

Where Are We Traveling?

Eighty percent of the population of Santa Cruz County lives in approximately 20% of the area of the county (Figure 3.3). Trips are made between people’s homes (Figure 3.3) and where they work (Figure 3.6), go to school, shop, socialize and recreate. Many residents living in the southern portion or more remote corners of the county travel to job centers located in the central portions of the county near urban developments, such as downtown Santa Cruz. Increasing the diversity of land uses within neighborhoods to improve access to goods and services can reduce the length of trips which increases the opportunities for bicycling and walking, and makes it more convenient to reach transit stops.

The 2009 National Household Travel Survey (NHTS) analyzed the person miles of travel by trip purpose. The results show that on average, for persons 5 years or older including travelers and non-travelers, person miles of travel are divided into approximately 30% for work and school, 30% for family errands, 30% for social and recreational purposes, and the remainder for other types of travel⁵. Data on commute patterns of work trips into and out of Santa Cruz County are available from the U.S. Census Bureau, American Community Survey as discussed below.

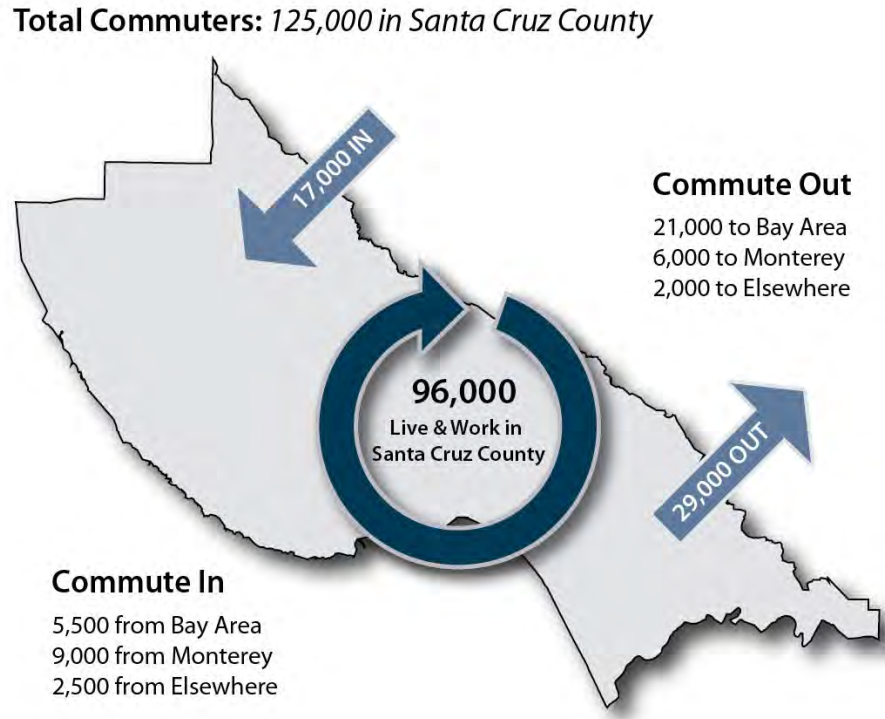


Figure 3.7 – Commute Patterns

Source: American Community Survey 5-year summary data

While the majority of work trips in Santa Cruz County are within the county boundaries (77%), about 17% of Santa Cruz County commuters travel to San Francisco Bay Area counties and about 5% to Monterey County.

Figure 3.8 shows the commute patterns between Santa Cruz, Monterey, San Benito, and Santa Clara Counties from 1980 to 2010. Bay Area commuters reside in Santa Cruz County in order to live in a coastal environment and endure the commute to take advantage of the greater diversity of jobs “over the hill.”

Of the total number of people employed in our county, 15% live in other counties; 8% from Monterey and 5% from the San Francisco Bay Area. The survey data shows that between 2000 and the 2009-2013 average, there are 21% less people commuting to the Bay Area and the only significant increase in workers leaving Santa Cruz County to work elsewhere is into Monterey County. The 2009-2013 data represents the commute flows during the Great Recession of 2008-2012. When more recent data becomes available that represents commute flows between 2014 and 2018, there will likely be a greater percentage of workers commuting to the Bay Area. Regardless of timing, the majority of Santa Cruz County work trips stay within Santa Cruz County, job locations within Santa Cruz County become a significant factor impacting traffic volumes and congestion within our county borders (**Figure 3.6**).

County of Residence	County of Work	Total Commuters 1980*	Total Commuters 1990*	Total Commuters 2000*	Total Commuters 2009-13 (Avg)**	% Change 2000 to 2009-13	% of All Commuters 2009-13
Santa Cruz	Santa Cruz	65,000	89,628	93,084	96,296	3.45%	77.36%
Santa Cruz	Monterey		3,650	5,164	5,995	16.09%	4.82%
Santa Cruz	San Benito		322	622	659	5.95%	0.53%
Santa Cruz	Bay Area	14,662	20,596	26,243	20,790	-20.78%	16.70%
Santa Cruz	San Mateo	808	1,373	2,010	1,273	-36.67%	1.02%
Santa Cruz	Santa Clara	12,919	17,693	21,540	17,280	-19.78%	13.88%
Santa Cruz	Alameda	445	712	1,419	1,118	-21.21%	0.90%
Santa Cruz	Elsewhere	1,966	1,715	993	734	-26.08%	0.59%
Santa Cruz	Total	81,628	115,911	126,106	124,474	-1.29%	100.00%

County of Residence	County of Work	Total Commuters 1980*	Total Commuters 1990*	Total Commuters 2000*	Total Commuters 2009-13 (Avg)**	% Change 2000 to 2009-13	% of All Commuters 2009-13
Santa Cruz	Santa Cruz	65,000	89,628	93,084	96,296	3.45%	84.95%
Monterey	Santa Cruz		6,821	7,601	9,178	20.75%	8.10%
San Benito	Santa Cruz		623	714	848	18.77%	0.75%
Bay Area	Santa Cruz	1,669	4,455	4,738	5,452	15.07%	4.81%
San Mateo	Santa Cruz	133	393	214	332	55.14%	0.29%
Santa Clara	Santa Cruz	1,214	3,505	3,463	4,045	16.81%	3.57%
Alameda	Santa Cruz	100	322	462	606	31.17%	0.53%
Elsewhere	Santa Cruz	2,000	1,147	1,259	1,588	26.13%	1.40%
Total	Santa Cruz	68,669	102,674	107,396	113,362	5.56%	100.00%

Figure 3.8 – Commute Patterns Into and Out of Santa Cruz County

Source: Census Transportation Planning Products, Federal Highway Administration

*U.S. Census Bureau, Census long form data

**U.S. Census Bureau, American Community Survey 5-year summary data

High Use Routes

Highways. Daily commuters often complain about the high level of congestion on state highways. Over 50% of the miles driven in Santa Cruz County are on state highways⁶. Average annual daily traffic volumes on state highways in Santa Cruz County are shown in **Figure 3.9**.

Of the six state highways in Santa Cruz County, Highway 1 has the highest average daily traffic as it is the primary travel route in the region (**Figure 3.9**). Between the City of Santa Cruz and Aptos and sometimes further south, Highway 1 is frequently congested at peak travel times with peak periods stretched longer into the morning and evening hours. Traffic also peaks in the middle of the day as people run errands or pick up their children from school. On the most congested segments of Highway 1,

in the vicinity of the Bay Avenue/Porter Street interchange, weekday traffic volumes are 97,000 (Figure 3.9). High traffic volumes on Highway 1 translate into longer travel times on both Highway 1 and parallel arterial routes (i.e. Soquel Drive and Capitola Road). It is no surprise that Highway 1 has been the focal point for much of the discussion and frustration about traffic congestion in the county. The RTC assisted Caltrans when they developed a Highway 1 Corridor System Management Plan (CSMP) and several projects from the CSMP have been included in the Action Element of this RTP (Chapter 6). The decrease in traffic volumes on Highway 1 (Figure 3.9) since 2005 is likely not due to decreased demand but due to the increased level of congestion on the highway. As the traffic flow slows during peak periods, the daily traffic volumes on the highway decrease as motorists use arterials to try to find a faster route.

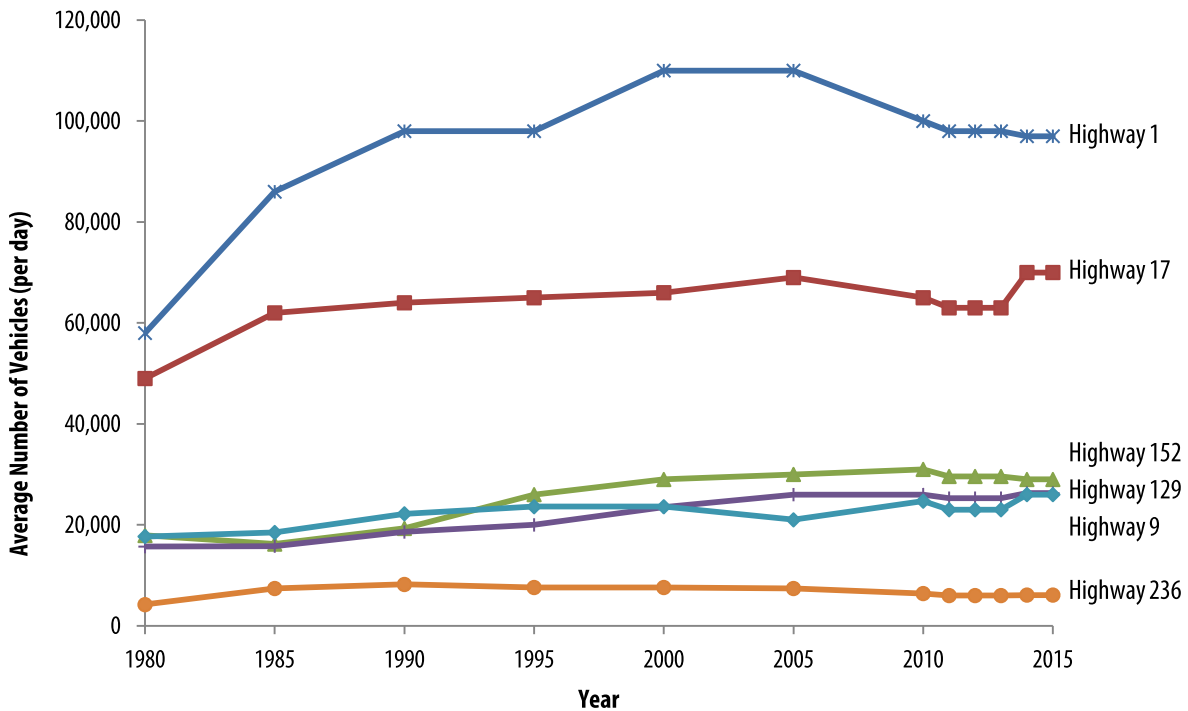


Figure 3.9 – Average Daily Traffic Volumes at Most Traveled Segments on State Highways in Santa Cruz County

Source: Caltrans Traffic Data Branch

Traffic flow on Highway 17 has increased over the last few years. Congestion on Highway 17 is primarily in the northbound direction during the morning peak and in the southbound direction during the evening peak as it serves over 20,000 commuters going “over the hill” to jobs in the Bay Area. Congestion on Highway 17 resulting from collisions on this windy, mountainous highway, with limited access points can hold up traffic for long periods of time given the challenge of accessing and clearing incidents and detouring vehicles to other roads. Highways 9, 129, 152, and 236, although not as heavily traveled as Highways 1 and 17, have also seen increasing traffic volumes since 1980 with slight leveling off since 2005 (Figure 3.9).

Arterials. Despite high traffic volumes on state highways in Santa Cruz County, the majority of travel occurs on the arterials, collectors and local streets and roads. Figure 3.10 provides average daily traffic volumes for automobiles on two, four and six lane arterials in the county. The only 6 lane arterial in the

county, 41st Ave in Capitola, has the largest volume at 40,000 vehicles per day. Mission Street and Mt Herman Road, both 4 lane arterials, follow close behind with approximately 34,000 to 37,000 vehicles per day. The Soquel corridor, a 2 to 4 lane arterial that serves as an alternate route between the City of Santa Cruz and Aptos, has a traffic volume that varies between 12,000 and 31,000 vehicles per day depending on the location. Freedom Blvd, used as an alternate to Highway 1 between Watsonville and Aptos and provides primary access to the community of Corralitos, has approximately 27,000 vehicles per day. The “beach route” between the City of Santa Cruz and Capitola (Murray Street, East Cliff Drive and Portola Drive) attracts approximately 10,000 to 20,000 vehicles/day.

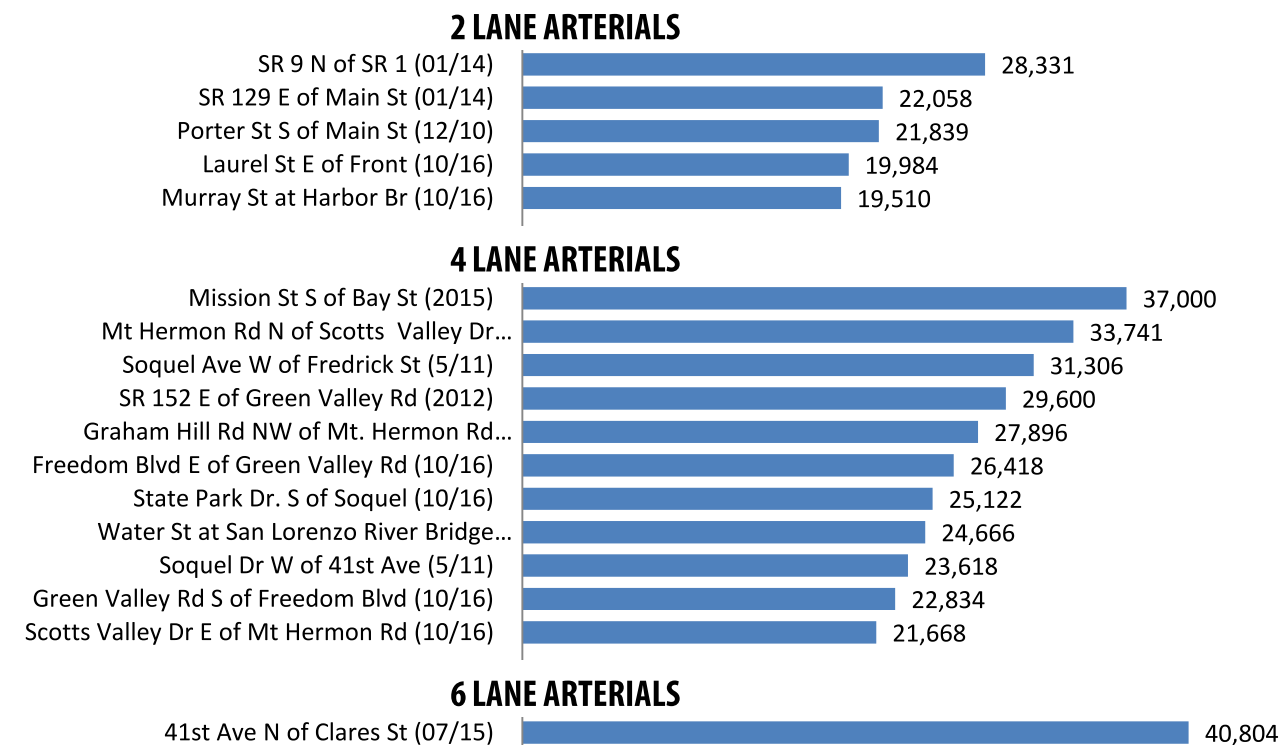


Figure 3.10 – Local ADT: Average Daily Traffic Volumes on Selected Local Roadways
 Source: Santa Cruz County Regional Transportation Commission, Caltrans Traffic Data Branch

Transit. Santa Cruz METRO operates transit service on 26 fixed-route bus lines and provides over 5 million trips per year. METRO primarily serves Santa Cruz County but also operates regional service to San Jose. Numerous routes experience heavy ridership including routes serving the UCSC campus (Routes 10, 15, 16, 19), routes to San Lorenzo Valley (Route 35/35A), mainline routes between Santa Cruz and Watsonville (Routes 71, 69A and 69W, and 91), and the Highway 17 Express. **Figure 3.11** shows overall average ridership by route data for METRO transit service during the school year (although it does not distinguish where on the route passengers boarded or disembarked). UCSC boardings (approximately 10,000 riders per weekday) comprise approximately 50% of the ridership when school is



in session. As a result, these routes tend to be the most frequent and have the longest running spans of service in the system. Route 71, 69A and 69W between Watsonville and Santa Cruz have approximately 3,500 boardings per weekday, Route 35/35A between Santa Cruz and San Lorenzo Valley has approximately 1,000 boardings per weekday and the Highway 17 Express has approximately 900 boardings per weekday.

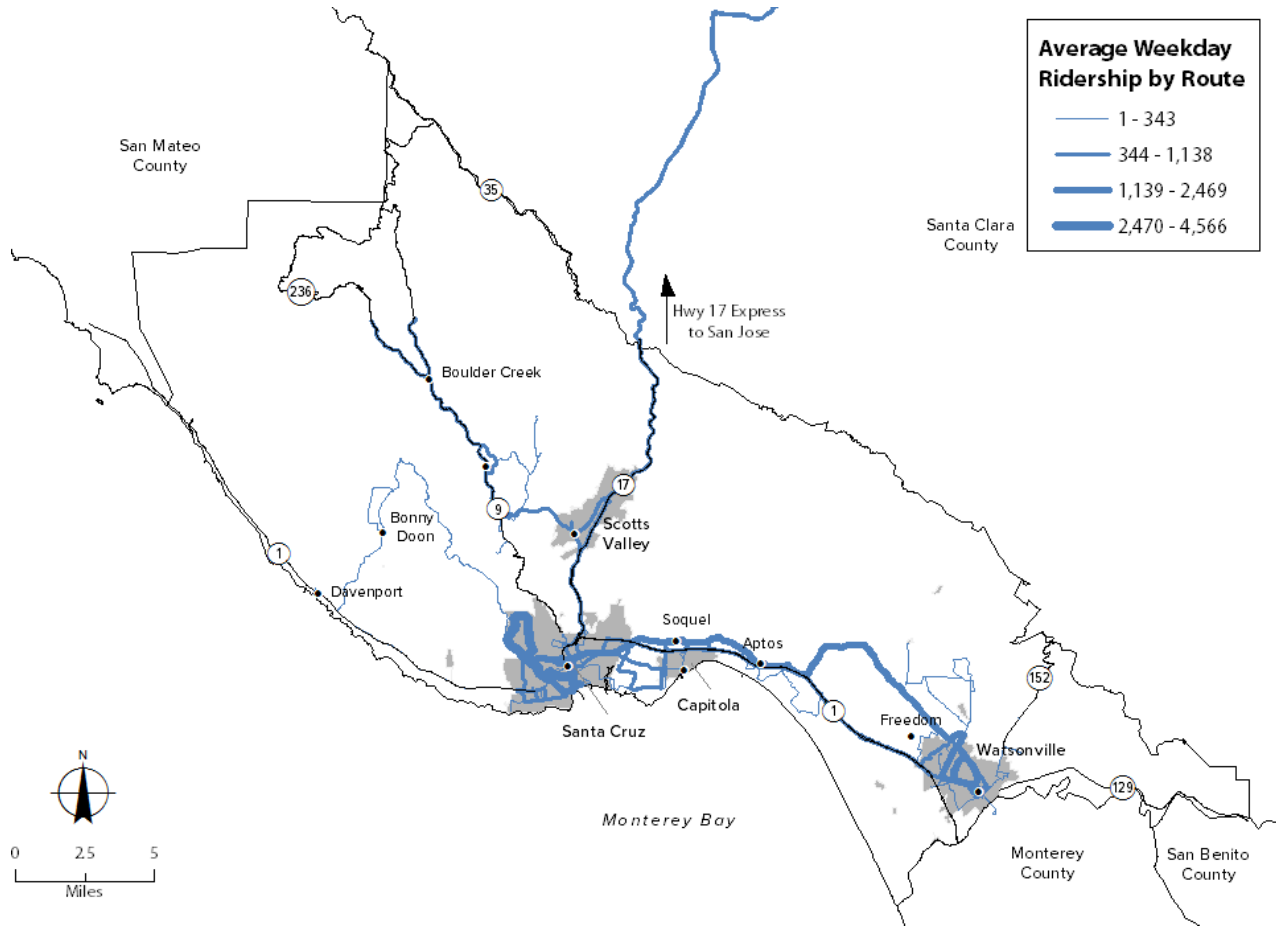


Figure 3.11 – METRO Weekday School Year Average Ridership by Route

Source: Santa Cruz Metropolitan Transit District, FY2017

The annual ridership for the system was at a high in 2008 at 6 million and has decreased to approximately 5 million over the last few years (**Figure 3.12**). As a result of the changing economic conditions that reduced revenue, METRO reduced service in 2010 and 2011 and again in 2016, in addition to raising fares. The level of transit service (number, frequency, and areas covered by buses), fuel prices, unemployment rates, traffic congestion, and accessibility of transit stops for pedestrians can influence ridership levels. Ridership decreased after the service reduction in September, 2016 but severe weather conditions in January and February of 2017 may have also affected annual ridership for this service year.

An on-board survey of METRO passengers was conducted between June 3 and 5, 2013. When survey participants were asked the purpose of their trip, the most common reason reported was travel to or from work (39%), followed by travel to or from a college or university (24%), personal business (16%), shopping (11%), K-12 schools (8%), recreation/social (6%), medical (5%), and trips to or from an airport (0.5%). Responses for “other” accounted for 5% of the total.

Consistent with the Americans with Disabilities Act of 1990 (ADA), Santa Cruz METRO also operates paratransit service (METRO ParaCruz) for people that are unable to use the fixed route bus system due to disabilities. ParaCruz serves destinations within Santa Cruz County that are within three-quarter (¾) miles of an operating bus route. ParaCruz has provided greater than 90,000 rides per year over the last few years, however annual ridership also decreased (to 75,000) in 2016 due to service cuts. Many ParaCruz riders travel to locations that provide medical care.

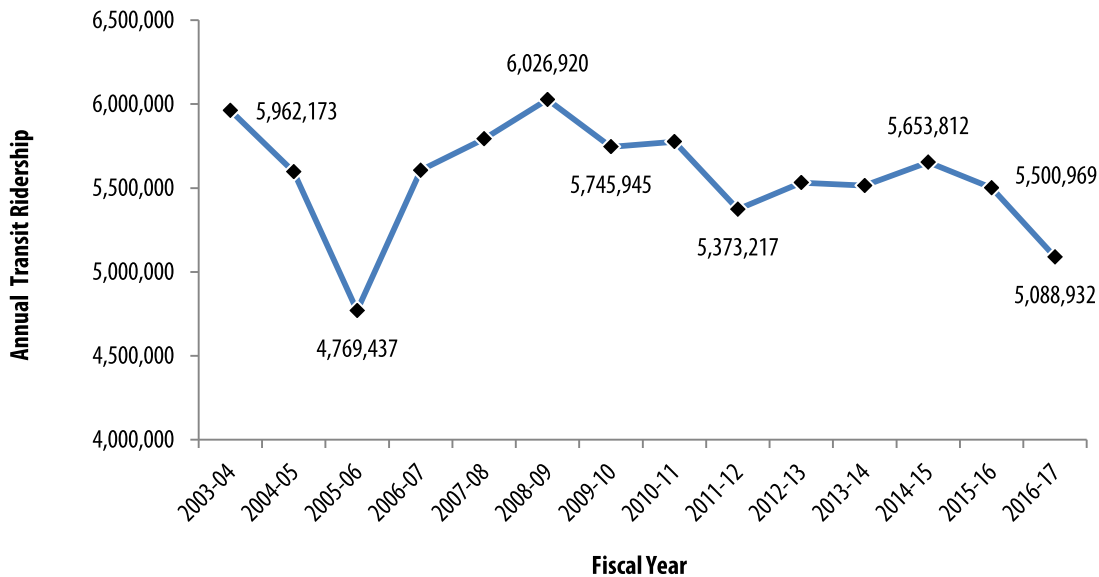


Figure 3.12 – Total Transit Ridership for Santa Cruz County Fixed Route Service

Source: Santa Cruz Metropolitan Transit District. [Note: Levels dropped in FY05/06 as no service was provided in October 2005 due to a labor strike. In Fall 2016, Service was reduced due to budget constraints.]

How Much Are We Traveling?

The California Household Travel Survey collected in 2010-2012 estimated that on average each person in California takes 3.6 trips per day.⁷ The purpose of these trips is primarily to go to work, school, shop, and socialize/recreate. According to the five year summary of the American Communities Survey from 2011-2015, the average travel time for traveling to work in Santa Cruz County was 26 minutes.⁸ This time is an 8% decrease in travel time to work compared to data collected in 2000. A decrease in average travel time to work can be indicative of either a reduction in congestion, workers living closer to where they work, or choosing a less congested time to travel.

Vehicle Miles Traveled

A common measurement for how much travel is occurring in a region is the number of “vehicle miles traveled” (VMT). One vehicle (regardless of the number of passengers) traveling one mile constitutes one “vehicle mile”. Vehicle miles traveled can be estimated on a daily per capita basis or daily for the whole region. The number of vehicle miles traveled is used in calculating greenhouse gas emissions (GHG) from transportation.

SB 375 requirements for the AMBAG region, require GHG per capita to be reduced by a minimum of 1% by 2020 and 6% by 2035 relative to 2005 levels. Much effort on this 2040 RTP and the 2040 AMBAG Metropolitan Transportation Plan –Sustainable Communities Strategy has been focused on prioritizing projects that will reduce GHG emissions primarily through a reduction in VMT. The AMBAG regional travel demand model estimates the amount of VMT based on population and traffic counts throughout the region. See Chapter 7 for a more detailed discussion on historical and projected vehicle miles traveled for Santa Cruz County.

Visitors

Santa Cruz County is a popular tourist destination that attracts many visitors to its scenic beaches, many county and state parks, and popular events such as the Santa Cruz County Fair, Capitola Art and Wine



Festival, Wharf to Wharf running race, and Watsonville's Airshow. The number of tourists to Santa Cruz County, especially in the summer and on weekends, contributes significantly to the number of cars on our roadways. The Santa Cruz Conference and Visitors Council estimates that there are approximately 3 million tourists per year to Santa Cruz County. The Boardwalk in the City of Santa Cruz attracts a large percentage of these visitors. The University of California Santa Cruz, with a population of 17,000 students, also brings numerous visitors especially during spring graduation and when the new school year begins in the fall. Daily traffic volumes on Highway 17 at

Laurel Curve on a weekend in the summer are about 80,000 vehicles per day, higher than typical weekday commutes. Highway 1 traffic volumes on summer weekends, in the vicinity of Soquel Avenue interchange, average approximately 95,000 vehicles per day, similar volumes to typical weekday commutes.

Goods Movement



Another source of traffic volumes on our roadways is goods movement. Nearly all commodities sold in stores or used in local manufacturing in Santa Cruz County arrive on roads by truck. Similarly, most products that are produced in Santa Cruz County are shipped out by truck. The top freight dependent industries by gross regional product from studies performed in 2009 are retail trade (\$835 million), agriculture (\$491m), construction (\$420m), and manufacturing (\$534m).⁹ The 2016 Crop Report for Santa Cruz County shows that the agricultural gross regional product has increased to \$637 million, up from \$491 million in 2009. When looking at freight

volumes, sand and gravel products are the largest commodity group in the county at 35% of the total, or 9.2 million tons. Agricultural goods are the second largest commodity by volume, estimated at 2.5 million

tons in 2007.¹⁰ Trucks are the preferred mode for time-sensitive agricultural products, including fresh produce and other agricultural commodities.¹¹ There are many refrigeration (coolers) and packing facilities for agricultural products in and around Watsonville, which has substantial freight traffic for farm products. Granite Rock operates a quarry in Santa Cruz and ships large quantities of sand by truck. Logging



products are shipped in the county, but no up to date data on volume is currently available. The majority (59%) of the commodities based on weight flow outbound from Santa Cruz County, with internal flows at 1.5% and shipments inbound to Santa Cruz County from other counties at 39.5%.¹²

The primary truck route for the Central Coast region is Highway 101. The key routes that connect Santa Cruz County with the rest of the Central Coast region’s freight network are Highways 1, 17, and 129. Truck traffic contributes to congestion during rush hours. Highway 129 truck traffic can be as high as 12% of overall traffic or 2,384 trucks daily. On Highways 1, 17, and 152 truck traffic ranges from 3 to 4% of overall traffic with a high on Highway 1 of 3,760 trucks daily (**Figure 3.13**). Truck volumes on Highways 129 and 152 have been increasing over the last decade, likely due to increased goods movement from agriculture in the Watsonville area. The demand for more goods into our county will likely increase as population continues to grow. Even small numbers of trucks relative to overall traffic can create traffic jams on some roads, especially in mountainous areas where the differences in speed between trucks and cars are even greater.

Santa Cruz County Highway	2015 Daily Truck Volume*	% of Total Traffic Volume
Highway 1	3760	3.4%
Highway 9	1820	6.2%
Highway 17	1720	2.7%
Highway 129	2384	11.8%
Highway 152	952	3.5%

* Truck volumes are from locations with highest counts on highway.

Figure 3.13 – 2015 Daily Truck Volumes on Highways in Santa Cruz County

Source: Caltrans Traffic Data Branch

As the majority of goods shipped into and out of the county are carried by trucks, congestion is a key challenge for freight-dependent industries. It is important that these industries are able to thrive in the region as they are critical in terms of jobs and contribution to the regional economy. Local and regional governments can continue to help the goods movement industries thrive by supporting freight and transportation projects that improve the efficiency of goods movement to major destinations and intermodal facilities. This includes maintenance of key roadways, improved travel time reliability on highways and arterials, improving safety on key routes and increasing options for shipping freight by rail.

Although in 2012 Santa Cruz County relied on trucks for 77% of the County's total freight volume, the Santa Cruz Branch Rail Line is also used for freight service. Commodities shipped by rail in 2012 accounted for about 4.9% of the County's freight by weight and 2.4% by value.¹³ Prior to the closure of the Cemex cement plant in 2009, cement and coal were shipped by rail to and from the cement plant in Davenport each year. Currently, the rail line is used for freight service from Watsonville south connecting to the Union Pacific main line in Pajaro. Upward pricing pressure on the trucking industry due to rising fuel costs, congestion, additional wear and tear on roads caused by trucks, as well as safety and environmental concerns, have prompted the region's freight and transportation stakeholders to look for alternatives for transporting goods. The rail system is one of the main options available. The 2013 California State Rail Plan stresses the importance of short line railroads, including the Santa Cruz Branch Line, Santa Maria-Valley Rail, and Monterey Bay Railway Company, and the potential for rail freight to integrate with other freight modes and with passenger rail, lowering energy use and pollution, maintaining global competitiveness, and aiding in developing livable and vibrant communities.¹⁴



Photo Credit: Howard Cohen

Prioritizing traffic flow improvement projects on Highways 1, 17 and 129, the main routes that connect to Highway 101, as well as freight rail service that connects to the rest of California and beyond will provide the greatest benefit to goods movement in Santa Cruz County.

Air freight in 2012 accounted for negligible tonnage, but 3% of freight value in Santa Cruz County, since this mode tends to reflect the time-sensitive or higher value, but lower weight shipments made by air.¹⁵ One example is the flower industry that often ships via air cargo due to time-sensitivity. The Watsonville Airport serves many growers; however, the primary cargo airports for Santa Cruz County are Monterey, San Jose and San Francisco.

AMBAG completed the U.S. 101 Central Coast California Freight study in 2016 to identify short-term and long-term strategies to improve freight mobility and transportation operations along US 101 from San Benito County through Santa Barbara County. The US 101 corridor supports the economic vitality of the Central Coast area as a major goods movement corridor. The report recommends upgrading the rail on the Santa Cruz Branch Line to Federal Rail Administration Class 2 rail, allowing freight train speeds of up to 25 mph on sections in Santa Cruz County in order to improve freight connectivity to other regions in California and nationwide.¹⁶

How Are We Getting Around?

The California Household Travel Survey that was conducted between 2010 and 2012 indicates that the mode share for transit, bike and walk trips throughout California approximately doubled from survey results taken in 2000, with a decline of auto trips by 10% (**Figure 3.14**). In 2011-2012, automobile trips accounted for 77% of all trips throughout California, approximately 18% of all trips were non-motorized and 4% of reported trips were made by public transit (**Figure 3.14**). The mode share for all trips in Santa Cruz County collected by the 2011-2012 CHTS is presented in **Figure 3.15**. This data shows an increase in the bike mode share but less walk and transit mode share in Santa Cruz County compared to statewide. National studies show that nearly 70% of the millennial population (ages 18-34) is using multiple travel options several times or more per week.¹⁷ This flexible concept of mobility, combined with a well-designed multi-modal transportation network, could set a new direction for transportation.

Mode	2000 Mode Share	2010-2012 Mode Share
Auto	86.7%	76.9%
Transit	2.2%	4.4%
Walk	8.4%	16.6%
Bike	0.8%	1.5%

Figure 3.14 – Mode Share for All Trips in California

Source: California Household Travel Survey

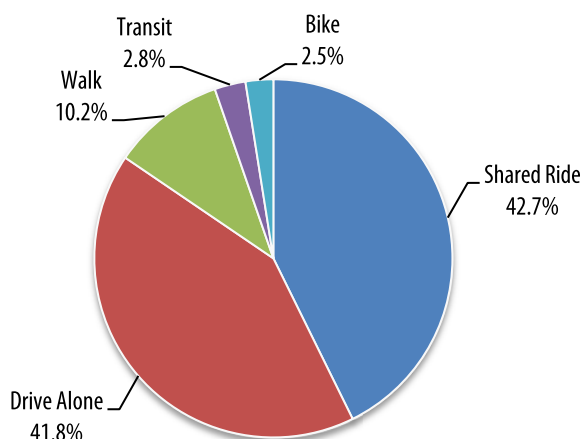


Figure 3.15 – Mode Share for All Trips in Santa Cruz County

Source: 2011-2012 California Household Travel Survey

While the above mode split data are representative of all trips, the American Community Survey (ACS) provides a comparison of the ways Santa Cruz County residents get to work (**Figure 3.16**). The convenience of driving alone still attracts the majority of people and the percent of people driving by themselves to work has not changed significantly since 2000 (**Figure 3.16**). Even though the majority of work trips are made by people driving an automobile, people also travel to work by transit, carpool, vanpool, bicycle, and by foot. The chance to get some exercise, be productive while carpooling or taking transit, concerns about the environment and/or the opportunity to save some money are all stated reasons to consider alternatives to driving alone. There has been an increase in the number of people biking

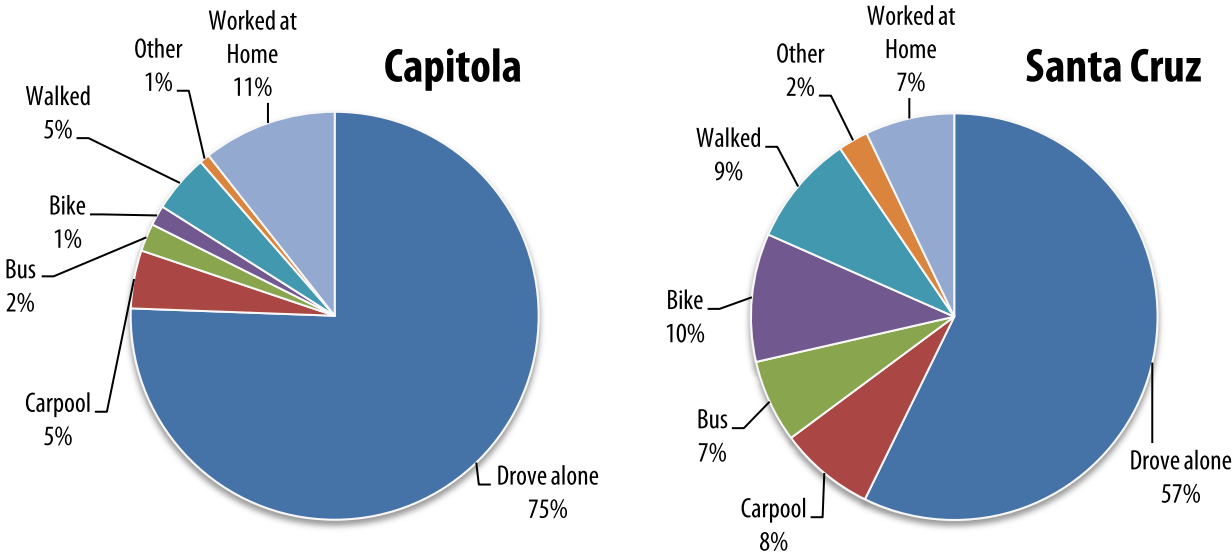
to work and working from home but the number of people carpooling to work in Santa Cruz County has declined since 2000. The difference between reported results for travel by mode for all trips in Santa Cruz County and only work trips in Santa Cruz County may be explained by an increase in active transportation trips for non-work purposes such as shopping, social, and recreation trips. Non-work trips may be shorter and more readily amenable to a shift from auto to biking and walking. Higher gasoline prices, a weak economy and changing generational preferences may also result in less driving according to a 2013 study by the U.S. Public Interest Research Group and Frontier Group¹⁸.

Mode to Work	CTPP2000		2011-2015 ACS	
	Number	Percent	Number	Percent
Total Workers	126,105	100.0	128,145	100.0
Drove alone	87,690	69.5	89,590	69.9
2-person Carpool	13,205	10.5	9,083	7.1
3-or-more-person Carpool	4,705	3.7	2,896	2.3
Public Transportation	4,105	3.3	3,717	2.9
Bike	2,585	2.0	4,812	3.8
Walked	5,600	4.4	4,996	3.9
Taxi, Motorcycle and Other means	1,470	1.2	3,655	2.9
Worked at Home	6,745	5.3	9,396	7.3

Figure 3.16 – Mode Share for Work Trips in Santa Cruz County

Source: U.S. Census Bureau, American Community Survey

The 2011-2015 American Community Survey (5-year estimate) indicates that there is a significant difference between the way residents of the four cities in Santa Cruz County travel to work (Figure 3.17). Residents of Watsonville used carpooling more often than the other cities as an alternative to driving alone whereas residents of the City of Santa Cruz used a mix of different transportation alternatives. City of Santa Cruz has the least number of drive alone trips likely due to the land use that includes proximity of jobs to housing, high bus use by UCSC students, extensive bicycle lane network, and other transportation infrastructure that is in place. Capitola and Scotts Valley have the greatest number of residents working from home but also the greatest percentage of drive alone trips. This mode share data shows people’s travel preferences are influenced by the type of land use and transportation facilities that are available in their community. This information is valuable for assessing how the number of trips driving alone could be reduced further in each of the cities.



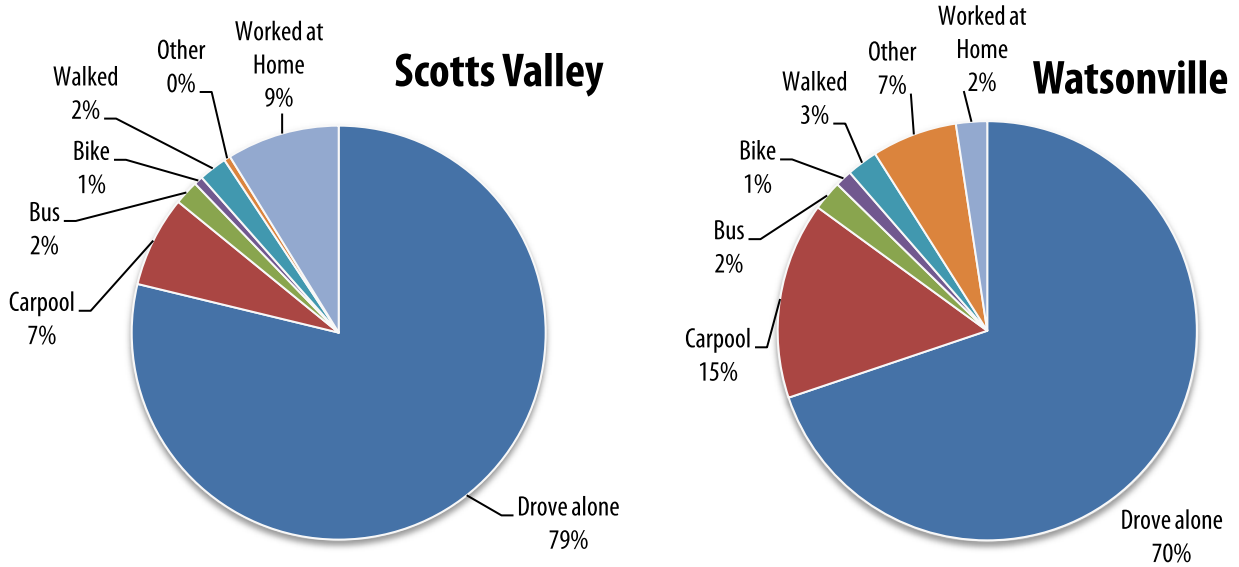


Figure 3.17 – Mode Share for Work Trips by City of Residence

Source: 2011-2015 American Community Survey

Bicycle Use

Bicycle count surveys have been conducted at approximately 40 locations countywide by the Community Traffic Safety Coalition during peak travel periods (4:00 pm to 6:00 pm) since 2003. Results of these counts show the greatest number of bicyclists in the City of Santa Cruz and mid-County including Capitola. Based on the data collected at these locations, there was a decrease in bicycle ridership in Santa Cruz County in 2014 through 2016. (Figure 3.18).

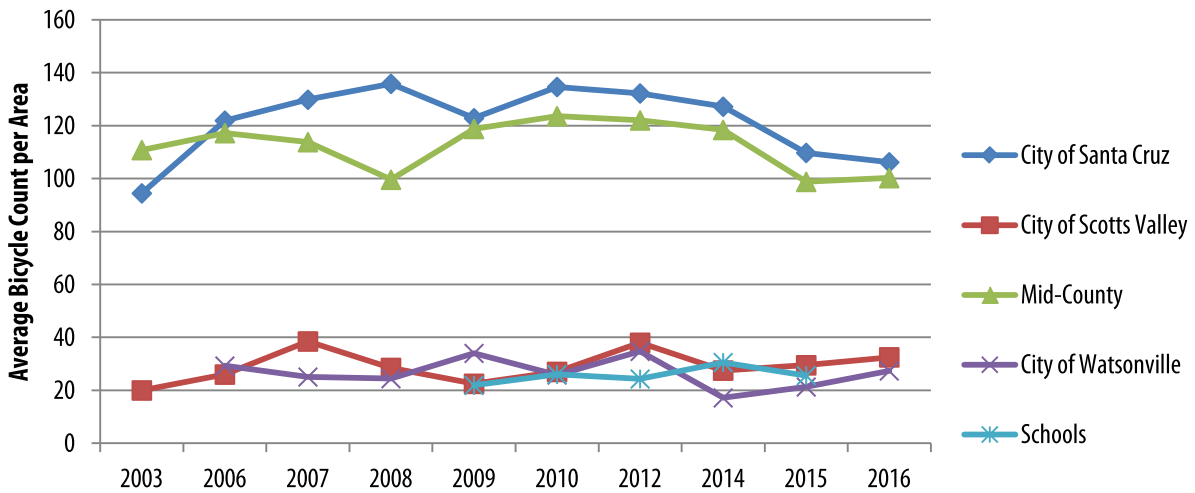


Figure 3.18 – Countywide Bicycle Counts from 2003-2016

[Note: Counts were taken for 2 hours at all locations except schools where counts were taken for 1 hour.]

Source: Data collected by Community Traffic Safety Coalition

School Trips

Due to safety concerns and urban sprawl, most parents drive their children to school. According to the Surface Transportation Policy Project, two-thirds of the country's children walked or biked to school 30 years ago; now, less than 10% do so. This phenomenon has led to a sharp increase in short-distance trips made by car, evidenced by the traffic surrounding elementary and secondary schools at the beginning and end of the school day. By some estimates, 20 to 25% of rush-hour traffic on local roads and streets can be attributed to school commutes. Travel to the University of California and community college campuses also impact peak period traffic.



Less Trips

Not only are people changing how they get around, there are also a number of reasons why people are traveling less altogether. Technological advances, including laptop computers, remote connectivity, wireless networks, cell phones and other mobile devices have made it possible for individuals to work in locations other than traditional worksites. The American Communities Survey from 2011-2015 estimated that 7.3% of employees residing in Santa Cruz County work at home, either part or all of the time, up from 5.3% in 2000 (**Figure 3.16**). Avoiding traffic congestion, gas prices, and/or environmental concerns can also be motivators to decide to shop closer to home or plan ahead by linking a few errands together that are close by to avoid extra trips.

Transportation Equity

Investments in transportation determine the choices that are available for how we travel. Low-income people, people with disabilities, seniors, youth and minorities can often be disproportionately limited by the transportation choices available to them. The cost of car ownership or inability to drive, underinvestment in public transportation, and a lack of pedestrian and bicycle-accessible thoroughfares can isolate transportation disadvantaged people from jobs, services and medical care.

Within the county, there is substantial variation in age and income. **Figure 3.19** shows the areas in Santa Cruz County with the greatest populations of transportation disadvantaged people due to race and income. **Figure 3.20** shows the distribution of youth and senior populations in Santa Cruz County. Nearly one-third of Santa Cruz County residents—notably children, the elderly and disabled, and low-income individuals and families who cannot afford a car—do not drive a personal vehicle (**Figure 3.21**). For people who do not drive a personal vehicle, access to convenient transit service and safe routes to walk or ride a bike are a life line.

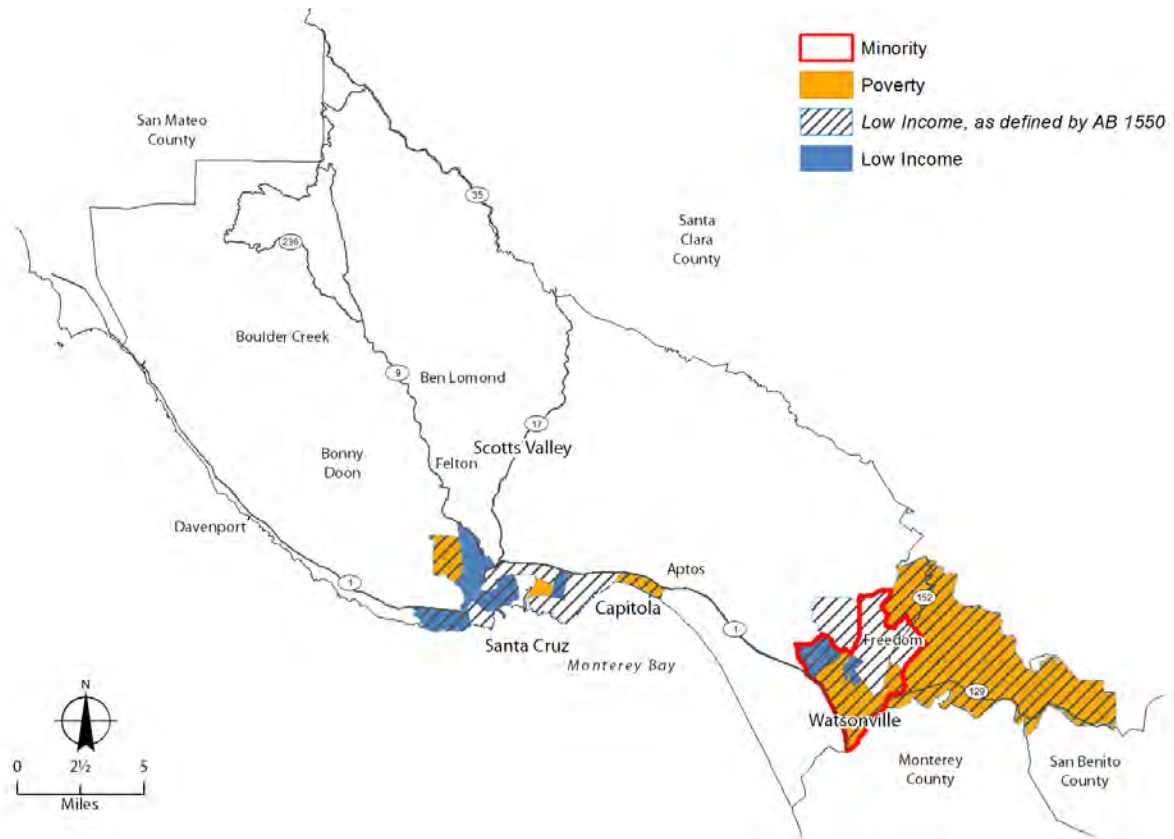


Figure 3.19 – Minority, Low Income and Poverty Areas in Santa Cruz County

Note: These areas meet the regional definition of Disadvantaged Community or DAC, which includes areas with higher concentrations of residents that are low or very low income and minority-based. Minority areas are defined as census tracts where greater than 65% of the total population is non-white; low income areas are defined as census tracts where greater than 65% of households are low income or where incomes are at or below the low income threshold designated by the California Department of Housing and Community Development’s income limits under AB1550; and poverty areas are defined as census tracts where greater than 20% of households are categorized as poverty.
 Source: U.S. Census Bureau, AMBAG; Assembly Bill 1550

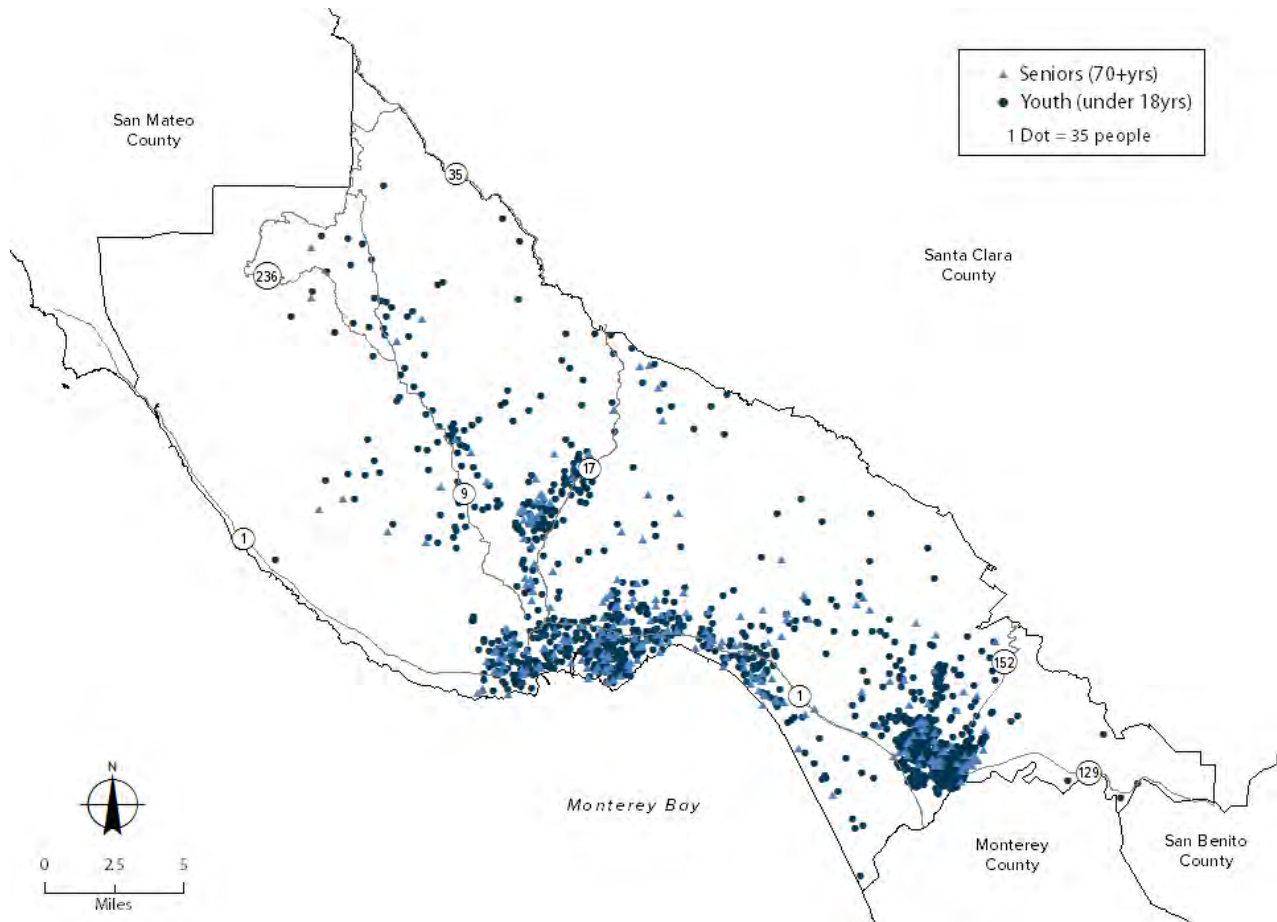


Figure 3.20 – Distribution of Senior and Youth Populations in Santa Cruz County

Source: U.S. Census Bureau, 2010 Census

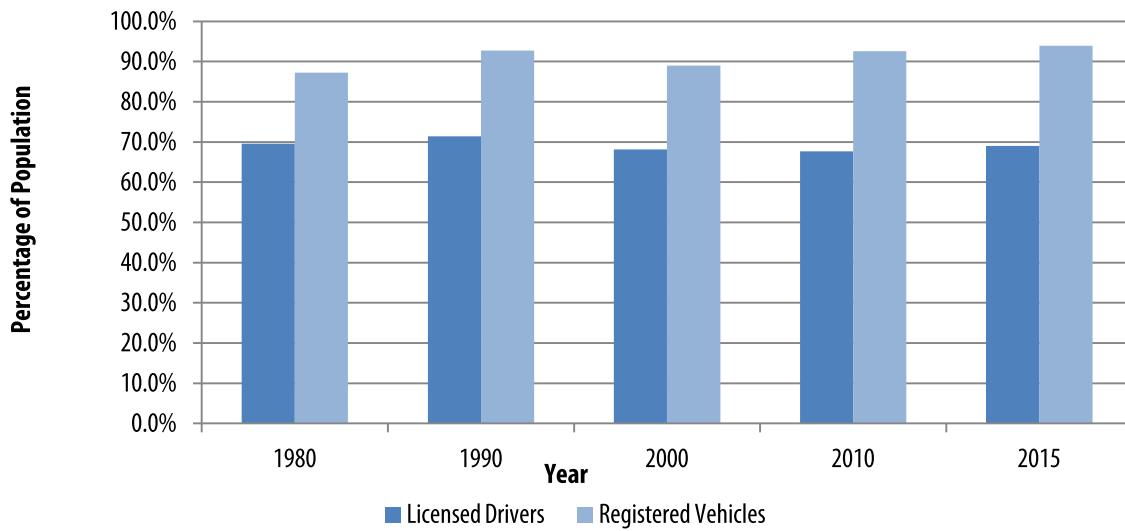


Figure 3.21 – Historical Trends in Licensed Drivers and Registered Vehicles in Santa Cruz County

Source: Department of Motor Vehicles and Census



Variations in growth rates between age groups are distinct in Santa Cruz County. While the Association of Monterey Bay Area Governments (AMBAG) currently projects a total population increase of 12% between 2015 and 2040, there is only a 0.3% increase in the population under 70 and those 70 and older are expected to grow by 138% through 2040 (Figure 3.22). Seniors age 70 and over make up about 8.6% of the population today and will make up about 18% of the population by 2040. This demographic shift will impact both the economy and local transportation needs of our community.

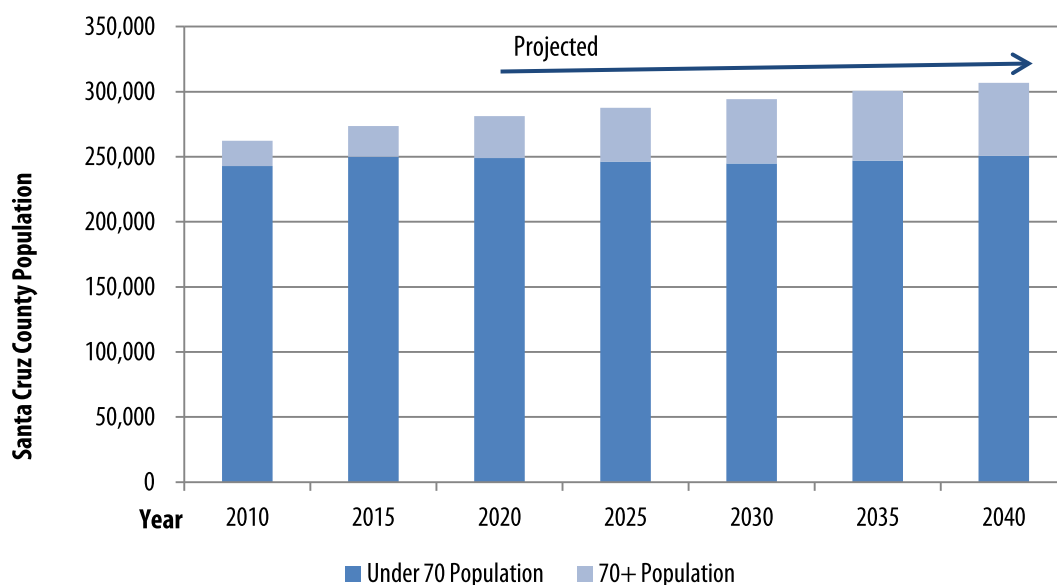


Figure 3.22 – Population Projections for Seniors Age 70 and Over

Source: AMBAG

As a result of this projected growth in the senior population, Santa Cruz County could potentially experience a greater demand for mobility of aging and disabled adults. Expecting to continue driving well into their later years, many older adults will not anticipate life without a car. Furthermore, it has been well documented that many older adults will retire in or migrate to low density suburban areas, characterized by single family homes, that are poorly served by public transit or lack adequate pedestrian facilities. Older adults no longer able to drive could face severe mobility deficiencies such as isolation, lack of access to social or medical needs, and increased risk of accidents. Survey results taken at five senior dining centers in Santa Cruz County indicate that the majority of respondents (43%) drive themselves as their primary form of transportation.¹⁹ Next to driving, the most common means of transportation is bus use at 16 percent, followed by getting a ride with friends/family and walking. While the automobile was the most common means of transportation among respondents, approximately 41 percent of respondents reported using the bus at least once in the past month.

According to the American Community Survey 2011-2015 5 year summary, over 9% of the total population in Santa Cruz County has one or more disabilities. Of this population, 63% are seniors (defined as persons over the age of 65 years). This is particularly important considering that the number of seniors, age 70 or greater, residing in the county is expected to grow significantly by 2035 as the “Baby Boomer” population ages and seniors are living longer (**Figure 3.22**). This projected increase in the senior population could increase the number of individuals with disabilities in Santa Cruz County.

Providing for the needs of transportation disadvantaged individuals due to age, income, race, disability or limited English proficiency is a crucial part of the 2040 RTP. According to the Surface Transportation Policy Project’s *Beyond Gridlock* report (2000), unless we provide more alternative transportation facilities and services, “the next generations of California parents may well see their time spent behind the wheel continue to rise as they play chauffeur to both their kids and their own parents.”

Notes for Chapter 3

- ¹ State of California, Department of Finance, “E-1 Population Estimates for Cities, Counties, and the State—January 1, 2016 and 2017,” Sacramento, California (May 2017), <http://www.dof.ca.gov/Forecasting/Demographics/Estimates/E-1/>.
- ² “Industry Employment & Labor Force - by Month,” California Employment Development Department, Labor Market Information Division (LMI), <http://www.labormarketinfo.edd.ca.gov/data/employment-by-industry.html>
- ³ “Unemployment Rates (Labor Force),” State of California, Employment Development Department, accessed October 2017, <http://www.labormarketinfo.edd.ca.gov/cgi/dataanalysis/labForceReport.asp?menuchoice=LABFORCE>
- ⁴ “OnTheMap, Area Profile Analysis in 2015 by All Jobs” U.S. Census Bureau, Center for Economic Studies, accessed October 2017, <http://onthemap.ces.census.gov>.
- ⁵ A. Santos, N. McGuckin, H.Y. Nakamoto, D. Gray, and S. Liss, “Summary of Travel Trends, 2009 National Household Travel Survey,” U.S. Department of Transportation, Federal Highway Administration (June 2011), <http://nhts.ornl.gov/2009/pub/stt.pdf>.
- ⁶ California Department of Transportation, Highway Performance Monitoring System, “2015 California Public Roads Data”, <http://dot.ca.gov/hq/tsip/hpms/datalibrary.php>
- ⁷ NuStats Research Solutions, “2010-2012 California Household Travel Survey Final Report, Version 1.0,” California Department of Transportation (2013), http://www.dot.ca.gov/hq/tsip/otfa/tab/documents/chts_finalreport/FinalReport.pdf.
- ⁸ “American Community Survey 2011-2015,” U.S. Census, <http://www.census.gov/acs>.
- ⁹ “Santa Cruz County 2016 Crop Report,” County of Santa Cruz, Office of the Agricultural Commissioner, http://ucanr.org/sites/Farm_Management/files/132235.pdf.
- ¹⁰ “US 101 Central Coast California Freight Study Final Report”, Association of Monterey Bay Area Governments (2016). http://ambag.org/programs/freight/1_Finished_Final_AMBAG_US101CCCFrtStudy_FinalReportCombined_REV.pdf
- ¹¹ Cambridge Systematics, “Central Coast California Commercial Flows Study,” Association of Monterey Bay Area Governments (2012).
- ¹² See note 11 above.
- ¹³ See note 11 above
- ¹⁴ See note 11 above
- ¹⁵ See note 11 above.
- ¹⁶ See note 11 above
- ¹⁷ “Millennials and Mobility: Understanding the Millennial Mindset,” American Public Transportation Association (2013), <http://www.apta.com/resources/reportsandpublications/Documents/APTA-Millennials-and-Mobility.pdf>.

- ¹⁸ Tony Dutzik and Phineas Baxandall, "A New Direction: Our Changing Relationship with Driving and the Implications for America's Future," U.S. PIRG Education Fund, and Frontier Group (Spring 2013), <http://www.uspirg.org/sites/pirg/files/reports/A%20New%20Direction%20vUS.pdf>.
- ¹⁹ Karena Pushnik and David Pape, "A Bus Use Survey Of Aging and Disabled Adults Living In Santa Cruz County," Santa Cruz County Regional Transportation Commission (January 2013).

This page intentionally left blank

CHAPTER 4

Vision for 2040

Goals and Policies

The Santa Cruz County Regional Transportation Plan (2040 RTP), through its goals and policies, sets forth a foundation for expanding options for residents and visitors to access their daily needs in a way that is safe, equitable, protects the environment and promotes investment in the local economy. This is advanced by designing and implementing a transportation system that serves our diverse travel needs and embraces the principle that transportation is intertwined with environmental, economic and social concerns.

As discussed in **Chapter 1**, driven by financial limitations, environmental concern, and demographic trends, the RTC voluntarily has adopted a sustainability framework for the RTP that is based on the triple bottom line definition of sustainability. The triple bottom line concept of sustainability can be seen in every aspect of the 2040 Regional Transportation Plan starting with the goals (**Figure 4.1**) and policies (**Figure 4.2**). Systematically integrating sustainable principles into the 2040 RTP allows the RTC and the public to evaluate how well the long term plan upholds and maintains progress towards generating safe, equitable, and cost-effective access to daily needs, while at the same time generating economic benefits and protecting the environment.



Why Do Policies Matter?

Success in advancing goals relies upon policies that provide direction to the public and decision makers about what course of action will be required to realize the greatest benefit by 2040. The policies established for the 2040 RTP support outcomes, rather than specific projects or modes. The policies (**Figure 4.2**) are designed to focus future investments on the best-performing strategies which generate the desired results and work within financial constraints. They are broad enough to adapt to changing conditions and take advantage of new opportunities, and are not too specific to confine investments to one project or project type.

<p>GOAL 1 Establish livable communities that improve people’s access to jobs, schools, recreation, healthy lifestyles and other regular needs in ways that improve health, reduce pollution and retain money in the local economy.</p>	<p>There is a strong relationship between achieving access, health, and economic benefits and climate and energy goals. For example, more carpool, transit and bicycle trips reduce fuel consumption, retain money in the local economy, and reduce congestion.</p>
<p>GOAL 2 Reduce transportation related fatalities and injuries for all transportation modes.</p>	<p>Safety is a desired outcome of many transportation investments and operations. Invest in projects/programs that will help to reduce pedestrian, bicyclist and motor vehicle fatalities and injuries.</p>
<p>GOAL 3 Deliver access and safety improvements cost effectively, within available revenues, equitable and responsive to the needs of all users of the transportation system and beneficially for the natural environment.</p>	<p>The manner in which access and safety outcomes referenced in Goal 1 and Goal 2 are delivered can impact cost-effectiveness, distribution of benefits amongst population groups, and ecological function.</p>

Figure 4.1 – Goals of the 2040 Regional Transportation Plan

Source: Santa Cruz County Regional Transportation Commission

Sustainability Policies	Outcomes Advanced							
	People				Prosperity		Planet	
	Access & Mobility	Health	Safety	Equity	Economic Benefit	Cost Effectiveness	Climate & Energy	Ecological Function
<p><i>Transportation System Management:</i> Implement Transportation System Management (TSM) programs and projects on major roadways across Santa Cruz County that increase the efficiency of the existing transportation system.</p>	✓				✓	✓	✓	
<p><i>Transportation Demand Management:</i> Expand demand management programs that decrease the number of vehicle miles traveled and result in mode shift.</p>	✓	✓			✓		✓	

<i>Sustainability Policies</i>	<i>Outcomes Advanced</i>							
	<i>People</i>				<i>Prosperity</i>		<i>Planet</i>	
	<i>Access & Mobility</i>	<i>Health</i>	<i>Safety</i>	<i>Equity</i>	<i>Economic Benefit</i>	<i>Cost Effectiveness</i>	<i>Climate & Energy</i>	<i>Ecological Function</i>
<i>Transportation Infrastructure:</i>								
Improve multimodal access to and within key destinations.	✓	✓	✓	✓	✓		✓	
Ensure network connectivity by closing gaps in the bicycle, pedestrian and transit networks.	✓	✓	✓		✓		✓	
Design systems to reduce the potential for conflict between bicyclists, pedestrians, and vehicles.	✓		✓	✓	✓			
<i>Land Use:</i> Support land use decisions that locate new facilities close to existing services, particularly those that service transportation disadvantaged populations.	✓			✓		✓		✓
<i>Safety:</i>								
Prioritize funding for safety projects and programs that will reduce fatal or injury collisions.			✓					
Encourage projects that improve safety for youth, vulnerable users and transportation disadvantaged.			✓	✓				
<i>Emergency Services:</i> Support projects that provide access to emergency services.	✓		✓		✓			
<i>Cost Effectiveness & System Maintenance:</i> Maintain and operate the existing transportation system cost-effectively and in a manner that adapts the current transportation system to maximize existing investments.	✓		✓			✓		
<i>Coordination:</i> Improve coordination between agencies in a manner that improves efficiencies, and reduces duplication (e.g. paratransit and transit; road repairs; signal synchronization; TDM programs).						✓		

Sustainability Policies	Outcomes Advanced							
	People				Prosperity		Planet	
	Access & Mobility	Health	Safety	Equity	Economic Benefit	Cost Effectiveness	Climate & Energy	Ecological Function
<i>System Financing:</i> Support new or increased taxes and fees that reflect the cost to operate and maintain the transportation system.						✓		
<i>Equity:</i> Demonstrate that planned investments will reduce disparities in safety and access for transportation disadvantaged populations.	✓		✓	✓				
<i>Ecological Function:</i> Deliver transportation investments in a way that increases tree canopy, where appropriate, improves habitat and water quality and enhances sensitive areas.								✓
<i>Public Engagement:</i> Solicit broad public input on all aspects of regional and local transportation plans, projects and funding actions.				✓				

Figure 4.2 – Policies of the 2040 Regional Transportation Plan and Outcomes they Advance

Source: Santa Cruz County Regional Transportation Commission

Sustainable Rating System

For the 2014 RTP, the RTC utilized a rating system called the Sustainable Transportation Analysis Rating System (STARS), which provides an integrated set of performance measures to support development of a sustainable transportation plan. Developed by the North American Sustainable Transportation Council (STC), the STARS framework for integrating sustainability served as a model for the RTC to better align policies with desired community outcomes. A key component of the STARS system is identifying primary performance measures that achieve many sustainability objectives. These measures are referred to as “heavy-lifters;” and often address multiple aspects of the Triple Bottom Line. The goals, policies and targets included in the 2040 Regional Transportation Plan are based on the 2014 RTP goals, policies and targets and have only been updated where necessary based on new information. These goals and policies are consistent with state and federal transportation

Sustainable
Transportation
Analysis &
Rating
System

planning policies, guidelines and requirements including SB 375 required Sustainable Communities Strategy, Complete Streets, and the Smart Mobility Framework developed by Caltrans.

Key Considerations

GHG Emissions, Senate Bill 375 and Senate Bill 32

One of the key considerations in developing the goals, policies and targets was to address greenhouse gas emissions. The California Sustainable Communities and Climate Protection Act of 2008 (SB 375) requires each of the state's 18 metropolitan areas to reduce per capita greenhouse gas emissions from cars and light trucks. AMBAG is responsible for developing a Sustainable Communities Strategy (SCS) as part of the Metropolitan Transportation Plan that coordinates land use and transportation planning to reach the greenhouse gas (GHG) reduction target established for the tri-county region. The goals, policies and targets that were developed for the Santa Cruz County Regional Transportation Plan strive to reduce GHG emissions from transportation and are consistent with the AMBAG Sustainable Communities Strategy and the goals of Senate Bill 375.

In 2016, Senate Bill 32 was passed that requires greenhouse gas emissions statewide to be reduced to forty percent below the 1990 levels by 2030. This GHG emission reduction requirement is for all sectors. The percent reduction from transportation can come from a reduction in vehicle miles traveled as well as improvements in vehicle technology like electric and hybrid vehicles, and improvements in fuel standards that reduce the level of carbon in fuel.

GHG Emissions and California Transportation Plan

Senate Bill 391 (SB 391, 2009) requires the California Department of Transportation to prepare the California Transportation Plan to demonstrate how GHG emissions from transportation will be reduced to 1990 levels by 2020 and 80% below 1990 levels by 2050 as described in AB 32 and Executive Order S-03-05. The bill requires the plan to identify the statewide integrated transportation system needed to achieve these results and to demonstrate how the major metropolitan areas, rural areas, and state agencies can coordinate planning efforts to achieve critical statewide goals. The *2040 California Transportation Plan* was developed in 2015 and is required to be updated every 5 years. The 2040 RTP is consistent with the 2040 California Transportation Plan.

National Transportation Performance Measures

In 2012, the national transportation reauthorization bill, Moving Ahead for Progress in the 21st Century (MAP-21) was signed into law. MAP-21 required the Federal Highway Administration (FHWA) to establish transportation performance measures that make progress toward the following national goals:

- Safety—to achieve a significant reduction in traffic fatalities and serious injuries on all public roads.
- Infrastructure condition—to maintain the highway infrastructure asset system in a state of good repair.
- Congestion reduction—to achieve a significant reduction in congestion on the National Highway System (NHS).

- System reliability—to improve the efficiency of the surface transportation system.
- Freight movement and economic vitality—to improve the national freight network, strengthen the ability of rural communities to access national and international trade markets, and support regional economic development.
- Environmental sustainability—to enhance the performance of the transportation system while protecting and enhancing the natural environment.
- Reduced project delivery delays—to reduce project costs, promote jobs and the economy, and expedite the movement of people and goods by accelerating project completion through eliminating delays in the project development and delivery process, including reducing regulatory burdens and improving agencies' work practices.

MAP-21 also required each State and Metropolitan Planning Organizations to set performance targets for these measures. The FAST Act, the successor federal act, continues MAP-21's performance management approach, within which States invest resources in projects that collectively will make progress toward national goals. The goals, policies, targets and project list established for the 2040 RTP are consistent with the national performance measures.

The safety target was the first performance measure to go into effect. Caltrans, in cooperation with the Office of Traffic Safety, has adopted 5 safety targets for the 2018 calendar year to monitor the number and rate of fatalities and injuries including separate targets for non-motorized travel. MPOs can decide to either use the same safety targets as the state or establish their own. Targets are established annually. Additional performance measure targets that the State will be required to meet will be established in the near future.

The FAST Act requires that if the State has failed to meet (or to make significant progress toward meeting) its performance targets, the State must describe in its next performance report to FHWA the actions it will take to achieve these targets. State DOTs and MPOs will be expected to use the information and data generated as a result of the performance management regulations to inform their transportation planning and programming decisions.

Complete Streets



Another key policy consideration in the 2040 Regional Transportation Plan is planning for complete streets. The California Complete Streets Act of 2008 requires cities and counties to identify how the needs

of all users of the transportation system will be accommodated in the circulation element of their general plan. This includes pedestrians, transit riders, bicyclists, and motorists, regardless of ages and abilities. With the goal of creating roadways that safely and comfortably provide for all users, creating a network of complete streets will make progress towards every one of the 2040 Regional Transportation Plan goals. Complete Streets are equitable, healthy, cost-effective, good for environment, and improve access to goods and services. The RTC, in collaboration with AMBAG, TAMC, and SBCOG, published a [Monterey Bay Area Complete Streets Guidebook](#) in 2013. The guidebook provides resources to local jurisdictions for developing streets in the Monterey Bay Area that meet the needs of all users, including non-drivers of all ages and abilities, and help reduce greenhouse gas emissions by encouraging bicycle, pedestrian and transit usage. Items from the checklist that is included in the guidebook are integrated into RTC grant applications as a means to assist local agencies in integrating complete streets components into projects.

Threading complete streets throughout the goals and policies creates a shift in planning primarily for cars to increasing focus on the movement of people using all modes. One way of looking at it is: if people are the lifeblood of a community, then streets are its veins and arteries. From the complete streets perspective, streets not only serve the traditional role of connecting people to important destinations quickly, but they can serve as destination themselves, as places to walk with friends, ride a bicycle, view public art or enjoy social interactions.

Health and Assembly Bill 441

Health and health equity concerns have also been incorporated into the goals, policies and targets of the 2040 Regional Transportation Plan. Assembly Bill 441, championed by local Assemblyman Bill Monning and signed by Governor Brown in September 2012, acknowledges that California and the nation are facing unprecedented levels of chronic disease, which now accounts for approximately 73 percent of all deaths in California¹ and 75 percent of all United States health care expenditures². The health of California's population is largely determined by the environments in which people live. These environments, including the transportation infrastructure, shape the choices that people make every day. Assembly Bill 441 requires the California Transportation Commission (CTC) to promote health and health equity as part of the Regional Transportation Plan guidelines. In the 2017 revision of the RTP guidelines, the CTC provided a summary of the policies, practices, or projects that have been employed by metropolitan planning organizations that promote health and health equity.

Social Equity and Environmental Justice

The inclusion of the entire range of community interests in the development of the RTP is a key element in the process and is required by both federal and state law. Providing more transportation and mobility choices such as increased transit, bicycle, and pedestrian facilities, increases opportunities for all segments of the population at all income levels. Each region is required by federal regulation and state law to plan for and implement transportation system improvements that will benefit all residents. Title VI of the federal Civil Rights Act of 1964, Section 11135 of the California Government Code, and Executive Order 12898 on Environmental Justice require planning agencies to be sensitive to how all residents, particularly low-income communities and communities of color, may be impacted by possible



transportation and land use changes identified in the RTP. Existing federal regulations require the RTC to ensure that any planned regional transportation improvements do not have a disproportionate adverse impact on low income or other under-represented groups, and that minority and low-income populations receive equal benefits, on an equally timely basis, as other populations. Caltrans, as part of the statewide transportation plan, includes a policy to “Integrate health and social equity in transportation planning and decision making.” Social equity factors considered in development of the 2040 RTP include transportation affordability and access to transportation. The 2040 RTP has been developed to address the transportation needs of the entire community, and attempts to ensure that no one community bears more of the benefits or burdens of transportation investments than any other. RTP sustainability policies and targets include specific measures focused on the needs of people who are “transportation disadvantaged³⁷” due to income, age, race, disability or of limited English proficiency. In accordance with Title 23 CFR Part 450.316(a)(1)(vii) the RTC has worked with the Association of Monterey Bay Area Governments (AMBAG) to develop a public participation plan which describes explicit procedures, strategies and desired outcomes for seeking out and considering the needs of those traditionally underserved by existing transportation systems, such as low-income and minority households, who may face challenges accessing employment and other services.

Targets

The Santa Cruz County Regional Transportation Plan identified measurable outcomes, called targets for the first time in the 2014 RTP. Voluntarily establishing targets, each linked to a sustainability goal, utilizes performance-based planning to inform investment priorities to create the desired future. Striving to reach specific and measurable outcomes is consistent with the STARS recommended approach of backcasting. Backcasting allows communities to collectively focus on what they want to see happen, then select, evaluate and implement projects and programs that move the community toward these agreed upon outcomes.



The targets have been updated for the 2040 RTP and are shown in **Figure 4.3**. The adopted targets are intended to be aggressive, but reasonably obtainable. Unlike more broadly scoped community plans, the adopted targets focus on areas that transportation policies can affect. The targets reflect community input received (**Appendix A**). They were carefully crafted to be consistent with state and federal goals, and to work with available data and travel demand model outputs.

The adopted goals, policies and targets were used to prioritize projects for funding in the transportation investment program portion of the 2040 RTP. Incorporating targets into the goals and policies enables the Regional Transportation Commission to assess how well the long range plan will perform over time. Details on monitoring performance of the transportation system in advancing the targets are discussed in **Chapter 7 – System Performance**. The complete list of goals, policies and targets for the 2040 RTP can be found in **Appendix C**.

Sustainability Targets		Outcomes Advanced							
		People				Prosperity		Planet	
		Access & Mobility	Health	Safety	Equity	Economic Benefit	Cost Effectiveness	Climate & Energy	Ecological Function
<p>GOAL 1: Establish livable communities that improve people's access to jobs, schools, recreation, healthy lifestyles and other regular needs in ways that improve health, reduce pollution and retain money in the local economy.</p>	<p>TARGET 1A: Increase the percentage of people that can travel to key destinations within 30-minute walk, bike or transit trip by 20 percent by 2020 and 47 percent by 2040</p>	✓	✓	✓	✓	✓	✓	✓	
	<p>TARGET 1Bi: Reduce per capita fuel consumption and greenhouse gas emissions by 1 percent by 2020, 5 percent by 2035, and 6 percent by 2040 through a reduction in vehicle miles traveled and improved speed consistency.</p>		✓			✓		✓	
	<p>TARGET 1Bii: Reduce total greenhouse gas emissions from transportation by 1 percent by 2020 and 60 percent by 2040 through electric vehicle use, other emerging technologies, reduction in vehicle miles traveled and improved speed consistency.</p>		✓			✓		✓	
	<p>TARGET 1C: Reinvest in the local economy \$5 million/year by 2020 and \$12 million/year by 2040 from savings resulting from lower fuel consumption due to a reduction in vehicle miles traveled</p>	✓				✓	✓	✓	
	<p>TARGET 1Di: Improve travel time reliability for vehicle trips</p>	✓				✓		✓	

Sustainability Targets		Outcomes Advanced							
		People				Prosperity		Planet	
		Access & Mobility	Health	Safety	Equity	Economic Benefit	Cost Effectiveness	Climate & Energy	Ecological Function
cont. GOAL 1: Establish livable communities that improve people's access to jobs, schools, recreation, healthy lifestyles and other regular needs in ways that improve health, reduce pollution and retain money in the local economy.	TARGET 1Dii: Improve multimodal network quality for walk and bicycle trips to and within key destinations	✓	✓	✓	✓	✓	✓	✓	
	TARGET 1E: Decrease single occupancy mode share by 4 percent by 2020 and 9 percent by 2040	✓	✓	✓	✓	✓	✓	✓	
	TARGET 1F: Increase the number of active transportation trips by 5 percent of total trips by 2020 and by 18% of total trips by 2040	✓	✓	✓	✓	✓	✓	✓	
GOAL 2: Reduce transportation related fatalities and injuries for all modes.	TARGET 2A: Reduce injury and fatal collisions by mode by 20 percent by 2020 and by 60 percent by 2040		✓	✓	✓	✓			
	TARGET 2B: Reduce total number of high collision locations		✓	✓	✓	✓			
GOAL 3: Deliver access and safety improvements cost effectively, within available revenues, equitably and responsibly to the needs of all users of the transportation system and beneficially for the natural environment.	TARGET 3A: Increase the average local road pavement index to 57 by 2020 and 72 by 2040			✓		✓	✓		
	TARGET 3B: Reduce number of transportation facilities in "distressed" condition by 3 percent by 2020 and 5 percent by 2040			✓		✓	✓		

Sustainability Targets	Outcomes Advanced							
	People				Prosperity			Planet
	Access & Mobility	Health	Safety	Equity	Economic Benefit	Cost Effectiveness	Climate & Energy	Ecological Function
<p>cont. GOAL 3: Deliver access and safety improvements cost effectively, within available revenues, equitably and responsibly to the needs of all users of the transportation system and beneficially for the natural environment.</p>	✓	✓	✓	✓	✓		✓	
<p>TARGET 3C: Reduce travel times and increase travel options for people who are transportation disadvantaged due to income, age, race, disability or limited English proficiency by increasing the percentage that are within a 30-minute walk, bike or transit trip to key destinations by 20% by 2020 and 47% by 2040</p>								
<p>TARGET 3D: Ensure transportation services (and impacts) are equitably distributed to all segments of the population</p>	✓	✓	✓	✓	✓	✓		
<p>TARGET 3E: Maximize participation from diverse members of the public in RTC planning and project implementation activities</p>				✓				

Figure 4.3 – 2040 Regional Transportation Plan Performance Targets and Relationship to Triple Bottom Line

Source: Santa Cruz County Regional Transportation Commission

Notes for Chapter 4

- ¹ “The Burden of Chronic Disease and Injury – California, 2013,” California Department of Public Health (2013), <http://www.cdph.ca.gov/programs/Documents/BurdenReportOnline%2004-04-13.pdf>.
- ² “Chronic Disease Prevention and Health Promotion,” Centers for Disease Control and Prevention, accessed December 2013, <http://www.cdc.gov/chronicdisease>.
- ³ Transportation disadvantaged households are defined as non-white, low-income, or poverty. Transportation disadvantaged communities are defined as census tracts where greater than 65% of the total population is non-white; census tracts where greater than 65% of households are low income or census tracts where greater than 20% of households are in poverty. These definitions were determined by AMBAG for the Monterey Bay region in the 2035 Metropolitan Transportation Plan- Sustainable Communities Strategy. Transportation disadvantaged communities are also defined using the Assembly Bill 1550 definition for census tracts that are at or below the threshold designated as low income by the California Department of Housing and Community Development’s income limits.

CHAPTER 5

Funding Our Transportation System

Introduction

In planning which programs, projects, and actions in Santa Cruz County will advance the region’s goals, policies and targets, the Regional Transportation Plan (RTP) must consider how much funding will be available to support the transportation system, including maintaining existing infrastructure and services, and new transit, highway, local road, bicycle, pedestrian, and demand management projects. The total cost of the RTP investment strategy (also referred to as the constrained project list or Action Element) must be “financially constrained” based on revenues that are reasonably expected to be available. The “Financial Element” identifies the current and anticipated public revenue sources available to fund the planned transportation investments described in **Chapter 6 – Transportation Investments**. Based on financial projections for local, state, and federal revenue sources, approximately \$170 million per year is expected to be available to operate, maintain and improve the multi-modal transportation system in Santa Cruz County.

The 2040 RTP includes new funding from the Measure D sales tax and new Senate Bill 1: Road Repair and Accountability Act of 2017 fuel taxes and vehicle fees to help address some of the backlog of maintenance and other transportation investments to keep people moving. After decades of state and federal underinvestment in the transportation system, a supermajority of Santa Cruz County voters approved Measure D in November 2016 which invests an additional \$20 million per year into the multimodal transportation system. In April 2017, the state legislature approved Senate Bill 1 (SB1) which helps stabilize transportation funding throughout the state. SB1 is expected to provide an additional \$7 million per year to the County of Santa Cruz and local cities to maintain local streets and roads, an extra \$3 million per year for local transit, as well as significant investments to maintain and repair state highways, bridges, and culverts. In total, the 2040 RTP estimates that Senate Bill 1 will provide about \$25 million per year on average for local and regional projects.



Unfortunately, even with this recent infusion of funding, there are considerable challenges associated with operating, maintaining, and investing in the future transportation system. Projected revenues still only generate about half of what would be needed to fund all of the projects that have been identified through 2040 (Appendix F). While anticipated revenues are insufficient to fund all of the ongoing costs to maintain the existing transportation system and to implement the full list of projects and programs that have been identified by the community, the Regional Transportation Commission (RTC), cities, the County of Santa Cruz, Santa Cruz METRO, state agencies, and other transportation providers work with

the community to set clear priorities for the constrained funds and work with state and federal representatives to identify new and innovative ways to pay for transportation infrastructure and services.

Available Funds

Transportation programs and projects in Santa Cruz County are funded from a variety of local, state and federal funding programs. Based on current and projected revenue sources, approximately \$3.75 billion from federal, state, and local funding sources are reasonably anticipated to be available to finance transportation projects in Santa Cruz County through 2040 (**Figure 5.1**). A list of the specific local, state, and federal funding programs and sources is shown in **Appendix E**.

As shown in **Figure 5.2** and **Appendix E**, the public and businesses contribute to transportation funding programs through taxes and fees, primarily collected at the gas pump and at cash registers. Truck weight fees and a portion of automobile registration fees also help fund some local transportation projects and repay state debt service on past state transportation bonds.

Local Revenues: As summarized in **Figure 5.1**, although federal and state funding for transportation is critical, over 50% of anticipated revenues come from local sources, primarily local sales taxes, transit fares, and city general funds.

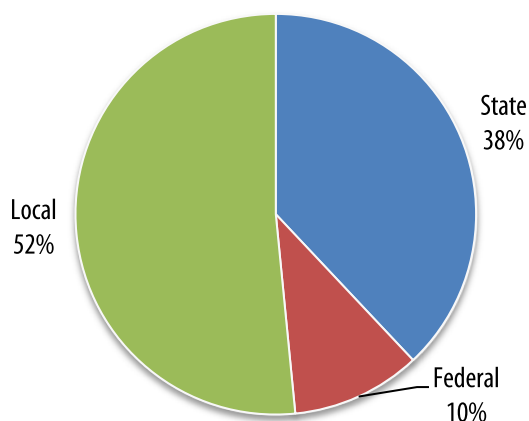


Figure 5.1 – 22-Year Revenue Forecast – \$3.75 Billion (2018 Dollars)

Source: SCCRTC

State Revenues. State revenues, including state gasoline and diesel taxes and fees that are allocated by formula to cities, the County of Santa Cruz, and transit, make up approximately 38% of revenues available for transportation projects in Santa Cruz County. About half of state funds expected to be available in Santa Cruz County are allocated by the California Transportation Commission (CTC) to Caltrans to operate, maintain, and improve safety on the state highway system.

Federal Revenues. Federal funding is generated from per gallon federal gasoline taxes, which have not increased since 1993, and are supplemented by Federal general funds deposited in the “Highway Trust Fund” (HTF). The amount of federal funding available, types of programs funded, and rules associated with those funds is based on the federal transportation act. In 2015, Congress approved the Fixing America’s Surface Transportation Act (FAST Act), the first long-term transportation authorization since 2005. In Santa Cruz County, federal revenue sources total about 10% of the projected revenue through 2040. Federal funds are made available to projects in Santa Cruz County primarily through Federal Transit Administration (FTA) grant programs, safety and bridge program grants available to local jurisdictions and approximately \$3.5 million per year to the region for the Surface Transportation Block Grant Program (STBG).

Depending on the federal transportation act (currently the FAST Act), annual appropriations bills, the California and local budgets, diesel and gasoline consumption, and the general condition of the local and global economy, funding levels for most funding programs may change significantly from year to year.

MAJOR TRANSPORTATION REVENUES IN CALIFORNIA

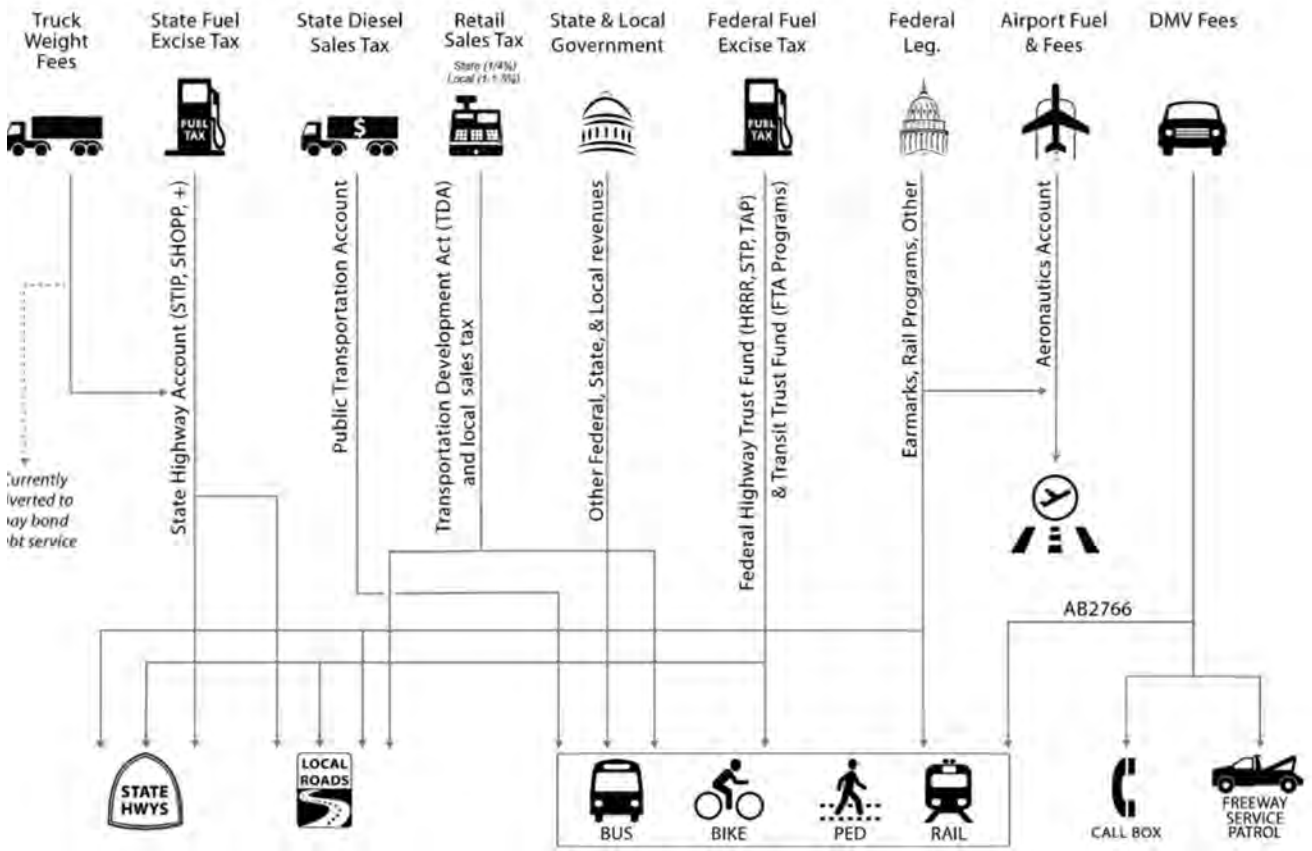


Figure 5.2 – Major Transportation Revenues in California

Source: Caltrans and Santa Cruz County Regional Transportation Commission, 2017

Restricted versus Flexible Funds

As shown in **Figure 5.3**, of current and projected future revenue sources, most revenues available for transportation projects and programs identified in the Regional Transportation Plan (RTP) are highly restricted (or “dedicated”) by federal, state, or local regulations for use by specific jurisdictions, agencies and/or types of projects. For example, some funding sources may only be applied to projects that support transit or airport facilities, while other sources are exclusively for road maintenance or capital projects on the state highways. This includes nearly \$700 million in State Highway Operation and Protection Program (SHOPP) funds that can only be used for maintenance and safety projects

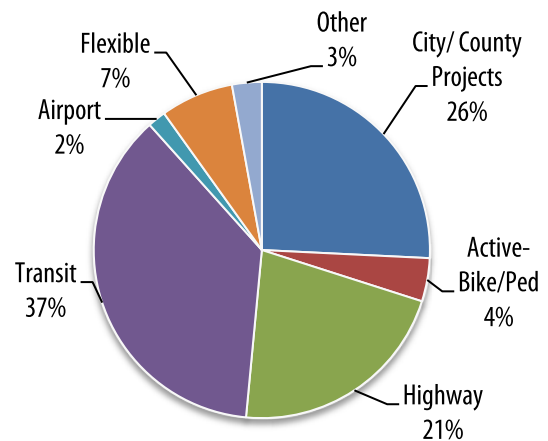


Figure 5.3 – Funding Restrictions by project type

Source: SCCRTC

on state highways through 2040. Over one third (1/3) of local, state, or federal funds can only be used on transit and paratransit projects and operations, including the local ½ cent transit sales tax (approved by Santa Cruz County voters in 1978) and rider fares designated for the Santa Cruz Metropolitan Transit District (METRO), 20% of Measure D revenues, LiftLine rider fares, and funds from the Federal Transit Administration. Most funds allocated to cities and the county can be used on a variety of projects – including local road, bicycle, and pedestrian projects. In selecting projects for the constrained investment strategy, the project list must match with the funds dedicated to specific project types or agencies.

The RTC has discretion over about 4% of the funds available for transportation projects (approximately \$7 million per year). These funds are from regional shares of the State Transportation Improvement Program (STIP), Surface Transportation Block Grant Program (STBG) and SB 1- Local Partnership Program. The RTC typically distributes these funds through a competitive process based on how well projects advance the priorities identified in the RTP policy element (Chapter 4) and criteria established by the California Transportation Commission (CTC) and federal law. In addition to these discretionary funds, State Transit Assistance, Transportation Development Act, and Measure D funds flow through the RTC’s annual budget to the Metro, local jurisdictions and other partner agencies by formula for purposes that are restricted by state law and the Measure D ordinance. Other agencies are responsible for selecting projects for the remaining funds.

New Revenues

Measure D. In response to ongoing funding shortfalls and the large backlog of maintenance and other projects, Santa Cruz County voters approved Measure D in November 2016, a 30-year half-percent sales tax dedicated to local transportation projects and programs. Measure D provides approximately \$20 million per year in stable funding for projects in Santa Cruz County, which cannot be taken away by the state. Funds are distributed by formula to cities, the County of Santa Cruz, Santa Cruz METRO, and other local transportation agencies and categories of projects, as outlined in the Measure D

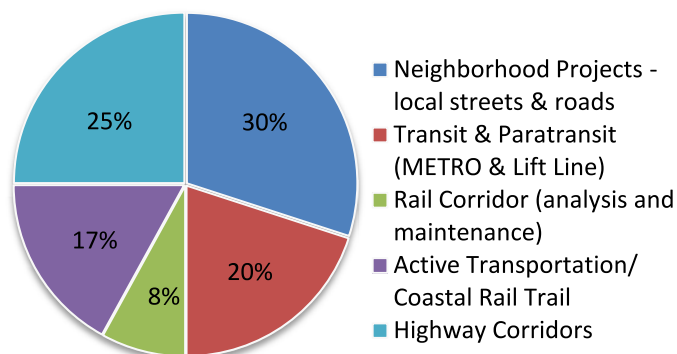


Figure 5.4 – Measure D Investment Categories

Source: SCCRTC

Ordinance and Expenditure Plan and summarized in **Figure 5.4**. With passage of Measure D, Santa Cruz County became a “self help” county, joining 85% of California’s population that lives in counties whose voters approved transportation ballot measures.

Senate Bill 1. In recognition that traditional state funding sources, such as gas taxes, have not kept pace with demands on the multimodal transportation system and the cost of transportation projects, in 2017 the California legislature stabilized transportation funding through Senate Bill 1 (SB1) - The Road Repair and Accountability Act. SB1 helps address the diminishing value of the state gasoline and diesel tax revenues by adjusting fees to address inflation (the state gasoline tax was last increased in 1994), increased fuel economy of vehicles, and the range of uses of the transportation system, while increasing transparency and accountability measures on how funds are used. About 30% of SB 1 revenues are

distributed by formula to cities and counties for local road maintenance and rehabilitation and about 35% to Caltrans to maintain the state highway system.

Because county voters have approved local sales taxes dedicated for transportation purposes, Santa Cruz County will also receive a share of \$200 million that is available statewide per year through SB1. This Local Partnership Program recognizes and rewards communities that have approved local “self-help” sales taxes and fees. In addition, SB1 creates a variety of programs under which Santa Cruz County jurisdictions will be able to compete for funding. These include the Active Transportation Program for bicycle and pedestrian projects; Congested Corridors Program for highway, transit, local road, bicycle and pedestrian facilities, and restoration and preservation to protect local habitat (\$250 million/year statewide); and the local planning grants program to encourage local and regional planning that furthers state goals (\$25 million/year statewide). **The RTP estimates that approximately \$500 million in SB 1 funds will be available for highway maintenance (SHOPP), local road, transit, and other projects through 2040.**

California Cap & Trade Program. As part of the implementation of AB 32 (the Global Warming Solutions Act of 2006), the California Air Resources Board (ARB) established a cap-and-trade program to cap greenhouse gas emissions (GHG) statewide. The program sets a limit or *cap* on the total amount of greenhouse gas that may be emitted and collects fees from businesses that emit greenhouse gases. While revenues from cap-and-trade auctions have fluctuated significantly, beginning in Fiscal Year 2015/16, state statutes were approved which continually designate 25% of proceeds for High Speed Rail, 10% to the Transit and Intercity Rail Capital Program (TIRCP), 5% to the Low Carbon Transit Operations Program (LCTOP) for new or expanded bus or rail service and capital projects that reduce greenhouse gas emissions, and 20% for Affordable Housing and Sustainable Communities Program (AHSC). While most of these are competitive programs that favor larger regions or areas that meet a state definition of “disadvantaged communities” (which does not apply to almost all of Santa Cruz County), the 2040 RTP assumes that local transportation programs will secure at least some of these funds over the next 22 years (nearly \$30 million).

Funding Uncertainties

Financial projections developed for the RTP reflect the best estimates currently available. These projections are meant to be used as a general tool to assist the RTC, local jurisdictions and other project sponsors in determining what projects are reasonable to pursue and prioritize in the short and long term. However, forecasting the amount of funding that will be available for transportation is a challenging and somewhat speculative exercise. Actual revenues will vary from year to year.

The availability of the funding identified in the 2040 RTP is also dependent on state, federal, and local taxes, fees, and other sources continuing to exist or being replaced with other funding mechanisms. The reliability of funding projections can also be impacted by changes in the economy, state and federal laws, environmental mandates, fuel consumption, and related gas tax revenues. Since adoption of the 2010 RTP, several funding sources that agencies had historically relied upon have been eliminated, such as the sales tax on gasoline for transportation (Proposition 42) and federal programs eliminated in 2012 with adoption of the federal transportation act MAP-21. Many local jurisdictions were particularly hard hit in 2010 by the elimination of redevelopment agencies and related funding. In Santa Cruz County, redevelopment agencies had spent millions of dollars annually on transportation projects, including roadway repairs, new sidewalks, bicycle lanes, highway projects, and transit facilities, before they were

dissolved by the California State Legislature and redevelopment funds redirected to the State General Fund.

Additionally, SB 1 revenues, approximately 14% of the constrained revenues (about \$25 million/year) have been threatened and it is possible that a repeal initiative will be on the November 2018 statewide ballot. Without SB1, there would be more potholes, less funding for safety projects on highways and local roads, and Santa Cruz Metro will not be able to replace as many buses as are needed to maintain existing bus service.

Without SB1, there would be more potholes, less funding for safety projects on highways and local roads, and Santa Cruz Metro will not be able to replace as many buses as are needed to maintain existing bus service.

Funding Shortfalls – A Local, State, and Federal Challenge

As noted earlier, while \$170 million per year and \$3.75 billion over 22 years may seem like a lot of money, \$7 billion in projects and programs have been identified by local agencies and the public through 2040 (**Appendix F**). The significant shortfall in transportation funding is not unique to Santa Cruz County. The combination of state, federal and local revenues designated for transportation no longer pay for transportation projects at the same levels they have in the past. Aging infrastructure, heavier trucks and buses, rising construction costs, and new regulatory requirements could also impact project costs. Increasing traffic and expanded use of transit service, bicycles and pedestrians facilities also place increased demands on the transportation system.

Another major challenge is that transportation has historically been funded by revenues generated at the gas pump, which decline with better vehicle fuel efficiency. While use of transportation facilities and services is ever increasing, the purchasing power of state and federal gas taxes and fees has not kept pace with the cost to operate and maintain the transportation system. As more vehicles get better gas mileage or use alternative fuels or electricity, fewer gas taxes are collected for the same amount of vehicle miles traveled; so even when gas prices increase, gasoline tax revenues decline as compared to how much people drive, resulting in significantly less funding for transportation projects.

Since Federal gas taxes have not been increased since 1993, the Highway Trust Fund is regularly on the brink of going bankrupt, forcing Congress to repeatedly shift general funds to bail it out and Federal funds have been making up a declining percentage of transportation funding, down to 20% nationwide. Because our county does not have as many facilities that are considered “nationally significant” as some other areas (such as large metropolitan areas and areas serving ports or major truck routes), Federal funds make up only 12% of the transportation funds in Santa Cruz County. By 2020, unless Congress provides the highway trust fund with a more sustainable source of dedicated revenues, additional bailouts from other revenues will be needed to cover an estimated \$18 billion annual gap. While federal funds make up only a portion of transportation budgets, state transportation agencies and transit agencies nationwide anticipate having to delay or cancel projects and services because of the long-term uncertainty in federal funding.

In 2018, Congress began debating a possible infrastructure funding plan, which could provide additional funding for transportation, water, and other infrastructure projects. The Trump Administration proposes using federal funds to incentivize private financing, with federal funds expected to be offset by spending reductions in other areas. Given uncertainties surrounding proposals, new funding from a potential infrastructure plan are not included in the 2040 RTP. If passed, new federal funds might expedite delivery

of priority projects and allow additional projects to be implemented through 2040. While Congress and President Trump agree that the nation's infrastructure is a priority, there has been no consensus around specific programs that would be funded or how to pay for transportation system projects.

Potential Future Revenues

Since existing revenue sources are insufficient to address all of the needs in the region, the RTP also identifies some additional strategies that could address some of the funding gaps. Potential revenue sources that do not currently exist, but which could supply significant transportation funds for our region in the future, include new vehicle weight fees and replacement of state and federal gas taxes with road user charges.

Road User Charges. The decline in purchasing power of gas tax revenues due to inflation and decline of revenue on a per-mile basis as vehicles become more fuel-efficient has caused leaders around the U.S. to look for alternatives for funding the transportation system. A number of states are looking towards a road usage charge (a.k.a. mileage based user fee or vehicle miles traveled-VMT fee) where drivers would pay for the roads, as they do other public utilities, based on how much they use them. With technological advancements this new approach to directly charge roadway users has become feasible. This type of system can be implemented while still protecting the privacy of road users. Road user charges will cost more to collect than the gas tax but will produce greater and more stable net revenue.

In 2016 and 2017, California conducted a pilot program to study the feasibility of a mileage-based fee to replace existing gas taxes in California. While federal and state agencies are investigating replacing the deteriorating gas tax with a road user charge based on the number of miles driven this funding option is unlikely to be realized for many years.

Local Vehicle Registration Fees. The RTP also assumes that a new local \$10 vehicle registration fee will be approved that raises \$31 million by 2040, as allowed under Senate Bill 83.

Other potential revenues. While not assumed to be available for constrained projects through 2040 in this RTP, examples of some of funding mechanisms other areas and states have implemented to fund transportation projects include: special assessment districts, transit benefit districts, users fees and fares, regional development fees, state general obligation bonds, tolls, vehicle sales taxes, truck and other vehicle weight fees, utility partnerships, hotel/motel lodging fees, increased general fund investments, private investments, and special grant programs.

Methodology for Projecting Available Funds

The financial projections in this RTP are based on reasonably foreseeable revenues. The projections were calculated based on a combination of historical averages, current trends, and/or state and federal actions. In most instances, base-year figures for formula funding sources (those that the region typically receives every year according to population, road miles, or fixed factors) reflect the amount of funding available in Fiscal Year 2017/18. In other instances, historical averages were used to calculate anticipated revenues. For sporadic funding sources, the RTP's calculations use a fixed percentage of the total statewide amount available for the base-year figure, based on Santa Cruz County's share of the state population.

Financial projections were developed in coordination with partner agencies in the Monterey Bay region, including the Association of Monterey Bay Area Governments for federally-mandated Metropolitan

Transportation Plan (MTP), cities, the County of Santa Cruz, Santa Cruz METRO, and other agencies providing transportation services. Projections are consistent with those figures shown in the California Transportation Commission's (CTC) State Transportation Improvement Program Fund Estimate and Federal Transportation Improvement Program (FTIP).

CHAPTER 6

Transportation Investments

Identifying Needs

The Action Element of the RTP is a list of programs, projects and actions needed to operate, maintain, and improve the transportation system in Santa Cruz County (**Appendix F** - Project List). The cost to implement all of these projects is \$7 billion through 2040. The RTP project list strives to assess the full cost to operate, maintain, and improve all modes of the transportation system in Santa Cruz County. The project list encompasses over 570 projects aimed at meeting the transportation needs of the community through 2040.

The Action Element includes:

- Highway, local road, bicycle, pedestrian, transit, airport, goods movement, transportation demand management (e.g. carpool and traveler information), and transportation system management (e.g. signal synchronization, transit signal priority) projects;
- Operation and maintenance costs of existing transportation facilities – such as bridges, pavement, sidewalks, and public buses;
- Projects local agencies identified through their own planning processes, including transportation studies, General Plans, and capital improvement programs;
- Projects identified by members of the public and public interest groups;
- Projects recommended by RTC advisory committees;
- Projects resulting from a Complete Streets Needs Assessment, which identified projects that would increase safety and promote greater use of active transportation (biking, walking, transit) near major activity centers.

Prioritizing Projects

The transportation needs identified in the Action Element far outweigh revenues available from 2018 through 2040. As discussed in the financial section of this plan, only \$3.75 billion in local, state, and federal funds is reasonably expected to be available through 2040, but \$7 billion is needed to fully fund all of the projects identified in the RTP. An additional \$150 million per year in new taxes, fees, and other revenues beyond what was identified in the Financial Element (**Chapter 5**) would be required to deliver

all of the transportation projects identified in **Appendix F**. Given the significant gap between funding needs and projected revenues, the projects listed in the RTP were divided into two groups:

1. *Within Projected Funds (“Constrained”) Projects* —Priority projects that could be funded over the next 22 years with reasonably foreseeable transportation revenues including dedicated and already programmed funds (\$3.7 billion).

2. *Need New Funds (“Unconstrained”) Projects* —Projects that cannot be implemented over the next twenty-two years unless there are significant changes in the amount of local, state, and federal funding available for transportation.

Within Projected Funds (Constrained) Project List

The 2040 RTP is a minor update to the 2014 RTP. The projects on the constrained list for the 2040 RTP reflect the work performed by the RTC utilizing the Sustainable Transportation and Analysis Rating System (STARS) in developing the project list for the 2014 RTP. The STARS sustainability framework served as a tool to screen projects for their ability to provide the greatest benefit for our region from limited transportation dollars. RTC also worked closely with AMBAG on a scenario planning process to identify priority projects given financial constraints. The AMBAG scenario planning process supported the development of the state-mandated Sustainable Communities Strategy (SCS) to reduce greenhouse gas emissions as forecasted in the MTP. The preferred scenario defines the transportation projects that are on the constrained project list in the RTP and MTP (**Appendix F**).

Input was solicited from project sponsors, public, public interest groups and RTC committees in developing the final project list that identifies the projects as either constrained and/or unconstrained. The within projected funds or “constrained” project list consists of over 220 projects that could be implemented over the twenty-two year timeframe and the need new funds or “unconstrained” list includes over 230 projects that will need additional funds in order to be implemented. Approximately 120 projects are identified as both constrained and unconstrained. For these projects, only a portion of a project could be funded over the next twenty-two years, and it will be necessary to secure and/or generate additional funding sources (beyond those identified in **Appendix E**) to fulfill all the needs. For some capital projects, if new funds do not become available, a project may have to be scaled back and only a portion of the project built.

Summary of Constrained Projects

In order to meet the goals and targets of the 2040 RTP, both short term and long term strategies need to focus on developing a multimodal transportation system that provides safe choices for how people travel. The following sections provide a summary of how the transportation investments that have been prioritized for the 2040 RTP advance the sustainability goals and policies identified for this RTP.

Goal 1 – Access and Environment

One of the goals of the RTP is to improve people’s access to daily needs in ways that improve health, reduce pollution and improve the economy. The constrained project lists addresses this goal through a variety of projects.

Highway. The RTC and Caltrans have made several improvements to the Highway 1 Corridor over the last decade and the 2040 RTP continues to include funding for Highway 1 improvements. The 2040 RTP includes three new auxiliary lanes projects (Soquel to 41st Ave, Bay/Porter to Park Ave, and Park Ave to State Park Drive), funded by Measure D, that are expected to smooth traffic flow and improve safety by extending the distance available for merging. The northbound auxiliary lane from San Andreas Rd to Freedom Blvd is also included on the constrained project list. The auxiliary lanes projects are stand alone projects but along with interchange reconstruction are designed to provide the additional width necessary for high occupancy vehicle lanes in the future.

High occupancy vehicle (HOV) lanes on Highway 1 are identified as a need and are listed on the full project list for the 2040 RTP. However, the cost of completing the entire HOV lanes project on Highway 1



(approximately \$600 million) is beyond the amount of discretionary funding that can be used for highway projects in our county through 2040. Additional Highway 1 Corridor projects, including several new interchanges, that would need to be designed and constructed in advance of HOV lanes are identified in the unconstrained project list as needs that are not currently financially feasible with revenues projected through 2040. This is especially true given the need to maintain existing transportation facilities, including local roadways. If other revenue becomes available, it is possible that more of the Highway 1 Corridor projects on the project list could be implemented to move closer to adding HOV lanes to Highway 1. Nine percent of the projected funds are

designated for highway improvements and 13% for highway maintenance.

Transportation System Management. There is a broad array of strategies to better use capacity of the existing transportation infrastructure. These techniques improve the operation of the transportation system; reduce congestion, travel times, and fuel lost to traffic delays; and provide more consistent travel times day to day. RTP projects that support the goals of greater efficiency include:

- **Incident management.** Collisions and other incidents can cause travel times to be unpredictable and significantly prolonged. A variety of technologies and programs included in the RTP help identify, respond to, and clear incidents, including Freeway Service Patrol, call boxes, closed-circuit TV cameras, and traffic management centers.
- **Arterial management.** Coordinated signal timing, separate queues and priority at signals for high occupant vehicles/buses, roundabouts and additional intersection improvements provide for increased traffic flow and have been prioritized in the 2040 RTP.



Transit Efficiencies and Improvements. Santa Cruz Metropolitan Transit District (METRO) runs an extensive public transit system. Thirty-four percent of projected transportation funding identified in the RTP is designated for transit, with a significant portion of those funds from a local half-cent sales tax approved by Santa Cruz County voters in 1978. The passage of Measure D in 2016 provides the Metro with 16% of the Measure D half-cent sales tax funds over a 30 year period. This RTP includes projects focused on increasing transit ridership. Strategies include:

- **Reduced Travel Times:** Improve travel times through reduced headways, transit signal priority, and transit queue jumps. **Increased Levels of Service:** Increased frequency on high ridership and express service routes have been prioritized on the 2040 project list.
- **Passenger amenities: Bus stop improvements** totaling \$500,000 are prioritized in the RTP. These improvements include shelters, benches, and lighting. Upgrades to park-and-ride lots are also prioritized in the RTP.
- **Bus and Paratransit vehicle replacements:** Bus and van replacement totaling over \$80 million are prioritized in the 2040 RTP
- **Access to Transit:** Most bus riders walk to bus stops. In order to increase ridership, this RTP invests in new sidewalks, curb ramps, and improved pedestrian crossings that provide safer and more appealing access to transit.
- **Traveler Information:** Real time transit schedule information can be provided online, via mobile applications, and at bus stops if the infrastructure is in place. This plan calls for funding equipment to provide real time transit schedule information.



Rail. In 2012, the RTC purchased the Santa Cruz Branch Rail Line right-of-way. Funds for the rail right of way provided by Measure D include an analysis (including environmental and economic analysis) of future potential use to better serve Santa Cruz County residents and visitors.

Active Transportation. This RTP prioritizes numerous projects that encourage walking, bicycling, and taking transit as an alternative to driving especially near major activity centers. Approximately 12% of the constrained RTP project list is designated for pedestrian and bicycling improvements and programs. The RTP prioritizes projects that fill gaps in the bicycle network and provide separated bicycle and pedestrian paths to promote new riders and encourage physical activity. These include two new bicycle/pedestrian bridges over Highway 1 that will provide improved access over the highway. Funding prioritized for the Monterey Bay Sanctuary Scenic Trail (MBSST), the Pajaro River Levee Trail and the San Lorenzo Valley Trail are examples of this commitment to active transportation. Investments



in new bicycle lanes, bicycle parking, bike-accessible transit, and bicycle education programs are also included. Traffic calming measures in business districts and neighborhoods can make walking and bicycling more attractive by reducing automobile speeds. Several projects in the RTP include landscaping, bulb-outs, speed bumps and other traffic calming measures. The 2040RTP strives to increase the number of people who are using active forms of transportation through providing greater connectivity, higher quality facilities, education and encouragement programs, and evaluation of progress over time.

Transportation Demand Management. Transportation demand management (TDM) is a general term for strategies that increase transportation system efficiency through a reduction in demand, especially during peak periods. TDM strategies can reduce automobile use by making alternatives more desirable through incentives or make automobile use less desirable through disincentives such as increased travel costs.

The RTP includes several TDM strategies that increase the efficiency of existing transportation facilities by promoting carpooling, vanpooling, and use of transit, as well as increasing bicycling and walking. Rideshare matching services and individualized assistance to employers, schools, and residents facilitate use of alternatives to driving alone. TDM services that promote employers to allow a flexible work schedule or allow employees to telecommute will reduce demand during the peak hours. Providing easy access to up-to-date information about transportation options is a key component of TDM. 511 Traveler Information will provide people with information on roadway conditions as well as alternative transportation options. Motorists may change their route, when they travel, or mode to avoid congestion.

Goods Movement. Goods movement benefits from reduced congestion and predictable travel times. Projects to improve traffic flow and travel time reliability of our roadways are being prioritized in the plan including Highway 1 auxiliary lane projects, Freeway Service Patrol, intersection improvements, signal synchronization and 511 traveler information. Prioritization of active transportation projects may also reduce traffic congestion in key destination areas as people shift from driving to biking and walking.

Goal 2 – Improve Safety

Ensuring the safety of people using the transportation system is a key goal of the RTP. Safety can be improved through enforcement of traffic laws, motorist education of rules, facility design and emergency response. The 2040 RTP continues investing in programs that increase the safety of the transportation system in Santa Cruz County. These programs include

Motorist Aid. The RTP prioritizes programs that help remove stranded motorists from the highway to reduce the risk of collisions. The Freeway Service Patrol, which operates tow trucks that clear incidents and tow vehicles off segments of Highway 1 and Highway 17, reduce the potential for secondary collisions. The call boxes located on state highways can be used by motorists to seek help.

Enforcement. The number of injuries and fatalities can be reduced by enforcement of traffic laws on our roadways to reduce unsafe driving practices. The RTP continues to fund the California Highway Patrol to provide extra enforcement on Highway 17.



Education. The RTP continues to invest in bicycle and walking safety education programs that result in increased use of safety equipment (helmets and lighting), increase predictable and responsible behavior and raise awareness about risk factors to decrease the risk and severity of collisions. The RTC partners with a number of agencies to promote transportation safety to Santa Cruz County residents.

Safe Routes to School. The 2040 RTP invests in programs that construct or repair crosswalks, sidewalks, trails and traffic calming measures that enable children to safely walk and bike to school.

Traffic Calming. There are a number of traffic calming projects that are prioritized in the RTP that will reduce the speed and volume of automobile traffic on local roads and thus can reduce the likelihood and severity of collisions.

Highway. The RTP invests in three Highway 1 auxiliary lanes projects that will reduce opportunities for conflicts by supplying longer distances for vehicles to merge in and out of the through lanes.



Bicycle and Pedestrian Facilities. The RTP prioritizes projects that will expand the network of sidewalks, bike lanes, bike treatments and multiuse trails which separates active transportation modes from motor vehicles thereby reducing opportunities for collisions. Intersection improvements prioritized in the RTP, with particular attention to bicycle and pedestrian movements and ADA accessibility, will help to reduce incidents at intersections. Nationwide, roughly 50% of the serious injury collisions and 21% of the fatal collisions occur at intersections.¹

Security/Emergency Services. Transportation systems can be greatly impacted by natural disasters or security incidents. Transportation systems are also a critical part of the response effort by connecting law enforcement and safety responders to the incident site and handling the public’s transportation needs in response to the incident. Consistent with the California Strategic Highway Safety Plan and emergency relief and disaster preparedness plans, the 2040 RTP continues to invest in projects that provide security and emergency services. Surveillance and communication are key components to facilitating effective response and recovery efforts. Changeable message signs and CCTV cameras on the highways provide real time incident and traffic operation information. Cameras and security lighting at transit centers and bus stops are part of METRO’s ongoing operations. A 511 Traveler Information System provides a centralized location to communicate travel conditions during an emergency. Additionally, the transit system can play an important role in assisting the public during times of emergency by helping to provide transport out of or around affected areas.

Goal 3 - Maintain the Existing Transportation System and Provide Access Equitably

System Maintenance. The cost to maintain our existing transportation system is accelerating as the backlog of roads in disrepair keeps increasing. This is due primarily to funding shortfalls for maintenance over the last many years as well as higher costs associated with maintaining an aging system. As shown in **Figure 6.1**, the cost to fix roadways increases exponentially as a roadway deteriorates. Note the cost difference per square yard (sy) for sealing versus overlays versus reconstruction. For that reason, it is oftentimes more cost effective to regularly repair some roadways that are in fair condition, rather than to rebuild roadways with severe deterioration. The longer there is a delay in maintenance of our streets and

roads, the rate of deterioration accelerates, and the greater the future maintenance costs. Preserving the existing infrastructure is a key focus of this RTP. Local jurisdictions and Caltrans have developed Pavement Management Systems (PMS) to spread funding for maintenance as far as possible.

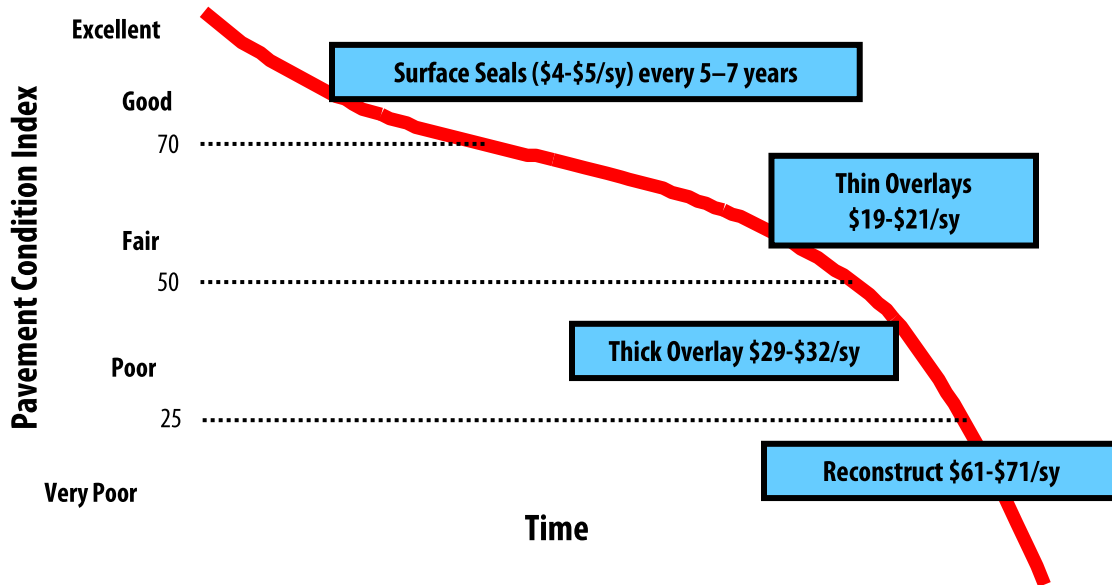


Figure 6.1 – Cost of Road Maintenance

Source: 2016 California Statewide Local Streets and Roads Needs Assessment

Highway Maintenance. The 2040 RTP also includes Caltrans State Highway Operation and Protection Program (SHOPP) projects that provide operational improvements, address collision reduction mandates and preserve the current highway system.

Maintenance of current transit infrastructure: The transit system needs consistent funding for maintaining the system. Buses need to be replaced; transit centers updated; bus shelters, service vehicles and operations facilities need to be maintained. Fleet maintenance, bus replacements, physical plant upgrade, and transit center renovations have all been partially funded in the RTP.

Equity. The RTP project list has been developed to address the transportation needs of the entire community, and attempts to ensure that no one community bears more of the benefits or burdens of transportation investments than any other. The 2040 RTP accomplishes this by soliciting broad public input, building on strong community-based partnerships, and identifying projects that support an integrated and multi-modal system that improves mobility and access for all communities in the region.



Fund Distribution

A breakdown of project costs by transportation mode for projects listed on the constrained list is shown in **Figure 6.2**. Many projects included in the constrained list are multimodal. For example, a project on a local road may include roadway repairs, new bicycle lanes, new sidewalks, and intersection improvements and thus funds for these projects will be distributed amongst the various modes.

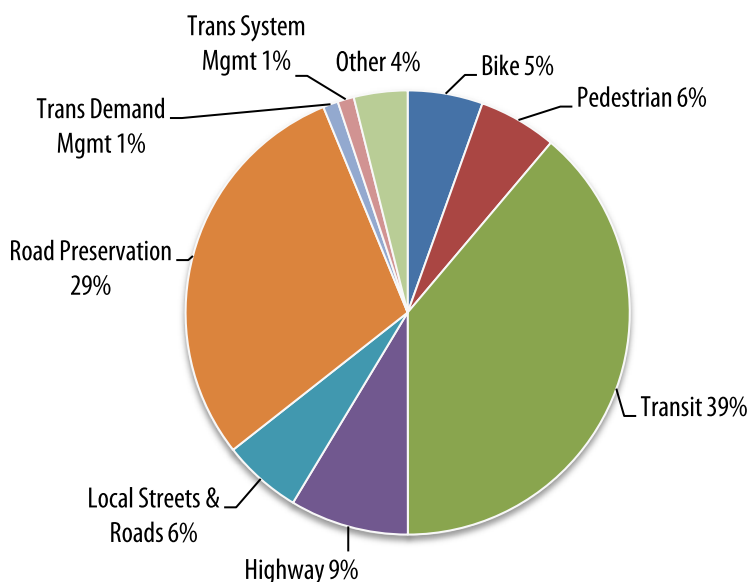


Figure 6.2 – Fund Distribution by Mode (\$3.75 billion - Includes Dedicated and Discretionary Funds)

Source: Santa Cruz County Regional Transportation Commission

The Need New Funds (Unconstrained) Project List

While many projects can be funded within the revenues projected for the next 22 years, there are a great many proposed projects which still cannot be funded within projected revenues. Projects that “Need New Funds” (**Appendix F** – “Unconstrained” column) include projects that are not financially feasible through 2040, may be lower priority, have potentially significant environmental constraints, and/or do not advance regional targets to the same level as other projects. It represents the next tier of projects and programs that could be pursued if new revenue sources are generated or become available to the region.

These additional roadway projects, public transit services, pedestrian and bicycle facilities and other projects are important to both the public and local agencies, but are feasible only if projected revenues are supplemented either through increased local taxes or other new local, state or federal funds.

Implementing the Investment Program

Together, the 2040 RTP’s constrained and unconstrained projects reflect the wide range of transportation needs in Santa Cruz County and serve as the basis for investing future transportation funds. Development of the project list, however, is just the first step towards actual implementation of the

projects, as the majority of the projects are not yet scheduled to receive funding. **Figure 6.3** outlines the main steps that bring a transportation project through development, funding and implementation. Project implementation can take from six months to 20 years, depending on the size and complexity of the project, the availability of funding, and whether or not the project is exempt from certain state and federal mandates. Often, a project is delayed during the environmental phase due to the need for several levels of federal and state agency approvals. In other cases, delays may be due to public concerns with a project.

Absence of reliable funding can create stops and starts during a project's development, which is particularly costly to transportation projects that require long lead times. A project may achieve a milestone only to find funding for the next phase has been postponed. Long lags between project phases can require project sponsors to redo costly studies to address updated conditions once funding for the subsequent phase becomes available. Reliable funding sources, as provided by Measure D, help to stabilize project costs.

Project Cost

Since most new projects must be shoe-horned into already built-up urban areas, it is not a simple or inexpensive proposition to add new highway lanes, widen city streets to add car or bicycle lanes and sidewalks, start new rail passenger service or build new bus facilities. Additionally, project costs identified in the RTP are estimates. Once a project undergoes environmental review and final design, the project cost estimate will be updated and may differ significantly from that shown in a large scale planning document such as the RTP. For instance, the cost of implementing transportation projects is subject to fluctuations in the prices of oil, steel and cement. Project delays, environmental constraints, neighborhood opposition, and right-of-way needs can also increase costs and in some cases may even cause a funded project to be withdrawn. With limited funds available, project sponsors oftentimes are left with few options but to significantly scale back plans or to initiate environmental review and design work before construction funding is secured.

Building Transportation Projects

1. Need - Need for project identified by a public agency, member of the public, a private business, or a community group.
2. Planning - Project included in planning documents, such as the Regional Transportation Plan, State Highway Operation and Protection Program (SHOPP), General Plan, Climate Action Plan, and/or Capital Improvement Program. Public input is encouraged.
3. Scope Defined - Project sponsor prioritizes project and develops preliminary cost estimates and defines scope of project. For highway projects, a Project Initiation Document (such as a Project Study Report) is prepared by Caltrans or a local agency with Caltrans oversight to provide this information.
4. Secure funding - Project sponsor seeks and secures funds for project. Project sponsors may approve local funds (e.g. general funds, gas taxes) in their annual budget, submit grant applications to other agencies for funds [e.g. RSTP (RTC), STIP (RTC and CTC), AB2766 (Air District), safety and bridge (Caltrans), etc], or seek voter approval for funds (e.g. sales tax measure, parcel fees). Projects approved for state or federal transportation funds are included in the Regional (RTIP), State (STIP), State Highway (SHOPP) and/or Federal Transportation Improvement Program. Public input is encouraged. Securing funding can take several years.
5. Environmental review and preliminary design - Analysis to ensure consistency with local, regional and coastal plans/policies, identify environmental impacts and mitigation measures in accordance with state law (CEQA). Federally-funded projects must also undergo NEPA review. Public input is encouraged. Depending on the size and potential impacts of projects, environmental review and preliminary design can take 1 month to several years.
6. Approvals - Obtain approvals, agreements and/or permits from resource agencies. Approvals can take months to years.
7. Final Design - Development of final design, includes development of project specifications and estimates used by contractors to bid on a construction project. Design can take 1 to 3 years.
8. Right of way acquisition - Acquire rights of way and relocate utilities if needed. Acquisition can take months to 2 years.
9. Construction - Prepare and advertise construction contract, hire construction contractor and construct project. Construction can take months to 2 years.

Figure 6.3 – Typical Stages of Transportation Project Development

Source: Santa Cruz County Regional Transportation Commission

Funding Decisions

The 2040 RTP is an important tool for identifying the community's transportation priorities. The policy and project lists within the 2040 RTP will help guide future funding decisions. Projects will be given priority for funds that come under the RTC's discretion based on their ability to meet criteria established by the RTC. The analysis of project benefits will inform future funding discussion. This analysis will occur during grant cycles for new federal, state and local funds, which generally occur every two years, depending on the program. Projects eligible for other state, federal and regional funding not under the RTC's discretion, also need to be included in the 2040 RTP project list and/or consistent with the adopted Regional Transportation Plan goals and policies. Construction of planned projects on this list is not assured until actual funds are allocated.

Notes for Chapter 6

- ¹ “Intersection Safety,” U.S. Department of Transportation, Federal Highway Administration, accessed January 2014, <http://safety.fhwa.dot.gov/intersection/>.

CHAPTER 7

System Performance

Performance-based planning is a strategic approach that uses key information to help inform investment decisions. The performance of the previous regional transportation plan for Santa Cruz County completed in 2014 was analyzed in detail to determine how well the constrained list of transportation projects and programs advance the goals and targets established for the 2014 RTP and affect the county's future. The analysis that was performed is still largely applicable to the 2040 RTP given that the project list for the 2040 RTP has not changed substantially from the 2014 version. The performance measure analysis that was developed for the 2014 RTP can be found in **Appendix D** for reference. The 2040 Monterey Bay Area Metropolitan Transportation Plan – Sustainable Communities Strategy also presents a performance measures analysis for the larger AMBAG region and this analysis can be found on the AMBAG website (<http://www.ambag.org>).

The 2040 RTP focuses the system performance on presenting available data that monitors the performance of the transportation system to date. Data to monitor the transportation system can be challenging and expensive to acquire. The information presented below utilizes data that was gathered from a variety of sources. Data is not available at this time to monitor all of the measures in the 2040 RTP although many of the more fundamental indicators (injuries and fatalities, vehicle miles traveled, greenhouse gas emissions, pavement condition) are presented below.

GOAL 1. Establish livable communities that improve people's access to jobs, schools, recreation, healthy lifestyles and other regular needs in ways that improve health, reduce pollution and retain money in the local economy.

Improve people's ability to meet most of their daily needs without having to drive.

Reduce smog-forming pollutants and greenhouse gas emissions.

Target: Reduce per capita fuel consumption and greenhouse gas emissions by 1 percent by 2020, 5 percent by 2035 and 6 percent by 2040 through a reduction in vehicle miles traveled and improved speed consistency.

If there was information for only one measure to monitor the performance of the transportation system, vehicle miles traveled is the measure to monitor. Vehicle miles traveled or VMT is the total number of miles of vehicle travel within a specified area. Changes in vehicle miles traveled provides information about whether congestion, air quality (including GHG emissions), health, and ability to walk, bike or take transit, is increasing or decreasing over time. The number of vehicle miles traveled for Santa Cruz County

can be determined a few different ways. **Figure 7.1** shows estimates of average daily VMT since 2005 from the Highway Performance Monitoring System (HPMS) implemented by Caltrans. The vehicle miles traveled data estimated through the HPMS is calculated using traffic count data collected on both the highway system and the local street and road network. This VMT represents the amount of travel for all vehicles within Santa Cruz County borders. The data shows that the high was in 2005 with a gradual decrease in total VMT until 2011 and then a slightly upward trend to 2015. [Note: The 2010 data point likely represents an error in the counts used to determine the VMT.] The changes in total VMT can be due to a change in population and/or a change in the amount people drive a vehicle.

On this same figure (**Figure 7.1**) is the average daily VMT per capita that is calculated by dividing the total vehicle miles traveled by the population of the county. VMT/capita represents the average amount people drive daily. The data shows that the maximum amount of VMT/capita occurred in 2005. The amount of driving per person steadily decreased since 2005 and then has leveled off in the last few years.

The GHG emissions/capita target due to changes in VMT (and not vehicle technology changes) is represented by the VMT/capita data. **Figure 7.1** shows that the 2015 VMT/capita from the HPMS is reduced by more than 7% compared to the 2005 base year and if the trend continues there will be a 15% reduction in VMT/capita by 2020 compared to 2005.

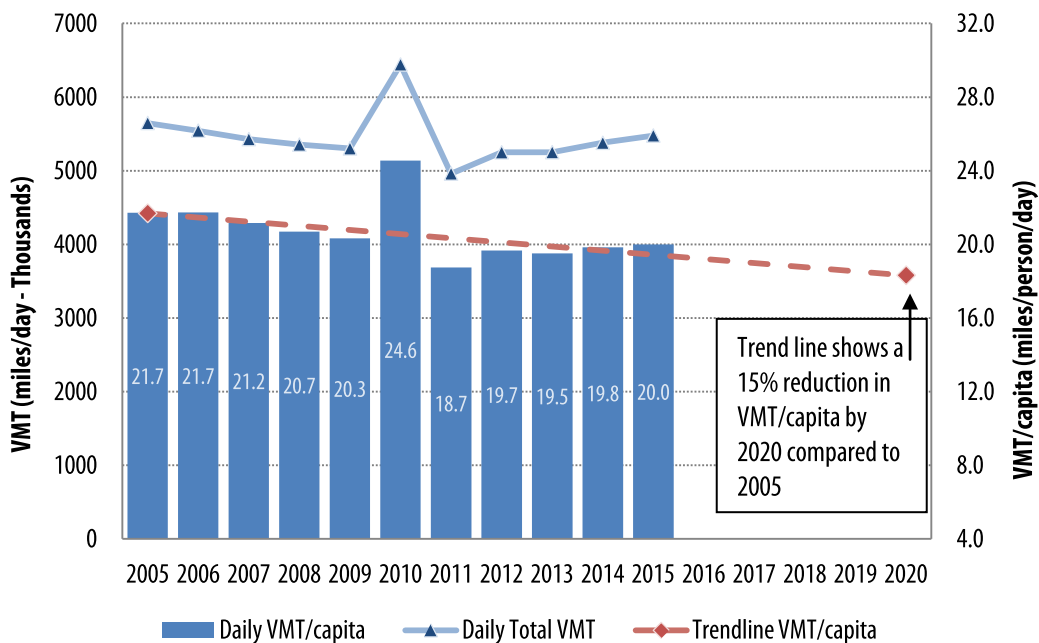


Figure 7.1 – Daily Vehicle Miles Traveled (Total and Per Capita)

Source: Highway Performance Monitoring System, Caltrans.

Data from 2010 was removed from trend line calculation due to likelihood of inaccurate count data used to determine VMT.

Vehicle miles traveled for Santa Cruz County can also be estimated using a travel demand model (**Figure 7.2**). The Association for Monterey Bay Area Governments (AMBAG) runs the travel demand model for the region. The AMBAG model is used for developing the Metropolitan Transportation Plan – Sustainable Communities Strategy which is developed in collaboration with the Santa Cruz County RTP (as well as the Monterey and San Benito RTPs). The model results shown here are the Santa Cruz County portion of the full fleet vehicle miles traveled results for the 2040 MTP-SCS. Results also include

postprocessing VMT reductions for 2040 for projects that the model is not sensitive to based on analysis from the 2014 RTP. A postprocessing reduction of 4.6% was used, down from 5.46%, due to less transit projects in the 2040 RTP in comparison to the 2014 RTP. See **Appendix D** for postprocessing discussion from the 2014 RTP.

The modeled data shows a reduction in VMT/capita relative to the 2005 base year of approximately 8% by 2020 and 10.7% by 2040 (**Figure 7.2**). The modeled *total* VMT in future years is increasing primarily due to population growth. Through prioritization of projects that promote transit use, biking, and walking, as well as changes in land use that shorten the distance people travel from home to work and home to shopping, per capita VMT and thus per capita CO₂ emissions will continue to be reduced. This RTP prioritizes numerous projects that encourage walking, bicycling, and taking transit as an alternative to driving especially near major activity centers. Approximately 12% of the constrained RTP project list is designated for pedestrian and bicycling improvements and programs and approximately 37% is designated for transit services. See **Chapter 6** for more details on projects that will help to advance this goal.

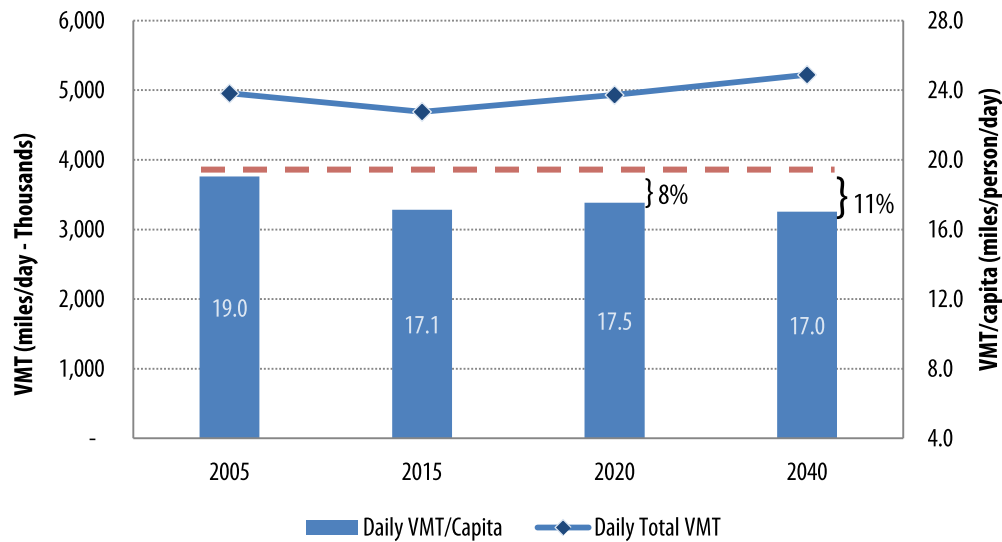


Figure 7.2 – Model Results of Santa Cruz County Daily Vehicle Miles Traveled (Total and Per Capita)

Source: AMBAG Travel Demand Model Projections and Postprocessing Reductions. Based on Implementation of 2040 RTP Project List

Target: Reduce total greenhouse gas emissions from transportation by 1 percent by 2020 and 60 percent by 2040 (compared to 2005) through electric vehicle use, other emerging technologies, reduction in vehicle miles traveled and improved speed consistency.

Climate change is the most significant global challenge of the 21st century. Reducing greenhouse gas emissions from all sectors in order to reduce the effects of climate change is a top priority for California. Gasoline and diesel fuels used to power our cars are significant contributors to greenhouse gas emissions. Reducing these emissions is a goal of the 2040 RTP. A sixty percent reduction in total greenhouse gas emissions by 2040 is consistent with California Executive Order B-16-12 to reduce total greenhouse gas emissions from transportation by 80 percent below 1990 levels by 2050, and California Executive Order B-30-15 to reduce greenhouse gas emissions by 40 percent below 1990 levels by 2030.

Data for assessing trends in greenhouse gas emissions from Santa Cruz County can be gathered from a couple of different sources. **Figure 7.3** shows the total amount of CO₂ generated from gasoline and diesel fuel sales in Santa Cruz County from 2010 to 2016. [Note: the 2014 data point is likely not representative of fuel sales for this year given the low value compared to other years.] The decrease in GHG between 2010 and 2016 is approximately 6% which represents reductions in GHG emissions from transportation due to changes in vehicle miles traveled, speed consistency, population and vehicle technology that affect the vehicle fleet mix on the road. The targets for 2020, 2030 and 2050 reflect the 0% and 40% and 80% reduction targets for total GHG relative to 1990 set by the state but given the lack of fuel sales data for 1990 (or 2005 which is base year used for SB 375), the reductions are compared to the 2010 fuel sales. CO₂ reductions per capita are also plotted in **Figure 7.3**. The GHG per capita emissions are reduced by 11% between 2010 and 2016. The per capita percent reduction is greater than the reduction in total GHG due to the increase in population.

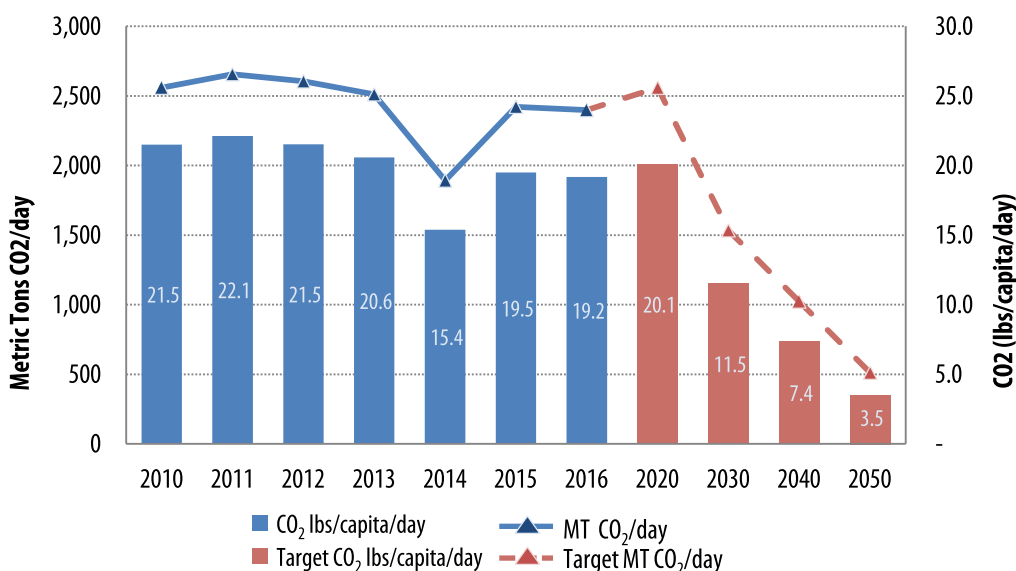


Figure 7.3 – Historic and Target Santa Cruz County Greenhouse Gas Emissions from Transportation

Source: California Energy Commission, Retail Fuel Outlet Annual Report Results¹

Greenhouse gas emissions can also be estimated using a combination of a travel demand model and the California Air Resources Board emission factors model (EMFAC2014). The travel demand model estimates vehicle miles traveled based on future transportation scenarios and the emission factors model takes the VMT data along with existing and projected vehicle fleet mix data to estimate CO₂ emissions. **Figure 7.4** is based on the VMT of the full fleet of vehicles on Santa Cruz County roadways from the AMBAG model, the VMT postprocessing reductions discussed earlier and the CO₂ emissions data from the EMFAC2014 model. The modeled data that is forecasted for 2040 shows a decrease in total GHG emissions of 45% which does not meet the target of 60% reduction in total GHG emissions by 2040. The reduction in GHG by 2040 is based on projecting many factors one of which is the number of electric vehicles on our roadways in future years. The EMFAC2014 model was written prior to Executive Order B-16-12 to increase the number of electric vehicles to 1.5 million on our roadways by 2025 and that all personal transportation would be electric by 2050. The EMFAC2014 model assumes only 9% of the vehicle miles traveled in 2040 (**Figure 7.5**) would be due to electric vehicles which is likely to be significantly underestimated due to the more recent California legislation and work that is being done to meet this requirement.

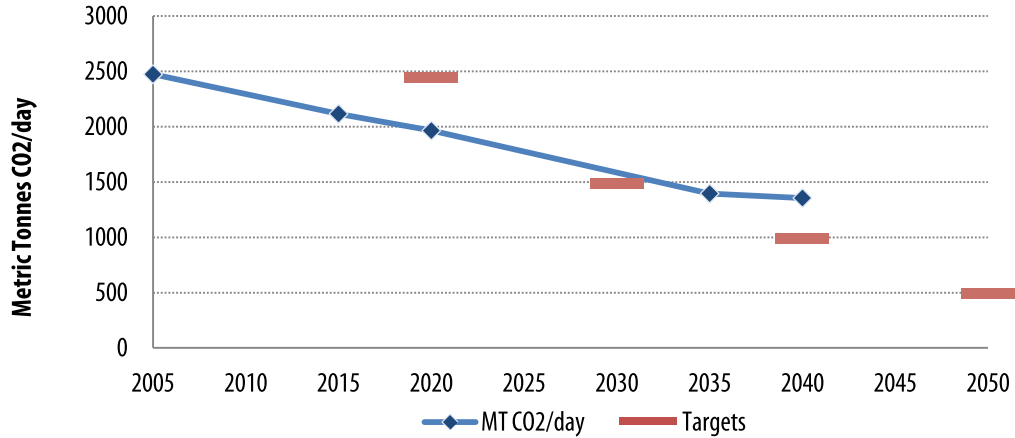


Figure 7.4 – Total Modeled CO2 Emissions from Transportation in Santa Cruz County

Source: AMBAG Travel Demand Model and California Air Resources Board EMFAC2014 Model Results

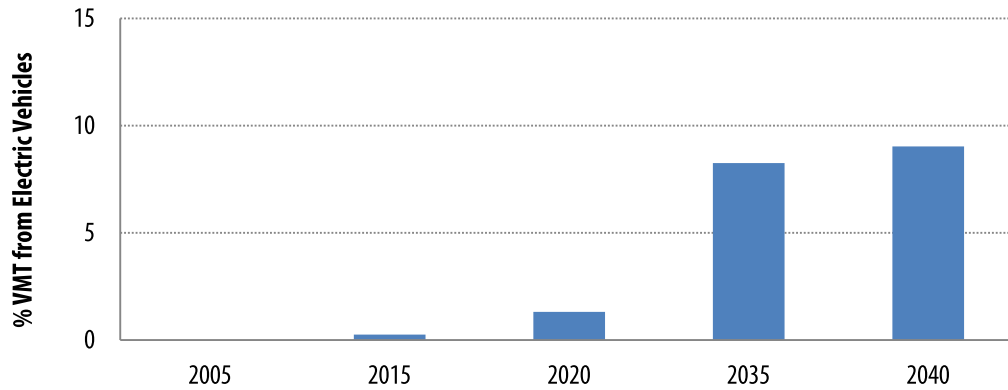


Figure 7.5 – Percentage of Vehicle Miles Traveled from Electric Vehicles by Year Assumed in California Air Resources Board Emissions Factor Model (EMFAC2014)

Source: California Air Resources Board Emission Factor Model (EMFAC2014)

A comparison of the CO2 per capita emissions based on fuel sales shows that in 2016, Santa Cruz County is in the mid to lower range of per capita GHG emissions relative to many other counties in CA (Figure 7.6). There is much to be done in Santa Cruz County and in the rest of California to meet the targets for total GHG emission reductions.

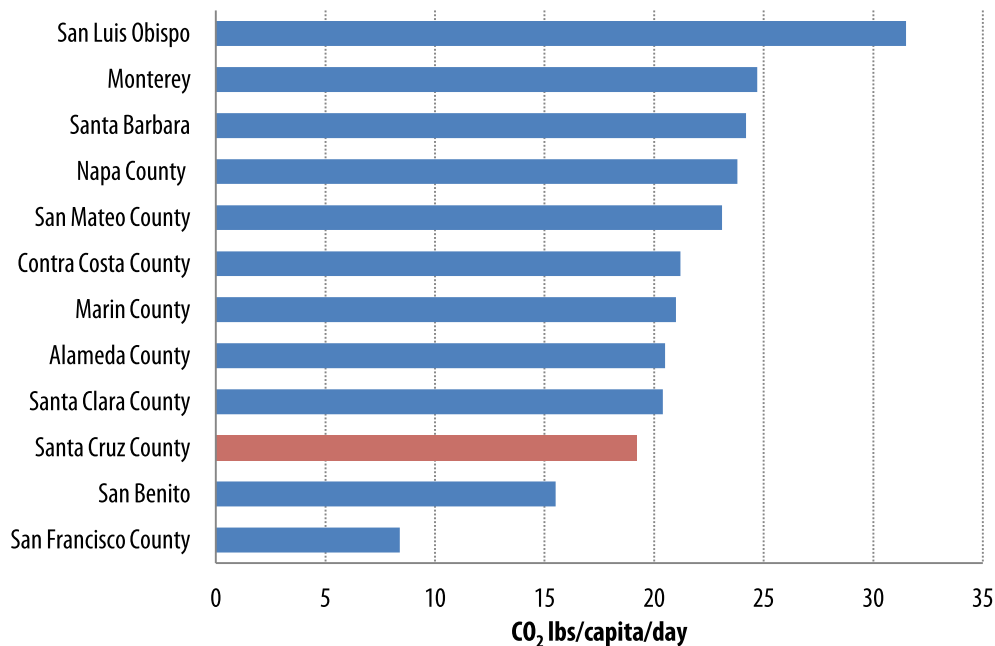


Figure 7.6 – 2016 CO₂ lbs/capita/day based on fuel sales

Source: California Energy Commission, Transportation Fuels Data

Reduction in greenhouse gas emissions from transportation is based primarily on decreasing how much we drive and improvements in vehicle technologies that reduce the use of fossil fuels. This RTP prioritizes projects that promote transit use, biking and walking as an alternative to driving to reduce vehicle miles traveled as discussed above and in **Chapter 6**. Improvements in vehicle technology are not under the purview of the Regional Transportation Commission but are tracked here to provide information on how Santa Cruz County is advancing California’s GHG emission reduction goals for transportation. The California Air Resources Board updated the Climate Change Scoping Plan in 2017². This plan describes the existing and proposed strategies for reducing greenhouse gas emissions from all sectors including transportation. Strategies for transportation include reducing VMT through promotion of sustainable communities, increased active transportation and transit, and modernization of rail; implementing the advanced clean car program which requires vehicle manufacturers to produce an increasing number of low and zero emission vehicles; supporting federal and state incentive programs for increasing use of zero emission vehicles; and acceleration of clean fuel programs to name just a few of the strategies that are being addressed at the state level.

Improve health by increasing the percentage of trips made using active transportation options, including bicycling, walking and transit.

Target: Decrease single occupancy trip mode share by 4 percent by 2020 and by 9 percent by 2040.

Target: Increase the number of active transportation trips by 5 percent of total trips by 2020 and by 18% of total trips by 2040.

Replacing trips traditionally made in a vehicle with walking, bicycling, or taking transit can lead to improved health through regular physical activity and reduced obesity rates. Increased walking, bicycling and taking transit can also reduce congestion on our roadways. Data is available for commute trip mode share from the American Community Survey (ACS). The mode share data from the ACS is presented in **Figure 7.7** which shows that the percentage of drive alone trips has stayed constant between 2000 and 2011-2015, the percentage of shared ride has decreased and the percentage of biking and work from home have both increased.

The California Household Travel Survey (CHTS) data was collected by Caltrans in 2011-2012 to provide data on travel patterns for regional planning. The CHTS data for Santa Cruz County provides an estimate of the mode share for all trips people take (**Figure 7.8**). **Figure 7.8** also plots the target mode shares for 2020 and 2040.

While the network of bicycling and walking facilities throughout much of Santa Cruz County is substantial, improvements to this network could promote greater use. Separated or buffered bicycle facilities, wider bike lanes and lanes designed outside of the door zone of parked cars all encourage use of bicycles as a means of travel. Sidewalks exist in much of the more populated areas of Santa Cruz County but there are gaps, which limit access for people and are not always attractive due to little or no buffer between pedestrians and high volume traffic. The projects in this plan improve the quality of the active transportation network and thus will help to advance the goal of increasing the percentage of walk, bike and transit trips within key destinations by designing facilities that are safe, convenient and comfortable to the user.

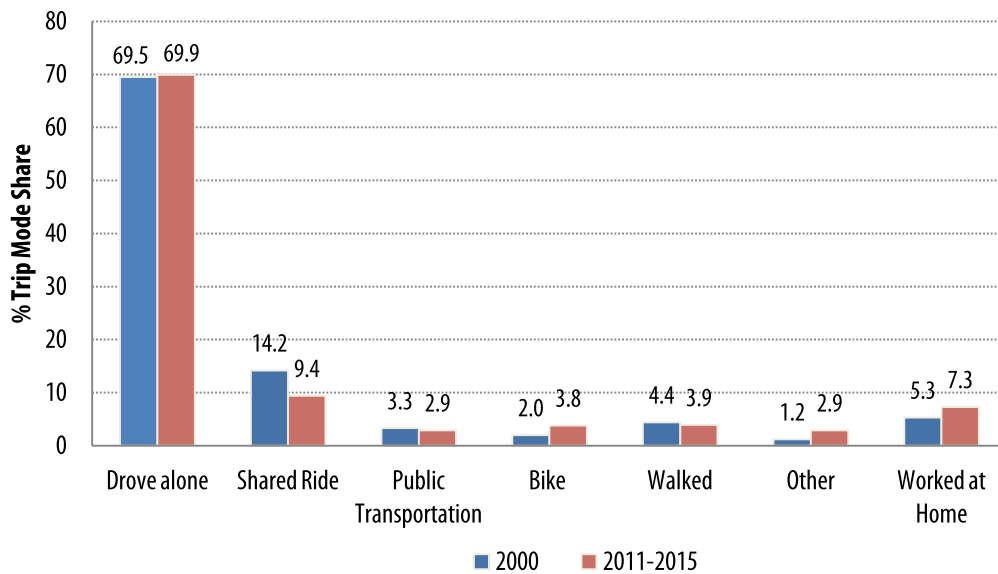


Figure 7.7 – Santa Cruz County Commute Trips Mode Share

Source: American Community Survey 2011-2015 Summary

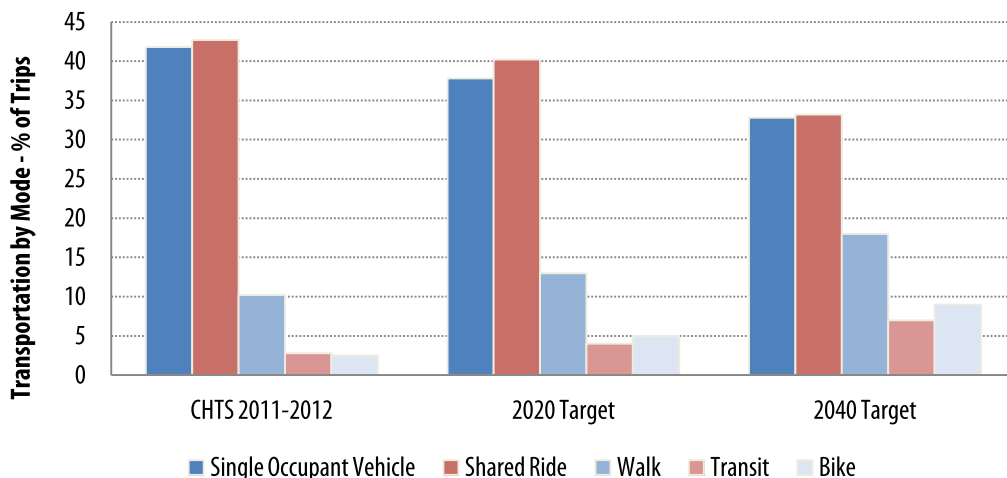


Figure 7.8 – Santa Cruz County Mode Share for All Trips
 Source: California Household Travel Survey 2011-2012 and Targets

GOAL 2. Reduce transportation related fatalities and injuries for all transportation modes.

Improve transportation safety, especially for the most vulnerable users.

Target: Reduce injury and fatal collisions by mode by 20 percent by 2020 and by 60 percent by 2040.

Improving the safety of transportation users, especially for the most vulnerable users, such as bicyclists and pedestrians, is a priority for Santa Cruz County as well as across California and the nation. The Statewide Integrated Traffic Records System (SWITRS) collision database tracks collision data that allows the RTC to monitor the number of collisions over time to assess how the investment of projects and programs are advancing this target. The collision data by mode is graphed below. The data shows that the number of injury and fatal collisions for Santa Cruz County has increased for motor vehicles, bicyclists and pedestrians since the target base years of 2009-2011 (Figure 7.9). An increase in public awareness and a change in driving behavior will be needed in order to improve the safety of the transportation system in Santa Cruz County to reach the 2020 and 2040 targets of the 2040 RTP.

The State Highway Operation and Protection Program (SHOPP) projects which are implemented by Caltrans on Santa Cruz County Highways (1, 9, 17, 129, 152, and 236) focus on reducing collisions. Extra enforcement on Highway 17 through the Safe on 17 program, as well as separated or buffered bicycling and pedestrian facilities implemented by local jurisdictions have also been prioritized in this plan to improve safety. Educational programs such as “Vision Zero” implemented by the Community Traffic Safety Coalition are prioritized to promote driver awareness and changes in driving behavior. See Chapter 6 for more details on projects that will help to improve safety on Santa Cruz County roadways.

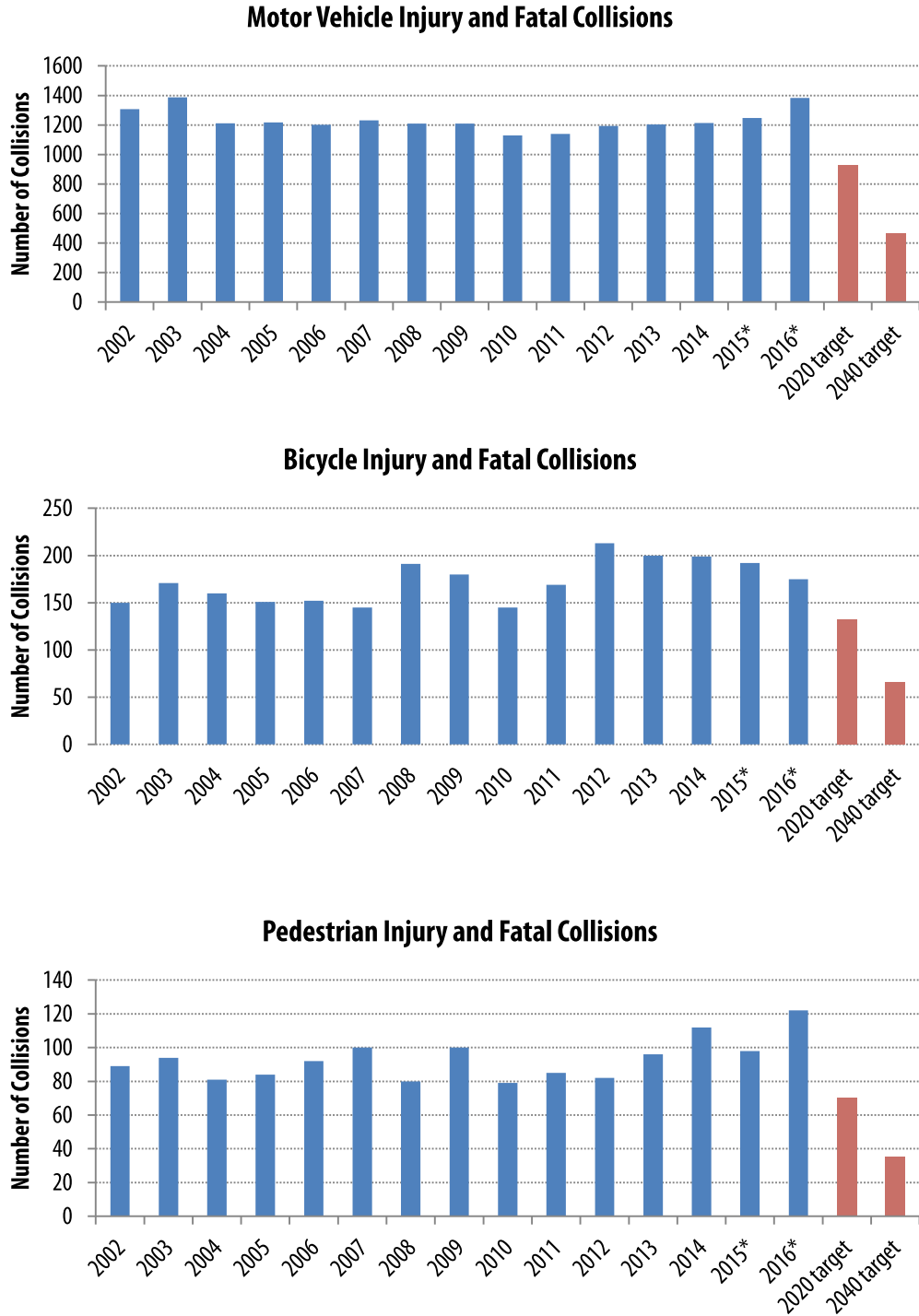


Figure 7.9 – Injury and Fatal Collisions – Motor Vehicle, Bicycle and Pedestrian

Source: Statewide Integrated Traffic Records System (SWITRS), California Highway Patrol available through the Transportation Injury Mapping System (TIMS), Safe Transportation Research and Education Center, University of California, Berkeley. 2017

* 2015 and 2016 data is provisional

GOAL 3. Deliver access and safety improvements cost effectively, within available revenues, equitably and responsive to the needs of all users of the transportation system, and beneficially for the natural environment.

Maintain the existing system and improve the condition of transportation facilities.

Target 3A. Increase the average local road pavement condition index (PCI) to 57 by 2020 and 72 by 2040.

A key focus of this RTP is on preserving the existing transportation infrastructure. The “pavement condition index” or PCI is a measure of the average condition of the local street and road pavement on a scale of 0 to 100 where 0-24 is failed, 25-49 is poor, 50-69 is fair, and 70-100 is good. **Figure 7.10** shows the trend in the pavement condition indices for the jurisdictions in Santa Cruz County starting in 2005. A comparison of the pavement condition index for Santa Cruz County relative to other counties in California is shown in **Figure 7.11**. The countywide PCI of 50 for 2016 is on the cusp between poor and fair and indicates the need for substantial investment in maintenance. This plan invests in pavement repairs, sidewalk and bicycle lane maintenance, bus replacements, bus stops, and transit service vehicles that need upgrades and maintenance. Measure D and Senate Bill 1 funds will provide a significant source of funding for maintaining and improving the condition of transportation facilities in Santa Cruz County. Approximately 30% of the constrained RTP project list is designated for roadway maintenance.

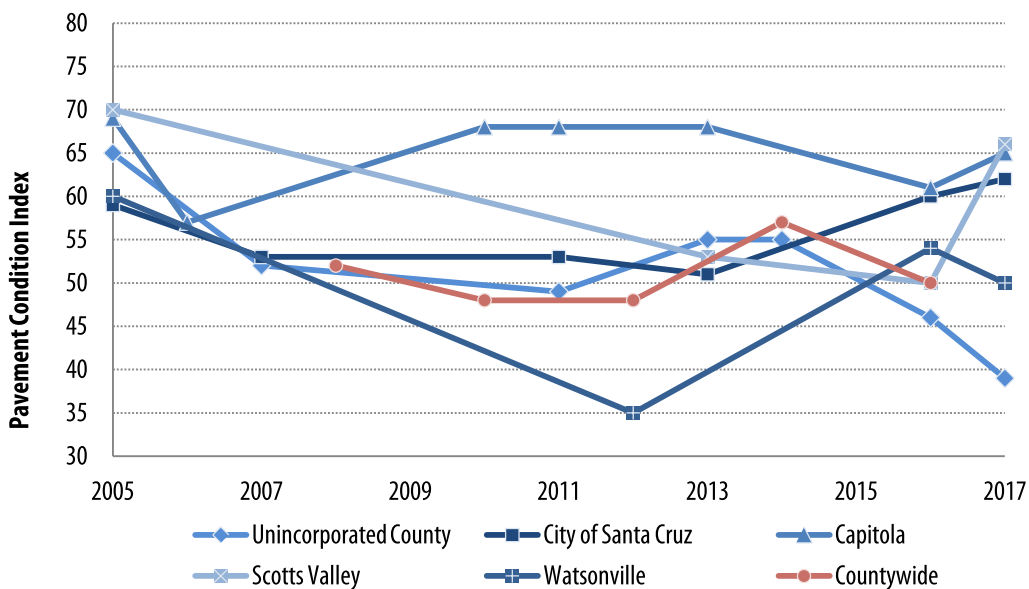


Figure 7.10 – 2005 to 2017 Pavement Condition Indices for Jurisdictions in Santa Cruz County

Source: Capitola, Unincorporated County, City of Santa Cruz, Scotts Valley, Watsonville

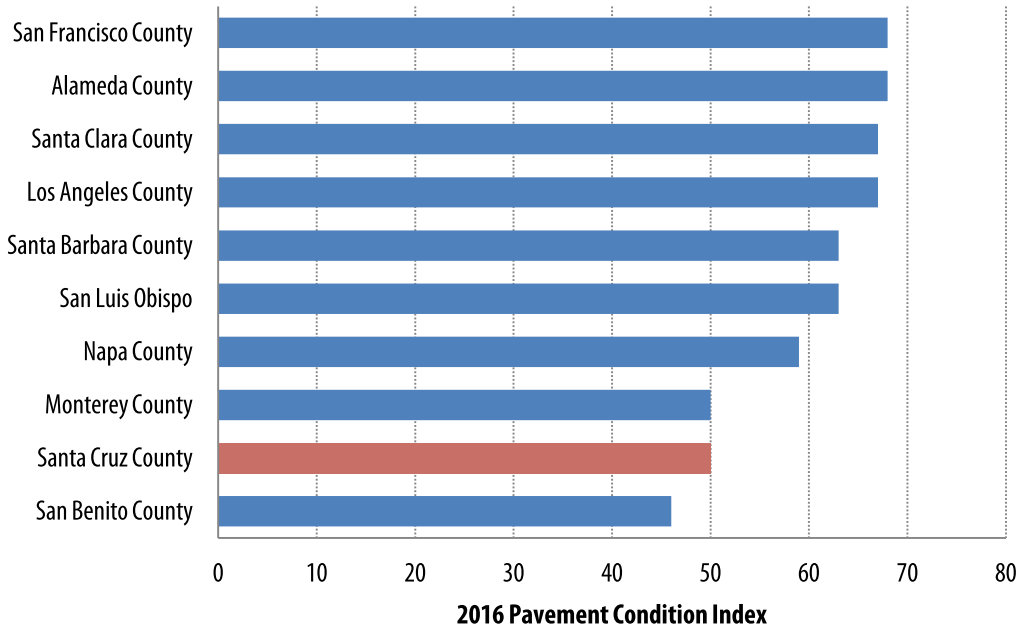


Figure 7.11 – Comparison of Santa Cruz County Pavement Condition Index with other California Counties

Source: 2016 California Statewide Local Streets and Roads Needs Assessment, Save California Streets

Target 3B. Reduce the number of transportation facilities in “distressed” condition by 3 percent by 2020 and 5 percent by 2040.

The condition of the transit system is one indicator of the level of “distressed” transportation facilities for Santa Cruz County. The Metro buses are in need of regular maintenance and/or replacement to ensure continued and cost-effective service. **Figure 7.12** shows the condition of the Metro buses from 2005 to 2017 and the 2020 and 2040 targets relative to 2005. The 2040 RTP prioritizes funding for 66% of the bus replacement need over the 22 year timeframe of this plan.

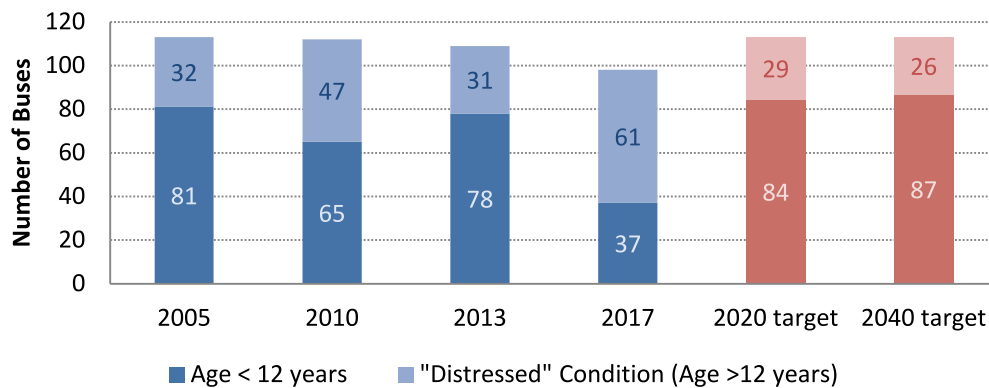


Figure 7.12 – Santa Cruz Metro Bus Condition

Source: Santa Cruz Metropolitan Transit District

Increase transportation revenues.

After decades of state and federal underinvestment in the transportation system, a supermajority of Santa Cruz County voters approved Measure D in November 2016 which invests an additional \$20 million per year into the multimodal transportation system. In April 2017, the state legislature approved Senate Bill 1 (SB1) which helps stabilize transportation funding throughout the state. SB1 is expected to provide an additional \$9 million per year to the County of Santa Cruz and local cities to maintain local streets and roads, an extra \$3 million per year for local transit, and significant funding to maintain and repair state highways, bridges, and culverts.

Notes for Chapter 7

- ¹ CA Energy Commission, California Annual Retail Fuel Outlet Report Results, accessed November, 2017, http://www.energy.ca.gov/almanac/transportation_data/gasoline/piira_retail_survey.html
- ² CA Air Resources Board, The 2017 Climate Change Scoping Plan, The Strategy for Achieving California's 2030 Greenhouse Gas Target, accessed November, 2017 (<https://www.arb.ca.gov/cc/scopingplan/revised2017spu.pdf>)

This page intentionally left blank

CHAPTER 8

Environmental and Air Quality Review

Transportation investments have the potential to impact the environment both positively and negatively. The 2040 RTP is extensively evaluated for its potential impacts as part of the required California Environmental Quality Act (CEQA) environmental review. The evaluation provides an understanding of the tradeoffs between transportation and environmental impacts. This comprehensive analysis not only reflects the RTC's diligence in meeting state requirements, but also the long standing interest from the Santa Cruz County community in preserving natural resources.

CEQA Required Environmental Review

Environmental review of the 2040 Regional Transportation Plan (RTP) evaluates the potential environmental effects of implementing the 2040 RTP, including alternative transportation investment scenarios, and identifies potential mitigation measures. Recognizing an opportunity to achieve efficiencies, the Santa Cruz County Regional Transportation Commission, the Association of Monterey Bay Area Governments (AMBAG), the Transportation Agency for Monterey County, and the San Benito County Council of Governments decided to merge their environmental analysis for their respective RTPs and the Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS). The potential environmental impacts of each plan are collectively detailed in one Environmental Impact Report (EIR) for the 2040 MTP/SCS, which encompasses the three RTPs (Santa Cruz, Monterey and San Benito Counties). The EIR can be found on AMBAG's website (<http://www.ambag.org>).

As a programmatic document, the 2040 MTP-SCS Environmental Impact Report presents a region-wide assessment of the impacts of the proposed 2040 MTP-SCS. The intent of a program-level EIR is to focus, in general terms, on the probable regional environmental effects that can be identified at this point in time that are associated with the implementation of the plans. The 2040 MTP-SCS EIR does not analyze impacts of individual projects. Projects will undergo a separate environmental review process, conducted by the agency sponsor, once the project is ready to be implemented.

AMBAG, as the lead agency for the 2040 MTP/SCS EIR, which includes environmental review of the Santa Cruz County 2040 RTP, will hold a 55-day public review period to receive comments on the draft EIR. The EIR is widely circulated and reviewed by RTC advisory committees representing project sponsors and transportation stakeholders; representatives of State and Federal governmental agencies; representatives of special interest groups; representatives of the private business sector; and residents of Santa Cruz County consistent with the region's public participation plan.

Biological and Natural Resources

Santa Cruz County is home to a diverse mix of habitats and species including coastal oak woodland, second growth redwood, coastal scrubs, Central California Coast coho salmon, Central California Coast steelhead and California red-legged frog. The rivers, watershed and drainages within Santa Cruz County, including the San Lorenzo River and the Pajaro River, drain into the Monterey Bay National Marine Sanctuary and are of biological importance as they provide valuable habitat for a variety of species and local water supplies. Farmlands, rangelands and timberlands made-up of fruit crops, nursery crops, vegetable crops, field crops, livestock and timber, are important natural resources located in Santa Cruz County and are economic generators. The transportation system can support access to these unique resources and transportation investments can benefit and/or create challenges for biological and natural resources. The 2040 RTP goals and policies consider how well transportation investments benefit the natural environment. A detailed description of biological resources and natural resources and potential impacts is described in detail in the 2040 MTP/SCS EIR.

Cultural Resources

Prehistoric, paleontological and other historical resources and landscapes with significance to a group of people generally make up the cultural resources present in Santa Cruz County. Cultural resources in Santa Cruz County include, but are not limited to fossils, indigenous people sites, trees and historic structures such as residences, villas, businesses, and churches. Many cultural resources in Santa Cruz County are known and identified as National Register listings, California State Landmarks or as Points of Historical Interest. It is also possible that other cultural resources have not yet been identified. Cultural resources are non-renewable and recognition of these resources supports a greater understanding of Santa Cruz County's past. Transportation planning efforts can avoid conflict with cultural resources through recognition of their importance. New transportation investments are subject to laws and regulations related to cultural resources. A detailed description of cultural and potential impacts is described in detail in the 2040 MTP/SCS EIR.

Environmental Mitigation



In order to minimize the impacts of transportation projects on the environment, mitigation activities may be necessary to avoid, minimize or compensate for potential impacts to environmental resources. As appropriate, mitigation measures will be identified for potential environmental impacts and described in detail in the 2040 MTP-SCS EIR, which encompasses the three RTPs (Santa Cruz, Monterey and San Benito Counties). Mitigation measures may include, requiring

project sponsors to: survey a project site to determine the presence of environmental resources;

development of an environmental resource management plans for the impacted area; include specific project elements or design features such as landscaping, construction of sound walls or the location of ground disturbance and setbacks; include specific construction activities such as watering active construction areas, fencing off designated areas and use of alternative fuel or electric construction vehicles; limit construction time periods by month, time of day or weather conditions; include compensatory measures such as tree or plant replacement at a defined ratio for replanting and removal.

Regional Mitigation

Regional mitigation efforts, rather than the traditional project-specific mitigation, can improve the quantity and quality of habitat by conserving larger, scarce, multi-resource ecosystems and increase habitat connectivity. Whereas traditional project-specific mitigation typically prioritizes on-site mitigation, regional mitigation prioritizes improvements by overall effectiveness, which can lead to compensatory off-site mitigation. Furthermore, regional mitigation programs frequently result in a coordinated effort to protect larger areas as opposed to buying land in small pieces to satisfy mitigation requirements project by project. Regional mitigation can be particularly effective in developing and maintaining wildlife corridors. Wildlife corridors connect like habitats in order to facilitate the movement of certain species to allow the exchange between individual populations and reestablishment after changes to a specific geographic area.

Habitat Conservation Plans and other conservation planning efforts, such as the Conservation Blueprint, developed by the Land Trust of Santa Cruz County, and the Wildlife Habitat Connectivity GIS database, developed by Caltrans and partner agencies, support regional mitigation and can serve as a resource for future mitigation plans in Santa Cruz County. These resources can be used to determine where future mitigation efforts associated with transportation projects identified in the RTP may be required and potential areas for regional mitigation. The Conservation Blueprint identifies Priority Multi-Benefit Areas, which are areas within Santa Cruz County that are most likely to provide benefits across vital aspects of conservation—biodiversity, water resources, working lands, recreation and healthy communities and Conservation Land Networks which collectively safeguards the county’s biodiversity. The Priority Multi-Benefit Areas are locations which may be considered in future regional mitigation planning programs.

In 2011, the Santa Cruz County Regional Transportation Commission participated in a regional mitigation effort to restore and improve critical wetland habitat in Watsonville Sloughs. The RTC funded restoration of 1.5 acres of wetlands as part of a larger effort by City of Watsonville, the Resource Conservation District of Santa Cruz County, and Federal, State and local natural resource agencies to restore and conserve habitat for a variety of rare local wildlife and plant species.

Advanced Mitigation

A key piece of regional mitigation efforts as identified by the Federal Transportation Act, is determining the locations of ecological importance and other environmental features in advance of pursuing transportation projects. Knowing in advance locations where impacts to species, habitat types, and other important ecological functions could be best offset within the region and establishing a range of mitigation options, should mitigation be necessary, facilitates regional mitigation. Advance planning is an effective way for incorporating natural resource considerations into transportation planning by facilitating early coordination and consultation with resource agencies, and increasing opportunities for identifying specific sensitive areas, and effective regional mitigation measures. In partnership with multiple federal, state, and local resource agencies, Caltrans, the Resource Conservation District, Santa

Cruz County, and the Santa Cruz County Regional Transportation Commission, a Memorandum of Understanding has been executed which will create an advance mitigation planning framework for transportation projects countywide. The advance mitigation process is designed to encourage broader stakeholder participation, expedite delivery of transportation projects, provide more cost-effective use of public funds, and focus on addressing critical conservation priorities.

The RTC is pioneering improved ways for early planning of mitigation for transportation improvements. This can be demonstrated by recent efforts to provide \$5 million in funds through Measure D for construction of a wildlife crossing under Highway 17. The Highway 17 wildlife crossing is a partnership between Caltrans, the Land Trust of Santa Cruz County and the Santa Cruz County Regional Transportation Commission. Caltrans will be constructing a wildlife undercrossing under Highway 17 near Laurel Curve to allow safe passage for wildlife. The wildlife crossing connects two core habitat areas that the Land Trust has protected from development. The Land Trust has solicited donations for land acquisition and construction of this project. Mitigation credits will be generated by the Highway 17 Wildlife Connectivity Project that can be used by future transportation projects for specified mitigation purposes.

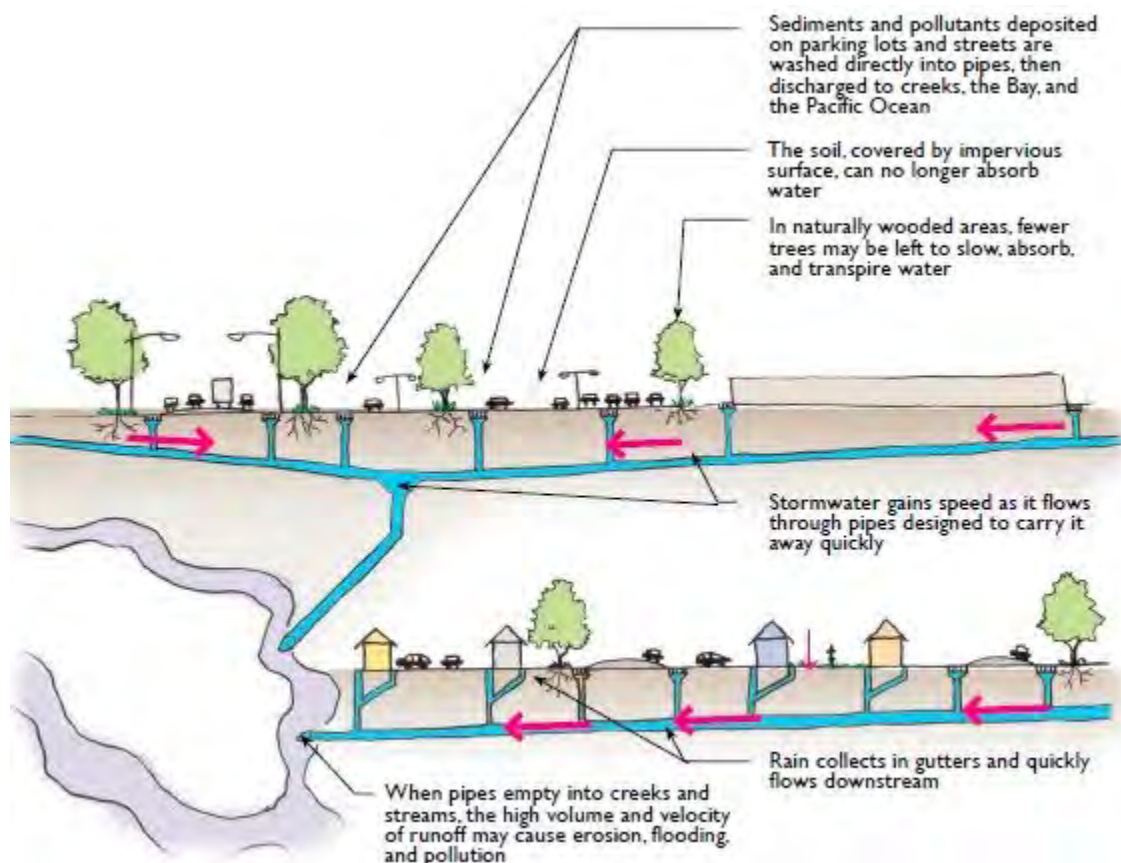
The RTC is also working closely with Caltrans, the Resource Conservation District, County of Santa Cruz and natural resource agencies on the Scott Creek Lagoon Restoration and bridge replacement project. While Caltrans has slated the Scott Creek Bridge for replacement, natural resource and permitting agencies have expressed a need for substantial habitat restoration at the site. In 2013, Caltrans, the Regional Transportation Commission, the County of Santa Cruz, and the Resource Conservation District entered into an agreement to consider lagoon restoration and bridge design options. A technical advisory committee made-up of United States Army Corps of Engineers, National Marine Fisheries Service, United States Fish and Wildlife Service, National Oceanographic and Atmospheric Administration, Regional Water Quality Control Board, California Coastal Commission, the California Coastal Conservancy and the Nature Conservancy has been established to provide input on design concepts. By collaborating at an early stage of the project, participants can work together to identify the best options for transportation, environmental benefits and cost, and identify potential funding sources for the project.

Mitigation banking, in-lieu of fees program, and conservation banking are strategies that allow for advanced, regional and/or multiple-project mitigation to occur in a designated area. For example, agencies may acquire, in coordination with resource agencies and local jurisdictions, resource conservation areas as a bank for off-site mitigation of RTP transportation projects. Zayante Sandhill's conservation bank is the only conservation bank established in Santa Cruz County. The region may consider supporting the development of additional site specific mitigation banks or developing an umbrella mitigation bank which could include multiple bank sites. The 2040 RTP addresses the need for advanced mitigation with inclusion of an Environmental Mitigation Program (EMP) which is intended to make funds available to protect, preserve, and restore native habitat that are disturbed by construction of transportation projects listed in RTC's RTP. EMP funds could be for uses such as, purchasing land prior to project development to bank for future mitigation needs, funding habitat improvements in advance of project development to leverage and enhance investments by partner agencies.

Stormwater

Impervious surfaces in developed areas, such as pavement, prevent precipitation from naturally soaking into the ground. Instead, the rainwater washes into storm drains that lead directly to streams, rivers and coastal areas. The most significant impacts of this traditional design are pollutants that are washed

directly into water bodies; a greater degree of erosion and flooding occur as a result of increased water volumes and flow speeds if there is no mechanism to slow or divert water; and groundwater aquifers are not replenished from storm water runoff.



Addressing stormwater requirements associated with transportation projects can be very costly and can range between 2%-55% of project costs. Jurisdictions are developing systems to improve tracking of stormwater requirement related costs to provide more accurate cost estimates.

Design features intended to manage rainfall and mitigate stormwater impacts are commonly referred to as “low impact design”. The goals of low impact design include improved filtration and reductions in flow and volume by mimicking the natural hydrologic function of healthy ecosystems in street landscapes. Examples of design features which reduce flow, volume and increase filtration include vegetated swales, infiltration and flow through planters, rain gardens, landscaped areas, streets trees, pervious pavement, infiltration trenches and dry wells, and vegetated buffer strips.

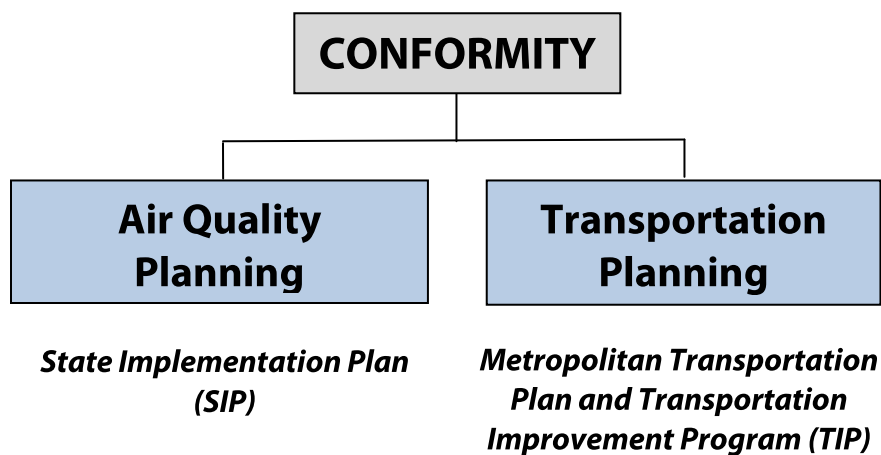
In the future, water quality and stormwater flows may be incorporated into the RTP’s analysis of a sustainable transportation system. The Sustainable Transportation Analysis and Rating System (STARS) tool utilized by the RTC in development of the goals, policies and targets of the 2040 RTP is structured to allow for measures of water quality and stormwater runoff as indicators of ecological function.

Greenhouse Gas Emissions

The Santa Cruz County Regional Transportation Commission is taking a proactive approach towards identifying strategies for reducing greenhouse gases in the 2040 RTP. In addition to the analysis of greenhouse gas emission impacts included in the 2040 MTP/SCS EIR, the Santa Cruz County RTC voluntarily incorporated greenhouse gas emission reduction targets into the performance analysis of the RTP. Please refer to Chapter 7 for a more detailed discussion of the GHG performance analysis of the 2040 RTP.

Air Quality Conformity

The North Central Coast Air Basin (NCCAB) is made up of Santa Cruz, Monterey, and San Benito Counties. The NCCAB is defined as a federal air quality “maintenance area” because it currently meets federal air quality requirements, but previously did not. Federal air quality rules set forth by the Clean Air Act require that transportation activities are consistent with federally mandated air quality plans pertaining to on-road mobile sources (i.e. cars, trucks, buses, commuter rail, and motorcycles) as defined in the State Implementation Plan. As the designated Metropolitan Planning Organization within the region, the Association of Monterey Bay Area Governments (AMBAG) is responsible for conformity findings for transportation plans covering areas within the NCCAB.



The three county region (or NCCAB) has achieved federal-air quality conformity since 2005 for all criteria pollutants including carbon monoxide (CO), nitrogen dioxide (NO₂), particulate matter (PM), lead (Pb), and sulfur dioxide (SO₂), in addition to ozone (O₃). For the RTP to be in conformity, the total emissions projected for the RTP are within the on-road mobile source emissions limits ("budgets") established by the State Implementation Plan. Since the region now qualifies as being in attainment, the region is no longer beholden to conformity analysis of its plans and programs and as such is no longer eligible to receive federal Congestion Mitigation and Air Quality (CMAQ) Improvement Program funds. However, several projects in the 2040 RTP implement the Air District’s approved Transportation Control Measures (TCM’s) for the region, which are developed to reduce transportation-related emissions by reducing vehicle use or improving traffic flow.

CHAPTER 9

What's Next?

The Santa Cruz County Regional Transportation Plan is updated approximately every four years to reflect new initiatives, priorities and requirements. It builds upon the work of previous initiatives, complements ongoing work, and lays the groundwork for the future. This chapter identifies a number of considerations that will likely be discussed in more detail in future editions of the RTP.

Climate Adaptation

Santa Cruz County is susceptible to a wide range of climate change effects including increased temperatures, changing precipitation patterns, increased number and severity of wildfires, sea-level rise, extreme weather events, and numerous effects on biodiversity and habitats. The transportation system is impacted by increased flooding, landslides or mudslides, erosion, and heat waves or fires that cause roadways to buckle. The mudslides caused by the high levels of rainfall in winter of 2016-17 caused significant damage to Santa Cruz County roadways increasing the backlog of roadway maintenance substantially. Sea-level rise is a particularly critical climate stressor that impacts Santa Cruz County and includes more extensive coastal flooding during storms, periodic tidal flooding and increased coastal erosion. Current research suggests that coastal California could experience a 5 to 10 inch rise in sea level by 2040 based on annual sea level rise rate of about 4– 8 mm/yr.¹ Santa Cruz County's coastal cliffs are experiencing average erosion rates of 0.17 to 2.1 feet or more per year.²



The Santa Cruz County Regional Transportation Commission is aware of the need to undertake efforts that respond to impacts of climate change. The state of California regularly updates California's Climate Adaptation Strategy.³ This report outlines the high level recommendations for all sectors as well as the

strategies that are needed to combat the affects of climate change and the projects and programs already being implemented. The California Transportation Commission's (CTC) 2017 RTP guidelines for Regional Transportation Planning Agencies (RTPAs) require RTPs to be consistent with California's Climate Adaptation Strategy Report. Climate factors will affect decisions in every phase of the transportation management process: from long-range planning and investment; through project design and construction; to management and operations of the infrastructure; and system evaluation.

The Santa Cruz County Regional Transportation Commission in coordination with Caltrans and local jurisdictions will need to consider the following to plan for impacts of climate change:

- Facilitate coordinated response from transportation providers to disruptions resulting from climate variability and extreme weather events;
- Develop transportation planning specifications in conjunction with accepted statewide practices concerning new construction and development, such as drainage capacity, location near shore lines, and materials;
- Identify transportation assets at high risk to impacts from climate change;
- For assets at risk, decide upon whether protection will be built around the facility, the facility will be redesigned to accommodate climate change impacts, or the facility will be abandoned and relocated elsewhere.
- Prioritize investments that protect evacuation routes; and,
- Provide guidance for more resilient building materials and design standards for transportation facilities.

The uncertainties inherent in projecting long-term impacts of climate changes coupled with the long service life of most transportation infrastructure present a challenge for transportation decision making. The economic cost associated with climate change impacts has yet to be fully estimated. Impending climate impacts have implications not only for the siting of new transportation infrastructure, but also maintenance and operation, design features of transportation systems, and emergency planning and response for extreme climate events. Because today's transportation network will likely be in place for decades to come, investment and design decisions made today need to consider potential changes in climate conditions 30, 50, and sometimes 100 years or more from now (**Figure 9.1**). The RTC will monitor federal and state activities for addressing climate adaptation as well as the actions of local entities which have instituted policies and plans for addressing climate adaptation.

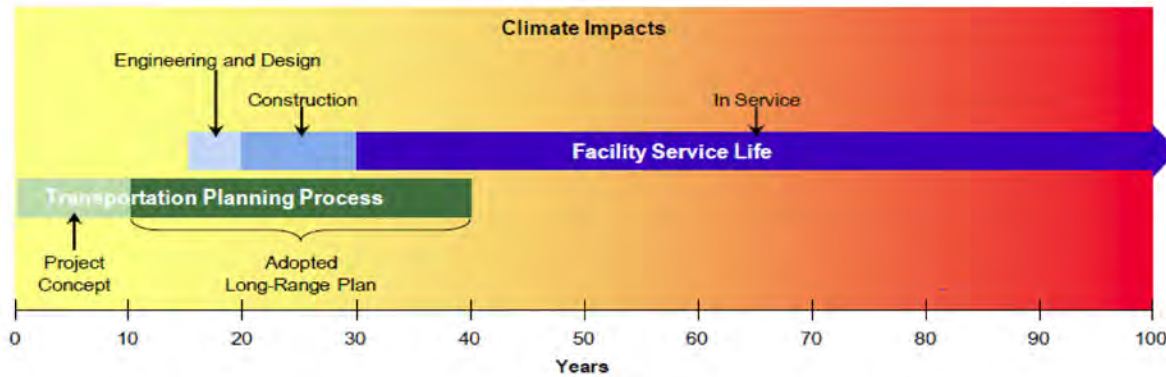


Figure 9.1 – Relationship of Transportation Planning Timeframe and Infrastructure Service Life to Increasing Climate Change Impacts

Source: Climate Change Science Program and the Subcommittee on Global Change Research⁴

Automated Vehicles

The effects of automated vehicles on future transportation systems are under much debate. Automated vehicles (AVs) are an emerging technology that could bring a number of benefits to the transportation system including increased safety through a reduction of injuries and fatalities, increased throughput and mobility within existing capacity due to driving efficiencies, environmental benefits from smarter driving that releases fewer emissions, and improved system management through vehicle data. Conversely, there is also the potential of AVs to drastically increase traffic congestion and the amount of vehicle miles traveled particularly when self-driving vehicles no longer require a person on board. These potential benefits and challenges have not been integrated into the 2040 RTP for a number of reasons. There are many uncertainties associated with AVs including a currently unfolding set of federal and state regulations, resolution of questions around programming ethics, solutions to liability and insurance concerns, the impacts of AVs on transportation infrastructure needs, and market adoption rates.

The large Metropolitan Planning Organizations in California like San Diego Association of Governments (SANDAG) and Southern California Association of Governments (SCAG) are just beginning to incorporate automated vehicles into their regional transportation plans. The RTC will be following these efforts to determine how best to incorporate automated vehicle technology in transportation planning. The RTC updates the RTP every four years and will have numerous opportunities before AVs become common to consider appropriate policy and infrastructure investments. A more detailed explanation of automated vehicles and the issues related to transportation planning is provided in the following paragraphs.

Definitions

Generally speaking an AV is defined by the ability of the vehicle to control a safety-critical function such as steering, throttle, or braking without direct driver input.⁵ AVs may be autonomous (using only vehicle sensors) or may be connected (using communication systems such as vehicle-to-vehicle and vehicle-to-infrastructure technologies in addition to sensors). Connectivity is a critical feature to realizing the full potential benefits of AVs. AV technology is advancing at a rapid rate and not all AVs automate every vehicle function. Therefore it is helpful to define various levels of automation.

The National Highway Traffic Safety Administration has adopted the Society of Automotive Engineers (SAE) definitions for automation which include five levels. Levels one through two include vehicles where some functions are automated such as assisted parking or adaptive cruise control, but still require a human driver to conduct some or most parts of the driving tasks. Level one and two vehicles are already common and available for purchase. Levels three to five are considered highly automated vehicles and are defined by the ability of the vehicle to conduct most or all of the driving tasks.⁶

Implementation and Timeline

There are a number of factors that could influence the adoption rate of automated vehicles. Currently the cost of the technology is prohibitively expensive and some have argued that the legal issues regarding privacy and liability will delay implementation even if the costs were not so high. As demand grows and economies of scale are realized the costs will slowly go down, but some research concludes that even then costs will still be higher than the average cost of vehicle ownership now.⁷ Regarding the legal and liability concerns, states have already started passing legislation that allows for testing and use of AVs on existing roadways. The legal framework around current vehicle systems is multifaceted and did not develop overnight but was rolled out as vehicles became more commonplace and attempts at regulating failed and then succeeded. Similarly, the legal framework for regulating AVs will slowly evolve over time and will, as most law does, look to the past as a starting point.⁸ Until then manufacturers of AVs will have to develop vehicles that comply with existing law and at least initially AVs will operated in mixed traffic.

There are also factors that may increase the speed of market adoption including a large amount of investor interest in rapidly evolving vehicle-to-vehicle and vehicle-to-infrastructure technology. The automotive industry's introduction of a subscription based model of vehicle usage versus the traditional ownership models may also influence automated vehicle fleet mix by providing easier access to AVs thereby facilitating consumer acceptance.⁹ ¹⁰ Additionally, companies that retrofit older vehicles with automated features may increase the vehicle fleet more rapidly.¹¹

The ability to program the AVs to make difficult decisions in the context of more complex roadways such as local roads is another area of uncertainty. On highways and expressways AVs have limited types of encounters, usually only maneuvering other vehicles or lanes and there is little variation in the right-of-way. On local roads, there are intersections, driveways, potholes, debris, animals, as well as people walking or riding a bike. The number of complex decision points on local roads soars due to more variation in the right-of-way and increased encounters with unpredictable objects. Programming for all these decision points can require consideration of some complicated ethical questions, making it more likely that lower level AVs requiring human interference and control for these types of driving environments will be introduced into the market first.

Based on an entry date of 2020, historic vehicle purchasing and turn-over rates, as well as a the factors presented above, the Victoria Transport Policy Institute (VTPI) forecasts that market saturation would not occur until the 2060's and that full self-driving vehicles (SAE Level 5) would not be commercially available until the 2030's or 2040's.¹²

Infrastructure and Planning

The presence of AVs has the potential to transform the way planners manage traffic and will require a number of significant investments in intelligent transportation system (ITS) architecture over the long

term. In the short term AVs will have minimal impacts on infrastructure requirements since they can operate in mixed traffic on existing roadways shared with conventional vehicles.

Vehicle-to-infrastructure technology would allow for public agencies to provide drivers with warnings based on information regarding known and predictable conditions such as signal phasing and timing (SPaT), work zones, transit signal priority, emergency vehicle preemption and sharp curves.¹³

Automated vehicles have the potential to increase driving efficiency and therefore throughput or capacity as measured in vehicles per hour per lane (vphpl). However, until AVs constitute a large majority of the vehicle fleet, their roadway operational benefits to locations with recurring congestion may not be realized if they are mixed with traditional vehicles. To realize increased vphpl designated lanes or separate roadway facilities may be needed. However, increased roadway capacity in the form of additional designated lanes is costly and may be infeasible in locations where land and resources are limited. Additionally, as discussed above initially AVs may still need human interaction on more complex local roadways reducing their ability to increase driving efficiency on roadways other than highways.

Despite differences of opinions around timing and implementation much research now agrees that the introduction of AVs will increase vehicle miles traveled.^{14,15} Fully automated vehicles will increase vehicle use by people who could previously not drive and may cause an increase in the number of trips people make and thus the number of miles people travel if vehicles can be programmed to do errands without the need for people to be in the vehicle. Reductions in congestion due to driving efficiencies could be eliminated by increases in congestion due to increasing VMT. Increasing AV use will require the RTC and other public agencies to rethink investment strategies and policy decisions in order to determine how the triple bottom line of sustainability may be impacted.

State and Federal Policy

The responsibilities for the regulation of human driven vehicles are clearly delineated between the federal Department of Transportation's National Highway Traffic Safety Administration (NHTSA) and the states. Currently the federal responsibilities for motor vehicles include setting and enforcing Federal Motor Vehicle Safety Standards (FMVSS), investigating and managing recalls and remedies for non-compliance, communicating and educating the public about safety issues, and issuing guidance for manufacturers to follow. State responsibilities include licensing drivers and registering vehicles, enacting and enforcing traffic laws and regulations, conducting safety inspections if they chose to do so, and regulating vehicle insurance and liability. With the introduction of AVs there may be new responsibilities that do not clearly fall within the existing parameters.

NHTSA released a policy document containing performance guidelines for highly automated vehicles (HAVs) in September 2016 with the acknowledgement that it is preliminary guidance intended to lay the foundation for future federal policy.¹⁶ While the guidance is not currently mandatory, manufacturers designing HAVs are subject to NHTSA's defect, recall and enforcement authority. Some elements of the guidance may become mandatory in the near future and there will be additional augmentations to the guidance as NHTSA conducts more research. The NHTSA recommends maintaining a similar clear line of responsibilities with AVs as is currently provided for human driven vehicles. The policy document also provides a model state policy with the goal of encouraging consistency amongst states in their approach to regulating AVs. After the release of this policy document the United States Congress began considering legislation that would bar states from blocking AVs.

California currently allows for AV testing but requires licensing with the state and regular reporting on any system problems or incidents. As of March 2017, 22 different firms have registered to test AVs in California.¹⁷ The California Department of Motor Vehicles has also released draft regulations establishing a path for post-testing deployment of full AVs, which at the time of this research had not been adopted.

Notes for Chapter 9

- ¹ Griggs, G, Árvai, J, Cayan, D, DeConto, R, Fox, J, Fricker, HA, Kopp, RE, Tebaldi, C, Whiteman, EA (California Ocean Protection Council Science Advisory Team Working Group), "Rising Seas in California: An Update on Sea-Level Rise Science," California Ocean Science Trust, April 2017.
- ² Matthew Heberger, Heather Cooley, Pablo Herrera, Peter H. Gleick, and Eli Moore of the Pacific Institute, "The Impacts of Sea Level Rise on the California Coast," California Climate Change Center, May 2009.
- ³ "California's Climate Adaptation Strategy; Safeguarding California Plan – 2017 Update", accessed October 2017, <http://resources.ca.gov/climate/safeguarding/>
- ⁴ U.S. Climate Change Science Program and the Subcommittee on Global Change Research, "Impacts of Climate Change and Variability on Transportation Systems and Infrastructure: Gulf Coast Study, Phase I," U.S. Department of Transportation, Washington, D.C. (2008), http://climate.dot.gov/documents/gulf_coast_study.pdf.
- ⁵ United States Department of Transportation, "Automated Vehicle Research," Office of the Assistant Secretary for Research and Technology, Intelligent Transportation Systems Joint Program Office, accessed August 2017, https://www.its.dot.gov/automated_vehicle/
- ⁶ National Highway Traffic Safety Administration (NHTSA), "Federal Automated Vehicles Policy: Accelerating the Next Revolution in Roadway Safety," United States Department of Transportation (September 2016).
- ⁷ Todd Litman, "Autonomous Vehicle Implementation Predictions: Implications for Transport Planning," Victoria Transport Policy Institute (July 18, 2017).
- ⁸ Dorothy J. Glancy, Robert W. Peterson, and Kyle F. Graham, "A Look at the Legal Environment for Driverless Vehicles," Transportation Research Board National Cooperative Highway Research Program: Legal Research Digest 69 (February 2016).
- ⁹ Brian Fung, "Subscription-based car model gains traction in cities," Chicago Tribune (March 22, 2017), accessed August 2017, <http://www.chicagotribune.com/classified/automotive/sc-car-ownership-alternatives-autotips-0323-20170321-story.html>
- ¹⁰ Cadillac and General Motors are already piloting subscription programs in urban areas.
- ¹¹ Companies such as Autonomous Stuff and Drive.ai are already exploring and developing ways to retrofit vehicles to add autonomous features.
- ¹² Todd Litman, *ibid.*
- ¹³ Federal Highway Administration, "Connected Vehicle Impacts on Transportation Planning Desk Reference," (June 2016).
- ¹⁴ Fehr and Peers, "Effect of Next-Generation Vehicles on Travel Demand and Highway Capacity," (February 2014). And Cite both FP and Symposium
- ¹⁵ Transportation Research Board, "Automated Vehicles Symposium 2016," Transportation Research Circular: Number E-C22 (July 2017).
- ¹⁶ NHTSA, *ibid.*

¹⁷ “Adopting and Adapting: State and Automated Vehicle Policy,” Paul Lewis, Gregory Rogers and Stanford Turner, Eno Center for Transportation (June 2017).

Transportation Glossary & Acronym Guide

AASHTO: See American Association of State Highway and Transportation Officials

AB 2766 - Motor Vehicle Fee Program: A program that permits air districts to allocate vehicle registration surcharge fees of up to \$4.00, per vehicle, per year to projects that reduce motor vehicle emissions, such as zero-emission vehicles, roundabouts/traffic circles, and trip reduction programs.

AB 32 (The Global Warming Solutions Act of 2006): California Assembly Bill (AB) which set goals to reduce the state's greenhouse gas emissions to 1990 levels by 2020. Directs the California Air Resources Board (CARB) to develop regulations and establish a mandatory reporting system to track and monitor global warming emissions levels.

Accessible: A transportation vehicle, facility or program is accessible if it can be used by persons with disabilities through the provision of ramps, lifts, curb cuts and special equipment, planning or amenities.

ACOE: see Army Corps of Engineers

Action Element: The Action Element of the RTP consists of short and long-term activities that address regional transportation needs. All transportation modes (highways, local streets and roads, mass transportation, rail, maritime, bicycle, pedestrian and aviation facilities and services) are addressed. In addition, the Action Element identifies project priorities beyond what is already programmed.

Active Transportation: Active Transportation includes any method of travel that is human-powered, but most commonly refers to walking and bicycling.

Active Transportation Program: Funding program established in 2013 for projects that increase bicycling and walking. Consolidates several federal and state programs - including the federal Transportation Alternatives Program (TAP), Safe Routes to Schools, and Bicycle Transportation Account.

ADA: see Americans with Disabilities Act

ADT: see Average Daily Traffic

Air Quality Management Plan (AQMP): Prepared by the Monterey Bay Unified Air Pollution Control District (MBUAPCD), the region's AQMP evaluates attainment of federal and state air quality standards within Santa Cruz, San Benito and Monterey counties.

Allocate: The process used to release funding to transportation projects.

Alternative Planning Scenario (APS): Scenario required to be developed by an MPO if the region's sustainable communities strategy (SCS) falls short of meeting regional greenhouse gas reduction targets from passenger vehicles. Scenario showing how targets would be achieved through alternative development patterns, infrastructure, or additional transportation measures or policies.

Alternative Transportation Fuels: Low polluting fuels that are used to propel a vehicle, in place of petroleum-based gasoline or diesel fuels. Examples include biodiesel, electricity, ethanol, propane, compressed natural gas, and liquid natural gas.

AMBAG: see Association of Monterey Bay Area Governments

American Association of State Highway and Transportation Officials (AASHTO): A national nonprofit, non-partisan association

GLOSSARY & ACRONYM GUIDE

representing highway and transportation departments.

American Recovery and Reinvestment Act (ARRA): Federal bill approved in February 2009 aimed at creating jobs and spurring economic activity. Included funding for transportation infrastructure projects, among other non-transportation projects and programs. The RTC selected projects to receive \$12 million from the Highway portion of the bill.

Americans with Disabilities Act (ADA): Federal legislation (1990) defining the responsibilities of and requirements for transportation providers to make transportation accessible to individuals with disabilities. Examples include public and private entities providing fixed-route or demand-responsive transportation services using accessible vehicles, complementary paratransit service for individuals who cannot use fixed-route service, curb cuts and other accessible sidewalk facilities.

APE: see Area of Potential Effect

Appropriate/Appropriation: A budgetary term that refers to an act by a governing body to provide budgeted funds to programs that have been previously authorized by other legislation. The amount of funding appropriated may be less than what was authorized.

APS: see Alternative Planning Strategy

AQMP: see Air Quality Management Plan

Area of Potential Effect (APE): Area in which resources may be affected by a project.

Army Corps of Engineers (ACOE): Federal agency responsible for providing engineering services, including the planning, design, construction, and operation of water resources and other civil works and military projects.

ARRA: see American Recovery and Reinvestment Act

Arterial Road System: Roads which provide corridors for through traffic movement, many of which feed into the highway network. Most are served by bus transit and have marked bicycle lanes.

Association of Monterey Bay Area Governments (AMBAG): A voluntary association of Santa Cruz, San Benito and Monterey counties and the cities therein. AMBAG has been designated as the Metropolitan Planning Organization (MPO) by the State of California and acts as the Council of Governments (COG) responsible for developing the Regional Housing Needs Assessment (RHNA) for Santa Cruz and Monterey counties.

ATP: see Active Transportation Program

Authorize: An act by Congress that creates the policy and structure of a program, including formulas and guidelines for awarding funds. Authorizing legislation (such as MAP-21) may set an upper limit on program spending or may be open ended. Revenues to be spent under an authorization must be appropriated annually by separate legislation.

Automated Vehicle Location (AVL): A device that uses the coordinates from satellites to determine the precise location of vehicles. AVL is often used to manage bus, taxi and commercial vehicle fleet operations.

Auxiliary Lane: Freeway lanes linking adjacent interchanges to reduce weaving conflicts between exiting and entering vehicles.

Average Daily Traffic (ADT): The 24-hour volume of traffic that passes a point on an “average” day. Depending on the location, ADT can be assumed to be a two-way volume. Annual ADT volumes or AADT estimate traffic volumes during an average day of the year, calculated using the average daily traffic and factoring in weekday and seasonal characteristics.

Average Vehicle Ridership (AVR): The average number of people per motorized vehicle. Also called Average Vehicle Occupancy (AVO).

AVL: see Automated Vehicle Location

AVO: Average Vehicle Occupancy

AVR: see Average Vehicle Ridership

B2W: Bike to Work

Base Year: Year used in performance analysis as a reference point for current conditions.

Baseline: Future scenario which includes only projects currently underway or programmed funds. The Baseline scenario functions as the “No Project” alternative in the MTP/RTP Program EIR.

Bikeway: Facility designated for use by bicyclists. There are three types of bicycle facilities.

1. *Bike Path or Bike Trail (Class I Bikeway)* — Provides a completely separated right-of-way designated for the exclusive use of bicyclists and pedestrians with cross-flows by motorists minimized.

2. *Bike Lane (Class II Bikeway)* — Provides a striped and/or signed right-of-way for use by bicycles, but with occasional adjacent vehicle parking and cross-flows by pedestrians and motorists permitted.

3. *Bike Route (Class III Bikeway)* — Highlights direct or scenic routes for bicyclists using signs or permanent markings. Routes may be shared with pedestrians or motorists.

Buffered Bike/Pedestrian Facility: A bicycle or pedestrian facility that has additional space between the motor vehicle travel lane and the bicycle and pedestrian facility. A buffered facility offers a more comfortable biking or walking environment.

Bus Rapid Transit (BRT): A broad term that, through improvements to infrastructure, vehicles and scheduling, attempt to use buses to provide a service that is of a higher quality than an ordinary bus line.

California Air Resources Board (CARB or ARB): State agency responsible for adopting state air quality standards, establishing emission standards for new cars sold in the state, overseeing activities of regional and local air pollution control agencies, and setting regional targets for reducing greenhouse gas emissions.

California Coastal Trail (CCT): The CCT is a network of public trails that will extend the entire 1200-mile length of the California Coast and currently is more than half complete.

California Department of Transportation (Caltrans or CT): State agency which builds and maintains state highways, some state railways, and administers multi-modal transportation programs within the state.

California Environmental Quality Act (CEQA): Legislation which requires private entities, state and local agencies to disclose, consider and mitigate the environmental impacts of various actions.

California State Association of Counties (CSAC): Agency representing the 58 county governments before the California Legislature, administrative agencies and the federal government.

California Transportation Commission (CTC): A board appointed by the governor and state legislature that sets spending priorities for highways and transit, reviews Regional Transportation Plans (RTPs) and Regional Transportation Improvement Programs (RTIPs) and allocates funds to transportation projects from several funding programs.

GLOSSARY & ACRONYM GUIDE

California Transportation Plan (CTP): A statewide, long-range transportation policy plan that provides for the movement of people, goods, services, and information. The CTP offers a blueprint to guide future transportation decisions and investments that will ensure California's ability to compete globally, provide safe and effective mobility for all persons, better link transportation and land-use decisions, improve air quality, and reduce petroleum energy consumption.

Call Box System: A network of roadside phones which link motorists directly with dispatchers to request assistance or emergency services.

Caltrans: see California Department of Transportation

Cap & Trade Program: The California Air Resources Board, as part of AB 32, has established a cap and trade program to reduce greenhouse gas emissions from all sectors. The program sets a limit or *cap* on the amount of a pollutant that may be emitted. Emissions permits are sold to firms which allow them the right to emit a specific volume of the specified pollutant. The total number of permits cannot exceed the cap. Although how the funds will be allocated has not been determined, it is reasonable to assume that low-carbon transportation improvements should receive a substantial share of the proceeds from the cap-and-trade program.

Capital Improvement Program (CIP): A document which sets forth the cost, funding and year of construction for projects over a specified number of years (typically five to seven years).

Capital Improvements: Physical infrastructure improvements such as pavement, sidewalks, bridges, signals and purchases of equipment, vehicles.

CARB: see California Air Resources Board

Carpool: An arrangement in which two or more people share the use of a privately-owned

automobile to travel together to and from pre-arranged destinations — typically between home and work or home and school.

Carsharing: Organized short-term auto rental, often located in downtowns, near public transit stations, residential communities and employment centers. Carsharing organizations operate fleets of rental vehicles that are available for short trips by members who pay a subscription fee, plus a per trip charge.

Categorical Exemption (CE): Classes of projects that are usually exempt from CEQA, provided that no exceptions apply.

CE: see Categorical Exemption

CEQA: see California Environmental Quality Act

Changeable Message Signs (CMS): Large overhead signs providing advisory information to travelers.

CHP: California Highway Patrol

CIP: see Capital Improvement Program

Climate Adaptation: Refers to efforts by society or ecosystems to prepare for or adjust to climate change and its impacts.

CMA: See Congestion Management Agency

CMAQ: see Congestion Mitigation and Air Quality Improvement Program

CMIA: see Corridor Mobility Improvement Account

CMS: see Changeable Message Signs

CNG: see Compressed Natural Gas

COG: see Council of Governments

Collector Streets: Streets that collect traffic from local streets, channeling it to arterials, freeways, or local destinations such as schools or shops.

COMMISSION: see Santa Cruz County Regional Transportation Commission

Community Traffic Safety Coalition (CTSC): A coalition of agencies and individuals that promotes bicycle and pedestrian safety, particularly for school children. Operated by the Santa Cruz County Health Services Agency and partially funded by the RTC.

Commute Solutions: Santa Cruz County's rideshare program which provides information about transportation alternatives to the single occupant vehicle and carpool match lists.

Commute: The trip to/from a regular location, usually work or school.

Commuter Rail: Conventional rail passenger service within a metropolitan area. Service primarily is in the morning (home-to-work) and afternoon (work-to-home) travel periods.

Commuter: A person who travels regularly between home and work or school.

Complete Streets: Streets designed and operated to enable safe access for all users. Pedestrians, bicyclists, motorists, and bus riders of all ages and abilities are able to safely move along and across a complete street.

Compressed Natural Gas (CNG): A clean-burning alternative fuel for vehicles.

Conformity: A demonstration of whether a federally-supported activity is consistent with the Clean Air Act. Transportation conformity applies to plans, programs, and projects approved or funded by the Federal Highway Administration or the Federal Transit Administration.

Congestion Management Agency (CMA): State designated county-level policy body responsible for monitoring and developing a Congestion Management Plan (CMP) to measure levels of

service on highways, roadways, and intersections. Santa Cruz County has opted out of the congestion management program.

Congestion Mitigation and Air Quality Improvement Program (CMAQ): Federal funding program established specifically for projects and programs that contribute to the attainment of a national ambient air quality standard. Funds distributed to regions based on population, Air Quality maintenance/attainment category and air pollution severity. Due to changes in federal air quality measurements, the Monterey Bay region is no longer eligible for these funds, but may be eligible in the future if federal standards are tightened.

Congestion: Congestion is usually defined as travel time or delay in excess of what is normally experienced under free-flow traffic conditions. Congestion is typically accompanied by lower speeds, stop-and-go travel conditions, or queuing, such as behind ramp meters or heavily-used intersections.

Consolidated Transportation Services Agency (CTSA): Agency responsible for coordinating specialized transportation services. In Santa Cruz County, the CTSA is Lift Line, a division of Community Bridges.

Constrained (Fiscal Constraint/Financially Constrained): Denotes a funding scenario under which projects, programs, expenditures in a plan or programming document that can be implemented within the constraints of committed, available or reasonably available revenue sources. This document also identifies constrained projects as "Within Projected Funds."

Coordinated Public Transit-Human Services Transportation Plan (CPTP): A federally-required plan to serve as a unified, comprehensive strategy for the delivery of transportation services for people with disabilities, older adults, and low-income

GLOSSARY & ACRONYM GUIDE

individuals. A three-county plan is approved by AMBAG.

Corridor Mobility Improvement Account (CMIA): Authorized by voters in 2006 as part of Proposition 1B bond to fund state highway projects that provide demonstrable congestion relief, enhanced mobility, improved safety, and stronger connectivity.

Corridor: A major transportation route which can consist of one or more highways, arterial streets, transit lines, rail lines and/or bikeways.

Council of Governments (COG): A voluntary organization of local governments that strives for comprehensive regional planning. AMBAG is the COG for Monterey and Santa Cruz counties.

County Shares: A formula in state law that requires a minimum return of STIP revenues to counties based on population and state highway miles.

CPTP: see Coordinated Public Transit-Human Services Transportation Plan

CSAC: see California State Association of Counties

CT: see California Department of Transportation

CTC: see California Transportation Commission

CTP: see California Transportation Plan

CTSA: see Consolidated Transportation Services Agency

CTSC: see Community Traffic Safety Coalition

Dedicated Funds: Federal, state or local funds which can be used only for specific purposes or by specific agencies.

Demand Responsive: Individualized transportation services requested by passengers, and/or where routes are developed around a

group of requests, which may change on a daily basis. Oftentimes provided to people unable to use fixed-route buses by taxis or by advance reservation on paratransit vehicles.

Department of Transportation (DOT): At the federal level, the cabinet agency headed by the Secretary of Transportation that is responsible for highways, transit, aviation, and ports. The DOT includes the Federal Highway Administration (FHWA), the Federal Transit Administration (FTA), the Federal Aviation Administration (FAA), and other agencies. The state DOT is Caltrans.

Development Impact Fee: A fee charged to private developers, usually on a per-dwelling-unit or per-square-foot basis, used to pay for infrastructure improvements necessitated as a result of the development.

Discretionary Funds: Federal, state and local funds which can be used for a variety of purposes. Sometimes also referred to as "flexible funds."

DMV: CA Department of Motor Vehicles

DOT: see Department of Transportation

EA: see Environmental Assessment

EB: Eastbound

ED: see Environmental Document

EJ: see Environmental Justice

EIR: see Environmental Impact Report

EIS: see Environmental Impact Statement

EMFAC - Emission Factor: Model that estimates on-road motor vehicle emission rates for current year as well as backcasted and forecasted inventories.

EMS: see Extinguishable Message Sign

Environmental Assessment (EA): A document that serves to briefly provide sufficient evidence and analysis for determining whether to prepare an EIS or FONSI for federal-aid projects. It is the federal equivalent of the CEQA term “initial study.”

Environmental Document (ED): The draft or final Environmental Impact Statement or Environmental Impact Report, Finding of No Significant Impact, Environmental Assessment or Negative Declaration.

Environmental Impact Report (EIR): An assessment of the environmental effects and mitigations for a proposal or decision which, under the California Environmental Quality Act (CEQA), has been determined may significantly impact the environment.

Environmental Impact Statement (EIS): Document that details any adverse economic, social and environmental effects of a proposed transportation project prepared pursuant to the National Environmental Policy Act (NEPA), roughly analogous to an EIR under CEQA.

Environmental Justice (EJ): The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. EJ principles include ensuring that planned transportation improvements do not have a disproportionate adverse impact on low income or other under-represented groups, and that minority and low-income populations receive equal benefits, on an equally timely basis, as other populations.

EPA - Environmental Protection Agency: Federal agency established to develop and enforce regulations that implement environmental laws enacted by Congress to protect human health and safeguard the natural environment.

Excise Tax: Excise taxes are taxes paid when purchases are made on a specific good, such as fuel. Excise taxes are often included in the price of the product.

Expenditure: In transportation terms, this is any allowable expense associated with a project or program.

Expressway: A divided highway for high-speed traffic with at least partial control of access. In some areas, expressways are divided arterial roads with limits on the frequency of driveways and intersecting cross-streets. In other areas, access to expressways is limited only to grade-separated interchanges, making them the full equivalent of freeways.

Extinguishable Message Sign (EMS): Signs along roadways that provide advisory messages or direct motorists to Highway Advisory Radio broadcasting current information about traffic conditions.

FAA: see Federal Aviation Administration

Farebox Recovery Ratio: The proportion of public transit operating expenses covered by passenger fares. The ratio divides the farebox revenue (cash, tickets, and passes) by the total operating expenses.

Federal Aviation Administration (FAA): The federal agency that regulates the use of airspace and is responsible for evaluating and disseminating information about hazards and obstructions to aviation.

Federal Highway Administration (FHWA): The federal agency responsible for the approval of transportation projects related to the roadway system.

Federal Railroad Administration (FRA): Federal agency created to promulgate and enforce rail safety regulations, administer railroad assistance programs, conduct research and development in support of improved railroad safety and national rail transportation

GLOSSARY & ACRONYM GUIDE

policy, and consolidate government support of rail transportation activities.

Federal Transit Administration (FTA): The federal agency responsible for administering federal transit funds and assisting in the planning and establishment of mass transportation systems.

Federal Transportation Improvement Program (FTIP): Federally required multi-year capital improvement program listing projects using federal funds and major highway, transit, and active transportation projects including project costs, funding sources, and development schedules. AMBAG prepares the FTIP in the Monterey Bay area and refers to this document as the Metropolitan Transportation Improvement Program (MTIP).

FHWA: see Federal Highway Administration

Financial Element: A required component of the RTP, the financial element identifies the current and anticipated revenue sources available to fund the constrained transportation investments described in the Action Element. The intent of the Financial Element is to define realistic financing constraints and opportunities.

Finding of No Significant Impact (FONSI): Federal environmental document (NEPA) term roughly analogous to Negative Declaration under CEQA.

Fiscal Year (FY): The 12-month period established for budgeting purposes. The fiscal year for state and most local governments in California begins July 1 and ends June 30. The federal fiscal year begins October 1 and ends September 30.

Fixed Guideway: A term for transportation modes that feature guidance along a fixed structure, such as a track, a concrete channel, or a cable. Examples include diesel powered railroad trains, electrified light rail trolleys,

monorails, funiculars, gondolas, and people movers.

Fixed Route Service: Service provided on a regular, fixed-schedule basis along a specific route.

Fixed Route: A fixed route is a bus transit route in which a vehicle operates on a regular, fixed-schedule along a specific route, with vehicles stopping to pick up and deliver passengers at specific locations.

Flex Hours: Work hours which allow an employee to work a non-standard work schedule and commute during non-peak hours. Common examples include the 4/10 where an individual works four 10-hour days per week or the 9/80 where an individual works longer hours each day with one day off every other week.

FONSI: see Finding of No Significant Impact

Freeway Service Patrol (FSP): Roving tow truck service that clear incidents on roadways during peak travel periods.

Freeway: A divided arterial highway designed for the unimpeded flow of large traffic volumes. Access to a freeway is controlled and intersection grade separations are required.

FSP: see Freeway Service Patrol

FTA: see Federal Transit Administration

FTIP: see Federal Transportation Improvement Program

FY: see Fiscal Year.

Gas Tax: The tax applied to each gallon of fuel sold. In California this is also call the Motor Vehicle Fuel Tax or Highway Users Tax Account (HUTA).

General Plan: A policy document required of California cities and counties by state law that describes a jurisdiction's future development in

general terms, and includes policy statements and maps. Land use decisions must be derived from the document, which includes seven mandatory elements: Land Use, Circulation, Housing, Conservation, Open Space, Noise, and Safety.

GHG: see Greenhouse Gas

GIS - Geographic Information System:

Mapping software that links information about where things are with information about what things are like. GIS allows users to examine relationships between features distributed unevenly over space, seeking patterns that may not be apparent without using advanced techniques of query, selection, analysis, and display.

Grade Crossing: A crossing or intersection of highways, railroad tracks, other guideways, or pedestrian walks, or combinations of these at the same level or grade.

Greenhouse Gas (GHG): Any of the atmospheric gases that contribute to the greenhouse effect by absorbing infrared radiation produced by solar warming of the Earth's surface. Include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride.

HAR: see Highway Advisory Radio

HBR: see Highway Bridge Program

HCM: see Highway Capacity Manual

Headquarters (HQ): The main offices in Sacramento of the California Department of Transportation (Caltrans), a government agency in California charged with improving mobility across the state.

Headways: Time interval between transit vehicles traveling the same direction on the same route; i.e., 15-minute or 2-hour headways indicates service every 15 minutes or every 2 hours.

High Occupancy Toll (HOT) Lanes: A lane on a multi-lane highway designated for use, primarily in the peak periods, free of charge by vehicles with two or more occupants or for single-occupant vehicles paying a toll.

High Occupancy Vehicle (HOV) Lanes (or Diamond Lanes): A lane on a multi-lane highway designated for use, primarily in the peak periods, only by vehicles with more than one (or sometimes two) occupants – such as carpools, vanpools, shuttles, and buses. In California, motorcycles, emergency vehicles, and certain low/zero emissions vehicles may also use HOV lanes.

Highway Advisory Radio (HAR): Radio station providing updated information on traffic conditions.

Highway Bridge Program (HBR): Federal funding program administered by Caltrans for bridge replacement or rehabilitation on public roads.

Highway Capacity Manual (HCM): Provides information for many transportation facilities and modes, including techniques for estimating the number of vehicles that can fit in a roadway (capacity), Level of Service, and design characteristics.

Highway Safety Improvement Program (HSIP): Formerly the Hazard Elimination and Safety Program (HES). Federal funding program administered by Caltrans for improving safety.

Highway: A general term which includes roads, streets, and parkways and all their appurtenances. In this document “highway” typically refers only to roads on the State Route System however (e.g. Highway 17).

HOT: see High Occupancy Toll Lanes

HOV: see High Occupancy Vehicle Lanes

HPMS - Highway Performance Monitoring System: A federally mandated program

GLOSSARY & ACRONYM GUIDE

designed by FHWA to assess the performance of the nation's highway system. Includes data on public roadways.

HQ: Headquarters

HSIP: see Highway Safety Improvement Program

HSR - High Speed Rail: Railroad passenger service that, as defined by California state law, operates at maximum speeds of more than 200 miles per hour. Because of the speed, high speed rail normally operates on intercity (longer) routes.

HUTA: Highway Users Tax Account. See Gas Tax

Infill Development: Development of land within an established urbanized area.

Initial Study: Under CEQA, a systematic review of a proposed project undertaken to determine whether there is substantial evidence that it may result in one or more significant impacts.

In-Lieu Fee (ILF) Mitigation: A permittee pays a fee to the operator of the ILF program instead of conducting project-specific mitigation. An ILF program typically combines fees collected from a number of permittee's projects to finance a mitigation project.

Intelligent Transportation System (ITS): A general classification of transportation technologies, management tools, and services made possible through advances in computer and communication technologies. Examples include real-time information about traffic incidents, dynamic curve warning signs, and the guidance of vehicles through remotely controlled equipment.

Interagency Technical Advisory Committee (ITAC): An RTC committee consisting of representatives from planning and public works departments, transit, UCSC and Cabrillo College, transportation management

associations, the Air District, and other entities who review and make recommendations about regional plans, projects, and funding.

Intercity Rail: Railroad passenger service that primarily serves longer trips, such as those between major cities or regions.

Inter-modal: Using or addressing inter-connections between various transportation facilities or modes.

Interregional Transportation Improvement Program (ITIP): A state funding program designated to receive 25% of funds programmed in the STIP (the other 75% are RTIP funds). Available for major state highway and passenger rail routes which link regions. Projects are proposed by Caltrans and subject to CTC approval.

IS: see Initial Study

ISTEA: Inter-modal Surface Transportation Efficiency Act. Federal funding and authorization bill that governed federal surface transportation spending 1991-1997.

ITAC: see Interagency Technical Advisory Committee

ITIP: see Interregional Transportation Improvement Program

ITS: see Intelligent Transportation Systems

Jobs/Housing Balance: The interrelationship between the location and type of housing versus the location and type of jobs in a region. This interrelationship has implications for transportation demand.

JPA - Joint Powers Authority: Two or more agencies that enter into a cooperative agreement to jointly wield powers that are common to them. JPAs are a vehicle for the cooperative use of existing governmental powers to finance and provide infrastructure and/or services in a cost-efficient manner.

Key Destinations: Eleven locations of employment and commercial centers identified throughout Santa Cruz County for use in target analysis.

LCP: see Local Coastal Program

Level of Service (LOS): A qualitative assessment of a facility's operating conditions. The extent or degree of service provided by, or proposed to be provided by, a facility based on and related to the operational characteristics of the facility. Level of Service indicates the capacity per unit of demand for each public facility. For automobiles, LOS ratings typically range from LOS A, which represents free-flow conditions, to LOS F, which is characterized by heavy congestion, stop-and-go traffic, and long queues forming behind breakdown points.

Light Rail: A passenger transportation system of self-propelled vehicles that operate over steel rails located in the street, on an aerial structure, or on a separated right of way.

Liquefied Natural Gas (LNG): A cleaner burning liquid fuel derived from a natural gas that is cooled to below its boiling point so it becomes a liquid. Santa Cruz METRO converts LNG to Compressed Natural Gas (CNG) to operate most of its buses.

LNG: see Liquefied Natural Gas

Local Coastal Program (LCP): Local Coastal Programs are basic planning tools used by local governments to guide development in the coastal zone, in partnership with the Coastal Commission.

Local Jurisdictions: The four cities (Capitola, Santa Cruz, Scotts Valley and Watsonville) and the (unincorporated) County of Santa Cruz, each of which has its own elected decision-makers, planning and public works departments, and control over land-use decisions within its boundaries.

Local Streets: Streets that provide direct access to adjacent residential areas, on which through traffic is generally discouraged.

Local Transportation Commission (LTC): Established under SB 325 to allocate Transportation Development Act (TDA) revenues and designated under AB 69 as the regional transportation planning agency (RTPA). The Santa Cruz County Regional Transportation Commission is the LTC for Santa Cruz County.

LOS: see Level of Service/Level of Service Standard

Low Emission Vehicles: Vehicles using alternative fuel sources which emit little or no tailpipe exhaust, e.g., electric, hybrid electric, and fuel cell.

LTC: see Local Transportation Commission

LTF: Local Transportation Funds. See Transportation Development Act

Maintenance Area: Area which, at one time did not, but now does meet current state or federal air quality standards.

Major Transportation Investment Study (MTIS): An analysis of project alternatives formerly required to receive federal and state funds. An MTIS was completed in 1999 for the Watsonville-Santa Cruz-UCSC corridor.

MAP-21 - Moving Ahead for Progress in the 21st Century: Federal transportation act signed into law on July 6, 2012. Successor bill to SAFTEA-LU (2005), MAP-21 consolidated several funding programs and establishes requirements for transportation planning and project implementation.

Mass Transit: A common carrier service provided for transporting passengers on established routes, with fixed schedules, published rates of fares. Includes buses and rail.

GLOSSARY & ACRONYM GUIDE

MBSST Network: see Monterey Bay Sanctuary Scenic Trail Network

MBUAPCD: see Monterey Bay Unified Air Pollution Control District

Metro: see Santa Cruz Metropolitan Transit District

Metropolitan Planning Organization (MPO): A federally-designated agency responsible for monitoring and planning associated with regional employment, residential and transportation. AMBAG is the MPO for Santa Cruz County as part of the three-county Monterey Bay region.

Metropolitan Transportation Plan (MTP): The federally-mandated transportation plan for the tri-county Monterey Bay region, composed of transportation projects from the transportation plans from Santa Cruz, Monterey and San Benito counties prepared by AMBAG. With SB375, also includes the regional Sustainable Communities Strategy (SCS).

Mitigation: Project or program intended to offset impacts of a transportation project on an existing natural resource such as a stream, wetland, and/or endangered species.

Mitigation Banking: The preservation, enhancement, restoration or creation of a wetland, stream, or habitat conservation area which offsets, or compensates for, expected adverse impacts to similar nearby ecosystems.

Mixed Flow Lane: Travel lanes shared by autos, trucks, buses, and motorcycles (as compared to restricted lanes, such as HOV lanes).

Mixed Use: Combining of commercial, office, and/or residential land uses to reduce travel distances and facilitate walking. Examples include multi-story buildings containing businesses and retail stores on the lower floors, and homes on the upper floors.

MMLOS: see Multimodal Level of Service

Mode Split or Mode Share: The proportion of total travel in each travel mode.

Mode: Method of travel, e.g., private automobile, walking, bicycle, transit, airplane, bus, train.

Monterey Bay Sanctuary Scenic Trail (MBSST) Network: A planned recreation, transportation and interpretive pathway that links existing and new trail segments into a continuous coastal trail around the Monterey Bay, from Lover's Point in Monterey County to the San Mateo County line in Santa Cruz County.

Monterey Bay Unified Air Pollution Control District (MBUAPCD or Air District): Agency responsible for implementing and enforcing state and federal air quality regulation in Santa Cruz, Monterey and San Benito counties.

MPO: see Metropolitan Planning Organization

MTD: see Santa Cruz Metropolitan Transit District

MTIP: Metropolitan Transportation Improvement Program. See Federal Transportation Improvement Program.

MTIS: see Major Transportation Investment Study

Multimodal Level of Service (MMLOS): A way to measure the degree to which street design and operations meets the traveling needs of each user type – automobile, bus, pedestrian, bicycle, etc.

Multi-modal: Using or addressing more than one transportation mode.

National Environmental Policy Act (NEPA): Federal law identifying environmental disclosure requirements. Required to be followed on projects using federal funds.

National Highway System (NHS): A federally established national road system. In Santa Cruz

County, the NHS includes sections of Highway 1, Highway 17, Highway 129, Highway 152, 41st Avenue, Capitola Road, Freedom Boulevard, Graham Hill Road, Mt. Hermon Road, Ocean Street, Soquel Avenue and other major arterials.

NB: Northbound

ND: see Negative Declaration

Negative Declaration (ND): A determination based upon an initial study that there is no substantial evidence that a proposed project may result in a significant effect.

NEPA: see National Environmental Policy Act

NHS: see National Highway System

Non-Attainment Area: An air basin which does not meet existing state or federal air quality standards.

O&M: Operations and Maintenance. The range of activities and services provided by the transportation system and for the upkeep and preservation of the existing system.

Obligate: The act of securing commitment from Federal or State government (e.g. FHWA or Caltrans) to pay or reimburse entities for a project's eligible costs. Many funding programs require a project sponsor to obligate funds in a timely manner or lose the funds.

Off-Peak Period: The time of day when the lowest concentration of travels are using a transportation facility. These times are generally before 6 a.m., mid-day, and after evening commute hours.

Open Space: Generally understood as any area of land or water which is not developed for urbanized uses. In General Plans areas may be designated as Open Space for the purposes of the preservation or managed production of natural resources, outdoor recreation, or the promotion of public health and safety.

Operations: On-going activities necessary to manage and perform services for a system, such as labor costs. For transit, costs include fuel, salaries and replacement parts.

Overall Work Program (OWP): Budgetary document describing proposed activities for the upcoming fiscal year, including those required by federal and state law.

OWP: see Overall Work Program

Paratransit: Term used to describe transportation services which operate on flexible routes and/or provide demand-responsive service, and is most frequently used by elderly and disabled passengers unable to take fixed route transit. Generally vans, small buses, or taxis are used to provide this service. The ADA-mandated service in our region is ParaCruz and is provided by the METRO. Another main provider is Community Bridges Lift Line.

Park-and-Ride Lot: A facility where individuals can meet to utilize carpools, vanpools, and transit to continue traveling to their destinations.

Parking Management: Strategies which use parking supply or pricing as an incentive or disincentive to affect the demand for parking. Preferred parking for carpools is an example of a parking management incentive, and charging parking fees is an example of a disincentive.

Passenger Miles: The total number of passengers carried by a transit system, multiplied by the number of miles each passenger travels. Passenger miles are normally measured on a daily or annual basis.

Pavement Condition Index (PCI): A numerical index between 0 and 100 used to indicate the general condition of a pavement with 0 representing the worst possible condition and 100 representing the best possible condition.

Pay as You Drive (PAYD) Insurance: A type of automobile insurance whereby the costs are

GLOSSARY & ACRONYM GUIDE

dependent upon type of vehicle used, and measured against time, distance and location.

Peak Periods: The hours during which the greatest traffic volumes or highest transit use occur.

PeMS - Performance Monitoring System: The PeMS program uses urban freeway data collected through freeway loop detectors to provide current, ongoing data on freeway volumes and speeds that can be displayed graphically and exported to other monitoring applications.

Performance Based Planning: An approach that uses performance measures to support investment decisions to help achieve desired outcomes.

Performance Measures (or Evaluation Measures or Targets): Objective, quantifiable measures used to evaluate the performance of the transportation system, and to determine how well planned improvements to the system are achieving established objectives.

Person Trip: Any person's one-way travel to any destination for any purpose. More specifically, a trip is the one-way movement from an origin to a destination, whereby each trip has two trip ends.

"Planned" Projects: Projects on the Constrained/within projected funds RTP list which have not previously been approved for funding by the RTC. Projects are expected to be funded through 2035.

Policy Element: A required component of the RTP, the policy element clearly conveys the region's transportation goals and policies.

Primary Transportation Network: Includes state highways, principal arterials and rail line in Santa Cruz County.

Program: *verb-* to assign funds to a project.

Program Environmental Impact Report (PEIR): Environmental review process used to evaluate the potential environmental effects of large-scale plans or programs.

"Programmed" Projects: Projects on the Constrained/within projected funds list for which funding has already been approved by the RTC. These projects will be initiated and/or completed by 2019.

Project Study Report (PSR): A preliminary engineering report that documents agreements on the scope, a set of reasonable and feasible alternatives, the schedule, and the estimated cost of a project so that the project can be included in a future State Transportation Improvement Program (STIP).

Proposition 1A: Bond measure passed by voters in November 2008 authorizing \$9.95 billion to the California High-Speed Rail Authority to construct the core segments of the rail line from San Francisco to the Los Angeles area.

Proposition 1B: Bond measure passed by voters in November 2006 authorizing \$27 billion in bonds distributed to highway, local road, and transit projects through a combination of competitive and formula programs.

Proposition 116: Bond measure passed by voters in June 1990 providing \$1.9 billion in funds primarily for rail projects, but also included funds for paratransit vehicles, bicycle facilities, and ferries. \$11 million was earmarked for Santa Cruz County rail projects.

PSR: see Project Study Report

Rail Transit: Public transportation services provided on a fixed rail line, e.g., light rail.

Ramp Metering: Electronic traffic control devices located at freeway access points to meter the entry of vehicles onto the freeway. The goal is to help optimize the movement of persons and vehicles.

RDA: see Redevelopment Agency

Redevelopment Agency (RDA): Originally established by local ordinances to assist a specifically designated area with capital improvement projects intended to revitalize the area, RDAs were dissolved in 2012 as part of the California State Budget Act (2011).

Regional Blueprint: Collaborative planning processes that engage residents of a region in articulating a vision for the long term future of their region. The goal of the process is to develop a preferred growth scenario that can guide regional and local land use and transportation.

Regional Housing Needs Assessment (RHNA): Quantifies the need for housing within each jurisdiction of the AMBAG region based on population growth projections. Communities then address this need through the process of completing the housing elements of their General Plans.

Regional Surface Transportation Program (RSTP): A flexible federal funding program initially established by ISTEA and distributed to regions based on population formula to fund transit, highway, and local streets and roads projects.

Regional Surface Transportation Program Exchange (RSTPX): Regional Surface Transportation Program funds (federal) exchanged for state funding.

Regional Transportation Improvement Program (RTIP): The state required multi-year capital improvement program for transportation projects using state and federal funds. The RTIP for Santa Cruz County is adopted by the SCCRTC and is submitted to the California Transportation Commission for inclusion in the State Transportation Improvement Program (STIP) and to AMBAG for inclusion in the FTIP.

Regional Transportation Plan (RTP): The state-mandated long-range plan that acts as a

blueprint to guide transportation development. Developed by regional transportation planning agencies, it includes a policy, action, and financial elements. The SCCRTC prepares and adopts the RTP for Santa Cruz County. The RTP must be consistent with other local plans.

Regional Transportation Planning Agency (RTPA): Agencies designated by the State of California to provide regional transportation planning and make funding decisions, including preparation of the Regional Transportation Plan and the Regional Transportation Improvement Program. The Santa Cruz County Regional Transportation Commission is the designated RTPA for Santa Cruz County.

Regional Travel Demand Model (RTDM): A computer software program using demographic data to estimate the transportation impacts of population growth and land use decisions on the transportation system, and to assess the utility of transportation projects.

Reverse Commute: Travel in the direction opposite to the main flow of peak period commute traffic.

RHNA: see Regional Housing Needs Assessment

Ridership: The number of transit users, usually reported as a yearly total or as the average for a normal workday.

Rideshare: Alternatives to driving alone, including carpooling, vanpooling, taking the bus, bicycling, walking and telecommuting.

Right-of-Way (ROW): The area of property owned by a public or private entity used for transportation purposes.

ROW: see Right-of-Way

RPA: see Rural Planning Assistance

RSTP: see Regional Surface Transportation Program

GLOSSARY & ACRONYM GUIDE

RSTPX: see Regional Surface Transportation Program Exchange

RTC: see Santa Cruz County Regional Transportation Commission

RTDM: see Regional Travel Demand Model

RTIP: see Regional Transportation Improvement Program

RTP: see Regional Transportation Plan

RTPA: see Regional Transportation Planning Agency

Rural Planning Assistance (RPA): Funds awarded by the California Department of Transportation (Caltrans) annually for use by the Regional Transportation Planning Agency.

Safe Routes to Schools: Initiatives, such as education, encouragement campaigns, and infrastructure improvements, that make it easier and safer for children to walk and bicycle to school.

Safe Routes to Transit: Strategies to address the challenges of getting to and from a transit stop or station. These include sidewalks and curb cuts to bus stops, pedestrian crosswalks near transit stations, bicycle lanes that connect to transit and bike parking at transit stations, feeder-distributor bus/shuttle routes, car sharing/station cars, and ridesharing.

Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU): Funding and authorization bill from 2005-2012 that governed federal surface transportation spending.

SAFE: see Service Authority for Freeway Emergencies

SAFETEA-LU: see Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users

Santa Cruz County Regional Transportation Commission (SCCRTC or RTC): Transportation policy, planning and funding body designated as the Regional Transportation Planning Agency (RTPA), Local Transportation Commission (LTC), Rail/Trail Authority and Service Authority for Freeway Emergencies (SAFE) for Santa Cruz County.

Santa Cruz METRO: see Santa Cruz Metropolitan Transit District

Santa Cruz Metropolitan Transit District (SCMTD or METRO): The public transit operator for Santa Cruz County. Also known as Santa Cruz Metro.

SB: Southbound

SB 45: California Senate Bill (Chapter 622, Statutes of 1997, Kopp) that mandated major transportation reforms impacting transportation planning, funding and development. Transferred from the state to the regions more authority in deciding how to invest transportation funds. Established current STIP process.

SB 375 (2008): Established to implement the state's greenhouse gas (GHG) emission-reduction goals, as set forth by AB 32, in the sector of cars and light trucks. Requires California's Air Resources Board (CARB) to develop regional reduction targets for greenhouse gas emissions (GHG), and requires MPO's to develop "Sustainable Community Strategies" (SCS) to reduce emissions from vehicle use through integrated land use and transportation planning.

SCCRTC: see Santa Cruz County Regional Transportation Commission

Scenario Planning: A decision making tool to help identify the projects that are prioritized in a transportation plan. Scenario planning allows a community to evaluate the likely outcomes of a number of scenarios to explore possible benefits and costs of alternative futures.

SCMTD: see Santa Cruz Metropolitan Transit District

SCS: see Sustainable Communities Strategy

Self-Help Counties: A term used to describe counties that have enacted local voter-approved funding mechanisms -- such as half-cent sales taxes -- to pay for transportation improvements.

Service Authority for Freeway Emergencies (SAFE): As the designated SAFE for Santa Cruz County, the SCCRTC owns and manages the call box system on local state highways and other motorist aid programs. Funded by \$1-per-year vehicle registration fee.

SHOPP: see State Highway Operations and Protection Program

Signal Preemption: A system used for emergency and public transit vehicles to change signal phasing from red to green allowing for more rapid crosstown access.

SOV - Single Occupant Vehicle: Privately operated vehicle that contains only one driver or occupant.

Specialized Transportation: Often used synonymously with “paratransit,” refers to vehicle and programs operated primarily for the elderly and persons living with disabilities. Service is generally provided door-to-door in vans or automobiles on a semi-fixed route or demand- responsive basis.

SRTP: see Short Range Transit Plan

STA: see State Transit Assistance

STARS: see Sustainable Transportation Analysis & Rating System (STARS)

State Highway Operation and Protection Program (SHOPP): State plan and funding program to maintain the operational integrity and safety of the state highway system. It

includes primarily rehabilitation, safety, and operational improvement projects.

State Transit Assistance (STA): State funding program for mass transit operations and capital projects. As of March 2010, funds derived from statewide sales tax on diesel fuel, distributed based on population.

State Transportation Improvement Program (STIP): A multi-year program of transportation projects to be funded with various state and federal revenues. Adopted biennially by the California Transportation Commission (CTC), based on projects proposed in RTIPs and from Caltrans (ITIP). Funds distributed to regions based 75% on population and 25% on highway miles.

Statewide Integrated Traffic Records System (SWITRS): Database of collisions managed by the California Highway Patrol.

STIP: see State Transportation Improvement Program

STP: see Surface Transportation Program

Surface Transportation Program (STP): Federal flexible funding program that may be used by states and localities for projects on any federal-aid highway (includes road, bike, pedestrian, highway), bridge projects on any public road, transit capital projects, and intracity and intercity bus terminals and facilities.

Sustainability: Sustainability is defined as balancing economic, environmental and equity interests. Sustainability creates and maintains the conditions under which humans and nature can exist in productive harmony, that permit fulfilling the social, economic and other requirements of present and future generations.

Sustainable Community Strategies (SCS): An element of the MTP, as required by SB 375, that demonstrates how development patterns and the transportation network, policies, and programs can work together to achieve the

GLOSSARY & ACRONYM GUIDE

state's targets for reducing regional greenhouse gas (GHG) emissions from cars and light trucks in a region.

Sustainable Transportation Analysis & Rating System (STARS): An integrated planning framework for transportation plans and projects. Used by planners, communities and decision-makers to evaluate the impacts of transportation plans and projects, identify innovative strategies and improve decision-making.

System Preservation: The maintenance of the existing transportation system.

Targets: For this RTP, targets are measurable objectives for achieving goals. Targets are a decision support tool linking policies and projects to goals, assessing performance trends, and provide the opportunity to make adjustments in priorities. Consistent with backcasting, establishing targets involves setting desirable future objectives first then determining the degree to which investments will meet objectives, rather than relying on demand based forecasts to direct the planning and investments.

TAZ: see Traffic Analysis Zone

TCM: see Transportation Control Measure

TCRP: Transportation Congestion Relief Program

TDA: see Transportation Development Act

TDM: see Transportation Demand Management

TEA: see Transportation Enhancement Activities

TEA-21: see Transportation Equity Act for the 21st Century

Telecommute (or Telework): Conducting some or all of daily work activities from a location other than the normal worksite, usually from home or remote site, and often with the assistance of telecommunications equipment.

Employees sometimes referred to as teleworkers or e-workers.

TIA: see Transportation Improvement Area

TMA: see Transportation Management Association

TMC: Traffic Management Center. Monitors roadways using closed circuit cameras, loop detectors and information from the CHP and field staff. Posts and updates messages on traffic conditions on various systems, including the 511 telephone number, road signs, and websites.

TOD: see Transit-Oriented Development

TOS: see Traffic Operations System

TPP: see Transit Priority Project

Traffic Analysis Zone: A geographic unit used for transportation modeling. A TAZ is smaller than a census tract and a Trip Distribution Zone (TDZ).

Traffic Operations System (TOS): A system of highway communications equipment to monitor traffic conditions and relay traveler information in real time.

Transit: Travel by bus, rail, or other vehicle, either publicly or privately owned, that provides general or specialized service on a regular or continuing basis.

Transit Dependent: An individual who because of age, income, physical/mental condition, geographic location, or personal choice, does not have a private vehicle available and relies on transit for his/her transportation needs.

Transit-Oriented Development (TOD): Residential and employment growth that occurs near existing and planned public transit facilities.

Transit Priority Project (TPP): Under SB 375, a project that (1) contains at least 50 percent

residential use (commercial use, if any, must have floor area ratio of not less than 0.75); (2) have a minimum net density of 20 units per acre; and (3) be located within one-half mile of a major transit stop or high-quality transit corridor included in the MTP. TPP may be exempt from CEQA.

Transportation Control Measure (TCM): A project or program intended to reduce air pollution generated by automobiles.

Transportation Demand Management (TDM): Strategies to reduce demand by automobiles on the transportation system, by promoting telecommuting, flex-time, bicycling, walking, transit use, staggered work hours, and ridesharing.

Transportation Development Act (TDA): State law enacted in 1971. Local TDA funds (or Local Transportation Funds – LTF) are generated from a one-quarter of one percent state sales tax. Revenues are allocated annually to support transportation planning and administration, transit, transportation for the elderly/disabled, bikeway and pedestrian projects, based on state law and RTC rules and regulations.

Transportation Disabled: People who cannot use public transportation easily or at all because of physical, emotional, or mental limitations.

Transportation Disadvantaged: People who have significant unmet transportation needs. May include people experiencing poverty, people experiencing language barriers, people of color, older adults, youth and people with disabilities who experience a disproportionately small share of benefits from transportation investments, particularly because traditional transportation investments prioritize vehicles.

Transportation Enhancements (TE): Former federal funding program for pedestrians and bicycles facilities, scenic beautification, historic preservation, preservation of abandoned railway corridors, archaeological planning and research, and mitigation of water pollution due

to highway runoff. Eliminated in 2012 and replaced by the Transportation Alternatives Program (TAP).

Transportation Equity Act for the 21st Century (TEA-21): Federal funding and authorization bill from 1998-2005 that governed federal surface transportation spending.

Transportation Improvement Area (TIA): Area designated by a local jurisdiction where new development is required to pay fees based on the amount of traffic it is expected to generate.

Transportation Management Association (TMA): An organized group that provides transportation services in a particular area, with a focus on TDM programs to facilitate the movement of people and goods within an area. TMAs are frequently led by the private sector in partnership with the public sector to solve transportation problems.

Transportation System Management (TSM): Strategies that improve the efficiency of the existing transportation network such as signal synchronization, HOV queue jumps and signal priority, incident management and auxiliary lanes.

Travel Time Index (TTI) - A travel time index (TTI) is a way to normalize congestion levels across facilities with different free-flow speeds. A travel time index is determined by taking average travel time divided by the free flow travel time. The free flow speed assumed here is the posted speed limit (65 mph for highways). Similarly, the 95% travel time index is the 95% travel time divided by the free flow time.

Travel Time Reliability: The consistency or dependability in travel times, as measured from day-to-day and/or across different times of the day.

Trip: A one-way journey that proceeds from an origin to a destination by a single type of vehicular transportation.

GLOSSARY & ACRONYM GUIDE

TSM: see Transportation System Management

TSM: see Transportation Systems Management

TTI: see Travel Time Index

U.S. DOT: United States Department of Transportation. The federal agency responsible for highways, mass transit, aviation and ports and headed by the Secretary of Transportation. Includes the FHWA, FTA and FAA, among others.

UCSC: University of California, Santa Cruz

Unconstrained: Denotes a funding scenario not constrained by existing funding assumptions. New funds, above and beyond existing or anticipated revenues, would be needed to fund “unconstrained” projects in this RTP.

Unmet Transit Needs Findings: TDA funds can be used for local streets and roads in smaller counties only if the RTPA in their jurisdiction makes a finding that public transit service and operations in the county have no unmet needs that are reasonable to meet. RTPAs must hold public hearings prior to making such a determination.

Urbanized Area: An area with a population of 50,000 or more as designated by the U.S. Census.

V/C Ratio - Volume to Capacity Ratio: The volume of traffic divided by the capacity of a transportation facility. Traffic volume is defined as the number of vehicles passing (or projected to pass) a point or section of roadway in a given time interval. Capacity is defined as the maximum number of vehicles that reasonably can be expected to traverse that point or section of roadway during the same time period under prevailing roadway, traffic, and control conditions.

Vanpool: A group of seven to fifteen people traveling together to work or school in a van at set times. Many vans are leased from companies which include insurance, emergency services and maintenance in the monthly rental fees.

Vehicle Miles Traveled (VMT): The term used for the total number of miles traveled by motor vehicles within a specified region during a particular time period.

Vehicle Occupancy Rate: Also known as Average Vehicle Occupancy or Ridership; the number of persons per vehicle on a given road at a given time without distinguishing trip purpose.

Vehicle Trip: A single vehicle movement from the beginning of travel to its destination, in a vehicle that is motor-driven (e.g., automobiles, motorcycles, trucks, buses, and vans).

VMT: see Vehicle Miles Traveled

VTA: Santa Clara Valley Transportation Authority

Walkability: A measure of how friendly an area is to walking. Walkability has many health, environmental, and economic benefits. Factors influencing walkability include the presence or absence and quality of footpaths, sidewalks or other pedestrian rights-of-way, traffic and road conditions, land use patterns, building accessibility, and safety, among others.

WB: Westbound

Year of Expenditure (YOE): Revenue and cost estimates for a project or program based on reasonable financial principles/information about the timeframe in which the expenditure is expected to occur.

Appendix A

Public Outreach

This page intentionally left blank

Public Involvement for the 2040 Regional Transportation Plan

The Santa Cruz County Regional Transportation Commission's (RTC) proactive community engagement process includes public notices, full public access to key decisions, and encourages early and continuing involvement of the public in developing plans and programming actions. Outreach for the 2040 Regional Transportation Plan (RTP) included a variety of public participation activities as outlined in the *2015 Public Participation Plan*. This public participation plan is prepared in collaboration with the Association of Monterey Bay Area Governments, the Transportation Agency of Monterey County and the San Benito Council of Governments. The RTC's public involvement process for the 2040 RTP included public meetings, workshops, news releases, online surveys, a plan website, social media notices (Facebook, Twitter), media interviews, and email notices to a broad range of over 1000 individuals, groups, agencies, and stakeholders. Following this overview is a summary of outreach activities and sample materials.

Define Purpose & Identify Stakeholders

The RTC compiled a list of stakeholders and regularly solicited input on and disseminated Regional Transportation Plan milestone information. The list includes: interested residents, transportation partners, local jurisdictions, other public entities, technical partners, business interests, environmental groups, neighborhood/homeowner, land conservation/development interest group, environmental justice, representatives of pedestrian and bicycle transportation facilities users, advocacy, freight, non-profit, education, agriculture, youth/senior, media, state, federal and local agencies responsible for land use management, natural resources, environmental protection, conservation, and historic preservation and other interested parties.

A Fact Sheet and webpage were developed to help the community understand more about the RTP, how the plan is developed, and about the sustainability framework approach used in this RTP update. Feedback was requested at key stages of development for the Regional Transportation Plan including the draft goals, targets and policies; and the projects, as well as the draft plan.

Consultation & Coordination with other Agencies

The RTC worked closely with agencies responsible for planning and implementing transportation projects and programs. This included planning and public works representatives from each of the five jurisdictions, Caltrans, the Santa Cruz Metropolitan Transit District, the University of California-Santa Cruz, Community Bridges-Lift Line, the Volunteer Center, the Association for Monterey Bay Governments, and other transportation partners and nonprofits that provide employer transportation programs, bicycle programs, or endeavor to improve transportation options to improve the health of the community.

Consultation with Interested Parties, Boards of Directors, Advisory Committees

Decisions at key steps of RTP development were made at noticed public board meetings. Prior to key decisions, materials were shared with the RTC's three advisory bodies (the Bicycle Advisory Committee, Elderly and Disabled Transportation Advisory Committee (E&D TAC), and Interagency Technical Advisory Committee (ITAC)) and comments were incorporated. Board and advisory committee materials

are posted on the RTC website and notices are sent to interested individuals that have signed up for RTC “enews”.

Public Input on the project list is an important part of the RTP development process. Project ideas from the public were forwarded to potential project sponsors for their consideration. The preliminary project lists were reviewed by each of the RTC’s advisory committees, posted on the RTC website and evaluated by the RTC at one of its televised meetings. The project list is also available for public review during circulation of the Draft RTP.

Public Notice, Public Hearings, Comment Periods

All RTC board and advisory committees are held in accordance with the Brown Act; therefore, agendas are posted in a public location and on the RTC website at least 72 hours in advance of the meeting. The draft RTP was released on December 7th, 2017 for a 55 day public comment period. Comments are due on February 4th, 2018. A public hearing is scheduled for the January 11th, 2018 RTC meeting to receive comments on the draft 2040 RTP. Comments received and recommended updates in response to the comments will be presented to the RTC in Spring 2018. A public hearing will be held to consider adoption of the final 2040 Santa Cruz County Regional Transportation Plan and the environmental review findings, statement of overriding considerations, and mitigation monitoring program. Notices about public hearings are distributed to news media and the RTP “enews” subscribers in advance of the hearing. The RTC makes all decisions related to transportation planning and policy in open, noticed meetings, according to the Brown Act (California Code sections 54950-54960.5). The environmental review process, lead by AMBAG, follows requirements set forth by the California Environmental Quality Act (CEQA).

Use of Media, Informational Materials, Visualization Techniques

A number of graphic materials were adapted and/or produced for the RTP. The RTP fact sheet contains information on how the plan is developed, the focus on sustainability and how to get involved. The RTC has a website (<http://sccrtc.org/rtp>) in which the 2040 Regional Transportation Plan process is described on a page with links to the various milestones of the project. New for the 2040 Regional Transportation Plan is the use of social media to get information out to the public on how to get involved in the long range transportation planning process. The RTC featured numerous discussions about the RTP on the agency’s Nextdoor social media platform that reaches 77 neighborhoods and on Facebook which provides yet another avenue for providing information to the public.

Encourage Bilingual Participation

Bilingual participation was encouraged by inviting the community to meetings, making an interpreter available, holding evening meetings at locations accessible by transit, and placing advertisements about the draft RTP availability in Spanish language media and including groups serving bilingual community members in the stakeholder list. The RTP Fact Sheet was also made available in Spanish.

Responding to Public Input

With development of key elements of the Regional Transportation Plan (RTP), the RTC solicited and received public input. Comments were shared with the RTC board throughout the process and incorporated into elements of the document. For comments focused specifically on the project list, project ideas and comments on specific projects were forwarded to the appropriate jurisdiction for their consideration. Response to comments on the Environmental Impact Report (EIR) will be included in the Final EIR.

Distribution of Final Documents

The final RTP and EIR will be available online at <http://www.sccrtc.org/funding-planning/long-range-plans/rtp/>, at local libraries, and at RTC offices in Santa Cruz and Watsonville.

Figure A.1 – Public Outreach

2040 Regional Transportation Plan and Environmental Impact Report

NOTICED PUBLIC MEETINGS

	Board Meetings					Advisory Committees			OTHER
	Regional Transportation Commission	Transportation Policy Workshop	Interagency TAC	Bicycle Committee	Elderly/Disabled TAC	General Public			
Policy Element: Goals, Policies & Targets (Evaluation Measures)									
Preview goals, targets, policies	10/2015		11/2015	12/2015	12/2015	12/2015	12/2015	12/2015	12/2015
Draft policy element approved	3/2016 (rev) 4/2017								1/2016
Action & Financial Elements: Project List and Revenue Projections									
Solicit project ideas through email notification, Nextdoor, Facebook, Twitter and website	10/2015		11/2015	12/2015	12/2015	12/2015	12/2015	12/2015	12/2015
Approve complete list of projects		8/2016		6/2016	6/2016	6/2016	6/2016	6/2016	3/2017
AMBAG: Public workshop on transportation and land use scenarios held in Santa Cruz County									4/2017
Approve the financially constrained project list	4/2017			3/23/17					5/2017
AMBAG: Adoption of preferred scenario for SCS									
Environmental Review*									
AMBAG: Notice of Preparation			1/2016						12/2015
AMBAG: News release on scoping meetings									12/2015
AMBAG: Scoping meeting in Santa Cruz County									1/26/2016
AMBAG: Notices of availability of draft EIR in papers									12/2017
AMBAG: Release of draft EIR									12/4/2017
AMBAG: Documents made available online at: www.ambag.org , www.scotc.org , and at local libraries									12/2017
AMBAG: EIR public hearing notice published in papers									1/2018
AMBAG: Public Hearing on draft EIR									1/2018
AMBAG: Comments on the EIR Due									2/5/2018
AMBAG: EIR notice of consideration published in papers									5/21-25/2018
AMBAG: Final EIR available for public review									5/23/2018
AMBAG: Adopt final MTP/SCS and certify EIR									6/13/2018
RTC Adopt final EIR		6/14/2018							

NOTICED PUBLIC MEETINGS

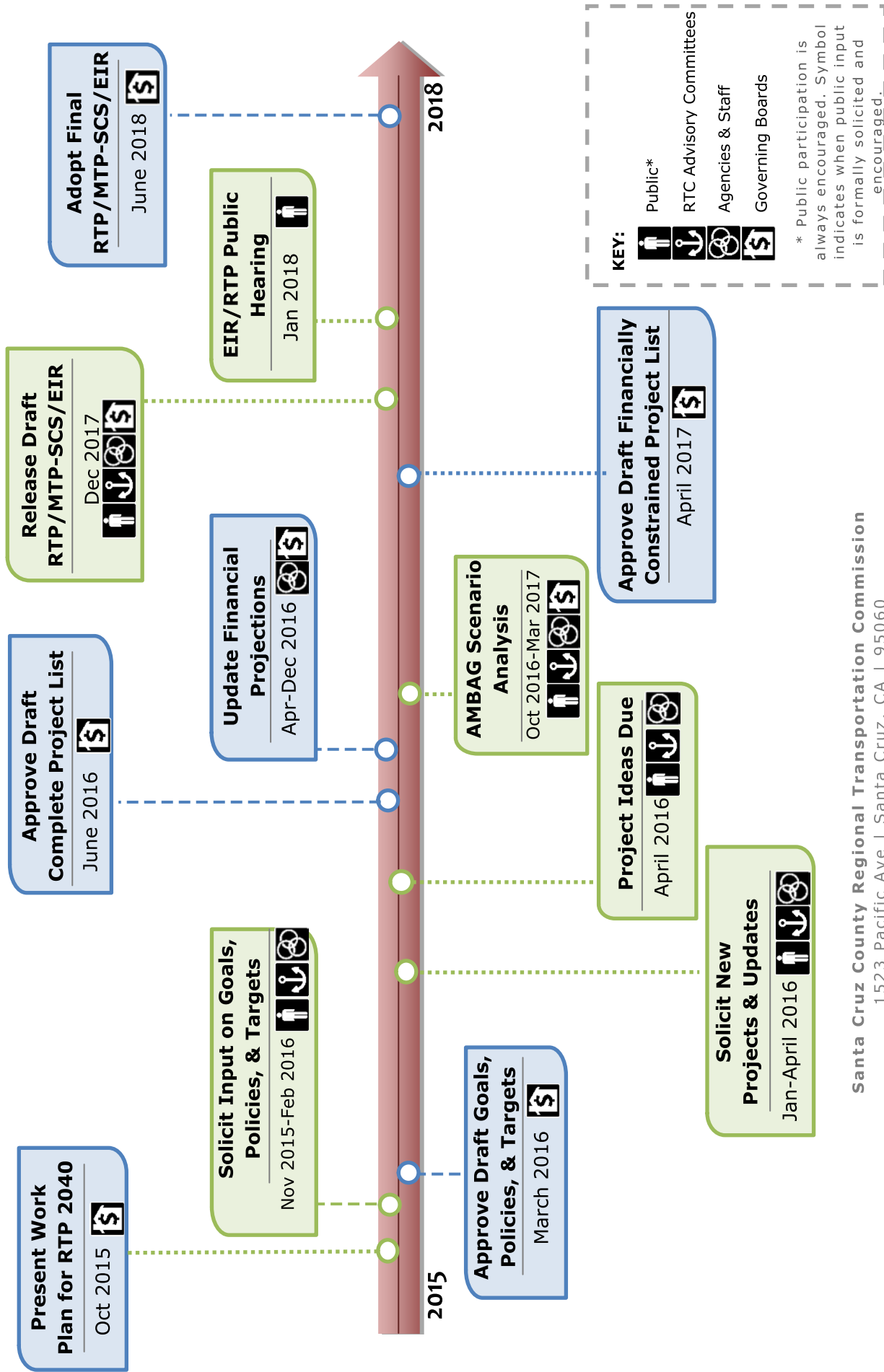
	Board Meetings				OTHER
	Advisory Committees				
	Regional Transportation Commission	Transportation Policy Workshop	Interagency TAC	Bicycle Committee	
Review of 2040 Regional Transportation Plan					
RTC approve release of draft RTP	12/7/2017				
Release of draft RTP		Email notice of availability are sent to all board and committee members			12/8/2017
Draft RTP available online at www.sccrtc.org , local libraries, and at RTC office					12/8/2017
Email notices sent to over 1000 people, agencies, and community groups (see Appendix A for distribution list)					12/11/2017
Draft RTP public hearing notice published in papers					week of 12/11/2017
Email notices sent to resource agencies and tribal representatives to solicit input on draft RTP					1/2/2018
Press Release on draft RTP availability					week of 12/11/2017
Public Hearing on draft RTP	1/18/2018				
Input solicited on draft RTP from RTC Committees		1/18/2018	12/11/2017	12/12/2017	
Comments on the draft RTP Due					2/5/2018
Approval of revisions for final RTP	4/5/2018				
Adopt final RTP	6/14/2018				
Other Public Outreach Activities (some bilingual materials)					
Fact Sheets: online, distributed at community meetings					ongoing
Presentations and/or announcements about the RTP					ongoing
Electronic notices: Social media (e.g. Nextdoor, Facebook, Twitter updates), emails to distribution list, newsletters for other entities					ongoing
RTP website updates: www.sccrtc.org					ongoing
News releases					ongoing
Communication to Tribal Interests					8/2016, 1/2018, 6/2018
Bold = Key Decision Points					

*The CEQA required environmental review for the 2040 Regional Transportation Plan is included in the EIR for the 2040 MTP-SCS. AMBAG serves as the lead agency for the EIR and SCCRTC serves as a responsible agency.



2040 REGIONAL TRANSPORTATION PLAN

KEY MILESTONES





Santa Cruz County Regional Transportation Commission

Regional Transportation Plan

Fact Sheet

July 2017

What is the RTP?

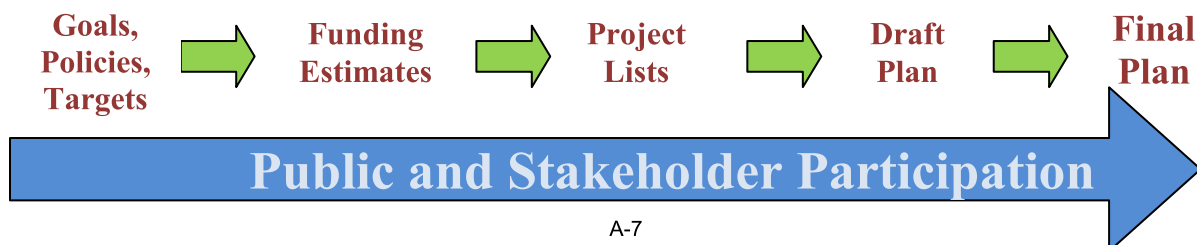
The Regional Transportation Plan (RTP) is a long range (20-25 year) transportation plan for the Santa Cruz County area. The long range transportation plan assesses the transportation challenges we face now and those we will face in the future. The plan includes strategies to address our transportation challenges, a list of unmet multimodal transportation needs (highway, road, transit, bicycle, pedestrian, freight, airport, etc.), and priorities for limited funds. The RTP is updated every four or five years to address new trends, issues, and priorities, and to incorporate new state and federal regulations. The last [Santa Cruz County Regional Transportation Plan](#) was adopted in June 2014. The next plan is scheduled for adoption in June 2018 and will be referred to as the 2040 RTP.



How is the long range transportation plan developed?

The first step is to identify the objectives for the region's transportation system and craft overarching goals and policies, used to guide decisions. Performance measures or targets are also developed to track progress towards achieving the goals. Next, an estimate of all the potential local, state and federal funding available for transportation projects is developed. Projects that advance the goals and targets are then identified by transportation agencies, local jurisdictions, and the public. Based on the anticipated funding and the performance measures, the RTC prioritizes the projects that could be funded over the next 25 years. A list of additional projects that could be implemented should more funding become available is also identified. The priority project list is then reviewed to identify potential environmental impacts. There are opportunities at every stage of the development of the RTP for public, agency and committee input. The goals/policies, funding estimates and project lists build on each other and input at the early stages will shape the draft and final plan.

REGIONAL TRANSPORTATION PLANNING PROCESS



The Regional Transportation Plan provides information on the following:

- Transportation needs in the region for 20 to 25 years, based on population growth, environmental, economic and other social trends.
- The amount of state, federal, and local funding available for transportation projects and new sources of funding needed to deliver high priority projects.
- Sustainability of the transportation system and sustainable outcomes.
- New legislative requirements, including SB375, which stipulate that regions must meet greenhouse gas reduction targets through a coordinated land use and transportation plan called the Sustainable Communities Strategy.
- “Complete Streets” as a tool for planning for a balanced and multi-modal transportation system, particularly for those transportation improvements needed to accommodate growth.

Why a focus on sustainability?

The RTC represents diverse transportation interests and assesses the impacts of transportation investments on environmental, economic and social concerns. A focus on sustainability can assist in providing balanced evaluation of transportation projects and programs, recognizing that these areas are intertwined, not exclusionary. This approach evaluates how transportation investments impact people’s health and safety, the economic vitality of the region, and the universal need for a healthy planet. Some investments are win/win, but some require trade-offs in the three areas of economy, environment and people. This focus on sustainability assists the RTC in identifying these trade-offs and achieving multiple long-term goals.



How can you get involved?

Planning for the 2040 RTP is underway!

- Stay informed. Review materials on the RTP webpage and provide input as elements of the plan are developed: <http://sccrtc.org/funding-planning/long-range-plans/2040-rtp/>
- Ask to be added to the RTP E-news List by emailing info@sccrtc.org, calling 831-460-3200 or signing up on the RTC website www.sccrtc.org
- Send comments to SCCRTC: info@sccrtc.com or 1523 Pacific Avenue, Santa Cruz, CA 95060
- Participate in the development of the Association of Monterey Bay Area Governments’ Sustainable Communities Strategy (SCS), www.ambag.org.



Plan Regional de Transporte

Hoja Informativa

Julio 2017

¿Qué es el RTP?

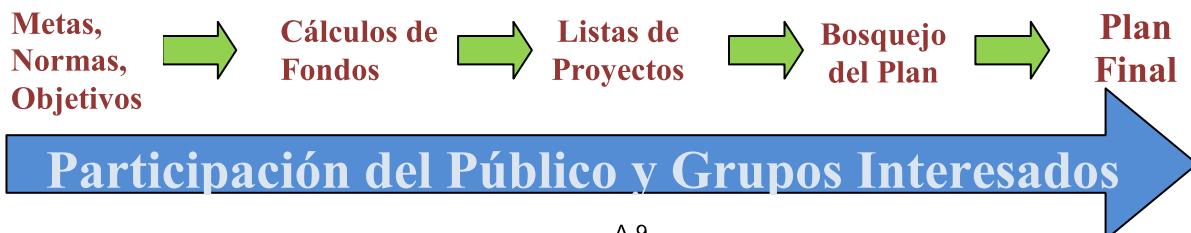
El Plan Regional de Transporte (*RTP por sus siglas en inglés*) es un plan a largo plazo (20-25 años) de transporte para el condado de Santa Cruz. El plan de transporte a largo plazo evalúa los retos que enfrentamos ahora y en el futuro. El plan incluye estrategias para resolver los retos, un lista de no cumplido multimodal necesidades de transporte (autopista, carretera, tránsito, bicicleta, peatones, carga, aeropuerto, etc.) y prioridades para el uso de fondos limitados. El RTP se actualiza cada cuatro o cinco años para abordar las prioridades, problemas y nuevas tendencias e incorporar nuevas regulaciones estatales y federales. El último [Plan Regional de Transporte del Condado de Santa Cruz](#) se adoptó en junio 2014. Se espera que el siguiente plan se adoptará en junio 2018 y se hará referencia a él como 2040 RTP.



¿Cómo se desarrolla el plan de transporte a largo plazo?

El primer paso es identificar los objetivos para el sistema de transporte de la región y elaborar metas globales y normas que se usarán para guiar las decisiones. También se desarrollan medidas de desempeño o metas para seguir el progreso hacia el logro de las metas. Luego, se desarrolla un presupuesto de todos los posibles fondos locales, estatales y federales disponibles para proyectos de transporte. Se identifican aquellos proyectos que promueven las metas y objetivos por parte de las agencias de transporte, jurisdicciones locales y el público. Basado en los fondos que se anticipan y las medidas de desempeño, la RTC identifica qué proyectos pueden financiarse durante los próximos 25 años basado en prioridades y prevé su financiación. También se identifica una lista de proyectos adicionales que pudieran implementarse si hubiera fondos disponibles. Luego se revisa la prioridad de la lista de proyectos para identificar posibles impactos ambientales. En cada etapa del desarrollo del RTP hay oportunidades de aporte para el público, agencias y comités. Las metas/normas, presupuestos de fondos y listas de proyectos se crean progresivamente y el aporte en las etapas primarias moldeará el borrador y plan final.

PROCESO DE PLANIFICACIÓN PARA EL TRANSPORTE REGIONAL



El Plan Regional de Transporte provee información sobre lo siguiente:

- Las necesidades de transporte en la región por un período de 20 a 25 años, basado en el crecimiento de la población, ambiental, económico y otras tendencias sociales.
- La cantidad de fondos estatales, federales y locales disponibles para proyectos de transporte y nuevos recursos de fondos necesarios para llevar a cabo proyectos de alta prioridad.
- Sostenibilidad del sistema de transporte y resultados sostenibles.
- Nuevos requisitos legales, incluyendo SB375, que estipula que las regiones deben cumplir con metas de reducción de gases causantes del efecto invernadero, por medio del uso coordinado del suelo y un plan de transporte llamado Estrategia de Comunidades Sostenibles.
- “Calles Completas” como herramienta de planeación para un sistema de transporte balanceado y multimodal, en particular para aquellas mejoras al transporte necesarias para acomodar el crecimiento.

¿Por qué un enfoque en sostenibilidad?

La RTC representa diversos intereses de transporte y evalúa los impactos de inversiones de transporte en cuanto a intereses ambientales, económicos y sociales. Un enfoque en sostenibilidad puede ayudar a proveer una evaluación balanceada de proyectos y programas de transporte, reconociendo que estas áreas están entrelazadas, no son exclusivistas. Este enfoque evalúa el impacto de la inversión en el transporte, la salud, la seguridad de la población, la vitalidad económica de la región y la necesidad universal de la salud del planeta. Algunas inversiones son beneficiosas para todos, mientras otras requieren concesiones en las tres áreas de economía, medio ambiente y población. Este enfoque en sostenibilidad ayuda a la RTC a identificar estas concesiones y alcanzar múltiples metas a largo plazo.



¿Cómo puede participar?

¡La planificación para el RTP 2040 está en marcha!

- Manténgase informado. Revise los materiales del RTP en la red: <http://sccrtc.org/funding-planning/long-range-plans/2040-rtp/> y contribuya a medida que se desarrollen los elementos del plan.
- Solicite que le incluyan en la lista de E-news del RTP enviando un correo electrónico a info@sccrtc.org, llamando al 831-460-3200, o inscribiéndose en el sitio de la CRT en la red: www.sccrtc.org
- Envíe comentarios a SCCRTC: info@sccrtc.com, 1523 Pacific Avenue, Santa Cruz, CA 95060
- Participe en el desarrollo de Estrategias para Comunidades Sostenibles de la Asociación de Gobiernos del Área de la Bahía de Monterey (ECS), www.ambag.org.

2040 Regional Transportation Plan (RTP) Outreach Emails

From: Regional Transportation Commission
Sent: Tuesday, December 08, 2015 10:45 AM
To: Interested Parties
Subject: RTC: 2040 Santa Cruz County Regional Transportation Plan

Interested Parties of the Regional Transportation Plan for Santa Cruz County:

The Regional Transportation Commission (RTC) has started work on the [2040 Santa Cruz County Regional Transportation Plan \(RTP\)](#) and would like your input! The RTP is a long range transportation plan that identifies multi-modal transportation needs (highway, local road, transit, bicycle, pedestrian, etc), and identifies a financially constrained list of priority transportation projects. The 2040 RTP is scheduled to be completed in June 2018.

Your input on two items for the 2040 RTP would be greatly appreciated.

- Please provide your comments on the [draft goals, policies, and targets of the 2040 RTP](#) to achieve a sustainable transportation system. A major re-visioning of the goals, policies and targets took place in the 2014 Regional Transportation Plan. The draft goals, policies and targets for the 2040 RTP include only minor revisions to the 2014 RTP goals, policies and targets. Please provide your input by January 7, 2016.
- [Share your ideas](#) on specific transportation projects that you think could improve the transportation network (automobile, bus, bicycle, pedestrian, truck movement, etc) in Santa Cruz County. Your ideas will be sent to the project sponsor that would most likely construct/maintain/own the project to encourage them to add it to their list. Please provide your ideas for transportation projects by January 30, 2016.

This information will be used to help us determine which projects to prioritize for the 2040 Regional Transportation Plan in order to make the best use of limited transportation dollars. For more information about the 2040 Santa Cruz County Regional Transportation Plan, please go to <http://sccrtc.org/funding-planning/long-range-plans/2040-rtp/>.

Please share this email with others.

Thank you,

The RTP Project Team



[Santa Cruz County Regional Transportation Commission](#)

1523 Pacific Avenue | Santa Cruz, CA 95060

Main Office 831.460.3200 | Watsonville 831.460.3205



Follow our social networks for the latest RTC news

From: Regional Transportation Commission
Sent: Thursday, January 21, 2016 9:06 AM
To: Interested Parties
Subject: RTC: Transportation Goals and Project ideas due 1/30/16

Greetings,

*This is a friendly reminder that there is still time to provide comments about long range **transportation goals and project ideas** for Santa Cruz County before the end of January, 2016.*

The Santa Cruz County Regional Transportation Commission (RTC) has begun work on the 2040 Santa Cruz County Regional Transportation Plan (RTP) and would like your input! The RTP is a long range transportation plan that identifies multi-modal transportation needs (highway, local road, transit, bicycle, pedestrian, etc), and a financially feasible list of priority transportation projects for our County.

Please share your thoughts on:

1. Draft goals, policies, and targets for the 2040 RTP to achieve a sustainable transportation system. Email comments to info@sccrtc.org.
2. Offer your ideas on priority transportation projects to improve the transportation network (automobile, bus, bicycle, pedestrian, truck movement, etc.) for everyone in Santa Cruz County that take into account the region's limited funding.

Your input will help determine which projects to prioritize in the 2040 Regional Transportation Plan that best uses our limited transportation dollars. For more information about the 2040 Santa Cruz County Regional Transportation Plan, please visit: <http://sccrtc.org/funding-planning/long-range-plans/2040-rtp/>.

Thank you,

The RTP Project Team



Cathy Judd, Administrative Assistant, Art Exhibit Coordinator
Santa Cruz County Regional Transportation Commission

1523 Pacific Avenue | Santa Cruz, CA 95060

Main Office 831.460.3200 | Watsonville 831.460.3205



Follow our social networks for the latest RTC news

From: Regional Transportation Commission [mailto:info@sccrtc.org]
Sent: Thursday, February 09, 2017 3:59 PM
Subject: RTC: 2040 RTP

SCCRTC Santa Cruz County Regional Transportation Commission



Hello

Your input is being requested on the long range transportation plan update:
Project Prioritization Phase

Santa Cruz County Regional Transportation Plan

Priority Projects for the 2040 RTP

The RTP is a long range transportation plan that identifies multi-modal transportation needs (highway, local road, transit, bicycle, pedestrian, etc), and a financially feasible list of priority transportation projects for our County. The plan is updated every few years and is required in order to receive specific types of funding from state and federal sources.

The RTC has updated the list of transportation projects for Santa Cruz County for the 2040 Regional Transportation Plan. The project list now needs to be differentiated into those on the "financially constrained" list (priority projects that could be implemented within foreseeable revenues over a 22-year period) including voter-approved Measure D projects) or "unconstrained" list (projects that would need additional funding in order to be implemented). The RTC would like your feedback on the projects you would like to see prioritized.



Please visit the [2040 Regional Transportation Plan page](#) on the RTC website to view the [preliminary draft constrained project list](#) and send an email to info@sccrtc.org (subject "2040 RTP") with your input by March 13, 2017. In your email, please specify the ID # of the project (as noted on the project list) that you would like to see prioritized.

[Read more](#)

[Download the fact sheet](#)

www.sccrtc.org

Santa Cruz County Regional Transportation Commission
email: [info\[at\]sccrtc.org](mailto:info@sccrtc.org)

[Meetings](#)

[Funding & Planning](#)

[Projects](#)

[Services](#)

[About the RTC](#)



From: Regional Transportation Commission [<mailto:info@sccrtc.org>]

Sent: Monday, December 11, 2017 10:21 AM

Subject: 2040 RTP Santa Cruz County Regional Transportation Plan – Draft



2040

Santa Cruz County REGIONAL TRANSPORTATION PLAN

DRAFT



The [Draft 2040 Santa Cruz County Regional Transportation Plan \(RTP\)](#) is available for public review and comment from **December 8, 2017 to February 5, 2018**.

A **public hearing** for the Draft 2040 RTP will be held at **9:30 am on Thursday, January 18, 2018** at the Santa Cruz County Regional Transportation Commission meeting located at the City of Santa Cruz Council Chambers, 809 Center St, Santa Cruz, CA 95060.

The 2040 RTP is a long range (22 year) transportation plan for the Santa Cruz County area. The plan assesses the transportation challenges we face now and those we will face in the future. The plan includes strategies to address our transportation challenges, a list of transportation needs (highway, road, transit, bicycle, pedestrian, freight, airport, etc.), and priorities for limited funds. The RTP is updated every four or five years to address new trends, issues, and priorities, and to incorporate new state and federal regulations.

The potential environmental impacts of the Draft 2040 RTP are collectively detailed in one Draft Environmental Impact Report (EIR) for the Draft 2040 Metropolitan Transportation Plan (MTP) and its Sustainable Communities Strategy (SCS), which encompasses the three RTPs for Santa Cruz, Monterey and San Benito Counties. The **Draft EIR is available for public review and comment from December 4, 2017 to February 5, 2018**. A [public hearing](#) for the Draft EIR will be held **Tuesday, January 30, 2018** at the Live Oak Community Complex (Simpkins), 979 17th Street, Santa Cruz.

The Draft 2040 RTP and the Draft EIR can be found at www.sccrtc.org/2040-rtp and copies will be available at Santa Cruz

County libraries.

Written comments on the Draft 2040 RTP for Santa Cruz County can be submitted to Draft2040RTP@sccrtc.org.

Written comments on the Draft EIR for the 2040 MTP/SCS which includes the environmental review for the 2040 RTP can be submitted to hadamson@ambag.org.

www.sccrtc.org/2040-rtp

Santa Cruz County Regional Transportation Commission
email: [info\[at\]sccrtc.org](mailto:info@sccrtc.org)

[Website](#) [Funding & Planning](#) [Projects](#) [Services](#) [About the RTC](#)



From: Regional Transportation Commission [<mailto:info@sccrtc.org>]
Sent: Tuesday, January 16, 2018 3:20 PM
Subject: Reminder: Comments Due for Draft 2040 RTP by Feb. 5th



This is a friendly reminder that the [Draft 2040 Santa Cruz County Regional Transportation Plan](#) (RTP) is available for public review and comment from December 8, 2017 to February 5, 2018.

A **public hearing** for the Draft 2040 RTP will be held at **9:30 am on Thursday, January 18, 2018** at the Santa Cruz County Regional Transportation Commission meeting located at the City of Santa Cruz Council Chambers, 809 Center St, Santa Cruz, CA 95060.

The 2040 RTP is a long range (22 year) transportation plan for the Santa Cruz County area. The plan includes strategies to address our transportation challenges, a list of transportation needs (highway, road, transit, bicycle, pedestrian, freight, airport, etc.), and priorities for limited funds.

The potential environmental impacts of the Draft 2040 RTP are collectively detailed in one Draft Environmental Impact Report (EIR) for the Draft 2040 Metropolitan Transportation Plan (MTP) and its Sustainable Communities Strategy (SCS), which encompasses the three RTPs for Santa Cruz, Monterey and San Benito Counties. The **Draft EIR is available for public review and comment from December 4, 2017 to February 5, 2018**. A [public hearing](#) for the Draft EIR will be held **Tuesday, January 30, 2018** at the Live Oak Community Complex (Simpkins), 979 17th Street, Santa Cruz.

The Draft 2040 RTP and the Draft EIR can be found at www.sccrtc.org/2040-rtp and copies are available at Santa Cruz County libraries.

Written comments on the Draft 2040 RTP for Santa Cruz County can be submitted to Draft2040RTP@sccrtc.org.

Written comments on the Draft EIR for the 2040 MTP/SCS which includes the environmental review for the 2040 RTP can be submitted to hadamson@ambag.org.

www.sccrtc.org

Santa Cruz County Regional Transportation Commission
email: [info\[at\]sccrtc.org](mailto:info[at]sccrtc.org)

[Website](#) [Funding & Planning](#) [Projects](#) [Services](#) [About the RTC](#)



Public Outreach for the 2040 RTP

Notices or copies of the 2040 Regional Transportation Plan were distributed to the following organizations:

Partners/Resource Agencies/Media

Association of Monterey Bay Area Governments
Bureau of Land Management
CA Dept. Conserv State Mining & Geology Board
California Air Resources Board
California Coastal Commission
California Department of Fish and Wildlife
California Department of Parks and Recreation
California Dept of Resources, Recycling, and Recovery
California Energy Commission
California Environmental Protection Agency
California Governor's Office of Planning & Research
California Public Utilities Commission
California Natural Resources Agency
California State Transportation Agency
California Transportation Commission
Caltrans District 5
Caltrans Headquarters
Central Coast Energy Services, Inc.
Central Coast Regional Water Quality Control
Chambers of Commerce, Executive Directors
Downtown Association
Ecology Action
Federal Highway Administration
Federal Transit Administration
Legislators, Federal
Legislators, State
Libraries, Main Branches
Local Jurisdiction, City Clerks
Local Jurisdiction, City Managers
Local Jurisdiction, City Mayors
Local Jurisdiction, Planning Directors
Local Jurisdiction, Public Works Directors
Media, Newspapers
Media, Radio
Media, TV
Metropolitan Transportation Commission
Monterey Bay National Marine Sanctuary
Monterey Bay Unified Air Pollution Control District
Natural Resources Conservation Service
NOAA Fisheries West Coast Region
San Benito Council of Governments
San Francisco Bay Conservation & Development
Santa Cruz County Business Council

Santa Cruz County Libraries
Santa Cruz County Schools, K-12
Santa Cruz County Sheriff
Santa Cruz County Central Fire District
State Water Resources Control Board
Transportation Agency for Monterey County
U.S. Army Corps of Engineers
U.S. Fish and Wildlife Service
U.S. National Park Service

RTC Board & Committees

Commission Members
Interagency Technical Advisory Committee
Association of Monterey Bay Area Governments
Cabrillo College
Caltrans
City of Capitola
City of Santa Cruz
City of Scotts Valley
City of Watsonville
County of Santa Cruz
Ecology Action
Monterey Bay Unified Air Pollution Control District
Santa Cruz Metropolitan Transit District
University of California, Santa Cruz
Bike Committee
Elderly and Disabled Transportation Advisory Committee
Safe on 17
California Highway Patrol
California Office of Traffic Safety
Caltrans
Caltrans, District 4
Caltrans, District 5
City of San Jose
City of Santa Cruz
City of Scotts Valley
County of Santa Clara
County of Santa Cruz
Ladd's Auto Body & Towing/AAA
Monterey Bay Unified Air Pollution Control District
Metropolitan Transportation Commission-SAFE
Mountain Network News
Office of Assemblymember Mark Stone
Office of Assemblymember Paul Fong

San Jose Mercury News
 San Jose Police Department
 Santa Clara County Airports and Roads
 Santa Cruz Sentinel
 Santa Cruz Metropolitan Transit District
 Town of Los Gatos
 Santa Clara Valley Transportation Authority
 Transportation Operations System
 Association of Monterey Bay Area Governments
 American Medical Response
 California Highway Patrol
 Caltrans
 Caltrans, District 4
 Caltrans, District 5
 City of Santa Cruz
 City of Scotts Valley
 County of Santa Cruz
 Ladd's Auto Body & Towing/AAA
 Metropolitan Transportation Commission
 Monterey Salinas Transit
 Santa Clara Valley Transportation Authority
 Santa Cruz Metropolitan Transit District
 Santa Cruz & Monterey Bay Railroad
 Santa Cruz Regional 911
 Santa Cruz Yellow Cab
 Transportation Funding TF Members

Stakeholders, Elderly & Disabled

Alcoholics Anonymous
 Alzheimer's Association
 Apria Healthcare
 Big Brothers Big Sisters of Santa Cruz
 Cabrillo College
 Cabrillo College Stroke
 California Grey Bears
 Californians for Disability Rights
 California Senior Alliance
 Central Coast Alliance for Health
 Central Coast Center for Independent Living
 Cindy's Celebrations Inc
 Coastwalk California
 Community Action Board of Santa Cruz County, Inc.
 Community Bridges (Meals on Wheels)
 Community Foundation of Santa Cruz County
 Community Life Services
 Conflict Resolution Center
 County of Monterey
 County of Santa Cruz
 County of Santa Cruz / HRA
 Del Mar Caregiver Resource Center
 Dominican Hospital

Easter Seals Central California
 Elderday
 ETR Associates
 Family Service Agency of the Central Coast
 Goodwill Industries
 Greenways to School
 Hope Services
 Imagine Supported Living Services
 Lifespan Care
 Louden Nelson Community Center
 Metro Advisory Committee
 Ombudsman Advocate, Inc.
 Pajaro Valley Community Health Trust
 Pajaro Valley Unified School District Office
 Pula Services
 San Lorenzo Valley Unified School District
 Santa Cruz County
 Santa Cruz County Commission on Disabilities
 Santa Cruz County Cycling Club
 Santa Cruz County Immigration Project
 Santa Cruz County Office of Education
 Santa Cruz County Veterans Center
 Santa Cruz County Health Service Agency
 Santa Cruz Healthcare Center
 Santa Cruz Host Lions Club
 Santa Cruz Metropolitan Transit District
 Second Harvest Food Bank
 Senior Citizens Legal Services
 Senior Living Centers
 Senior Network Services
 Seniors Council of Santa Cruz and San Benito Counties
 United Way of Santa Cruz County
 Valley Convalescent Hospital
 Veterans Services Office Watsonville
 Vista Center
 Volunteer Center of Santa Cruz County
 Watsonville Community Hospital
 WomenCARE
 Watsonville Dialysis Center
 Women's Crisis Support/Defensa De Mujeres
 Youth Services

Stakeholders, Environmental

Agricultural History Project (AHP) Museum
 Arana Gulch Watershed Alliance (AGWA)
 California Center for Land Recycling
 California Coastal Commission
 California Native Plant Society (CNPS)
 California Rural Legal Assistance
 California State Coastal Conservancy

California Sustainable Agricultural Working Group
 CalPIRG at UCSC
 Camp Joy Gardens
 California State Clearing House (CEQA)
 Campaign for Sensible Transportation
 Central Coast Water Quality Preservation, Inc.
 City of Santa Cruz
 Coastal Watershed Council
 Community Action Board of Santa Cruz County
 Community Alliance with Family Farmers
 Communities for Sustainable Monterey County
 County of Santa Cruz
 Ducks Unlimited, Inc.-Santa Cruz Chapter
 Earth First!
 Ecology Action
 Elkhorn Slough Foundation
 Farmer Veteran Coalition
 Friends of Arana Gulch
 Friends of Moss Landing Marine Laboratories
 Friends of Santa Cruz State Parks
 Friends of Soquel Creek
 Friends of the North Coast
 Friends of the Sea Otter
 Groundswell Coastal Ecology
 International Institute for Ecological Agriculture
 Island Conservation
 Keep the Green Belt Green
 La Selva Recreation District
 Land Watch Monterey County
 Land Trust of Santa Cruz County
 Life Lab Science Program
 Local Farmers
 Marine Mammal Center-Monterey Bay Operations
 Mission Pedestrian
 Mission Springs Camps and Conference Center
 Monterey Bay Aquarium
 Monterey Bay National Marine Sanctuary
 Monterey Bay Salmon and Trout Project
 Mountain Bikers of Santa Cruz
 Mountain Parks Foundation
 Muwekma Ohlone Indian Tribe/SF Bay Area
 National Environmental Directory
 Nisene 2 Sea
 Ocean Conservancy
 Open Space Alliance
 Open Space Authority
 Organic Farming Research Foundation
 Outdoor Science Exploration and Classroom Science Fun
 Otter Project, Inc.
 Pelagic Shark Research Foundation

Redwood Empire
 Rails to Trails Conservancy
 Rising Sun Energy Center
 San Andreas Land Conservancy
 Santa Cruz Bird Club
 Santa Cruz County Cycling Club
 Santa Cruz County Farm Bureau
 Santa Cruz County Horsemen's Association
 Santa Cruz County Res Conservation District
 Santa Cruz Hub for Sustainable Living
 Santa Cruz Mountains Bioregional Council
 Santa Cruz Museum of Natural History
 Save Our Agricultural Land
 Save Our Shores
 Scotts Creek Watershed Council
 Sempervirens Fund
 Seymour Marine Discovery Center
 Sierra Club
 Surfrider Foundation
 Sustainable Conservation
 Sustainable Fishery Advocates
 Swanton Pacific Ranch-CalPoly
 The Monterey Bay Conservancy
 UCSC
 UCSC Institute of Marine Sciences
 US Geological Survey
 Valley Women's Club of the San Lorenzo Valley
 Ventana Wilderness Alliance
 Watsonville Waste & Recycle
 Watsonville Wetlands Watch
 Wild Farm Alliance
 YES! Helping Outstanding Young Leaders
 Zero Population Growth

Stakeholders, Transportation Groups

AAA Northern California
 Bike Santa Cruz County
 CalVans
 California Trucking Association
 Campaign for Sensible Transportation
 Carpooltoschool.com
 City of Santa Cruz
 Community Bridges (CTSA)
 Courtesy Cab
 Ecology Action
 Enterprise Rideshare
 First Transit Services, Inc
 Monterey Bay Electric Vehicle Alliance
 Monterey Bay Unified Air Pollution Cntrl District
 Mission Pedestrian
 Mountain Bikers of Santa Cruz
 Santa Cruz County Cycling Club

Santa Cruz County Greenway
Santa Cruz County Railroad Historical Society
Trail Now
Trail People
Train Riders Association of California
UCSC/Transportation and Parking Services
Watsonville Bike Shack Cooperative

Stakeholders, Community

Action Pajaro Valley
Agri-Culture
Arts Council Santa Cruz County
Barios Unidos
California Native Plants Society
California Art Education Association
Capitola Walks
Central Coast Agricultural Task Force
City of Santa Cruz
City of Seaside
City of South San Francisco
Community Foundation of Santa Cruz County
The Corralitos Cultural Center
County of Santa Cruz
Santa Cruz County Office of Education
Employers over 100
Friends of the Santa Cruz Public Library
Happy Valley Conference Center
Japanese Cultural Fair Committee
League of Women Voters of Santa Cruz
Live Oak Family Resource Center
Live Oak Neighbors
Metro Advisory Committee
Michael's Transportation Service
Mission Pedestrian
Monterey Bay Central Labor Council
Mountain Parks Foundation
Neighbors of Lower Ocean
Open Space Alliance Santa Cruz
Organic Farming Research Foundation
Pleasure Point Business Association
Redwood Estates Service Association
Rio Del Mar Improvement Association
Roaring Camp Railroads
Rotary Club of San Lorenzo Valley
Rotary Club of Santa Cruz
Rotary Club of Scotts Valley
Rotary Club of Watsonville
Santa Cruz County Business Council
Santa Cruz County Confer & Visitors Council
Santa Cruz County Farm Bureau
Santa Cruz County Immigration Project
Santa Cruz Museum of Natural History

Santa Cruz Regional 911
Santa Cruz Neighbours
Santa Cruz Seaside Company
Seymour Marine Discovery Center
Surfrider Foundation (SC)
Sumner Woods HOA
UCSC
Valley Women's Club of the San Lorenzo Valley
Watsonville Women's Club

Stakeholders, Economic Justice

Arts Council Santa Cruz County
Cabrillo College Stroke
California Public Interest Research Group
Child Development Resource Center
City of Capitola
Community Action Brd of Santa Cruz Cnty, Inc.
Communities Organized for Power in Action
Conflict Resolution Center
Family Service Agency of the Central Coast
Foster Grandparent Senior Companion Program
Homeless Community Resource Center
League of Women Voters
Lomak Property Group
Mission Pedestrian
Monarch Services/Servicios Monarca
Monterey Bay Central Labor Council
Pajaro Valley Ohlone Indian Council
Pajaro Valley Shelter Services
Peace Coalition of Monterey County
Santa Cruz County Farm Bureau
Santa Cruz Metropolitan Transit District
Senior Network Services
Seniors Council
United Way of Santa Cruz County
Valley Churches United
Volunteer Center
Youth Services

Serving Our Community For 25 Years • Aptos, La Selva Beach, Corralitos, Freedom & Watsonville

Aptos Times

TP Times Publishing Group®

February 15 2017 • Vol 26 No. 4 • www.tpgonlinedaily.com



Regional Transportation Plan Fact Sheet

The Regional Transportation Plan (RTP) is a long-range (20-25 year) transportation plan for the Santa Cruz County area. The long-range transportation plan assesses the transportation challenges we face now and those we will face in the future.

Full Story page 5

Community News

Regional Transportation Plan Fact Sheet

What is The Regional Transportation Plan?

The Regional Transportation Plan (RTP) is a long-range (20-25 year) transportation plan for the Santa Cruz County area. The long-range transportation plan assesses the transportation challenges we face now and those we will face in the future. The plan includes strategies to address our transportation challenges, a list of unmet multimodal transportation needs (highway, road, transit, bicycle, pedestrian, freight, airport, etc.), and priorities for limited funds.

The RTP is updated every four or five years to address new trends, issues, and priorities, and to incorporate new state and federal regulations. The last Santa Cruz County Regional Transportation Plan was adopted in June 2014. The next plan is scheduled for adoption in June 2018 and will be referred to as the 2040 RTP.

How is the long-range transportation plan developed?

The first step is to identify the objectives for the region's transportation system and craft overarching goals and policies, used to guide decisions. Performance measures or targets are also developed to track progress towards achieving the goals.

Next, an estimate of all the potential local, state and federal funding available for transportation projects is developed. Projects that advance the goals and targets are then identified by transportation agencies, local jurisdictions, and the public.

Based on the anticipated funding and the performance measures, the RTP prioritizes the projects that could be funded over the next 25 years. A list of additional

projects that could be implemented should more funding become available is also identified. The priority project list is then reviewed to identify potential environmental impacts. There are opportunities at every stage of the development of the RTP for public, agency and committee input. The goals/policies, funding estimates and project lists build on each other and input at the early stages will shape the draft and final plan.

The Regional Transportation Plan provides information on the following:

- Transportation needs in the region for 20 to 25 years, based on population growth, environmental, economic and other social trends.
- The amount of state, federal, and local funding available for transportation projects and new sources of funding needed to deliver high priority projects.
- Sustainability of the transportation system and sustainable outcomes.
- New legislative requirements, including SB375, which stipulate that regions must meet greenhouse gas reduction targets through a coordinated land use and transportation plan called the Sustainable Communities Strategy.
- "Complete Streets" as a tool for planning for a balanced and multimodal transportation system, particularly for those transportation improvements needed to accommodate growth.

"RTP" page 13



"RIP" from page 5

Why a focus on sustainability?

The RTC represents diverse transportation interests and assesses the impacts of transportation investments on environmental, economic and social concerns. A focus on sustainability can assist in providing balanced evaluation of transportation projects and programs, recognizing that these areas are intertwined, not exclusionary.

This approach evaluates how transportation investments impact people's

health and safety, the economic vitality of the region, and the universal need for a healthy planet.

Some investments are win/win, but some require trade-offs in the three areas of economy, environment and people. This focus on sustainability assists the RTC in identifying these trade-offs and achieving multiple long-term goals.

How can you get involved?

Planning for the 2040 RTP has begun!

- Provide input as elements of the plan are developed. Tell us what projects you think should be considered for the transportation system. <http://sccrtc.org/funding-planning/long-range-plans/new-project-ideas/>
- Stay informed. Review materials on the RTP webpage: <http://sccrtc.org/funding-planning/long-range-plans/2040-rtp/>
- Ask to be added to the RTP E-news List by emailing info@sccrtc.org, calling 831-460-3200 or signing up on the RTC website www.sccrtc.org
- Send comments to SCCRTC: info@sccrtc.com or 1523 Pacific Avenue, Santa Cruz, CA 95060
- Participate in the development of the Association of Monterey Bay Area Governments' Sustainable
- Communities Strategy (SCS), www.ambag.org. ■

REGIONAL TRANSPORTATION PLANNING PROCESS



Capitola Times (March 2017) and Scotts Valley Times (March 2017)

Community News

Regional Transportation Plan Fact Sheet

What is The Regional Transportation Plan?

The Regional Transportation Plan (RTP) is a long-range (20-25 year) transportation plan for the Santa Cruz County area. The long-range transportation plan assesses the transportation challenges we face now and those we will face in the future. The plan includes strategies to address our transportation challenges, a list of unmet multimodal transportation needs (highway, road, transit, bicycle, pedestrian, freight, airport, etc.), and priorities for limited funds.

The RTP is updated every four or five years to address new trends, issues, and priorities, and to incorporate new state and federal regulations. The last Santa Cruz County Regional Transportation Plan was adopted in June 2014. The next plan is scheduled for adoption in June 2018 and will be referred to as the 2040 RTP.

How is the long-range transportation plan developed?

The first step is to identify the objectives for the region's transportation system and craft overarching goals and policies, used to guide decisions. Performance measures or targets are also developed to track progress towards achieving the goals.

Next, an estimate of all the potential local, state and federal funding available for transportation projects is developed. Projects that advance the goals and targets are then identified by transportation agencies, local jurisdictions, and the public.

Based on the anticipated funding and the performance measures, the RTC pri-

oritizes the projects that could be funded over the next 25 years. A list of additional projects that could be implemented should more funding become available is also identified.

The priority project list is then reviewed to identify potential environmental impacts. There are opportunities at every stage of the development of the RTP for public, agency and committee input. The goals/policies, funding estimates and project lists build on each other and input at the early stages will shape the draft and final plan.

The Regional Transportation Plan provides information on the following:

- Transportation needs in the region for 20 to 25 years, based on population growth, environmental, economic and other social trends.
- The amount of state, federal, and local funding available for transportation projects and new sources of funding needed to deliver high priority projects.
- Sustainability of the transportation system and sustainable outcomes.
- New legislative requirements, including SB375, which stipulate that regions must meet greenhouse gas reduction targets through a coordinated land use and transportation plan called the Sustainable Communities Strategy.
- "Complete Streets" as a tool for planning for a balanced and multimodal transportation system,



particularly for those transportation improvements needed to accommodate growth.

Why a focus on sustainability?

The RTC represents diverse transportation interests and assesses the impacts of transportation investments on environmental, economic and social concerns. A focus on sustainability can assist in providing balanced evaluation of transportation projects and programs, recognizing that these areas are intertwined, not exclusionary.

This approach evaluates how transportation investments impact people's health and safety, the economic vitality of the region, and the universal need for a healthy planet.

Some investments are win/win, but some require trade-offs in the three areas of economy, environment and people. This focus on sustainability assists the RTC in identifying these trade-offs and achieving multiple long-term goals.

How can you get involved?

- Planning for the 2040 RTP has begun!
- Provide input as elements of the plan are developed. Tell us what projects you think should be considered for the transportation system. <http://sccrtc.org/funding-planning/long-range-plans/new-project-ideas/>
 - Stay informed. Review materials on the RTP webpage: <http://sccrtc.org/funding-planning/long-range-plans/2040-rtp/>
 - Ask to be added to the RTP E-news List by emailing info@sccrtc.org, calling 831-460-3200 or signing up on the RTC website www.sccrtc.org
 - Send comments to SCCRTC: info@sccrtc.com or 1523 Pacific Avenue, Santa Cruz, CA 95060
 - Participate in the development of the Association of Monterey Bay Area Governments' Sustainable
 - Communities Strategy (SCS), www.ambag.org. ■

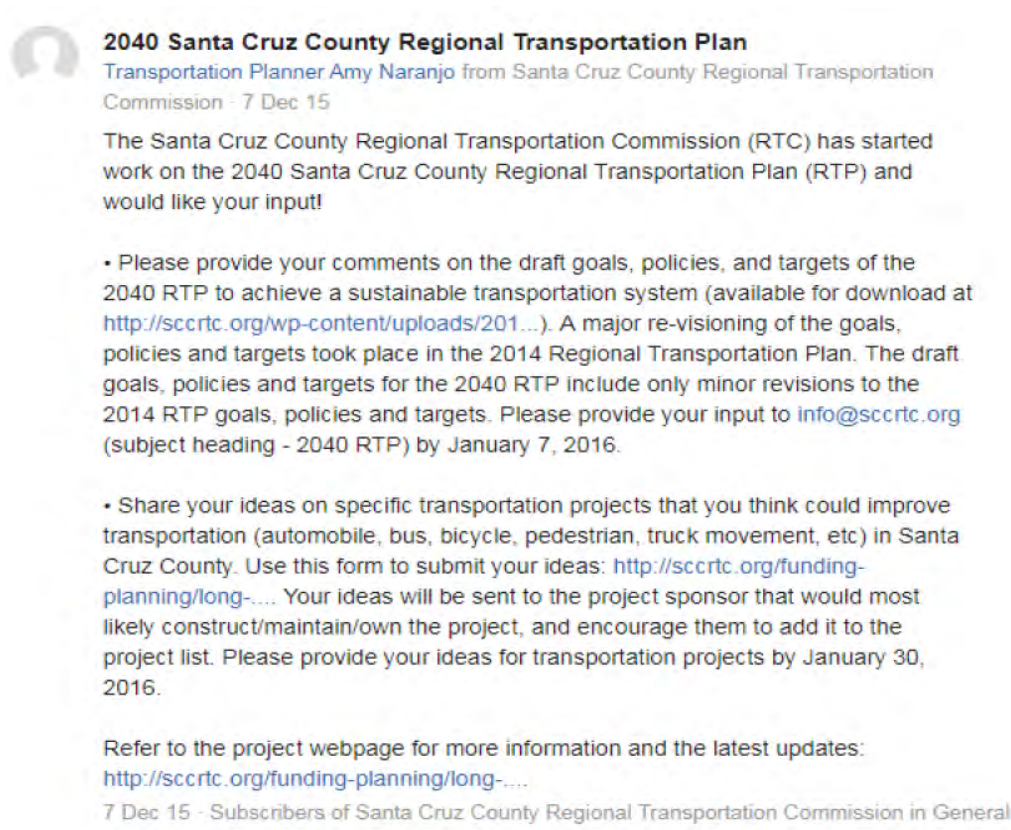
REGIONAL TRANSPORTATION PLANNING PROCESS



Facebook example from December 2015



Nextdoor example from December 2015



Twitter example from March 2017



Wondering how the long-range transportation plan is developed? Get the facts and learn how to get involved!
[#2040RTP tpgonlinedaily.com/regional-trans](https://tpgonlinedaily.com/regional-trans)

...



Santa Cruz County transportation commission considers \$6.1B of projects



Transportation Commission meeting

What: Consideration of a list of \$6.1 billion worth of projects to be completed by 2040.

When: 9 a.m. Thursday.

Where: Scotts Valley City Council Chamber, 1 Civic Center Drive, Scotts Valley.

Details: Visit sccrtc.org or call 831-460-3200.

Morning commuters on northbound Highway 1 head for Santa Cruz while others veer off to Highway 17 and San Jose. (Dan Coyro -- Santa Cruz Sentinel file)

By [Kara Guzman](#), *Santa Cruz Sentinel*

SCOTTS VALLEY >> Thursday, the Santa Cruz County Regional Transportation Commission will consider its list of projects over the next two decades, in which its biggest expense likely will be road maintenance.

The draft [2040 Santa Cruz County Regional Transportation Plan](#) has \$6.1 billion worth of projects, ranging from highway updates to bike lane construction and bus system operations. If approved Thursday, the 34-page list then will be prioritized, based on what's financially feasible. The final list will be approved in June 2018.

The project list was last updated in 2014, and at that time only \$2.8 billion of funding was identified. And that assumes that the [half-cent sales tax measure supporting transportation](#) passes in November, said Ginger Dykaar, transportation planner for the commission.

“(A sales tax) is something most other counties in California have to support their transportation systems,” said Dykaar.

The biggest expense on the 2040 plan is [road maintenance](#).

For example, maintaining Highways 1, 17, 9, 152 and 129 is estimated to cost \$542 million over 22 years. Road maintenance in unincorporated county is estimated at \$489 million for the same time frame, according to Karena Pushnik, the commission’s senior transportation planner.

“That’s what it costs to keep what we have in good working order and safe,” Pushnik said.

Each of the county’s four cities listed their street maintenance costs through 2040: \$163.6 million for Santa Cruz, \$56.8 million for Watsonville, \$17.6 million for Capitola and \$14.7 million for Scotts Valley.

The county’s pavement conditions are among the worst in the state, according to a [2014 report ranking the county in the bottom third](#).

“The more maintenance is deferred, the higher the cost goes,” Pushnik said.

The 2040 project list also includes construction of the \$121 million coastal rail trail, a network of bike and pedestrian trails.

A \$283 million public rail system connecting Santa Cruz and Watsonville is also on the list, but that doesn’t necessarily mean the project will be pursued, said Pushnik. It depends on the funding and support, she said.

The sales tax measure on the November ballot will not fund passenger rail operations, only an environmental review of the rail corridor.

Public comment on the project list will be factored into the commission’s decisions, and already more than 225 written comments have been filed. More than 90 percent of projects listed by the public already were part of the plan, but these comments help the commission prioritize. For example, many complained about congestion on Highways 1 and 9, and that was addressed in both the 2040 plan and the [sales tax measure expenditure plan](#), Pushnik said.

Advertisement

“It helps to hear from the public and get a reality check on what’s important for the community,” she said.

The commission will accept [written comments](#) via email to info@scrtc.org until noon Wednesday. The public is also invited to attend the commission meeting on Thursday, and [subscribe to the commission’s email list](#).

This page intentionally left blank

Appendix B

**Regional Transportation
Commission and
Partner Agency Coordination**

This page intentionally left blank

Below is a description of the RTC, member agencies, advisory committees and related partners. A summary chart can be found at the end of this appendix.

Santa Cruz County Regional Transportation Commission (RTC)

The RTC is responsible for delivering a full range of convenient, reliable and efficient transportation choices for the community. While promoting long-term sustainability, the RTC provides transportation services, construction management, planning and funding for all travel modes. The RTC is designated in state statute as the Regional Transportation Planning Agency for Santa Cruz County. Responsibilities of this designation include preparation of the long range Regional Transportation Plan (this document), dissemination of state and federal funding, and setting local transportation policy. At the time of this writing, there are twelve (plus one ex-officio) board members and seventeen full-time equivalent staff. The RTC board meets once per month for their regular televised meetings and as needed for a Transportation Policy Workshop (TPW).

The RTC also serves as the Service Authority for Freeway Emergencies (SAFE) for Santa Cruz County. The RTC SAFE is one of 18 SAFE programs in California to reduce congestion, improve public safety, and enhance air quality. On Highway 1 and 17, the RTC SAFE provides roadside call box services and Freeway Service Patrol tow trucks that quickly respond to and clear highway incidents.

In addition, the RTC serves as the “Local Transportation Authority” responsible for implementation of Measure D, the Santa Cruz County Transportation Improvement Plan Measure, which was approved in November 2016 by over two-thirds of Santa Cruz County voters.

RTC Member Agencies

Local Jurisdictions

- City of Capitola – The RTC Board includes one member from this city of about 10,180 people occupying a coastal village of approximately 2 square miles.
- City of Santa Cruz – The RTC Board includes one member from this city of about 64,465 people occupying a coastal area of approximately 16 square miles, including the University of California, Santa Cruz.
- City of Scotts Valley – The RTC Board includes one member from this city of about 11,930 people occupying a mountainous area approximately 4.6 miles square located about 6 miles north of the City of Santa Cruz.
- City of Watsonville - The RTC Board includes one member from this city of about 53,800 people occupying a valley of approximately 6.8 square miles adjacent to agriculture lands.
- County of Santa Cruz – The RTC Board includes all five supervisors representing the unincorporated, rural, and urban areas of the county with a total population of 274,673.

Santa Cruz Metropolitan Transit District (METRO)

The RTC Board includes three members from the Metro Board. The METRO operates in Santa Cruz County with connections to transit in neighboring counties, providing both fixed route local and express bus service, and paratransit as mandated by the Americans with Disabilities Act. The METRO is a recipient of RTC-administered Transportation Development Act funds as designated by the RTC's Rules and Regulations, and is a member of the RTC's Elderly & Disabled Transportation Advisory and Interagency Technical Advisory Committees.

Caltrans/State Department of Transportation

The RTC Board includes one ex-officio (non-voting) member from Caltrans. Santa Cruz County is in Caltrans District 5, headquartered in San Luis Obispo and covering 5 counties. Caltrans is the state agency responsible for highway, bridge, and rail transportation planning, construction, and maintenance. The RTC coordinates with Caltrans on all issues related to their role as the owner and operator of state highways. Caltrans is also a member of the RTC's Interagency Technical Advisory Committee and the "Safe on 17" Task Force.

RTC Advisory Committees

Budget & Administration/Personnel Committee

The committee consists of 5 commissioners selected annually by the RTC and provides oversight and recommendations on Commission administration, budget, policy, finance, audit, and personnel issues.

Bicycle Committee

The committee advises the Regional Transportation Commission and its member agencies on bicycle related issues, including: review of proposed bicycle related policies, programs, projects, plans, funding applications, and legislation; input on existing and future roadway/bikeway conditions affecting cycling; coordination with local jurisdictions and bicycle related organizations to promote cycling projects and programs.

Elderly & Disabled Transportation Advisory Committee (E&D TAC)

The committee advises the Regional Transportation Commission and other transportation agencies on the network of specialized transportation services for seniors and people with disabilities in Santa Cruz County as well as about the transportation needs of these members of our community. In addition, the committee serves as the local Social Services Transportation Advisory Council (SSTAC), a state-required entity and the Paratransit Advisory Council (PAC).

Interagency Technical Advisory Committee (ITAC)

Made up of staff from a variety of jurisdictions and agencies including local jurisdiction public works and planning departments, the Metro, Caltrans District 5, and Association of Monterey Bay Area Governments (AMBAG), the ITAC reviews and provides technical advice on transportation projects and programs in the region; coordinates and provides recommendations to the RTC on the use of

transportation funds; and serves as a forum for sharing information on transportation projects and federal and state requirements for project implementation.

Partner Transportation Agencies

Association of Monterey Bay Area Governments (AMBAG)

AMBAG is a voluntary association of 20 local jurisdictions in Santa Cruz, Monterey, and San Benito Counties and one associate member representing the Council of San Benito County Governments (SBCOG). AMBAG serves as a forum for discussing and making recommendations on issues of regional significance. The agency serves as the region's Metropolitan Planning Organization, a federal designation that carries with it the responsibility for developing federally-mandated transportation plans and funding programs. The agency also has the responsibility for coordinating and analyzing the Regional Travel Demand Model, and ascertaining the air quality impacts of the projects within transportation plans and programs.

California Highway Patrol (CHP)

The CHP provides "Safety, Service, and Security" to Californians through active programs, task forces, community outreach, and communication. In addition, the CHP provides enforcement of traffic laws on roads and highways and safety training for all ages, including youth and seniors. The CHP are members of the 'Safe on 17' Task Force.

California Transportation Commission (CTC)

The California Transportation Commission is a policy-making body appointed by the Governor and Legislature. The CTC works closely with Caltrans and oversees state-level transportation planning, policy and funding decisions. The California Transportation Commission, in consultation with Caltrans, decides how and when to allocate state funds for transportation projects through a variety of programs including the State Transportation Improvement Program (STIP), and State Highway Operation Protection Program (SHOPP) programs. One of the main sources of discretionary transportation funds available for our region is from the STIP, of which 75 percent is allocated to Regional Transportation Planning Agencies (RTPA) for regionally significant projects, and 25 percent is allocated to state highway and intercity rail programs selected by Caltrans. The CTC has final approval on local funding plans for the STIP.

Community Bridges

Community Bridges operates transportation services under the brand of Lift Line for seniors and people with disabilities; is the locally designated Consolidated Transportation Services Agency; is a recipient of RTC-administered Transportation Development Act funds as designated by the RTC's Rules and Regulations; and is a member of the RTC's Elderly & Disabled Transportation Advisory Committee.

Community Traffic Safety Coalition (CTSC)

The CTSC and its South County Bicycle/Pedestrian Work Group operate under the Santa Cruz County Health Services Agency. These groups represent a coalition of agencies and individuals that promote

bicycle and pedestrian safety, particularly for school children. The CTSC is a member of the RTC's Bicycle Committee.

Ecology Action's Transportation Program

The former Santa Cruz Area Transportation Management Association merged with the non-profit organization Ecology Action in 2005 which continues to offer workplace-based commute programs to its member employers. Ecology Action also coordinates a wide range of bike and pedestrian safety education, marketing and incentive programs including Bike to Work/School. This organization has members on both the RTC's Bicycle Committee and Interagency Technical Advisory Committee.

Federal Highway Administration (FHWA)

This agency is within the U.S. Department of Transportation and supports State and local governments in the design, construction, and maintenance of the Nation's highway system (Federal Aid Highway Program) and various federal and tribal owned lands (Federal Lands Highway Program). The RTC coordinates with the FHWA on all state highway projects.

Federal Railroad Administration (FRA)

The FRA was created by the Department of Transportation Act of 1966 and is one of ten agencies within the United States Department of Transportation working on intermodal transportation. The RTC coordinates with the FRA on rail issues.

Federal Transit Administration (FTA)

The FTA is one of ten agencies within the United States Department of Transportation, and provides financial and technical assistance to local public transit systems. Public transportation includes buses, subways, light rail, commuter rail, monorail, passenger ferry boats, trolleys, inclined railways, and people movers. The RTC coordinates with the FTA on financial assistance to operate existing systems and to secure new transit grant funding.

Metropolitan Transportation Commission (MTC)

This Regional Transportation Planning Agency provides similar functions as the RTC for the nine-county San Francisco Bay Area. The RTC coordinates with MTC on issues related to coordination with the Bay Area (Highway 17 "Safe on 17" Task Force, commuters/rideshare, etc), funding, and statewide matters.

Monterey Bay Unified Air Pollution Control District (MBUAPCD)

The Air District oversees state and federal ambient air quality control in the Monterey Bay region. The agency develops transportation regulations and control measures to reduce vehicle emissions; helps determine whether the region is meeting and maintaining state and federal air quality standards; and ensures that state Air Resources Board regulations are followed. The air district also distributes funds from a \$4 per vehicle registration fee collected by the Department of Motor Vehicles (known as AB 2766 funds) and Carl Moyer Funds, and channels them back to the region as grants for emissions-reducing transportation projects. The MBUAPCD is a member of the RTC's Interagency Technical Advisory Committee.

Safe on 17/Traffic Operations Systems (TOS) Committee

In 1998, Highway 17 was identified as a high collision corridor. The Safe on 17 task force was formed to develop strategies for improving safety and reducing collisions through education, enforcement and engineering. The Traffic Operations Systems Committee focuses on technological systems to improve highway operations throughout Santa Cruz County. Because these two committees have similar membership, they meet at the same time. Since Highway 17 straddles two counties, the members that attend these meetings consists of two regional transportation planning agencies, two California Highway Patrol divisions, two Caltrans districts, and two transit districts.

San Benito Council of Governments (SBCOG)

This Regional Transportation Planning Agency provides similar functions to the RTC in San Benito County. The agencies coordinate on Monterey Bay regional issues.

Transportation Agency for Monterey County (TAMC)

This Regional Transportation Planning Agency provides similar functions to the RTC in Monterey County. The agencies coordinate on Monterey Bay regional transportation issues.

University of California, Santa Cruz (UCSC)

One of the University of California's ten campuses, UCSC aggressively encourages use of alternatives to driving alone. UCSC charges for on-campus parking and uses the funds to subsidize vanpool programs for their employees. They collect a fee from all students as part of registration and provide "free" year-long bus passes for all students for the Metro buses anywhere in the county and free shuttle service on campus. UCSC prepares a Long Range Development Plan (LRDP), which includes a transportation element, and is similar to a city General Plan. UCSC is a member of the RTC's Interagency Technical Advisory Committee

Valley Transportation Authority (VTA)

This agency provides oversight of transportation in Santa Clara County including operation of bus and light rail transit. Coordination with this agency is primarily focused on cross-county transit such as the Highway 17 Express and connections to Bay Area transit.

Volunteer Center's Transportation Program

This agency oversees a transportation program using volunteer drivers to provide rides and companionship to many in the county who are ineligible for other transportation services. The Volunteer Center provides insurance coverage and reimburses gasoline costs, although many also volunteer this cost. The Volunteer Center is a recipient of RTC-administered Transportation Development Act funds as designated by the RTC's Rules and Regulations, and is a member of the RTC's Elderly & Disabled Transportation Advisory Committee.

Summary Information for the Regional Transportation Commission, Advisory Committees, and other related agencies

(agency descriptions can be found in pages before this summary)

<i>Agency</i>	<i>Board or Members</i>	<i>General Meeting Times (please confirm actual)</i>	<i>Contact Phone & Website</i>
Santa Cruz County Regional Transportation Commission (SCCRTC)	12 Commissioners, 1 ex-officio	1st Thursdays, 9:00 am, excluding July 3rd Thursdays, as needed 9:00 am	831/460-3200 www.sccrtc.org
Member Agencies:			
City of Capitola	5 council members, 1 on RTC; DPW and Plng on ITAC	2nd & 4th Thursdays, 7:00 pm	831/475-7300 www.cityofcapitola.org
City of Santa Cruz	7 council members, 1 on RTC; DPW and Plng on ITAC	2nd & 4th Tuesdays, 3:00 pm & 7:00 pm	831/420-5030 www.cityofsantacruz.com
City of Scotts Valley	5 council members, 1 on RTC; DPW and Plng on ITAC	1st & 3rd Wednesdays, 6:00 pm	831/440-5602 www.scottsvally.org
City of Watsonville	7 council members, 1 on RTC; DPW and Plng on ITAC	2nd & 4th Tuesdays, 4:30 or 6:30 pm	831 768 3040 www.cityofwatsonville.org
County of Santa Cruz	5 supervisors, all 5 on RTC; DPW and Plng on ITAC	Tuesdays, 9:00 am	831/454-2200 www.co.santa-cruz.ca.us
Santa Cruz Metropolitan Transit District (METRO)	11 directors + 1 ex-officio, 3 on RTC; 2 staff on ITAC	4th Fridays, 9:00 am	831/426-6080 www.scmtd.com
Ex-Officio: Caltrans District 5			Local: 831/423-0396 www.dot.ca.gov
RTC Committees:			
Budget, Administration, and Personnel Committee	6 Commissioners	2nd Thursday, 3:30 pm, as needed	831/460-3200 www.sccrtc.org
Transportation Policy Workshop	12 Commissioners	3rd Thursdays, 9:00 am, as needed	831/460-3200 www.sccrtc.org
RTC Advisory Committees:			
Bicycle Committee	11 members	2nd Monday, 6:00 pm, even numbered months	831/460-3200 www.sccrtc.org
Elderly & Disabled Advisory Committee (E&DTAC)	16 members	2nd Tuesday, 1:30 pm, even numbered months	831/460-3200 www.sccrtc.org
Interagency Technical Advisory Committee (ITAC)	19 members, 1 ex-officio	3rd Thursday, 1:30 pm, as needed	831/460-3200 www.sccrtc.org
Partner Agencies/Committees:			
Association of Monterey Bay Area Governments (AMBAG)	24 members, 1 associate	Typically 2nd Wednesday, 6:00 pm	831/883-3750 www.ambag.org
California Highway Patrol (CHP)	n/a		831/662-0511 www.chp.ca.gov
California Transportation Commission (CTC)	11 members + 2 ex-officio	varies	www.catc.ca.gov
Community Bridges/Lift Line	13 members		www.communitybridges.org/lifeline
Community Traffic Safety Coalition (CTSC) & South County Bicycle & Pedestrian Work Group (SCBPWG)	varies	CTSC: 1st Tue, 2:00 pm, even # months. SCBPWG: 1st Tue, 10:30 am, odd # months	831/454-4312 www.sctrfficsafety.org
Ecology Action's Transportation Program	9 members		ecoact.org/Programs/Transportation
Federal Highway Administration (FHWA)	n/a		www.fhwa.dot.gov
Federal Railroad Administration (FRA)	n/a		www.fra.dot.gov
Federal Transit Administration (FTA)	n/a		www.fta.dot.gov
Metropolitan Transportation Commission (MTC)	21 members		www.mtc.ca.gov
Monterey Bay Unified Air Pollution Control District (MBUAPCD)	11 members	3rd Wednesday, 1:30 pm	831/647-9411 www.mbuapcd.org
SAFE on 17/Traffic Operations Systems Committee	varies	March and September	831/460-3200 www.sccrtc.org
San Benito Council of Governments (SB COG)	5 members	3rd Thursday, 3:00 p.m.	831/637-7665 www.sanbenitocog.org
Transportation Agency for Monterey Counties (TAMC)	12 members + 6 ex-officio	4th Wednesday, 9:00 am	831/775-0903 www.tamcmonterey.org
University of California at Santa Cruz (UCSC)	n/a		www2.ucsc.edu/taps/
Valley Transportation Authority (VTA)	n/a		www.vta.org/
Volunteer Center's Transportation Program	n/a		www.scvolunteercenter.com/

Appendix C

**2040 RTP Goals, Policies and
Targets**

This page intentionally left blank

2040 Santa Cruz County Regional Transportation Plan Goals, Targets¹ and Policies

GOAL 1. Establish livable communities that improve people's access to jobs, schools, recreation, healthy lifestyles and other regular needs in ways that improve health, reduce pollution and retain money in the local economy.

There is a strong relationship between meeting targets and achieving access, health, economic benefit, and climate and energy goals. In many cases actions to achieve one goal or target will assist in achieving other goals and targets. For example, providing more carpool, transit and bicycle trips reduces fuel consumption, retains money in the local Santa Cruz County economy and reduces congestion.

TARGETS:

Improve people's ability to meet most of their daily needs without having to drive. Improve access and proximity to employment centers.

- 1A.** Increase the percentage of people that can travel to key destinations² within a 30-minute walk, bike or transit trip by 20 percent by 2020 and 47 percent by 2040.³

Re-invest in the local economy by reducing transportation expenses from vehicle ownership, operation and fuel consumption. Reduce smog-forming pollutants and greenhouse gas emissions.

- 1Bi.** Reduce per capita fuel consumption and greenhouse gas emissions by 1 percent by 2020, 5 percent by 2035 and 6 percent by 2040 through a reduction in vehicle miles traveled and improved speed consistency.⁴

- 1Bii.** Reduce total greenhouse gas emissions from transportation by 1 percent by 2020 and 60 percent by 2040⁵ (compared to 2005) through electric vehicle use, other emerging technologies, reduction in vehicle miles traveled and improved speed consistency.

- 1C.** Re-invest in the local economy \$5 million/year⁶ by 2020 and \$12 million/year by 2040 from savings resulting from lower fuel consumption due to a reduction in vehicle miles traveled.⁷

¹ Base years have been identified for most targets to allow for a comparative analysis. Base years vary by target between 2001 and 2010, depending on available data. Base years for the 2040 RTP are the same as the base years determined for the 2014 RTP.

² Key destinations consider employment and population centers, and multimodal trip destinations.

³ The targets are relative to the 2010 maximum population within the key destinations and will close the gap between the baseline population and maximum population by 20% by 2020 and 47% by 2040.

⁴ A reduction in vehicle miles traveled is based on coordinated transportation and land use planning that strives to reduce length and number of vehicle trips. These target values may change based on the requirements of the California Air Resources Board for the AMBAG region.

⁵ This target is based on the California Executive Order B-16-12 - reduce greenhouse gas emissions from transportation by 80 percent below 1990 levels by 2050, and California Executive Order B-30-15 - reduce greenhouse gas emissions by 40 percent below 1990 levels by 2030.

Improve the convenience and quality of trips, especially for walk, bicycle, transit, freight and carpool/vanpool trips.

1Di. Improve travel time reliability⁸ for vehicle trips.⁹

1Dii. Improve multimodal network quality¹⁰ for walk and bicycle trips to and within key destinations.¹¹

Improve health by increasing the percentage of trips made using active transportation options, including bicycling, walking and transit.

1E. Decrease single occupancy trip mode share by 4 percent by 2020 and by 9 percent by 2040.

1F. Increase the number of active transportation trips by 5 percent of total trips by 2020 and by 18% of total trips by 2040.¹²

POLICIES:

- 1.1 *Transportation Demand Management (TDM):* Expand demand management programs that decrease the number of vehicle miles traveled and result in mode shift.
- 1.2 *Transportation System Management:* Implement Transportation System Management programs and projects on major roadways across Santa Cruz County that increases the efficiency of the existing transportation system.
- 1.3 *Transportation Infrastructure:* Improve multimodal access to and within key destinations.
- 1.4 *Transportation Infrastructure:* Ensure network connectivity by closing gaps in the bicycle, pedestrian and transit networks.
- 1.5 *Land Use:* Support land use decisions that locate new facilities close to existing services, particularly those that service transportation disadvantaged populations.

⁶ 2012 dollars.

⁷ 10 million per year equates to \$100 per household per year. Assumes \$4 per gallon.

⁸ Travel time reliability is important since being late to work, an appointment, or for a delivery has substantial repercussions for travelers and businesses. Literature from the Federal Highway Administration (FHWA) and many academic journals cite travel time reliability as a more important measure than average travel time between destinations because people must try to plan around the unpredictable nature of travel.

⁹ Qualitative target to be further developed in future planning effort.

¹⁰ Multimodal network quality for walk and bike trips considers roadway speeds, presence of bicycle and pedestrian facilities and buffers from traffic.

¹¹ Qualitative target to be further developed in future planning effort.

¹² The active transportation trip mode share for Santa Cruz County estimated from the 2012 California Household Travel Survey for all trips is 16% (10.2% walk, 2.5% bike and 2.8% transit). The targets are to increase the total active transportation mode share to 21% by 2020 (13% Walk, 4% bike and 4% transit) and increase the active transportation mode share to 34% by 2040 (18% Walk, 9% bike and 7% transit).

GOAL 2. Reduce transportation related fatalities and injuries for all transportation modes.

Safety is a fundamental outcome from transportation system investments and operations. Across the United States, pedestrians and bicyclists (vulnerable users) are killed and injured at a significantly higher rate than the percentage of trips they take.

TARGETS:

Improve transportation safety, especially for the most vulnerable users.

- 2A.** Reduce injury and fatal collisions by mode by 20 percent by 2020 and by 60 percent by 2040.
- 2B.** Reduce total number of high collision locations.¹³

POLICIES:

- 2.1 *Safety:* Prioritize funding for safety projects and programs that will reduce fatal or injury collisions.
- 2.2 *Safety:* Encourage projects that improve safety for youth, vulnerable users, and transportation disadvantaged.
- 2.3 *Emergency Services:* Support projects that provide access to emergency services.
- 2.4 *System Design:* Reduce the potential for conflict between bicyclists, pedestrians and vehicles.

GOAL 3. Deliver access and safety improvements cost effectively, within available revenues, equitably and responsive to the needs of all users of the transportation system, and beneficially for the natural environment.

The manner in which access and safety outcomes referenced in Goal 1 and Goal 2 are delivered can impact cost-effectiveness, distribution of benefits amongst population groups, and ecological function.

TARGETS:

Maintain the existing system and improve the condition of transportation facilities.

- 3A.** Increase the average local road pavement condition index to 57 by 2020 and 72 by 2040.
- 3B.** Reduce the number of transportation facilities in “distressed” condition¹⁴ by 3 percent by 2020 and 5 percent by 2040.

¹³ Qualitative target to be further developed in future planning effort.

¹⁴ Includes street (pavement, sidewalks, bike lanes, and other road components) and transit facilities. “Distressed” pavement has a Pavement Condition Index under 50.

Enhance healthy, safe access to key destinations for transportation-disadvantaged populations.

3C. Reduce travel times and increase travel options for people who are transportation disadvantaged¹⁵ due to income, age, race, disability or of limited English proficiency by increasing the percentage that are within a 30-minute walk, bike or transit trip to key destinations by 20% by 2020 and 47% by 2040.¹⁶

3Di. Ensure transportation services are equitably distributed to all segments of the population.

3Dii. Ensure that transportation impacts do not disproportionately affect transportation-disadvantaged populations.

Solicit broad public input.

3E. Maximize participation from diverse members of the public in RTC planning and project implementation activities.¹⁷

Increase transportation revenues.

3F. Increase the amount of transportation funding by 20% by 2020 to provide a local and reliable source of funding that can leverage larger amounts of state and federal funding.

POLICIES:

3.1 *Cost Effectiveness & System Maintenance:* Maintain and operate the existing transportation system cost-effectively and in a manner that adapts the current transportation system to maximize existing investments.

3.2 *Coordination:* Improve coordination between agencies in a manner that improves efficiencies and reduces duplication (e.g. paratransit and transit; road repairs; signal synchronization; TDM programs).

3.3 *System Financing:* Support new or increased taxes and fees that reflect the cost to operate and maintain the transportation system.

3.4 *Equity:* Demonstrate that planned investments will reduce disparities in safety and access for transportation disadvantaged populations.

¹⁵ Transportation disadvantaged households are defined as non-white, low-income, or poverty. Transportation disadvantaged communities are defined as census tracts where greater than 65% of the total population is non-white; census tracts where greater than 65% of households are low income or poverty is defined as census tracts where greater than 20% of households are in poverty. These definitions were determined by AMBAG for the Monterey Bay region in the 2035 Metropolitan Transportation Plan- Sustainable Communities Strategy. Transportation disadvantaged communities are also defined using the CA Assembly Bill 1550 definition for census tracts that are at or below the threshold designated as low income by the California Department of Housing and Community Development's income limits.

¹⁶ The targets are relative to the 2010 maximum population within the key destinations and will close the gap between the baseline population and maximum population by 20% by 2020 and 47% by 2040.

¹⁷ Qualitative target to be further developed in future planning effort.

- 3.5 *Ecological Function:* Deliver transportation investments in a way that increases tree canopy, where appropriate, improves habitat and water quality, and enhances sensitive areas.
- 3.6 *Public Engagement:* Solicit broad public input on all aspects of regional and local transportation plans, projects and funding actions.

This page intentionally left blank

Appendix D

**2014 RTP Performance
Measure Analysis**

This page intentionally left blank

Introduction

The performance of the 2014 RTP has been analyzed to determine how well the constrained list of transportation projects and programs advance the goals established for this RTP and affect the region's future. RTP performance can be assessed by setting targets and developing methodologies for forecasting how the projects on the constrained list, if implemented by 2035, will advance these targets. The adopted targets were intended to be aggressive, but reasonably obtainable.

The plan makes progress towards and meets many of the targets set forth for the RTP, though funding constraints make it impossible to fully meet all of the targets. The greenhouse gas emissions target as well as the economic benefit target have not only been met but exceeded. The discussion below describes how well the Santa Cruz County 2014 RTP performs for each of the targets. More detailed information on the analysis used to determine target performance can be found in the following sections. A summary of the performance results are outlined in **Figure D.2**. Performance in year 2035 is measured against base years as noted below.

GOAL 1. Improve people's access to jobs, schools, health care and other regular needs in ways that improve health, reduce pollution and retain money in the local economy.

Improve people's ability to meet most of their daily needs without having to drive. Improve access and proximity to employment centers.

- **Target 1A.** Increase the percentage of people that can travel to key destinations within a 30-minute walk, bike or transit trip by 20 percent by 2020 and 40 percent by 2035.¹
- Base year: 2010
- Outcomes Advanced: Access & Mobility, Health, Safety, Equity, Economic Benefit, Cost Effectiveness, Climate &Energy



Plan falls short of target



By improving people's ability to meet most of their daily needs without having to drive, this plan is improving access. New multimodal facilities placed near key destinations, which include residential, employment, and commercial centers, have the greatest potential to replace vehicle trips with walk, bicycle and transit trips. Bicycle and pedestrian facility improvements can create a safer environment for biking and walking. Placing these improvements near key destinations makes biking and walking more convenient for short trips. Projects that close the gaps in the bicycle and pedestrian network and shorten biking and walking routes

provide the greatest benefit in advancing this target. Transit projects that increase service frequency will also advance this target.

The percentage of the total county population within a 30 minute walk, bike or transit trip from a key destination in 2010 was already significant (73.9% for bike, 32.7% for walk, 54.6% for transit). This plan increases the population that is within a 30 minute bike or walk of key destinations to 74.3% for bike and 33.8% for walk but does not meet the established target of 75.9% of population with 30 minute bike access and 39.2% of the population with 30 minute walk access to key destinations. The gap between the 2010 baseline and the maximum population was closed by 9% for bike and 6% for walk compared to the 40% target (**Appendix C**).

Re-invest in the local economy by reducing transportation expenses from vehicle ownership, operation and fuel consumption. Reduce smog-forming pollutants and greenhouse gas emissions.

- **Target 1B.** Reduce per capita fuel consumption and greenhouse gas emissions by 1 percent by 2020 and 5 percent by 2035.
- Base year: 2005
- Outcomes Advanced: Access & Mobility, Health, Equity, Economic Benefit, Climate &Energy



Plan meets target

A reduction in greenhouse gas emissions from transportation will help to alleviate the effects of transportation on climate change. GHG emission reductions of 5% per capita by 2035 through land use and transportation investments have been mandated for the AMBAG region through the California Air Resources Board (CARB) and Senate Bill 375. The target identified for the Santa Cruz County 2014 RTP is a voluntary target of 5% per capita GHG emissions reduction based on transportation improvements that was developed to be consistent with regional efforts. The average Santa Cruz County resident travels approximately 15.3 miles per day. A five percent reduction by 2035 equates to shifting approximately 1 mile per day of motor vehicle travel to active transportation or reducing trip distances. Through prioritization of projects that promote transit use, biking, and walking, as well as changes in land use that shorten the distance people travel from home to work and home to shopping, per capita CO₂ emissions are reduced by 17.9% by 2035. Assuming that half of this reduction is due to transportation improvements (9.0%), this result not only meets but surpasses the Santa Cruz County 2014 RTP 5% reduction target.

- **Target 1C.** Re-invest in the local economy \$5 million/year by 2020 and \$10 million/year by 2035 from savings resulting from lower fuel consumption due to a reduction in vehicle miles traveled.
- Base year: 2005
- Outcomes Advanced: Access & Mobility, Economic Benefit, Cost Effectiveness, Climate &Energy



Plan meets target

Local economies benefit from less fuel consumption. A significantly greater proportion of household income is spent on transportation now than in the previous decade as a result of increases in vehicle, gasoline, and vehicle maintenance costs.² By reducing fuel consumption by reducing trip distances, idling, and through greater use of transit, bicycling and walking, and carpooling, the proportion of household income that is spent on transportation is reduced. Money otherwise spent on fuel is available for other expenditures. Research suggests that seventy three cents for every dollar not spent on fuel is reinvested locally.³ Projects that provide travelers with convenient, safe, and competitive alternatives to the private automobile help advance this target. The plan exceeds the economic benefit target by reducing per capita fuel consumption by 17.9% allowing for \$13 million/year to be reinvested in the local economy by 2035.

Improve the convenience and quality of trips, especially for walk, bicycle, transit, freight and carpool/vanpool trips.

- **Target 1Di.** Improve travel time reliability for vehicle trips, especially for transit, freight, carpool/vanpool.
- Base year: 2010
- Outcomes Advanced: Access & Mobility, Economic Benefit, Climate & Energy



Measure has not improved relative to existing conditions but has improved relative to 2035 no project

The 2014 RTP strives to minimize congestion challenges in our region through a travel time reliability target. Travel time reliability is a measure of how consistent the time is to drive from your origin to your destination and is an important measure of transportation service quality. Travel time reliability matters since being late to work, an appointment, or for a delivery have substantial repercussions for travelers and businesses. Improvements in travel time reliability for autos and transit allow people to better predict how long their trip will take even on regularly congested routes. For example, traffic management and operations projects and programs can significantly improve travel time reliability while improvements in average travel times from these types of projects may be modest (**Figure D.1**). Reliability measures will show a much greater improvement because they show the effect of improving the worst few days of unexpected delay.

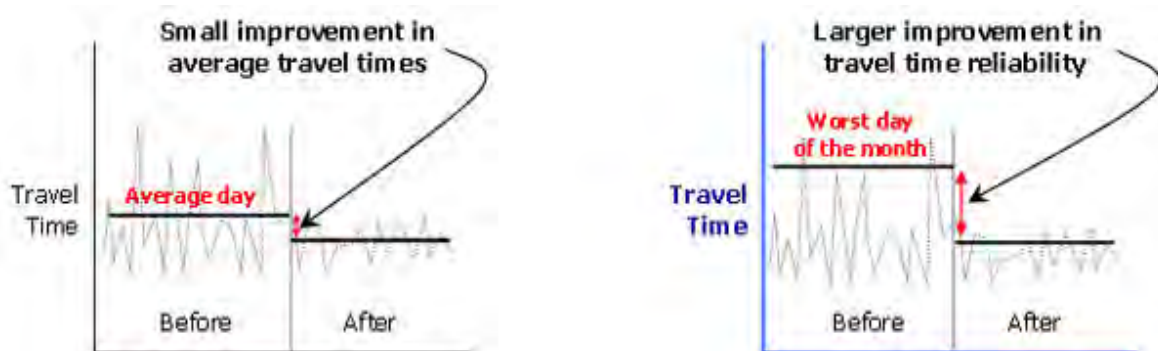


Figure D.1 – Reliability measures capture the benefits of traffic management

Source: Federal Highway Administration⁴

Projects in this plan that can improve travel time reliability include traffic signal synchronization, transit signal priority and queue jumps, incident management, and traveler information services. The performance analysis evaluated travel time reliability countywide, as well as for individual segments of Highway 1 and Highway 17. Forecasts of travel time reliability for 2035 based on project implementation do not improve the travel time reliability relative to the existing conditions but does make improvements relative to a no project alternative. The auxiliary lane projects planned for Highway 1 will allow vehicles more room to merge into traffic, smoothing the traffic flow. Although the full list of Highway 1 Corridor Program projects are not on the constrained list for the 2014 RTP, continual progress towards HOV lanes that allow for carpool and transit service to reduce travel times on Highway 1 will likely bring the greatest benefit to travel time reliability in the future.

- **Target 1Dii.** Improve multimodal network quality for walk and bicycle trips to and within key destinations.
- Base year: 2012
- Outcomes Advanced: Access & Mobility, Health, Safety, Equity, Economic Benefit, Cost Effectiveness, Climate & Energy



Plan meets target

While the network of bicycling and walking facilities throughout much of Santa Cruz County is substantial, improvements to the quality of this network could promote greater use. Separated or buffered bicycle facilities, wider bike lanes, lanes designed outside of the door zone of parked cars, all



encourage use of bicycles as a means of travel. Sidewalks exist in much of the more populated areas of Santa Cruz County but there are gaps, which limit access for people with disabilities and are not always attractive due to proximity to heavy automobile volumes or speeds with little or no buffer between pedestrians and traffic. The quality of the multimodal network for bicycles and pedestrians, referred to as Multimodal Network Quality (MMNQ), provide both a qualitative and quantitative measure for the degree to which the active transportation options are safe and enjoyable (**Appendix C**). The projects in this plan improve the MMNQ and thus advance the target for both walk and bicycle trips within key destinations by designing facilities that are safe, convenient and comfortable to the user.

Improve health by increasing the percentage of trips made using active transportation, including bicycling, walking and transit.

- **Target 1E.** Decrease single occupancy vehicle (SOV) mode share by 4 percent by 2020 and by 8 percent by 2035.
- Base year: 2010
- Outcomes Advanced: Access & Mobility, Health, Safety, Equity, Economic Benefit, Cost Effectiveness, Climate & Energy



Plan falls short of target

Replacing trips traditionally made in a vehicle with walking or bicycling can lead to regular physical activity. Regular physical activity leads to improved public health and reduced obesity rates. Since the regional travel demand model can provide a more accurate percent reduction in single occupancy vehicle (SOV) mode share rather than a percent increase in active transportation mode share, the target is written as a reduction in SOV. This plan invests in bicycle and pedestrian trails that are separate from vehicle traffic to promote use by the beginning rider as well as increases/improvements in bicycle lanes, sidewalks and transit. While these investments do forecast an increase in the number of trips and miles people are walking and biking, forecasts predict a SOV mode share reduction of 6.4% based on vehicle miles traveled which falls short of the public health target of 8% reduction in SOV by 2035.

GOAL 2. Reduce transportation related fatalities and injuries for all transportation modes.

Improve transportation safety, especially for the most vulnerable users.

- **Target 2A.** Reduce injury and fatal collisions by mode by 20 percent by 2020 and by 50 percent by 2035.
- Base year: 2009-2011 average
- Outcomes Advanced: Health, Safety, Equity, Economic Benefit
- **Target 2B.** Reduce total number of high collision locations.
- Outcomes Advanced: Health, Safety, Equity, Economic Benefit



Measure will be monitored over time to assess progress

Improving the safety of transportation users, especially for the most vulnerable users, such as bicyclists and pedestrians, is a priority for Santa Cruz County as well as across California and the nation. Because approximately half of collisions nationwide take place at intersections⁵, emphasis was placed on investing in transportation projects that would improve intersections with consideration for bicyclists and pedestrians. State Highway Operation and Protection Program (SHOPP) projects which are implemented by Caltrans on Santa Cruz County Highways (1, 9, 17, 129, 152, 236) focus on reducing collisions. Extra enforcement on Highway 17 through the Safe on 17 program, as well as separated or buffered bicycling and pedestrian facilities implemented by local jurisdictions have also been prioritized in this plan to improve safety. Although it has not been forecast how the projects will advance the safety target, the Statewide Integrated Traffic Records System (SWITRS) collision database will allow the RTC to monitor the number of collisions over time to assess how the investment of projects are advancing this target.

GOAL 3. Deliver access and safety improvements cost effectively, within available revenues, equitably and responsive to the needs of all users of the transportation system, and beneficially for the natural environment.

Maintain the existing system and improve the condition of transportation facilities.

- **Target 3A.** Increase the average local road pavement condition index (PCI) to 57 by 2020 and 70 by 2035.

- Base year: 2013

- Outcomes Advanced: Safety, Economic Benefit, Cost Effectiveness



Measure has improved relative to status quo levels of funding but has moved in opposite direction relative to existing conditions

- **Target 3B.** Reduce the number of transportation facilities in “distressed” condition by 3 percent by 2020 and 5 percent by 2035.

- Base Year: 2013

- Outcomes Advanced: Safety, Economic Benefit, Cost Effectiveness



Measure will be monitored over time to assess progress

Pavement Condition Index

Good 70-100
Fair 50-69
Poor 25-49
Failed 0-24

A key focus of this RTP is on preserving the existing transportation infrastructure. Unfortunately, even with a significant share of the discretionary funding allocated for maintenance of local streets and roads (an increase of 10 million per year above typical status quo budget of \$13 million), there are insufficient funds to bring the entire system into a state of good repair. Pavement, bicycle lanes, sidewalks, street lights, buses, and rail lines all require ongoing maintenance. The current pavement condition index of 53 (“At Risk” rating) for local streets and roads in Santa Cruz County indicates the need for substantial investment in maintenance. The transit system is also in need of

maintenance and/or replacement to ensure continued and cost-effective service. This plan invests in pavement repairs, sidewalk and bicycle lane maintenance, bus replacements, transit centers in need of renovation, bus stops, transit service vehicles, and physical plants that need upgrades and maintenance. Despite these investments in maintaining existing transportation facilities or other maintenance activities, the local street and road pavement condition index is forecasted to drop to 43 by 2035 and thus the PCI target of 70 is not met. If only the status quo amount of the budget is spent on pavement maintenance, the PCI is expected to drop as low as 28 by 2035. This plan improves the PCI relative to status quo budget. See **Appendix C** for details on analysis and additional information on costs required for maintenance to advance target. Although it has not been forecast how the projects will reduce the number of transportation facilities in “distressed” condition, the local jurisdictions and the METRO track the



condition of their facilities which will allow the RTC to monitor how the investment of projects are advancing this target.

Enhance healthy, safe access to key destinations for transportation-disadvantaged populations.

- **Target 3C.** Reduce travel times and increase travel options for people who are transportation disadvantaged (TD) due to income, age, race, disability or limited English proficiency by increasing the percentage that are within a 30-minute walk, bike or transit trip to key destinations by 20% by 2020 and 40% by 2035 (relative to population in maximum buffer).
- Base year: 2010
- Outcomes Advanced: Access & Mobility, Health, Safety, Equity, Economic Benefit, Cost Effectiveness, Climate &Energy



Plan falls short of target

In advancing the goals of the RTP, the RTP works to ensure that diverse members of the region are able to equitably benefit from transportation investments. One measure analyzed was the percentage of transportation disadvantaged individuals (e.g. youth, elderly, minorities or low income) that can walk, bike, or take transit to key destinations within 30-minutes. Transportation-disadvantaged individuals are oftentimes unable to provide their own transportation or have difficulty accessing public transportation and are overrepresented in households without access to a vehicle. Lack of transit service, curb ramps or safe street crossings can create extra barriers that may prevent individuals from accessing jobs, housing, medical services, groceries, and other key destinations. Bicycle, pedestrian and transit facility improvements close to and within key destination areas will make biking, walking and riding transit safer, more convenient and thus more accessible to transportation disadvantaged populations.



The percentage of the transportation disadvantaged population within a 30 minute walk, bike or transit trip from a key destination in 2010 was already significant (78.7% for bike, 38.5% for walk, 58.8% for transit) and is greater than the total population by approximately 4 to 6% (**Appendix C**).

This plan increases the population that is within a 30 minute bike or walk of key destinations to 78.9% for bike (5.9% increase) and 39.6% for walk (6.4% increase) but does not meet the established target of 80.8% of population with 30 minute bike access (40% increase) and 45.2% of the population with 30 minute walk access (40% increase) to key destinations (**Appendix C**).

- **Target 3D.** Ensure transportation services (and impacts) are equitably distributed to all segments of the population.
- Outcomes Advanced: Access & Mobility, Health, Safety, Equity, Economic Benefit, Cost Effectiveness



Plan meets target

A key component of development and evaluation of the RTP was inclusion and consideration of the entire community to determine if the plan has the potential to affect certain neighborhoods and population groups in a disproportionate manner. Consistent with Title VI of the federal Civil Rights Act of 1964, Section 11135 of the California Government Code, and Executive Order 12898 on Environmental Justice, RTPs are required to ensure that any planned regional transportation improvements do not have a disproportionate adverse impact on low income or other under-represented groups and that minority and low-income populations receive equal benefits, on an equally timely basis, as other populations.

Planned regional transportation improvements were evaluated to ensure that they were equitably distributed to all segments of the population. Greater than 80% of the regional projects were found to benefit areas of the county with low income and minority populations. This analysis showed that new investments in transportation services are equitably distributed to all segments of the population and thus the target has been met.

Solicit Broad Public Input

- **Target 3E.** Maximize participation from diverse members of the public in RTC planning and project implementation activities.
- Outcomes Advanced: Equity



Plan meets target

The inclusion of the entire range of community interests in the development of the RTP is both best practice and required by both federal and state law. In order to ensure that transportation planning and projects reflect community interests, the RTC makes consistent efforts to include all county residents in the transportation discussions and decisions. The RTC joined AMBAG, Monterey and San Benito Counties to develop a public participation plan for the region that identifies options and opportunities for extensive outreach. Components of the plan include, but are not limited to:

- Contacts for community-based groups throughout the county, including neighborhood, health, senior, faith, environmental, low-income, and other social support groups
- Consultation with citizen and advisory committees
- Wide spread and easy access to transportation planning activities, including sections of the RTP as developed, through the RTC's website and social media






- Notifications about public hearings
- Bulletins to media partners
- Making documents available at local libraries
- Bilingual translation of materials, as appropriate

Development of the 2014 RTP has included participation by individuals and groups that represent our diverse community, consistent with the adopted Public Participation Plan, available online at www.ambag.org. At every juncture in developing the RTP, public participation was sought. This planning process meets the target for maximizing participation from the public. **Appendix A** provides a sample of the extensive public outreach done in developing the RTP.




Access and Environment

GOAL 1. Improve people's access to jobs, schools, health care and other regular needs in ways that improve health, reduce pollution and retain money in the local economy.

Target	Projects on Constrained List that can Advance Target	Findings	Score
<p>Target 1A - Increase the percentage of people that can travel to key destinations within a 30-minute walk, bike or transit trip by 20 percent by 2020 and 40 percent by 2035.</p>	<ul style="list-style-type: none"> • Bicycle and pedestrian facilities near major activity centers with emphasis on filling gaps in the network • Bicycle and pedestrian bridges over Highway 1 • Transit level of service improvements • Curb ramps 	<p>The percentage of the population that are within a 30 minute bike or walk of key destinations increase with implementation of the RTP but falls short of the target.</p>	 <p><i>Plan falls short of target</i></p>
<p>Target 1B - Reduce per capita fuel consumption and greenhouse gas emissions by 1 percent by 2020 and 5 percent by 2035.</p>	<ul style="list-style-type: none"> • Bicycle, pedestrian, and transit facility improvements with emphasis on separated facilities • Bicycle, pedestrian, and transit amenities such as bus shelters and benches, signage, bike maps, bike parking • Bus rapid transit, such as transit priority • Educational and incentive programs to encourage and facilitate shifts to carpool, bike, walk, transit, telecommuting • Park and ride lots • Intersection Improvements that reduce idling 	<p>A reduction in per capita GHG emissions of 9% by 2035 from transportation improvements (assuming half of the 17.9% per capita GHG reductions from both land use and transportation improvements) has met and surpassed the 5% target.</p>	 <p><i>Plan meets target</i></p>
<p>Target 1C - Re-invest in the local economy \$5 million/year by 2020 and \$10 million/year by 2035 from savings resulting from lower fuel consumption due to a reduction in vehicle miles traveled.</p>	<ul style="list-style-type: none"> • Bicycle, pedestrian, and transit facility improvements with emphasis on separated facilities • Bicycle, pedestrian, and transit amenities such as bus shelters and benches, signage, bike maps & racks • Bus rapid transit, such as transit priority • Educational and incentive programs to encourage shifts to carpool, bike, walk, transit • Park and ride lots 	<p>A reduction in fuel consumption allows \$13 million to be re-invested into the local economy and thus the target has been met.</p>	 <p><i>Plan meets target</i></p>



Access and Environment

GOAL 1. Improve people's access to jobs, schools, health care and other regular needs in ways that improve health, reduce pollution and retain money in the local economy.

Target	Projects on Constrained List that can Advance Target	Findings	Score
<p>Target 1Di - Improve travel time reliability for vehicle trips.</p>	<ul style="list-style-type: none"> • Hwy 1 Auxiliary Lanes • Intersection operational improvements • Roadway improvements such as merge lanes, transit turnouts • Signal synchronization • HOV signal priority and queue jumps • Bus rapid transit, such as transit priority • Freeway Service Patrol 	<p>Travel time reliability has decreased relative to existing conditions but has improved in comparison to 2035 no project.</p>	<div style="text-align: center;">  <p><i>Measure has decreased relative to existing conditions but has improved in comparison to 2035 no project</i></p> </div>
<p>Target 1Dii - Improve multimodal network quality for walk and bicycle trips to and within key destinations.</p>	<ul style="list-style-type: none"> • Bicycle and pedestrian facilities in key destination areas with emphasis on filling gaps in the network • Two bicycle and pedestrian bridges over Highway 1 • Bicycle/pedestrian separated facilities • Bicycle and pedestrian treatments at intersections (e.g. crossing islands, painted boxes, bike signals etc) • Wider sidewalks buffered from automobile traffic • Traffic calming and greenways • Curb ramps 	<p>Bicycle and pedestrian network quality has improved with this plan.</p>	<div style="text-align: center;">  <p><i>Plan meets target</i></p> </div>
<p>Target 1E - Decrease single occupancy mode share by 4 percent by 2020 and by 8 percent by 2035.</p>	<ul style="list-style-type: none"> • Bicycle, pedestrian, and transit facility improvements • Bus rapid transit, such as transit priority • Educational and incentive programs to encourage shifts to carpool, bike, pedestrian and , transit • Bicycle, pedestrian, and transit amenities such as bus shelters and benches, signage, bike maps, bike parking 	<p>Single occupancy vehicle mode share has decreased with this plan by 6.4% but falls short of the 8% target.</p>	<div style="text-align: center;">  <p><i>Plan falls short of target</i></p> </div>




Safety

GOAL 2. Reduce transportation related fatalities and injuries for all transportation modes

Target	Projects on Constrained List that can Advance Target	Findings	Score
<p>Target 2A - Reduce injury and fatal collisions by mode by 20 percent by 2020 and by 50 percent by 2035.</p>	<ul style="list-style-type: none"> • Auxiliary lanes on Highway 1 • Intersection improvements with consideration for bicyclists and pedestrians • Bicycle and pedestrian treatments at intersections (e.g. crossing islands, painted boxes and bike signals) • Bicycle and pedestrian facility improvements with emphasis on separated facilities • Two bicycle and pedestrian bridges over Highway 1 • Traffic calming and greenways • Pedestrian crossings near schools and high pedestrian traffic areas 	<p>Due to the challenge of being able to forecast injuries and fatalities based on projects implemented, the number of injuries and fatalities for each mode can be monitored over time to assess progress.</p>	 <p><i>Measure will be monitored over time to assess progress</i></p>
<p>Target 2B - Reduce total number of high collision locations.</p>	<ul style="list-style-type: none"> • Auxiliary lanes on Highway 1 • Intersection improvements with consideration for bicyclists and pedestrians • Bicycle and pedestrian treatments at intersections (e.g. crossing islands, painted boxes and bike signals) • Bicycle and pedestrian facility improvements with emphasis on separated facilities • Traffic calming and greenways • Pedestrian crossings near schools and high pedestrian traffic areas 	<p>Due to the challenge of being able to forecast injuries and fatalities based on projects implemented, the number of injuries and fatalities for each mode can be monitored over time to assess progress.</p>	 <p><i>Measure will be monitored over time to assess progress</i></p>

Maintenance and Equity

GOAL 3. Deliver access and safety improvements cost effectively, within available revenues, equitably and responsive to the needs of all users of the transportation system, and beneficially for the natural environment.

Target	Projects on Constrained List that can Advance Target	Findings	Score
<p>Target 3A - Increase the average local road pavement condition index to 57 by 2020 and 70 by 2035.</p>	<ul style="list-style-type: none"> • Maintenance, repair and operation of local roadways • Caltrans SHOPP projects • Road rehabilitation and reconstruction 	<p>The pavement condition index (PCI) has decreased to 43 relative to existing PCI of 53 but is improved in comparison to status quo budget that could bring PCI down to 28. Target has not been met.</p>	<div style="text-align: center;">  </div> <p><i>Measure has improved in comparison to status quo budget but has decreased relative to existing conditions</i></p>
<p>Target 3B - Reduce the number of transportation facilities in “distressed” condition by 3 percent by 2020 and 5 percent by 2035.</p>	<ul style="list-style-type: none"> • Maintenance, repair and operation of local roadways • Bus replacements • Upgrades to transit facilities • Caltrans SHOPP projects • Road rehabilitation and reconstruction 	<p>The number of transportation facilities in "distressed" condition can be monitored over time.</p>	<div style="text-align: center;">  </div> <p><i>Measure will be monitored over time to assess progress</i></p>
<p>Target 3C - Increase the percentage of people who are transportation disadvantaged due to income, age, race, disability, or limited English proficiency that are within a 30-minute walk, bike or transit trip to key destinations by 20% by 2020 and 40% by 2035.</p>	<ul style="list-style-type: none"> • Bicycle and pedestrian facility improvements near schools and other transportation disadvantaged destinations with emphasis on filling gaps in the network and ADA improvements • Transit improvements such as increased service on high ridership routes • Curb ramps • Rail transit 	<p>The percentage of the transportation disadvantaged population that is within a 30 minute bike or walk of key destinations are increased but plan falls short of the target.</p>	<div style="text-align: center;">  </div> <p><i>Plan falls short of target</i></p>

Maintenance and Equity

GOAL 3. Deliver access and safety improvements cost effectively, within available revenues, equitably and responsive to the needs of all users of the transportation system, and beneficially for the natural environment.



Target	Projects on Constrained List that can Advance Target	Findings	Score
<p>Target 3D - Ensure transportation services (and impacts) are equitably distributed to all segments of the population.</p>	<ul style="list-style-type: none"> • Bus rapid transit, such as transit priority • Transit improvements such as increased service on high ridership routes • Auxiliary lanes on Highway 1 • Monterey Bay Sanctuary Scenic Trail • Rail transit 	<p>The regional projects that are identified in the plan provide an equitable distribution to low income and minority populations and thus the target has been met.</p>	<div style="text-align: center;">  <p><i>Plan meets target</i></p> </div>
<p>Target 3E - Maximize participation from diverse members of the public in planning and project implementation activities.</p>	<ul style="list-style-type: none"> • Public participation plan • Workshops • Web and social media outreach • Email distributions • Surveys • Press releases • Project sponsor board approvals 	<p>Public participation was solicited in developing the plan at every juncture and thus the target has been met.</p>	<div style="text-align: center;">  <p><i>Plan meets target</i></p> </div>

Figure D.2 – Summary of 2014 Project List Performance for Advancing Targets

Source: Santa Cruz County Regional Transportation Commission

Performance Analysis Technical Methodology

The below technical discussion expands upon the performance discussion above by describing the target development, forecasting methodology, the baseline data and the performance results. RTC has been using performance measures for many years in developing the RTP but the 2014 RTP is the first time that targets have been defined and performance has been assessed based on the projects on the constrained project list. The performance targets are used to evaluate how well the 2014 RTP addresses the adopted goals and policies.

Target 1A. Increase the percentage of people who can travel to key destinations within a 30-minute walk, bike or transit trip by 20% by 2020 and 40% by 2035.⁶

Target Development

Transportation users consist of people and businesses that want to reach a destination. When you combine places to go with convenient, safe and comfortable routes, then you increase the options for accessing goods and services, jobs, activities and other destinations. New or improved multimodal facilities placed near key destinations, which include employment, population and commercial centers, have the greatest potential to replace vehicle trips with shorter walk and bicycle trips. The number of individuals who can travel from their home to services on a continuous network of buses, bicycle and pedestrian facilities is a measure of the extent to which individuals have access to goods and services in Santa Cruz County.

Areas that provide a centralized location for accessing a variety of goods and services are defined here as key destinations. RTC identified eleven key destinations throughout Santa Cruz County based on locations of employment centers⁷ and commercial centers (determined from the local jurisdictions land use zoning maps in their general plans). These destinations are mapped in

Figure D.3 and are listed below. For analysis, Scotts Valley destinations were combined.

- UC Santa Cruz
- Downtown Santa Cruz
- Soquel Drive (Soquel Ave to Mattison)
- 41st Avenue Commercial Corridor
- Scotts Valley – Scotts Valley Drive and Mt. Hermon Rd
- Capitola Village
- Cabrillo College
- Watsonville Hospital
- Freedom/Green Valley Road
- Downtown Watsonville



Figure D.3 – Key Destinations in Santa Cruz County, the Maximum Travel Buffer and the 2035 Travel Buffer

Source: Sustainable Transportation Council, Fehr & Peers

The population within 30 minute access by biking or walking to the central point of each key destination based on existing and proposed facilities is assessed to see how well this target is advanced given the projects prioritized in the 2014 RTP. Land use changes that locate more people near key destinations are another factor affecting the number of people who can access goods and services, but land use changes were not considered when analyzing this target because land use is outside the purview of the RTC. The access target discussed here addresses bicycle and pedestrian connectivity, whereas the multimodal network quality analysis under target 1Dii discusses the importance of analyzing the quality of the bicycle and pedestrian network.

The baseline population and maximum possible population that are within a 30 minute distance via walk and bike from key destinations are discussed below. The target for 2035 was set to close the gap between the 2010 baseline population and the maximum possible population by 40% by 2035 and an intermediate target of 20% by 2020.

Forecasting Methodology

ArcGIS network analyst was used to determine the proportion of the population that are within 30 minutes of travel via walking, bicycling, and transit from the central point of each of the key destinations (**Figure D.3**). This target quantifies how access to key destinations increases through improvements to bike and walk facilities. Transit service improvements through increased frequency or additional routes would affect access in key destinations. Given the specific transit service improvements for the future are unknown as well as limitations of this analysis for transit, access improvements due to enhanced transit have not been analyzed.

The analysis used the following GIS data:

- Roadway centerline file with roadway functional classification and speed limits (from Santa Cruz County GIS)
- Bicycle lanes, trails, and paths (from RTC)
- Transit routes and stops (from Santa Cruz Metropolitan Transit District)
- City of Santa Cruz and Watsonville sidewalk coverage (from the Cities of Santa Cruz and Watsonville; sidewalk information currently unavailable for other areas)
- 2010 Population at the Traffic Analysis Zone (TAZ) level (from AMBAG)

Using the key destinations, a travelshed analysis was performed for each mode using network analyst. Travelshed refers to the area that people are able to travel given time, modes, physical attributes and constraints. For walking and bicycling, two types of travelsheds were developed: a “maximum travel” buffer and an “actual travel” buffer. An “actual travel” buffer provides the area around the central point of each key destination that can be accessed within 30 minutes by walking or biking based on existing facilities. The “maximum travel” buffer provides the area around the central point of each key destination that could be accessed if there was universal bicycle and pedestrian facility coverage. For transit, only the actual travel buffer analysis was performed, since transit could theoretically reach nearly every point in the county within 30 minutes under a maximum travel scenario. Once the area of the buffer is defined, the population living in the buffer can be determined from the census data.

Maximum Buffers. The maximum travel buffer was calculated differently for pedestrian and bicycle travel. For pedestrian travel, a circle was drawn around each key destination at the distance one could travel under ideal conditions (this would represent a transportation network that has a tight network of streets/trails with universal sidewalk coverage). For this analysis, it was assumed that under ideal conditions, a person can walk at 3.5 feet per second (a standard value used in transportation planning). This walking speed was applied to downtown Santa Cruz and Downtown Watsonville (areas with a relatively tight grid of streets) and a GIS network walkshed analysis was performed. Assuming 30 minutes of travel time at 3.5 feet per second, it was determined that one could walk 5,600 feet on the most direct routes. A “true” maximum walkshed is 6300 ft (30 minutes times 3.5 feet per second) but since there are almost no straight line paths leading from a key destination a circular maximum walk buffer of 5,600 feet was defined for each of the key destinations. One exception was made to this analysis for the Watsonville Airport area since it is not reasonable to expect that walking routes would ever be constructed across the airport. A portion of the circular buffer was removed to reflect this constraint.

A similar analysis was performed for bicycling. In this case, a maximum speed of 10 miles per hour was assumed and a GIS network bikeshed analysis was performed. Certain roads, such as freeways and minor mountainous roads were excluded since it is either illegal or impractical for a general member of the public to ride a bicycle on these routes. However, all reasonably foreseeable bicycle connectivity projects (including completion of the Monterey Bay Sanctuary Scenic Trail, connections to this trail, and new bicycle connections in areas anticipating future growth) were assumed in the maximum travel analysis. A circular buffer was not developed for maximum bicycle travel since physical constraints (hills, open spaces) make it impractical to assume that a bicycle network could be constructed that would provide complete bicycle access through the undeveloped and mountainous portions of the county.

Actual Travel Buffers. Actual travel buffers were developed for each key destination and for each mode based on the level of bicycle and pedestrian infrastructure and on the actual travel paths. For the walk mode, the walking speed is adjusted based on the prevalence of sidewalk facilities. In a hypothetical area with no sidewalk facilities, the walking speed in the analysis is reduced by 50%. In areas with 50% sidewalk coverage, the walk speed is reduced by 25%. Given the limited amount of sidewalk coverage data, analysis was based on an estimate of the percentage of sidewalk coverage for each key destination area. This percent coverage was estimated using GIS data for Santa Cruz and Watsonville and google streetview for other key destination areas. This analysis would be improved if actual sidewalk location data could be used to factor the walk speed on a street by street basis. For the bicycle network buffer, travel is allowed on any non-freeway street, however travel speed is reduced by 75% for roads with speeds in excess of 35 miles per hour that have no dedicated bicycle facilities (bicycle lanes or paths). Speeds were similarly reduced on mountainous roads, regardless of speed limit. These reductions in speeds reflect the fact that many potential cyclists are uncomfortable traveling on busy or steep roads, and therefore will either not travel by bike or take other longer routes to avoid these areas. Transit actual travel buffers were based on a five minute walk speed to stops and a 20 minute travel time on the routes, based on route schedules.

Baseline

The baseline results for each of the key destinations are shown in **Figure D.4**. The population within 30 minutes of each destination is based on population data from the 2010 census and bike, pedestrian and transit infrastructure from 2012.

Area	2010 Population within a 30-minute walk		2010 Population within a 30-minute bike ride		2010 Population within a 30-minute transit trip	
	Population	Proportion of County	Population	Proportion of County	Population	Proportion of County
Downtown Santa Cruz	21,691	8.3%	95,976	36.6%	84,721	32.3%
Scotts Valley (combined)	5,742	2.2%	17,385	6.6%	34,221	13.0%
UC Santa Cruz	1,413	0.5%	53,353	20.3%	54,717	20.9%
Soquel Dr (Soquel to Mattison)	4,258	1.6%	97,370	37.1%	87,641	33.4%
41st Ave	11,920	4.5%	86,263	32.9%	80,785	30.8%
Capitola Village	7,744	3.0%	77,236	29.5%	67,449	25.7%
Cabrillo College	2,508	1.0%	57,232	21.8%	59,417	22.7%
Green Valley / Freedom	12,749	4.9%	58,309	22.2%	44,544	17.0%
Watsonville Hospital	8,102	3.1%	57,351	21.9%	44,462	17.0%
Downtown Watsonville	16,934	6.5%	56,600	21.6%	44,276	16.9%

Figure D.4 – Total 2010 (baseline) population within 30 minutes of key destinations based on existing bicycle, pedestrian and transit infrastructure

Figure D.5 shows the baseline aggregate population within 30 minutes of the central point of any of the key destinations. Population within 30 minutes of key destinations via walking has the smallest percentage due to walking speed being slower than biking and riding transit. Percent of population that can access key destinations within 30 minutes via biking is the largest percentage due to the speed of biking relative to walking and no route limitations. Population that can access key destinations via transit is in between walking and biking as the analysis estimates the population within a maximum of a 5 minute walk to a bus stop, a 20 minute ride on the bus and a 5 minute walk to destination.

Figure D.3 shows the size of the access buffer areas for each mode.

Travel Mode	2010 Population within 30 minutes of key destinations	
	Population	Proportion of County
Walk	85,847	32.7%
Bike	193,792	73.9%
Transit	143,170	54.6%

Figure D.5 – Total 2010 (baseline) aggregate population within 30 minutes of any key destinations based on existing transit, bicycle and pedestrian infrastructure

Figure D.6 shows the maximum population within 30 minutes of each of the key destinations. The maximum population is the population that could access the central point of key destinations within 30 minutes by biking or walking if there was complete bicycle and pedestrian facility coverage in vicinity of key destinations.

Area	Maximum 2010 Population within a 30-minute walk		Maximum 2010 Population within a 30-minute bike ride	
	Population	Proportion of County	Population	Proportion of County
Downtown Santa Cruz	26,400	10.1%	98,905	37.7%
Scotts Valley (combined)	10,729	4.1%	21,173	8.1%
UC Santa Cruz	5,289	2.0%	53,764	20.5%
Soquel Dr (Soquel to Mattison)	15,171	5.8%	100,690	38.4%
41 st Ave	21,666	8.3%	93,983	35.8%
Capitola Village	13,577	5.2%	87,396	33.3%
Cabrillo College	8,020	3.1%	61,775	23.6%
Green Valley / Freedom	19,418	7.4%	65,197	24.9%
Watsonville Hospital	10,690	4.1%	63,456	24.2%
Downtown Watsonville	24,008	9.2%	59,451	22.7%

Figure D.6 – Total 2010 Maximum* Population within 30 Minutes of Key Destinations

** Maximum reflects population if there was universal bicycle and pedestrian facility coverage*

Figure D.7 shows the maximum aggregate population within 30 minutes of any of the key destinations.

Travel Mode	2010 Maximum Population within 30 minutes of key destinations	
	Population	Proportion of County
Walk	128,029	48.8%
Bike	207,046	78.7%

Figure D.7 – Total 2010 Maximum* Aggregate Population within 30 Minute Walk and Bicycle Trips of Key Destinations

**Maximum reflects population if there was universal bicycle and pedestrian facility coverage*

Results

Figure D.8 shows the results for 2035 assuming that the walk and bike projects that have been prioritized (constrained) in the 2014 RTP are implemented. This analysis does not account for any shifts in population distribution that may occur in the county through 2035. Given current focus on mixed use and

higher density housing near key destinations, the percentage of the population that would live near key destination areas will likely increase. Thus the percentage of the population within a 30 minute walk or bike from key destinations would be even greater. Only an analysis on walk and bike access was performed since there was no information available about how future transit routes will be configured.

	2035 Population within 30 minute walk	2035 Population within 30 minute bike ride
Area	Proportion of County	Proportion of County
Downtown Santa Cruz	8.4%	36.8%
Scotts Valley	2.2%	7.0%
UC Santa Cruz	0.5%	20.5%
Soquel Dr (Soquel to Mattison)	2.3%	37.4%
41st Ave near Hwy 1	4.9%	34.5%
Capitola Village	3.4%	32.1%
Cabrillo College	1.0%	22.2%
Green Valley / Freedom	4.9%	22.4%
Watsonville Hospital	3.1%	22.2%
Downtown Watsonville	6.6%	21.6%

Figure D.8 – Population within 30 minutes of Key Destinations in 2035 based on 2014 RTP Project List

Figure D.9 shows the aggregate population within 30 minutes of any of the key destinations based on implementing the bike and pedestrian projects that are prioritized in this plan.

Population within 30 minutes of Key Destinations				
	2010 Baseline	2014 RTP Implementation for 2035	2035 Target	Maximum Population
Travel Mode	% of County	% of County	% of County	% of County
Walk	32.7%	33.8%	39.2%	48.8%
Bike	73.9%	74.3%	75.9%	79.0%

Figure D.9 – Aggregate Population within 30 Minutes of Key Destination in 2035, based on the 2014 RTP Project List

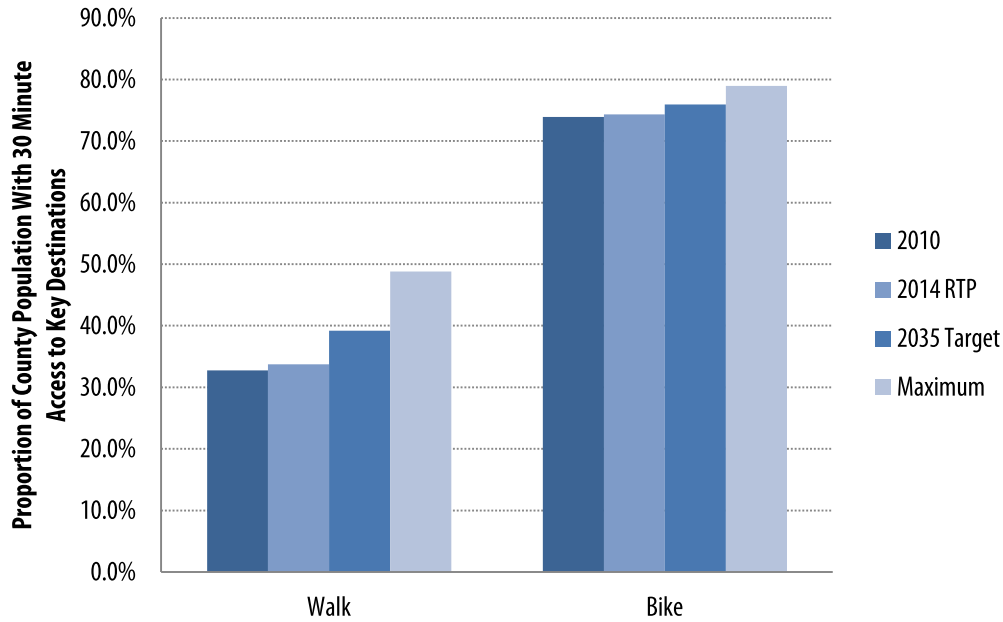


Figure D.10 – Walk and Bicycle Access Improvements Near Key Destinations for Total Population

The results show that despite investment in additional pedestrian and bicycle infrastructure, the proportion of the population within 30 minutes of key destinations does not substantially increase (Figure D.10). The target for 2035 was set to close the gap between the 2010 baseline population and the maximum possible population by 40%. It was calculated by taking 40% of the difference between the baseline and the maximum possible population within the key destinations and adding to the baseline (Figure D.9). Progress is made towards the target but the 2035 target to close the gap by 40% between the 2010 baseline and the maximum population was not met. The gap between the 2010 baseline and the maximum population was closed by 9% for bike and 6% for walk compared to the 40% target.

This analysis shows that large portions of the county have robust bicycle infrastructure that provides good connectivity near key destinations. Currently, the pedestrian networks near key destinations are not as complete although the analysis is limited due to lack of sidewalk data throughout many areas of the county.

Target 1B. Reduce per capita fuel consumption and greenhouse gas emissions by 1% by 2020 and 5% by 2035.

Target Development

A 5% reduction in per capita greenhouse gas emissions by 2035 for passenger vehicles is a voluntary target that was set by the Regional Transportation Commission (RTC) to be consistent with requirements established by the state for the Monterey Bay region. The California Air Resources Board (ARB) requires a five percent reduction in per capita greenhouse gas (GHG) emissions for passenger vehicles to be achieved through the Association of Monterey Bay Area Governments (AMBAG) Sustainable

Communities Strategy. This reduction in GHG comes from coordination of land use and transportation planning primarily through a reduction in vehicle miles traveled and improvements in vehicle speed. The Santa Cruz County RTP target is based on changes in the transportation system only and does not consider effects of land use changes as land use is outside the purview of the RTC. Vehicle technology improvements and low carbon fuel requirements are expected to generate significant greenhouse gas emission reductions. These reductions are also above and beyond this 5% and are not accounted for in the 2014 RTP since they are outside the authority of the RTC. The 2014 RTP relies on reductions in vehicle miles traveled along with improvements in vehicle speed to achieve the five percent greenhouse gas emissions reduction target.

The average per capita vehicle miles traveled in Santa Cruz County is 15.3 miles per person per day. An emissions reduction of 5% corresponds to an average reduction in vehicle miles of travel or mode shift (carpooling, transit, biking, or walking) of approximately $\frac{3}{4}$ of a mile per person per day, 5 miles per week, or 275 miles per year. If one day a week, commuters switched from driving alone to either working from home or commuting to work by carpooling, biking, walking, or riding transit, this goal would be readily met.

Forecasting Methodology

Fuel consumption and GHG emissions from a given vehicle fleet mix are the result of two factors—vehicle-miles of travel (VMT) and vehicle speeds. As VMT increases, fuel consumption and GHG increases as well. Vehicle speed is also relevant for GHG emissions because of the following:

- Vehicles traveling at low speeds are generally less efficient than vehicles traveling at moderate speeds since engine and auxiliary losses (e.g., air conditioning, electrical load) represent a larger share of fuel consumption and GHG emissions at low speeds
- Vehicles traveling at high speeds face additional air-resistance, which reduces efficiency
- Acceleration and deceleration, or speed consistency is important for estimating fuel consumption and GHG emissions. Congested, stop-and-go travel is inefficient since fuel consumption and GHG emissions related to idling and accelerating a vehicle from a stop can be considerable. A roadway facility with frequent stop and go conditions will generate more GHG emissions than one with consistent travel speeds (even if that speed is relatively low).

Traveling at the mid-range of speeds (30 to 60 mph) and reducing stop-and-go traffic to maintain speed consistency are effective means of reducing GHG emissions. **Figure D.11** summarizes these factors. Steady state, as referenced in **Figure D.11** refers to consistent travel at a given speed, as opposed to real-world activity that includes stop-and-go driving.

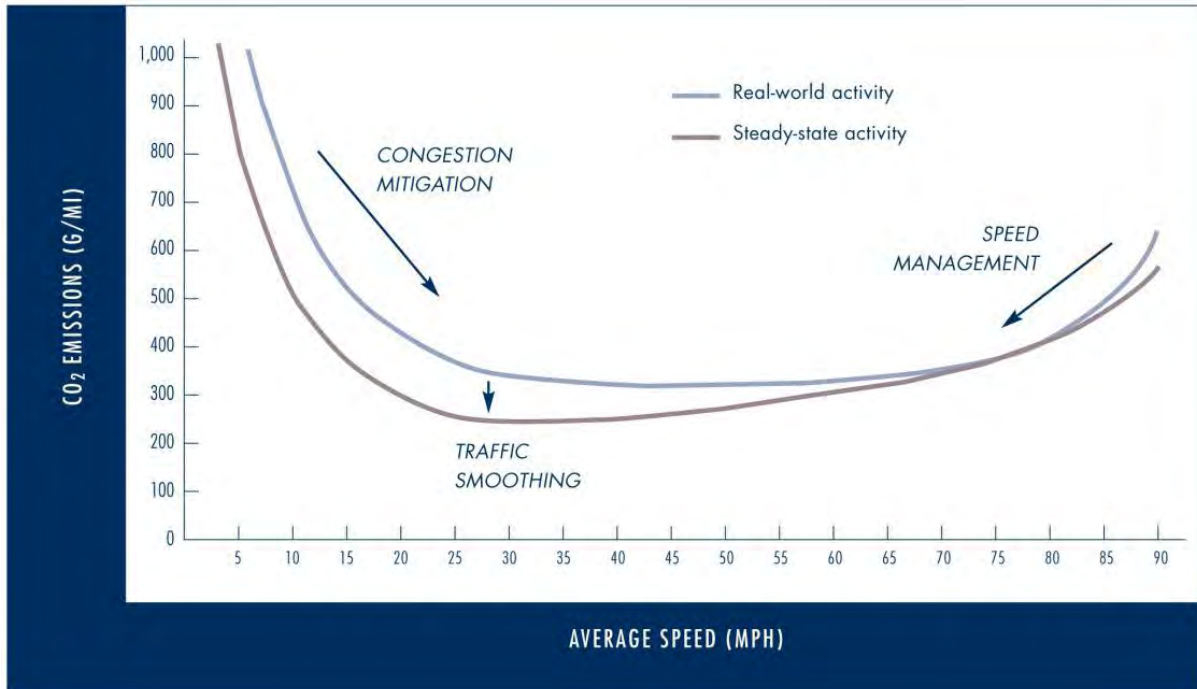


Figure D.11 – CO₂ Emissions versus Average Vehicle Speed

Source: UC Berkeley Transportation Center⁸

This section describes how fuel consumption and GHG emissions are forecast for the 2014 RTP based on changes in vehicle miles traveled, vehicle speeds and speed consistency. To forecast fuel consumption and GHG emissions, the following data from the AMBAG regional travel demand model are used:

- Roadway link traffic volumes
- Roadway link lengths
- Estimated roadway link speeds

Using this information, total passenger vehicle VMT is calculated for every link (e.g., volume x length). Then a spreadsheet program is used to tally up the total VMT that occurs in five mile-per-hour speed ranges. VMT is adjusted to take out all trips that travel through the AMBAG region (external to external trips) and half of the trips that travel either from inside to outside the region (internal to external) or from outside to inside the region (external to internal). These adjustments are consistent with ARB requirements for AMBAG’s Sustainable Communities Strategy.

With the VMT data organized by speed, the California Air Resources Board’s EMFAC model is used to calculate the GHG emissions from Santa Cruz County. The fuel consumption and CO₂ emission factors based on the passenger vehicle fleet mix for Santa Cruz County are used to calculate the final results. CO₂ emissions is used as a measure of GHG emissions since CO₂ data was more readily available from the EMFAC model results and the relative reduction in CO₂ will be the same as GHG emission reductions since CO₂ accounts for such a large percentage of the GHG emissions. Due to the inability of the travel demand model to model various different types of transportation projects including transportation demand management, transportation system management, and bicycle and pedestrian infrastructure, the

VMT and GHG emissions were then reduced through postprocessing. Postprocessing is a process where the travel model outputs are manually adjusted using factors derived from research studies and other analytic tools.

Baseline

The 2005 baseline per capita CO₂ emission rate for Santa Cruz County from transportation is 15.0 lbs/day. This CO₂ emission rate corresponds to an average vehicle miles traveled per person of 15.3 miles/day. A reduction of 5% by 2035 would require the per capita CO₂ emissions to be reduced to 14.3 lbs/day due to reductions in vehicle miles traveled and improvements in vehicle speed.

Results

The greenhouse gas emissions results for Santa Cruz County for 2035 based on the list of projects that have been prioritized in the 2014 RTP are estimated to be a **17.9%** reduction relative to 2005. This corresponds to a CO₂ per capita emission rate of 12.3 lbs/day/person for 2035 which includes reductions from both transportation and land use changes. The regional travel demand model results determined 13.1% of this reduction (**Figure D.12**) and the postprocessing accounts for the remainder of the reduction (4.7%) (**Figure D.12**). [The postprocessing reduction of 5.46% (**Figure D.13**) is applied to the 2035 VMT and CO₂ results from model as opposed to the 2005 values and thus results in an additional 4.7% reduction relative to 2005.] See the documentation at the end of this target discussion for additional information on how the postprocessing was calculated. The per capita CO₂ reduction of 17.9% is slightly greater than the per capita VMT reductions of 17.1% likely due to more efficient vehicle speeds and speed consistency in 2035 relative to 2005 (**Figure D.14**).

Because of the synergistic effects of land use and transportation on reducing GHG emissions, it is difficult to determine how much of the reduction comes from transportation improvements versus land use changes. All of the postprocessing reductions are based on transportation investments and therefore at a minimum, transportation effects account for 4.7% of the GHG reductions. Assuming half of the GHG reduction that has been forecasted for 2035 is due to transportation (9.0%), this result not only meets but surpasses the 5% target.

VMT and GHG Calculations for Passenger Vehicles	2005	2035
Daily VMT (miles/workday/capita) - modeled	15.29	13.40
Daily CO ₂ (lbs/workday/capita) - modeled	15.02	13.05
Modeled reduction in VMT from 2005		-12.4%
Modeled reduction in CO ₂ from 2005		-13.1%
Daily VMT (miles/workday/capita) - modeled and postprocessed		12.67
Daily CO ₂ (lbs/workday/capita) - modeled and postprocessed		12.34
Total per capita VMT % Reduction from 2005		-17.1%
Total per capita CO ₂ % Reduction from 2005		-17.9%

Figure D.12 – Per Capita Reductions of Vehicle Miles Traveled and Greenhouse Gas Emissions for 2014 RTP relative to 2005 for Passenger Vehicles

Project Type	Postprocessing Reductions for VMT/GHG Emissions
Pedestrian facility and traffic calming improvements	-0.30%
Bicycle facility improvements	-2.22%
Intelligent Transportation Systems/Transportation System Management programs	-0.13%
Transportation Demand Management programs	-1.75%
Transit improvements	-0.80%
Increased work at home	-0.26%
Total Postprocessing Reductions	-5.46%

Figure D.13 – Postprocessing Reductions of Vehicle Miles Traveled and Greenhouse Gas Emissions for 2014 RTP relative to 2005

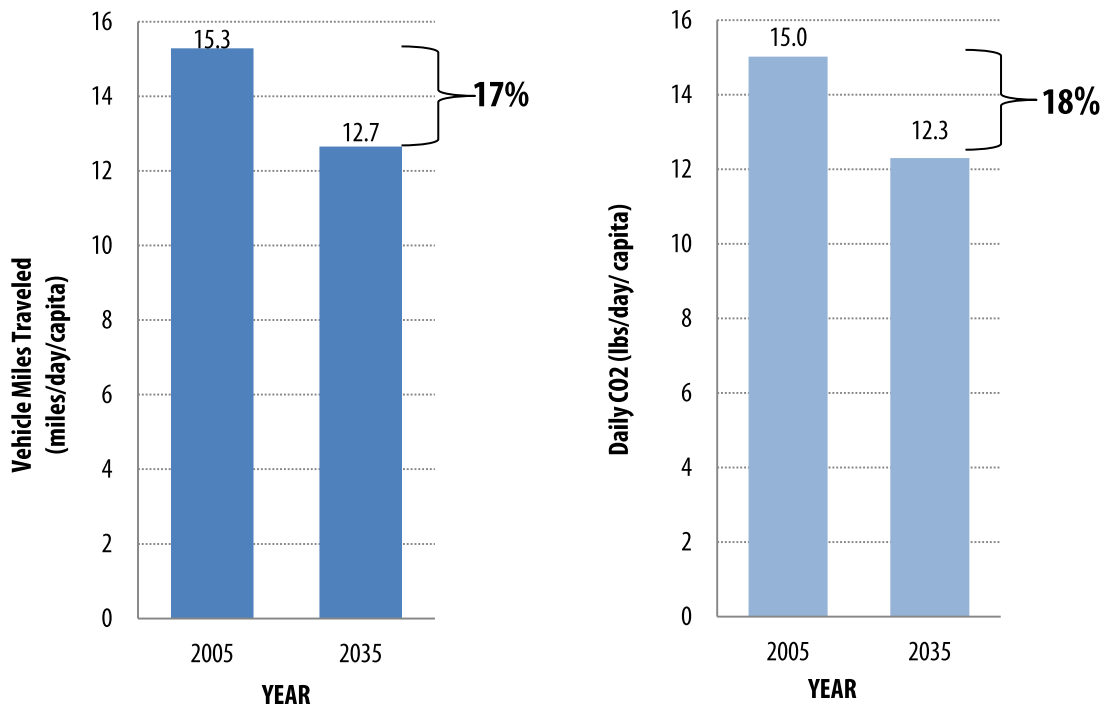


Figure D.14 – 2035 per capita VMT and GHG reductions compared to 2005

VMT and GHG Postprocessing Reduction Methodology

Based on information from AMBAG, the new regional travel model either does not model or is not sensitive to the following transportation projects or programs:

- Pedestrian projects
- Bike projects
- Intelligent Transportation Systems/ Transportation System Management (ITS/TSM) projects
- Transportation Demand Management (TDM) projects
- Transit enhancements – the model’s mode choice component is “static” and is therefore insensitive to new or enhanced transit service
- Work at home – the model’s mode choice component does not have the ability to vary the percentage of people who work at home

Based on these limitations, Fehr & Peers evaluated postprocessing adjustments to account for the reductions in VMT/GHG from projects in the categories above. The postprocessing was based primarily on the research identified in the following documents:

- *Quantifying Greenhouse Gas Emissions Mitigation Measures*, CAPCOA, 2010⁹
- *Moving Cooler*, Urban Land Institute, 2009¹⁰
- *INDEX 4D: A Quick-Response Method of Estimating Travel Impacts from Land-Use Changes*, Criterion Planners and Fehr & Peers, 2001¹¹
- *Appendix C-4: Final Environmental Impact Report For The Metropolitan Transportation Plan/Sustainable Communities Strategy For 2035*, SACOG, 2012¹²

Below is a brief documentation of how the adjustments were calculated.

Pedestrian Projects

Fehr & Peers estimated the total percent growth in new or substantially enhanced pedestrian facilities based on the research prepared for the STARS access analysis. For each of the TAZs within Santa Cruz County, the percent increase in pedestrian infrastructure was input based on the project list and the estimated existing pedestrian facility coverage in the area. The population-weighted average percent increase was then calculated for the entire county. The results found that—on average—pedestrian infrastructure expanded by about 6% in the county. This growth in pedestrian facilities was multiplied by a VMT reduction elasticity from *INDEX 4D Method*¹³. This resulted in a population-weighted VMT/GHG reduction of -0.24%.

In addition, there are numerous traffic calming projects in the RTP. Since the INDEX method does not account for traffic calming, data from CAPCOA 2010¹⁴, were used. The CAPCOA document, citing data from *Moving Cooler*,¹⁵ identified a low-level reduction of -0.25% of VMT, assuming that traffic calming

was present at approximately 25% of streets and about 25% of intersections on those streets have traffic calming measures. Based on an observation of the project list, it did not seem appropriate that this many traffic calming measures would be implemented, so the minimum reduction was factored by one-quarter for this analysis. The result is a -.063% reduction in VMT.

Bike Projects

Fehr & Peers used GIS data to calculate the percent increase in bicycle facilities as part of the RTP. The result is a 57% increase in the mileage of bicycle facilities (bike lanes and trails) since 2006 (year closest to 2005 when comparable bikeway mileage data was available). This increase was multiplied against the elasticity factor from the INDEX 4D¹⁶ method to yield a 2.2% reduction in VMT/GHG. Note that this 2.2% reduction results in a total VMT reduction for the county of about 91,000 miles.

Intelligent Transportation System/Transportation System Management

Fehr & Peers consulted Moving Cooler¹⁷ to estimate the VMT reducing benefits of ITS/TSM projects. Moving Cooler presents general VMT reductions resulting from some overall strategies. Therefore, it is difficult to be highly specific when applying Moving Cooler results, however, it is the most authoritative source on the topic. Based on a review of the RTP project list, the following ITS/TSM projects were assumed to be implemented at an “expanded current practice” level: incident management, signal control management, and traveler information. Many other ITS/TSM programs are also implemented within the County, but these have less substantial investments and were not considered for inclusion. Based on this assumption, Moving Cooler methodology estimates a VMT/GHG reduction of 0.125%.

Transportation Demand Management

The CAPCOA¹⁸ report was referenced to estimate the extent of benefit from TDM programs. The RTP project list identifies fairly extensive (but voluntary) TDM programs for workplaces and residences. Based on this and the range of VMT reductions assumed for TDM in the CAPCOA report, the following reductions were calculated:

- Commute-based reductions: 75% of workplace commuters have exposure to voluntary TDM; 35% of all VMT is commute-based; 5% reduction in VMT = -1.32% countywide VMT.
- Residence non-work-based reductions: 25% of residents have exposure to voluntary TDM; 35% of all VMT is home-based non-commute; 5% reduction in VMT = -0.44% countywide VMT.

This results in a total VMT reduction of 1.75%.

Transit

Ideally the VMT reducing effects of transit would be identified by the regional travel model but the current AMBAG model is not sensitive to the majority of transit projects. The project list identifies several major expansions to transit in Santa Cruz, including new commuter rail, BRT service, and enhanced freeway express bus service. In looking at other commuter rail and BRT services around the country, combined with Santa Cruz Metro’s existing daily ridership totals, it was assumed that these new services could bring 3,500 new daily boardings to the system. This compares to the current daily boarding total of about 19,000 for the Metro system. Since the new service is oriented toward faster and potentially more

frequent service, relatively long trips were assumed, averaging 9 miles in length. The 3,500 new boardings each at 9 miles in length would result in a VMT reduction of about 0.8%.

Work at Home

Fehr & Peers followed SACOG's lead in extrapolating an observed trend toward increasing work-at-home. In the SACOG area, the work at home percentage increased by about 1% between 2000 and 2010 (using US Census Bureau data). SCCRTC determined a similar increase for Santa Cruz over the same period, therefore the same reduction will be assumed for 2035 conditions as was determined by SACOG. The result was a 0.26% VMT/GHG reduction due to increasing work-at-home.

Summary Table

Figure D.13 summarizes the aggregate VMT/GHG postprocessing reduction for the 2014 RTP.

Santa Cruz County 2035 Total GHG Emissions

Based on the list of projects that have been prioritized in the 2014 RTP, it is estimated that by 2035 in Santa Cruz County per capita GHG emissions from passenger vehicles will be reduced by 17.9% relative to 2005. Given a projected population increase of 18.6% from 2005 to 2035, the total reductions in VMT and GHG emissions from passenger vehicles can also be assessed (**Figure D.15**). The decrease in per capita VMT and GHG is substantial enough in SCC that the total VMT and CO₂ will be slightly decreased in 2035 compared to 2005 when taking into account population growth.

There are three main ways to reduce GHG emissions; 1) reducing the number of vehicle miles traveled (VMT), 2) increasing the fuel economy of vehicles and 3) reducing the amount of carbon in fuel. Governor Schwarzenegger's executive order S-3-05 of 2005¹⁹ is to reduce GHG Emissions in 2050 to 80% below 1990 levels. Assuming a 10% reduction in the amount of carbon in fuel, what combinations of VMT reduction and fuel economy (mpg) are needed to reach this goal?

Figure D.16 shows the average per capita VMT with the scale on the left side and the average mpg for vehicles with the scale on the right side. The bars labeled 1990 provide an estimate of the average per capita VMT and fuel economy in 1990. **Figure D.16** shows that if the per capita number of miles traveled is reduced to 90% of 1990 numbers, an average fuel economy of passenger vehicles of about 100 mpg for automobiles on the road (C1) would be necessary to reach the 2050 goal. If the number of per capita VMT is reduced to 80% of 1990 levels, fuel economy would have to be about 90 mpg (C2). If per capita VMT is reduced to 70%, fuel economy would have to be about 80 mpg (C3). If per capita VMT is reduced to 60%, fuel economy would have to be about 70 mpg (C4) and if per capita VMT is reduced to 50%, fuel economy would have to be about 55 mpg (C5).

In 2012, President Obama set the average fuel economy standard for cars and light duty trucks to 54.5 mpg by 2025.²⁰ This is the average fuel economy standard for automobiles produced in 2025. Another 10 to 15 years will likely be required in order to get the average fuel economy of automobiles on the street to be 54.5 mpg. To reduce GHG by 80% by 2050 it will likely require a VMT reduction of 30-40% along with an average fuel economy of 70 to 80 mpg for automobiles on the road. The 2014 RTP with a reduction in per capita VMT of 17.9% by 2035 is on track but there are still improvements needed to get to a total GHG reduction of 80% relative to 1990 by 2050.

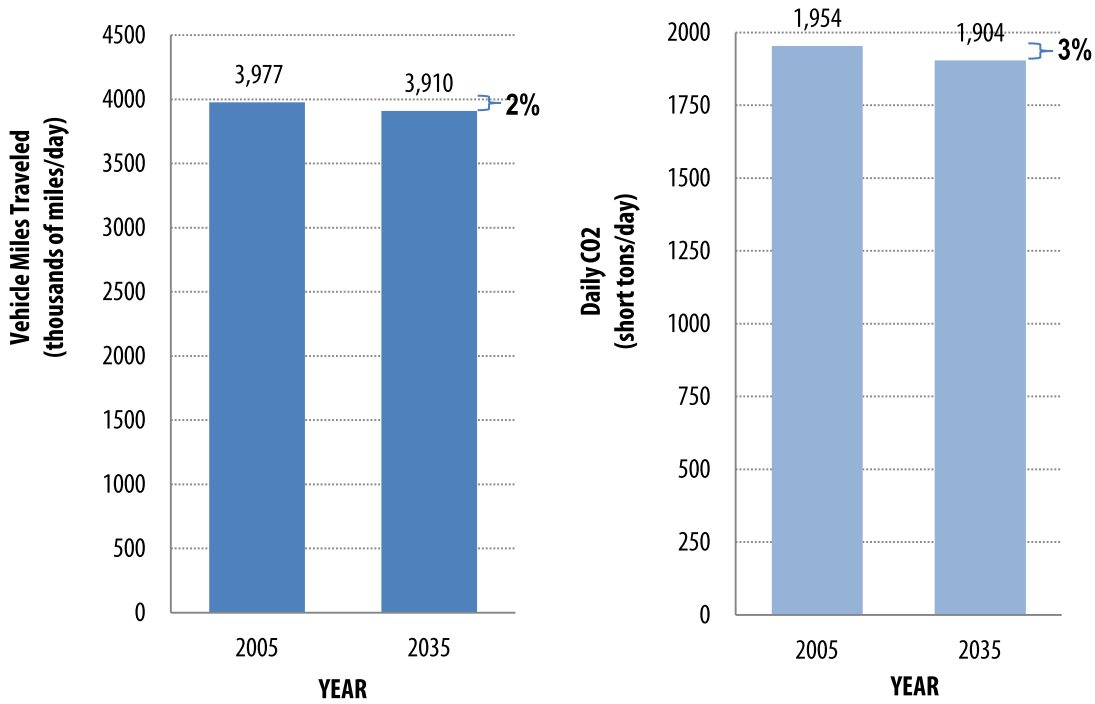


Figure D.15 – Total 2035 VMT and GHG emissions relative to 2005

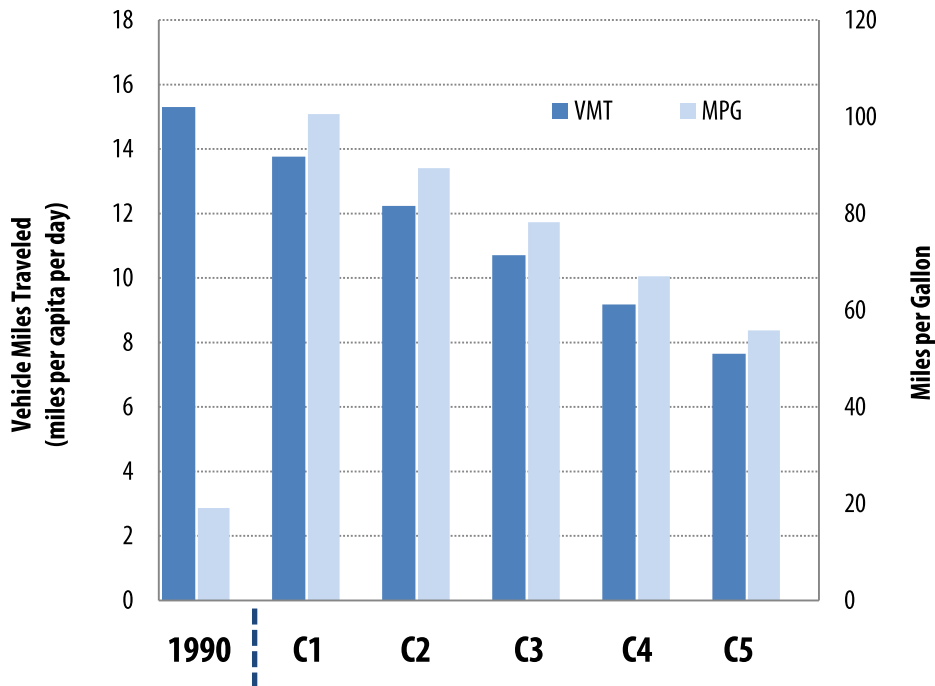


Figure D.16 – Per Capita Vehicle Miles Traveled Versus Fuel Economy (mpg) Necessary to Reduce GHG Emissions by 80% from 1990 levels by 2050

Note: Fuel Economy (mpg) equals the average fuel economy of cars and light duty trucks on roadways.

Source: Santa Cruz County Regional Transportation Commission

Target 1C. Re-invest in the local economy \$5 million/year²¹ by 2020 and \$10 million/year by 2035 from savings resulting from lower fuel consumption due to a reduction in vehicle miles traveled.

Target Development

Economic benefit is a key leg of the “Triple Bottom Line” sustainability stool. The STARS Economic Benefit analysis is based on the “Green Dividend” work of Impresa, Inc. economist Joe Cortright. The Green Dividend analysis, sponsored by CEO’s for Cities²², shows that when people reduce vehicle miles traveled (VMT), they reduce spending on fuel and vehicle use, which is then available to invest in the local economy.

The 2035 target to reinvest \$10 million per year in the local economy assumes at least a 5% per capita reduction in vehicle miles traveled (VMT). The calculations were based on the following assumptions:

- Economic benefits are in 2014 dollars
- 2035 population will be 308,582 based on AMBAG projections
- \$4 per gallon fuel cost
- 5 percent reduction in per capita VMT relative to 2005
- Fuel efficiency (miles per gallon) will be about 32 percent greater in 2035 based on state fuel economy standards (Pavley)
- 2035 business as usual per capita VMT is equivalent to 2005 per capita VMT (15.3 miles/workday/capita)

Comparing 2035 fuel consumption expenditures with a 5 percent reduction in per-capita VMT relative to 2035 business as usual VMT results in approximately \$11 million/year in household savings from a reduction in fuel use. Establishing an economic benefit target will help the RTC and local jurisdictions develop, analyze and prioritize projects that reduce fuel consumption and thereby retain money in the Santa Cruz County economy.

Forecasting Methodology

For the 2014 RTP, the economic benefit of reduced fuel consumption is quantified based on the estimated VMT per capita for 2035. VMT results are derived from the AMBAG Regional Travel Demand model adjusted by postprocessing to account for projects/programs that cannot be modeled or the model is not sensitive to. The postprocessing includes effects of bicycle, pedestrian, transportation demand management, transportation system management projects/programs as discussed under target 1B. In addition to the assumptions used in the target development, the economic benefit calculation takes into consideration the following assumptions:

- 73 % of the cost of fuel leaves the local economy (27% of cost of fuel stays in local economy, 73% leaves local economy and therefore 73 cents of every dollar not spent on fuel is available to invest locally)²³
- 62% of the amount available to invest locally is retained in the local economy based on buying from locally-owned businesses²⁴ (62 cents out of every dollar is retained in the local economy)
- Total increase that can be invested in local economy based on reduction in fuel consumption equals 35% * fuel consumption savings. [Note: 35% is determined from increase in the amount available to be reinvested in local economy compared to fuel, 35% = 62%-27%.]

Baseline

The economic benefit is relative to 2035 business-as-usual conditions, which in this case is assumed to have no reduction in per capita VMT compared to 2005 conditions. The baseline data is shown in **Figure D.17**.

Results

The 2014 RTP forecasts a reduction in per capita VMT of 17.9%. A reduction in VMT will cause a decrease in fuel consumption which translates into an average annual household savings of \$332 and an annual increase in money invested in the local economy of \$13 million/year for Santa Cruz County (**Figure D.17**). An economic benefit of \$13 million/year by 2035 meets and surpasses the economic benefit target of \$10 million/year.

Measure	2035 Business as Usual	2035 RTP Implementation
Average Weekday VMT (miles/capita/day)	15.3	12.7
Annual Countywide Fuel Consumption (gallons)	55,000,000	46,000,000
Annual Countywide Fuel Expenditures (\$)	\$220,300,000	\$182,500,000
Annual Countywide Savings (\$)		\$37,800,000
Annual Savings per Household (\$)		\$332
Annual Reinvestment Increase in Santa Cruz County Economy (\$)		\$13,200,000

Figure D.17 – Economic Benefit to Santa Cruz County based on reduction in VMT and Fuel Consumption

Target 1Di. Improve travel time reliability for vehicle trips.

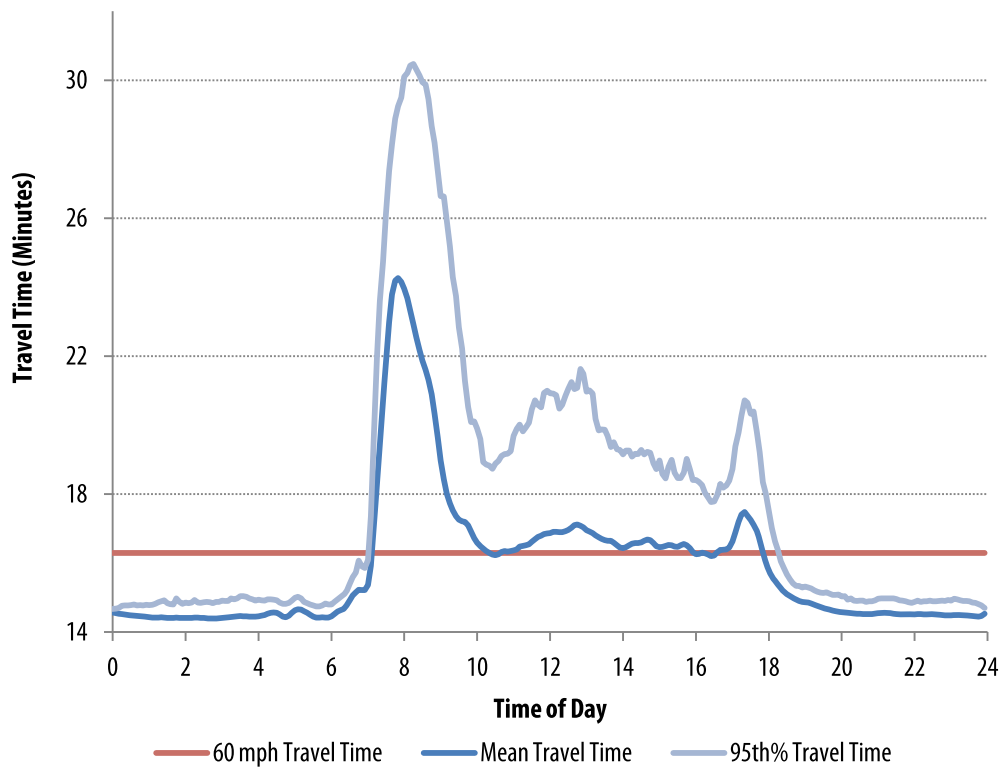
Target Development

Travel time reliability—a consistency or dependability in travel times, as measured from day to day—is universally desired and an important measure of transportation service quality. Travelers want to know that a trip will take a half-hour today, a half-hour tomorrow, and so on. Travel time reliability (TTR) matters since being late to work, an appointment, or for a delivery have substantial repercussions for both travelers and businesses. Literature from the Federal Highway Administration (FHWA) and many academic journals cite travel time *reliability* as a more important measure than *average* travel time between destinations because it is challenging for people to try to plan around the unpredictable nature of travel²⁵. A common goal of transportation agencies is to reduce travel time variability by striving to keep the time it takes to take a trip as close as possible to the average trip time. This target seeks to improve travel time reliability for vehicle trips relative to the baseline travel time reliability as discussed below.

Baseline

The baseline travel time data for Highway 1 travel between Watsonville (at Hwy 129) and Santa Cruz (at Ocean St) were measured from Caltrans Performance Monitoring System (PeMS) data.²⁶ Highway 1 travel time in the northbound direction for this segment was available at 5 minute intervals (**Figure D.18**). Highway 1 travel times in the southbound direction along this segment was only available at 1 hour intervals and thus the travel time reliability was adjusted based on PeMs Highway 1 northbound data averaged over a 15 minute interval. The travel time reliability measure is based on the 95% travel time which is defined as the time when 95% of the trips will be shorter than this time. Both the travel time and 95% travel time versus time of day are plotted for Highway 1 northbound from Watsonville to City of Santa Cruz in **Figure D.18**. Note that the greater the difference between the curves at the peak hour indicates a lesser degree of travel time reliability.

A travel time index (TTI) is a way to normalize congestion levels across facilities with different free-flow speeds. A travel time index is determined by taking average travel time divided by the free flow travel time. The free flow speed assumed here is the posted speed limit (65 mph for highways). Similarly, the 95% travel time index is the 95% travel time divided by the free flow time. Baseline AM and PM peak 15 minute average travel time indices and 95% travel time indices for Highway 1 are presented in **Figure D.19**.



*Caltrans PeMS vehicle detection data from Sept 1, 2012 through August 31, 2013 (non-holiday weekdays, 5 minute granularity).

Figure D.18 – Travel Time and Travel Time Reliability for Highway 1 Northbound from Watsonville (Hwy 129) to City of Santa Cruz (Ocean St)

Source: Santa Cruz County Regional Transportation Commission and Caltrans Performance Monitoring System (PeMS)

Baseline data for Highway 17 and countywide urban arterial average were not available through PeMs and thus were extracted from the 2010 AMBAG travel demand model results. The Highway 17 and countywide data was adjusted based on the Highway 1 PeMs data to alleviate differences between actual and modeled data. The results are presented in **Figure D.19**.

Facility	AM Peak 15 Minute Average				PM Peak 15 Minute Average			
	Avg Travel Time (min)	95% Travel Time (min)	Avg TTI	95% TTI	Avg Travel Time (min)	95% Travel Time (min)	Avg TTI	95% TTI
Highway 1 NB – Watsonville to Santa Cruz	24.2	29.2	1.48	1.79	17.4	20.5	1.07	1.26
Highway 1 SB – Santa Cruz to Watsonville	16.2	18.3	0.99	1.12	28.2	33.8	1.73	2.07
Highway 17 NB – Santa Cruz to County Line	23.3	32.2	1.28	1.77	19.1	26.9	1.05	1.48
Highway 17 SB – County Line to Santa Cruz	18.9	26.5	1.01	1.42	25.3	34.7	1.36	1.86
Urban Arterials	985.8	1,382.8	1.01	1.42	994.3	1,392.5	1.02	1.43

Figure D.19 – Baseline Travel Time Reliability Results

Source: Santa Cruz County Regional Transportation Commission, Sustainable Transportation Council, Fehr & Peers

Forecasting Methodology

There are few applications where travel time reliability is predicted for planning purposes. For the 2014 RTP analysis, travel time reliability was forecasted using data from the AMBAG regional travel demand model and adjusted based on the baseline travel demand model results relative to the baseline PeMS data. Travel time reliability is an indicator of the variation in travel times from one day to the next whereas the travel demand model only estimates average travel times over the course of one day. A methodology for forecasting travel time reliability based on correlations with average travel times will be used for this analysis as discussed below.

Data used from the AMBAG regional travel demand model to forecast travel time reliability are:

- Link travel time
- Link volume-to-capacity (v/c) ratio

Travel time reliability is calculated for the following facilities in Santa Cruz County:

- Arterial roads within the urban areas of the county based on their designation in the AMBAG model (**Figure D.20**).
- Highway 1 between SR 129 and Ocean St in City of Santa Cruz
- Highway 17 between Highway 1 and the County Line



Figure D.20 – The Study Area That Defines the Arterial Roads That Will Be Included in the Countywide Travel Time Reliability Calculation

Using the AMBAG travel demand model data from the AM and PM peak hour runs, the average peak hour travel times for each freeway and arterial segment in the study area (**Figure D.20**) were extracted and summed together to develop an average peak hour travel time for this urban area of the county. Total average travel times for Highway 1 and Highway 17 routes are developed by summing the VMT-weighted average travel times for each segment that makes up the route. Peak hour travel times were then adjusted using the baseline data from PeMs to peak 15 minute average travel times for both AM and PM.

With the AM and PM average peak 15 minute travel times known for the facilities of interest, travel time indices (TTI) are calculated using a free flow speed of 60 mph. Next, 95th percentile TTIs are estimated using an observed relationship between average 15 minute TTIs and 95th percentile TTIs based on the PEMS baseline data from Highway 1:

$$95^{\text{th}} \text{ percentile TTI} = 1.5 * \ln(\text{average TTI}) + 1.4$$

The form of this equation was based on national research conducted by R. Margiotta in a paper to the Transportation Research Board²⁷. The national dataset was not used since it estimated higher 95th percentile TTIs than were observed in Santa Cruz County. With the relationship between average travel times and 95th percentile travel times, as developed above, 95th percentile TTIs for 2035 can be forecast from travel times generated from the AMBAG travel demand model results for 2035. The travel time reliability measure using 95th percentile TTIs can thus be assessed. The travel time and travel time reliability values were adjusted to account for the additional reduction in VMT due to the postprocessing as discussed under target 1B.

Results

The travel time and travel time reliability results based on the 2014 RTP project list are summarized in **Figure D.21**. Travel times increase and travel time reliability decreases between 2010 (**Figure D.19**) and 2035 (**Figure D.21**), particularly for the freeway sections of Highway 1 and Highway 17. The travel time increases and travel time reliability decreases only marginally for the arterial streets within the urban portion of Santa Cruz County.

Travel times would be greater and travel time reliability would be less in the absence of the 2014 RTP projects. **Figure D.22** shows the travel time and travel time reliability results for the 2035 No Project scenario. As shown, Highway 1 average travel times are between 3-18% higher under the No Project Scenario compared to 2035 Project. Highway 17 travel times are 5-18% higher under the No Project Scenario compared to 2035 Project. Forecasts of travel time reliability for 2035 based on project implementation (**Figure D.21**) do not improve the travel time reliability relative to existing baseline conditions but does make improvements relative to a no project alternative (**Figure D.22**).

Facility	AM Peak 15 Minute Average				PM Peak 15 Minute Average			
	Avg Travel Time (min)	95% Travel Time (min)	Avg TTI	95% TTI	Avg Travel Time (min)	95% Travel Time (min)	Avg TTI	95% TTI
Highway 1 NB – Watsonville to Santa Cruz	24.9	33.2	1.53	2.04	20.6	28.6	1.26	1.75
Highway 1 SB – Santa Cruz to Watsonville	17.4	24.4	1.07	1.50	28.3	36.3	1.74	2.23
Highway 17 NB – Santa Cruz to County Line	25.0	34.1	1.37	1.87	19.7	27.7	1.08	1.52
Highway 17 SB – County Line to Santa Cruz	19.5	27.3	1.04	1.47	27.3	36.7	1.46	1.97
Urban Arterials	987.5	1,384.0	1.02	1.43	1,003.4	1,407.2	1.03	1.45

Figure D.21 – 2035 Travel Time Reliability Results

Source: Santa Cruz County Regional Transportation Commission, Sustainable Transportation Council, Fehr & Peers

Facility	AM Peak 15 Minute Average				PM Peak 15 Minute Average			
	Avg Travel Time (min)	95% Travel Time (min)	Avg TTI	95% TTI	Avg Travel Time (min)	95% Travel Time (min)	Avg TTI	95% TTI
Highway 1 NB – Watsonville to Santa Cruz	25.6	33.9	1.57	2.08	24.3	32.6	1.49	2.00
Highway 1 SB – Santa Cruz to Watsonville	20.5	28.4	1.26	1.74	29.7	37.5	1.82	2.30
Highway 17 NB – Santa Cruz to County Line	29.3	38.5	1.61	2.11	19.8	27.7	1.09	1.52
Highway 17 SB – County Line to Santa Cruz	19.5	27.4	1.05	1.47	34.5	43.3	1.85	2.32
Urban Arterials	994.3	1,393.8	1.02	1.43	1,011.2	1,418.3	1.04	1.46

Figure D.22 – 2035 No Project Travel Time Reliability Results

Source: Santa Cruz County Regional Transportation Commission, Sustainable Transportation Council, Fehr & Peers

Target 1Dii. Improve multimodal network quality (MMNQ) for walk and bicycle trips to and within key destinations.

Target Development

The level of use of bicycle and pedestrian facilities is highly dependent on the quality of the facility.²⁸ As outlined in the Monterey Bay Area Complete Streets Guidebook, not only the presence of sidewalks but wider sidewalks, landscape buffers, and streets with lower automobile speeds and volumes can lead to more people walking more often. Bicycle paths that are separated from automobile and truck traffic and bike greenways on low speed and low traffic volume roads will attract more people bicycling more frequently. Establishing a multimodal facility quality target underscores the importance of the quality of the bicycle and pedestrian network for promoting greater use of active transportation in order to reduce GHG emissions, reduce congestion, and improve health. This target is to improve the quality of the bicycle and pedestrian network relative to a 2012 base year.

Forecasting Methodology

Multimodal quality measures are an evolution of the traditional auto-focused Level of Service standards (LOS). LOS provides an assessment of the quality of transportation service a facility provides under different conditions. Multimodal LOS (MMLOS) can be used to evaluate the quality of pedestrian, bicycle or transit facilities but the focus in the 2014 RTP is on pedestrian and bicycle facilities, given that transit routing and service levels are dynamic.

MMLOS has been around for many years, however, only recently has it begun to be more widely discussed and applied. The most recent version of the *Highway Capacity Manual (HCM)* (Transportation Research Board, 2010) includes a MMLOS for pedestrian and bicycle facilities but this method is extremely data intensive and thus challenging for most jurisdictions to apply. It also is influenced heavily by speed, traffic volume and at times minimizes or negates the benefits in investments in active transportation infrastructure that provide a buffer from the higher speeds and volumes.

Fehr & Peers and the Sustainable Transportation Council (STC) developed an alternative methodology that takes some of the quantitative elements of the HCM methodology and simplifies it so it can be utilized more readily. This methodology is known as Multimodal Network Quality (MMNQ). As part of the 2014 Regional Transportation Plan, STC and Fehr & Peers assessed the MMNQ of the baseline and 2035 pedestrian and bicycle network in Watsonville based on the projects on the constrained list for the 2014 RTP. A MMNQ in Watsonville is being used as an indicator for how well the transportation investments through 2035 improve the quality of the pedestrian and bicycle network countywide. This analysis can be performed on additional locations throughout Santa Cruz County for an improved assessment of the quality of the active transportation network but the resources were not available for that level of analysis. The following are the steps used for development of the MMNQ performance measure for the 2014 RTP.

1. Define a complete network of streets/corridors for bicycle travel throughout the City of Watsonville and for pedestrian travel in Downtown Watsonville.
2. With a complete network of bicycle and pedestrian transportation facilities identified, determine appropriate design standards for given areas and given street typologies. For example, it may be

appropriate to define a sidewalk standard that is 9 feet wide with street trees in a downtown area. On low volume suburban residential streets, the standard may call for a sidewalk on only one side of the street. The Complete Streets Guidebook of Monterey Bay Area, as well as many jurisdictions, have identified citywide or subarea pedestrian and bicycle design standards.

3. Define a rating system with service score designations as green, yellow, and red. A green score is defined as a high quality route. A yellow score indicates acceptable conditions, while a red score would not be attractive to most potential users.
4. Apply the rating system to the prioritized, fiscally constrained RTP project list.
5. In addition to ratings for each segment of the bike or pedestrian network, composite MMNQ scores were calculated for pedestrian and bicycle modes within the entire study area. The composite scores are calculated by determining an average score for the network. Green segments receive a score of 2, yellow a score of 1, and red a score of 0. The total segment scores are indexed to 100, where a network that is entirely composed of green routes would score 100.
6. The MMNQ system is designed to be easy to monitor over time to track progress. Since it is often based on adopted design standards and modal plans, it is also simple to update and keep current.

Baseline and Results

Pedestrian Network Quality. Pedestrian network quality was determined for downtown Watsonville in the vicinity of Main St from Freedom Boulevard to Riverside Drive. The design standards and their associated scoring criteria were defined for both arterials/collectors and local roads (**Figure D.23**). Sidewalk presence or absence and sidewalk width was determined from data available from the City of Watsonville GIS department. The service score designations are shown as green (high), yellow (medium), and red (low). A green score is defined as a high quality pedestrian route. A yellow score indicates acceptable conditions, while a red score would not be attractive to many potential pedestrians. The entire street network in the downtown area was included as part of the pedestrian network as shown in **Figure D.24**. Both the baseline conditions (**Figure D.25**) and the 2035 Scenario (**Figure D.26**) were scored.

The 2012 baseline conditions show that sidewalks exist along both sides of the street on most roadways in downtown Watsonville (**Figure D.25**). Most of the local roads thus have a green score and many of the arterials with standard width sidewalks and no buffer have a yellow score. The baseline quality shows a composite score of 55 out of a maximum of 100 for the pedestrian network (**Figure D.27**). As pedestrian projects are implemented through 2035, the quality of the pedestrian network improves with the addition of the Monterey Bay Sanctuary Scenic Trail and Pajaro River Levee Trail as well as sidewalk improvements along a number of the roadways. The composite score is increased to 71 out of a maximum of 100. Pedestrian multimodal network quality is improved by 2035 and thus the target is met.




Network Score	Along Arterials and Collectors	Local Roads
	6' Sidewalk and 3' buffer or tree wells on both sides	Sidewalks on both sides
	Sidewalk on both sides, but narrow, no buffer, or missing curb ramps	Sidewalk on one side
	No Sidewalk on one or both sides	No Sidewalk

Figure D.23 – Pedestrian MMNQ Score

Source: Sustainable Transportation Council, Fehr & Peers



Figure D.24 – Pedestrian Network in Downtown Watsonville

Source: Sustainable Transportation Council, Fehr & Peers

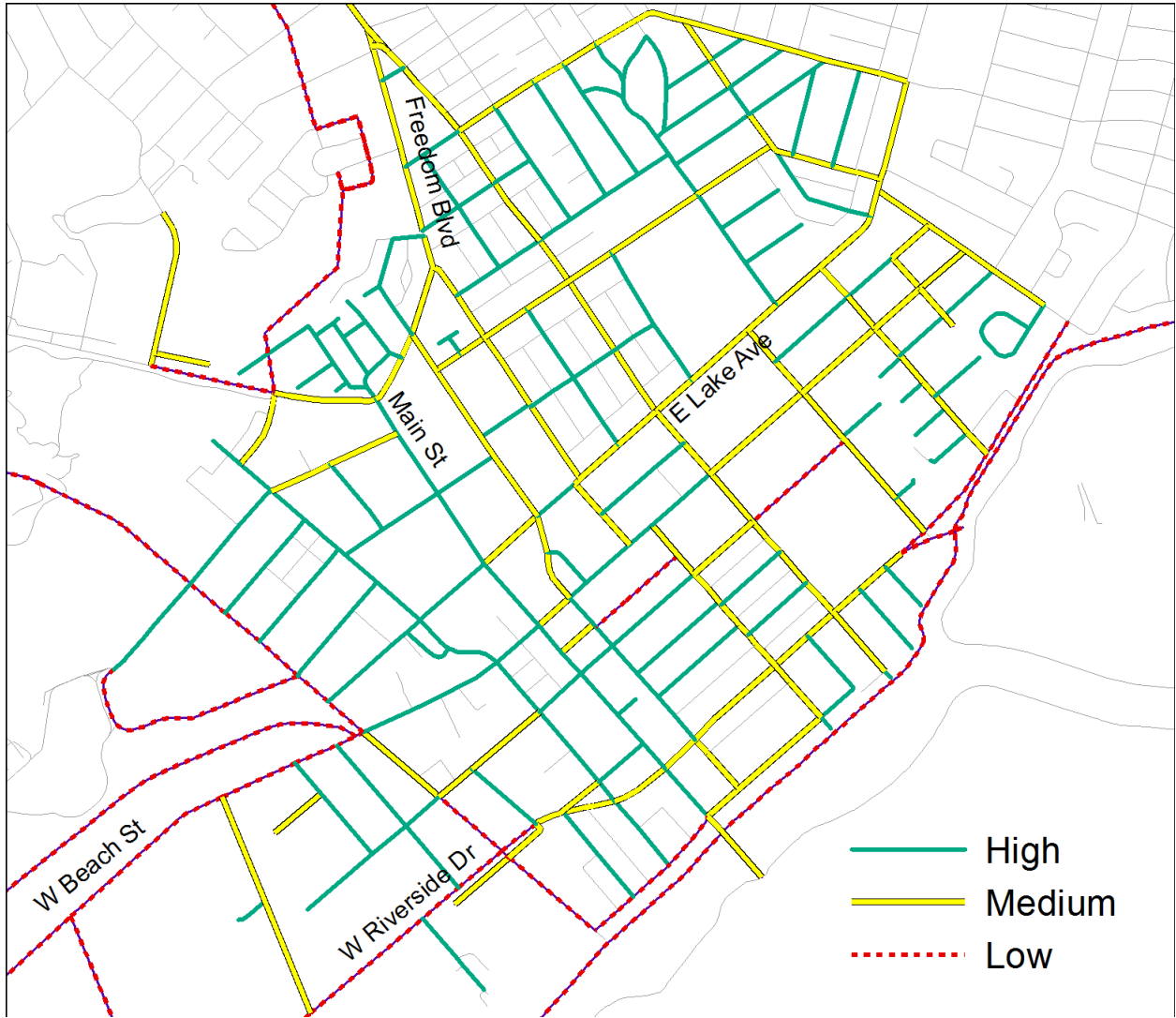


Figure D.25 – 2012 Baseline of Pedestrian Network in Downtown Watsonville with MMNQ Score

Source: Sustainable Transportation Council, Fehr & Peers

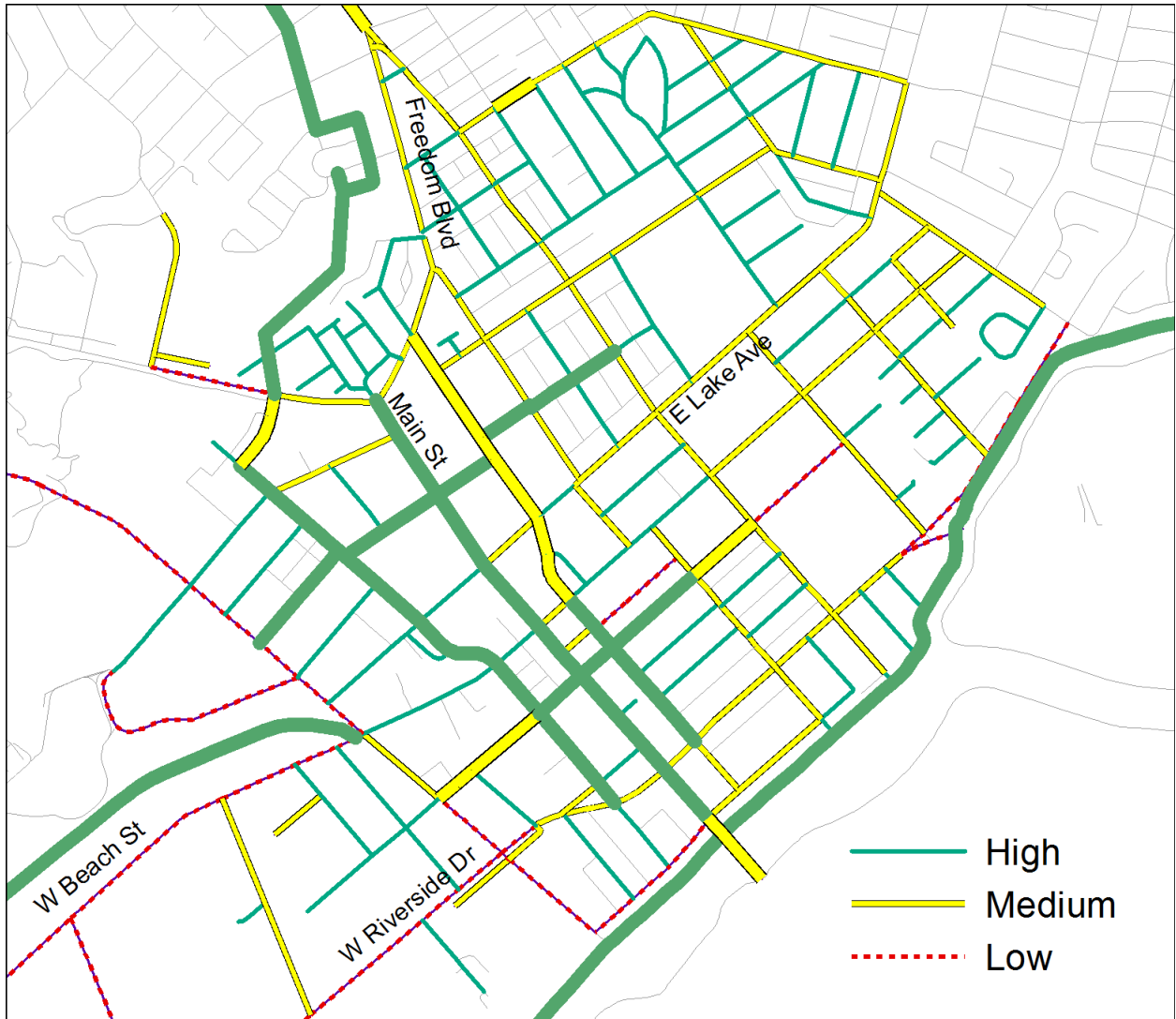


Figure D.26 – 2035 Pedestrian Network in Downtown Watsonville and the MMNQ Score*

Source: Sustainable Transportation Council, Fehr & Peers

*Wider lines designate location of projects that have been added to network through 2035.

Condition	Pedestrian Network	Bicycle Network
Max Possible Score	100	100
2012 Baseline System Score	55	26
2035 Score	71	39

Figure D.27 – Watsonville Composite MMNQ Score

Source: Sustainable Transportation Council, Fehr & Peers, 2013.

Bicycle Network Quality. The scoring system for the bicycle network varies based on the type of bicycle facility provided: bike route (routes are not striped and not necessarily signed), bike lane, or buffered/separated trail which may be shared with pedestrians. As shown in **Figure D.28** below, roadway classification and speed are intended to guide the determination of which bicycle facility type is most appropriate for a given roadway in Watsonville. The service score designations are shown as green (high), yellow (medium), and red (low). A green score is defined as a high quality bike route. A yellow score indicates acceptable conditions, while a red score would not be attractive to many potential bicyclists. Arterials with speeds greater than 30 mph can get a green rating if the bike facility is buffered from traffic. Unlike with the pedestrian MMNQ analysis, bicycle MMNQ analysis is not performed on every street. Only the streets identified as having a facility in the Watsonville Bicycle Master Plan or the 2014 RTP project list were included in this analysis, since some streets may not be appropriate for cycling (**Figure D.29**). Bicycle system MMNQ analysis was prepared for the 2012 baseline conditions (**Figure D.30**) and 2014 RTP prioritized projects through 2035 (**Figure D.31**).

The 2012 baseline conditions for bicycles show that there is a substantial amount of the defined network that has a score of red either due to a lack of bicycle lanes on collector or arterial roadways or traffic speeds greater than 40 mph. The baseline quality shows a composite score of 26 out of a maximum of 100 for the bicycle network (**Figure D.27**). As projects are implemented through 2035, the quality of the bicycle network improves through addition of the Monterey Bay Sanctuary Scenic Trail, Pajaro River Levee Trail and the Watsonville Slough trails, as well as a number of bicycle lane improvements along the roadways. Using this set of criteria, in order to have green scores along arterial routes where the speed limit is greater than or equal to 40 mph, some sort of buffer is needed to separate the bicycle facility from traffic. The composite score for 2035 is increased to 39 out of a maximum of 100. Bicycle multimodal network quality has been improved and thus the target has been met.

Roadway Classification	Bike Route	Bike Lanes	Buffered/Separated Trail
Local	≤ 25 mph	≤ 30 mph	Green
Collector	≤ 35 mph		
Minor Arterial	> 35 mph	≤ 40 mph	
Arterial		> 40 mph	

Figure D.28 – Bike Score: Bicycle MMNQ Score
 Source: Sustainable Transportation Council, Fehr & Peers

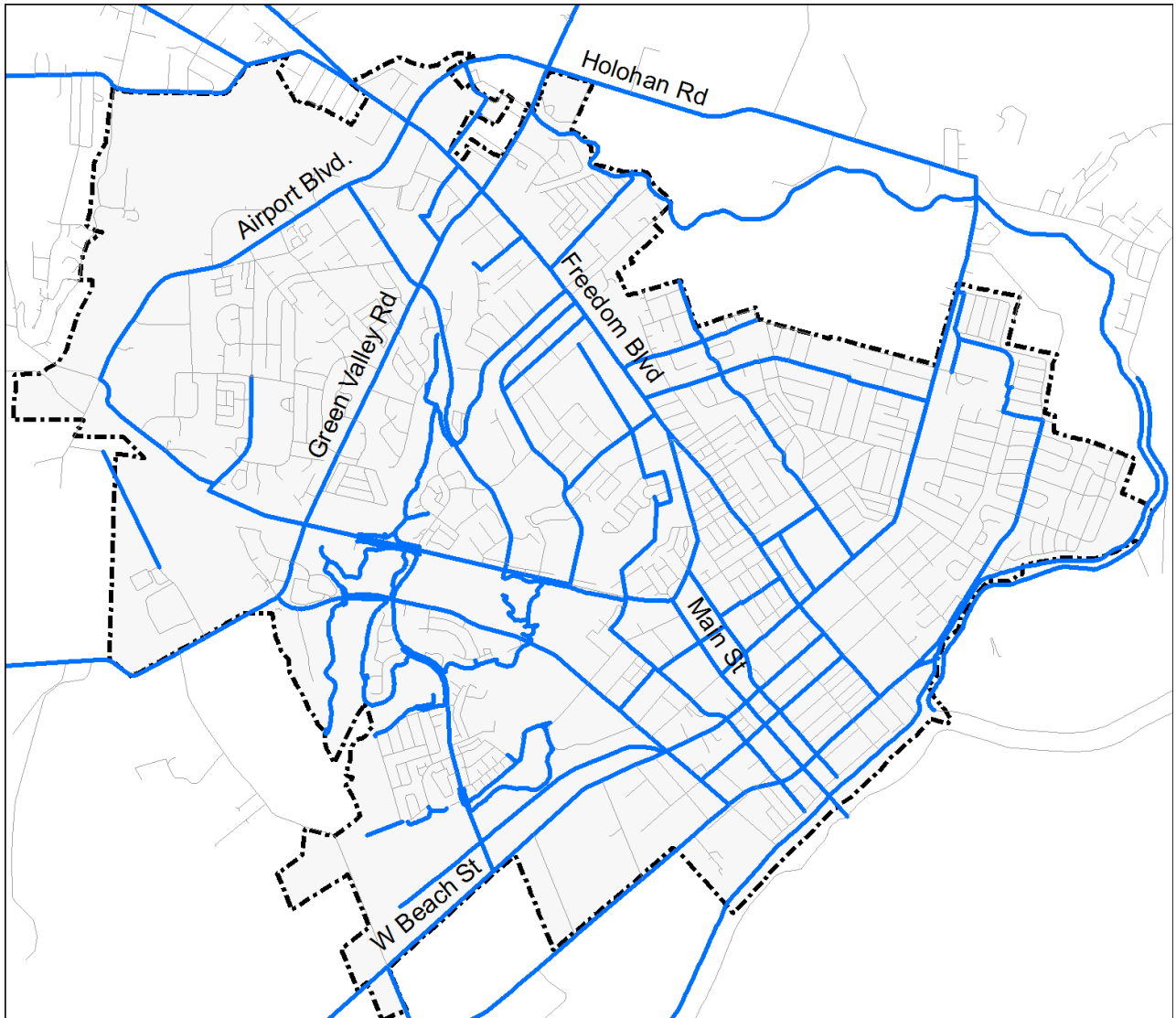


Figure D.29 – Bicycle Network Identified for City of Watsonville

Source: Sustainable Transportation Council, Fehr & Peers

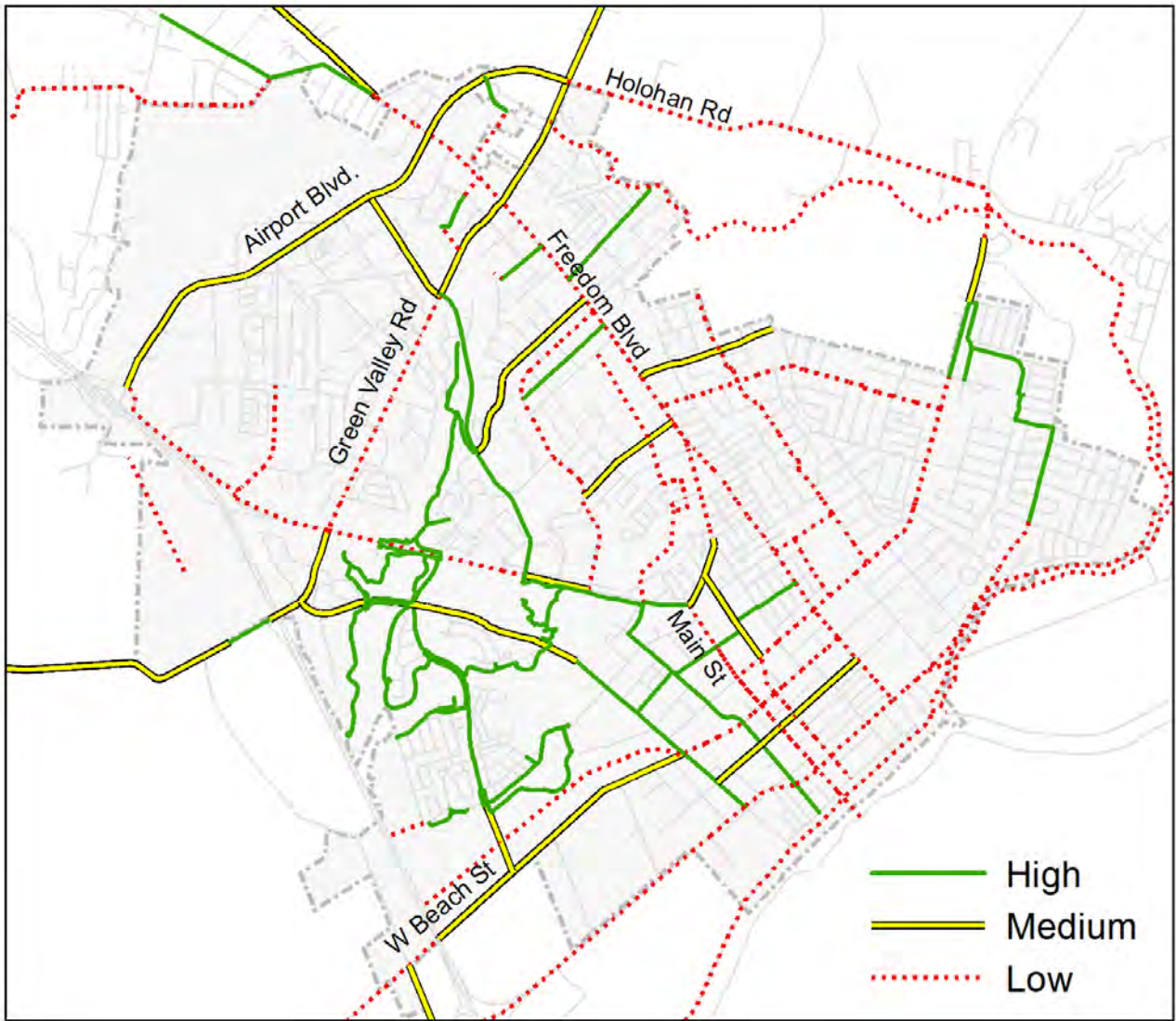


Figure D.30 – 2012 Baseline of Bicycle Network in City of Watsonville with MMNQ Score

Source: Sustainable Transportation Council, Fehr & Peers

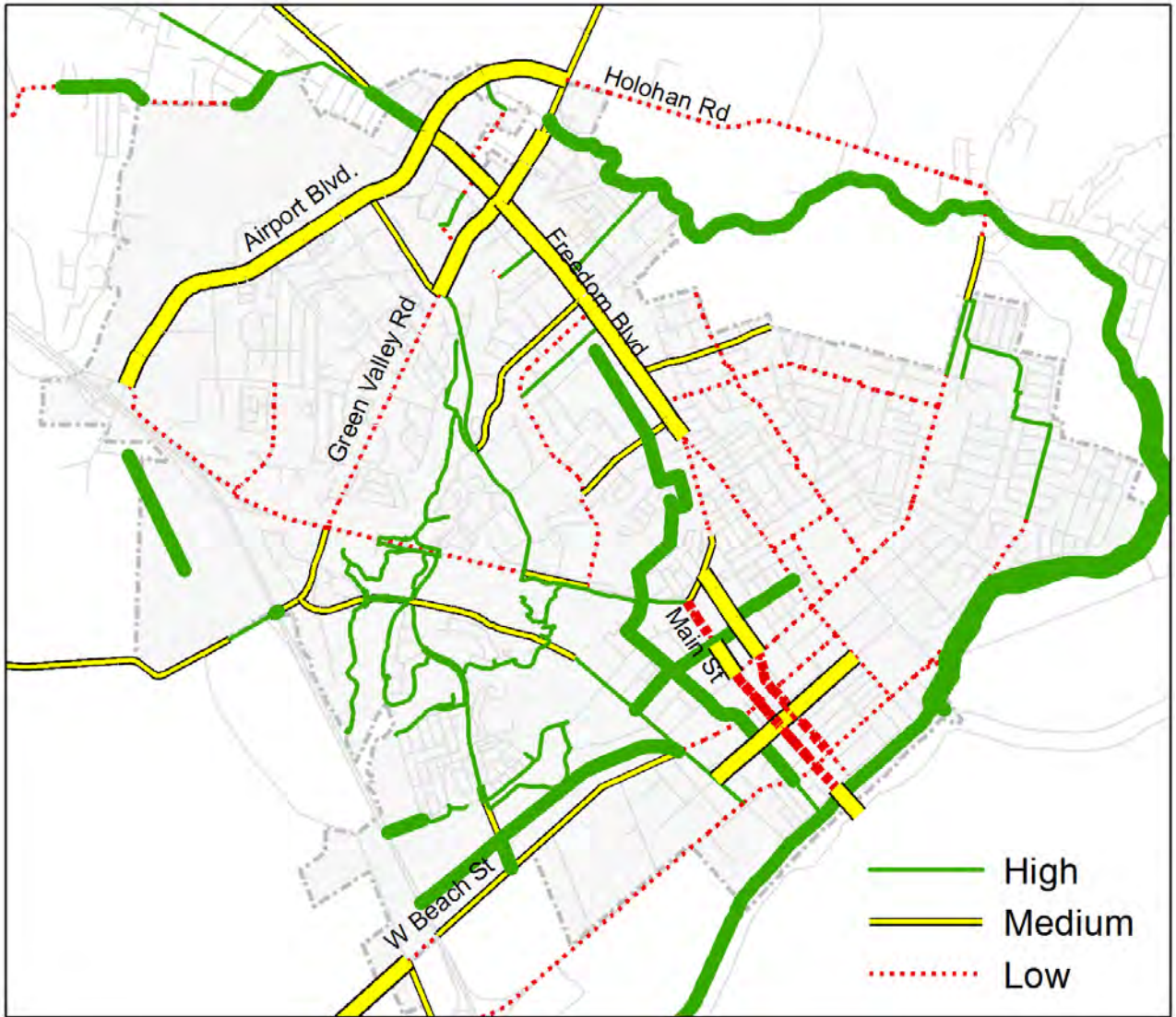


Figure D.31 – 2035 Scenario of Bicycle Network in City of Watsonville with MMNQ Score*

Source: Sustainable Transportation Council, Fehr & Peers

**Wider lines designate location of projects that have been added to network through 2035.*

Target 1E. Decrease single occupancy vehicle (SOV) VMT²⁹ mode share by 4 percent by 2020 and by 8 percent by 2035.³⁰

Target Development

Over the past decade, an increasing body of research links walking and bicycling to improved health, and high levels of driving to health problems.³¹ Replacing trips traditionally made in a vehicle with walking or bicycling can lead to regular physical activity which can result in lower rates of chronic disease including cancer, diabetes, stroke and heart disease. According to research by Dr. Lawrence Frank of the University of British Columbia, “every hour a person spends in a car each day makes them six per cent more likely to be obese, while each additional kilometer a person walks makes them five per cent less likely to be obese.”³² Measuring the reduction in the number of miles people drive alone provides an estimate of the shift to walking, biking and taking transit, and thus is a barometer of physical activity and health for Santa Cruz County residents.

In order to set a target for active transportation, an average shift of 1 mile/day from single occupant vehicle to biking/walking was chosen. Given the 15.3 VMT/capita/day for Santa Cruz County for 2005, it is reasonable to assume that 1 mile out of this 15.3 miles/capita/workday can be replaced with bike/pedestrian trips. Since the regional travel demand model can provide a more accurate percent reduction in single occupant vehicle (SOV) mode share rather than a percent increase in active transportation mode share, the target is written as a reduction in SOV. One mile shift to active transportation out of 15.3 miles/day is 6.5% reduction in VMT. Additional increases in transit and HOV mode shares were assumed as well, resulting in a total target reduction in SOV of 8%. An average one mile per person reduction in VMT/day through a shift from driving to a combination of biking, walking, and walking to transit will burn approximately 400 calories/person/week³³ which can cause a reduction in weight of approximately 5 pounds per year³⁴. Reducing single occupant vehicle (SOV) mode share not only has health benefits but also decreases climate pollution and fuel consumption, and retains money in the local economy.

Forecasting Methodology

The reduction in the single occupant vehicle mode share for 2035 based on the projects prioritized for this 2014 RTP was determined using the results of the AMBAG regional travel demand model (RTDM) for 2010 and 2035. The mode split data from the 2035 travel demand model are based on person trips rather than VMT. The RTDM results were adjusted based on the postprocessing adjustments to the VMT/GHG as discussed under target 1B as the reductions in VMT will affect the split between modes. Assumptions for the average length of trips for each mode were made in order to get a mode share based on vehicle miles traveled.

Baseline

The baseline for the percentage of single occupant vehicle mode share is also based on the results of the AMBAG regional travel demand model for 2010 model run. The model has been calibrated to the mode share determined from the 2011-2012 California Household Travel Survey data for the AMBAG region. The 2010 baseline SOV VMT mode share for Santa Cruz County is 58.6%.

Results

The results from the regional travel demand model and postprocessing show that based on the projects prioritized in the 2014 RTP, the mode share is 52.2% for 2035. This equates to a reduction of 6.4%, which narrowly misses the target of 8%. Despite missing the SOV mode share target, a significant increase in non-auto travel is achieved, which will help to create a community where active transportation is more the norm.

Target 2A. Reduce injury and fatal collisions by mode by 20% by 2020 and by 50% by 2035.

Target 2B. Reduce total number of high collision locations.

Target Development

The collision reduction target was based on similar targets that have been set in other regions of California as well as nationally. Based on the goals of the California Strategic Highway Safety Plan of 2006, the Metropolitan Transportation Commission for the San Francisco Bay Area set a target of 50% reduction in injuries and fatalities by 2040 for their 2013 Metropolitan Transportation Plan.³⁵ The FHWA's national highway safety objective "Towards Zero Deaths" and the American Association of State Highway and Transportation Officials (AASHTO) goal of halving fatalities in two decades are aggressive goals to improve transportation safety³⁶. The California Highway Patrol Statewide Integrated Traffic Records System (SWITRS) data indicates that there was a 13% decrease in injuries and fatalities from collisions in Santa Cruz County between 2002 and 2011. The target of 50% reduction in motor vehicle injuries and fatalities strives to continue this trend for motor vehicle safety into the future. The number of bicyclists and pedestrians that have been injured or killed in Santa Cruz County has not shown a reduction over the last decade (**Figure D.32**). The target of 50% reduction in injury and fatal collisions for bicyclists and pedestrians endeavors to considerably improve safety for the most vulnerable users of the transportation system.

In order to better assess collision levels, fatalities and injuries for all modes should be quantified relative to the number of miles traveled for that mode and look at patterns over multiple years. Typically, motor vehicle collisions are assessed through use of a Mileage Death Rate statistic which considers the number of collisions divided by the total vehicle miles of travel in a given area. Due to the lack of data on the number of miles traveled for bicyclists and pedestrians, this relative comparison is not possible. It is also important to evaluate the number of collisions over a number of years to better determine the trends in the data. As data and/or assessment methodologies become more available, this relative comparison may be possible in future RTPs.

Forecasting Methodology

Given that projects included in planning documents, such as the RTP, do not include specific design information for projects, it is not possible to estimate the reduction in injuries and fatalities due to improvements in the transportation network. Therefore, safety improvements based on the 2014 RTP implementation have not been forecast. Instead, RTC staff has identified projects with the potential to improve safety and advance the safety targets especially for bicyclists and pedestrians. Projects such as

separated bicycle and pedestrian paths, intersection improvements, safety educational and enforcement programs, and State Highway Operation and Protection Program (SHOPP) projects are included in the 2014 RTP. Monitoring the number of injury and fatal collisions over time for motor vehicles, pedestrians and bicyclists will provide the best assessment for how targets are being advanced. Safety performance monitoring allows the RTC, Caltrans, and other entities to prioritize projects based on injury and fatal collision statistics.

Baseline

A baseline for monitoring injury and fatal collisions in Santa Cruz County for motor vehicles, pedestrians and bicyclists was determined using the California Highway Patrol Statewide Integrated Traffic Records System (SWITRS) collision database. This SWITRS data can be downloaded from the Transportation Injury Mapping System (TIMS) website that is a component of the Safe Transportation Research Education Center (SafeTREC) at the University of California, Berkeley³⁷. This database is a comprehensive set of all reported transportation collisions throughout California. At the time of this writing, data from SWITRS is available through the year 2011. Injury and fatal collisions from the last 9 years can be found in **Figure D.32**. The baseline injury and fatal collisions for motor vehicles, pedestrian and bicyclists are taken from an average of 2009 through 2011 as shown in **Figure D.32**.

SANTA CRUZ COUNTY	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	AVERAGE 2009-2011
Ped Injury and Fatal Collisions	89	94	81	84	92	100	80	100	79	85	88
Ped Injuries	89	92	83	88	97	102	80	100	79	87	89
Ped Fatalities	6	7	2	5	3	4	3	4	3	2	3
Bicycle Injury and Fatal Collisions	150	171	160	151	152	145	191	180	145	169	165
Bicycle Injuries	147	169	159	149	152	149	189	177	149	171	166
Bicycle Fatalities	0	1	0	1	1	2	2	3	0	1	1
Motor Vehicle Injury and Fatal Collisions	1307	1387	1212	1218	1201	1231	1209	1210	1129	1139	1159
Motor Vehicle Injuries	1456	1563	1355	1320	1323	1336	1225	1239	1222	1153	1205
Motor Vehicle Fatalities	18	17	17	17	17	20	25	19	9	6	11

Figure D.32 – Santa Cruz County Collision Data

Source: California Highway Patrol Statewide Integrated Traffic Records System (SWITRS) via the Transportation Injury Mapping System (TIMS)³⁸

Results

Progress towards the target can be determined through monitoring the motor vehicle, bicycle and pedestrian injury and fatal collisions over time.

Target 3A. Increase the average local road pavement condition index to 57 by 2020 and 70 by 2035.

Target Development

Santa Cruz County continues to struggle to maintain its roadways. While some roads in the county are in good condition, the average Pavement Condition Index (PCI) for Santa Cruz County roads fell from a

rating of “At Risk” in 2008 to “Poor” in 2012; one of only seven counties in the state with a condition rating this low (**Figure D.33**).

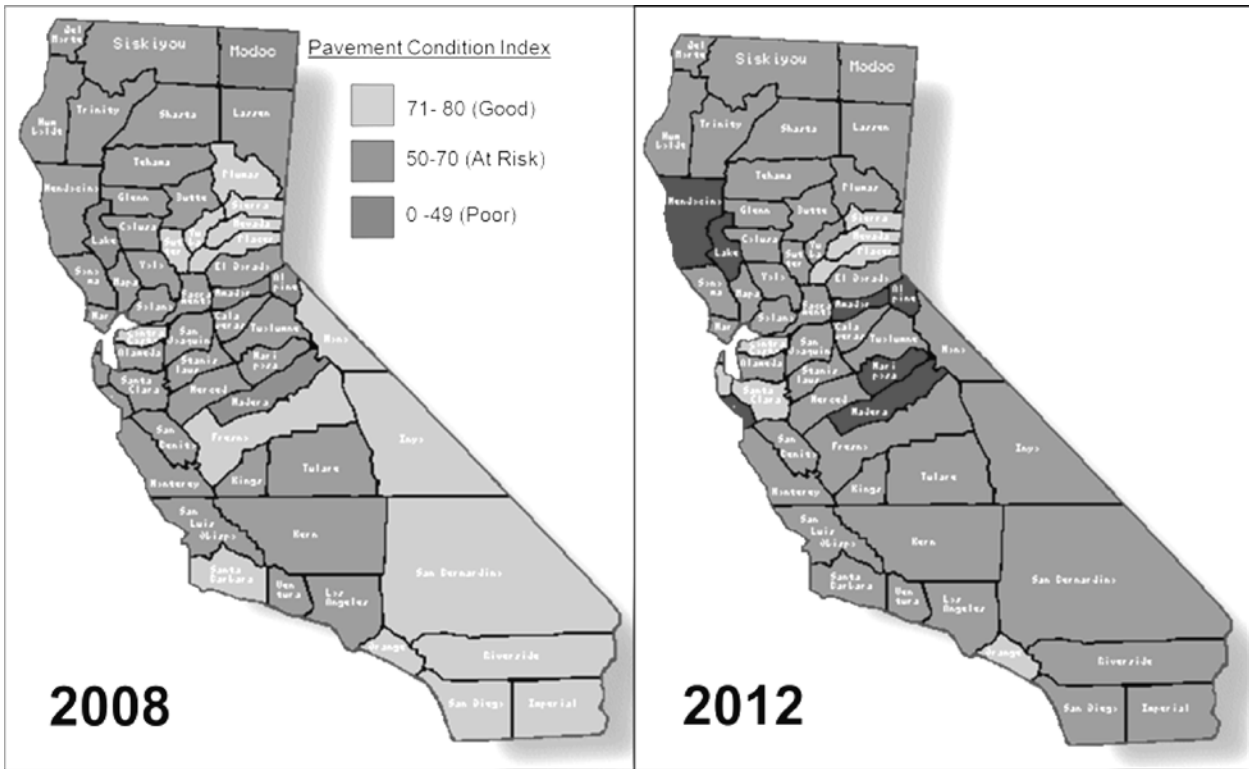


Figure D.33 – 2008 and 2012 Pavement Condition Index Estimates for Counties in California

Source: California Statewide Needs Assessment Project.³⁹

Local jurisdictions in Santa Cruz County have estimated the cost to immediately address the backlog of roadway repairs that are needed to bring the average condition of the county roadway system to a PCI of 70 would be over \$150 million. Achieving the pavement condition index target of 70 by 2035 will bring the rating up from “At Risk” to “Good”. Once the pavement condition can be brought up to a rating of 70, the cost to maintain roadways is substantially reduced. As shown in **Figure D.34**, it is significantly more cost-effective to seal roadways on a regular basis to prolong their life than to rebuild roads that are severely deteriorated. For instance, road rehabilitation costs are 6 to 10 times more expensive than ongoing preventative maintenance (\$800k-\$2.5M vs \$140K/mile over 20 year). Therefore, best practices are to maintain roadways at a PCI of 70-80, which will require the minimum amount of funds to maintain the system.

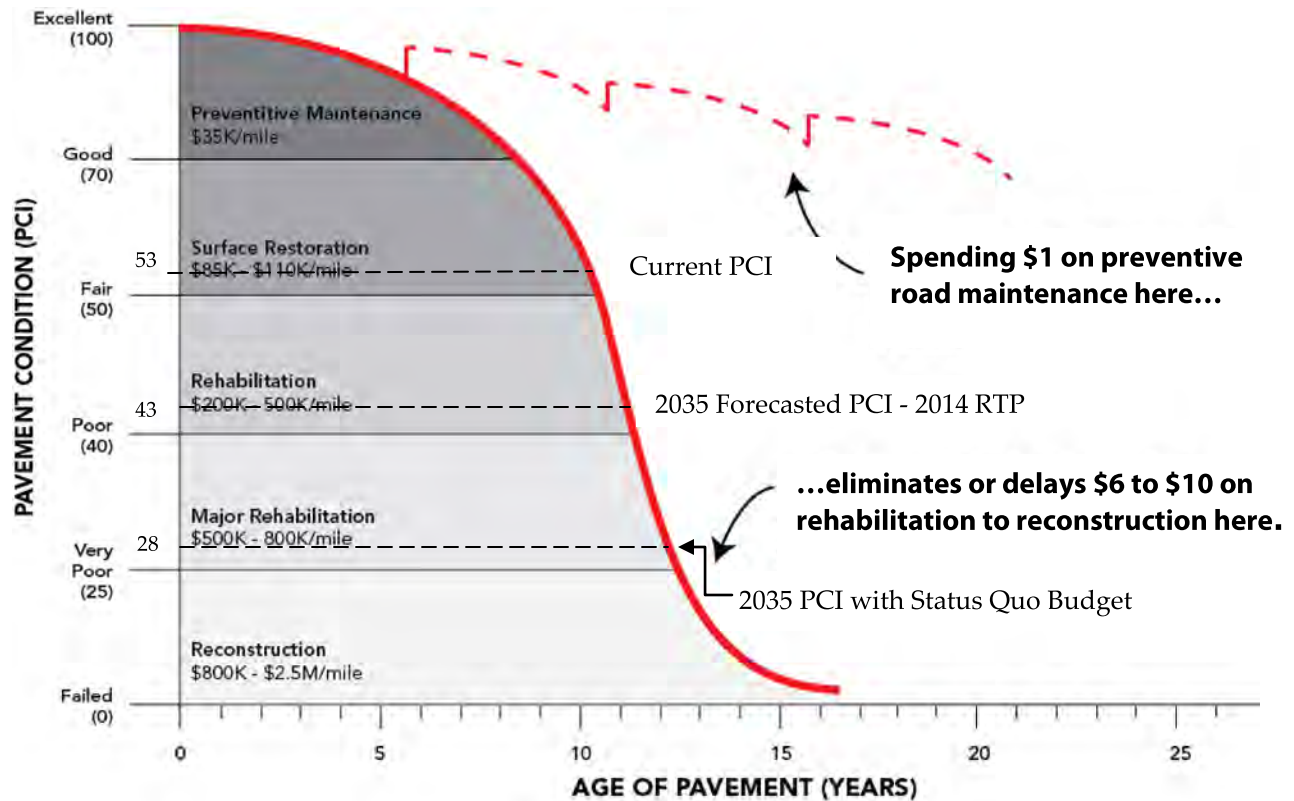


Figure D.34 – Pavement Deterioration Curve - Cost per Mile to Maintain Local Roads

Note: Cost estimates relate only to pavement, (the area from curb to curb).

Source: Metropolitan Transportation Commission, Federal Highway Association, International Slurry Surfacing Association

Forecasting Methodology, Baseline and Results

The pavement condition index for 2035 has been estimated based on how much funding is allocated for maintenance in the financially constrained RTP project list. Due to a one-time influx of funds from Proposition 1B and the federal recovery act, the 2013 Santa Cruz County baseline PCI improved to 53, up from the 2012 PCI rating of 49. The projected PCI for 2035 was calculated from the latest estimates from each of the jurisdictions and the roadway centerline miles (**Figure D.35**). Based on the “State of the Pavement Report” for the Unincorporated County for both 2013⁴⁰ and 2011,⁴¹ it was estimated that approximately \$23 million per year countywide (\$512 million through 2035) will be needed for pavement maintenance just to keep the PCI at the present level (PCI 53) (**Figure D.36**). The total operations and maintenance budget countywide to keep the PCI at the present level of 53 will require \$33 million per year (\$724 million through 2035). The amount of funds required to bring Santa Cruz County roads up to an average PCI of 70 is approximately \$770 million for 22 years just for pavement and total funds for all operations and maintenance is approximately \$980 million through 2035(**Figure D.36**). However, funding available countywide for local roadway operations and maintenance in the financially constrained RTP is \$23 million/year (\$515 million through 2035) of which approximately \$14 million/year (\$303 million through 2035) is available for pavement. Linearly interpolating the PCI at this level of funding provides an estimated PCI of 43 in 2035 (**Figure D.36**). Even with a significant share of the discretionary funding allocated for maintenance of local streets and roads (an increase of 10 million per year above typical

status quo budget) and assuming a sales tax and vehicle registration fee are approved by voters, the projected 2035 pavement condition index falls below existing conditions of 53 to a PCI of 43. If only the status quo amount of \$3.2 million/year is spent on pavement maintenance (\$12.8 million/year for all operations and maintenance) and additional funds are not designated to improving the pavement condition of local roads, the PCI is expected to drop to 28 by 2035 (Figure D.36).

The repercussions of deferred maintenance are alarming. Figure D.34 shows how maintenance costs increase exponentially as the PCI of a pavement deteriorates. Plotted on this graph are the PCIs that are predicted for 2035 based on funding levels. Maintenance costs will double or triple if the current PCI of 53 drops to the forecasted PCI of 43 based on the level of funding of this RTP. If funding for maintenance stays at the typical status quo level, maintenance costs will increase by six times the current amount. Clearly, Santa Cruz County must continue to look for additional funding to maintain our current transportation network beyond the funding sources identified in the Financial Element of this RTP.

Jurisdiction	Center Line Miles	Average PCI (2012-2013)	Annual Average Pavement Budget	Optimum Annual Pavement Budget
Capitola	25	68	\$75,000	\$600,000
City of Santa Cruz	140	51	\$2,400,000	\$5,500,000
Scotts Valley	36	53	Unavail.	Unavail.
Watsonville	90	35	\$700,000	\$1,500,000
Unincorporated County	599	55	\$0	\$12-14M/yr
Total Countywide	890	53	\$3,175,000	\$20M/year

Figure D.35 – 2012-2013 Pavement Condition Index for Jurisdictions in Santa Cruz County

Sources: Unincorporated County, Capitola, City of Santa Cruz, Scotts Valley, Watsonville

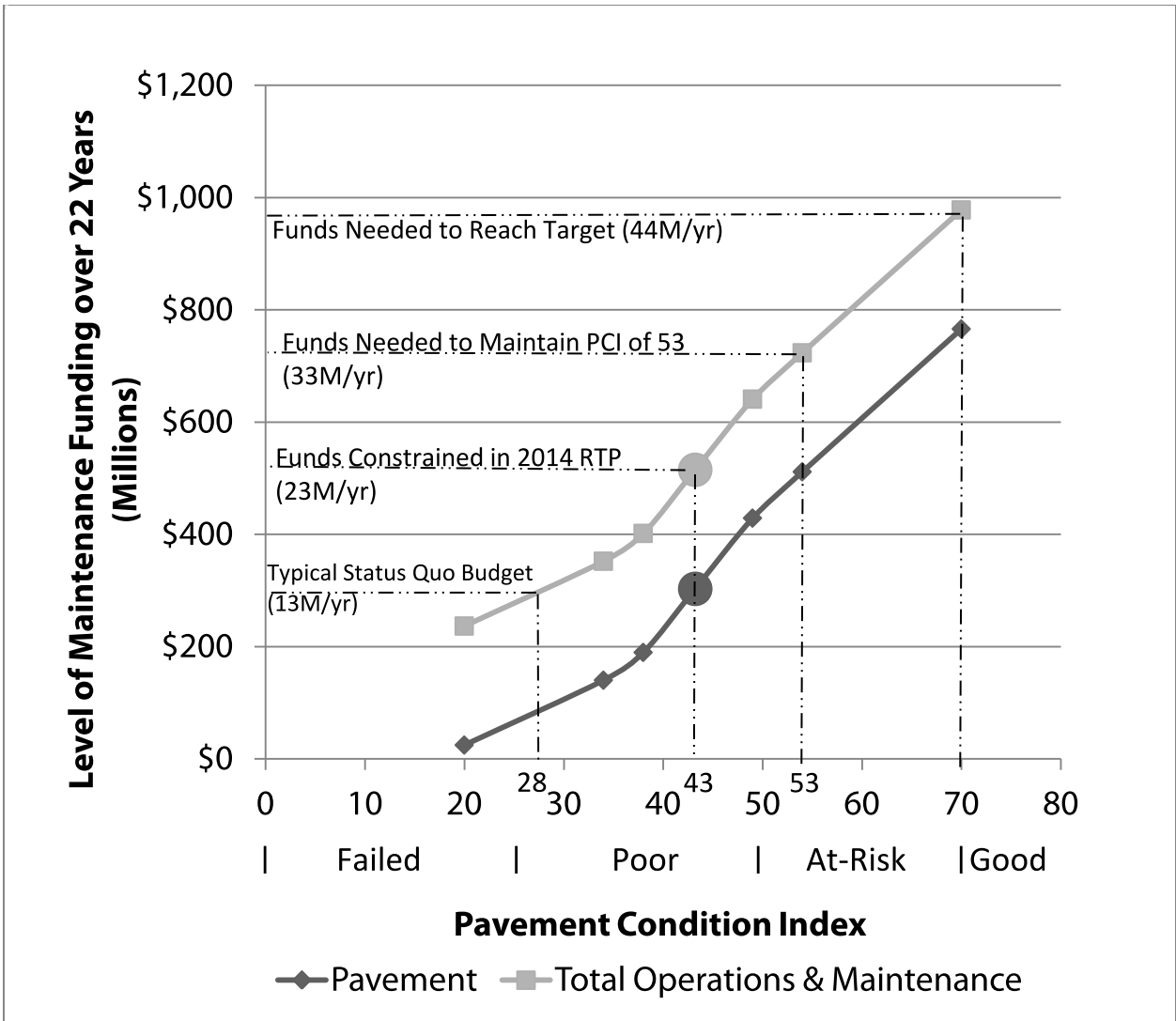


Figure D.36 – Pavement Condition Index Relative to Level of Local Street and Road Maintenance Funding through 2035

Estimated PCI of 42 for 2035 based on level of maintenance funding in RTP project list.

Target 3B. Reduce the number of transportation facilities in “distressed” condition by 3 percent by 2020 and 5 percent by 2035.

Target Development

“Distressed” facilities are defined as any roadway with a PCI of 49 or less (Poor (25 to 49) or Failed (0 to 24) rating). Local jurisdictions’ pavement management systems or programs prioritize funding for keeping roadways that are in good condition maintained and slowly bringing the roads that are distressed into good repair. A reduction of 3 percent by 2020 and 5 percent by 2035 of the miles of transportation facilities that are distressed will follow this strategy.

Forecasting Methodology

The number of “distressed” facilities will not be forecast for the 2035 project list as the project descriptions do not provide enough detail on how maintenance funds will be utilized. The public works departments of the local jurisdictions use a Pavement Management Strategy to best use limited funds for maintenance to balance out the facilities that are maintained at best practice levels with major road rehabilitation projects on “distressed” facilities. The number of “distressed” facilities can be monitored over time to assess how this target is being advanced based on updates to the pavement condition from the local jurisdictions. Similarly, the number of distressed transit facilities will be monitored over time to assess progress towards the target.



Baseline

The 2013 baseline of “distressed” (Poor or Failed rating) roadway facilities is 38% based on the 2013 State of the Pavement Update for the unincorporated county (37% of 599 centerline miles) and the City of Santa Cruz (44% of 135 centerline miles). The unincorporated county and the City of Santa Cruz accounts for approximately four-fifths of the centerline miles in the county and thus is a good approximation for the entire county.

The baseline of “distressed” transit facilities could include buses, transit centers, bus shelters etc. The 2013 baseline of “distressed” transit facilities is 28% based on the number of buses that need to be replaced (31 out of 109 that have exceeded their useful life of 12 years). The average cost for a new bus is \$469,000. Other transit facilities are also in distressed condition but they are more difficult to quantify.

Results

The number of “distressed” roadway facilities can be monitored over time based on updates on the pavement condition from the local jurisdictions, primarily the State of the Pavement Report update from the unincorporated county. The Metro also tracks the age of their buses which can be monitored regularly.

Target 3C. Reduce travel times and increase travel options for people who are transportation disadvantaged due to income, age, race, disability or limited English proficiency by increasing the percentage that are within a 30-minute walk, bike or transit trip to key destinations by 20% by 2020 and 40% by 2035.⁴²

Target Development

People experiencing poverty or language barriers, people of color, older adults, youth and people with disabilities (defined here as transportation disadvantaged) tend to experience a disproportionately small share of benefits from transportation investments, particularly because traditional transportation investment prioritize vehicles. These groups are overrepresented in households without access to a

vehicle. Other elements of the transportation system, such as lack of ADA compliance or safe street crossing also create extra barriers that may prevent these groups from experiencing the full benefit of transportation investments. This target strives to address these inequities by analyzing the population of transportation disadvantaged people that are able to access key destinations within 30 minutes by walk, bike or transit.

RTC identified key destinations throughout Santa Cruz County based on locations of employment centers⁴³ and commercial centers (determined from the local jurisdictions land use zoning maps in their general plans). These destinations are mapped in

Figure D.3 and listed under Target 1A. The transportation disadvantaged population that is within a 30 minute walk or bike from the central point of each key destination based on existing and proposed facilities is assessed to see how well this target is advanced given the projects prioritized in the 2014 RTP. Land use changes that locate more people near key destinations are another factor affecting the number of people who can access goods and services, but were not considered when developing this target because land use is outside the purview of the RTC.

The baseline transportation disadvantaged population and maximum possible population that are within a 30 minute distance via walk and bike from key destinations were determined as discussed below. The target for 2035 was set to close the gap between the 2010 baseline population and the maximum possible population by 40% by 2035 and an intermediate target of 20% by 2020.

Forecasting Methodology

The forecasting methodology for this target is the same as Target 1A. Please refer to that section for details. The only difference is that instead of total population, subgroups of population that may be transportation disadvantaged are analyzed at the transportation analysis zone (TAZ) level – the unit of geographic area that is used by the travel demand model. The subgroups are detailed below:

- Populations under the age of 18 and over 70, and
- Populations with household incomes less than \$15,000, and
- Minority populations

Baseline

The baselines for each of the key destinations are shown in **Figure D.37**. The transportation disadvantaged population within 30 minutes of each of the destinations is based on the population data from the 2010 census.

Transportation Disadvantaged Population within 30 minutes of Key Destinations						
Area	2010 Population within a 30-minute walk		2010 Population within a 30-minute bike ride		2010 Population within a 30-minute transit trip	
	Population	Proportion of County	Population	Proportion of County	Population	Proportion of County
Downtown Santa Cruz	12,716	8.0%	52,812	33.2%	46,624	29.3%
Scotts Valley	2,934	1.8%	8,353	5.3%	18,609	11.7%
UC Santa Cruz	812	0.5%	29,016	18.3%	30,135	19.0%
Soquel Dr (Soquel to Mattison)	2,479	1.6%	53,049	33.4%	47,890	30.1%
41st Ave near Hwy 1	7,042	4.4%	47,718	30.0%	44,151	27.8%
Capitola Village	4,229	2.7%	42,644	26.8%	37,459	23.6%
Cabrillo College	1,258	0.8%	30,423	19.1%	33,098	20.8%
Green Valley / Freedom	11,834	7.4%	52,983	33.3%	55,930	35.2%
Watsonville Hospital	7,517	4.7%	52,275	32.9%	40,459	25.4%
Downtown Watsonville	15,888	10.0%	51,830	32.6%	40,355	25.4%

Figure D.37 – Transportation Disadvantaged Population within 30 Minutes of Key Destinations – Baseline Conditions

Figure D.38 shows the aggregate population within 30 minutes of the key destinations.

Transportation Disadvantaged Population within 30 minutes of Key Destinations		
Travel Mode	Population within 30 minutes of any key destination	
	Population	Proportion of County
Walk	61,194	38.5%
Bike	125,170	78.7%
Transit	93,514	58.8%

Figure D.38 – Total Transportation Disadvantaged Population within 30 Minutes of any Key Destination – Baseline Conditions

Figure D.39 shows the maximum minority and transportation disadvantaged population within 30 minutes of any of the key destinations based on universal bicycle and pedestrian facility coverage.

Transportation Disadvantaged Population within 30 minutes of Key Destinations				
Area	Maximum 2010 Population within a 30-minute walk		Maximum 2010 Population within a 30 minute bike ride	
	Population	Proportion of County	Population	Proportion of County
DT Santa Cruz	15,296	9.6%	54,306	34.2%
Scotts Valley	5,331	3.4%	10,528	6.6%
UC Santa Cruz	3,040	1.9%	29,177	18.4%
Soquel Dr (Soquel to Mattison)	8,920	5.6%	54,597	34.3%
41st St near Hwy 1	12,411	7.8%	51,262	32.2%
Capitola Village	7,633	4.8%	47,849	30.1%
Cabrillo College	3,870	2.4%	32,853	20.7%
Green Valley / Freedom	17,896	11.3%	58,448	36.8%
Watsonville Hospital	9,852	6.2%	56,958	35.8%
Downtown Watsonville	22,330	14.0%	54,126	34.0%

Figure D.39 – Minority and Transportation Disadvantaged Population within 30 Minutes of Key Destinations – Maximum Possible

Figure D.40 shows the aggregate population within 30 minutes of the key destinations.

Transportation Disadvantaged Population within 30 minutes of Key Destinations		
Travel Mode	Maximum 2010 Population within 30 minutes of any key destination	
	Population	Proportion of County
Walk	88,053	55.4%
Bike	133,529	84.0%

Figure D.40 – Maximum Total Minority and Transportation Disadvantaged Population within 30 Minutes of any Key Destination

Results

Figure D.41 shows the results for 2035 assuming that the walk and bike projects that have been prioritized (constrained) in the 2014 RTP are implemented. This analysis does not account for any shifts in population distribution that may occur in the county through 2035. Given current focus on mixed use and higher density housing near key destinations, the percentage of the population that would live near key destination areas will likely increase. Thus the percentage of the population within a 30 minute walk or bike from key destinations would be even greater. Only an analysis on walk and bike access was performed since there was no information available about how future transit routes will be configured.

Transportation Disadvantaged Population within 30 minutes of Key Destinations				
Area	Population within a 30 minute walk		Population within a 30 minute bike ride	
	Population	Proportion of County	Population	Proportion of County
Downtown Santa Cruz	12,839	8.1%	53,038	33.4%
Scotts Valley	2,959	1.9%	8,868	5.6%
Watsonville Hospital	7,517	4.7%	53,039	33.4%
UC Santa Cruz	812	0.5%	29,179	18.4%
Soquel Dr (Soquel to Mattison)	3,556	2.2%	53,447	33.6%
41st Ave near Hwy 1	7,507	4.7%	49,557	31.2%
Capitola Village	4,880	3.1%	46,544	29.3%
Cabrillo College	1,281	0.8%	31,060	19.5%
Green Valley / Freedom	11,982	7.5%	53,380	33.6%
Downtown Watsonville	16,151	10.2%	51,871	32.6%

Figure D.41 – Transportation Disadvantaged Population within 30 Minutes of Key Destinations based on 2014 RTP Project List

Figure D.42 shows the aggregate population within 30 minutes of any of the ten key destinations.

Transportation Disadvantaged Population within 30 minutes of Key Destinations				
	2010 Baseline	2014 RTP Implementation	2035 Target	Maximum Population
Travel Mode	% of Population	% of Population	% of Population	% of Population
Walk	38.5%	39.6%	45.2%	55.4%
Bike	78.7%	79.0%	80.8%	84.0%

Figure D.42 – Total Transportation Disadvantaged Population within 30 Minutes of any Key Destination based on 2014 RTP Project List

Figure D.43 summarizes the findings.

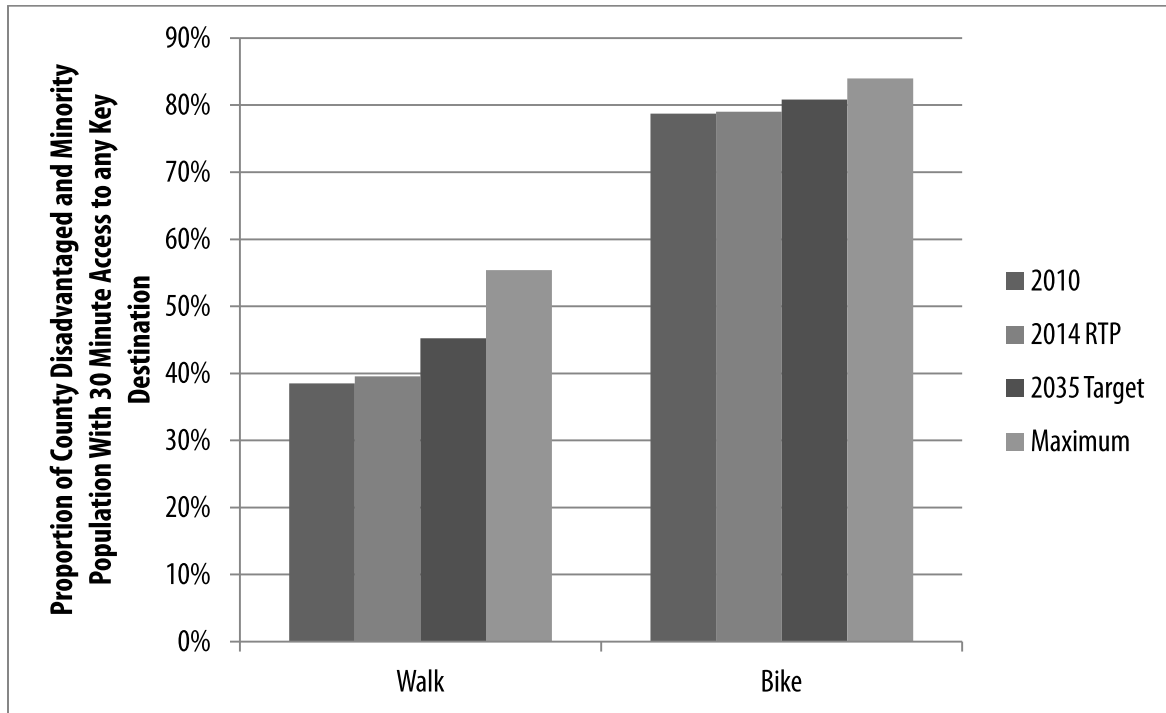


Figure D.43 – Walk and Bicycle Access Improvements near Key Destinations for Transportation Disadvantaged Population

The results show that despite investment in additional pedestrian and bicycle infrastructure, the proportion of the transportation disadvantaged population within 30 minutes of key destinations does not substantially increase (Figure D.43). The target for 2035 (Figure D.42) was set to close the gap between the 2010 baseline population and the maximum possible population by 40%. It was calculated by taking 40% of the difference between the baseline and the maximum possible population within the key

destinations and adding to the baseline (**Figure D.42**). Closing the gap by 40% is equivalent to increasing the percentage of the population within 30 minutes of key destinations by 2.1% for bike and 6.7% for walk by 2035. Progress is made towards the target but the 2035 target to close the gap by 40% between the 2010 baseline and the maximum population was not met. The gap between the 2010 baseline and the maximum population was closed by 6% for bike and 6% for walk compared to the 40% target.

This analysis shows that larger proportions of the transportation disadvantaged population relative to the total population live near key destinations and that large portions of the county currently have robust bicycle infrastructure that provides good connectivity near key destinations. By investing in active transportation projects with emphasis in key destination areas, transportation disadvantaged people will receive a greater benefit from these investments than the total population.

Target 3D. Ensure transportation services (and impacts) are equitably distributed to all segments of the population.

Target Development

A disproportionately small share of benefits from transportation investments that traditionally prioritize vehicles tend to be realized by disadvantaged populations such as: low income individuals, persons with language barriers, older adults, youth, people of color, and people living with disabilities. These groups are overrepresented in households without access to a vehicle. Other elements of the transportation system, such as lack of Americans with Disabilities Act (ADA) compliance or safe street crossings also create extra barriers that may prevent disadvantaged groups from experiencing the full benefit of transportation investments. Both federal and state laws require that regional transportation system improvements do not have a disproportionate adverse impact on low income or other under-represented groups, and that minority and low income populations receive equal benefits, on an equally timely basis, as other populations. The target is to ensure transportation services and impacts are equitably distributed.

Forecasting Methodology

A geographic analysis was performed by AMBAG to assess equity considerations of the 2014 MTP and 2014 RTP transportation projects and programs. Each regional transportation project was mapped in order to determine whether it is located within or adjacent to areas of low income and/or minority populations based on 2010 census data.

Results

The analysis showed that of all the funding allocated for regional projects within Santa Cruz County through 2035, 85% benefit low income populations, 82% benefit poverty populations and 80% benefit minority populations. Given the high level of regional projects and programs that benefit low income, poverty and minority populations, transportation services and impacts are equitably distributed to all segments of the population.

Target 3E. Maximize participation from diverse members of the public in RTC planning and project implementation activities.

Target Development

Inclusion of the wide spectrum of community interests in the development of the RTP is a key part of the process. The greater the level of involvement, the more likely the plan will serve the needs of the community and further advance the goals of the RTP. The Santa Cruz County Regional Transportation Commission makes use of various methods to provide interested parties with timely information and opportunities to participate in the planning process. The outreach strategies are designed and adapted to generate a robust and informed level of broad-based citizen involvement. The target is to maximize participation from the public.

Results

The RTC joined AMBAG, Monterey and San Benito Counties to develop a public participation plan for the region that identified opportunities for outreach. Components of the plan that have been implemented for developing the 2014 RTP include, but are not limited to:

- Workshops and solicitation of input at various junctures in the development of the RTP to provide information and gain feedback from public
- Maintenance of an email distribution list of community-based groups throughout the county, including neighborhood, health, senior, faith, environmental, low-income, and other social support groups
- Regular updates sent to the email distribution list that informs the public about the RTP process and solicits input
- Community surveys
- Work with citizen and advisory committees
- Information, including sections of the RTP as developed, posted on the RTC website
- Notifications about public hearings
- Bulletins to media partners
- Hard copies of documents available at local libraries
- Bilingual translation of materials, as appropriate

Participation by all in development of the 2014 RTP has been encouraged, consistent with the adopted Public Participation Plan, available online at www.ambag.org.

Notes for Appendix C

- ¹ The targets are relative to the 2010 maximum population within the key destinations and will close the gap between the baseline population and maximum population by 20% by 2020 and 40% by 2035.
- ² "Housing and Transportation Costs Outpacing Incomes," The Center for Neighborhood Technology, posted October 17, 2012, accessed January 2014, <http://www.cnt.org/2012/10/17/housing-and-transportation-costs-outpacing-incomes/>.
- ³ Joe Cortright, "Portland's Green Dividend," CEOs for Cities, Chicago, Illinois (2007), <http://blog.oregonlive.com/commuting/2009/09/pdxgreendividend.pdf>.
- ⁴ "Travel Time Reliability Measures," Operations Performance Measurement Program, U.S. Department of Transportation, Federal Highway Administration, accessed January 2014, http://ops.fhwa.dot.gov/perf_measurement/reliability_measures/index.htm.
- ⁵ "Intersection Safety," U.S. Department of Transportation, Federal Highway Administration, accessed January 2014, <http://safety.fhwa.dot.gov/intersection/>.
- ⁶ The targets are relative to the 2010 maximum population and will close the gap between the baseline population and maximum population by 20% by 2020 and 40% by 2035.
- ⁷ "OnTheMap," U.S. Census Bureau, Center for Economic Studies, accessed December 2013, <http://onthemap.ces.census.gov>.
- ⁸ Barth and Boriboonsomsin, "Traffic Congestion and Greenhouse Gases," *Access*, Number 35. University of California Transportation Center, Berkeley, CA (Fall 2009).
- ⁹ Barbara Lee, "Quantifying Greenhouse Gas Mitigation Measures," California Air Pollution Control Officers Association (August 2010), <http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf>.
- ¹⁰ Cambridge Systematics, Inc., "Moving Cooler: An Analysis of Transportation Strategies for Reducing Greenhouse Gas Emissions," Urban Land Institute, Washington, D.C. (2009).
- ¹¹ Criterion Planners/Engineers and Fehr & Peers Associates, "Index 4D Method: A Quick-Response Method of Estimating Travel Impacts from Land-Use Changes," Technical Memorandum, prepared for the U.S. Environmental Protection Agency, Washington D.C. (October 2001).
- ¹² "Metropolitan Transportation Plan Sustainable Communities Strategy 2035," Sacramento Area Council of Governments, accessed January 2014, <http://www.sacog.org/2035/mtpscs/>.
- ¹³ See note 11 above.
- ¹⁴ See note 9 above.
- ¹⁵ See note 10 above.
- ¹⁶ See note 11 above.
- ¹⁷ See note 10 above.
- ¹⁸ See note 9 above.
- ¹⁹ *California Executive Order S-3-05*, Governor Arnold Schwarzenegger, State of California, June 2005, <http://gov.ca.gov/news.php?id=1861>.

- ²⁰ “Obama Administration Finalizes Historic 54.5 MPG Fuel Efficiency Standards,” Office of the United States Press Secretary, The White House (August 28, 2012), <http://www.whitehouse.gov/the-press-office/2012/08/28/obama-administration-finalizes-historic-545-mpg-fuel-efficiency-standard>.
- ²¹ 2014 dollars.
- ²² Joe Cortright, “The Green Dividend,” CEO for Cities, accessed December 2013, <http://www.ceosforcities.org/city-dividends/green/>.
- ²³ See note 22 above.
- ²⁴ Civic Economics, “Buy Local First, Indie Impact Study Series 2013: A National Comparative Study, Utah, Salt Lake City, Ogden and Wayne County,” accessed January 2014, <http://www.localfirst.org/component/k2/item/217>.
- ²⁵ “Travel Time Reliability Measures,” U.S. Department of Transportation, Federal Highway Administration, Operations Performance Measurement Program, accessed December 2013, http://www.ops.fhwa.dot.gov/perf_measurement/reliability_measures.
- ²⁶ “Caltrans Performance Measurement System (PeMS),” California Department of Transportation, accessed January 2014, <http://pems.dot.ca.gov/>.
- ²⁷ Cambridge Systems, Inc., “Analytical Procedures for Determining the Impacts of Reliability Mitigation Strategies,” Transportation Research Board, Washington D.C. (2013), <http://www.trb.org/Main/Blurbs/166935.aspx>.
- ²⁸ “National Cooperative Highway Research Program, Report 616: Multimodal Level of Service Analysis for Urban Streets,” Transportation Research Board of the National Academies (2008), <http://prj.kittelson.com/hcm/v4/docs/NCHRP%20Report%20616.pdf>.
- ²⁹ Vehicle Miles Traveled.
- ³⁰ Mode share in this context is based on VMT, not trips. A 4 percent decrease in single occupancy vehicle mode share includes increasing bicycle trip mode share to 6 percent and pedestrian mode share to 8 percent by 2020. An 8 percent decrease in single occupancy vehicle mode share includes increasing bicycle trip mode share to 10 percent and pedestrian trip mode share to 14 percent by 2035.
- ³¹ Barbara McCann, “Driving, Walking, and Where You Live: Links to Obesity – A report on new research being published in the *American Journal of Preventive Medicine*, ‘Obesity Relationships with Community Design, Physical Activity, and Time Spent in Cars,’” McCann Consulting, accessed December 2013, http://www.ahtd.info/yahoo_site_admin/assets/docs/JournalofPreventiveMedicine_linkbetweendrivingobesity.14484631.pdf.
- ³² “Transit Investments Lead to Healthier People,” Media Release, The University of British Columbia (2013), <http://news.ubc.ca/2013/07/04/transit-investments-lead-to-healthier-people>.
- ³³ “Free Walking Calorie Calculator Tool,” Everyday Health Media, LLC, accessed January 2014, <http://www.everydayhealth.com/Calories-Burned-Walking.htm>.
- ³⁴ Mayo Clinic Staff, “Counting calories: Get back to weight-loss basics,” Mayo Clinic (June 2012), accessed January 2014, <http://www.mayoclinic.com/health/calories/WT00011>.
- ³⁵ “California Strategic Highway Safety Plan, Version 2,” California Business, Transportation, and Housing Agency (2006), http://www.dot.ca.gov/hq/traffops/survey/SHSP/SHSP-Booklet-version2_%20PRINT.pdf.

- ³⁶ "Strategic Highway Safety Plan," American Association of State Highway and Transportation Officials (2005), <http://safety.transportation.org/plan.aspx>.
- ³⁷ "TIMS – Transportation Injury Mapping System," SafeTREC, Safe Transportation Research & Education Center, University of California, Berkeley, accessed December 2013, <http://tims.berkeley.edu>.
- ³⁸ See note 37 above.
- ³⁹ "Reports," Save California Streets, accessed December 2013, <http://www.savecaliforniastreet.org/reports.html>.
- ⁴⁰ Nichols Consulting Engineers, "State of the Pavements, 2013 Update," Santa Cruz County Public Works (2013).
- ⁴¹ Nichols Consulting Engineers, "State of the Pavements, 2011 Update," Santa Cruz County Public Works (2011).
- ⁴² The targets are relative to the 2010 maximum population within the key destinations and will close the gap between the baseline population and maximum population by 20% by 2020 and 40% by 2035.
- ⁴³ "OnTheMap," U.S. Census Bureau, Center for Economic Studies, accessed December 2013, <http://onthemap.ces.census.gov>.

This page intentionally left blank

Appendix E

Funding Projections 2018-2040

This page intentionally left blank

2040 RTP FINANCIAL ELEMENT: Funding projections through 2040

(all figures in \$000's)

REVENUE SOURCES/PROGRAMS	Funding Type/ Eligible Uses	Base Year	2018-2020 Not Esclated	2021-2035 Not Esclated	2036-2040 Not Esclated	22 Year Total Not Escalated	22 Year Escalated*
City Sales Taxes Used on Transportation	Local Streets-Roads	\$ 2,650	\$ 5,300	\$ 39,750	\$ 13,250	\$ 58,300	\$ 70,373
City/County Developer Fees	Local Streets-Roads	\$ 1,295	\$ 2,590	\$ 19,425	\$ 6,475	\$ 28,490	\$ 34,390
City/County General Funds for Transportation Projects	Local Streets-Roads	\$ 10,075	\$ 20,150	\$ 151,125	\$ 50,375	\$ 221,650	\$ 267,551
Non-Profit, Member Fees, Private Donations	Flexible	\$ 770	\$ 1,540	\$ 11,550	\$ 3,850	\$ 16,940	\$ 20,448
LiftLine Specialized Transportation - Non-TDA revenue	Transit	\$ 730	\$ 1,460	\$ 10,950	\$ 3,650	\$ 16,060	\$ 19,386
Airport Revenues	Airport	\$ 2,820	\$ 5,640	\$ 42,300	\$ 14,100	\$ 62,040	\$ 74,888
MTC Contribution to Hwy 17 Safety Project	Hwy- Safe on 17 CHP	\$ 50	\$ 100	\$ 750	\$ 250	\$ 1,100	\$ 1,328
Rail Line Lease Revenue	Rail Corridor	\$ 90	\$ 180	\$ 1,350	\$ 450	\$ 1,980	\$ 2,390
Regional Vehicle Registration Fee (VRF)	Local Streets-Roads	\$ 2,000	\$ -	\$ 21,000	\$ 10,000	\$ 31,000	\$ 34,969
Transit Fares	Transit	\$ 10,300	\$ 20,600	\$ 154,500	\$ 51,500	\$ 226,600	\$ 273,526
Transit non-fare revenue	Transit	\$ 500	\$ 1,000	\$ 7,500	\$ 2,500	\$ 11,000	\$ 13,278
Transit Fuel Tax Credit	Transit	\$ 550	\$ 1,100	\$ 8,250	\$ 2,750	\$ 12,100	\$ 14,606
Transit Sales Tax	Transit	\$ 20,000	\$ 40,000	\$ 300,000	\$ 100,000	\$ 440,000	\$ 531,119
Transportation Development Act/LTF	Transit	\$ 9,060	\$ 18,120	\$ 135,900	\$ 45,300	\$ 199,320	\$ 240,597
UCSC Revenues & Fees	UCSC	\$ 7,550	\$ 15,100	\$ 113,250	\$ 37,750	\$ 166,100	\$ 200,497
Measure D: 2016 Transportation Sales Tax	Measure D	\$ 20,000	\$ 40,000	\$ 300,000	\$ 100,000	\$ 440,000	\$ 531,119
AB2766	Flexible	\$ 200	\$ 400	\$ 3,000	\$ 1,000	\$ 4,400	\$ 5,311
Airport Improvement Program match	Airport	\$ 7	\$ 14	\$ 105	\$ 35	\$ 154	\$ 189
California Aid to Airports Program	Airport	\$ 10	\$ 20	\$ 150	\$ 50	\$ 220	\$ 270
Freeway Service Patrol (approx. 33% from SB1)	Highway -FSP	\$ 250	\$ 500	\$ 3,750	\$ 1,250	\$ 5,500	\$ 6,639
Service Authority for Freeways and Expressways (SAFE)	Highway	\$ 250	\$ 500	\$ 3,750	\$ 1,250	\$ 5,500	\$ 6,639
State Highway Operations and Protection Program (SHOPP)	Highway - SHOPP	\$ 20,720	\$ 41,440	\$ 310,800	\$ 103,600	\$ 455,840	\$ 550,239
SB 1 RMRA SHOPP	Highway - SHOPP	\$ 10,620	\$ 21,240	\$ 159,300	\$ 53,100	\$ 233,640	\$ 282,024
State Gas Tax to Locals (Highway User Tax)	Local Streets-Roads	\$ 10,350	\$ 20,700	\$ 155,250	\$ 51,750	\$ 227,700	\$ 227,700
SB1 RMRA Local Gas Tax	Local Streets-Roads	\$ 6,715	\$ 13,430	\$ 100,725	\$ 33,575	\$ 147,730	\$ 147,730
SB 1 CA General Fund Loan Repayment	Local Streets-Roads	\$ 460	\$ 920	\$ 460	\$ -	\$ 1,380	\$ 1,380
State Transit Assistance (STA)	Transit	\$ 1,940	\$ 3,880	\$ 29,100	\$ 9,700	\$ 42,680	\$ 51,518
SB1 STA	Transit	\$ 1,600	\$ 3,200	\$ 24,000	\$ 8,000	\$ 35,200	\$ 42,489
SB 1 - STA State of Good Repair (SOGR)	Transit	\$ 670	\$ 1,340	\$ 10,050	\$ 3,350	\$ 14,740	\$ 17,792
STIP - Regional Share (est. 45% from SB1)	Flexible	\$ 3,635	\$ 15,794	\$ 54,281	\$ 18,176	\$ 88,251	\$ 97,708
Active Transportation Program (80% SB1)	Active Transportation	\$ 3,435	\$ 6,870	\$ 51,525	\$ 17,175	\$ 75,570	\$ 91,220
Low Carbon Transit Operations Program (LCTOP)	Transit	\$ 400	\$ 800	\$ 6,000	\$ 2,000	\$ 8,800	\$ 10,622
SB1 Local Partnership Program - Formula	1/2 METRO, 1/2 flexible	\$ 600	\$ 1,200	\$ 9,000	\$ 3,000	\$ 13,200	\$ 13,200
SB1 Competitive Programs (Congested Corridors, Trade Corridors, TICRP, LPP, etc)	Flexible	\$ 2,700	\$ 5,400	\$ 40,500	\$ 13,500	\$ 59,400	\$ 59,400
Affordable Housing & Sustainable Communities	Flexible	\$ 530	\$ 1,060	\$ 7,950	\$ 2,650	\$ 11,660	\$ 12,353
Enhanced Mobility of Seniors and Individuals with Disabilities (5310)	Transit	\$ 115	\$ 230	\$ 1,725	\$ 575	\$ 2,530	\$ 3,054
State Planning (5304)	Planning	\$ 40	\$ 80	\$ 600	\$ 200	\$ 880	\$ 1,062
Metropolitan Planning (5303)	Transit	\$ 4	\$ 8	\$ 60	\$ 20	\$ 88	\$ 106
Rural Area Formula Program (5311)	Transit	\$ 195	\$ 390	\$ 2,925	\$ 975	\$ 4,290	\$ 5,178
Urbanized Area Formula Program (5307)	Transit	\$ 4,380	\$ 8,760	\$ 65,700	\$ 21,900	\$ 96,360	\$ 116,315
Small Transit Intensive Cities (5307c)	Transit	\$ 2,300	\$ 4,600	\$ 34,500	\$ 11,500	\$ 50,600	\$ 61,079

(all figures in \$000's)

REVENUE SOURCES/PROGRAMS	Funding Type/ Eligible Uses	Base Year	2018-2020 Not Esclated	2021-2035 Not Esclated	2036-2040 Not Esclated	22 Year Total Not Escalated	22 Year Escalated*
Bus and Bus Facilities Formula Program (5339)	Transit	\$ 450	\$ 900	\$ 6,750	\$ 2,250	\$ 9,900	\$ 11,950
Bus and Bus Facilities Discretionary Program (5339b)	Transit	\$ 1,000	\$ 2,000	\$ 15,000	\$ 5,000	\$ 22,000	\$ 26,556
High Risk Rural Road (HR3)	Local Streets-Roads	\$ 260	\$ 520	\$ 3,900	\$ 1,300	\$ 5,720	\$ 6,905
Highway Bridge Program (HBP)	Local Streets-Roads	\$ 2,750	\$ 5,500	\$ 41,250	\$ 13,750	\$ 60,500	\$ 73,029
Highway Safety Improvement Program (HSIP)	Local Streets-Roads	\$ 1,400	\$ 2,800	\$ 21,000	\$ 7,000	\$ 30,800	\$ 37,178
Surface Transportation Block Grant (STBG)	Flexible	\$ 3,500	\$ 7,000	\$ 52,500	\$ 17,500	\$ 77,000	\$ 92,946
Federal Lands Access Program (FLAP)	MBSST	\$ -	\$ 6,000	\$ -	\$ -	\$ 6,000	\$ 6,000
FEMA/CALEMA/ER - Emergency Road Repair Funding	Local Streets-Roads	\$ 1,050	\$ 2,100	\$ 15,750	\$ 5,250	\$ 23,100	\$ 27,884
FAA Airport Improvement Program (AIP)	Airport	\$ 150	\$ 300	\$ 2,250	\$ 750	\$ 3,300	\$ 3,983
		\$ 171,126	\$ 352,776	\$ 2,551,206	\$ 853,331	\$ 3,757,313	\$ 4,428,113

*Average escalation rate assumption: 1.75% applied to funds beyond existing programmed; except sources with set annual amount or predicted to flatline.

Appendix F

Project List

This page intentionally left blank

2040 Regional Transportation Plan Project List

Constrained and Unconstrained Projects - Not Escalated

Projects listed by lead agency, in alphabetical order by project name.
 Project IDs without the letter "P" in front of the number have been also included in the Regional Transportation Improvement Program.
 "Constrained" represents amount of project cost that could be funded with revenues anticipated through 2040.
 While some projects have secured funding, this amount does not typically represent committed funds. "Unconstrained" represents amount of project cost that would need additional funding in order to be implemented.

All Figures in year 2016, '000s (thousands of dollars)

Project Title	ID	Project Description/Scope	Est total cost	Constrained	Unconstrained
Caltrans					
Collision Reduction & Emergency Projects	CT-P46	Various SHOPP projects that address collision reduction, mandates (including stormwater mandates) and emergency projects. (Constrained=30% of total cost).	\$732,380	\$219,714	\$512,666
Hwy 1/Harkins Slough Road Interchange: Bicycle/Pedestrian Bridge	WAT 01A	Construction of Pedestrian/Bicycle Bridge over Highway 1. Caltrans Project ID 05-1G490	\$9,900	\$9,900	\$0
Hwy 17 Access Management - Laurel Rd/Sugarloaf Rd/Glenwood Cutoff Area Grade Separation Concept	CT-P52	New structure providing grade-separation to facilitate crossing and turnaround.	\$40,000	\$0	\$40,000
Hwy 17 Access Management - Multimodal Improvements	CT-P50	Multimodal improvements including park and ride improvements, and facilities serving separated bike/ped crossing or express transit route.	\$20,000	\$0	\$20,000
Hwy 17 Access Management - Old Santa Cruz Hwy Area Grade Separation Concept	CT-P53	New structure providing grade-separation to facilitate crossing and turnaround.	\$40,000	\$0	\$40,000
Hwy 17 Access Management - Operational Improvements	CT-P49	Operational improvements to existing facilities including ramp modifications, accel/decel lanes, turning lanes, driveway consolidation, driveway channelization, etc.	\$50,000	\$0	\$50,000
Hwy 17 Access Management - Vine Hill Area Grade Separation Concept	CT-P51	New structure providing grade-separation to facilitate crossing and turnaround.	\$40,000	\$0	\$40,000
Hwy 17 Wildlife Habitat Connectivity	CT-P48	Wildlife Crossing	\$9,198	\$9,198	\$0
Measure D Hwy 9 Corridor Projects	CT-P09e	Corridor study is underway to identify need for shoulder widening, turnouts for buses, bicycle and pedestrian improvements, and turn lanes at spot locations in SLV. Capital Cost Est. TBD.	\$10,000	\$7,349	\$2,651
Minors	CT-P47	Various small SHOPP projects (less than \$1 million) that reduce/enhance maintenance efforts by providing minor operational, pavement rehab, drainage, intersection, electrical upgrades, landscape and barrier improvements. (Constrained=30% of total cost).	\$8,600	\$2,580	\$6,020
State Highway Preservation (bridge, roadway, roadside)	CT-P45	Various SHOPP projects that address bridge preservation, roadway & roadside preservation and limited mobility improvements. (Constrained=30% of cost to maintain).	\$778,390	\$467,163	\$311,227
Caltrans Total			\$1,738,468	\$715,904	\$1,022,564
CHP - California Highway Patrol					
Hwy 129 Safety Program	CHP-P03	Additional CHP enforcement and public education campaign on Highway 129.	\$500	\$0	\$500
Hwy 17 Safety Program	CHP-P01	Continuation of Highway 17 Safety Program in Santa Cruz County at \$100/year. Includes public education and awareness, California Highway Patrol (CHP) enhancement, pilot cars, electronic speed signs.	\$2,200	\$2,200	\$0

Project Title	ID	Project Description / Scope	Est total cost	Constrained	Unconstrained
Traffic Management	CHP-P02	Patrol of state route system and unincorporated roadways aimed at minimizing traffic collisions and traffic delays; and provide assistance to motorists. COST EST TBD.	\$0	\$0	\$0
CHP - California Highway Patrol Total			\$2,700	\$2,200	\$500
City of Capitola					
40th Ave (at Deanes Ln)Bike/Ped connection	CAP-P46	40th Avenue N/S bike/pedestrian connection at Deanes Lane.	\$10	\$10	\$0
40th Ave/Clares St Intersection Improvements	CAP-P38	Widen intersection and signalize.	\$1,550	\$1,050	\$500
41st Ave (Soquel to Portola) Crosswalks	CAP-P47	Evaluate and if found necessary, increase number of crosswalks on 41st to closer to every 300 ft.	\$20	\$20	\$0
41st Ave/Capitola Road Intersection Improvements	CAP-P37	Widen intersection and reconfigure signal phasing.	\$520	\$520	\$0
46th/47th Ave (Clares to Cliff Dr) Bike Lanes/Traffic Calming	CAP-P40	46th/47th from Clares to Portola/Cliff - Add traffic calming and wayfinding signage to connect to Brommer and MBSST.	\$20	\$20	\$0
47th Avenue Traffic Calming and Greenway	CAP-P30	Traffic calming and traffic dispersion improvements along 47th Ave from Capitola Rd to Portola Drive and implementation of greenway, which gives priority to bicycles and pedestrians on low volume, low speed streets including, pedestrian facilities, way finding and pavement markings, bicycle treatments to connect to MBSST.	\$100	\$100	\$0
Auto Plaza Drive Extension to Bay Avenue	CAP-P35	Extend Auto Plaza Drive over Soquel Creek to Bay Avenue. Includes improvements to Auto Plaza Drive.	\$10,330	\$0	\$10,330
Bay Avenue Traffic Calming and Bike/Ped Enhancements	CAP-P29	Traffic calming features along Bay Avenue from Highway 1 to Monterey Avenue, including left turn pocket, buffered pedestrian facilities and bicycle treatments (such as buffered and/or painted bike lanes, bike boxes, bike signals) to address speed inconsistency between bicyclists and vehicles.	\$410	\$210	\$200
Bay Avenue/Capitola Avenue Intersection Modifications/Roundabout	CAP 16	Multimodal improvements to intersection. Roundabout.	\$1,000	\$1,000	\$0
Bay Avenue/Hill Street Intersection	CAP-P07	Intersection improvements to improve traffic flow. Roundabout.	\$210	\$210	\$0
Bay Avenue/Monterey Avenue Intersection Modification	CAP-P32	Multimodal improvements to the intersection. Include signalization or roundabout along with pedestrian, bicycle treatments (such as buffered and/or painted bike lanes, bike boxes, bike signals) and transit access.	\$310	\$310	\$0
Brommer Street Complete Street Improvements (250' west of 38th Ave to 41st Ave)	CAP 18	Construct complete street roadway improvements on Brommer St. to improve access for vehicles, bikes, and pedestrians. Pavement reconstruction, install ADA driveways and sidewalks, and reconfigure eastbound approach to 41st Ave. for vehicle access.	\$770	\$770	\$0
Brommer/Jade/Topaz St Bike Lanes/Traffic Calming (Western City Limit on Brommer to 47thAve)	CAP-P41	Add buffered bike lanes, traffic calming and wayfinding signage and bike/ped priority crossing at 41st Ave, connecting the two N/S neighborhood greenways.	\$20	\$20	\$0
Capitola Intra-City Rail Trolley	CAP-P18	Construct & Operate Weekend Rail Trolley Service. Project includes installation of 3 stations.	\$14,460	\$0	\$14,460
Capitola Jitney Transit Service	CAP-P15	Purchase and operate local transit service.	\$1,030	\$0	\$1,030
Capitola Mall (Capitola Rd to Clares) Bike Path	CAP-P48	Separated bicycle facility through Capitola Mall parking lot to connect 38th Ave bike lanes and 40th Ave.	\$50	\$50	\$0

Project Title	ID	Project Description/Scope	Est total cost	Constrained	Unconstrained
Capitola Rd & 45th Avenue I/S Improvements	CAP-P53	Signalization or other LOS improvements	\$400	\$400	\$0
Capitola Village Enhancements: Capitola Ave	CAP-P34	Multimodal enhancements along Capitola Avenue.	\$1,030	\$1,030	\$0
Capitola Village Multimodal Enhancements - Phase 2/3	CAP-P04b	Multimodal enhancements in Capitola Village along Stockton Ave, Esplanade, San Jose Ave, & Monterey Av. Includes sidewalks, bike lanes, bike lockers, landscaping, improve transit facilities, parking, pavement rehab and drainage.	\$3,100	\$3,100	\$0
Capitola-wide HOV priority	CAP-P50	Evaluate HOV priority at signals and HOV queue bypass.	\$40	\$40	\$0
Citywide Bike Projects	CAP-P52	Bike projects based on needs identified through the Bicycle Plan. These projects are in addition to projects listed individually in the RTP.	\$1,030	\$400	\$630
Citywide General Maintenance and Operations	CAP-P06	Ongoing maintenance, repair, and operation of road/street system within the City limits. (Const=\$1850K/yr; Unconst=\$150K/yr).	\$44,000	\$40,666	\$3,334
Citywide Sidewalk Program	CAP-P51	Install sidewalks to fill gaps. Annual Cost \$50k/yr.	\$1,030	\$520	\$510
Citywide Traffic Calming	CAP-P17	Install traffic calming/neighborhood livability improvements.	\$1,450	\$1,450	\$0
Clares St Bike Lanes/Sharrows (Capitola Rd to 41st Ave)	CAP-P42	Evaluate and if found necessary, add bike lanes/sharrows to Clares.	\$100	\$100	\$0
Clares St/41st Ave Bicycle Intersection Improvement	CAP-P43	Bike treatments (such as buffered and/or painted bike lanes, bike boxes, bike signals) at Clares across 41st.	\$10	\$10	\$0
Clares Street Pedestrian Crossing west of 40th Ave	CAP-P16	Construct signalized ped x-ing 0.20 miles west of 40th Ave.	\$520	\$250	\$270
Clares Street Traffic Calming	CAP 11	Implementation of traffic calming measures: chicanes, center island median, new bus stop, and road edge landscape treatments to slow traffic. Construct new safe, accessible ped x-ing at 42nd and 46th Av.	\$750	\$750	\$0
Cliff Drive Improvements	CAP-P05	Installation of sidewalks, pedestrian crossing and slope stabilization of embankment including seawall.	\$1,550	\$1,550	\$0
Gross/41st Ave Bicycle Intersection Improvement	CAP-P44	Bike treatments (such as buffered and/or painted bike lanes, bike boxes, bike signals) from Gross E/B to 41st N/B.	\$20	\$20	\$0
Hwy 1/41st Avenue Interchange	CAP-P01	Implement 41st Avenue & Bay Ave/Porter Ave single interchange improvements as detailed and expensed in Hwy 1 HOV project (RTC 24) as a stand alone project if the RTC project does not proceed. (\$117M)	\$0	\$0	\$0
Monterey Avenue and Park Avenue I/S Improvements	CAP-P56	Signalization or other LOS improvements	\$400	\$400	\$0
Monterey Avenue at Depot Hill	CAP-P28	Improve vehicle ingress and egress to Depot Hill along Escalona Ave and improve pedestrian facilities.	\$260	\$260	\$0
Monterey Avenue Multimodal Improvements	CAP-P12	Installation of sidewalks and bike lanes in area near school and parks.	\$360	\$360	\$0
Park Avenue Sidewalks	CAP 15	Installation of sidewalks, plus crosswalks at Cabrillo and Washburn to improve access to transit stops. Links Cliffwood Heights neighborhood to Capitola Village. Currently only 4 short segments of sidewalk exist.	\$650	\$650	\$0
Park Avenue/Kennedy Drive Improvements	CAP-P09	Construct intersection improvements, especially for bikes/peds. May include traffic signal.	\$360	\$360	\$0

Project Title	ID	Project Description/Scope	Est total cost	Constrained	Unconstrained
Porter Street and Highway 1 I/S Improvements	CAP-P55	Add additional dedicated right turn lane on Porter St to northbound on ramp	\$250	\$250	\$0
Stockton Ave Bridge Rehab	CAP-P07p	Replace bridge with wider facility that includes standard bike lanes and sidewalks.	\$3,000	\$1,500	\$1,500
Stockton Avenue and Capitola Avenue I/S Improvements	CAP-P57	Signalization or other LOS improvements	\$350	\$350	\$0
Upper Capitola Avenue Improvements	CAP-P03	Installation of bike lanes and sidewalks on Capitola Av. (Bay Av.-SR 1) and sidewalks on Hill St. from Bay Av. to Rosedale Av.	\$1,340	\$1,340	\$0
Upper Pacific Cove Parking Lot Pedestrian Trail and Depot Park Metro Development	CAP 17	Construct 4 foot wide pedestrian pathway along City owned Upper Pacific Cove Parking lot, adjacent to rail line (680'). Includes new signal for ped crossing over Monterey Avenue. Includes a new metro shelter located and landscaped setting along the rail corridor/Park Ave. Part of MBSST.	\$310	\$310	\$0
Wharf Road and Stockton Avenue I/S Improvements	CAP-P54	Signalization or other LOS improvements	\$350	\$350	\$0
Wheelchair Access Ramps	CAP-P27	Install wheelchair access/curb cut ramps on sidewalks citywide.	\$200	\$200	\$0
City of Santa Cruz			\$93,670	\$60,906	\$32,764
Almar Ave Sidewalks	SC-P126	Fill gaps in sidewalks and access ramps to improve pedestrian safety.	\$200	\$200	\$0
Arroyo Seco Trail (Medar St to Grandview St)	SC-P107	Pave existing gravel trail and widen and pave connection to Grandview St.	\$500	\$0	\$500
Bay Street Corridor Modifications	SC-P77	Intersection modifications on Bay St Corridor from Mission St to Escalona Dr, including widening at the Mission St northeast corner and widening on Bay. Improve bike lanes and add sidewalks to west side of Bay.	\$5,100	\$970	\$4,130
Bay/California Traffic Signals	SC-P96	Install traffic signals for safety and capacity improvements.	\$520	\$0	\$520
Bay/High Intersection Modification	SC-P109	Install a roundabout or modify the traffic signal to include protected left-turns and new turn lanes. Revise sidewalks, access ramps and bike lanes as appropriate.	\$2,150	\$2,150	\$0
Beach/Cliff Intersection Signalization	SC-P93	Signalize intersection for pedestrian and train safety.	\$210	\$210	\$0
Branciforte Creek Pedestrian Path Connections	SC-P95	Fill gaps in pedestrian and bike paths along and across Branciforte Creek in the Ocean-Lee-Market-May Streets area.	\$3,410	\$0	\$3,410
Brookwood Drive Bike and Pedestrian Path	SC-P21	Provide 2-way bicycle and pedestrian travel.	\$1,030	\$0	\$1,030
Chestnut St. Pathway	SC-P22	Install a Class 1 bicycle/pedestrian facility to connect the east side of Neary Lagoon Park with the Depot Park path.	\$570	\$570	\$0
Chestnut Street Bike Lanes	SC-P47	Install Class 2 bike lanes to provide connection from existing bike lanes on Laurel Street and upper Chestnut Street to proposed Class 1 bike path connections to Bay Street and Pacific Avenue/Beach Street.	\$100	\$100	\$0
Citywide Operations and Maintenance	SC-P07	Ongoing maintenance, repair, and operation of street system within the City limits. (Const=\$3.0M/yr; Unconst=\$4.2M/yr)	\$163,630	\$86,249	\$77,381
Citywide Safe Routes to School Projects - ATP	SC-P125	Projects to improve pedestrian and bicycle safety near schools.	\$8,204	\$1,404	\$6,800

Project Title	ID	Project Description/Scope	Est total cost	Constrained	Unconstrained
Citywide Street Sweeping	SC-P128	Ongoing street sweeping, funded from City Refuse Enterprise Fund.	\$19,800	\$19,800	\$0
Delaware Avenue Complete Streets	SC-P23	Fill gaps in bicycle lanes, sidewalks and sidewalk access ramps.	\$150	\$150	\$0
High St/Moore St Intersection Modification	SC-P90	Add a protected left turn to existing signalized intersection along High St at city arterial. Project is located in high pedestrian and bicycle use activity area.	\$100	\$100	\$0
Hwy 1 - Harvey West Area Alternative Access	SC-P108	Development of an on/off ramp from NB Highway 1 to Harvey West Boulevard/Evergreen St, to improve access, especially during peak congestion times and emergencies.	\$4,130	\$0	\$4,130
Hwy 1 Sound Wall	SC-P03	Install sound wall on Hwy 1: River to Chestnut.	\$520	\$0	\$520
Hwy 1/9 Intersection Modifications	SC 25	Intersection modifications including new turn lanes, bike lanes, shoulders, lighting, sidewalks and access ramps. Includes adding second left-turn lane on Highway 1 southbound to Highway 9 northbound; second northbound through lane and shoulder on northbound Highway 9, from Highway 1 to Fern Street; a right-turn lane and shoulder on northbound Highway 9; through-left turn lane on northbound River St; replace channelizers on Highway 9 at the intersection of Coral Street; sufficient lane width along the northbound through/left turn lane on Highway 9 from Fern Street to Encinal Street; new sidewalk along the east side of Highway 9 from Fern Street north to Encinal Street; new through/left turn lane on southbound Highway 9; Traffic Signal interconnect to adjacent signals. (Caltrans project ID - 05-46580)	\$7,850	\$7,850	\$0
Hwy 1/Mission St at Chestnut/King/Union Intersection Modification	SC-P81	Modify design of existing intersections to add lanes and upgrade the traffic signal operations to add capacity, reduce delay and improve safety. Provide access ramps and bike lanes on King and Mission. Includes traffic signal coordination.	\$4,650	\$4,650	\$0
Hwy 1/San Lorenzo Bridge Replacement	SC 38	Replace the Highway 1 bridge over San Lorenzo River to increase capacity, improve safety and improve seismic stability, from Highway 17 to the Junction of 1/9. Reduce flooding potential and improve fish passage. Caltrans Project ID 05-0P460	\$20,000	\$20,000	\$0
Hwy 1/Shaffer Rd Signalization	SC-P92	Signalization of intersection of Hwy 1 and Shaffer Rd. Project may include some widening of Hwy 1 to accommodate a left turn lane.	\$520	\$0	\$520
King Street Bike Facility (entire length)	SC-P59	Install Class 2 bike lanes on residential collector street which includes some parking and landscape strip removals, and some drainage inlet modifications.	\$2,070	\$2,070	\$0
King/Laurel Intersection Modification	SC-P114	Modify unsignalized intersection to add eastbound right turn lane.	\$100	\$0	\$100
Laurent/High Intersection Improvements	SC-P97	Install Traffic Signal.	\$410	\$0	\$410
Lump Sum Bike Projects	SC-P75	Bike projects based on needs identified through the Active Transportation Plan and Santa Cruz City Schools Complete Streets Master Plan. These are in addition to projects listed individually in the RTP.	\$6,800	\$0	\$6,800
Market Street Sidewalks and Bike Lanes	SC-P105	Completion of sidewalks and bicycle lanes. Includes retaining walls, right-of-way, tree removals, and a bridge modification.	\$1,030	\$1,030	\$0
MBSST (Coastal Rail Trail): Segment 7 (Natural Bridges to Pacific Ave)	TRL 07SC	2.1 miles of Monterey Bay Sanctuary Scenic Trail Network (MBSST) Segment 7 along rail line (excluding Moore Creek rail trestle bridge and trail to Natural Bridges Drive).	\$7,400	\$7,400	\$0
MBSST (Coastal Rail Trail_ - Segment 8 and 9)	TRL 8-9a	Rail Trail Design, Environmental Clearance and Construction along the rail corridor between Pacific Ave in the City of Santa Cruz to 17th Ave in Santa Cruz County	\$32,934	\$32,934	\$0
Measure H Road Projects	SC-P104	Road rehabilitation and reconstruction projects citywide to address backlog of needs using Measure H sales tax revenues. (Some Measure H funds anticipated to fund specific projects listed in the RTP).	\$41,800	\$41,800	\$0

Project Title	ID	Project Description/Scope	Est total cost	Constrained	Unconstrained
Mission St (Hwy 1)/Laurel St Intersection Modification	SC-P112	Modify traffic signal to add right-turn from Mission St to Laurel St and signal overlap phase.	\$1,030	\$0	\$1,030
Mission St (Hwy 1)/Swift St Intersection Modification	SC-P113	Modify traffic signal to add Swift St right-turn lane and signal overlap phase.	\$500	\$0	\$500
Morrissey Blvd. Bike Path over Hwy 1	SC-P29	Install a Class 1 bicycle and pedestrian facility on freeway overpass.	\$300	\$300	\$0
Morrissey/Poplar/Soquel Intersection Modification	SC-P12	Modify the roadway configuration in the Morrissey/Poplar/Soquel triangle area to improve traffic circulation and safety for all modes.	\$2,070	\$0	\$2,070
Murray St Bridge Retrofit	SC 37	Seismic retrofit of existing Murray St. bridge (36C0108) over Woods Lagoon at harbor and associated approach roadway improvements and replacement of barrier rail. Includes wider bike lanes and sidewalk on ocean side. Include access paths to harbor if eligible.	\$11,440	\$11,440	\$0
Murray St to Harbor Path Connection	SC-P30	Install a Class 1 bicycle/pedestrian facility.	\$210	\$210	\$0
Neighborhood Traffic Management Improvements	SC-P73	Install traffic control devices and roadway design features to manage neighborhood traffic.	\$2,580	\$0	\$2,580
North Branciforte/Water Intersection Modification	SC-P115	Modify traffic signal and add additional lanes per traffic study. Include signal interconnect if applicable.	\$2,070	\$0	\$2,070
Ocean St and San Lorenzo River Levee Bike/Ped Connections (Felker, Kennan, Blain, Barson Streets)	SC-P120	Improve pedestrian and bicycle facilities on side streets to connect Ocean Street with San Lorenzo River Levee path system.	\$620	\$0	\$620
Ocean St Pavement Rehabilitation	SC 48	Pavement rehabilitation using cold-in-place recycling process; includes new curb ramps, restriping of bicycle lanes and crosswalks.	\$1,030	\$1,030	\$0
Ocean St Streetscape and Intersection, Plymouth to Water	SC-P86	Implement this phase of the Ocean Street plan and modify Plymouth St to provide separate turn lanes and through lanes, widen sidewalks, pedestrian islands/bulbouts, transit improvements, street trees, street lighting and medians landscaping improvements. This includes pedestrian and bicycle crossing improvements and detection and connectivity to the pedestrian and bicycle path on the San Lorenzo River and adjacent neighborhoods. Include Gateway treatment.	\$4,130	\$2,000	\$2,130
Ocean St Streetscape and Intersection, Water to Soquel	SC-P84	Implement this phase of the adopted Ocean Street plan including adding turn lanes on Ocean Street at the Water Street intersections, wider sidewalks, pedestrian crossing islands/bulbouts, transit improvements, street trees, pedestrian scale street lights, and medians improvements, way finding, and pedestrian and bicycle connectivity to San Lorenzo Park and neighborhoods.	\$6,200	\$0	\$6,200
Ocean Street Corridor Multiuse Transit Lane	SC-P122	Consider restricting parking to develop business access and transit (BAT) lane to serve tourism and improving transit facilities.	\$410	\$0	\$410
Ocean Street Widening from Soquel to East Cliff	SC-P66	Implement this phase of the Ocean Street plan that includes utility undergrounding, bike lanes, wider sidewalks, pedestrian crossing islands/bulbouts, transit improvements, pedestrian scale street lights, street trees and left turn lanes at Broadway and a right-turn lane at San Lorenzo Blvd. This includes pedestrian and bicycle crossing improvements and detection and connectivity to the pedestrian and bicycle path on the San Lorenzo River and adjacent neighborhoods.	\$5,170	\$0	\$5,170
Ocean Street/San Lorenzo River Levee Area Wayfinding	SC-P124	Install signage on the bike/ped scale to bike/ped facilities connecting key destinations.	\$150	\$0	\$150

Project Title	ID	Project Description/Scope	Est total cost	Constrained	Unconstrained
Pacific Ave. Sidewalk	SC 50	Construct 200' of new sidewalk on Pacific Avenue between Front Street and 55 Front St, including installation of a new accessible crosswalk at Front and Pacific; 150' bike lane.	\$440	\$440	\$0
River (Rte 9)/Fern Intersection Modification	SC-P110	Install traffic signal, sidewalk and new access ramps. Provide bike lanes on Fern.	\$520	\$0	\$520
River St/River Street South Intersection Modification	SC-P116	Install a roundabout or traffic signal to improve access and safety to the Downtown core, integrating bike and pedestrian facilities.	\$520	\$0	\$520
River Street Pavement Rehabilitation (Water St to Potrero Street)	SC 51	Pavement rehabilitation of River Street between Water Street and Potrero Street. (0.4 mi)	\$2,000	\$1,000	\$1,000
Riverside Ave/Second St Intersection Modification.	SC-P13	Modify intersection to reduce congestion and improve pedestrian crossing.	\$175	\$175	\$0
San Lorenzo River Bike/Ped Trail at RR Bridge	TRL 8a	Widen existing four foot walkway that connects the east end of the Beach Street Pathway with East Cliff Drive at the location of the current railroad bridge over the San Lorenzo River and to connect the east and west banks of the San Lorenzo River Pathway. The crossing currently only accommodates pedestrians.	\$1,550	\$1,550	\$0
San Lorenzo River Levee Path Connection	SC-P35	Install a Multi-Use bicycle/pedestrian facility connecting the end of the San Lorenzo River Levee path on the eastern side of the river, up East Cliff Drive near Buena Vista Ave.	\$2,070	\$2,070	\$0
Seabright Avenue Bike Lanes (Pine-Soquel)	SC-P69	Install Class 2 bike lanes on arterial street to complete the Seabright Avenue bike lane corridor and connect to bike lane corridor on Soquel Avenue and Murray. Includes removal of some parking and some landscape strips.	\$2,070	\$2,070	\$0
Seabright/Murray Traffic Signal Modifications	SC-P100	Remove split phasing on Seabright and add right-turn lane northbound.	\$1,030	\$1,030	\$0
Seabright/Water Intersection Improvements	SC-P99	Modify unsignalized intersection to add northbound right and extend left-turn pocket.	\$100	\$0	\$100
Shaffer Road Widening and Railroad Crossing	SC-P91	Construction of a new crossing of the Railroad line at Shaffer Rd. and widening at the southern leg of Shaffer in conjunction with development. Complete sidewalks and bike lanes.	\$1,000	\$1,000	\$0
Sidewalk Program	SC-P09	Install and maintain sidewalks and access ramps.	\$20,660	\$5,500	\$15,160
Soquel Ave at Frederick St Intersection Modifications	SC 42	Widen to improve eastbound through-lane transition on Soquel Ave and lengthen right-turn pocket and bicycle lane on Frederick St. Upgrade access ramps.	\$310	\$310	\$0
Soquel Ave Corridor Widening (Branciforte-Morrissey)	SC-P87	Minor widening and signal modifications along Soquel Ave corridor from Branciforte to Morrissey Blvd to widen sidewalks, transit improvements, improve pedestrian and bicycle detection and crossings, add a travel lane, maintain some commercial parking and improve existing bike lanes. Replacing the split phasing with protected left-turns at Branciforte to reduce delays for all modes of travel and GHG.	\$2,320	\$0	\$2,320
Soquel/Branciforte/Water (San Lorenzo River to Branciforte) Bike Lane Treatments	SC-P123	Consider bike treatments (such as buffered and/or painted bike lanes, bike boxes, bike signals) to address speed inconsistency and parking conflicts between bicyclists and vehicles.	\$410	\$410	\$0
Soquel/Water (Branciforte to Morrissey) Crosswalks	SC-P119	Evaluate and if found necessary implement additional crosswalks on Soquel/Water with consideration for safety, and update crosswalks to more visible pattern (block).	\$300	\$150	\$150
Storey/King Street Intersection Left-Turn Lane	SC-P76	Remove parking and modify striping for second southbound left turn lane.	\$100	\$0	\$100
Swift/Delaware Intersection Roundabout or Traffic Signal	SC-P101	Install Traffic Signal or Roundabout at Intersection to improve capacity and safety.	\$500	\$500	\$0

Project Title	ID	Project Description/Scope	Est total cost	Constrained	Unconstrained
Water Street Pavement Rehabilitation(N. Branciforte Ave- Ocean St)	SC 49	Pavement rehabilitation of Water Street between North Branciforte Avenue and Ocean Street. Grant Condition: Add bicycle and pedestrian treatments at intersections, especially at Branciforte to reduce conflicts between motorized and non-motorized users.	\$1,453	\$1,453	\$0
West Cliff Path Minor Widening (David Way Lighthouse to Swanton)	SC 23	Improve existing path.	\$520	\$520	\$0
West Cliff/Bay Street Modifications	SC-P83	Install signal or roundabout to replace the all-way stop to improve safety and capacity.	\$500	\$500	\$0
City of Santa Cruz Total			\$412,346	\$263,295	\$149,051
City of Scotts Valley					
Bean Creek Rd Sidewalks (SVMS to Blue Bonnet)	SV-P35	Fill gaps in sidewalks on Bean Creek Rd.	\$410	\$410	\$0
Bean Creek Road Realignment	SV-P16	Realign Bean Creek Road to intersect Scotts Valley Drive farther North to create a four way intersection.	\$2,840	\$0	\$2,840
Bike Rest Stops in Scotts Valley	SV-P38	Bike rest stops (including racks, water) at Camp Evers Park and Skypark.	\$230	\$0	\$230
Citywide Access Ramps	SV-P06	Place handicap ramps at various locations. Avg annual cost: \$8k/yr.	\$210	\$210	\$0
Citywide Bike Lanes	SV-P41	Construction of additional bike lanes and paths citywide (including Green Hills).	\$3,100	\$0	\$3,100
Citywide General Maintenance and Operations	SV-P27	Ongoing maintenance, repairs, and operation of road/street system within the City limits. (\$400K/yr const; \$250/yr unconst).	\$14,770	\$13,459	\$1,311
Citywide Sidewalk Program	SV-P05	Install sidewalks to fill gaps. Annual Cost \$50k/yr	\$5,170	\$2,600	\$2,570
Civic Center Dr Bike Lanes	SV-P33	Add bike lanes to narrow road.	\$410	\$0	\$410
El Pueblo Rd Ext North	SV-P14	Connect El Pueblo Road via Janis Way to Victor Square, crossing Carbonero Creek.	\$1,240	\$0	\$1,240
El Pueblo Rd Extensions	SV-P15	Connect El Pueblo Road to Disc Drive.	\$410	\$0	\$410
El Rancho Dr Bike Lanes	SV-P36	Add bike lanes on El Rancho within city limits.	\$340	\$0	\$340
Emergency Access Granite Creek/Hwy 17	SV-P24	Connect Granite Creek Rd to SR 17 via Navarra Drive to Sucinto Drive, for emergency access.	\$570	\$0	\$570
Emergency Access SV DR/Upper Willis Dr	SV-P25	Connect Scotts Valley Drive to Upper Willis Road for emergency access.	\$1,030	\$0	\$1,030
Emergency Access Whispering Pines	SV-P26	Connect Whispering Pines Drive to Manana Woods for emergency access.	\$50	\$0	\$50
Emergency Access-Bethany/Glenwood	SV-P23	Connect Bethany Drive to Glenwood Drive.	\$210	\$0	\$210
Emergency Access-Sunridge/Pueblo	SV-P22	Connect Sunridge Drive to Disc Drive for emergency access.	\$410	\$0	\$410
Erba Lane/Terrace View/SV Drive Realignment	SV-P10	Realign Terrace View to access Scotts Valley Drive via Erba Lane.	\$520	\$0	\$520
Glen Canyon Rd Bike Lanes	SV-P29	Class 2 Bike lanes from Flora Lane to Green Hills. Oak Creek to Flora Ln are already complete.	\$1,030	\$0	\$1,030

Project Title	ID	Project Description/Scope	Est total cost	Constrained	Unconstrained
Glen Canyon Rd/Green Hills Rd/S. Navarra Dr Bike Corridor and Roadway Preservation	SV 28	Repave two roads, add bike lanes (on Green Hills Rd), and signage. Includes road markings like sharrows and green lane treatments to assist commuters, students, and recreational bikers; and bike/walk education and outreach programs (\$14k).	\$993	\$993	\$0
Glenwood Drive Rehabilitation and Bicycle Improvement Project	SV 29	Pavement rehabilitation of Glenwood Dr. (K Street Way to city limits), drainage repair, and widen to add bike lanes. (0.58mi)	\$865	\$865	\$0
Hwy 17/Midtown Interchange	SV-P01	Construct new SR17 interchange midway between Mt. Hermon Rd and Granite Creek Rd. Will require right-of-way.	\$30,990	\$0	\$30,990
Hwy 17/Mt. Hermon Rd Interchange Operations Improvement	SV-P44	Add lane to SB off-ramp at Hwy 17/Mt. Hermon Rd interchange.	\$1,030	\$0	\$1,030
Kings Village Rd/Town Center Entrance Traffic Signal	SV-P52	Install new traffic signal at the intersection of Kings Village Rd and new Town Center entrance (near transit center) with protected pedestrian crossings and transit signal priority. New Signalization of the intersection on Kings Village Rd at the transit center exit and future Plan street connection would provide a location for protected pedestrian crossings, and would allow transit operators to easily exit the transit center and maintain operating schedules.	\$210	\$105	\$105
Kings Village Road/ Bluebonnet Lane Sidewalk	SV 30	Construct new, fill gaps, and improve accessibility of sidewalks on both sides of King's Village Rd. (Mt. Hermon to Bluebonnet) and south side of Bluebonnet Lon (KV to Bean Creek). Approx.0.3mi. Curb ramp upgrades at Mt. Hermon.	\$306	\$306	\$0
Lockhart Gulch Rd Bike Lanes	SV-P37	Add Class 2 bike lanes to narrow, primarily residential street.	\$720	\$0	\$720
Lockwood Ln Pedestrian Signal Near Golf Course	SV-P21	Construct a pedestrian signal at unprotected ped crossing on Lockwood Lane.	\$50	\$50	\$0
Lockwoode Lane Sidewalk and Bike Lanes	SV-P40	Construct Bike Lanes and add sidewalk on the west side from Mt. Hermon to the City limit.	\$520	\$520	\$0
Mt Hermon Rd and Scotts Valley Drive - Crosswalks	SV-P49	Increase number of crosswalks on Mt Hermon/Scotts Valley Dr, update crosswalks to block pattern, add pedestrian treatments where necessary at intersections to decrease distance across using refuge islands. Add crosswalks to all sides of intersections (particularly an issue on Scotts Valley Dr). Add HAWK signals to provide a low delay signalized crossing opportunity at select locations. Examples include the Safeway Driveway on Mt. Hermon Rd, at Victor Square/Scotts Valley Dr., and at Trammel Way/Scotts Valley Dr.	\$1,030	\$515	\$515
Mt Hermon Rd to El Rancho Drive Bike/Ped Connection	SV-P53	New bike/ped connection between Mt Hermon Road and El Rancho Drive which could include improved bike/ped facilities on existing interchange or new bike/ped crossing.	\$1,030	\$1,030	\$0
Mt Hermon Rd/ Spring Lakes Dr. Pedestrian Intersection Improvements	SV-P54	Improve pedestrian crossing at Spring Lakes Drive and Mt. Hermon Road.	\$50	\$50	\$0
Mt Hermon Road Sidewalk Connections	SV-P30A	Add sidewalks to fill gaps in business district.	\$520	\$520	\$0
Mt Hermon, Lockwood, Springs Lake Widening	SV-P13	Widen, reconstruct and improve portions of roadway and intersection.	\$4,130	\$0	\$4,130
Mt Hermon/King's Village Rd-Transit Signal priority	SV-P46	Transit signal priority at Kings Village Rd/Mt Hermon Rd.	\$80	\$80	\$0
Mt Hermon/Scotts Valley - Transit Queue Jump	SV-P47	Evaluate and if found to be beneficial, remove right turn islands at Mt Hermon Rd/Scotts Valley Road to add transit queue jump lanes/signals.	\$620	\$620	\$0
Mt. Hermon Rd Circulation Master Plan	SV-P09	Provides various circulation and access improvements to the Mount Hermon corridor.	\$3,620	\$0	\$3,620

Project Title	ID	Project Description/Scope	Est total cost	Constrained	Unconstrained
Mt. Hermon Road/Town Center Entrance Traffic Signal	SV-P51	Install new traffic signal at the intersection of the future Town Center road that will accommodate increased pedestrian travel. Add a right-turn lane on the westbound approach. New signalization of the intersection at the future Town Center's primary access point on Mt. Hermon Road would provide protected pedestrian crossing, ADA accessible curb ramps and detectable surfaces on all intersection corners. Permitted left-turn phasing shall be used for the northbound and southbound approaches, while protected left-turn phasing shall be provided on the eastbound and westbound Mt. Hermon Road approaches.	\$260	\$130	\$130
N. Navarra Dr-Sucinto Dr Bike Lanes	SV-P34	Add bike lanes to developing area behind commercial.	\$620	\$0	\$620
Neighborhood Traffic Calming	SV-P28	Citywide traffic calming devices.	\$770	\$770	\$0
Scotts Valley Town Center Bicycle/Pedestrian Facilities	SV-P45	Bicycle and pedestrian facilities and circulation elements within planned development.	\$4,130	\$4,130	\$0
Scotts Valley-wide - Greenway Signage	SV-P48	Add signage for neighborhood greenways.	\$20	\$0	\$20
Sky Park Commercial Area Circulation	SV-P11	Construct infrastructure improvement for Skypark commercial area.	\$2,070	\$0	\$2,070
Synchronize Traffic Signals along Mt. Hermon Road	SV-P42	Re-time to coordinate traffic signals along Mt. Hermon Road.	\$100	\$100	\$0
City of Scotts Valley Total			\$87,684	\$27,463	\$60,221
City of Watsonville					
2nd/Maple Ave (Lincoln to Walker) Traffic Calming and Greenway	WAT-P49	Evaluate and if found necessary, add traffic calming/bicycle traffic priority with wayfinding signage to provide access to MBSST and create low stress grid around downtown.	\$25	\$25	\$0
5th St (Lincoln to Walker) - Traffic Calming and Greenway	WAT-P50	Evaluate and if found necessary, add traffic calming/bicycle traffic priority with wayfinding signage to provide access to MBSST and create low stress grid around downtown.	\$25	\$25	\$0
Airport Blvd Improvements (Freedom Blvd to City Limits)	WAT 38	Road widening to accommodate extension of bicycle lane and portion of travel lane, installation of bus pull out, new sidewalks and curb ramps, refuge island, rectangular flashing beacon, striping, and roadway rehab.	\$1,346	\$1,346	\$0
Airport Blvd Modifications (Hanger Way to Ross Ave)	WAT-P34	Reconstruct or repave roadway and bike lanes; repair, replace and install curb, gutter, sidewalk and curb ramps; replace and upgrade signage and striping.	\$600	\$0	\$600
Airport Boulevard Improvements: Westgate/Larkin to Hanger Way	WAT 40	Reconstruct roadway, install new sidewalk, upgrade curb ramps and driveway crossings, install median islands, modify traffic signals to include add'l ped crossing and install rectangular rapid flashing beacon at crosswalk.	\$1,645	\$1,645	\$0
Alley Improvements	WAT-P36	Repair & reconstruct some alleys.	\$60	\$60	\$0
Bicycle Safety Improvements (Various Locations)	WAT 44	Improve existing bicycle facilities by installing new striping, markings and signage in place of the existing and installing new green bike lanes at the approaches on various streets. Work will be done at the following locations: Beach St from Lee Rd to Rodriguez St (1.42 mi); Bridge St from Beck St to East Lake Ave (1.48 mi); Green Valley Rd from Harkins Slough Rd to Corralitos Creek Bridge (1.92 mi); Harkins Slough Rd/Walker St from Green Valley Rd to Riverside Dr (1.73 mi); Rodriguez St from Riverside Dr to Main St (0.92 mi).	\$525	\$375	\$150
Bridge Maintenance	WAT-P35	Maintenance of bridges	\$115	\$115	\$0
Buena Vista/Calabasas/Freedom Connection	WAT-P30	Construction of roadway connection from Buena Vista area to Freedom Blvd. Reconstruct Via Nicola.	\$5,950	\$0	\$5,950

Project Title	ID	Project Description/Scope	Est total cost	Constrained	Unconstrained
Citywide General Maintenance and Operations	WAT-P06	Ongoing maintenance, repair, and operation of road/street system, including bicycle and pedestrian facilities.(Total Need = \$2,600/year, constr=\$1500/yr)	\$65,350	\$41,400	\$23,950
Citywide Pedestrian Facilities	WAT-P15	Construct sidewalks and curb ramps where necessary. This work is usually combined with the annual road rehabilitation and maintenance projects. Avg annual cost: \$100/yr.	\$2,380	\$0	\$2,380
Citywide Transportation Projects	WAT-P24	Lump sum of transportation projects to be identified in the future. Including major rehabilitation and operational improvements (\$1.2M/yr).	\$28,510	\$0	\$28,510
Crestview/Wagner Extension	WAT-P29	Construction of roadway connection from Atkinson Lane area to SR 152. Reconstruct/widen Wagner St.	\$4,750	\$0	\$4,750
Downtown Watsonville Universal Streets	WAT-P59	Evaluate and if feasible, implement universal streets, which are designed for pedestrians and restrict vehicular access, which facilitate new ped access.	\$600	\$600	\$0
East Fifth St (Main St to Lincoln St)	WAT-P39	Repair, replace and install curb, gutter, sidewalk and curb ramps; replace and upgrade signage and striping.	\$300	\$0	\$300
East Lake Ave-(Hwy 152) Widening (Martinelli St-Holohan Rd)	CT-P33	Widen East Lake Ave. (SR 152) from 2 to 4 lanes (Martinelli St-Holohan Rd).	\$1,030	\$0	\$1,030
East Lake/Madison - ped crossing	WAT-P57	Evaluate and if feasible, add pedestrian crossing (HAWK signal if ped volume warrants) at E Lake & Madison for better access to Hall Middle School.	\$300	\$300	\$0
Freedom Blvd (Davis Ave to Green Valley Rd)	WAT-P68	Repair, reconstruct and/or upgrade pavement, bike lanes, sidewalks, transit facilities, signage and striping	\$1,730	\$1,730	\$0
Freedom Blvd (Green Valley Rd to Buena Vista Dr)	WAT-P72	Repair and resurface damaged roadway and bike lanes, replace damaged sidewalks, add pedestrian facilities where none exist.	\$5,000	\$5,000	\$0
Freedom Blvd (Green Valley Rd to Davis) Bicycle and Pedestrian Improvements	WAT-P61	Evaluate and if feasible, install bike treatments (such as buffered and/or painted bike lanes, bike boxes, bike signals) to address speed inconsistency between bicyclists and vehicles. Complete sidewalks, including pedestrian buffer, and pedestrian islands at crossings.	\$300	\$300	\$0
Freedom Blvd Pedestrian Crossings (Airport to Lincoln)	WAT-P62	Evaluate and if feasible, install new and improve existing uncontrolled pedestrian crossings at Roach Road, Davis Avenue, Clifford Lane, Mariposa Avenue, Alta Vista Street, Crestview Drive, Martinelli Street and Marin Street).	\$600	\$600	\$0
Freedom Blvd Reconstruction (Alta Vista to Green Valley)	WAT 45	Remove and replace non-ADA compliant driveways and curb ramps, install high visibility crosswalks, provide sharrows and bicycle signage, upgrade existing bus stop shelter, install new traffic signal at Sydney Ave with pedestrian signal heads, pedestrian actuated traffic signals, audible countdown, pedestrian-level lighting and illumination at crosswalks and reconstruct roadway.	\$3,250	\$2,000	\$1,250
Freedom Blvd Undergrounding	WAT-P38	Underground existing overhead utilities.	\$1,270	\$1,270	\$0
Freedom Blvd/Green Valley Rd Neighborhood Bike/Ped Connections	WAT-P64	Evaluate and if feasible, implement greenway, which gives priority to bicycles and pedestrians on low volume, low speed streets including, pedestrian facilities, way finding and pavement markings, bicycle treatments to connect neighborhoods to goods and services on Freedom Blvd.	\$1,800	\$0	\$1,800
Freedom Boulevard Plan Line	WAT 43	Preparation of a plan line for Freedom Boulevard between Green Valley Road and Buena Vista Drive that delineates multimodal modifications supported by the community.	\$160	\$160	\$0
Green Valley Rd Improvement (Freedom Blvd to City Limit)	WAT-P45	Reconstruct existing roadway, install a median island to encourage safer turning movements, remove and replace existing driveways and curb ramps that do not comply with existing accessibility standards, restripe roadway to provide striping for bike lanes where none exist.	\$2,000	\$0	\$2,000

Project Title	ID	Project Description/Scope	Est total cost	Constrained	Unconstrained
Green Valley Road Reconstruction (Struve Slough-Freedom Blvd)	WAT 42	Reconstruct existing roadway and bikelanes, remove existing asphalt pedestrian path and replace with concrete curb, gutter and sidewalk, remove and replace non-ADA compliant curb ramps and driveways, remove and replace existing signage, striping and loop detectors for traffic signal detectors. Increase sidewalk width consistent with the Complete Streets Guidebook. City may have to reduce existing roadway lane widths in order to provide wider sidewalks; may repave instead of reconstruct roadway or reduce limits of reconstruction based on allocated funds.	\$1,598	\$1,598	\$0
Harkins Slough Rd (Hwy 1 to Green Valley Rd)	WAT-P69	Repair, reconstruct and/or upgrade pavement, bike lanes, sidewalks, transit facilities, signage and striping	\$1,150	\$0	\$1,150
Hillside Ave to Freedom Blvd Ped/Bike Connection	WAT-P60	Evaluate and if feasible, install new bike/ped connection from Carey Avenue to Freedom Boulevard between Roache Road and Green Valley Road to connect neighborhood to goods, services and transit on Freedom Boulevard. Include new crossing from new bicycle/pedestrian facility to east side of Freedom Boulevard.	\$360	\$0	\$360
Kearney/Rodriguez - Ped Crossing	WAT-P53	Evaluate and if found necessary, add pedestrian crossing at Kearney and Rodriguez with traffic calming for access to Radcliffe Elementary.	\$35	\$35	\$0
Lower Watsonville Slough Trail	WAT-P46	Install bicycle/pedestrian trail	\$770	\$770	\$0
Lump Sum Bicycle Projects	WAT-P19	Update the City Bicycle Plan and construction of additional routes and paths (250k/yr).	\$5,950	\$0	\$5,950
Main St - 3 HAWK Signals	WAT-P54	Evaluate and if found necessary, add Hawk signals in 3 locations on Main St.	\$890	\$890	\$0
Main St (Freedom to Riverside) Ped/Bike Enhancements	WAT-P58	Evaluate and if feasible improve ped facilities and bike treatments (such as buffered and/or painted bike lanes, bike boxes, bike signals) and bike boxes and bicycle priority at intersections on Main Street intersections.	\$890	\$890	\$0
Main St Modifications (500 Block: Fifth St to East Lake Ave)	WAT-P40	Repair, replace and install curb, gutter, and curb ramps; replace and upgrade signage and striping. Evaluate and if feasible, provide bike treatments (such as buffered and/or painted bike lanes, bike boxes, bike signals), and buffered sidewalk.	\$710	\$710	\$0
Main St Modifications (City Limit to Lake Ave)	WAT-P47	Repave roadway and bike lanes; repair, replace and install curb, gutter, sidewalk and curb ramps; replace and upgrade signage and striping. Evaluate and if feasible, provide bike treatments (such as buffered and/or painted bike lanes, bike boxes, bike signals) and buffered sidewalks.	\$1,670	\$1,670	\$0
Main St Modifications (East Lake Ave to Freedom Blvd)	WAT-P73	Provide complete streets improvements including but not limited to pedestrian crossings, bicycle facilities, bus stops, parking, sidewalks and traffic management	\$1,000	\$1,000	\$0
Main St. (Hwy 152)/Freedom Blvd Roundabout	WAT 27a	Installation of a roundabout to replace the currently signalized intersection with safety considerations for bike/ped. Caltrans Project ID - 05-0T150.	\$1,500	\$1,500	\$0
Main St/Beach St/Lake Ave Bike Facilities	CT-P38	Bicycle facilities - Main St (GV Rd to Mont Co line), Beach St (Walker to Lincoln) and Lake Ave (Main St to fairgrounds). County/City Project - Cost unknown.	\$0	\$0	\$0
Main/Rodriguez/Union/Brennan (Freedom to Riverside) - Crosswalks	WAT-P55	Evaluate and if found necessary, increase the number of crosswalks on Main St, Rodriguez, and Union/Brennan to aim for 300 ft distance between crossings. Update pattern of crosswalks to block pattern.	\$115	\$115	\$0
MBSST (Coastal Rail Trail): Lee Road, 4000 feet east to City Slough Trail connection	TRL 18L	Construction of 4000-foot long pathway parallel to the railroad tracks: twelve-foot width asphalt (hma). A 500 ft long retaining wall up to 3 ft tall with fence near Lee Road. A drainage structure east of Ohlone Parkway to be modified.Connection to Lee Road shall require installation of pathway or sidewalk to link to the existing sidewalk. At grade crossing at Ohlone Parkway and at a spur line located between Lee Road and Highway 1.	\$1,540	\$1,540	\$0

Project Title	ID	Project Description/Scope	Est total cost	Constrained	Unconstrained
MBSST Rail Trail: Walker Street to City Slough Trail connection	TRL-18W	Construction of 2400 ft pedestrian and bicycle path parallel to the existing railroad tracks and within the rail right-of-way. Also includes public outreach and training to improve bicycle and pedestrian safety.	\$860	\$860	\$0
Neighborhood Traffic Plan	WAT-P04	Plan to identify and address concerns regarding speeding, bicycle and pedestrian access and safety, and other neighborhood traffic issues (\$5k/yr).	\$115	\$115	\$0
Neighborhood Traffic Plan Implementation	WAT-P13	Address concerns about traffic complaints through Education, Enforcement, and Engineering solutions. Install traffic calming devices that do not impede bicyclist access (\$20k/yr).	\$470	\$470	\$0
Ohlone Parkway Improvements - Phase 2 (UPRR to West Beach)	WAT-P31	Roadway, pedestrian, and bicycle facilities.	\$600	\$600	\$0
Pajaro Lane to Freedom Blvd Ped/Bike Connection	WAT-P63	Evaluate and if feasible, new bike/ped connection from Pajaro Lane to Freedom Blvd to connect neighborhood to goods, services and transit on Freedom Boulevard. Include new crossing from new bicycle/pedestrian facility to west side of Freedom Boulevard.	\$360	\$0	\$360
Pajaro Valley High School Connector Trail	WAT-P42	Install bicycle/pedestrian trail (this trail connects Pajaro Valley High School to Airport Blvd).	\$710	\$710	\$0
Pennsylvania Dr (Green Valley Rd to Clifford Ave)	WAT-P70	Repair, reconstruct and/or upgrade pavement, bike lanes, sidewalks, transit facilities, signage and striping	\$4,600	\$0	\$4,600
Riverside (Hwy 129) Bike Facilities	CT-P39	Bicycle facilities - Lee to Lakeview Road. County/City Project -Cost Unknown.	\$0	\$0	\$0
Rodriguez St (Main St to Riverside)-Buffered Bike Lane	WAT-P51	Evaluate and if found necessary, improve bike lane striping, add buffered lanes on Rodriguez St to delineate bike lane from vehicle parking and traffic.	\$12	\$12	\$0
Union/Brennan (Freedom to Riverside) - Sharrows	WAT-P52	Evaluate and if found necessary, add sharrows to Union/Brennan.	\$12	\$12	\$0
Upper Struve Slough Trail	WAT-P65	Construction of 450 foot long pedestrian/bicycle path along upper Struve Slough from Green Valley Road to Pennsylvania Drive. The trail shall consist of a twelve-foot wide by one foot deep aggregate base section with the center eight feet covered with a chip seal. Additional improvements include installing a 130-length of modular concrete block retaining wall, reinforcing a 160-foot length of slough embankment with rock slope protection and installing a 175-foot long by eight foot wide boardwalk.	\$530	\$530	\$0
Upper Watsonville Slough Trail	WAT-P43	Install bicycle/pedestrian trail.	\$770	\$770	\$0
Walker St Modifications (Beach St to Watsonville Slough)	WAT-P48	Repave roadway and bike lanes; repair, replace and install curb, gutter, sidewalk and curb ramps; replace and upgrade signage and striping	\$3,200	\$0	\$3,200
Watsonville Shuttle	WAT-P27	Year round public transit service.	\$300	\$0	\$300
Watsonville-wide HOV priority	WAT-P56	Evaluate HOV priority at signals and HOV queue bypass.	\$60	\$60	\$0
West Beach St (Lee Rd to Ohlone Parkway)	WAT-P66	Repair, reconstruct and/or upgrade pavement, bike lanes, sidewalks, transit facilities, signage and striping	\$2,900	\$0	\$2,900
West Beach St (Ohlone Parkway to Walker St)	WAT-P67	Repair, reconstruct and/or upgrade pavement, bike lanes, sidewalks, transit facilities, signage and striping	\$4,600	\$0	\$4,600
West Lake Ave Modifications (Main St to Rodriguez St)	WAT-P41	Repair, replace and install curb, gutter, sidewalk and curb ramps; replace and upgrade signage and striping	\$240	\$0	\$240
City of Watsonville Total			\$168,138	\$71,808	\$96,330

Project Title	ID	Project Description / Scope	Est total cost	Constrained	Unconstrained
Consolidated Transportation					
Countywide Specialized Transportation	CTSA-P01	Non-ADA mandated paratransit and other specialized transportation service for seniors and people with disabilities. Includes medical service rides, Elderday, out-of-county rides, Sr. Meal Site, Taxi Script, and same day rides etc. Current avg annual need \$2.58M. Constrained=\$2M.	\$56,700	\$46,000	\$10,700
Lift Line Maintenance/Operations Center	CTSA-P02	Construct a permanent maintenance center/consolidated operations facility for paratransit program (currently Lift Line).	\$15,500	\$0	\$15,500
Medical Specialized Transportation for Veterans	CTSA-P06	Non-emergency medical transportation for veterans	\$6,500	\$0	\$6,500
Medically Fragile Specialized Transportation	CTSA-P04	Non-emergency transportation service for medically fragile individuals. Includes operations and capital.	\$5,000	\$0	\$5,000
Non-ADA Paratransit Service Expansion	CTSA-P03	Expansion of non-ADA paratransit system to meet needs of growing elderly and disabled populations. May include pre/post natal transport to medical appointments.	\$21,700	\$0	\$21,700
Consolidated Transportation Total			\$105,400	\$46,000	\$59,400
County Health Services Agency					
Santa Cruz County Health Service Agency - Traffic Safety Education	CO 50	Ongoing education program to decrease the risk and severity of collisions. Includes bicycle and pedestrian programs: Community Traffic Safety Coalition, South County coalition, and Ride n' Stride Bicycle/Pedestrian Education Program.	\$6,500	\$2,200	\$4,300
County Health Services Agency Total			\$6,500	\$2,200	\$4,300
County of Santa Cruz					
26th Ave Improvements (entire length-Portola Dr to end)	CO-P31a	Roadway and roadside improvements on various Major Collectors including sidewalks, bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvements.	\$2,580	\$0	\$2,580
26th to 30th (at Lode/Quartz) Bike/Ped Connection	CO-P78	New bike/ped connection from Lode and Quartz to Moran Trail, which connects to 30th.	\$520	\$0	\$520
37th/38th Ave (Brommer to Eastcliff) Multimodal Circulation Improvements and Greenway	CO-P27a	Evaluate and if feasible improve vehicle and transit access on 38th Avenue from East Cliff to Brommer and develop greenway on 37th Avenue from East Cliff to Portola. Roadway improvements may include roadway and roadside improvements including sidewalks, bike treatments (such as buffered and/or painted bike lanes, bike boxes, bike signals), transit turnouts, left turn pockets, and intersection improvement.	\$2,070	\$570	\$1,500
41st Ave Improvements Phase 2 (Hwy 1 Interchange to Soquel Dr)	CO-P26a	Roadway and roadside improvements including bike lanes, sidewalks, transit turnouts, left turn pockets, merge lanes and intersection improvements.	\$1,240	\$340	\$900
Airport Blvd Improvements (City limits to Green Valley Rd)	CO-P02	Major rehab, addition of bike lanes, transit facilities, merge lanes, intersection improvements, sidewalks, drainage, and landscaping.	\$1,240	\$1,240	\$0
Alba Rd Improvements (Empire Grade to State Hwy 9)	CO-P30b	Roadwork includes major rehabilitation and maintenance of the road and roadsides.	\$1,760	\$0	\$1,760
Amesti Road Multimodal Improvements (Green Valley to Brown Valley Rd)	CO-P03	Roadway rehab and reconstruction, left turn pockets at Green Valley Road, Pioneer Road/Varni Road. Add bike lanes, transit turnouts, sidewalks, merge lanes, landscaping, and intersection improvements.	\$6,200	\$600	\$5,600
Aptos Beach Dr Improvements (Esplanade to Rio Del Mar Blvd)	CO-P27b	Roadway and roadside improvements on various Major Collectors including bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvement.	\$1,240	\$0	\$1,240

Project Title	ID	Project Description/Scope	Est total cost	Constrained	Unconstrained
Aptos Village Plan Improvements	CO 64	Modifications for ped, bike, bus and auto traffic. Add pedestrian facilities and drainage infrastructure on both sides of Soquel Dr; improve bike lanes; new bike parking; new bus pullout and shelter on north side. Trout Gulch: Replace sidewalks with standard sidewalks on east side, ADA upgrades to west side sidewalks. Install traffic signals at Soquel Dr/Aptos Creek Rd (CO 64c) & Soquel/Trout Gulch. Left turn lanes on Soquel at new street - Parade St and at Aptos Creek Road. RR crossing modifications - new crossing arms, concrete panels for vehicle and pedestrian crossings. New RR xing at Parade St. Phase 1: Trout Gulch Rd improvements w/traffic signal and upgraded RR xg at Soquel Dr. Pavement overlay of Soquel Dr (Spreckels to Trout Gulch) and a portion of Aptos Creek Road.	\$4,100	\$4,100	\$0
Beach Road Improvements (City limits to Pajaro Dunes)	CO-P26b	Roadway and roadside improvements including bike lanes, sidewalks, transit turnouts, left turn pockets, merge lanes and intersection improvements.	\$1,240	\$340	\$900
Bean Creek Rd Improvements (Scotts Valley City Limits to Glenwood Dr)	CO-P28a	Roadway and roadside improvements on various Minor Arterials including addition of bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvements. Roadwork includes major rehabilitation and maintenance of the road.	\$1,760	\$485	\$1,275
Bear Creek Road Improvements (Hwy 9 to Hwy 35)	CO-P04	Major rehab, add bike lanes, turnouts, merge lanes, and intersection improvements. Some landscaping and drainage improvements also.	\$4,750	\$250	\$4,500
Bonita Dr Improvements (entire length)	CO-P29b	Improvements of roadways and roadsides on various Minor Collectors including addition of bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvements. Roadwork includes major rehabilitation and maintenance of the road.	\$1,240	\$0	\$1,240
Bonny Doon Rd Improvements (Hwy 1 to Pine Flats Rd)	CO-P43	Construction of a Class 1 bike lane facility, addition of transit stops, intersection improvements, major road rehabilitation, road maintenance, and drainage improvements.	\$8,260	\$0	\$8,260
Bowker Rd Improvements (entire length- Buena Vista Dr to Freedom Blvd)	CO-P33a	Roadway and roadside improvements on various Minor Collectors including addition of bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvements. Roadwork includes major rehabilitation and maintenance of the road.	\$620	\$0	\$620
Branciforte Dr Improvements (City of Santa Cruz to Vine Hill Rd)	CO-P30c	Improvements of roadways and roadsides on various Major Arterials including addition of bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvements. Roadwork includes major rehabilitation and maintenance of the road and roadsides.	\$1,760	\$0	\$1,760
Branciforte Drive Chip Seal Project (Granite Creek Rd to SC city limits - 1.91mi)	CO 82	Roadway rehabilitation: Digouts, Rubberized Chip Seal, and restriping of a portion of Branciforte Drive	\$433	\$433	\$0
Branciforte Drive Road Recycle & Overlay (PM 2.4 to Granite Ck Rd)	CO 79	Pavement recycling, asphalt overlay, and restriping of 0.62 miles of Branciforte Drive from Granite Creek to PM 2.4 (0.62 mil). To be constructed with CO 81 (Granite Creek).	\$431	\$431	\$0
Brown Valley Rd Improvements (Corralitos Rd to Redwood Rd)	CO-P26d	Roadway and roadside improvements including bike lanes, sidewalks, transit turnouts, left turn pockets, merge lanes and intersection improvements.	\$1,240	\$340	\$900
Buena Vista Rd Improvements (San Andreas to Freedom Blvd)	CO-P26e	Roadway and roadside improvements including bike lanes, sidewalks, transit turnouts, left turn pockets, merge lanes and intersection improvements.	\$3,000	\$825	\$2,175
Bulb Ave Road Improvements (Garden St to Capitola City Limits)	CO-P65	Roadway and roadside improvements including curb, gutter, sidewalk, bike lanes, left turn lanes, intersection improvements and roadway rehabilitation.	\$770	\$0	\$770
Cabrillo College Dr Improvements (Park Ave to Twin Lakes Church)	CO-P30d	Improvements of roadways and roadsides on various Major Arterials including addition of bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvements. Roadwork includes major rehabilitation and maintenance of the road and roadsides.	\$1,240	\$240	\$1,000
Capital improvement projects consistent with the Sustainable Santa Cruz County Plan	CO-P96	Construct associated multi-modal infrastructure improvements associated with the Sustainable Santa Cruz County Plan	\$22,000	\$11,000	\$11,000

Project Title	ID	Project Description / Scope	Est total cost	Constrained	Unconstrained
Capitola Rd Ext Improvements (Capitola Rd to Soquel Ave)	CO-P31b	Roadway and roadside improvements on various Major Collectors including bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvements.	\$1,240	\$0	\$1,240
Carol Way/Lompico Creek Bridge Replacement	CO-P49	Replace existing single span-two lane bridge construction of steel girders and long deck with new 30 ft wide single span flat sale concrete bridge. Include (2) 11 ft lanes and (2) 4 ft shoulders.	\$1,240	\$0	\$1,240
Cassery Rd Improvements (Hwy 152 to Green Valley Rd)	CO-P26g	Roadway and roadside improvements including bike lanes, sidewalks, transit turnouts, left turn pockets, merge lanes and intersection improvements.	\$770	\$208	\$562
Cathedral Dr Improvements (entire length)	CO-P33b	Roadway and roadside improvements on Minor Collector. Roadwork includes major rehabilitation and maintenance of the road.	\$620	\$0	\$620
Center Ave/Seacliff Dr Improvements (Broadway to Aptos Beach Dr)	CO-P26h	Roadway and roadside improvements including bike lanes, sidewalks, transit turnouts, left turn pockets, merge lanes and intersection improvements.	\$1,240	\$340	\$900
Chanticleer Ave Improvements (Hwy 1 to Soquel Dr)	CO-P26i	Roadway and roadside improvements including bike lanes, sidewalks, drainage and intersection improvements.	\$1,240	\$340	\$900
Cliff Dr Improvements (Rio Del Mar to Railroad Crossing)	CO-P29c	Improvements of roadways and roadsides on various Minor Collectors including addition of bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvements. Roadwork includes major rehabilitation and maintenance of the road.	\$620	\$0	\$620
Clubhouse Drive Improvements (Summer Av to Rio Del Mar Blvd)	CO-P32a	Road rehabilitation and maintenance. Roadside improvements: left lane pockets, sidewalks, bike lanes and transit turnouts.	\$1,450	\$0	\$1,450
College Road Improvements (Hwy 152 to Lakeview Rd)	CO-P23	Major road rehab, add left turn pocket at Cutter Drive. Also add bike lanes, transit turnouts, sidewalks, landscaping. Drainage improvements, merge lanes, and intersection improvements may also be needed.	\$1,760	\$0	\$1,760
Commercial Way Improvements (Mission Dr. to Soquel Dr.)	CO-P28c	Roadway and roadside improvements on various Minor Arterials including addition of bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvements. Roadwork includes major rehabilitation and maintenance of the road.	\$620	\$170	\$450
Corcoran Ave Improvements (Alice St to Felt St)	CO-P27c	Roadway and roadside improvements on various Major Collectors including bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvement.	\$620	\$150	\$470
Corralitos Road Rehab and Improvements (Freedom Blvd to Hames Rd)	CO-P08	Major rehab, transit, bike, and ped facilities. May also include drainage, merge lanes, landscaping and intersection improvements.	\$620	\$620	\$0
County wide guardrail	CO-P97	Install guardrail on County roads	\$15,000	\$15,000	\$0
Countywide ADA Access Ramps	CO-P37	Construction of handicapped access ramps countywide.	\$1,240	\$620	\$620
Countywide Bike Projects	CO-P71	Bike projects based on needs identified through the Santa Cruz County Bicycle Plan and plan updates. These are in addition to projects listed individually in the RTP.	\$4,130	\$0	\$4,130
Countywide General Road Maintenance and Operations	CO-P35	Ongoing maintenance, repair, and operation of road/street system within the unincorporated areas of the county.	\$495,000	\$446,857	\$48,143
Countywide Sidewalks	CO-P41	Install sidewalks.	\$72,310	\$7,000	\$65,310
Day Valley Rd Improvements (entire length- Freedom Blvd to Valencia Rd)	CO-P31c	Roadway and roadside improvements on various Major Collectors including bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvements.	\$1,240	\$0	\$1,240
East Cliff (26th to Moran Way) Sidewalk Improvement	CO-P77	Install sidewalk from 26th south to link to Moran Way.	\$410	\$0	\$410

Project Title	ID	Project Description/Scope	Est total cost	Constrained	Unconstrained
East Cliff Dr Pedestrian Pathway (7th-12th Ave)	CO-P50	Construct pedestrian pathway on East Cliff.	\$1,760	\$1,760	\$0
East Cliff Drive Cape Seal (12th-17th)	CO 66	Pavement maintenance, isolated section digout and asphalt replacement and cape seal on entire roadway.	\$230	\$230	\$0
East Cliff Drive Improvements (32nd Ave to Harbor)	CO-P09	Roadway rehab, add left turn pockets at 26th and 30th Ave, fill gaps in bikeways and sidewalks, add transit turnouts, intersection improvements. Some landscaping and drainage improvements.	\$4,750	\$1,500	\$3,250
East Zayante Rd Improvements (Lompico Rd to just before Summit Rd)	CO-P26j	Roadway and roadside improvements including bike lanes, sidewalks, transit turnouts, left turn pockets, merge lanes and intersection improvements.	\$1,760	\$485	\$1,275
Either Way Ln Bridge Replacement Project	CO-P88	The project will consist of completely replacing the existing narrow one lane structure and roadway approaches with a two lane clear span precast voided concrete slab bridge and standard bridge approaches.	\$2,180	\$2,180	\$0
El Dorado Ave Road Improvements (Capitola Rd to RR)	CO-P67	Roadway and roadside improvements including curb, gutter, buffered sidewalk, bike treatments (such as buffered and/or painted bike lanes, bike boxes, bike signals), left turn lanes, intersection improvements and roadway rehabilitation.	\$1,810	\$0	\$1,810
El Rancho Dr Improvements (Mt. Harmony/Hwy 17 to SC city limits)	CO-P26k	Roadway and roadside improvements including bike lanes, sidewalks, transit turnouts, left turn pockets, merge lanes and intersection improvements.	\$2,380	\$655	\$1,725
Empire Grade Improvements	CO-P10	Road rehab and maintenance, left turn pocket at Felton Empire Road, add bike lanes, transit facilities, some sidewalks, landscaping. Drainage improvements, merge lanes, and intersection improvements may also be needed.	\$4,750	\$1,190	\$3,560
Eureka Canyon Rd Improvements (Hames Rd to Buzzard Lagoon Rd)	CO-P26l	Roadway and roadside improvements including bike lanes, sidewalks, transit turnouts, left turn pockets, merge lanes and intersection improvements.	\$2,380	\$655	\$1,725
Felton Empire Road Improvements (entire length to State Hwy 9)	CO-P28d	Roadway and roadside improvements on various Minor Arterials including addition of bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvements. Roadwork includes major rehabilitation and maintenance of the road.	\$2,380	\$655	\$1,725
Fern Dr @ San Lorenzo River Bridge Replacement Project	CO-P90	The project will consist of completely replacing the existing three span single lane structure and roadway approaches with a new two lane clear span reinforced concrete box girder bridge and standard bridge approaches.	\$2,830	\$2,830	\$0
Forest Hill Dr @ Bear Creek Bridge Replacement Project	CO-P86	The Project will consist of completely replacing existing steel girder bridge crossing Bear Creek with a new precast concrete voided slab bridge.	\$2,050	\$0	\$2,050
Freedom Blvd Multimodal Improvements (Bonita Dr to City of Watsonville)	CO-P11	Add bike lanes, sidewalks on some segments, transit turnouts, signalization. Left turn pockets at Bowker, Day Valley, White Rd, and Corralitos Rd. Also includes merge lanes, intersection improvements, landscaping, major rehabilitation and maintenance, drainage improvements.	\$3,100	\$775	\$2,325
Freedom Blvd Pavement Preservation (Hwy 1 to Pleasant Vly Rd)	CO 74	Rehabilitate the roadway surface.	\$1,430	\$1,430	\$0
Glen Arbor Rd Improvements (State Hwy 9 to State Hwy 9)	CO-P30f	Improvements of roadways and roadsides on various Major Arterials including addition of bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvements. Roadwork includes major rehabilitation and maintenance of the road and roadsides.	\$1,240	\$0	\$1,240
Glen Arbor Road Recycle, Overlay, & Chip Seal (SR 9-Quail Hollow)	CO 80	Pavement recycling, asphalt overlay, chip seal, and restriping 0.52 miles of Glen Arbor Road from Hwy 9 at bridge to Quail Hollow Rd. The project will also include a subdrain at a point where a natural spring is causing subgrade destabilization and repairs rutting damage adjacent to bus stops.	\$467	\$467	\$0

Project Title	ID	Project Description/Scope	Est total cost	Constrained	Unconstrained
Glen Canyon Rd Improvements (Branciforte Dr to City of Scotts Valley)	CO-P26m	Roadway and roadside improvements including bike lanes, sidewalks, transit turnouts, left turn pockets, merge lanes and intersection improvements.	\$5,990	\$1,640	\$4,350
Glen Coolidge Drive/Hwy 9 Bike Path	CO-P40	Class 1 bike facility from Glen Coolidge Dr to Hwy 9 to provide eastern access to UCSC.	\$2,380	\$0	\$2,380
Glenwood Cutoff General Improvements (Glenwood Dr to Hwy 17)	CO-P61	Roadway and roadside improvements including bike lanes, left turn lanes, intersection improvements and roadway rehabilitation.	\$3,100	\$0	\$3,100
Glenwood Dr. Improvements (Scotts Valley city limits to State Hwy 17)	CO-P26n	Roadway and roadside improvements including bike lanes, sidewalks, transit turnouts, left turn pockets, merge lanes and intersection improvements.	\$3,000	\$825	\$2,175
Graham Hill Road Multimodal Improvements (City of SC to Hwy 9)	CO-P12	Bike lanes, sidewalks, transit turnouts, left turn pockets, merge lanes, traffic signals. Major rehabilitation and maintenance. Drainage improvements. Signal upgrade at SR9.	\$7,020	\$1,755	\$5,265
Granite Creek Rd Improvements (Branciforte Dr to City of Scotts Valley)	CO-P30h	Improvements of roadways and roadsides on various Major Arterials including addition of bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvements. Roadwork includes major rehabilitation and maintenance of the road and roadsides.	\$1,760	\$0	\$1,760
Granite Creek Road Recycle & Overlay - Part of CO 79B	CO 81	Pavement recycling, asphalt overlay, and restriping of 1.85 miles of Granite Creek Road from Scotts Valley city limits to PM 0.56.	\$1,100	\$1,100	\$0
Green Valley Rd Bridge Replacement Project	CO-P85	The project will consist of completely replacing the existing two lane structure and roadway approaches with a two lane clear span concrete slab bridge and standard bridge approaches.	\$2,110	\$2,110	\$0
Green Valley Rd Pedestrian Safety Project	CO 42b	Build 6-foot wide sidewalk with some curb and gutter on NW side of Green Valley Rd from Airport Blvd to Amesti Rd (1800 ft).	\$390	\$390	\$0
Green Valley Road Improvements	CO-P13	Add two-way left turn lanes from Mesa Verde to Pinto Lake on Green Valley Rd. Also includes some road rehab and maintenance, bike lanes, sidewalks, transit facilities, landscaping, and merge lanes.	\$4,130	\$1,030	\$3,100
Hames Rd Improvements (entire length-Freedom Blvd to Eureka Canyon Rd)	CO-P32b	Road rehab and maint. Roadside improvements--left lane pockets, sidewalks, bike lanes and transit turnouts.	\$3,620	\$0	\$3,620
Harkins Slough Rd. Improvements (entire length-Buena Vista Dr to State Hwy 1)	CO-P32c	Road rehab and maint. Roadside improvements--left lane pockets, sidewalks, bike lanes and transit turnouts.	\$1,760	\$0	\$1,760
Harper St Improvements (entire length-El Dorado Ave to ECM)	CO-P33d	Roadway and roadside improvements on various Minor Collectors including addition of bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvements. Roadwork includes major rehabilitation and maintenance of the road.	\$1,240	\$310	\$930
Highway 17 To Soquel Corridor Chip Seal Project	CO 83	Roadway rehabilitation: Digouts, Chip Seal, and restriping of Vine Hill Rd (Hwy 17 to B40), Branciforte Dr (Vine Hill to PM 0.7), Mt. View Rd (B40-N. Rodeo Gulch), N. Rodeo Gulch Rd (Mt. View-PM 1.97), Laurel Rd (N. Rodeo-Soquel San Jose Rd), and Soquel-San Jose Rd. (Laurel Glen to Dawn Lane) - 9.90 mi.	\$1,881	\$881	\$1,000
Huntington Dr Improvements (Monroe Ave to Valencia Rd.)	CO-P32d	Road rehab and maint. Roadside improvements--left lane pockets, sidewalks, bike lanes and transit turnouts.	\$2,380	\$0	\$2,380
Hwy 152/Holohan - College Intersection	CO 84	Intersection capacity enhancements and signal modifications, pedestrian and bicycle safety improvements. Add sidewalks and bicycle lanes on Holohan Rd, an additional left-turn lane from Holohan to EB Hwy 152, sidewalk on north side of Hwy 152 from Holohan to Corralitos Creek bridge, adds crosswalks and speed feedback signs.	\$3,150	\$3,150	\$0
Jamison Cr Rd Improvements (entire length-Empire Grade to Hwy 236)	CO-P32e	Road rehab and maint. Roadside improvements--left lane pockets, sidewalks, bike lanes and transit turnouts.	\$620	\$0	\$620

Project Title	ID	Project Description/Scope	Est total cost	Constrained	Unconstrained
La Madrona Dr Improvements (El Rancho Dr to City of Scotts Valley)	CO-P14	Bike lanes, sidewalks, transit turnouts, left turn pockets at Sims Road, Highway 17, and El Rancho Road), merge lanes, and intersection improvements. Also includes major rehabilitation, drainage and maintenance.	\$3,620	\$905	\$2,715
Lakeview Road Improvements	CO-P15	Major road rehab, add left turn pocket at College Road, intersection improvements at Carlton Rd. Also add bike lanes, new transit facilities, landscaping. Drainage improvements, merge lanes, and intersection improvements may also be needed.	\$1,240	\$0	\$1,240
Larkin Valley Rd Improvements (San Andreas Rd to Buena Vista Dr)	CO-P30i	Improvements of roadways and roadsides on various Major Arterials including addition of bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvements. Roadwork includes major rehabilitation and maintenance of the road and roadsides.	\$620	\$0	\$620
Larkspur Bridge @San Lorenzo River	CO-P91	The project will consist of completely replacing the existing narrow one lane structure and roadway approaches with a two lane bridge and standard bridge approaches.	\$3,930	\$3,930	\$0
Laurel Glen Rd Improvements (Soquel-San Jose Rd to Mt. View/Rodeo Gulch Rd)	CO-P30j	Improvements of roadways and roadsides on various Major Arterials including addition of bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvements. Roadwork includes major rehabilitation and maintenance of the road and roadsides.	\$1,240	\$0	\$1,240
Ledyard Way Improvements (entire length- Soquel Dr to Soquel Dr)	CO-P31d	Roadway and roadside improvements on various Major Collectors including bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvements.	\$620	\$0	\$620
Lockhart Gulch Improvements (Scotts Valley City limits to end)	CO-P31e	Roadway and roadside improvements on various Major Collectors including bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvements.	\$1,240	\$0	\$1,240
Lockwood Lane Improvements (Graham Hill Rd to SV limits)	CO-P24	Major road rehab, add bicycle lanes, sidewalks, some transit facilities, landscaping, and intersection improvements.	\$881	\$243	\$638
Lompico Rd Bridge Replacement	CO-P95	The project will consist of replacing existing steel stringer bridge with a reinforced concrete slab bridge	\$1,860	\$0	\$1,860
Lompico Rd Improvements (E Zayante Rd. to end)	CO-P30k	Improvements of roadways and roadsides on various Major Arterials including addition of bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvements. Roadwork includes major rehabilitation and maintenance of the road and roadsides.	\$620	\$0	\$620
Maciel Ave Improvements (Capitola Rd to Mattison Ln)	CO-P29e	Improvements of roadways and roadsides on various Minor Collectors including addition of bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvements. Roadwork includes major rehabilitation and maintenance of the road.	\$1,450	\$400	\$1,050
Main St Improvements (Porter St to Cherryvale Ave)	CO-P27e	Roadway and roadside improvements on Major Collector including bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvement.	\$1,760	\$1,760	\$0
Manfre Rd Improvements (entire length- Larkin Valley Rd to Buena Vista Dr)	CO-P33e	Roadway and roadside improvements on various Minor Collectors including addition of bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvements. Roadwork includes major rehabilitation and maintenance of the road.	\$620	\$0	\$620
Mar Monte Ave Improvements (San Andreas Rd to State Hwy 1)	CO-P30l	Improvements of roadways and roadsides on various Major Arterials including addition of bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvements. Roadwork includes major rehabilitation and maintenance of the road and roadsides.	\$620	\$0	\$620
Mar Vista Dr Improvements (entire length- just before Seaciff Dr to Soquel Dr)	CO-P33f	Roadway and roadside improvements on various Minor Collectors including addition of bike lanes, buffered sidewalks, transit turnouts, left turn pockets, merge lanes and intersection improvements. Roadwork includes major rehabilitation and maintenance of the road.	\$300	\$0	\$300
Mattison Ln Improvements (Chanticleer Ave to Soquel Ave)	CO-P26p	Roadway and roadside improvements including bike lanes, sidewalks, transit turnouts, left turn pockets, merge lanes and intersection improvements.	\$1,450	\$400	\$1,050

Project Title	ID	Project Description /Scope	Est total cost	Constrained	Unconstrained
McGregor Dr Improvements (Capitola city limits to Seaside Rd)	CO-P33g	Roadway and roadside improvements on various Minor Collectors including addition of bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvements. Roadwork includes major rehabilitation and maintenance of the road.	\$1,240	\$0	\$1,240
Mesa Dr Improvements (Vienna Drive to Ledyard Way)	CO-P31f	Roadway and roadside improvements on various Major Collectors including bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvements.	\$1,240	\$0	\$1,240
Mill St Improvements (entire length)	CO-P27f	Roadway and roadside improvements on various Major Collectors including bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvement.	\$360	\$360	\$0
Mountain View Rd Improvements (Branciforte Dr to Rodeo Gulch Rd)	CO-P27g	Roadway and roadside improvements on various Major Collectors including bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvement.	\$1,240	\$0	\$1,240
Mt. Hermon Rd. Improvements (Lockhart Gulch to Graham Hill Rd)	CO-P26q	Roadway and roadside improvements including bike lanes, sidewalks, transit turnouts, left turn pockets, merge lanes and intersection improvements.	\$3,000	\$825	\$2,175
Murphy Crossing Improvements	CO-P39	Bikeway on Murphy Crossing (Hwy 129 to Monterey Co line), major rehabilitation and maintenance of road, drainage improvements may also be needed.	\$1,240	\$0	\$1,240
Opal Cliff Dr Improvements (41st Av to Capitola City Limits)	CO-P31g	Roadway, roadside and intersection improvements including sidewalks, bike treatments (such as buffered and/or painted bike lanes), designed to accommodate the number of users and link to East Cliff Drive.	\$1,240	\$290	\$950
Pajaro River Bike Path System	CO-P38	Construction of a Class 1 bike path along the levees and a Class 2 bikeway on Thurwatcher Road and Beach Road.	\$9,500	\$2,500	\$7,000
Paul Minnie Ave. Improvements (Rodriguez St to Soquel Ave)	CO-P29f	Improvements of roadways and roadsides on various Minor Collectors including addition of bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvements. Roadwork includes major rehabilitation and maintenance of the road.	\$1,240	\$340	\$900
Paul Sweet Road Improvements (Soquel Dr to end)	CO-P22	Major road rehab and maintenance. Also adds bike lanes, sidewalks, landscaping. Drainage improvements, merge lanes, and intersection improvements, and new transit facilities may also be needed.	\$1,240	\$310	\$930
Paulsen Rd Improvements (Green Valley Rd to Whiting Rd)	CO-P27h	Roadway and roadside improvements on various Major Collectors including bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvement.	\$1,240	\$240	\$1,000
Pine Flat Rd Improvements (Bonny Doon Rd to Empire Grade Rd)	CO-P28f	Roadway and roadside improvements on various Minor Arterials including addition of bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvements. Roadwork includes major rehabilitation and maintenance of the road.	\$2,380	\$655	\$1,725
Pinehurst Dr Improvements (entire length)	CO-P27i	Roadway and roadside improvements on various Major Collectors including bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvement.	\$880	\$180	\$700
Pioneer Rd Improvements (Amesti Rd to Green Valley Rd)	CO-P31h	Roadway and roadside improvements on various Major Collectors including bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvements.	\$880	\$0	\$880
Polo Dr Improvements (Soquel Dr to end)	CO-P29g	Improvements of roadways and roadsides on various Minor Collectors including addition of bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvements. Roadwork includes major rehabilitation and maintenance of the road.	\$1,450	\$0	\$1,450
Porter St Improvements (Soquel Dr to Paper Mill Rd)	CO-P26r	Roadway and roadside improvements including buffered sidewalks and bicycle treatments (such as buffered and/or painted bike lanes, bike boxes, bike signals) to address speed inconsistency between bicyclists and vehicles, transit turnouts, left turn pockets, merge lanes and intersection improvements.	\$1,240	\$340	\$900
Quail Hollow Rd Bridge Replacement Project	CO-P82	The project will consist of completely replacing the existing two lane structure and roadway approaches with a two lane clear span concrete bridge and standard bridge approaches.	\$2,430	\$0	\$2,430

Project Title	ID	Project Description/Scope	Est total cost	Constrained	Unconstrained
Quail Hollow Rd Improvements (entire length- East Zayante to Glen Arbor Rd)	CO-P32f	Road rehab and maint. Roadside improvements--left lane pockets, sidewalks, bike lanes and transit turnouts.	\$830	\$0	\$830
Rancho Rio Ave @ Newell Creek Bridge Replacement Project	CO-P87	The project will consist of completely replacing the existing one lane structure and roadway approaches with a two lane clear span concrete slab bridge and standard bridge approaches.	\$1,730	\$0	\$1,730
Redwood Lodge Rd (Entire Length)	CO-P51	Roadway and roadside improvements including curb, gutter, sidewalk, bike lanes, left turn lanes, intersection improvements and roadway rehabilitation.	\$3,100	\$0	\$3,100
Redwood Rd Bridge Replacement Project	CO-P89	The project will consist of completely replacing the existing steel army tread way bridge crossing a tributary of Brown's Creek on Redwood Road with a reinforced concrete slab bridge and standard bridge approaches.	\$1,310	\$1,310	\$0
Rio Del Mar Blvd Improvements (Esplanade to Soquel Dr)	CO-P30n	Improvements of roadways and roadsides on various Major Arterials including addition of bike lanes, sidewalks, transit turnouts, left turn pockets, merge lanes and intersection improvements. Roadwork includes major rehabilitation and maintenance of the road and roadsides.	\$3,000	\$725	\$2,275
Rodeo Gulch Rd Improvements (So & North: Mt. View/Laurel Glen Rd to Hwy 1)	CO-P31i	Roadway and roadside improvements on various Major Collectors including bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvements.	\$1,760	\$0	\$1,760
Roland Dr Improvements (30th to 35th)	CO-P31j	Roadway and roadside improvements and implementation of greenway, which gives priority to bicycles and pedestrians on low volume, low speed streets including, pedestrian facilities, way finding and pavement markings, bicycle treatments to connect to new bike/ped connection to 41st.	\$880	\$0	\$880
San Lorenzo River Valley Trail	CO-P46	15 mile, paved multi-use path for bicyclists and pedestrians from Boulder Creek to Santa Cruz.	\$25,830	\$0	\$25,830
San Lorenzo Valley Trail: Hwy 9 - Downtown Felton Bike Lanes & Sidewalks	CO-P46a	Install sidewalks and bicycle lanes on Hwy 9 through downtown Felton.	\$2,270	\$2,270	\$0
San Lorenzo Valley Trail: Hwy 9 - North Felton Bike Lanes & Sidewalks	CO-P46b	Install sidewalk/pedestrian path on west side, shoulder widening to 5' for bicycle lanes from Felton-Empire/Graham Hill Rd to Glen Arbor Road, Ben Lomond, including frontage of SLV elementary, middle and high schools. Includes new and replacement bike/ped bridges.	\$7,640	\$7,640	\$0
San Lorenzo Way Bridge Replacement Project	CO-P83	The project will consist of completely replacing the existing one lane structure and roadway approaches with a two lane clear span bridge and standard bridge approaches.	\$3,190	\$3,190	\$0
Scotts Valley Area Routes Chip Seal Project	CO 85	Roadway rehabilitation: Digouts, Chip Seal, and restriping Mt. Hermon Rd (PM 1.31 to SV city limits), Lockewood Ln (GH-SV city limits), and Graham Hill Rd (Sims to Lockewood) - 2.76mi	\$940	\$940	\$0
Seacliff Dr Improvements (entire length)	CO-P27j	Roadway and roadside improvements on various Major Collectors including bike lanes, sidewalks, transit turnouts, left turn pockets, merge lanes and intersection improvement.	\$1,760	\$0	\$1,760
Seacliff Village/State Park Drive Improvements	CO 36	Construct sidewalks, bike lanes, bus turnouts/stops, central plaza, street lighting, EV charging station, parking, landscaping, drainage and roadway overlay in Seacliff core area- consistent with the Seacliff Village Plan adopted by the BOS in 2003.	\$3,400	\$3,400	\$0
Seascape Blvd Improvements (Sumner Ave to San Andreas Rd)	CO-P26s	Roadway improvements and pavement rehabilitation.	\$620	\$170	\$450
Sims Road Improvements (Graham Hill Rd to La Madrona Dr)	CO-P17	Road rehab and maintenance, drainage, intersection improvements, landscaping, add bike, ped, and transit facilities.	\$1,760	\$440	\$1,320
Smith Grade Improvements (entire length- Empire Grade to Bonny Doon Rd)	CO-P32g	Road rehab and maint. Roadside improvements--left lane pockets, sidewalks, bike lanes and transit turnouts.	\$2,380	\$0	\$2,380

Project Title	ID	Project Description/Scope	Est total cost	Constrained	Unconstrained
Soquel Ave Improvements (City of SC to Gross Rd)	CO-P18	Transit turnouts, two way left turn lanes from Chanticleer to Mattison, merge lanes, signalization and intersection improvements. Signals at Chanticleer and Gross Rd. Roadwork: major rehabilitation and maintenance, perhaps drainage improvements. Roadside: sidewalks, landscaping, and new transit facilities.	\$3,310	\$3,310	\$0
Soquel Dr Improvements (Soquel Ave to Freedom Blvd)	CO-P19	Major rehab, merge lanes, intersections improvements, signal coordination, transit turnouts, fill sidewalk and bike facility gaps, some landscaping.	\$7,540	\$1,885	\$5,655
Soquel Dr Road Improvements (Robertson St to Daubenbiss)	CO-P62	Roadway and roadside improvements including curb, gutter, sidewalk, bike treatments (such as buffered and/or painted bike lanes, bike boxes, bike signals), left turn lanes, intersection improvements and roadway rehabilitation.	\$410	\$410	\$0
Soquel Dr Traffic Signal and Left Turn Lane (Robertson St)	CO-P58	Install left turn lane at signalized intersection from Soquel Dr to Robertson St and associated roadside improvements	\$1,000	\$0	\$1,000
Soquel-San Jose Rd Improvements (Paper Mill Rd to Summit Rd)	CO-P36	Roadway and roadside improvements including bike lanes, sidewalks, transit turnouts, left turn pockets, merge lanes and intersection improvements.	\$2,580	\$580	\$2,000
Soquel-Wharf Rd Improvements (Robertson St to Porter St)	CO-P28g	Roadway and roadside improvements on various Minor Arterials including addition of bike treatments (such as buffered and/or painted bike lanes, bike boxes, bike signals), transit turnouts, left turn pockets, merge lanes and intersection improvements. Roadwork includes major rehabilitation and maintenance of the road.	\$1,030	\$515	\$515
Spreckels Dr Improvements (Soquel Dr to Aptos Beach Dr)	CO-P27k	Roadway and roadside improvements on various Major Collectors including bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvement.	\$1,240	\$340	\$900
Spreckels Dr/Treasure Island Dr Improvements	CO-P42	Addition of bike lanes, intersection improvements, major road rehabilitation, road maintenance, and possible drainage improvements.	\$620	\$0	\$620
State Park Drive Improvements Phase 2	CO-P20	Transit turnouts, two way left turn, merge lanes, intersection improvements, and fill gaps in bike and ped facilities including pedestrian crossing improvements, bike treatments (such as buffered and/or painted bike lanes, bike boxes, bike signals). Plus, major rehabilitation and maintenance, drainage improvements, landscaping.	\$1,340	\$335	\$1,005
Summit Rd Improvements	CO-P26u	Roadway and roadside improvements including bike lanes, sidewalks, transit turnouts, left turn pockets, merge lanes and intersection improvements.	\$5,580	\$1,530	\$4,050
Sumner Ave Improvements (entire length- Rio Del Mar Blvd to end [just past via Novella])	CO-P32h	Road rehab and maint. Roadside improvements--left lane pockets, sidewalks, bike lanes and transit turnouts.	\$1,450	\$0	\$1,450
Swanton Rd Bridge Replacement	CO-P94	The project will consist of replacing existing 3 span steel girder bridge with a single span concrete box girder bridge	\$2,540	\$0	\$2,540
Thompson Ave Improvements (entire length- Capitola Rd to end)	CO-P33h	Roadway and roadside improvements including major rehabilitation and maintenance of road and includes implementation of greenway, which gives priority to bicycles and pedestrians on low volume, low speed streets including, pedestrian facilities, way finding and pavement markings, bicycle treatments to connect to MBSST.	\$1,240	\$0	\$1,240
Thurber Ln Improvements (entire length)	CO-P28h	Roadway and roadside improvements on various Minor Arterials including addition of bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvements. Roadwork includes major rehabilitation and maintenance of the road.	\$1,760	\$485	\$1,275
Thurwachter Road Bike Lanes	CO-P68	Install bicycle lanes.	\$50	\$0	\$50

Project Title	ID	Project Description/Scope	Est total cost	Constrained	Unconstrained
Trout Gulch Rd Improvements (Soquel Dr. to end)	CO-P30p	Improvements of roadways and roadsides on various Major Arterials including addition of bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvements. Roadwork includes major rehabilitation and maintenance of the road and roadsides.	\$3,000	\$0	\$3,000
Upper Zayante Rd Improvements	CO-P98	Roadway and roadside improvements including bike lanes, sidewalks, transit turnouts, left turn pockets, merge lanes and intersection improvements.	\$1,500	\$0	\$1,500
Valencia Rd Improvements (Trout Gulch Rd to Valencia School Rd)	CO-P32j	Road rehab and maint. Roadside improvements--left lane pockets, sidewalks, bike lanes and transit turnouts.	\$1,760	\$0	\$1,760
Varni Rd Improvements (Corralitos Rd to Amesti Rd)	CO-P28i	Roadway and roadside improvements on various Minor Arterials including addition of bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvements. Roadwork includes major rehabilitation and maintenance of the road.	\$1,240	\$340	\$900
Vine Hill Rd Improvements (Branciforte/Mt. View Rd to State Hwy 17)	CO-P30q	Improvements of roadways and roadsides on various Major Arterials including addition of bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvements. Roadwork includes major rehabilitation and maintenance of the road and roadsides.	\$1,450	\$0	\$1,450
Wallace Ave Improvements (entire length- Huntington Dr to end)	CO-P33i	Roadway and roadside improvements on various Minor Collectors including addition of bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvements. Roadwork includes major rehabilitation and maintenance of the road.	\$880	\$0	\$880
Webster St Improvements (Jose Ave to 16th St)	CO-P29h	Improvements of roadways and roadsides on various Minor Collectors including addition of bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvements. Roadwork includes major rehabilitation and maintenance of the road.	\$1,240	\$0	\$1,240
Winkle Ave Improvements (entire length from Soquel Dr)	CO-P27i	Roadway and roadside improvements on various Major Collectors including bike lanes, transit turnouts, left turn pockets, merge lanes and intersection improvement.	\$2,380	\$655	\$1,725
Zayante Road Corridor Chip Seal Project	CO 86	Roadway rehabilitation: Digouts, Chip Seal, and restriping East Zayante & Upper E. Zayante from Quail Hollow to SR 35 (up to 9.07mi). Project to be scaled to match available funds	\$1,725	\$1,025	\$700
County of Santa Cruz Total			\$915,568	\$565,675	\$349,893
Ecology Action					
Bike To Work/School Program	RTC 26	Countywide education, promotion, and incentive program to actively encourage bicycle commuting and biking to school. Coordinates efforts with local businesses, schools, and community organizations to promote bicycling on a regular basis. Provides referrals to community resources. Avg annual cost: \$140K/yr-includes in-kind donations and staff time.	\$3,870	\$1,870	\$2,000
Ecology Action Countywide SRTS Youth Pedestrian and Bicycle Safety Education	EA 02	EA will serve approximately 120 second grade classrooms with 'feet on the ground' pedestrian safety education and 88 fifth grade classrooms with bike safety education and 'rodeos' serving a total of 44 local schools.	\$8,360	\$440	\$7,920
Ecology Action Transportation Employer Membership Program	RTC 17	Community organization that promotes alternative commute choices. Work with employers, incentives for travelers to get out of SOVs including: emergency ride home, interest-free bike loans, discounted bus passes. Avg cost: \$90K/yr. Coordinates with Bike to Work program.	\$2,320	\$1,135	\$1,185
Every Day is Bike to Work Day	EA 03	Pilot bike commuter initiative to increase bike commuting at 6 large employers in Santa Cruz, Live Oak, and Watsonville areas; includes bike commute and safety workshops, online tracking apps/systems, support/encouragement	\$3,360	\$60	\$3,300

Project Title	ID	Project Description/Scope	Est total cost	Constrained	Unconstrained
Monterey Bay Electric Vehicle Alliance (MBEVA)	VAR-P22	Help facilitate this broad collaboration of PEV advocates, businesses, union labor, manufacturers and public agencies to assist the adoption of PEV's in the Monterey Bay region. MBEVA's main goals are to: • Create PEV infrastructure in this region • Educate the public on the benefits of PEV's • Educate gov't agencies on ways to streamline PEV policy, permitting, and implementation and • Help train workforce for PEV related jobs.	\$900	\$200	\$700
Ecology Action Total			\$18,810	\$3,705	\$15,105
SCCRTC					
Bicycle Route Signage Countywide	RTC 32	Define routes, develop and install signs directing bicyclists to preferred routes to various destinations countywide.	\$600	\$600	\$0
Bike Parking Subsidy Program	RTC 16	Subsidies for bicycle racks and lockers for businesses, schools, government agencies, and non-profit organizations are all eligible. Recipients are responsible for installation and maintenance of the equipment. Avg annual cost: \$25K/yr.	\$550	\$210	\$340
County-wide Bicycle, Pedestrian and Vehicle Occupancy Counts	RTC-P50	Conduct counts to assess mode split over time and assess impact of new facilities.	\$432	\$232	\$200
Cruz511 TDM and Traveler Information	RTC 02a	Transportation demand management including centralized traveler information system and ride matching services. Outreach, education and incentives; multimodal traveler information system on traffic conditions, incidents, road and lane closures; ride matching service for carpools, vanpools, and bicyclists; services and information about availability and benefits of all transportation modes, including sharing rides, transit, walking, bicycling, telecommuting, alternative work schedules, alternative fuel vehicles, and park-n-ride lots. Avg annual cost: \$315k.	\$5,290	\$2,640	\$2,650
Environmental Assessment, Economic and Other Analyses of Options for Rail Corridor	RTC-P02a	Environmental assessment, economic and other analyses of a possible future public transit system and other transportation options on the rail corridor right-of-way.	\$8,000	\$8,000	\$0
Freeway Service Patrol (FSP) on Hwy 1 and Hwy 17	RTC 01	Maintain and expand tow truck patrols on Highways 1 and 17. Work with the CHP to quickly clear collisions, remove debris from travel lanes, and provide assistance to motorists during commute hours to keep incident related congestion to a minimum and keep traffic moving. Avg need: \$300k/yr constrained (some from SB1); \$430k/yr total cost.	\$9,460	\$6,600	\$2,860
MBSST - North Coast Rail Trail	TRL 5	Monterey Bay Sanctuary Scenic Trail Network (MBSST) sections ph. 1 Wilder Ranch-Coast Dairies (5.1 mi); ph. 2-Yellow Bank Beach/Panther Beach-Davenport (2.1 mi).	\$20,000	\$20,000	\$0
MBSST - Rail and Hwy 1 Bicycle and Pedestrian Crossing at Laguna Creek Beach	RTC 27d	Design, approval of CPUC, environmental clearance, and construction of a bicycle and pedestrian crossing of the rail line and Hwy 1 to provide access between the Coastal Rail Trail at Laguna Creek Beach and the parking area on the inland side of Hwy 1.	\$2,000	\$0	\$2,000
Measure D Administration and Implementation	RTC-P59	SCCRTC administration, implementation and oversight of Measure D and the revenues generated from the 2016 Santa Cruz County Transportation Sales Tax - Measure D. Costs include annual independent fiscal audits, reports to the public, preparation and implementation of state-mandated reports, oversight committee, preparation of implementation, funding and financing plans, and other responsibilities as may be necessary to administer, implement and oversee the Ordinance and the Expenditure Plan.	\$16,500	\$16,500	\$0
Monterey Bay Sanctuary Scenic Trail Network (Coastal Rail Trail) - Trail Management Program	RTC 27c	Coordinate trail implementation as it traverses multiple jurisdictions to ensure uniformity; serve as Project Manager for construction of some segments; handle environmental clearance; coordinate use in respect to other requirements (closures for ag spraying, etc); solicit ongoing funding and distribute funds to implementing entities through MOUs; coordinate with community initiatives; etc.	\$1,030	\$1,030	\$0

Project Title	ID	Project Description/Scope	Est total cost	Constrained	Unconstrained
Monterey Bay Sanctuary Scenic Trail Network - Design, Environmental Clearance, and Construction	RTC 27a	Design, environmental clearance and construction of the 32-mile rail component of the 50+ mile network of bicycle and pedestrian facilities on or near the coast, with the rail trail as the spine and additional spur trails to connect to key destinations. (Funded segments listed individually.)	\$80,500	\$41,500	\$39,000
Monterey Bay Sanctuary Scenic Trail Network (Coastal Rail Trail) - Maintenance	RTC 27b	Maintenance of the rail trail component of the Monterey Bay Sanctuary Scenic Trail Network - ongoing clean-up, trash/recycling removal, graffiti abatement, brush clearance, surface repairs (from drainage issues, tree root intrusion) etc.	\$9,600	\$4,800	\$4,800
Performance Monitoring	RTC-P51	Transportation data collection and compilation to monitor performance of transportation system to advance goals/targets. Includes travel surveys of commuters, Transportation Demand Management plan, a low-stress bicycle network plan and parking standards plan.	\$1,650	\$220	\$1,430
Planning, Programming & Monitoring (PPM) - SB45	RTC 04	Development and amendments to state and federally mandated planning and programming documents, monitoring of programmed projects. Avg annual cost: \$250K/yr.	\$5,680	\$1,870	\$3,810
Rail and Trail Corridor Management and Maintenance	RTC-P03	Operating expenses for rail line oversight. Avg annual cost:\$175K/yr.	\$3,850	\$3,850	\$0
Rail Line: Freight Service Upgrades	RTC-P41	Upgrade rail line to FRA Class 2 to a condition for reasonable ongoing maintenance into the future. Upgrade crossings, replace jointed rail with continuously welded rail, upgrade signals, and replace ties.	\$25,000	\$0	\$25,000
Rail Transit: Watsonville-Santa Cruz Corridor	RTC-P02	Design, construction, and operation of fixed guideway public transit between Santa Cruz and Watsonville. May be a joint project with the SCCRTC, SCMTD, and local jurisdictions. Annual op cost est: \$5-10M/yr; capital: \$31.5M-\$133M depending on service area and frequency (Total cost reflects Scenario G from 2015Rail Transit Study). Cost shown for 15 years of service during RTP period.	\$283,000	\$0	\$283,000
Railroad Infrastructure Maintenance and Rehabilitation	RTC 36	Protect, maintain and rehabilitate the railroad infrastructure on the Santa Cruz Branch Rail Line including bridges, track, drainage, culverts, signals, etc.	\$22,410	\$22,410	\$0
Real-Time Transit Info	RTC-P58	Develop and maintain distribution channel for disseminating real time transit arrival and departure information to Santa Cruz Metro users. To be developed in coordination with Santa Cruz Metro.	\$520	\$220	\$300
Recreational Rail Infrastructure	RTC 25	Seasonal passenger rail service on Santa Cruz Branch rail line. Infrastructure needed for the service is listed here (e.g. platforms, sidings, pedestrian & disabled access, rail vehicles). Unsubsidized operations will be provided by a private operator and operating costs are therefore not included here. All costs are estimated.	\$5,340	\$0	\$5,340
Regional State Transit Assistance Projects	RTC-P60	State Transit Assistance (STA) eligible transit projects	\$33,220	\$33,220	\$0
RTC Bikeway Map	RTC-P49	Update, print and distribute free SC County Bikeway Map and update GIS files as needed.	\$320	\$320	\$0
SAFE: Call Box System Along Hwys	RTC-P01	Motorist aid system of telephone call boxes along all highways plus maintenance and upgrades. Call boxes may be used to request assistance or report incidents. Avg annual cost: \$245/yr	\$5,390	\$5,390	\$0
Santa Cruz Branch Rail Line Improvements	RTC 03a	Infrastructure preservation for current uses and future transportation purposes.	\$570	\$570	\$0
SCCRTC Administration (TDA)	RTC-P07	SCCRTC as Regional Transportation Planning Agency for Santa Cruz County distributes Transportation Development Act Local Transportation Funds and State Assistance Funds for planning, transit, bicycle facilities and programs, pedestrian facilities and programs and specialized transportation in accordance with state law and the unmet transit needs process. Average annual cost: \$650K/yr.	\$14,300	\$14,300	\$0

Project Title	ID	Project Description/Scope	Est total cost	Constrained	Unconstrained
SCCRTC Planning	RTC-P08	SCCRTC Planning Tasks. Includes public outreach, long and short range planning, interagency coordination. Avg annual cost: \$625k/yr.	\$13,750	\$13,750	\$0
School-Based Mobility/TDM Programs	RTC-P54	Student transportation programs aimed at improving health and well being, transportation safety and sustainability and that facilitate mode shift from driving alone in a motor vehicle to active and group transportation.	\$2,690	\$1,100	\$1,590
Shared Parking Program	RTC-P57	Develop tools to allow adjacent property owners to develop and share parking facilities.	\$150	\$50	\$100
Transportation Demand Management Ordinance and User Guide	RTC-P56	Develop Model TDM Ordinance and User Guide to include provisions for both residential and non-residential projects and address program and facilities improvements in return for reductions in off-street parking requirements.	\$260	\$0	\$260
Vanpool Incentive Program	RTC 15	Assist in start up and retention of vanpools. Includes financial incentives: new rider subsidies, driver bonuses, and empty seat subsidies. Also may include installation of wifi on vans. Avg Annual Cost: \$25k/yr.	\$670	\$100	\$570
SCCRTC Total			\$572,732	\$199,482	\$373,250

SCCRTC/Caltrans

1 - Hwy 1 Corridor Investment Program	RTC 24a	Tier 1 – program level design/environmental analysis to establish a Corridor Investment Program (CIP) to reduce congestion along the 9 mile section of Highway 1 between San Andreas Rd/Larkin Valley Rd (Aptos) and Morrissey Boulevard (Santa Cruz). [Other RTC24_ projects are increments of the Highway 1 CIP.] Caltrans Project ID 05-0C730	\$0	\$0	\$0
2 - Hwy 1: Auxiliary Lanes from 41st Ave to Soquel Ave and Chanticleer Bike/Ped Bridge	RTC 24f	Construct auxiliary lanes and a bicycle/pedestrian overcrossing of Hwy 1 at Chanticleer Ave. Caltrans Project ID 05-0C732	\$32,100	\$32,100	\$0
3 - Hwy 1 Auxiliary Lanes: State Park Dr- Park Ave and Park Ave-Bay/Porter	RTC 24e	Construct approximately 2.5 miles of auxiliary lanes northbound and southbound between State Park Dr and Park Ave interchange and the Park Ave and Bay/Porter interchange. Includes retaining walls, soundwalls and reconstruction of Capitola Avenue overcrossing with wider sidewalks and bike lanes. [Part of Highway 1 CIP project (RTC 24a)]	\$73,000	\$73,000	\$0
5 - Hwy 1: Reconstruct Morrissey Blvd Interchange	RTC 24h	Reconstruct Morrissey Blvd overcrossing with enhanced pedestrian and bicycle treatments (such as buffered or painted facilities) on both sides of the overcrossing, and/or a bicycle/pedestrian overcrossing at Trevethan Ave, reconfigure ramps and local streets to accommodate the new interchange, and ramp metering.[Part of Highway 1 CIP project (RTC 24a), but listed here as standalone project.]	\$45,800	\$0	\$45,800
6 - Hwy 1: Reconstruct Soquel Avenue Interchange	RTC 24i	Reconstruct the overcrossing with enhanced pedestrian and bicycle facilities on both sides, reconfigure ramps and local streets to accommodate the new interchange, and ramp metering. [Part of Highway 1 CIP project (RTC 24a), but listed here as standalone project.]	\$67,330	\$0	\$67,330
7 - Hwy 1: Reconstruct Bay Ave/Porter St and 41st Avenue Interchange	RTC 24j	Reconstruct highway to operate as a single interchange. Includes construction of a frontage road that includes bike lanes and sidewalks connecting the Bay/Porter and 41st Ave intersections ; reconstruction of the Bay/Porter undercrossing and the 41st Avenue overcrossing with enhanced pedestrian and bicycle treatments on both sides, and reconfiguration of ramps and local streets to accommodate local traffic and ramp metering. [Part of the Highway 1 CIP project (RTC 24a), but is listed here as a standalone project.]	\$113,810	\$0	\$113,810
91 - Hwy 1: Reconstruction of 2 Railroad Crossings in Aptos.	RTC 24o	Reconstruct two railroad crossings over Highway 1 in Aptos. [Part of Highway 1 CIP project (RTC 24a), but listed as a standalone project.]	\$41,100	\$0	\$41,100

Project Title	ID	Project Description /Scope	Est total cost	Constrained	Unconstrained
92 - Hwy 1: Auxiliary Lanes from Rio Del Mar Blvd to State Park Dr Including Bridge over Aptos Creek	RTC 24p	Construct auxiliary lanes and reconstruct bridge over Aptos Creek. [Part of Highway 1 CIP project (RTC 24a), but listed as a standalone project.]	\$66,800	\$0	\$66,800
93 - Hwy 1: Auxiliary Lanes from Freedom Blvd to Rio Del Mar Blvd	RTC 24q	Construct auxiliary lanes. [Part of Highway 1 CIP project (RTC 24a), but listed as a standalone project.]	\$16,700	\$0	\$16,700
94 - Hwy 1: Northbound Auxiliary Lane from San Andreas Rd/Larkin Valley Rd to Freedom Blvd	RTC 24r	Construct northbound auxiliary lane. [Note: This project was not included as part of Highway 1 CIP project (RTC 24a).]	\$8,800	\$8,800	\$0
95 - Hwy 1: Reconstruct Remaining Interchanges	RTC 24k	Interchange modifications not identified as separate projects (San Andreas Rd/Larkin Valley Rd, Freedom Blvd, Rio Del Mar Blvd, State Park Dr, and Park Ave) , including reconfiguration of ramps and local streets for ramp meters, enhanced pedestrian and bike treatments (such as buffered or painted facilities) in each direction and sufficient width to allow addition of HOV lanes. [Part of the Highway 1 CIP project (RTC 24a), but is listed here as a standalone project.]	\$127,200	\$0	\$127,200
96 - Hwy 1: Construction of HOV Lanes from San Andreas Rd/Larkin Valley Rd to Morrissey Blvd	RTC 24m	Construction of High Occupancy Vehicle (HOV or Carpool) Lanes on Highway 1 from San Andreas Rd/Larkin Valley Rd to Morrissey Blvd. Cost excludes auxiliary lanes, reconstruction of interchanges for ramp metering, over and under crossings, and traffic operation system (TOS) elements on the corridor. [These costs are listed separately (RTC 24 a,e,f,g,h,i,j, m,n,o,p,q,r). Could be expensed under a complete Hwy 1 HOV Lane project (RTC 24, \$603,000) but currently expensed as a standalone project.]	\$61,980	\$0	\$61,980
97 - Hwy 1: HOV Lanes from San Andreas Rd/Larkin Valley to Morrissey Blvd	RTC 24z	Construct HOV or Carpool lanes on Highway 1 from San Andreas Rd/Larkin Valley Rd to Morrissey Blvd, including auxiliary lanes, reconstruction of interchanges with enhanced bike and pedestrian facilities, arterial and ramp modifications to allow ramp metering, a new bike/ped crossing at Trevehan, and traffic operation system (TOS) element. [Cost if built in entirety: \$603,000. See stand alone projects (RTC24f,e,g,h,i,j,a,m) for cost of incremental implementation.] Caltrans Project ID 05-0C730	\$0	\$0	\$0
98 - Hwy 1: TSM Project from Morrissey to San Andreas Rd.	RTC 24n	Construct the TSM project alternative as described in the Tier 1 environmental study to establish a Highway 1 Corridor Investment Program. Project includes auxiliary lanes, modifications of interchanges with enhanced bike and pedestrian treatment, arterial and ramp modifications to allow ramp metering, a new bike/ped crossing at Trevehan, and traffic operation system (TOS) element. [Cost if built in entirety: \$249,100. Assumes RTC 24f has been completed.]	\$7,800	\$7,800	\$0
Hwy 1 Bicycle/Ped Overcrossing at Mar Vista	RTC 30	Construct a bicycle/pedestrian overcrossing of Hwy 1 in vicinity of Mar Vista Drive, providing improved access to Seaciff and Aptos neighborhoods and schools.	\$0	\$0	\$0
Hwy 1 Ramp Metering: Northern Sections Between San Andreas Road and Morrissey Blvd	RTC 34	Reconfiguration of ramps and local streets to allow for ramp metering and installation of ramp meters. Could be expensed under a separate stand alone project (\$6.7 M)	\$0	\$0	\$0
Hwy 1 Ramp Metering: Southern Sections	CT-P01	Reconfigurations of ramps and installation of ramp meters at interchanges from Hwy 129/Riverside Dr to Mar Monte Ave.	\$20,600	\$0	\$20,600
SCCRTC/Caltrans Total			\$683,020	\$121,700	\$561,320
SCMTD					
ADA Access Improvements	MTD-P51	Add or improve ADA accessibility to all bus stops and METRO facilities.	\$4,222	\$350	\$3,872
ADA Paratransit Service - Continuation of Existing Service	MTD-P10C	Operation & maintenance cost of existing Paratransit service. Avg Annual Cost: \$5.5M.	\$121,000	\$121,000	\$0

Project Title	ID	Project Description/Scope	Est total cost	Constrained	Unconstrained
ADA Paratransit Vehicle Replacements	MTD 02	Replace buses/vans for ADA paratransit fleet (including Accessible Taxi program).	\$14,040	\$6,000	\$8,040
ADA Service Expansion	MTD-P11	Add capacity to meet increased trip demand thru 2040. Assumes 2% increase/year starting in 2019.	\$2,500	\$1,050	\$1,450
Automatic Vehicle Locator and Automatic Passenger Counter Systems	MTD 24	Automatic Vehicle Locator (AVL), Automatic Passenger Counters, and automatic vehicle announcing systems on METRO buses. Provide real time bus arrival/departure displays at bus stops. Necessary IT upgrades and data collection for system operations, security, planning and maintenance.	\$3,200	\$3,200	\$0
Bike Station at Capitola Mall	MTD-P23	Establish bike station at Capitola Mall, especially to serve UCSC. Would be joint mall, UCSC, MTD project.	\$1,030	\$0	\$1,030
Bikes on Buses Expansion	MTD-P20	Add additional space for bikes on articulated buses when/if METRO purchases or leases 60-ft articulated buses.	\$60	\$0	\$60
Bus on Shoulder	MTD-P57	Plan, design, seek Caltrans approvals, and construct improvements to utilize freeway shoulders to bypass congestion on Highway 1 and possibly Highway 17 to speed inter-city bus service	\$12,000	\$0	\$12,000
Bus Rapid Transit	MTD-P15	Construct park & ride lots, transit centers and grade-separation where feasible to operate bus rapid transit to reduce congestion on Highway 1.	\$26,780	\$0	\$26,780
Bus Rebuild and Maintenance	MTD-P31	Rebuild engines; Fleet maintenance equipment. Avg. cost is ~\$250k/bus, increases useful life up to 8 years at 40% of the cost of new buses.	\$5,250	\$5,250	\$0
Bus Replacements	MTD-P04	Replace fleet at the end of normal bus lifetime (approximately every 12 years; \$675 each for local fixed route; \$900k each for Hwy 17 Over the Road coaches).	\$142,420	\$73,000	\$69,420
Bus Stop and Station Improvements	MTD-P52	Improve customer access and/or amenities at bus stops; add bus stop pads to preserve pavement.	\$500	\$500	\$0
Commuter/Subscription Bus Program	MTD-P18	Capital and operating for subscription buses to areas not currently served by express buses (similar to large vanpool).	\$2,070	\$0	\$2,070
Customer IT amenities	MTD-P55	Upgrade Hwy 17 Wi-Fi and expand to local routes; real-time bus arrival website.	\$1,010	\$0	\$1,010
Deviated Fixed-Route Pilot Program	MTD-P43	Pilot project allowing buses to make minor route modifications to address needs of senior and disabled riders.	\$100	\$0	\$100
Electric Non-Fleet Vehicles	MTD-P47	Replace non-revenue vehicles to EV.	\$580	\$0	\$580
EV Fast Charging Stations	MTD-P48	Install 5 electric vehicle charging stations at transit centers.	\$1,030	\$0	\$1,030
Hwy 1 Express Buses	MTD-P27	Hwy 1 express bus replacements - 6 Buses @ \$500k ea. Replace every 12 years.	\$6,200	\$0	\$6,200
Hwy 17 Express Service - Continuation of Baseline Service Levels	MTD-P10B	Operation & maintenance cost of existing Highway 17 Express bus service. Avg annual cost: \$4.5M.	\$99,000	\$99,000	\$0
Hwy 17 Express Service Restoration and Expansion	MTD-P12	Restore Hwy 17 Express service to FY16 levels, then expand service 2% annually. Restore \$300K/yr operating plus 2% annually plus capital costs (2 buses)	\$10,000	\$4,000	\$6,000
Inter-County Paratransit Connection	MTD-P44	Establish paratransit connection location with Santa Clara County.	\$1,290	\$0	\$1,290
Local Transit - Continuation of Baseline Service Levels 2019-2040	MTD-P10	Operation & maintenance cost of existing local fixed route bus service. Avg annual cost: \$38M.	\$836,000	\$836,000	\$0

Project Title	ID	Project Description/Scope	Est total cost	Constrained	Unconstrained
Local Transit Service Restoration and Expansion	MTD-P14	Restore local service to FY16 levels, then expand service 2% annually. Restore \$6.2M/yr operating plus 2% annually plus capital costs (16 buses)	\$173,000	\$72,000	\$101,000
Maintenance Facility Expansion	MTD-P38	Property acquisition, design, and construction of maintenance facility expansion.	\$15,850	\$0	\$15,850
Metro facilities repair/upgrades	MTD-P36	Maintain and upgrade facilities.	\$6,270	\$4,300	\$1,970
Metro rebranding	MTD-P58	Develop marketing program and establish consistent brand with uniform signage, letterhead, ads.	\$500	\$0	\$500
Non-Revenue Vehicle Replacements	MTD-P32	Replace support vehicles.	\$3,450	\$1,200	\$2,250
Pacific Station- Bike Station	MTD-P49	Establish bike station at Pacific Station.	\$410	\$0	\$410
ParaCruz Mobile Data Terminals; Radios	MTD-P30	Replace mobile data terminals in vehicles	\$760	\$400	\$360
ParaCruz Operating Facility	MTD-P28	Design, Right-of-Way and construction for new ParaCruz Operating Facility.	\$12,400	\$0	\$12,400
Park and Ride Facilities	MTD-P53	Fund purchase and construction or lease of parking areas for commuter bus patrons, either surface lot or parking structure.	\$29,400	\$0	\$29,400
Replacement of Watsonville Transit Center	MTD-P56	Replacement transit center at existing or new location.	\$25,000	\$0	\$25,000
Replacement Transit Fareboxes, Ticket Vending Machines, and Fare System Enhancements	MTD 18	Upgrade GFI Farebox system to enable fare media loading, tracking, registration, interoperability via internet. Necessary IT upgrade. System Integrator to analyze and propose integrated fare media strategy. Replacement fareboxes at end of useful life. Replacement of Ticket Vending Machines at end of useful life.	\$5,550	\$1,000	\$4,550
Santa Cruz Metro Center/Pacific Station Renovation	MTD 13	Renovate Pacific Station or construct new transit center in alternate location.	\$25,000	\$0	\$25,000
Senior/Disabled/Low-Income Fixed-Route Transit Incentives	MTD-P42	Incentives to encourage fixed-route bus ridership. Includes existing discounts for Seniors and persons with disabilities. May include free/reduced rates for seniors during off-peak hours, free bus passes to ADA eligible persons, bus pass subsidies for low income riders transportation to employment, and other incentives to encourage use of fixed-route system.	\$17,125	\$0	\$17,125
Signal Priority/Pre-Emption for Buses	MTD-P21	Enable coach operators to actuate traffic signals to prolong green or change red lights to improve transit running time.	\$2,070	\$0	\$2,070
Small Bus Fleet	MTD-P24	Purchase smaller buses for travel through residential neighborhoods. Cost currently unknown.	\$1,700	\$0	\$1,700
Solar Panels for Souza Operations Facility	MTD-P29	Energy reduction through installation of solar panels on the new Judy K. Souza Operations Facility	\$2,000	\$0	\$2,000
South County Operations and Maintenance Facility	MTD-P54	Acquisition of property and construction of second operations and maintenance facilities to better serve South County.	\$50,000	\$0	\$50,000
Transit Mobility Training Program Expansion	MTD-P19	Expand public outreach and training to encourage fixed route, rather than Paratransit, use. Outreach may also involve other partners (ex. DMV, doctors, senior centers, etc). Avg annual cost: \$80K/yr.	\$1,240	\$0	\$1,240
Transit Security and Surveillance Systems	MTD-P33	Enhance passenger safety and facilities security. Emergency response systems.	\$1,140	\$0	\$1,140

Project Title	ID	Project Description /Scope	Est total cost	Constrained	Unconstrained
Transit System Technology Improvements	MTD-P35	Automated Data Processing software, telephones, portable computers, servers, Customer Information Kiosks, digital ID processing equipment. Maintain and upgrade office software and hardware, bandwidth, web site, phone network, to enhance productivity, customer service and maintain functionality.	\$5,490	\$1,000	\$4,490
Transit Technological Improvements	MTD-P06	IT software and hardware upgrades for scheduling, customer service, planning systems. Upgrades every 5 years.	\$5,170	\$2,500	\$2,670
Transit/Paratransit Driver Emergency Training	MTD-P45	Provide training equipment for drivers on new mobility devices (scooters, motorized wheelchairs) plus emergency training and biohazard container and clean-up kits for vehicles.	\$260	\$0	\$260
SCMTD Total			\$1,674,067	\$1,231,750	\$442,317
Seniors Council					
Senior Employment Ride Reimbursement	RTC-P43	Reimburse low income seniors for transit expenses to/from employer sites.	\$1,600	\$1,600	\$0
Seniors Council Total			\$1,600	\$1,600	\$0
UCSC					
Alternative Fuel Fleet Vehicles	UC-P64	Purchase and upgrade fleet vehicles to alt. fueled vehicles (refuse trucks, street sweepers, fleet cars, etc.)	\$3,100	\$500	\$2,600
Alternative Fuel/Electric Shuttle Vehicles	UC-P22	Capital acquisition of vehicles/conversion of shuttles to EV.	\$10,330	\$0	\$10,330
Bike Shuttle Vehicle Acquisition	UC-P51	Acquire more alt fueled vehicles for bike shuttle (and possible expansion).	\$520	\$0	\$520
Bus Tracking and AVL Transit Programs	UC-P62	GPS bus tracking and Automatic Vehicle Locator programs inform travelling population of transit locations so they can make informed mode choices.	\$260	\$260	\$0
College Nine/Communications Pedestrian Bridge	UC-P39	Construct pedestrian bridge.	\$1,030	\$0	\$1,030
College Nine/Crown College Pedestrian Bridge	UC-P37	Construct pedestrian bridge.	\$1,550	\$0	\$1,550
Coolidge Overlook	UC-P42	Improve overlook for parking, benches and signage for Sanctuary.	\$620	\$0	\$620
Disability Van Service	UC-P75	Operate disability van service (\$240k/yr).	\$5,450	\$5,450	\$0
East Collector Transit Hub	UC-P46	New transit hub at East Collector (East Remote) lot.	\$5,170	\$0	\$5,170
Electric Vehicle Charging Stations	UC-P65	Add additional electrical infrastructure and install electric vehicle charging stations around campus.	\$810	\$310	\$500
Great Meadow Bike Path Safety Improvements	UCSC 07	Bike path safety and maintenance improvements: Reconstruct and widen Class 1 bike path, separate pedestrian improvements northbound to minimize conflicts.	\$1,135	\$1,135	\$0
Hagar/McLaughlin Intersection Improvements	UC-P10	Signal, pedestrian safety improvements(including new crosswalk) and roadway improvements.	\$520	\$0	\$520
Hagar/Steinhart Intersection Improvements	UC-P14	Signal, pedestrian safety improvements, transit, roadway improvements.	\$1,030	\$0	\$1,030
Hagar-Coolidge Connector Road/Hagar/East Remote Intersection Improvements	UC-P47	New roadway connector, including bicycle lanes, between Hagar Drive and Coolidge, plus Hagar/East Remote Intersection improvements: signal, pedestrian safety improvements and roadway improvements.	\$3,100	\$0	\$3,100

Project Title	ID	Project Description/Scope	Est total cost	Constrained	Unconstrained
Heller Drive Bicycle Lanes (Empire Grade to Porter College)	UC-P56	Add Class II bicycle lanes in downhill direction as feasible.	\$830	\$0	\$830
Kerr/Porter Rd Pedestrian Bridge ADA Upgrades	UC-P72	Modify bridge to improve access.	\$3,100	\$0	\$3,100
Kresge/Core West Pedestrian Bridge: ADA Upgrades	UC-P57	Modify bridge to enhance ADA access.	\$3,100	\$3,100	\$0
McLaughlin Drive Bike Lanes/Pedestrian Enhancements	UC-P30	Install Class 2 bike lanes and enhance pedestrian circulation on University campus roadway.	\$2,580	\$0	\$2,580
Meyer Drive Extension/Jordan Gulch Bridges	UC-P04	Extension of Meyer Drive from existing Meyer Drive to Hagar Drive. Includes potential construction of two bridges, pedestrian, and bicycle facilities.	\$20,660	\$0	\$20,660
Northern Entrance	UC-P08	Construct new access road including Cave Gulch Bridge to Empire Grade and road and bicycle lanes to Northern Heller Dr. for access and fire safety.	\$10,330	\$0	\$10,330
Northern Loop Roadway	UC-P07	Construct new roadway, including bicycle lanes, on upper campus. Will be phased. Phase I: Chinquapin Extension to support Social Science 3.	\$18,590	\$0	\$18,590
Parking Management Technology Improvements	UC-P68	Updating existing parking management technologies to allow for more effective management, additional parking management at Coastal Marine Campus and 2300 Delaware site.	\$410	\$410	\$0
Pedestrian Directional Map/Wayfinding System	UC-P38	Develop and install signs throughout campus.	\$520	\$520	\$0
Porter/Performing Arts Pedestrian Bridge	UC-P36	Construct pedestrian bridge.	\$1,030	\$0	\$1,030
Science Hill/North Academic Core Pedestrian Bridge	UC-P40	Construct pedestrian bridge.	\$1,030	\$0	\$1,030
Sidewalk/Pedestrian Improvements	UC-P50	Widen sidewalks/improve ped access in areas of campus.	\$5,170	\$0	\$5,170
Spring Street Bikeway	UC-P34	Construct bikeway connecting Spring Street to Hagar Ct.	\$310	\$0	\$310
Steinhart Way Multimodal Improvements	UC-P03	Roadway improvements for shuttles, bikes and pedestrians.	\$520	\$0	\$520
Transit Pullouts and Shelters Enhancements	UC-P19	Construction and installation of transit pullouts and reconstruction of shelters throughout campus.	\$1,550	\$0	\$1,550
Transit Vehicles (ongoing)	UC-P23	Ongoing capital acquisition of transit vehicles for on-campus transit and University shuttles.	\$5,170	\$5,170	\$0
Transportation-Related Stormwater Management Projects	UC-P66	Retrofitting existing transportation facilities and developing new facilities with new stormwater management techniques.	\$1,030	\$1,030	\$0
Traveler Safety Education/Information Programs	UC-P61	Bike/pedestrian safety programs; light and helmet giveaways, safety classes, distracted driver programs, bus etiquette program.	\$660	\$100	\$560
UCSC - Metro Station Bus Rapid Transit Improvements	UC-P48	Bus Rapid Transit Improvements between Metro Station, Bay Street Corridor, and UCSC Roadways.	\$5,170	\$0	\$5,170
UCSC Bicycle Facilities	UC-P55	Add bicycle facilities on campus roadways and paths. Lump sum of projects, including but not limited to UCSC Bicycle Plan that are not listed individually elsewhere in the RTP.	\$1,030	\$0	\$1,030
UCSC Bicycle Parking Improvements	UC-P33	Install bicycle parking facilities to serve bicycle commuters to the University.	\$520	\$520	\$0
UCSC Bike Loan Program	UC-P52	Develop and implement a bike loan program for UC students.	\$1,030	\$0	\$1,030

Project Title	ID	Project Description/Scope	Est total cost	Constrained	Unconstrained
UCSC Bike Showers/Storage Lockers	UC-P32	Install showers and storage facilities to serve bicycle commuters to the University.	\$620	\$0	\$620
UCSC Commute Counseling Program	UC-P69	Staffing program development to individually market to UCSC affiliates on more sustainable means of travel to campus.	\$3,100	\$3,100	\$0
UCSC Commuter Incentive Programs	UC-P70	Provide ongoing support and development of new programs to encourage travel to campus via sustainable modes of travel.	\$1,550	\$1,550	\$0
UCSC Lump Sum Roadway Maintenance	UC-P59	Repaving and rehabilitation of roadways on UCSC campus to maintain existing network.	\$10,330	\$3,100	\$7,230
UCSC Main Entrance Improvements	UC-P01	Realign roadway, transit pullout/shelter, relocate bike parking, construct pedestrian path, historic resource analysis. Work may be done in conjunction with City Roundabout project.	\$2,070	\$2,070	\$0
UCSC Parking Operations & Maintenance	UC-P73	Operate and administer the parking operations for UCSC including planning, TDM, marketing and debt service.	\$70,450	\$70,450	\$0
UCSC Pedestrian/Transit Zone	UC-P44	Pedestrian safety improvements including, colored/textured asphalt and signage at various locations on core campus roadways.	\$1,030	\$0	\$1,030
UCSC Traffic Control	UC-P58	Non-traditional traffic control/crossing guard program at key intersections on UCSC campus to improve pedestrian and vehicle safety, reduce conflicts, improve travel times.	\$2,580	\$2,580	\$0
UCSC Transit Service	UC-P74	Operate the on campus shuttle service and Night Owl (\$3.01m/year).	\$68,410	\$68,410	\$0
UCSC Vanpool Program	UC-P63	Maintain, operate and expand upon UCSC vanpool program.	\$8,680	\$8,680	\$0
Zimride Emergency Preparedness Database	UC-P67	Creating a new database through Zimride to have emergency response evacuation of UCSC campus.	\$310	\$0	\$310
			UCSC Total	\$178,445	\$109,650
Various Agencies					
Active Transportation Plan	VAR-P39	Prepare Active Transportation Plans that address bicycle, pedestrian, safe routes to schools and complete streets facilities within the jurisdictions of Santa Cruz County as well as the Santa Cruz Harbor Port District.	\$2,380	\$2,380	\$0
Bicycle Sharrows	VAR-P03	Install sharrows (shared roadway marking) designating areas where bicyclists should ride on streets, especially when bicycle lanes are not available. To be implemented by local jurisdictions.	\$520	\$520	\$0
Bicycle Treatments for intersection improvements (ADD)	VAR-P32	Add painted bike treatments (such as buffered and/or painted bike lanes, bike boxes, bike detection and signals), at major intersections.	\$4,130	\$4,130	\$0
Bike Share	VAR-P16	Establish and maintain an urban centered bike share program allowing county residents to access loaner bikes at key locations such as downtowns, transit centers, shopping districts, and tourist destinations.	\$5,170	\$5,170	\$0
Bike-Activated Traffic Signal Program	VAR-P05	Provide traffic signal equipment to ensure that the traffic signals will detect bicycles just as cars are detected and ensure that the appropriate traffic signal phase is activated by the bicycles.	\$1,030	\$1,030	\$0

Project Title	ID	Project Description/Scope	Est total cost	Constrained	Unconstrained
Cabrillo College TDM Programs	RTC 33	Provide students and employees at all four Cabrillo College campuses with education, promotion, and incentives that support the use of sustainable transportation modes. Develop information, programs and services customized to meet the transportation needs of the Cabrillo College community. Provide Sustainable Transportation education, promotion, and Go Green program enrollment to Cabrillo College students and employees. Partner with Cabrillo staff and students to reduce SOV trips to the Aptos, Watsonville and Scotts Valley campuses. Provided targeted information and services to Cabrillo members.	\$1,560	\$780	\$780
Carsharing Program	VAR-P06	Program to assist people in sharing a vehicle for occasional use. Implementing Agency TBD, varies.	\$2,580	\$1,290	\$1,290
Climate Action Transportation Programs	RTC-P48	Projects that reduce greenhouse gas emissions through reducing vehicle trips and vehicle miles traveled, increasing fuel efficiency and expanding use of alternatively fueled vehicles. Includes comprehensive outreach and education campaigns, a countywide emergency ride home for those using alternatives, and TDM incentive programs: \$100k/year.	\$2,580	\$2,330	\$250
Complete Streets Implementation	VAR-P27	Additional projects for complete streets implementation that would fall under the Complete Streets Guidelines.	\$10,330	\$10,330	\$0
Coolidge Drive Reconstruction	VAR-P23	Reconstruction of roadway and bike lane.	\$3,100	\$0	\$3,100
Countywide Pedestrian Signal Upgrades	RTC-P26	Grant program to fund installation of accessible pedestrian equipment with locator tones including rapid flashing beacons and count down times etc. to facilitate roadway crossings by visually and mobility impaired persons.	\$2,070	\$1,035	\$1,035
Countywide Senior Driving Training	VAR-P24	Coordinate and enhance current programs that help maturing drivers maintain their driving skills and provides transitional info about driving alternatives. (Current programs are run by AARP and CHP.)	\$800	\$80	\$720
Eco-Tourism - Sustainable Transportation	VAR-P17	Provide sustainable transportation information, incentives and promotions to the estimated one million visitors to Santa Cruz County. Work with the Santa Cruz County Conference and Visitors Council, local lodgings, and tourist attractions.	\$1,030	\$515	\$515
Electric Bicycle Commuter Incentive Program	VAR-P44	Financial incentives, promotion and/or education to encourage residents to use electric bikes instead of commuting by car.	\$3,400	\$1,000	\$2,400
Environmental Mitigation Program	VAR-P38	Allocate funds to protect, preserve, and restore native habitat that construction of transportation projects listed in SCCRTC's RTP could potentially impact. EMP funds will be for uses such as, but not limited to, purchasing land prior to project development to bank for future mitigation needs, funding habitat improvements in advance of project development to leverage and enhance investments by partner agencies.	\$5,680	\$5,680	\$0
Hwy 1 Bike/Ped Bridge (Cabrillo-New Brighton)	CT-P07a	Construction of bike/ped bridge connecting New Brighton State Beach and Cabrillo College as part of larger Nisene SP to the Sea trail concept. Lead agency TBD.	\$8,260	\$0	\$8,260
Live Oak Transit Hub	VAR-P46	Transfer node near rail corridor at 17th Ave - may include transit, rideshare, bicycle, bikeshare, pedestrian to provide regional connections to/from other parts of the county.	\$530	\$530	\$0
Local Arterial ITS Infrastructure	VAR-P11	ITS (Intelligent Transportation Systems): advanced electronics and information technologies to increase the safety and efficiency of the surface transportation system, including vehicle detection devices along major arterials in urbanized areas to alert motorists of incidents.	\$620	\$0	\$620
Lump Sum Bridge Preservation	VAR-P14	Painting, Barrier Rail Replacement, Low Water Crossing, Rehab, and Replacement bridges for SHOPP and Highway Bridge Program (HBP).	\$54,500	\$54,500	\$0

Project Title	ID	Project Description/Scope	Est total cost	Constrained	Unconstrained
Lump Sum Emergency Response Local Roads	VAR-P13	Lump sum for repair of local roads damaged in emergency. (Based on average ER/FEMA/CalEMA funds, storm damage, fire, etc. Costs of repairs assumed under lump sum maintenance and operations within local jurisdiction listings.)	\$23,370	\$23,370	\$0
Mission St/Hwy 1 Bike/Truck Safety Campaign	VAR-P18	Partnership with road safety shareholders including Caltrans, UCSC, City of Santa Cruz, Ecology Action, trucking companies and others to improve bike/truck safety along the Mission Street corridor. Provide safety presentations, videos, brochures, safety equipment, etc.	\$520	\$520	\$0
Mobility Management Center	VAR-P04	Centralized one-stop-shop for information and resources on specialized transportation options. May be combined with 511 and local senior information and assistance efforts. Implementing agency TBD. Est. annual cost: \$100-300k/yr.	\$7,750	\$0	\$7,750
Neighborhood Greenways	VAR-P33	Implement greenways which gives priority to bicycles and pedestrians on low volume, low speed streets including, way finding and pavement markings, bicycle treatments in areas identified for more intensified development in Sustainable Communities Strategy.	\$5,170	\$0	\$5,170
Park and Ride Lot Development	VAR-P26	Upgrade and maintain existing park and ride lots for commuters countywide. Secure additional park and ride lot spaces for motorized vehicles and bicycles. Long range plan: identify, purchase land, construct Park & Ride lots.	\$8,260	\$2,260	\$6,000
Planning for Transit Oriented Development for Seniors	VAR-P25	Evaluate opportunities for Transit Oriented Development serving seniors including access to medical facilities.	\$80	\$80	\$0
Plug-in Electric Vehicle Access, Education & Promotion	VAR-P21	Target motorist looking for a cleaner vehicle by providing access, education and promotion on ever evolving plug-in electric vehicles (PEV). Provide PEV car share, rental and demo drives, educational workshops, online, and hard copy information. Promote through current EA groups, partners, media and other available sources.	\$830	\$0	\$830
Public Transit Marketing	VAR-P20	Initiatives that increase public transit ridership including discount passes, free fare days, commuter clubs, and promotional and marketing campaigns.	\$1,550	\$775	\$775
Public/Private Partnership Bicycle and Pedestrian Connection Plan	VAR-P29	Develop model for assisting local jurisdictions in working with private property owners to allow bicycle and pedestrian access through private property in areas identified for more intensified development in Sustainable Communities Strategy.	\$150	\$150	\$0
Public/Private Partnership Transit Stops and Pull Outs Plan	VAR-P30	Develop model for assisting local jurisdictions in working with businesses to install transit pullouts and shelters on property in areas identified as high quality transit corridors in Sustainable Communities Strategy.	\$150	\$150	\$0
Safe Paths of Travel	VAR-P08	Regional program to construct and/or repair pedestrian facilities adjacent to high frequency use origins and destinations, particularly near transit stops.	\$3,100	\$3,100	\$0
Safe Routes to Schools Studies	VAR-P10	Studies to assess pedestrian and bicycle safety near schools.	\$210	\$210	\$0
Safety Plan	VAR-P36	Develop a safety plan that addresses traffic related injuries and fatalities for all modes of transportation.	\$310	\$310	\$0
Santa Cruz County Open Streets	VAR-P40	Community events promoting alternatives to driving alone as part of a sustainable, healthy, and active life-style. Temporarily opens roadways to bicycle and pedestrian travel only, diverting automobiles to other roadways.(Average annual cost - \$100k/yr)	\$2,000	\$200	\$1,800
School Complete Streets Projects	VAR-P35	Implement ped/bike programs and facilities near schools.	\$10,330	\$10,330	\$0

Project Title	ID	Project Description/Scope	Est total cost	Constrained	Unconstrained
School Safety Programs	VAR-P19	Bicycle and walking safety education and encouragement programs targeting K-12 schools in Santa Cruz County including Ecology Action's Safe Routes to School and Bike Smart programs. Provide classroom and on the bike safety training in an age appropriate method. Provide a variety of bicycle, walking, biking and carpooling encouragement projects ranging from bike to school events, to incentive driven tracking, and educational support activities. Est. annual cost \$150k.	\$3,820	\$1,910	\$1,910
TDM Individualized Employer/Multiunit Housing Program	RTC-P53	Implement individualized employer and multiunit housing TDM programs with incentives for existing development.	\$4,650	\$2,325	\$2,325
Transit Oriented Development Grant Program	RTC-P25	Smart growth grant program to fund TODs that encourage land use and transportation system coordination. May include joint child care/PNR/transit centers.	\$5,170	\$2,570	\$2,600
Transit Priority	VAR-P34	Install transit queues at major intersections.	\$5,170	\$2,585	\$2,585
Transit Service to San Jose Airport	VAR-P43	Provide transit service to San Jose airport from Santa Cruz. Current average annual need \$0.5M	\$11,000	\$0	\$11,000
Transportation Demand Management Plan	VAR-P37	Collaborate with other organizations to develop a coordinated plan for transportation demand management program implementation for Santa Cruz County.	\$310	\$310	\$0
Transportation for Caregivers of Seniors/People with Disabilities	VAR-P42	Transportation service for caregivers of seniors or people with disabilities. Including, but not limited to programs such as, volunteer rides, taxi script, ride to work program. Current avg annual need \$.5M. Constrained=\$0M.	\$11	\$0	\$11
Transportation for Low Income Youth	VAR-P15	Safe, reliable transportation services for foster care children to/from school. Avg annual cost: \$100k/yr.	\$2,580	\$0	\$2,580
Transportation for Low-Income Families	VAR-P41	Transportation service for low income families with children. Includes medical service rides, out-of-county rides, volunteer rides, taxi script, ride to work program, etc. Current avg annual need \$.5M. Constrained=\$0M.	\$11,000	\$0	\$11,000
Transportation System Electrification	VAR-P07	Partnership with local gov't agencies, electric vehicle manufacturers, businesses, and Ecology Action to establish electric vehicle charging stations for EV's, plug-in hybrids, NEV's, as well as ebikes and scooters. Work with manufacturers on developing advanced electric vehicles and educating the public regarding the ease of use and benefits of electric vehicles.	\$51,650	\$51,650	\$0
Uncontrolled Pedestrian Crossing Improvements	VAR-P31	Implement improvements to uncontrolled pedestrian crossing such as painted and/or raised crosswalks, flashing beacons and pedestrian islands.	\$5,170	\$2,570	\$2,600
Watsonville Transit Hub	VAR-P47	Expand transportation mode options at transfer node near rail corridor and current transit center to increase use of transit, rideshare, bicycle, bikeshare, pedestrian to provide regional connections to/from other parts of the county.	\$585	\$585	\$0
West Side Transit Hub	VAR-P45	Transfer node near rail corridor at Natural Bridges Dr - may include transit, rideshare, bicycle, bikeshare, pedestrian to provide regional connections to/from other parts of the county and the university.	\$580	\$580	\$0
Volunteer Center			Various Agencies Total	\$275,746	\$77,906
Volunteer Center Transportation Program	VC-P1	Program providing specialized transportation to seniors and people with disabilities. Constrained=existing TDA allocations.	\$3,750	\$1,640	\$2,110
Volunteer Center Total			\$3,750	\$1,640	\$2,110

Project Title	ID	Project Description / Scope	Est total cost	Constrained	Unconstrained
Watsonville Airport					
Lump Sum Watsonville Municipal Airport Capital Projects	AIR-P01	Projects from the Watsonville Airport Capital Improvement Program. Includes new hangers, reconstruction of aviation apron, security features, and runway extensions.	\$21,700	\$21,700	\$0
Watsonville Municipal Airport Operations	AIR-P02	Ongoing operations/maintenance. Average \$2M/year.	\$44,000	\$44,000	\$0
		Watsonville Airport Total	\$65,700	\$65,700	\$0

Total Within Projected Funds (Constrained) \$3,757,313

Minimum New Funds Needed (Unconstrained) \$3,356,681

*** For some projects no cost estimate was available thus was not included in this total**

Appendix G

Escalated Project Costs

This page intentionally left blank

Appendix G: Escalated Project Costs

The Federal Transportation Act and state guidelines require that the RTP reflect the cost of implementing projects in "year of expenditure dollars" (YOE) and must be financially constrained to match escalated projected revenues. While it is unknown the exact year that most projects will be implemented, this spreadsheet demonstrates how much it would cost to implement the constrained RTP project list if the annual escalation rate were 1.75%. Since the actual year that a project will be constructed may vary and numerous economic and external factors can impact project costs, actual costs and escalation rates will likely vary. Additional information on each project is provided in a separate appendix. This list only includes "Constrained" projects which could be funded within the projected revenues identified in this document.

Figures in \$000s (thousands)

RTP #	Regionally Significant	Project	Constrained Cost Current Year	Escalated Cost Rounded Estimate	Year of Expenditure
AIR-P01	✓	Lump Sum Watsonville Municipal Airport Capital Projects	\$ 21,700	\$ 26,190	Ongoing
AIR-P02	✓	Watsonville Municipal Airport Operations	\$ 44,000	\$ -	Ongoing
CAP 11		Clares Street Traffic Calming	\$ 750	\$ 780	2018-2020
CAP 15		Park Avenue Sidewalks	\$ 650	\$ 670	2018-2020
CAP 16		Bay Avenue/Capitola Avenue Intersection Modifications/Roundabout	\$ 1,000	\$ 1,040	2018-2020
CAP 17		Upper Pacific Cove Parking Lot Pedestrian Trail and Depot Park Metro Development	\$ 310	\$ 320	2018-2020
CAP 18		Brommer Street Complete Street Improvements (250' west of 38th Ave to 41st Ave)	\$ 770	\$ 800	2018-2020
CAP-P03		Upper Capitola Avenue Improvements	\$ 1,340	\$ 1,540	2021-2035
CAP-P04b		Capitola Village Multimodal Enhancements - Phase 2/3	\$ 3,100	\$ 3,560	2021-2035
CAP-P05		Cliff Drive Improvements	\$ 1,550	\$ 1,780	2021-2035
CAP-P06	✓	Citywide General Maintenance and Operations	\$ 40,666	\$ 49,090	Ongoing
CAP-P07		Bay Avenue/Hill Street Intersection	\$ 210	\$ 240	2021-2035
CAP-P07p	✓	Stockton Ave Bridge Rehab	\$ 1,500	\$ 1,720	2021-2035
CAP-P09	✓	Park Avenue/Kennedy Drive Improvements	\$ 360	\$ 410	2021-2035
CAP-P12		Monterey Avenue Multimodal Improvements	\$ 360	\$ 410	2021-2035
CAP-P16		Clares Street Pedestrian Crossing west of 40th Ave	\$ 250	\$ 290	2021-2035
CAP-P17		Citywide Traffic Calming	\$ 1,450	\$ 1,790	2021-2040
CAP-P27		Wheelchair Access Ramps	\$ 200	\$ 220	2018-2035
CAP-P28		Monterey Avenue at Depot Hill	\$ 260	\$ 300	2021-2035
CAP-P29		Bay Avenue Traffic Calming and Bike/Ped Enhancements	\$ 210	\$ 240	2021-2035
CAP-P30		47th Avenue Traffic Calming and Greenway	\$ 100	\$ 110	2021-2035
CAP-P32		Bay Avenue/Monterey Avenue Intersection Modification	\$ 310	\$ 360	2021-2035
CAP-P34		Capitola Village Enhancements: Capitola Ave	\$ 1,030	\$ 1,460	2035-2040
CAP-P37	✓	41st Ave/Capitola Road Intersection Improvements	\$ 520	\$ 600	2021-2035
CAP-P38		40th Ave/Clares St Intersection Improvements	\$ 1,050	\$ 1,210	2021-2035
CAP-P40		46th/47th Ave (Clares to Cliff Dr) Bike Lanes/Traffic Calming	\$ 20	\$ 20	2018-2020
CAP-P41		Brommer/Jade/Topaz St Bike Lanes/Traffic Calming (Western City Limit on Brommer to 47th Ave)	\$ 20	\$ 20	2021-2035
CAP-P42		Clares St Bike Lanes/Sharrows (Capitola Rd to 41st Ave)	\$ 100	\$ 100	2018-2020
CAP-P43		Clares St/41st Ave Bicycle Intersection Improvement	\$ 10	\$ 10	2021-2035
CAP-P44		Gross/41st Ave Bicycle Intersection Improvement	\$ 20	\$ 20	2018-2020
CAP-P46		40th Ave (at Deanes Ln) Bike/Ped connection	\$ 10	\$ 10	2018-2020
CAP-P47	✓	41st Ave (Soquel to Portola) Crosswalks	\$ 20	\$ 20	2018-2020
CAP-P48		Capitola Mall (Capitola Rd to Clares) Bike Path	\$ 50	\$ 50	2018-2020
CAP-P50		Capitola-wide HOV priority	\$ 40	\$ 50	2021-2035
CAP-P51		Citywide Sidewalk Program	\$ 520	\$ 660	2021-2040
CAP-P52		Citywide Bike Projects	\$ 400	\$ 490	2021-2040
CAP-P53		Capitola Rd & 45th Avenue I/S Improvements	\$ 400	\$ 460	2021-2035
CAP-P54		Wharf Road and Stockton Avenue I/S Improvements	\$ 350	\$ 400	2021-2035
CAP-P55		Porter Street and Highway 1 I/S Improvements	\$ 250	\$ 290	2021-2035

RTP #	Regionally Significant	Project	Constrained Cost Current Year	Escalated Cost Rounded Estimate	Year of Expenditure
CAP-P56		Monterey Avenue and Park Avenue I/S Improvements	\$ 400	\$ 570	2035-2040
CAP-P57		Stockton Avenue and Capitola Avenue I/S Improvements	\$ 350	\$ 400	2021-2035
CHP-P01	✓	Hwy 17 Safety Program	\$ 2,200	\$ 2,660	Ongoing
CO 36		Seacliff Village/State Park Drive Improvements	\$ 3,400	\$ 3,910	2021-2035
CO 42b	✓	Green Valley Rd Pedestrian Safety Project	\$ 390	\$ 400	2018-2020
CO 50	✓	Santa Cruz County Health Service Agency - Traffic Safety Education	\$ 2,200	\$ 2,660	Ongoing
CO 64	✓	Aptos Village Plan Improvements	\$ 4,100	\$ 4,240	2018-2020
CO 66		East Cliff Drive Cape Seal (12th-17th)	\$ 230	\$ 240	2018-2020
CO 74		Freedom Blvd Pavement Preservation (Hwy 1 to Pleasant Vly Rd)	\$ 1,430	\$ 1,480	2018-2020
CO 79		Branciforte Drive Road Recycle & Overlay (PM 2.4 to Granite Ck Rd)	\$ 431	\$ 450	2018-2020
CO 80		Glen Arbor Road Recycle, Overlay, & Chip Seal (SR 9-Quail Hollow)	\$ 467	\$ 480	2018-2020
CO 81		Granite Creek Road Recycle & Overlay - Part of CO 79B	\$ 1,100	\$ 1,140	2018-2020
CO 82		Branciforte Drive Chip Seal Project (Granite Creek Rd to SC city limits - 1.91mi)	\$ 433	\$ 450	2018-2020
CO 83		Highway 17 To Soquel Corridor Chip Seal Project	\$ 881	\$ 910	2018-2020
CO 84		Hwy 152/Holohan - College Intersection	\$ 3,150	\$ 3,620	2021-2035
CO 85		Scotts Valley Area Routes Chip Seal Project	\$ 940	\$ 970	2018-2020
CO 86		Zayante Road Corridor Chip Seal Project	\$ 1,025	\$ 1,060	2018-2020
CO-P02	✓	Airport Blvd Improvements (City limits to Green Valley Rd)	\$ 1,240	\$ 1,420	2021-2035
CO-P03		Amesti Road Multimodal Improvements (Green Valley to Brown Valley Rd)	\$ 600	\$ 690	2021-2035
CO-P04		Bear Creek Road Improvements (Hwy 9 to Hwy 35)	\$ 250	\$ 350	2035-2040
CO-P08		Corralitos Road Rehab and Improvements (Freedom Blvd to Hames Rd)	\$ 620	\$ 710	2021-2035
CO-P09	✓	East Cliff Drive Improvements (32nd Ave to Harbor)	\$ 1,500	\$ 1,860	2021-2040
CO-P10	✓	Empire Grade Improvements	\$ 1,190	\$ 1,480	2021-2040
CO-P11	✓	Freedom Blvd Multimodal Improvements (Bonita Dr to City of Watsonville)	\$ 775	\$ 890	2021-2035
CO-P12	✓	Graham Hill Road Multimodal Improvements (City of SC to Hwy 9)	\$ 1,755	\$ 2,480	2035-2040
CO-P13	✓	Green Valley Road Improvements	\$ 1,030	\$ 1,460	2035-2040
CO-P14		La Madrona Dr Improvements (El Rancho Dr to City of Scotts Valley)	\$ 905	\$ 1,280	2035-2040
CO-P17		Sims Road Improvements (Graham Hill Rd to La Madrona Dr)	\$ 440	\$ 620	2035-2040
CO-P18	✓	Soquel Ave Improvements (City of SC to Gross Rd)	\$ 3,310	\$ 4,000	2021-2040
CO-P19	✓	Soquel Dr Improvements (Soquel Ave to Freedom Blvd)	\$ 1,885	\$ 2,170	2021-2035
CO-P20		State Park Drive Improvements Phase 2	\$ 335	\$ 470	2035-2040
CO-P22		Paul Sweet Road Improvements (Soquel Dr to end)	\$ 310	\$ 440	2035-2040
CO-P24		Lockwood Lane Improvements (Graham Hill Rd to SV limits)	\$ 243	\$ 280	2021-2035
CO-P26a	✓	41st Ave Improvements Phase 2 (Hwy 1 Interchange to Soquel Dr)	\$ 340	\$ 390	2021-2035
CO-P26b		Beach Road Improvements (City limits to Pajaro Dunes)	\$ 340	\$ 390	2021-2035
CO-P26d		Brown Valley Rd Improvements (Corralitos Rd to Redwood Rd)	\$ 340	\$ 480	2035-2040
CO-P26e		Buena Vista Rd Improvements (San Andreas to Freedom Blvd)	\$ 825	\$ 1,170	2035-2040
CO-P26g		Cassery Rd Improvements (Hwy 152 to Green Valley Rd)	\$ 208	\$ 290	2035-2040
CO-P26h		Center Ave/Seacliff Dr Improvements (Broadway to Aptos Beach Dr)	\$ 340	\$ 390	2021-2035
CO-P26i		Chanticleer Ave Improvements (Hwy 1 to Soquel Dr)	\$ 340	\$ 390	2021-2035
CO-P26j		East Zayante Rd Improvements (Lompico Rd to just before Summit Rd)	\$ 485	\$ 690	2035-2040
CO-P26k		El Rancho Dr Improvements (Mt. Hermon/Hwy 17 to SC city limits)	\$ 655	\$ 930	2035-2040
CO-P26l		Eureka Canyon Rd Improvements (Hames Rd to Buzzard Lagoon Rd)	\$ 655	\$ 930	2035-2040
CO-P26m	✓	Glen Canyon Rd Improvements (Branciforte Dr to City of Scotts Valley)	\$ 1,640	\$ 2,320	2035-2040
CO-P26n		Glenwood Dr. Improvements (Scotts Valley city limits to State Hwy 17)	\$ 825	\$ 1,170	2035-2040
CO-P26p		Mattison Ln Improvements (Chanticleer Ave to Soquel Ave)	\$ 400	\$ 460	2021-2035
CO-P26q	✓	Mt. Hermon Rd. Improvements (Lockhart Gulch to Graham Hill Rd)	\$ 825	\$ 1,170	2035-2040
CO-P26r		Porter St Improvements (Soquel Dr to Paper Mill Rd)	\$ 340	\$ 390	2021-2035
CO-P26s		Seascape Blvd Improvements (Sumner Ave to San Andreas Rd)	\$ 170	\$ 200	2021-2035
CO-P26u		Summit Rd Improvements	\$ 1,530	\$ 2,160	2035-2040

RTP #	Regionally Significant	Project	Constrained Cost Current Year	Escalated Cost Rounded Estimate	Year of Expenditure
CO-P27a		37th/38th Ave (Brommer to Eastcliff) Multimodal Circulation Improvements and Greenway	\$ 570	\$ 650	2021-2035
CO-P27c		Corcoran Ave Improvements (Alice St to Felt St)	\$ 150	\$ 170	2021-2035
CO-P27e		Main St Improvements (Porter St to Cherryvale Ave)	\$ 1,760	\$ 2,130	2021-2040
CO-P27f		Mill St Improvements (entire length)	\$ 360	\$ 430	2021-2040
CO-P27h		Paulsen Rd Improvements (Green Valley Rd to Whiting Rd)	\$ 240	\$ 340	2035-2040
CO-P27i		Pinehurst Dr Improvements (entire length)	\$ 180	\$ 250	2035-2040
CO-P27k		Spreckels Dr Improvements (Soquel Dr to Aptos Beach Dr)	\$ 340	\$ 480	2035-2040
CO-P27l		Winkle Ave Improvements (entire length from Soquel Dr)	\$ 655	\$ 930	2035-2040
CO-P28a		Bean Creek Rd Improvements (Scotts Valley City Limits to Glenwood Dr)	\$ 485	\$ 690	2035-2040
CO-P28c		Commercial Way Improvements (Mission Dr. to Soquel Dr.)	\$ 170	\$ 240	2035-2040
CO-P28d		Felton Empire Road Improvements (entire length to State Hwy 9)	\$ 655	\$ 930	2035-2040
CO-P28f		Pine Flat Rd Improvements (Bonny Doon Rd to Empire Grade Rd)	\$ 655	\$ 930	2035-2040
CO-P28g		Soquel-Wharf Rd Improvements (Robertson St to Porter St)	\$ 515	\$ 730	2035-2040
CO-P28h		Thurber Ln Improvements (entire length)	\$ 485	\$ 690	2035-2040
CO-P28i		Varni Rd Improvements (Corralitos Rd to Amesti Rd)	\$ 340	\$ 480	2035-2040
CO-P29e		Maciel Ave Improvements (Capitola Rd to Mattison Ln)	\$ 400	\$ 460	2021-2035
CO-P29f		Paul Minnie Ave. Improvements (Rodriguez St to Soquel Ave)	\$ 340	\$ 390	2021-2035
CO-P30d		Cabrillo College Dr Improvements (Park Ave to Twin Lakes Church)	\$ 240	\$ 340	2035-2040
CO-P30n		Rio Del Mar Blvd Improvements (Esplanade to Soquel Dr)	\$ 725	\$ 830	2021-2035
CO-P31g		Opal Cliff Dr Improvements (41st Av to Capitola City Limits)	\$ 290	\$ 410	2035-2040
CO-P33d		Harper St Improvements (entire length-El Dorado Ave to ECM)	\$ 310	\$ 360	2021-2035
CO-P35	✓	Countywide General Road Maintenance and Operations	\$ 446,857	\$ 539,400	Ongoing
CO-P36	✓	Soquel-San Jose Rd Improvements (Paper Mill Rd to Summit Rd)	\$ 580	\$ 690	2021-2040
CO-P37	✓	Countywide ADA Access Ramps	\$ 620	\$ 750	Ongoing
CO-P38		Pajaro River Bike Path System	\$ 2,500	\$ 3,010	2021-2040
CO-P41	✓	Countywide Sidewalks	\$ 7,000	\$ 8,450	Ongoing
CO-P46a	✓	San Lorenzo Valley Trail: Hwy 9 - Downtown Felton Bike Lanes & Sidewalks	\$ 2,270	\$ 2,610	2021-2035
CO-P46b	✓	San Lorenzo Valley Trail: Hwy 9 - North Felton Bike Lanes & Sidewalks	\$ 7,640	\$ 8,780	2021-2035
CO-P50		East Cliff Dr Pedestrian Pathway (7th-12th Ave)	\$ 1,760	\$ 2,020	2021-2035
CO-P62	✓	Soquel Dr Road Improvements (Robertson St to Daubenbiss)	\$ 410	\$ 470	2021-2035
CO-P83		San Lorenzo Way Bridge Replacement Project	\$ 3,190	\$ 4,510	2035-2040
CO-P85		Green Valley Rd Bridge Replacement Project	\$ 2,110	\$ 2,420	2021-2035
CO-P88		Either Way Ln Bridge Replacement Project	\$ 2,180	\$ 3,080	2035-2040
CO-P89		Redwood Rd Bridge Replacement Project	\$ 1,310	\$ 1,510	2021-2035
CO-P90		Fern Dr @ San Lorenzo River Bridge Replacement Project	\$ 2,830	\$ 3,250	2021-2035
CO-P91		Larkspur Bridge @San Lorenzo River	\$ 3,930	\$ 5,560	2035-2040
CO-P96		Capital improvement projects consistent with the Sustainable Santa Cruz County Plan	\$ 11,000	\$ 13,440	2021-2040
CO-P97		County wide guardrail	\$ 15,000	\$ 18,560	2021-2040
CT-P09e	✓	Measure D Hwy 9 Corridor Projects	\$ 7,349	\$ 8,440	2021-2035
CT-P45	✓	State Highway Preservation (bridge, roadway, roadside)	\$ 467,163	\$ 563,910	Ongoing
CT-P46	✓	Collision Reduction & Emergency Projects	\$ 219,714	\$ 265,210	Ongoing
CT-P47	✓	Minors	\$ 2,580	\$ 3,110	Ongoing
CT-P48		Hwy 17 Wildlife Habitat Connectivity	\$ 9,198	\$ 10,570	2021-2035
CTSA-P01	✓	Countywide Specialized Transportation	\$ 46,000	\$ 55,530	Ongoing
EA 02		Ecology Action Countywide SRTS Youth Pedestrian and Bicycle Safety Education	\$ 440	\$ 530	Ongoing
EA 03		Every Day is Bike to Work Day	\$ 60	\$ 60	2018-2020
MTD 02	✓	ADA Paratransit Vehicle Replacements	\$ 6,000	\$ 7,240	Ongoing
MTD 18	✓	Replacement Transit Fareboxes, Ticket Vending Machines, and Fare System Enhancements	\$ 1,000	\$ 1,210	Ongoing

RTP #	Regionally Significant	Project	Constrained Cost Current Year	Escalated Cost Rounded Estimate	Year of Expenditure
MTD 24		Automatic Vehicle Locator and Automatic Passenger Counter Systems	\$ 3,200	\$ 3,310	2018-2020
MTD-P04	✓	Bus Replacements	\$ 73,000	\$ 88,120	Ongoing
MTD-P06	✓	Transit Technological Improvements	\$ 2,500	\$ 3,020	Ongoing
MTD-P10	✓	Local Transit - Continuation of Baseline Service Levels 2019-2040	\$ 836,000	\$ 1,009,130	Ongoing
MTD-P10B	✓	Hwy 17 Express Service - Continuation of Baseline Service Levels	\$ 99,000	\$ 119,500	Ongoing
MTD-P10C	✓	ADA Paratransit Service - Continuation of Existing Service	\$ 121,000	\$ 146,060	Ongoing
MTD-P11	✓	ADA Service Expansion	\$ 1,050	\$ 1,270	2021-2040
MTD-P12	✓	Hwy 17 Express Service Restoration and Expansion	\$ 4,000	\$ 4,860	2021-2040
MTD-P14	✓	Local Transit Service Restoration and Expansion	\$ 72,000	\$ 87,240	2021-2040
MTD-P30	✓	ParaCruz Mobile Data Terminals; Radios	\$ 400	\$ 480	Ongoing
MTD-P31	✓	Bus Rebuild and Maintenance	\$ 5,250	\$ 6,340	Ongoing
MTD-P32	✓	Non-Revenue Vehicle Replacements	\$ 1,200	\$ 1,450	Ongoing
MTD-P35	✓	Transit System Technology Improvements	\$ 1,000	\$ 1,210	Ongoing
MTD-P36	✓	Metro facilities repair/upgrades	\$ 4,300	\$ 5,190	Ongoing
MTD-P51		ADA Access Improvements	\$ 350	\$ 360	2018-2020
MTD-P52		Bus Stop and Station Improvements	\$ 500	\$ 520	2018-2020
RTC 01	✓	Freeway Service Patrol (FSP) on Hwy 1 and Hwy 17	\$ 6,600	\$ 7,970	Ongoing
RTC 02a		Cruz511 TDM and Traveler Information	\$ 2,640	\$ 3,190	Ongoing
RTC 03a	✓	Santa Cruz Branch Rail Line Improvements	\$ 570	\$ 690	Ongoing
RTC 04	✓	Planning, Programming & Monitoring (PPM) - SB45	\$ 1,870	\$ 2,260	Ongoing
RTC 15	✓	Vanpool Incentive Program	\$ 100	\$ 120	2021-2040
RTC 16	✓	Bike Parking Subsidy Program	\$ 210	\$ 250	Ongoing
RTC 17	✓	Ecology Action Transportation Employer Membership Program	\$ 1,135	\$ 1,370	Ongoing
RTC 24e	✓	3 - Hwy 1 Auxiliary Lanes: State Park Dr-Park Ave and Park Ave-Bay/Porter	\$ 73,000	\$ 83,870	2021-2035
RTC 24f	✓	2 - Hwy 1: Auxiliary Lanes from 41st Ave to Soquel Ave and Chanticleer Bike/Ped Bridge	\$ 32,100	\$ 36,410	2018-2035
RTC 24r		94 - Hwy 1: Northbound Auxiliary Lane from San Andreas Rd/Larkin Valley Rd to Freedom Blvd	\$ 8,800	\$ 12,450	2035-2040
RTC 26	✓	Bike To Work/School Program	\$ 1,870	\$ 2,260	Ongoing
RTC 27a	✓	Monterey Bay Sanctuary Scenic Trail Network - Design, Environmental Clearance, and Construction	\$ 41,500	\$ 50,070	2021-2040
RTC 27b	✓	Monterey Bay Sanctuary Scenic Trail Network (Coastal Rail Trail) - Maintenance	\$ 4,800	\$ 5,790	Ongoing
RTC 27c	✓	Monterey Bay Sanctuary Scenic Trail Network (Coastal Rail Trail) - Trail Management Program	\$ 1,030	\$ 1,240	Ongoing
RTC 30	✓	Hwy 1 Bicycle/Ped Overcrossing at Mar Vista	\$ 7,800	\$ 8,730	2018-2035
RTC 32	✓	Bicycle Route Signage Countywide	\$ 600	\$ 660	2018-2035
RTC 33	✓	Cabrillo College TDM Programs	\$ 780	\$ 940	Ongoing
RTC 36		Railroad Infrastructure Maintenance and Rehabilitation	\$ 22,410	\$ 27,050	Ongoing
RTC-P01	✓	SAFE: Call Box System Along Hwys	\$ 5,390	\$ 6,510	Ongoing
RTC-P02a		Environmental Assessment, Economic and Other Analyses of Options for Rail Corridor	\$ 8,000	\$ 9,080	2018-2035
RTC-P03	✓	Rail and Trail Corridor Management and Maintenance	\$ 3,850	\$ 4,650	Ongoing
RTC-P07	✓	SCCRTC Administration (TDA)	\$ 14,300	\$ 17,260	Ongoing
RTC-P08	✓	SCCRTC Planning	\$ 13,750	\$ 16,600	Ongoing
RTC-P25	✓	Transit Oriented Development Grant Program	\$ 2,570	\$ 3,100	Ongoing
RTC-P26	✓	Countywide Pedestrian Signal Upgrades	\$ 1,035	\$ 1,250	Ongoing
RTC-P43	✓	Senior Employment Ride Reimbursement	\$ 1,600	\$ 1,930	Ongoing
RTC-P48	✓	Climate Action Transportation Programs	\$ 2,330	\$ 2,810	Ongoing
RTC-P49	✓	RTC Bikeway Map	\$ 320	\$ 390	2021-2040
RTC-P50	✓	County-wide Bicycle, Pedestrian and Vehicle Occupancy Counts	\$ 232	\$ 280	Ongoing
RTC-P51	✓	Performance Monitoring	\$ 220	\$ 270	Ongoing

RTP #	Regionally Significant	Project	Constrained Cost Current Year	Escalated Cost Rounded Estimate	Year of Expenditure
RTC-P53	✓	TDM Individualized Employer/Multiunit Housing Program	\$ 2,325	\$ 2,810	Ongoing
RTC-P54	✓	School-Based Mobility/TDM Programs	\$ 1,100	\$ 1,330	Ongoing
RTC-P57		Shared Parking Program	\$ 50	\$ 60	2021-2035
RTC-P58		Real-Time Transit Info	\$ 220	\$ 270	Ongoing
RTC-P59		Measure D Administration and Implementation	\$ 16,500	\$ 19,920	Ongoing
RTC-P60		Regional State Transit Assistance Projects	\$ 33,220	\$ 40,100	Ongoing
SC 23		West Cliff Path Minor Widening (David Way Lighthouse to Swanton)	\$ 520	\$ 540	2018-2020
SC 25	✓	Hwy 1/9 Intersection Modifications	\$ 7,850	\$ 8,910	2018-2035
SC 37	✓	Murray St Bridge Retrofit	\$ 11,440	\$ 13,140	2021-2035
SC 38	✓	Hwy 1/San Lorenzo Bridge Replacement	\$ 20,000	\$ 22,980	2021-2035
SC 42	✓	Soquel Ave at Frederick St Intersection Modifications	\$ 310	\$ 320	2018-2020
SC 48		Ocean St Pavement Rehabilitation	\$ 1,030	\$ 1,180	2021-2035
SC 49		Water Street Pavement Rehabilitation(N. Branciforte Ave- Ocean St)	\$ 1,453	\$ 1,670	2021-2035
SC 50		Pacific Ave. Sidewalk	\$ 440	\$ 460	2018-2020
SC 51		River Street Pavement Rehabilitation (Water St to Potrero Street)	\$ 1,000	\$ 1,040	2018-2020
SC-P07		Citywide Operations and Maintenance	\$ 86,249	\$ 104,110	Ongoing
SC-P09		Sidewalk Program	\$ 5,500	\$ 6,640	Ongoing
SC-P100		Seabright/Murray Traffic Signal Modifications	\$ 1,030	\$ 1,180	2021-2035
SC-P101		Swift/Delaware Intersection Roundabout or Traffic Signal	\$ 500	\$ 570	2021-2035
SC-P104		Measure H Road Projects	\$ 41,800	\$ 50,460	Ongoing
SC-P105		Market Street Sidewalks and Bike Lanes	\$ 1,030	\$ 1,460	2035-2040
SC-P109	✓	Bay/High Intersection Modification	\$ 2,150	\$ 2,470	2021-2035
SC-P119	✓	Soquel/Water (Branciforte to Morrissey) Crosswalks	\$ 150	\$ 170	2021-2035
SC-P123		Soquel/Branciforte/Water (San Lorenzo River to Branciforte) Bike Lane Treatments	\$ 410	\$ 470	2021-2035
SC-P125		Citywide Safe Routes to School Projects - ATP	\$ 1,404	\$ 1,450	2018-2020
SC-P126		Almar Ave Sidewalks	\$ 200	\$ 230	2021-2035
SC-P128		Citywide Street Sweeping	\$ 19,800	\$ 23,900	Ongoing
SC-P13		Riverside Ave/Second St Intersection Modification.	\$ 175	\$ 180	2018-2020
SC-P22		Chestnut St. Pathway	\$ 570	\$ 650	2021-2035
SC-P23		Delaware Avenue Complete Streets	\$ 150	\$ 170	2021-2035
SC-P29	✓	Morrissey Blvd. Bike Path over Hwy 1	\$ 300	\$ 340	2021-2035
SC-P30		Murray St to Harbor Path Connection	\$ 210	\$ 240	2021-2035
SC-P35		San Lorenzo River Levee Path Connection	\$ 2,070	\$ 2,930	2035-2040
SC-P47		Chestnut Street Bike Lanes	\$ 100	\$ 110	2021-2035
SC-P59		King Street Bike Facility (entire length)	\$ 2,070	\$ 2,380	2021-2035
SC-P69		Seabright Avenue Bike Lanes (Pine-Soquel)	\$ 2,070	\$ 2,380	2021-2035
SC-P77	✓	Bay Street Corridor Modifications	\$ 970	\$ 1,370	2035-2040
SC-P81	✓	Hwy 1/Mission St at Chestnut/King/Union Intersection Modification	\$ 4,650	\$ 6,580	2035-2040
SC-P83	✓	West Cliff/Bay Street Modifications	\$ 500	\$ 570	2021-2035
SC-P86	✓	Ocean St Streetscape and Intersection, Plymouth to Water	\$ 2,000	\$ 2,830	2035-2040
SC-P90		High St/Moore St Intersection Modification	\$ 100	\$ 100	2018-2020
SC-P91		Shaffer Road Widening and Railroad Crossing	\$ 1,000	\$ 1,410	2035-2040
SC-P93		Beach/Cliff Intersection Signalization	\$ 210	\$ 240	2021-2035
SV 28		Glen Canyon Rd/Green Hills Rd/S. Navarra Dr Bike Corridor and Roadway Preservation	\$ 993	\$ 1,030	2018-2020
SV 29		Glenwood Drive Rehabilitation and Bicycle Improvement Project	\$ 865	\$ 900	2018-2020
SV 30		Kings Village Road/ Bluebonnet Lane Sidewalk	\$ 306	\$ 320	2018-2020
SV-P05		Citywide Sidewalk Program	\$ 2,600	\$ 3,140	Ongoing
SV-P06		Citywide Access Ramps	\$ 210	\$ 250	Ongoing
SV-P21		Lockwood Ln Pedestrian Signal Near Golf Course	\$ 50	\$ 60	2021-2035
SV-P27		Citywide General Maintenance and Operations	\$ 13,459	\$ 16,250	Ongoing
SV-P28		Neighborhood Traffic Calming	\$ 770	\$ 930	Ongoing

RTP #	Regionally Significant	Project	Constrained Cost Current Year	Escalated Cost Rounded Estimate	Year of Expenditure
SV-P30A		Mt Hermon Road Sidewalk Connections	\$ 520	\$ 590	2018-2035
SV-P35		Bean Creek Rd Sidewalks (SVMS to Blue Bonnet)	\$ 410	\$ 470	2021-2035
SV-P40		Lockwoode Lane Sidewalk and Bike Lanes	\$ 520	\$ 600	2021-2035
SV-P42	✓	Synchronize Traffic Signals along Mt. Hermon Road	\$ 100	\$ 100	2018-2020
SV-P45		Scotts Valley Town Center Bicycle/Pedestrian Facilities	\$ 4,130	\$ 4,740	2021-2035
SV-P46	✓	Mt Hermon/King's Village Rd-Transit Signal priority	\$ 80	\$ 90	2021-2035
SV-P47	✓	Mt Hermon/Scotts Valley - Transit Queue Jump	\$ 620	\$ 710	2021-2035
SV-P49		Mt Hermon Rd and Scotts Valley Drive - Crosswalks	\$ 515	\$ 630	2021-2040
SV-P51	✓	Mt. Hermon Road/Town Center Entrance Traffic Signal	\$ 130	\$ 150	2021-2035
SV-P52		Kings Village Rd/Town Center Entrance Traffic Signal	\$ 105	\$ 120	2021-2035
SV-P53		Mt Hermon Rd to El Rancho Drive Bike/Ped Connection	\$ 1,030	\$ 1,460	2035-2040
SV-P54		Mt Hermon Rd/ Spring Lakes Dr. Pedestrian Intersection Improvements	\$ 50	\$ 60	2021-2035
TRL 07SC	✓	MBSST (Coastal Rail Trail): Segment 7 (Natural Bridges to Pacific Ave)	\$ 7,400	\$ 7,660	2018-2020
TRL 18L	✓	MBSST (Coastal Rail Trail): Lee Road, 4000 feet east to City Slough Trail connection	\$ 1,540	\$ 1,590	2018-2020
TRL 18W	✓	MBSST Rail Trail: Walker Street to City Slough Trail connection	\$ 860	\$ 890	2018-2020
TRL 5		MBSST - North Coast Rail Trail	\$ 20,000	\$ 21,730	2018-2035
TRL 8-9a		MBSST (Coastal Rail Trail_ - Segment 8 and 9)	\$ 32,934	\$ 37,840	2021-2035
TRL 8a		San Lorenzo River Bike/Ped Trail at RR Bridge	\$ 1,550	\$ 1,780	2021-2035
UC-P01		UCSC Main Entrance Improvements	\$ 2,070	\$ 2,380	2021-2035
UC-P23		Transit Vehicles (ongoing)	\$ 5,170	\$ 6,240	Ongoing
UC-P33		UCSC Bicycle Parking Improvements	\$ 520	\$ 630	Ongoing
UC-P38		Pedestrian Directional Map/Wayfinding System	\$ 520	\$ 630	Ongoing
UC-P57		Kresge/Core West Pedestrian Bridge: ADA Upgrades	\$ 3,100	\$ 3,560	2021-2035
UC-P58		UCSC Traffic Control	\$ 2,580	\$ 3,110	Ongoing
UC-P59		UCSC Lump Sum Roadway Maintenance	\$ 3,100	\$ 3,740	Ongoing
UC-P61		Traveler Safety Education/Information Programs	\$ 100	\$ 120	Ongoing
UC-P62		Bus Tracking and AVL Transit Programs	\$ 260	\$ 290	2018-2035
UC-P63		UCSC Vanpool Program	\$ 8,680	\$ 10,480	Ongoing
UC-P64		Alternative Fuel Fleet Vehicles	\$ 500	\$ 600	Ongoing
UC-P65		Electric Vehicle Charging Stations	\$ 310	\$ 350	2018-2035
UC-P66		Transportation-Related Stormwater Management Projects	\$ 1,030	\$ 1,240	Ongoing
UC-P68		Parking Management Technology Improvements	\$ 410	\$ 490	Ongoing
UC-P69		UCSC Commute Counseling Program	\$ 3,100	\$ 3,740	Ongoing
UC-P70		UCSC Commuter Incentive Programs	\$ 1,550	\$ 1,870	Ongoing
UC-P73		UCSC Parking Operations & Maintenance	\$ 70,450	\$ 85,040	Ongoing
UC-P74		UCSC Transit Service	\$ 68,410	\$ 82,580	Ongoing
UC-P75		Disability Van Service	\$ 5,450	\$ 6,580	Ongoing
UCSC 07		Great Meadow Bike Path Safety Improvements	\$ 1,135	\$ 1,180	2018-2020
VAR-P03		Bicycle Sharrows	\$ 520	\$ 630	Ongoing
VAR-P05		Bike-Activated Traffic Signal Program	\$ 1,030	\$ 1,240	Ongoing
VAR-P06		Carsharing Program	\$ 1,290	\$ 1,480	2021-2035
VAR-P07		Transportation System Electrification	\$ 51,650	\$ 64,660	2021-2040
VAR-P08		Safe Paths of Travel	\$ 3,100	\$ 3,740	Ongoing
VAR-P10		Safe Routes to Schools Studies	\$ 210	\$ 250	Ongoing
VAR-P13		Lump Sum Emergency Response Local Roads	\$ 23,370	\$ 28,210	Ongoing
VAR-P14		Lump Sum Bridge Preservation	\$ 54,500	\$ 65,790	Ongoing
VAR-P16		Bike Share	\$ 5,170	\$ 6,380	2021-2040
VAR-P17		Eco-Tourism - Sustainable Transportation	\$ 515	\$ 620	Ongoing
VAR-P18	✓	Mission St/Hwy 1 Bike/Truck Safety Campaign	\$ 520	\$ 630	Ongoing
VAR-P19		School Safety Programs	\$ 1,910	\$ 2,310	Ongoing
VAR-P20		Public Transit Marketing	\$ 775	\$ 940	2021-2040
VAR-P22		Monterey Bay Electric Vehicle Alliance (MBEVA)	\$ 200	\$ 240	Ongoing

RTP #	Regionally Significant	Project	Constrained Cost Current Year	Escalated Cost Rounded Estimate	Year of Expenditure
VAR-P24		Countywide Senior Driving Training	\$ 80	\$ 100	Ongoing
VAR-P25		Planning for Transit Oriented Development for Seniors	\$ 80	\$ 100	Ongoing
VAR-P26	✓	Park and Ride Lot Development	\$ 2,260	\$ 2,670	2021-2040
VAR-P27		Complete Streets Implementation	\$ 10,330	\$ 12,400	2021-2040
VAR-P29		Public/Private Partnership Bicycle and Pedestrian Connection Plan	\$ 150	\$ 170	2021-2035
VAR-P30		Public/Private Partnership Transit Stops and Pull Outs Plan	\$ 150	\$ 170	2021-2035
VAR-P31		Uncontrolled Pedestrian Crossing Improvements	\$ 2,570	\$ 3,130	2021-2040
VAR-P32		Bicycle Treatments for intersection improvements (ADD)	\$ 4,130	\$ 5,020	2021-2040
VAR-P34		Transit Priority	\$ 2,585	\$ 3,080	2021-2040
VAR-P35		School Complete Streets Projects	\$ 10,330	\$ 11,870	2021-2035
VAR-P36		Safety Plan	\$ 310	\$ 370	2021-2040
VAR-P37		Transportation Demand Management Plan	\$ 310	\$ 370	2021-2040
VAR-P38		Environmental Mitigation Program	\$ 5,680	\$ 6,860	Ongoing
VAR-P39		Active Transportation Plan	\$ 2,380	\$ 2,870	Ongoing
VAR-P40		Santa Cruz County Open Streets	\$ 200	\$ 240	Ongoing
VAR-P44		Electric Bicycle Commuter Incentive Program	\$ 1,000	\$ 1,200	2021-2040
VAR-P45		West Side Transit Hub	\$ 580	\$ 670	2021-2035
VAR-P46		Live Oak Transit Hub	\$ 530	\$ 610	2021-2035
VAR-P47		Watsonville Transit Hub	\$ 585	\$ 670	2021-2035
VC-P1		Volunteer Center Transportation Program	\$ 1,640	\$ 1,980	Ongoing
WAT 01A		Hwy 1/Harkins Slough Road Interchange: Bicycle/Pedestrian Bridge	\$ 9,900	\$ 11,010	2018-2035
WAT 27a	✓	Main St. (Hwy 152)/Freedom Blvd Roundabout	\$ 1,500	\$ 1,720	2021-2035
WAT 38	✓	Airport Blvd Improvements (Freedom Blvd to City Limits)	\$ 1,346	\$ 1,390	2018-2020
WAT 40	✓	Airport Boulevard Improvements: Westgate/Larkin to Hanger Way	\$ 1,645	\$ 1,700	2018-2020
WAT 42		Green Valley Road Reconstruction (Struve Slough-Freedom Blvd)	\$ 1,598	\$ 1,650	2018-2020
WAT 43		Freedom Boulevard Plan Line	\$ 160	\$ 170	2018-2020
WAT 44		Bicycle Safety Improvements (Various Locations)	\$ 375	\$ 390	2018-2020
WAT 45		Freedom Blvd Reconstruction (Alta Vista to Green Valley)	\$ 2,000	\$ 2,300	2021-2035
WAT-P04		Neighborhood Traffic Plan	\$ 115	\$ 130	2021-2035
WAT-P06		Citywide General Maintenance and Operations	\$ 41,400	\$ 49,970	Ongoing
WAT-P13		Neighborhood Traffic Plan Implementation	\$ 470	\$ 540	2021-2035
WAT-P31		Ohlone Parkway Improvements - Phase 2 (UPRR to West Beach)	\$ 600	\$ 690	2021-2035
WAT-P35		Bridge Maintenance	\$ 115	\$ 130	2021-2035
WAT-P36		Alley Improvements	\$ 60	\$ 70	2021-2035
WAT-P38	✓	Freedom Blvd Undergrounding	\$ 1,270	\$ 1,800	2035-2040
WAT-P40	✓	Main St Modifications (500 Block: Fifth St to East Lake Ave)	\$ 710	\$ 820	2021-2035
WAT-P42		Pajaro Valley High School Connector Trail	\$ 710	\$ 820	2021-2035
WAT-P43		Upper Watsonville Slough Trail	\$ 770	\$ 1,090	2035-2040
WAT-P46		Lower Watsonville Slough Trail	\$ 770	\$ 1,090	2035-2040
WAT-P47	✓	Main St Modifications (City Limit to Lake Ave)	\$ 1,670	\$ 2,360	2035-2040
WAT-P49		2nd/Maple Ave (Lincoln to Walker) Traffic Calming and Greenway	\$ 25	\$ 30	2021-2035
WAT-P50		5th St (Lincoln to Walker) - Traffic Calming and Greenway	\$ 25	\$ 30	2021-2035
WAT-P51		Rodriguez St (Main St to Riverside) - Buffered Bike Lane	\$ 12	\$ 10	2018-2020
WAT-P52		Union/Brennan (Freedom to Riverside) - Sharrows	\$ 12	\$ 10	2018-2020
WAT-P53		Kearney/Rodriguez - Ped Crossing	\$ 35	\$ 40	2021-2035
WAT-P54	✓	Main St - 3 HAWK Signals	\$ 890	\$ 1,260	2035-2040
WAT-P55	✓	Main/Rodriguez/Union/Brennan (Freedom to Riverside) - Crosswalks	\$ 115	\$ 130	2021-2035
WAT-P56		Watsonville-wide HOV priority	\$ 60	\$ 70	2021-2035
WAT-P57		East Lake/Madison - ped crossing	\$ 300	\$ 420	2035-2040
WAT-P58		Main St (Freedom to Riverside) Ped/Bike Enhancements	\$ 890	\$ 1,010	2018-2035
WAT-P59		Downtown Watsonville Universal Streets	\$ 600	\$ 690	2021-2035
WAT-P61		Freedom Blvd (Green Valley Rd to Davis) Bicycle and Pedestrian Improvements	\$ 300	\$ 340	2021-2035

RTP #	Regionally Significant	Project	Constrained Cost Current Year	Escalated Cost Rounded Estimate	Year of Expenditure
WAT-P62		Freedom Blvd Pedestrian Crossings (Airport to Lincoln)	\$ 600	\$ 850	2035-2040
WAT-P65		Upper Struve Slough Trail	\$ 530	\$ 750	2035-2040
WAT-P68		Freedom Blvd (Davis Ave to Green Valley Rd)	\$ 1,730	\$ 1,990	2021-2035
WAT-P72		Freedom Blvd (Green Valley Rd to Buena Vista Dr)	\$ 5,000	\$ 5,740	2021-2035
WAT-P73		Main St Modifications (East Lake Ave to Freedom Blvd)	\$ 1,000	\$ 1,150	2021-2035

Appendix H

Regional Transportation Plan Checklist

This page intentionally left blank

Regional Transportation Plan Checklist

(Revised February 2010)

(To be completed electronically in Microsoft Word format by the MPO/RTPA and submitted along with the draft RTP to Caltrans)

Name of MPO/RTPA: Santa Cruz County Regional Transportation Commission

Date Draft RTP Completed: December 8, 2017

RTP Adoption Date: June 14, 2018

What is the Certification Date of the Environmental Document (ED)? June 13, 2018

Is the ED located in the RTP or is it a separate document? Separate document. Available online at: <http://sccrtc.org/funding-planning/long-range-plans/2040-rtp/>

By completing this checklist, the MPO/RTPA verifies the RTP addresses all of the following required information within the RTP.

Regional Transportation Plan Contents

General	Yes/No	Page #
1. Does the RTP address no less than a 20-year planning horizon? (23 CFR 450.322(a))	Yes	ES-1, App E, App F
2. Does the RTP include both long-range and short-range strategies/actions? (23 CFR part 450.322(b))	Yes	Chp 6, App F, App G
3. Does the RTP address issues specified in the policy, action and financial elements identified in California Government Code Section 65080?	Yes	Chps 4,5,6,7, App E, App F
4. Does the RTP address the 10 issues specified in the Sustainable Communities Strategy (SCS) component as identified in Government Code Sections 65080(b)(2)(B) and 65584.04(i)(1)? (MPOs only)	NA	-
a) Identify the general location of uses, residential densities, and building intensities within the region? (MPOs only)	NA	-

	b) Identify areas within the region sufficient to house all the population of the region, including all economic segments of the population over the course of the planning period of the regional transportation plan taking into account net migration into the region, population growth, household formation and employment growth? (MPOs only)	NA	-
	c) Identify areas within the region sufficient to house an eight-year projection of the regional housing need for the region pursuant to Government Code Section 65584? (MPOs only)	NA	-
	d) Identify a transportation network to service the transportation needs of the region? (MPOs only)	NA	-
	e) Gather and consider the best practically available scientific information regarding resource areas and farmland in the region as defined in subdivisions (a) and (b) of Government Code Section 65080.01? (MPOs only)	NA	-
	f) Consider the state housing goals specified in Sections 65580 and 65581? (MPOs only)	NA	-
	g) Utilize the most recent planning assumptions, considering local general plans and other factors? (MPOs only)	NA	-
	h) Set forth a forecasted development pattern for the region, which, when integrated with the transportation network, and other transportation measures and policies, will reduce the greenhouse gas emissions from automobiles and light trucks to achieve, if there is a feasible way to do so, the greenhouse gas emission reduction targets approved by the ARB? (MPOs only)	NA	-
	i) Provide consistency between the development pattern and allocation of housing units within the region (Government Code 65584.04(i)(1)? (MPOs only)	NA	-
	j) Allow the regional transportation plan to comply with Section 176 of the federal Clean Air Act (42 U.S.C. Section 7506)? (MPOs only)	NA	-
5.	Does the RTP include Project Intent i.e. Plan Level Purpose and Need Statements?	Yes	App F project descriptions
6.	Does the RTP specify how travel demand modeling methodology, results and key assumptions were developed as part of the RTP process? (Government Code 14522.2) (MPOs only)	NA	-

Consultation/Cooperation		Yes/No	Page #
1.	Does the RTP contain a public involvement program that meets the requirements of Title 23, CFR part 450.316(a)?	Yes	App A, 1-12
2.	Did the MPO/RTPA consult with the appropriate State and local representatives including representatives from environmental and economic communities; airport; transit; freight during the preparation of the RTP? (23CFR450.316(3)(b))	Yes	App A
3.	Did the MPO/RTPA who has federal lands within its jurisdictional boundary involve the federal land management agencies during the preparation of the RTP?	Yes	App A
4.	Where does the RTP specify that the appropriate State and local agencies responsible for land use, natural resources, environmental protection, conservation and historic preservation consulted? (23 CFR part 450.322(g))	Yes	A-18 to A-21
5.	Did the RTP include a comparison with the California State Wildlife Action Plan and (if available) inventories of natural and historic resources? (23 CFR part 450.322(g))	Yes	EIR
6.	Did the MPO/RTPA who has a federally recognized Native American Tribal Government(s) and/or historical and sacred sites or subsistence resources of these Tribal Governments within its jurisdictional boundary address tribal concerns in the RTP and develop the RTP in consultation with the Tribal Government(s)? (Title 23 CFR part 450.316(c))		
7.	Does the RTP address how the public and various specified groups were given a reasonable opportunity to comment on the plan using the participation plan developed under 23 CFR part 450.316(a)? (23 CFR 450.316(i))	Yes	App A
8.	Does the RTP contain a discussion describing the private sector involvement efforts that were used during the development of the plan? (23 CFR part 450.316 (a))	Yes	App A
9.	Does the RTP contain a discussion describing the coordination efforts with regional air quality planning authorities? (23 CFR 450.316(a)(2)) (MPO nonattainment and maintenance areas only)	NA	EIR
10.	Is the RTP coordinated and consistent with the Public Transit-Human Services Transportation Plan?	Yes	2-10
11.	Were the draft and adopted RTP posted on the Internet? (23 CFR part 450.322(j))	Yes	www.sccrtc.org/

12.	Did the RTP explain how consultation occurred with locally elected officials? (Government Code 65080(D)) (MPOs only)	NA	-
13.	Did the RTP outline the public participation process for the sustainable communities strategy? (Government Code 65080(E)) (MPOs only)	NA	-

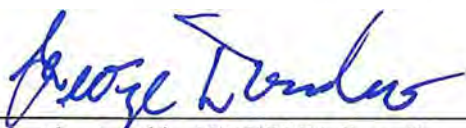
Modal Discussion		Yes/No	Page #
1.	Does the RTP discuss intermodal and connectivity issues?	Yes	Ch 2,3,6
2.	Does the RTP include a discussion of highways?	Yes	2-2 to 2-6, 3-6 to 3-7, 6-3
3.	Does the RTP include a discussion of mass transportation?	Yes	2-8 to 2-15, 3-8 to 3-10, 6-4
4.	Does the RTP include a discussion of the regional airport system?	Yes	2-22 to 2-23
5.	Does the RTP include a discussion of regional pedestrian needs?	Yes	2-17 to 2-19, 6-4 to 6-6
6.	Does the RTP include a discussion of regional bicycle needs?	Yes	2-15 to 2-19, 6-4 to 6-6
7.	Does the RTP address the California Coastal Trail? (Government Code 65080.1) (For MPOs and RTPAs located along the coast only)	Yes	2-19
8.	Does the RTP include a discussion of rail transportation?	Yes	2-10 to 2-15, 6-4
9.	Does the RTP include a discussion of maritime transportation (if appropriate)?	NA	-
10.	Does the RTP include a discussion of goods movement?	Yes	3-11 to 3-13

Programming/Operations		Yes/No	Page #
1.	Is a congestion management process discussed in the RTP? (23 CFR part 450.450.320(b)) (MPOs designated as TMAs only)	NA	-
2.	Is the RTP consistent (to the maximum extent practicable) with the development of the regional ITS architecture?	Yes	2-21 to 2-22
3.	Does the RTP identify the objective criteria used for measuring the performance of the transportation system?	Yes	Ch 4, 7, App D
4.	Does the RTP contain a list of un-constrained projects?	Yes	App F

Financial		Yes/No	Page #
1.	Does the RTP include a financial plan that meets the requirements identified in 23 CFR part 450.322(f)(10)?	Yes	Ch 5, App E
2.	Does the RTP contain a consistency statement between the first 4 years of the fund estimate and the 4-year STIP fund estimate? (2006 STIP Guidelines, Section 19)	Yes	5-8
3.	Do the projected revenues in the RTP reflect Fiscal Constraint? (23 CFR part 450.322(f)(10)(ii))	Yes	Ch 5, App E
4.	Does the RTP contain a list of financially constrained projects? Any regionally significant projects should be identified. (Government Code 65080(4)(A))	Yes	App F, App G
5.	Do the cost estimates for implementing the projects identified in the RTP reflect "year of expenditure dollars" to reflect inflation rates? (23 CFR part 450.322(f)(10)(iv))	Yes	App G
6.	After 12/11/07, does the RTP contain estimates of costs and revenue sources that are reasonably expected to be available to operate and maintain the freeways, highway and transit within the region? (23 CFR 450.322(f)(10)(i))	Yes	Ch 5, App E
7.	Does the RTP contain a statement regarding consistency between the projects in the RTP and the ITIP? (2006 STIP Guidelines section 33)	NA	-
8.	Does the RTP contain a statement regarding consistency between the projects in the RTP and the FTIP? (2006 STIP Guidelines section 19)	Yes	5-7
9.	Does the RTP address the specific financial strategies required to ensure the identified TCMs from the SIP can be implemented? (23 CFR part 450.322(f)(10)(vi) (nonattainment and maintenance MPOs only)	NA	-
Environmental		Yes/No	Page #
1.	Did the MPO/RTPA prepare an EIR or a program EIR for the RTP in accordance with CEQA guidelines?	Yes	EIR
2.	Does the RTP contain a list of projects specifically identified as TCMs, if applicable?	Yes	6-3 to 6-5, App E
3.	Does the RTP contain a discussion of SIP conformity, if applicable? (MPOs only)	NA	-
4.	Does the RTP specify mitigation activities? (23 CFR part 450.322(f)(7))	Yes	8-2 to 8-4, EIR

5.	Where does the EIR address mitigation activities?	Yes	EIR ES
6.	Did the MPO/RTPA prepare a Negative Declaration or a Mitigated Negative Declaration for the RTP in accordance with CEQA guidelines?	NA – prepared EIR	-
7.	Does the RTP specify the TCMs to be implemented in the region? (federal nonattainment and maintenance areas only)	NA	-

I have reviewed the above information and certify that it is correct and complete.



(Must be signed by MPO/RTPA Executive Director or designated representative)



Date

George Dondero

Print Name

Executive Director

Title

\\RTCSERV2\Shared\RTP\2040 RTP (2018)\4-DOCUMENT\DRAFT Final RTP\Appendices\App H -CheckList\App H - checklist.doc

Appendix I

Resolutions

This page intentionally left blank

RESOLUTION NO. 31-18

Adopted by the Santa Cruz County Regional Transportation Commission
on the date of June 14, 2018
on the motion of Commissioner Bertrand
duly seconded by Commissioner Rotkin

A RESOLUTION TO ADOPT CEQA FINDINGS, A STATEMENT OF OVERRIDING CONSIDERATIONS, AND A MITIGATION MONITORING AND REPORTING PROGRAM RELATED TO THE ENVIRONMENTAL IMPACT REPORT CERTIFIED BY THE ASSOCIATION OF MONTEREY BAY AREA GOVERNMENTS FOR THE 2040 SANTA CRUZ COUNTY REGIONAL TRANSPORTATION PLAN

WHEREAS, the Santa Cruz County Regional Transportation Commission is the state-designated Regional Transportation Planning Agency (RTPA) for Santa Cruz County; and

WHEREAS, California Government Code Section 65080 (c) requires that each RTPA adopt and submit an updated Regional Transportation Plan to the California Transportation Commission and the Department of Transportation every five years in non-urban regions; and

WHEREAS, the Santa Cruz County Regional Transportation Plan has been prepared in accordance with California Transportation Commission 2010 Regional Transportation Plan Guidelines, pursuant to Government Code, Section 14522; and

WHEREAS, pursuant to the California Environmental Quality Act (CEQA) (Public Res. Code, §21000 et seq.) and the State CEQA Guidelines (14 Cal. Code Regs. §15000 et seq.), the Association of Monterey Bay Area Governments (AMBAG) is the lead agency for the 2040 Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS) and Regional Transportation Plan for Monterey, San Benito and Santa Cruz County Environmental Impact Report (EIR), which incorporates the 2040 Santa Cruz County Regional Transportation Plan; and

WHEREAS, AMBAG has overseen, in coordination with the Santa Cruz County Regional Transportation Commission, the Transportation Agency for Monterey County and San Benito County Council of Governments the preparation of the EIR for each County's Regional Transportation Plans; and

WHEREAS, AMBAG was designated the Santa Cruz County Regional Transportation Plan EIR lead agency by Santa Cruz County Regional Transportation Commission; and

WHEREAS, AMBAG has prepared and certified the Program EIR (SCH# 2013061052) for the 2040 MTP/SCS, which incorporates the 2040 Santa Cruz County Regional Transportation Plan, in compliance with CEQA; and

WHEREAS, the Final EIR consists of: (1) the Final EIR volume, which is a complete revision of the Draft EIR; and (2) all appendices to the Final EIR, including Appendix F, which

consists of comments received on the Draft EIR, a list of persons, organizations and public agencies commenting of the Draft EIR, responses to significant environmental issues raised in the review and consultation process and other information; and

WHEREAS, CEQA Findings have been prepared in compliance with Public Resources Code §§21081 and CEQA Guidelines Section §15091 for every significant impact of the 2040 Santa Cruz County Regional Transportation Plan identified in the EIR and for each alternative evaluated in the EIR, including an explanation of the rationale for each finding (attached hereto as **Exhibit A**); and

WHEREAS, the 2040 Santa Cruz County Regional Transportation Plan will have significant unavoidable impacts that cannot be avoided or substantially lessened, and a Statement of Overriding Considerations has been prepared in compliance with Public Resources Code §21081 and CEQA Guidelines §15093 (attached hereto as **Exhibit A**), which concludes that specific economic, legal, social, technological, and other benefits of the 2040 Santa Cruz County Regional Transportation Plan outweigh the significant and unavoidable impacts identified in the EIR; and

WHEREAS, a Mitigation Monitoring and Reporting Program has been prepared in compliance with Public Resources Code §21081.6 and CEQA Guidelines §15097 (attached hereto as **Exhibit B**) to ensure implementation of the mitigation measures identified in the Final EIR; and

WHEREAS, all other legal prerequisites to the adoption of this Resolution have occurred; and

WHEREAS, prior to taking action on the Project, the Santa Cruz County Regional Transportation Commission has considered all of the information in the EIR administrative record pertaining to the 2040 Santa Cruz County Regional Transportation Plan, including the Final EIR, and all oral and written evidence presented to it during all meetings and hearings;

NOW BE IT RESOLVED BY THE SANTA CRUZ COUNTY REGIONAL TRANSPORTATION COMMISSION:

1. The Santa Cruz County Regional Transportation Commission accepts that the Final EIR consists of: (1) the Final EIR (2) all appendices to the Final EIR (Appendices A-F), including Appendix F, which consists of comments and recommendations received on the Draft EIR, a list of persons, organizations, and public agencies commenting of the Draft EIR, responses to significant environmental points raised in the review and consultation process, and other information;
2. The Santa Cruz County Regional Transportation Commission makes and adopts the Findings required by Public Resources Code §§21081 and 21081.5. and CEQA Guidelines §15091 and 15096(h), which are attached hereto and included in Exhibit A and incorporated fully by this reference;

3. The Santa Cruz County Regional Transportation Commission adopts the Statement of Overriding Considerations as required by Public Resources Code §21081, and CEQA Guidelines §15093 and 15096(h), which is attached hereto and included in Exhibit A and incorporated fully by this reference; and,
4. The Santa Cruz County Regional Transportation Commission adopts the Mitigation Monitoring and Reporting Program as required by Public Resources Code §21081.6 and CEQA Guidelines §15097, which is attached hereto as Exhibit B and incorporated fully by this reference.

AYES: COMMISSIONERS Bertrand, Bottorff, Chase, Coffman-Gomez
Coonerty, Leopold, Rotkin, and Commissioner Alternates

NOES: COMMISSIONERS V. Johnson, Mulhearn, and Noroyan

ABSTAIN: COMMISSIONERS

ABSENT: COMMISSIONERS

John Leopold, Chair

ATTEST:

George Dondero, Secretary

Exhibit A: CEQA Findings, Statement of Overriding Consideration,
Exhibit B: Mitigation Monitoring and Reporting Program

Distribution: Santa Cruz County Clerk of the Board
RTC Planner
AMBAG

S:\RESOLUTI\2018\RES0618\2018RTP_EIRRes.docx

RESOLUTION NO. 32-18

Adopted by the Santa Cruz County Regional Transportation Commission
on the date of June 14, 2018
on the motion of Commissioner Bertrand
duly seconded by Commissioner Rotkin

**A RESOLUTION ADOPTING THE 2040 SANTA CRUZ COUNTY
REGIONAL TRANSPORTATION PLAN**

WHEREAS, the Santa Cruz County Regional Transportation Commission (RTC) is the state-designated Regional Transportation Planning Agency (RTPA) for Santa Cruz County; and

WHEREAS, California Government Code Section 65080 (c) requires that each RTPA adopt and submit an updated Regional Transportation Plan to the California Transportation Commission and the Department of Transportation every five years in non-urban regions; and

WHEREAS, the Commission has prepared a 2040 Santa Cruz County Regional Transportation Plan which describes goals and policies, financial projections, and programs and projects to be prioritized by the Commission, local jurisdictions, and local, state and regional agencies through 2040; and

WHEREAS, the Regional Transportation Plan was prepared through the conduct of a continuing, comprehensive and coordinated transportation planning process in conformance with all applicable state and federal requirements; and

WHEREAS, the Regional Transportation Plan has been prepared in accordance with California Transportation Commission 2010 Regional Transportation Plan Guidelines, pursuant to Government Code, Section 14522; and

WHEREAS, the required consultation with other agencies was conducted and adequate opportunity for public review and comment was provided, in accordance with state and federal law and consistent with the region's public participation plan, including, but not limited to wide circulation and review by RTC advisory committees representing project sponsors and transportation stakeholders; representatives of State and Federal governmental agencies; representatives of special interest groups; representatives of the private business sector; and residents of Santa Cruz County; and

WHEREAS, a public hearing was conducted on January 18, 2018 to hear and consider comments on the 2040 Santa Cruz County Regional Transportation Plan; and

WHEREAS, the Regional Transportation Plans for Santa Cruz, San Benito and Monterey Counties are compiled within the 2040 Metropolitan Transportation Plan/Sustainable Communities Strategy prepared by the Association of Monterey Bay Area Governments; and

WHEREAS, the environmental impacts of the 2040 Santa Cruz County Regional Transportation Plan are analyzed as part of the 2040 Metropolitan Transportation Plan/Sustainable Communities Strategy and Regional Transportation Plans for Monterey, San Benito and Santa Cruz County EIR,

prepared by AMBAG as the lead agency and reviewed by RTC as responsible agency, with RTC making appropriate findings;

WHEREAS, the North Central Coast Air Basin, within which Santa Cruz County is located, meets Federal Criteria Pollutant Ambient Air Quality Standards, is in Attainment Status for these standards, and is therefore exempt from a Clean Air Act conformity analysis.

WHEREAS, the nature of the action being taken would not, in and of itself, directly cause any environmental impacts, since the action of adopting the RTP alone does not alone enable programs and projects to proceed;

NOW BE IT RESOLVED BY THE SANTACRUZ COUNTY REGIONAL TRANSPORTATION COMMISSION:

1. The 2040 Santa Cruz County Regional Transportation Plan is hereby adopted following certification of the Final EIR by the Association of Monterey Bay Area Governments and the adoption of the Final EIR Findings, Statement of Overriding Consideration, and Mitigation Monitoring Reporting Program by the Santa Cruz County Regional Transportation Commission.

AYES: COMMISSIONERS Bertrand, Bottorff, Chase, Coffman-Gomez Coonerty, Leopold, Rotkin, and Commissioner Alternates

NOES: COMMISSIONERS V.Johnson, Mulhearn, and Noroyan

ABSTAIN: COMMISSIONERS

ABSENT: COMMISSIONERS



John Leopold, CHAIR

ATTEST:



George Dondero, SECRETARY

Distribution: AMBAG, Caltrans, CTC, SCMTD, Cities, County, FHWA

S:\RTP\2040 RTP (2018)\STAFF REPORTS\RTC\20180614\ATT3-2040RTP-RESOLUTION.DOC

4.4 TRANSPORTATION & TRAFFIC

4.4.1 ENVIRONMENTAL SETTING

IN THIS SECTION:

- Regulatory Setting
- Summary of Transportation Modes & Use
- Transportation Plans & Studies
- Road Network & Traffic Conditions
- Bicycle & Pedestrian Circulation
- Public Transit
- Rail Service
- Planned Improvements
- Transportation Management
- Parking

This section was prepared with assistance from Ron Marquez, traffic consultant to the City of Santa Cruz Public Works Department, and Jeff Waller of Hatch Mott MacDonald (formerly Higgins and Associates), who ran the TRAFFIX model and developed Level of Service calculations under the direction of City staff and consultants. A summary of the traffic analysis methodology is included in Appendix C. Traffic volumes and intersection level of service calculations are included in Technical Appendices F-5 and F-6, respectively. The technical appendices are available for review at the City of Santa Cruz Planning Department¹ and are also included on the Draft EIR CD and on the online version of the Draft EIR on the City's website at www.cityofsantacruz.com, Planning Department.

REGULATORY SETTING

A number of local, regional and state agencies are involved with transportation planning and implementation of transportation programs and improvements within the City of Santa Cruz. The City maintains local roadways and bike and pedestrian facilities. The California Department of Transportation (Caltrans) has jurisdiction over State highway segments that traverse the City, including portions of Highways 1, 9, and 17. To help fund local roadway and intersection improvements, the City has developed a "Traffic Impact Fee" (TIF) that is applied to new development at the time of issuance of building permits (see discussion below in the "Planned Transportation Improvements" subsection for more details), and the City is active in acquiring transportation funding from federal and state sources.

¹ Located at 809 Center Street, Room 107, Santa Cruz, California during business hours: Monday through Thursday, 8 AM to 12 PM and 1 to 5 PM.

The City's Zoning Ordinance includes a trip reduction program requirement for specified classifications of employers (Chapter 10.46-Citywide Trip Reduction Program). Key purposes are: to establish programs and requirements for new and existing employers that will help to reduce traffic congestion and to improve air quality; to assist employers in identifying and utilizing cost-effective programs and methods to reduce vehicle trips made by employees; and to ensure the City plays a significant role in promoting alternatives to the use of single-occupant vehicles. The Zoning Ordinance also provides regulations regarding parking and parking space requirements for different land uses in Chapter 12 that include provisions for reduced parking for specified shared parking opportunities.

In addition to the City and Caltrans, other local and regional agencies responsible for transportation services and/or transportation planning include:

- *The Association of Monterey Bay Area Governments (AMBAG)* addresses transportation problems and concerns through its regional transportation system management element and preparation of regional traffic forecasts related to local land use and population projections. AMBAG is the federally designated Metropolitan Planning Organization (MPO) for transportation planning activities in the tri-county Monterey Bay Region. It is the lead agency responsible for developing and administering plans and programs to maintain eligibility and receive federal funds for the transportation systems in the region. AMBAG works with regional transportation planning agencies, transit providers, the Monterey Bay Unified Air Pollution Control District (MBUAPCD), state and federal governments, and organizations having interest in or responsibility for transportation planning and programming. AMBAG also coordinates transportation planning and programming activities with the three counties and 18 local jurisdictions within the Monterey Bay Region. AMBAG develops the Metropolitan Transportation Plan (MTP) and the Metropolitan Transportation Improvement Program (MTIP). (AMBAG website; online at http://www.ambag.org/programs/met_transp_plann.html).
- *The Santa Cruz Metropolitan Transit District (SCMTD)* provides transit services throughout Santa Cruz County.
- *The Santa Cruz Regional Transportation Commission (SCCRTC)* oversees planning and funding programs for local and regional projects within Santa Cruz County using state and federal transportation funds. The City of Santa Cruz has one City representative on the 12-member SCCRTC board and many City transportation projects are funded through grant programs administered by the SCCRTC (Fukuji Planning and Design, July 2003).
- *The University of California at Santa Cruz (UCSC)* implements a transportation systems management and parking program that provides a comprehensive package of commute options, including carpools, bicycles, and transit; free bus passes; and shuttle buses serving all areas of the campus.

SUMMARY OF TRANSPORTATION MODES & USE

The movement of people and goods is provided via a range of transportation modes including private and shared auto on a network of local and regional roads and highways; public transit; bicycle; walking; and rail service that is currently used for freight movement and limited seasonal visitor use. Transportation modes provide access for work, shopping, recreation, and

personal and social purposes. The state highways through the City also carry regional and statewide traffic. Key activity centers in the City include:

- ❑ The Mission Street corridor in the Westside;
- ❑ Ocean Street;
- ❑ Soquel Avenue in the eastside; the downtown area; the beach-Boardwalk area;
- ❑ the Harvey West-River Street area; and
- ❑ UCSC (Fukiji Planning and Design, July 2003).

The joint City-UCSC “Master Transportation Study” (MTS) found that 70% of daily residential mobility within the City is for local trips. For peak-hour travel citywide, 50% is local and 50% is regional travel. Of regional trips, commute in and commute out trips are roughly split in half (Fukiji Planning and Design, July 2003). Surveys conducted as part of the MTS found that 30% of trips in Santa Cruz are for work compared to 25% for social purposes, 18% for personal purposes, 14% for school, and 13% for shopping (Ibid.).

Daily citywide residential trips were made by auto, bus, bicycle and walking. City resident travel patterns identified in the MTS are shown on Figure 4.4-1.² For the PM peak period (4 PM to 7 PM), 80% of all travel modes used a car (68% drove alone and 12% carpooled) and 20% bicycled, walked or rode transit. Of these travel groups, full and part-time employees comprised 84% of the trips, compared to 16% for students and retired persons (Fukiji Planning and Design, July 2003). The Santa Cruz County Regional Transportation Commission reports that the number of people per vehicle has remained fairly constant over the last 15 years at an average of 1.2 persons per vehicle in the morning and 1.3 in the evening based on annual vehicle occupancy counts for Highway 1 and Highway 17 (Santa Cruz County Regional Transportation Commission, June 2010).

LOCAL & REGIONAL TRANSPORTATION PLANS & STUDIES

City-UCSC Master Transportation Study

In April 2000, the City of Santa Cruz and the University of California at Santa Cruz initiated a partnership to jointly fund a community-based approach to planning the City's transportation future that resulted in the completion of “The Master Transportation Study” (MTS). The Mission Statement of the study is to “*Create a Transportation Plan for the City of Santa Cruz that is inspiring, innovative and implementable with broad-based community support.*” The MTS integrates pedestrian, bicycle, transit and street transportation plans and programs as a foundation for updating the City's General Plan, City zoning ordinance, UCSC's Long Range Development Plan and other city and regional transportation planning documents (Fukiji Planning and Design, July 2003). The MTS is not an adopted plan, but was reviewed and accepted by the City Council.

The MTS recommends a series of City-initiated strategies, short-term transit strategies and long-term recommendations to reduce single-occupant trips, increase multiple-occupant vehicles,

² All EIR figures are included in Chapter 7.0 at the end of the EIR (before appendices) for ease of reference as some figures are referenced in several sections.

increase transit, bicycle and pedestrian modes, and improve traffic system efficiency. Elements of these recommendations include an emphasis on carpooling and recommended support of a Bus Rapid Transit (BRT) system. The recommended travel mode splits as envisioned in the MTS would shift as follows:

- ❑ SINGLE-OCCUPANT VEHICLES (SOV): Decrease by 13% for internal trips and 4% for external trips.
- ❑ MULTIPLE-OCUPPANT VEHICLES (MOV): Increase by 4% for internal trips and 3% for external trips.
- ❑ BUS USE: Increase by 2% for internal trips and 1% for external trips.
- ❑ BIKE USE: Increase by 3% for internal trips.
- ❑ PEDESTRIAN USE: Increase by 4% for internal trips (Fukuji Planning and Design, July 2003).
(Fukuji Planning and Design, July 2003).

The following projects are identified as MTS high priority projects:

- ❑ Metrobase Transit District Consolidations Operations Facility,
- ❑ Right-of-Way Acquisition on rail corridor,
- ❑ Bike and pedestrian path on rail right-of-way,
- ❑ Local bike projects and expanded bus service.

Santa Cruz County Regional Transportation Plan (RTP)

The Santa Cruz County Regional Transportation Commission (SCCRTC) deals with transportation issues in Santa Cruz County. The purpose of the SCCRTC is to:

- ❑ Set priorities for major capital improvements to the County's transportation infrastructure, including highways, major roads, rail and alternative transportation facilities.
- ❑ Pursue and allocate funding for all elements of the County's transportation system.
- ❑ Adopt policies to improve mobility, access and air quality.
- ❑ Plan for future projects and programs to improve the regional transportation system.
- ❑ Inform businesses and the public about alternatives to driving alone and the need to better manage our existing transportation system.
- ❑ Conduct programs to encourage the use of alternative transportation modes (Santa Cruz County Regional Transportation Commission website: www.sccrtc.org).

The *Regional Transportation Plan* (RTP) is a state-mandated, long-range plan that serves as a blueprint to guide future transportation funding decisions. The RTP, prepared by the SCCRTC, outlines transportation challenges and establishes investment priorities for all of Santa Cruz County. The plan includes lists of transit, highway, local road, bike, and pedestrian needs in the region and estimates the amount of local, state and federal dollars that may be available for these projects over the next 25 years. The plan is updated to reflect the latest funding and project needs every four to five years (Santa Cruz County Regional Transportation Commission website, online at: <http://www.sccrtc.org/rtp.html>.)

The current version was adopted by the SCCRTC in June 2010. The “2010 RTP” is a minor update of the last version, completed in 2005, and provides guidance for transportation policy and projects through the year 2035. The 2010 RTP is the SCCRTC’s comprehensive planning document, which identifies the goals, projects, and programs that will maintain and improve the County’s transportation system over the next twenty-five years. Identified improvements and projects are categorized as either “Constrained”, meaning there are foreseeable funds for the improvement or “Unconstrained”, meaning new revenues would need to be generated or become available. Individual projects listed in the 2010 RTP must still undergo separate design and environmental processes, and can only be implemented as local, state and federal funds become available (Santa Cruz County Regional Transportation Commission, June 2010).

The 2010 RTP carries forward goals from the 2001 and 2005 RTPs, which are to:

- ❑ Preserve and maintain the existing transportation system, emphasizing safety and efficiency
- ❑ Increase mobility by providing an improved and integrated multi-modal transportation system.
- ❑ Coordinate land use and transportation decisions to ensure that the region’s social, cultural, and economic vitality are sustained for current and future generations.
- ❑ Ensure that the transportation system complements and enhances the natural environment of the Monterey Bay region and reduce greenhouse gas emissions.
- ❑ Make the most efficient use of limited transportation financial resources.
- ❑ Solicit broad public input on all aspects of regional and local transportation plans. Santa Cruz County Regional Transportation Commission, June 2010).

The 2010 RTP assigns future transportation funds to a range of projects and programs designed to maintain the current transportation system, provide traffic congestion relief and broaden transportation options. Key proposals include:

- ❑ Maintenance of the existing transportation network including roads, highways, bike lanes, sidewalks, and transit.
- ❑ Safety and operational improvements to Highways 1, 9, 17, 129 and 152.
- ❑ Adding auxiliary lanes and High Occupancy Vehicle (HOV) lanes on Highway 1 between Aptos and Santa Cruz.
- ❑ Modifications to major arterial roads -- including bus, pedestrian and bicycle facilities.
- ❑ Expanded bus service, with additional Highway 17 Express buses and more Park and Ride lots to serve Silicon Valley, University of California Santa Cruz (UCSC), and south county commuters.
- ❑ Construction of the Monterey Bay Sanctuary Scenic Trail Network along the coast.
- ❑ Local bicycle and pedestrian projects designed to increase bicycle commuting, and provide safe bicycle and pedestrian routes to schools.
- ❑ Expansion of specialized transport services in response to projected increases in senior and disabled populations.

- ❑ Increased availability of information about road conditions, transit operations, and other transportation options.
- ❑ Landscaping and lighting improvements to make transportation corridors part of livable communities (Santa Cruz County Regional Transportation Commission, June 2010).

The 2010 RTP also includes a new discussion on greenhouse gas (GHG) emissions in relation to transportation planning. In the absence of tools to measure the effectiveness of specific RTC policies towards reducing GHGs and without having the specific GHG reduction targets from the state during development of the 2010 RTP, the new chapter introduces some of the best practices which could be included in a portfolio of strategies to meet future emission reduction goals in Santa Cruz County. The RTP includes many projects that pro-actively implement GHG reduction strategies such as: operating a Commute Solutions program to encourage ridesharing; funding freeway service patrols to remove incidents and improve traffic flow; adding high occupancy vehicle lanes in the Highway 1 corridor to encourage carpools, vanpools and transit use; acquiring the rail corridor for goods movement, bicycle and pedestrian access and possible passenger service; and supporting bicycle, pedestrian and transit projects (Santa Cruz County Regional Transportation Commission, June 2010).

Monterey Bay Area Metropolitan Transportation Plan (AMBAG)

AMBAG is the MPO (Metropolitan Planning Organization) for the Monterey Bay Area, and as the region's MPO, AMBAG is required to produce certain documents that maintain the region's eligibility for federal transportation assistance. The Metropolitan Transportation Plan (MTP) is the federally mandated long-range transportation plan for the Monterey Bay Area. This plan lays out a financially constrained list of transportation projects over the following 25 years that will enhance regional mobility (AMBAG website, "Metropolitan Transportation Plan", online at: http://www.ambag.org/programs/met_transp_plann/mtp.html).

Federal regulations require that this long-range transportation plan be both financially constrained and fall under the on-road motor vehicle emissions budget included in the Federal Air Quality Maintenance Plan. The MTP, referenced as *Monterey Bay Area Mobility 2035*, was approved by the AMBAG Board of Directors on June 8, 2010, and includes goals, policies, programs and projects to meet the stated objectives and meet the transportation needs and deficiencies. Programs and projects are taken from each county's RTP and first incorporated, in their entirety, into the MTP (AMBAG, June 2010).

As a region that meets federal standards for ozone precursors, the region is considered to be in 'attainment' for those standards. As an attainment region, the MTP is only required to be updated every five years. Because new state legislation, SB 375, calls for MPOs to prepare a Sustainable Communities Strategy (SCS) to be used to synchronize and coordinate both the metropolitan transportation planning process and the regional housing needs allocation process, AMBAG is treating this 2010 update of the MTP as a minor update. Beginning with the 2012 update, AMBAG is moving to a four-year update cycle to align regional planning efforts for transportation with an eight year housing planning cycle. (AMBAG website, "Metropolitan Transportation Plan", online at: http://www.ambag.org/programs/met_transp_plann/mtp.html).

Caltrans' Corridor System Management Plan

Caltrans is in the process of developing a “Corridor System Management Plan” (CSMP) for Highway 1 from the junction of Highway 68 in Monterey County to King Street/Mission Street in Santa Cruz to develop strategies to manage the corridor and sustain existing transportation investments (Caltrans, October 2010). The draft plan indicates that the following strategies will be used to manage State Route 1 over the next 20 years:

- ❑ Maintenance and preservation of the roadway.
- ❑ Support improvement of transit service, including new express bus service on the HOV lanes planned for the Santa Cruz corridor.
- ❑ Support land use and transportation planning efforts such as AMBAG’s “Blueprint Plan”.
- ❑ Reduce congestion by encouraging programs that increase the use of transit, improve bicycle and pedestrian programs and encourage programs such as carpools, ridesharing, telecommuting and park-and-ride facilities to reduce demand.
- ❑ Intelligent Transportation Systems/Traveler Information/Traffic Management to clear congestion after collisions.
- ❑ Operational Improvements, including auxiliary lanes, intersection improvements, ramp metering (Caltrans, October 2010).

ROAD NETWORK & TRAFFIC CONDITIONS

Road and Highway Network

LOCAL ROADWAYS

The City’s road system consists of arterial highways and arterial, collector and local streets (see Figure 4.4-2). These different classifications relate to different transportation functions and are classified in terms of access, mobility, design and use. Additionally, visitor/coastal access and truck routes have been designated to facilitate the movement of visitor traffic and commodities.

Highways and arterial streets carry the City’s heaviest traffic flows and provide regional and inter-community access. State highways through the City are described in the following section. Major arterial streets within the City include:

- ❑ Ocean Street (the primary north-south arterial);
- ❑ Mission Street, Water Street, Soquel Avenue and Broadway Avenue-Laurel Street (the primary east-west arterials);
- ❑ Other designated arterial streets include Bay Street, Delaware Avenue, Morrissey Blvd., Murray Street-San Lorenzo Blvd., Seabright Avenue, Market Street, Beach Street, Second Street, Front Street, Pacific Avenue, Cedar Avenue, Center Street, Walnut Street, River Street and High Street.

Collector streets provide circulation within and between neighborhoods and commercial and industrial areas. These streets usually serve relatively short trips and are meant to collect traffic from local streets and distribute them to the arterial network. Examples of collector streets

include: California Street, Chestnut Street, Escalona Drive, Fairmount Street, Frederick Street, King Street, Swift Street, and West Cliff Drive.

Local streets provide direct access to abutting land uses, collectors, or arterials, and usually do not accommodate bus routes.

Visitor/coastal access routes are intended to be inviting to visitors and to provide convenient, clear access to and from visitor and coastal destinations. Highways 1 and 17, Ocean Street and Mission Street are key visitor routes into Santa Cruz and the City's beach areas. West Cliff Drive also provides a scenic route along the coast.

Truck routes are intended to channel trucks through the community and away from residential and other areas where they would be a nuisance. The truck routes in the City are Highway 1 – Mission Street, Highway 17, Bay Street north of Mission, Empire Grade west of Bay, Highway 9, Morrissey Boulevard, and Soquel Avenue.

STATE HIGHWAYS

State highways that go through the City of Santa Cruz include segments of Highways 1, 17, and 9. Though referenced as “state routes” in Caltrans documents, the more common term, “highway”, is used in this EIR. Highways 1 and 17 serve regional traffic, including motorists who commute to jobs in the Santa Clara Valley and motorists who travel into Santa Cruz County for recreational opportunities offered in the county. A short segment of Highway 9 also is within city limits.

Highway 1 provides access to San Francisco to the north and Monterey to the south. Regionally, Highway 1 is the major inter- and intra-county route for Santa Cruz County. Within the City of Santa Cruz, it is oriented in an east-west direction, although the interregional alignment of Highway 1 is primarily north-south. It is a four-lane arterial along Mission Street from the west side of Santa Cruz to Chestnut Street Extension, a four-lane expressway between Mission Street-Chestnut Street and River Street, and a four-lane freeway east of River Street. The speed limit on Highway 1 is 25 miles per hour (mph) along Mission Street, 45 mph along the expressway section, and 55 and 65 mph on the freeway sections further east. Recurrent congestion results in queuing on Highway 1 that extends for several miles during peak hours. Accidents, events, and other incidents in the corridor can further increase congestion related delays in either direction, on any day, including weekends.

Highway 9 is a two-lane state highway that connects the City of Santa Cruz with the San Lorenzo Valley, and eventually, Saratoga and Los Gatos. Approximately 0.5 miles of Route 9 are located within Santa Cruz city limits.

Highway 17 connects Santa Cruz with Scotts Valley and San Jose and other Santa Clara County communities. It is a four-lane freeway north of the Highway 1/ Highway 9 intersection. Highway 17 is the primary route between the Santa Clara Valley and Santa Cruz County that serves as both a commute route for Santa Cruz County residents that work in Santa Clara County and for recreational visitors that come to Cruz County. Congestion occurs both during weekday commute times and on summer weekends. This winding, four-lane road has steep sections, frequent road crossings, and substandard median shoulders and outside shoulders for

most of its length. In addition to the challenging roadway configuration, weather-related conditions such as thick fog, heavy rains and mudslides affect roadway operations.

Existing Traffic Conditions & Level of Service

Traffic conditions are measured by average daily traffic (ADT), peak hour traffic volumes, and level of service (LOS), average delay, and volume to capacity (V/C) ration. Average daily traffic is the total number of cars passing over a segment of the roadway, in both directions, on an average day. Peak hour volumes are the total number of cars passing over a roadway segment during the peak hour in the morning (AM) or afternoon/evening (PM). In the City of Santa Cruz, the peak hour for weekdays occurs in the evening.

“Level of Service” (LOS) is used to identify the magnitude of traffic congestion and delay at intersections. Traffic flows along city streets are typically controlled by the volume and capacity of the nearest intersection (City of Santa Cruz, 1994). Intersections are rated based on a grading scale of LOS “A” through LOS “F”, with LOS A representing free flowing conditions and LOS F representing forced flow conditions. The intermediate levels of service represent incremental levels of congestion and delay between these two extremes.

The signalized intersection LOS methodology addresses the capacity, LOS, and other performance measures for lane groups and intersection approaches and the LOS for the intersection as a whole. Capacity is evaluated in terms of the ratio of demand flow rate to capacity (v/c ratio), whereas LOS is evaluated on the basis of control delay per vehicle (in seconds per vehicle). Control delay is the portion of the total delay attributed to traffic signal operation for signalized intersections. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay as listed in the following table from the *Highway Capacity Manual 2000*, Transportation Research Board.

LOS CRITERIA FOR SIGNALIZED INTERSECTIONS

LOS	LOS Control Delay per Vehicle (seconds/vehicle)
A	≤ 10
B	> 10–20
C	> 20–35
D	> 35–55
E	> 55–80
F	> 80

Capacity analysis at two-way stop control (TWSC) intersections depends on a clear description and understanding of the interaction of drivers on the minor or stop-controlled approach with drivers on the major street. Both gap acceptance and empirical models have been developed to describe this interaction. LOS for a TWSC intersection is determined by the computed or measured control delay and is defined for each minor movement. LOS is not defined for the intersection as a whole as shown in the following table.

LOS CRITERIA FOR TWSC INTERSECTIONS

LOS	LOS Control Delay per Vehicle (s/veh)
A	0–10
B	> 10–15
C	> 15–25
D	> 25–35
E	> 35–50
F	> 50

SOURCE: *Highway Capacity Manual 2000*, Transportation Research Board

The City of Santa Cruz has established LOS D as the minimum acceptable LOS for overall intersection operations during weekday AM and PM peak hours. However, the existing General Plan recognizes that some major regional intersections (which were once part of the “Congestion Management Program” – a formerly mandated state program³) as experiencing lower levels of service than the City’s LOS D standard. Thus, the existing General Plan accepts a lower (i.e., worse) LOS at these intersections (listed below) per existing Circulation Policy 5.1.2 due to environmental, economic, and/or feasibility constraints with implementing improvements at these locations.

- Mission St. / Chestnut St.-Hwy 1 (F)
- Highway 1 / River St.-Hwy 9 (F)
- Ocean St. / Plymouth St. (F)
- Water St. / Ocean St. (F)
- Soquel Ave. / Ocean St. (F)
- Soquel Ave. / Water St. / Morrissey Blvd. (E)

Caltrans, which has jurisdiction over state highways, endeavors to maintain a target LOS at the transition between LOS C and D. However, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS (Caltrans, December 2002). If an existing State highway facility is operating at less than the appropriate target LOS, the existing LOS should be maintained (Ibid.).

The critical volume to capacity ratio (V/C) is another measure of the operating conditions of an intersection as opposed to LOS. The ratio provided in the worksheets is a calculation of the volume to capacity for the critical movements at the intersection. It is not the average of all the movements at the intersection. V/C is not used as a measure to define the levels of service.

³ The Code of Federal Regulations, Title 23 Volume 1, adopted in April, 2005 require Transportation Management Areas (TMAs) to prepare Congestion Management Programs. TMAs are defined as urbanized areas with a population over 200,000. There are eight such areas in California plus Santa Barbara that asked to be included.

LOCAL INTERSECTION LEVELS OF SERVICE

Weekday Peak Hour Traffic Conditions. In the City of Santa Cruz, the peak hour for weekdays occurs in the evening. The PM peak hour (roughly 4 PM to 7PM) generally has the highest number of trips compared to the AM peak hour (7 AM to 10 AM) or the midday peak hour (Fukuji Planning and Design, July 2003). Intersection traffic counts were collected during the weekday PM peak hour (4:00 – 6:00 PM) at nearly 80 intersections throughout the City. The counts were done in May 2006, November 2006 and February 2007. The intersection counts are included in Appendix F-5.

The City's consulting traffic engineer compared traffic counts taken for the General Plan traffic with counts taken in 2008 and 2009 that were obtained from the SCCRTC to ensure the validity of the counts for the General Plan EIR analysis. The review indicates that all but one of the counts the City made in 2006 were higher than those reported by the Commission (Marquez, March 2010; see Appendix C for details). Traffic counts were also compared to traffic volumes reported by Caltrans; overall the counts reported for 2006 are 8% higher than those reported in 2008 (Ibid.).

In Fall 2010, UCSC completed new traffic counts at intersections within the City. Of the 24 intersections that the City was able to compare, traffic volumes increased for about half of these and half decreased. Overall, on average, traffic has decreased by 5%. The increased traffic increases were at intersections along Mission Street, High Street, and at the River/Water, Bay/W. Cliff, Delaware/Swift and Front/Laurel intersections (see Appendix C). The increased traffic has been addressed in the City's traffic model. Traffic from projects that were being constructed and/or occupied after the General Plan traffic counts were taken have been added to the "Existing" baseline conditions (see Appendix C) as these projects would be generating traffic at the time the EIR NOP was released. As a result, the existing-baseline condition for this EIR is slightly higher overall than the 2010 counts (Marquez, personal communication, February 2011), except for three intersections – Bay/West Cliff, King/Storey, and Laurel/Front. However, overall, the City continues to see lower counts than were experienced four years ago. Thus, the traffic estimates made for the General Plan 2030 are conservatively high and represent a worst-case scenario for CEQA purposes.

Quantitative Levels of Service (LOS) analysis was performed for the study intersections based the *2000 Highway Capacity Manual* methodologies, prepared by the Transportation Research Board. Intersection operations were evaluated using the Traffix analysis software. Intersection traffic flow operations are evaluated using a level of service (LOS) concept. The technical LOS calculations are included in Technical Appendix F-6, which is available for review at the City of Santa Cruz Planning Department⁴ and is also included on the Draft EIR CD and on the online version of the Draft EIR on the City's website at www.cityofsantacruz.com, Planning Department.

Existing intersection PM peak hour levels of service are summarized in Table 4.4-1. All of the study intersections currently operate at an acceptable LOS except for the following 11 intersections, of which six intersections are signalized, and five intersections are unsignalized.

⁴ Located at 809 Center Street, Room 107, Santa Cruz, California during business hours: Monday through Thursday, 8 AM to 12 PM and 1 to 5 PM.

For these intersections. Table 4.4-1 also identifies the delay (in seconds) and V/C ratio⁵ for the intersections operating at unacceptable levels. For unsignalized intersections, the unacceptable LOS is usually due to delays on a minor leg of the intersection.

- Highway 1 / Highway 9-River Street (F)
- Highway 9-River / Street-Encinal (E)
- Ocean Street / San Lorenzo Blvd. -East Cliff Drive (E)
- Ocean Street / Water Street (E)
- Mission Street / Bay Street (E)
- Bay Street / Escalona Drive (F)
- Bay Street / California Street (F)
- Bay Street / California Avenue (F)
- Laurent Street / High Street (F)
- Western Drive / High Street (E)
- Seabright Avenue / Water Street (F)

Summer and Weekend Peak Hour Traffic Conditions. The City also experiences significant traffic during the summers and holiday weekends due to tourist traffic. A portion of the City's circulation system is affected by seasonal surges resulting from coastal access demands from all of northern California. Santa Cruz has recognized that it is not practical to build to accommodate this seasonal demand, and has considered beach access congestion to be acceptable as long as it does not divert traffic onto residential streets. The 2030 Plan has focused on addressing the congestion associated with the weekday travel of City residents, employees and customers.

STATE HIGHWAY TRAFFIC OPERATIONS & LEVEL OF SERVICE

Based on the most recent Caltrans traffic data (2009 counts), the average daily trips (ADT) on state highways within Santa Cruz is as follows:

- Highway 1, Morrissey Boulevard. ADT is approximately 88,000 to 97,000 trips with 6,300 to 6,900 trips occurring during the peak hour.
- Highway 17, between Santa Cruz and Scotts Valley. ADT is approximately 63,000 - 73,000 trips with 5,700 – 6,300 trips occurring during the peak hour.
- Highway 9 within Santa Cruz City Limits. ADT is approximately 5,000 trips with approximately 510-550 trips in the peak hour as measured at the City limits, north of Encinal.

⁵ The V/C ratio is the average adjusted volume of vehicles for each movement over the serviceable capacity of each movement at the intersection. The volume for each approach is adjusted for percentage of trucks and buses, for peaking characteristics, and for abutting parking characteristics. The capacity of each movement is adjusted for lane width, grade, and green time available.

TABLE 4.4-1
Existing Intersection PM Peak Hour Levels of Service

	Intersection	PM Peak LOS	Delay [in seconds]	V/C Ratio
SIGNALIZED INTERSECTIONS				
1	Hwy 1/Western	B		
2	Mission/Swift	B		
3	Mission/Miramar	B		
4	Mission/Almar-Younglove	B		
5	Mission/Bay	E	55.8	0.944
6	Mission/Laurel	B		
7	Mission/Walnut	B		
8	Mission/King-Union	C		
9	Mission/Chestnut-Hwy. 1	D		
10	High/Moore	A		
11	Bay-Coolidge/High	D		
12	Bay/Nobel-Iowa	B		
13	Bay/King	B		
14	California/Laurel	C		
15	Chestnut/Laurel	B		
16	Center/Laurel	B		
17	Center/Mission	B		
18	Pacific/Laurel	B		
19	Front/Laurel	C		
20	Front/Metro Center	A		
21	Front/Cathcart	A		
22	Front/Soquel	C		
23	Front/Cooper	A		
24	Front-Pacific/Mission-Water	B		
25	River/Water	C		
26	N. Pacific/River	B		
27	River/Potrero	B		
28	River/Hwy. 1	F	83.9	0.942
29	River/Encinal	E	73.9	1.099
30	San Lorenzo/Laurel-Broadway	B		
31	Riverside/San Lorenzo	C		
32	Riverside/Third	C		
33	Riverside/Beach	A		
34	Ocean/San Lorenzo-East Cliff	E	64.7	1.061
35	Ocean/Broadway	C		
36	Ocean/Soquel	D		
37	Ocean/Water	E	73.6	1.081
38	Ocean/Kennan-Washburn	A		
39	Ocean-Hwy.17/Ocean-Plymouth	C		
40	Market/Water	C		

TABLE 4.4-1
Existing Intersection PM Peak Hour Levels of Service

	Intersection	PM Peak LOS	Delay [in seconds]	V/C Ratio
41	N. Branciforte/Water	D		
42	Branciforte/Soquel	C		
43	S. Branciforte/Broadway	B		
44	Seabright/Soquel	C		
45	Seabright/Broadway	B		
46	Seabright/Murray	D		
47	Morrissey/Water-Soquel	C		
48	Morrissey/Fairmount	A		
49	Frederick/Soquel	C		
50	Hagemann-Trevethan/Soquel	A		
51	Park/Soquel	B		
52	Capitola Rd./Soquel Ave.	C		
53	La Fonda/Soquel	B		
54	Riverside-Dakota/Soquel (new)	A		
55	River S./Soquel	B		
56	Seventh Ave./Soquel Ave.	C		
57	Seventh Ave./Capitola Rd.	C		
58	Seventh Ave./Eaton	D		
UNSIGNALIZED INTERSECTIONS				
59	Bay/California St	F	434.0	1.704
60	Bay/California Ave	F	67.6	1.130
61	West Cliff/Bay	C		
62	Beach/Pacific Ave	C		
63	Pacific Avenue/Center	B		
64	Storey/King	B		
65	River/Fern	B		
66	King/Laurel	B		
67	Laurent/High	F	59.6	1.066
68	Market/Isbel-Goss	B		
69	North Branciforte/Goss	B		
70	Highway 1/Shaffer Rd	B		
71	Cedar/Laurel	C		
72	Bay/Escalona	F	782.2	2.015
73	Western/High	E	45.9	05.44
74	Cliff/Beach	B		
75	Riverside/Second-Liebrandt	A		
76	Seabright/Water	F	112.8	0.589
77	Swift and Delaware	C		
78	Seventh Ave./Brommer	C		
79	Seventh Ave./E. Cliff	C		
SOURCE: Hatch Mott MacDonald				

State Route 1 (Highway 1). The highest average daily traffic volumes along Highway 1 within Santa Cruz County occur in Capitola at the 41st Avenue interchange with 94,000 to 104,000 ADT (Caltrans, October 2010). The segment near the Morrissey Blvd. interchange carried the second highest volume of traffic. Highway 1 west of Morrissey Boulevard is currently operating at LOS D-E (Caltrans, October 2010). Congestion along Highway 1 extends for several miles during peak hours.

According to the *Transportation Concept Report* for Highway 1, the target level of service for State Highway 1 east of Morrissey Boulevard is LOS D (Caltrans, April 2006). Additionally, according to the *Caltrans Guide for the Preparation of Traffic Impact Studies* (Caltrans, 2002), if an existing State Highway facility is operating at less than the target LOS, the guide states that the existing LOS should be maintained (Caltrans, 2002).

Caltrans is in the process of developing a “Corridor System Management Plan” (CSMP) for Highway 1 from the junction of Highway 68 in Monterey County to King Street/Mission Street in Santa Cruz to develop strategies to manage the traffic and congestion along the corridor and sustain existing transportation investments. According to the draft plan released in October 2010, a small segment of the City is located in Segment 4 (Larkin Valley to Branciforte Creek Bridge), with the remainder of the City being located in Segment 5 (Branciforte Creek Bridge to King Street). The draft CSMP indicates that between Branciforte Creek and King Street, traffic volumes are projected to increase from 54,000 average daily trips (AADT) in 2008 to 60,000 in 2025. Existing and future LOS along Highway 1 as identified by Caltrans in this draft plan is identified below (Caltrans, October 2010).

	Existing LOS (2007)	Future LOS (2030)
❑ Hwy 1, Larkin Valley Road to Branciforte Creek Bridge	E - F	F
❑ Branciforte Creek Bridge to King St.	D - E	E - F

The *Concept Report* for Highway 1 indicates that to achieve LOS D on Highway 1, added capacity, operational improvements, and investment in the multi-modal system will be required (Caltrans, April 2006). The Route Concept Report for Highway 1 includes the addition of High Occupancy Vehicle (HOV) lanes to Highway 1 in each direction to reduce congestion, encourage carpooling, expand express bus service, and improve safety from Morrissey Boulevard to San Andreas/Larkin Valley Road. Caltrans’ draft *Corridor System Management Plan* for Routes 1 and 183 indicates that LOS along added Highway 1 HOV lanes during peak hours would range between B and C in the year 2035 (Caltrans, October 2010). While the overall LOS would remain unchanged in the other lanes with addition of an HOV lane, average speeds would be increased and delays and average travel time would be reduced (Ibid.).

In October 2008, Caltrans completed improvements to Highways 1 and 17 as part of the Route 1/17 Merge Lanes Project, which was designed to improve merging by adding additional merge lanes from Highway 1 to Highway 17. The project added merge lanes to the connection between northbound Route 1 and northbound Route 17 and to southbound Route 1 through the 1/17 interchange. Existing bridge structures were widened or replaced, soundwalls were constructed, and landscaping was installed.

State Route 17 (Highway 17). Highway 17 near Pasatiempo Boulevard is currently operating at LOS F (Caltrans, April 2006). According to the *Transportation Concept Report* for Highway 17, the target peak level of service for State Highway 17 between the Ocean Street and Scotts Valley is LOS E (Caltrans, January 2006). The Route Concept Report for Highway 17 indicates that widening is not envisioned and this segment of the highway is considered to be a four-lane freeway (Caltrans, January 2006).

Traffic Forecasts

The SCCRTC's *Regional Transportation Plan* (RTP) indicates that annual Vehicle Miles Traveled (VMT) throughout Santa Cruz County will increase over 2005 levels within the next 30 years. These VMT projections are made using AMBAG's Regional Travel Demand Model (RTDM). The current RTDM is developed and calibrated for 2005 and forecast for the year 2035.⁶ Overall the RTP forecasts the following traffic conditions between the years 2005 and 2035 within Santa Cruz County:

- ❑ Daily person trips (trips per person) are projected to increase by 16%.
- ❑ Single-occupant auto travel for work trips is projected to increase by 13%.
- ❑ Daily vehicle miles of travel are projected to increase by 40%.
- ❑ The largest increases in vehicle miles traveled are projected to be on freeways (Santa Cruz County Regional Transportation Commission, June 2010, page 2-10).

According to the SCCRTC, there are three reasons why traffic congestion is a major issue in Santa Cruz County, as well as elsewhere in the state and nation. First, more people are driving more miles and per person vehicle registrations are at an all time high. Second, investment in transportation facilities and services has not kept pace with growing demands for road space and transportation alternatives due to decreases in the amount of transportation funding available for local projects. Third, there has been a lack of consensus on how to invest in the County's transportation system (Santa Cruz County Regional Transportation Commission, June 2010).

The joint City-UCSC "Master Transportation Study" (MTS) also made traffic projections for the years 2000 to 2020 based on AMBAG traffic model projections and population projections, which have now been superseded by more current projections as described in the POPULATION AND HOUSING (Chapter 4.2) section of this EIR. The AMBAG projections at the time the MTS was prepared assumed a 15% increase in population growth within the City (from 67,900 to 78,100 people in 2020) and a 24% increase in employment growth (from 37,800 workers to 47,000 workers 2020) (Fukuji Planning and Design, July 2003). However, current adopted AMBAG forecasts show a lower level of forecast growth with estimated population at 65,884 in 2030 and 41,548 workers in 2030.

⁶ The AMBAG model relies on land-use and socio-economic data from the AMBAG forecast and road and transit network information to estimate traffic volumes and determine trip generation rates by mode. Where possible, the model is calibrated using existing roadway data (Santa Cruz County Regional Transportation Commission, June 2010).

The MTS includes a goal of no net growth in traffic between 2000 and 2020 and examined two scenarios to substantially decrease single-occupant travel and increase use of other transportation modes. One scenario increases transit use moderately and carpooling substantially. The second scenario increases transit substantially and carpooling moderately. Both scenarios were based on implementation of regional transportation improvements of either the addition of a HOV lane on Highway 1 or development of a Bus Rapid Transit (BRT) corridor along the Union Pacific Railroad right-of-way (Fukuji Planning and Design, July 2003). In Scenario 1, to achieve no growth in the year 2020 traffic, single-occupant travel internal to Santa Cruz needs to be reduced by 29%, carpooling increased by 75%, transit use increased by 50%, and bicycling and walking modes increased by 38% and 100%, respectively (Ibid.). Without a change in travel patterns, the MTS predicted a 19% increase in vehicle miles traveled between the years 2000 and 2020.

BICYCLE & PEDESTRIAN CIRCULATION

Bicycle Circulation

The existing bikeway system in the City of Santa Cruz has developed over the last 35 years. The City of Santa Cruz' bicycle system is comprised of off-street multi-use paths (Class I), on-street bicycle lanes (Class II) and on-street bicycle routes (Class III). Class I and Class II bike facilities are shown on Figure 4.4-3. Class I bike paths are currently limited to West Cliff Drive, the San Lorenzo River levees, a new path under Highway 1 from the river levee, and a new path under Highway 1 at Lee Street, all of which are also shared by pedestrians. A Class I path also is provided on the UCSC campus.

Support facilities include different classes of bicycle parking facilities, which are required by City parking regulations, and shower facilities at major employment facilities. All of the SCMTD buses are equipped with front-mounted bicycle racks capable of carrying two bicycles (City of Santa Cruz, November 2008). The University of California operates a bike shuttle near the intersection of Bay/Mission Streets to transport bicycles to the University.

In October 2007, the City of Santa Cruz was awarded the Silver Level Bicycle Friendly Community by the League of American Bicyclists. According to data contained in the 2000 Census, approximately 4.7% of the commuters within the City of Santa Cruz are bicyclists (City of Santa Cruz, 2008). The City's existing Bicycle Plan, adopted in November 2008, forecasts a bicycling increase to 7% of the peak hour traffic within a 5-year period.

The emphasis of the 2008 Bicycle Transportation Plan shifted from earlier plans in 2000 and 2004 Plans, which were focused on completing large-scale bicycle projects on the major commute corridors. Many of those significant projects have been completed—Bay Street, Beach Street, Broadway-Laurel, High Street, Soquel Avenue, and major portions of the San Lorenzo River Path. The bicycling projects to be pursued in the next five years include completing those significant projects begun in the earlier Plans, as well as building the connector projects that can get bicyclists from origin to destination easily and safely. One new possibility for an east-west bicycle travel corridor is the Union Pacific rail right-of-way, which the SCCRTC has purchased and begun a planning process.

Pedestrian Circulation

The City has approximately 135 miles of sidewalks. Approximately 50 miles of sidewalk is missing from the existing system; predominate problem areas are the upper eastside and Westlake areas that have large continuous sidewalk links missing (Fukuji Planning and Design, July 2003).

The "Pedestrian System" chapter of the Master Transportation Study is considered the City's Pedestrian Plan. The MTS was accepted by the City Council on December 9, 2003. The MTS goals for Santa Cruz's pedestrian system are to:

- Provide multiple transportation modes thereby creating a flexible and adaptive transportation system throughout the City of Santa Cruz.
- Close all "gaps" in the pedestrian network and connect all major destinations and activity centers.
- Ensure that the City's diverse user groups have access to a sustainable and efficient mode of transportation / Create a system that is "scaleable" and responds to changing community needs, and provide flexibility and variety in the City's transportation network.
- Adopt design standards for the pedestrian system to assure a high level of user amenities, safety and quality.

Overall, priorities for the City's pedestrian system include completion and maintenance of the City sidewalk system, improve safety, adopt pedestrian-friendly street designs, enhance key pedestrian connections, and encourage walking (Fukuji Planning and Design, July 2003). .

PUBLIC TRANSIT

Transit service within Santa Cruz County is primarily provided by the Santa Cruz Metropolitan Transit District (SCMTD). Regional bus routes provide service to destinations in Santa Clara and Monterey Counties including daily weekday service via Highway 17 by the SCMTD. SCMTD buses provide service from the downtown Santa Cruz transit center to the San Jose Caltrain station, with connections to San Francisco, Sacramento, Stockton and other cities. Greyhound bus service also is provided from Downtown Santa Cruz to select destinations.

The City of Santa Cruz operated the Summer Beach Shuttle in the past when private donations were available. The Shuttle provided service to and from destinations within the City of Santa Cruz, such as the Downtown and the Santa Cruz Boardwalk. Use of the County Government Center parking lot was used in conjunction with the beach shuttle. Due to lack of funding, the Summer Beach Shuttle was discontinued over ten years ago. Recently the business sector has initiated a Beach-Downtown Shuttle for the summer of 2010. Budget constraints have prevented the City from continuing operation of a beach shuttle.

SCMTD Service

The Santa Cruz Metropolitan Transit District (SCMTD), also known as Santa Cruz Metro, provides transit service within Santa Cruz County. SCMTD provides the following types of service: regional (Highway 17 Express), intercity (8 routes), urban local-feeder (16 routes), UCSC (7 routes) and rural routes (7 routes) (Wilbur Smith Associates, December 2008). The Highway 17 Express Bus service was initiated after the 1989 Loma Prieta earthquake in response to an emergency need for transit over the Hill while Highway 17 was being repaired, and is currently a joint operation between the SCMTD, Amtrak, and the Santa Clara Valley Transportation Authority (VTA). The route currently connects Santa Cruz (downtown METRO station) and San Jose (Diridon station); at the Diridon station, passengers can connect to the Santa Clara Valley Transportation Authority's transit system and Caltrain and Amtrak regional rail systems (Ibid.).

The District serves transit centers in Santa Cruz, Capitola, Felton, Scotts Valley and downtown Watsonville. SCMTD routes also meet Monterey-Salinas Transit (MST) routes at the Watsonville Transit Center. The two operators have provided reciprocal transfers since 1989. Additionally, SCMTD partners with the University of California, Santa Cruz (UCSC) to provide late night fixed route and demand response service in the general Westside Santa Cruz area (AMBAG, June 2010).

The SCMTD complements its regular fixed-route bus service with ParaCruz, a shared ride-door-to-door paratransit service that provides public transportation for persons who are unable to independently use fixed route buses due to a disability some or all of the time. It is provided by public transportation systems as part of the requirements of the Americans with Disabilities Act of 1990 (ADA). Rides are scheduled in advance and frequently include picking up and dropping off other customers along the way. ParaCruz operates a fleet of lift-equipped small buses and ramp-equipped minivans. On November 1, 2004, Santa Cruz METRO assumed direct operation of the ParaCruz (Santa Cruz Metropolitan Transit District, "METRO Para Cruz ADA Paratransit Service").

SCMTD's total ridership on fixed route service for Fiscal Year 2008-09 was 5,987,518; annual expenses for providing these transit services, including ParaCruz, were approximately \$37 million (Santa Cruz County Regional Transportation Commission, June 2010). From 2003 to 2007, there had been a general increase in fare revenues and total operating cost, while ridership and hours of operation declined (Wilbur Smith Associates, December 2008). However, the SCCRTC noted a 7% increase in ridership since Fiscal Year 2004/05 due to rising gasoline prices, traffic congestion, and job market uncertainty (Santa Cruz County Regional Transportation Commission, June 2010).

Increasing congestion on highways and the local transportation network in Santa Cruz County is expected to generate more transit service demand (AMBAG, June 2010). However, the SCCRTC's RTP does not envision expansion of transit services without additional revenues. In order to increase transit service to levels needed to meet projected population growth, greenhouse gas emission reduction goals, and significantly increase the percentage of people using transit, bus service would need to be increased by 25% at an additional annual cost of approximately \$11 million (Santa Cruz County Regional Transportation Commission, June 2010). To accommodate this demand, the SCMTD would like to increase service, but due to

ongoing funding shortfalls, SCMTD is struggling to maintain existing service (Ibid.). Due to declining sales tax and other non-fare revenue sources, the SCMTD reduced service in the fall of 2010. It is expected that transit service will continue with minor improvements without major route cuts or rate changes for about five years, however, additional funding will be necessary in the future for expansion of service (White, SCMTD, personal communication, August 2011).

In recent years, Metro has been working on upgrading its transit operations facilities in an effort to reduce operating costs, improve efficiency, and allow for future expansion of the transit system (Santa Cruz County Regional Transportation Commission, June 2010). In 2008, Santa Cruz METRO completed the compressed natural gas-CNG fueling station and conversion of 40 buses.

Bus Rapid Transit (BRT)

The joint City-UCSC “Master Transportation Study” (MTS) recommends “Bus Rapid Transit” (BRT) for long-term implementation as the technology with the highest potential to increase ridership and shift travel modes to transit. BRT is a rubber tire vehicle system operation on an exclusive transit way or dedicated busway with flexibility to operate on surface streets with mixed flow traffic. According to the MTS, a BRT system has significant potential to affect a regional commute shift away from SOV to transit for trips to and from the UCSC campus, downtown and the Harvey West area. A BRT busway could operate on a dedicated HOV lane along Highway 1 or on a shared bus/freight/bicycle lane using the Union Pacific rail corridor. Application to Soquel Avenue and Water Street was also considered (Fukuji Planning and Design, July 2003).

RAIL SERVICE

Freight Service

The former Union Pacific Railroad rail line forms a continuous, single-track, 32-two mile corridor from Davenport to the City of Watsonville. The Santa Cruz County Regional Transportation Commission is in the process of purchasing the right-of-way and is awaiting final approval from the state. This branch rail line extends from Watsonville Junction in Pajaro north to Davenport and passes through much of the county’s urban area. For many years, freight deliveries to and from the CEMEX cement plant in Davenport occurred three times per week. As of 2010, CEMEX plant operations ceased due to the economic downturn. The rail line is currently operated by Sierra Northern. Sierra Northern Railway. Sierra runs trains twice per week to serve existing freight customers and stores empty rail cars in the unused northern section of the rail line. Sierra will be responsible for operations, maintenance and start-up costs associated with rail service (Santa Cruz County Transportation Commission, February 2011).

Recreational Service

The Santa Cruz Big Trees and Pacific Railway Company operates a tourist-oriented passenger service between Felton and the Santa Cruz Beach Boardwalk on its 9-mile track line from Santa Cruz to its current terminus at Roaring Camp. The service is provided daily during mid June through the end of August, and weekends and holidays in May, early June, September through

October, late November, and December. The trains run twice in each direction every day during regular operations, and partially use the Union Pacific Railway tracks that cross Pacific Avenue just north of the intersection of Pacific Avenue and Beach Street. The line is occasionally used for freight (AMBAG, June 2010). Historically the line crossed the Santa Cruz Mountains to Los Gatos, but was abandoned in 1939 past Olympia. The tunnel sections are now used as records storage for major corporations in the San Francisco Bay Area (Ibid.).

Passenger Service

The Santa Cruz Branch line has been the subject of a number of studies regarding its potential for passenger rail service. A 1996 study analyzed the potential viability of inter-city passenger rail service between Santa Cruz and Watsonville to San Jose. The 1999 Major Transportation Investment Study examined three options for passenger rail on the Santa Cruz Branch line along the Watsonville- Santa Cruz-UCSC corridor. Also in 1999, the Around-the-Bay Rail Study looked at the feasibility of partnering with Monterey County to bring passenger rail from the San Francisco Bay Area to both counties, as well as linking the two counties via a wharf-to-wharf type rail transit service.

On May 6, 2010, the SCCRTC unanimously agreed to acquire the Santa Cruz Branch Rail Line right-of-way, which is being finalized. Future transportation uses could include passenger rail service, transit, bicycle and pedestrian facilities, and freight rail service. This project was one of the selected outcomes for the Watsonville-Santa Cruz-UCSC corridor from the SCCRTC's 1999 Major Transportation Investment Study. The SCCRTC also intends to maintain the existing freight service on the rail line. The 2005 *Regional Transportation Plan* (Policy 3.4.5) supports reserving areas adjacent to rail lines for future rail and bus facilities as part of new development adjacent to rail lines. Passenger service to from Santa Cruz to Davenport is currently being considered by the SCCRTC.

PLANNED IMPROVEMENTS

State Highways

STATE ROUTE 1

Beginning in 1986 the Santa Cruz County Regional Transportation Commission (SCCRTC), working with Caltrans and the Federal Highway Administration, conducted a series of studies to identify an affordable and appropriate response to the growing congestion problem on Highway 1, including feasibility studies for Highway Occupancy Vehicle Lanes (HOV) on Highway 1 and a toll lane feasibility study in 2002. The current Caltrans Route Concept Report for Highway 1 includes the addition of High Occupancy Vehicle (HOV) lanes to Highway 1 (California Department of Transportation, April 2006). This project will add a lane in each direction to reduce congestion, encourage carpooling, expand express bus service, and improve safety. The limits of this project extend from Morrissey Boulevard to San Andreas/Larkin Valley Road. Preliminary traffic performance data shows the anticipated shift in traffic volumes from local arterials to Highway 1 with the HOV Lane Alternative (Santa Cruz Regional Transportation Commission website, <http://www.sccrtc.org/hov.html>). Caltrans' draft *Corridor System Management Plan* for Routes 1 and 183 also supports HOV lanes on Highway 1 in

conjunction with other transportation demand management strategies (Caltrans, October 2010). Detailed project design and environmental data is in development and is expected to be available in the winter of 2012. Funding is not secured to advance the project beyond the current environmental study. The SCCRTC's 2010 *Regional Transportation Plan* assumes adoption of a transportation sales tax measure to provide a significant amount of the funding needed to advance this project into the next development phase – final design, right-of-way, and construction (Santa Cruz Regional Transportation Commission website, <http://www.sccrtc.org/hov.html>).

In 2006, the Santa Cruz County Regional Transportation Commission initiated work on the preliminary design and environmental review phase of the Highway 1 Soquel to Morrissey Auxiliary Lanes Project spanning the busiest section of Highway 1 in Santa Cruz County (carrying 115,000 vehicles per day in 2006). An auxiliary lane connects an adjacent highway on-ramp with the next highway off-ramp thereby extending the weaving and merging distance between the ramps and improving traffic flow and safety on the highway. An auxiliary lane is not designed for use by through traffic, but to provide greater separation between vehicles entering and exiting the freeway from mainline traffic. The Soquel/Morrissey Auxiliary Lanes project proposes to add 12-foot wide auxiliary lanes northbound and southbound between Soquel Avenue and Morrissey Boulevard, respectively. This project includes reconstruction of the La Fonda Avenue overcrossing; the La Fonda Avenue overcrossing must be replaced to accommodate the auxiliary lanes under the bridge. The new La Fonda Avenue bridge will be wider to provide bike lanes and wider sidewalks for pedestrians. This project is designed to complement the work recently completed as part of the Highway 1/17 Merge Lanes Project, by eliminating the proposed lane drop north of the La Fonda Avenue resulting from the Highway 1/Highway 17 Project. Design is nearly complete, and the final environmental documents were approved by Caltrans, although the project is contingent on approval by the California Transportation Commission. Funding has been secured for the project. Construction could begin in 2012 or 2013.

STATE ROUTE 17

According to the Transportation Concept Report for State Route 17 in District 5 (Caltrans District 5, January 2006), the target level of service for State Highway 17 between the Ocean Street and Scotts Valley is LOS E. The Route Concept Report for Highway 17 indicates that the highway segment between Santa Cruz and Scotts Valley accommodates local and regional trips. Recognizing the existing policy of the Santa Cruz County Regional Transportation Commission, widening is not envisioned and this segment of the highway is considered to be a four-lane freeway (Caltrans, January 2006).

Reconstruction of the highway to meet current standards would be both exorbitantly expensive and environmentally destructive. Thus, over the past two decades, the Santa Cruz County Regional Transportation Commission (SCCRTC) has consistently opted to keep Highway 17 a four-lane highway, targeting funds for safety and operational improvements. Median barriers, acceleration-deceleration lanes, motorist call boxes and changeable message signs are improvements that have been installed over the past decade.

In the fall of 2000, Caltrans completed a Project Report that assessed the operational value and cost of constructing a 1.1-mile truck climbing lane on northbound Highway 17 at the

summit. As a result of the study, Caltrans recommended, and the Regional Transportation Commission concurred, not building the project (“No Build”), as the potential benefits of the project were not justified by the high cost and potentially significant environmental impacts. As an alternative, Caltrans continued to evaluate other potential safety and operational improvements on Highway 17. The products of this analysis were two safety improvement projects on Highway 17 at Laurel Curve and Glenwood Curve.

In response to the need for further safety and reliability improvements in this corridor, the *Highway 17 Transportation Improvement Study* was conducted to provide SCCRTC, Santa Clara Valley Transit Authority (VTA), and SCMTD to recommend safety and efficiency improvement projects with the following two main objectives: 1) recommend steps to *optimize* the Highway 17 Express Bus service reliability; and 2) *expand* Highway 17 Express Bus ridership in the corridor in order to reduce vehicle trips, miles traveled, and emissions. Recognizing that the roadway and traffic conditions along Highway 17 affect the operation of the Highway 17 Express Bus service, an additional objective was to recommend safety and operational improvements to add reliability, speed and functionality to the project corridor to benefit both the patrons of the Highway 17 Express Bus service and the motorists traveling along this route. A series of recommendations were made to support and expand the existing transit service on Highway 17, including provision of weekend service.

STATE ROUTE 9

The Highway 1/Highway 9 intersection, which is controlled by a signal, currently operates at LOS E during the both the PM and Design Day peak hours, which does not meet Caltrans standards. The City is working with Caltrans to implement lane modifications at this intersection. The improvements require Caltrans approval and an encroachment permit. With implementation of these improvements, the intersection would operate at LOS D during both the existing PM and Design Day peak hours.

The following improvements are included in the Highway 1/Highway 9 intersection planned improvement:

- Widen and add a left-thru turn lane from Highway 9 southbound.
- Improve the northbound River Street approach to modify the existing exclusive left-turn lane to a shared thru/left-turn lane.
- Widen and add a second left-turn lane from Highway 1 southbound onto Highway 9.
- Widen and add a second northbound lane on Highway 9.
- Modify signal.
- Add bike lane and shoulder

Currently, a Project Report, preliminary engineering, associated studies and environmental review are underway. The improvements are already required under existing conditions.

Planned City Improvements

The City faces an ongoing challenge to meet its capital needs with limited resources. Preparing and adopting a Capital Improvements Program (CIP) is an important part of the City’s planning

process to identify and meet those needs. It is a multi-year schedule of projects with their associated costs and proposed funding sources. The CIP represents the best efforts to allocate available resources toward projects that provide the most benefit for the people of Santa Cruz. In addition to the Highway 1 / Highway 9 intersection improvement described above, other major improvements on the current CIP include: intersection improvements at Mission/Bay and Mission/Chestnut (design and environmental review); intersection signalization (Bay/West Cliff); installation of a roundabout at the Pacific/Beach intersection;

The City operates a “Traffic Impact Fee” (TIF) program based on future projected trips generated for each new project. The TIF program, adopted in June 2005, evaluated over 60 intersections and identified numerous projects within the City which were needed to address the effects of cumulative development, and fees established. The fees are used to fund planned improvements at those intersections and roadways included in the program. New development and redevelopment projects are required to pay traffic impact fees, which are calculated at the time of building permit issuance. The TIF includes highway intersections on Mission (Highway 1) and at the Highway 1 / Highway 9 intersection.

The City’s TIF program includes both a City-wide TIF fee and a Beach/South of Laurel (B/SOL) TIF. New projects that are located in the B/SOL area are required to pay both fees. The fee program is updated annually in July. The fees are based on project trip generation and are calculated at the time the project applies for a building permit. By ordinance the City has identified the per trip fee, which was determined by dividing the total cost of all projects identified in the City’s “Cumulative Development Traffic Study” by the total cumulative additional trips added by new development. The fee assumes the City will fund 25% of the cost of improvements as a result of existing capacity differences. In addition, 15% of the fee is dedicated to alternative transportation. The current City-wide fee is \$405 per trip. The current B/SOL fee is \$94 per trip.

Bicycle and Pedestrian Path Improvements

The City’s adopted *Bicycle Transportation Plan* (2008) includes the following new paths: Arana Gulch path to connect Broadway with Brommer Street; Branciforte Creek Connection to complete the levee path under the Soquel Bridge; Monterey Bay Sanctuary Scenic Trail Network (as discussed below); and Spring Street Connection to UCSC. The Plan also includes numerous other improvements to existing bike lanes and facilities.

The Monterey Bay Sanctuary Scenic Trail Network (MBSST) is proposed to span the Monterey Bay from Lover’s Point in Pacific Grove to Wilder Ranch in Santa Cruz. The SCCRTC is in the process of developing a more detailed plan for the Santa Cruz County portion of the trail. The MBSST efforts will ultimately result in a network of continuous multi-use recreational, interpretive and transportation pathways spanning the Monterey Bay that will also be an important piece of the 1,300 mile statewide California Coastal Trail (Santa Cruz Regional Transportation Commission, January 2008). If the SCCRTC is successful in its rail line acquisition efforts, part of the network may be built within the rail line right-of-way (Ibid.).

The SCCRTC is working on a comprehensive Master Planning process that will include: developing goals and objectives; identifying and assessing possible segments; setting design options; soliciting and incorporating input from interested parties and the community at large;

preparing cost estimates for segments; and conducting environmental analysis of the Plan. In addition to identifying new trails, the MBSST Network is intended to link together (and upgrade where needed) trail segments that already exist and to fill in gaps in the existing trail system (Santa Cruz Regional Transportation Commission, January 2008).

TRANSPORTATION MANAGEMENT

Transportation System Management

Transportation Systems Management (TSM) refers to methods to find optimum strategies to relieve, lessen or control traffic congestion with minimum roadway widening. These strategies can reduce vehicle travel time and enhance system accessibility with little impact on other modes (Fukuji Planning and Design, July 2003). Examples of TSM measures include signal synchronization, intersection modifications, access management, i.e., consolidation of driveways, railroad crossing modifications, highway ramp metering, preferential treatment for high occupancy vehicles, and signage and lighting upgrades.

Transportation Demand Management

Transportation Demand Management (TDM) refers to measures that can be implemented to encourage the use of alternative modes of transportation to single occupancy vehicles. TDM emphasizes the movement of people and goods rather than motor vehicles, and gives priority to public transit, ridesharing and non-motorized travel, particularly under congested conditions (Fukuji Planning and Design, July 2003). TDM is a demand side strategy with the purpose to change human travel behavior through incentives and disincentives in order to reduce the number of peak-hour vehicle trips, shift trips to non-peak times, and increase the percentage of people bicycling, walking, riding transit, carpooling and vanpooling (Ibid.). Examples include carpool and vanpool rideshare matching, employer outreach and assistance, emergency ride home programs, telecommuting, bike loan programs, bicycle parking subsidies, bicycle advocacy, and parking pricing and management strategies.

Existing agencies and programs that support and promote TDM in the city of Santa Cruz include the following as presented in the “Master Transportation Study”:

- ❑ *Santa Cruz Regional Transportation Commission (SCCRTC)* serves many transportation roles in Santa Cruz County, including housing “Commuter Solutions” and providing bicycle planning and funding to the region. Commuter Solutions provides carpool and vanpool ride matching to commuters throughout Santa Cruz County, especially long-distance commuters.
- ❑ *Transportation Membership Services* is run by Ecology Action and offers programs that encourage member employees to use transportation modes other than driving alone to commute to and from work, including Emergency Ride Home Programs, 0% Interest Bicycle Loan Programs and Discount Metro Bus Passes.
- ❑ *Ecology Action* supports “Bike to Work,” a 10-year old community-based effort that seeks to increase the number of people riding bikes. Ecology Action also receives funds for the Electric Bike Commuter Incentive Program.

- *Onsite Employer Programs.* Major employers within the City that implement TDM measures include: UCSC, SCMTD, the City of Santa Cruz, the County of Santa Cruz, the Seaside Company, the Santa Cruz Medical Clinic, and others.

Traffic Calming

Measures to reduce speeding and cutting through neighborhoods has been a focus over the years as these issues have been raised by residents. Measures include installation of traffic calming measures, signage, and improving the arterial street system.

PARKING

The City of Santa Cruz maintains both on-street and off-street public parking throughout the City, including the Downtown Parking District. Amendments to the State CEQA Guidelines, effective in March 2010, eliminated the environmental checklist question regarding adequacy of parking. Nonetheless, general background on existing conditions is provided below.

Downtown Parking District

Public parking in the downtown area is managed by the Downtown Parking District, which includes the most concentrated City ownership and operation of parking in the City and is the only parking district in the City. In 2007, there were 4,510 parking spaces available to the public, including 820 on-street spaces, 2,247 off-street spaces, and 1,443 private spaces (“Downtown Parking Study, 2007”). In 2010, there were 4,583 parking spaces available to the public, including 830 on-street spaces, 2,226 off-street parking spaces and 1,527 private parking spaces. In 2010, the parking supply (4,583 spaces) in the Downtown Parking District exceeded demand (4,504 spaces). However, by the year 2012 with new projects in place, the demand (4,731 spaces) is estimated to exceed supply (4,638 spaces) by 93 spaces.

The City-operated spaces include a wide variety of parking types dispersed throughout the District, including meters that have different time periods. The municipal parking garages have an average peak occupancy of approximately 85%, with the Cedar/Church garage almost 100% occupied at peak times (Fukuji Planning and Design, July 2003).

New businesses are exempt from typical parking requirements required elsewhere in the City. Business owners have the option of providing required parking or paying a Deficiency Fee that is used to fund, operate and maintain parking facilities. The District charges an annual deficiency fee.

Beach / South of Laurel Area

The Beach / South of Laurel area includes the area directly adjacent to the Downtown Parking District and stretching down to the Beach. It provides parking for both its own set of uses, though also experiences overflow demand from the Downtown and the Beach Areas. The Beach Area itself includes the largest supply of privately provided for-charge parking in the City, as well as a mix of publicly provided parking (Fukuji Planning and Design, July 2003).

The Beach / South of Laurel Area includes about 7,800 parking spaces with over 80% of which, about 6,300 space, are in the Beach Area. A total of 4,145 spaces, a little over 50% of the total, are available to the general public, independent of intended activity. A total of 3,562 of these spaces are in the in the Beach Area and 583 spaces are in the South of Laurel district. Unrestricted publicly available Beach Area spaces are dominated by the two Seaside Company lots, with a combined total of 1,771 spaces, and the City owned and operated 430-space Wharf lot. Other spaces include other City operated lots, on-street meters, and free curbside spaces. South of Laurel general public access spaces include small City operated lots, on-street meters, and free curbside parking spaces. The City operates 633 on-street meters in the Beach and South of Laurel areas (Fukuji Planning and Design, July 2003).

Residential Parking Permit Programs

Due to seasonal influx of visitors and UCSC students and encroachment into residential neighborhoods, the City implements a residential parking program in the following neighborhoods: beach area, downtown, Lighthouse/Cowell neighborhood, eastside, Seabright, and Westside. Residents in these areas must purchase permits to park on streets without citations. According to information on the City's Public Works Department website, the coastal permit programs are enforced seasonally from May 15th through September 30th, between the hours of 9 AM and 9 PM, everyday. The Westside permit program is enforced from September 15th through June 30th, Monday through Friday, during posted hours (excluding City holidays). Parking in these areas without a permit is subject to a citation and fine. The downtown and eastside area permit requirements are enforced all year.

4.4.2 RELEVANT PROJECT ELEMENTS

PROPOSED GOALS, POLICIES & ACTIONS

The proposed *General Plan 2030* includes goals, policies and actions that address transportation planning, management and traffic. The **MOBILITY** chapter of the draft *General Plan 2030* corresponds to the required circulation element. Its purpose is to set forth policies and ways to ease the ability of people and vehicles to move around, out of, and into the City in the long term, through 2030. This chapter looks at ways to facilitate transportation alternatives, keep transportation and road systems safe and efficient, and systematically interconnect bicycle and pedestrian ways. The proposals below aim to encourage greater use of alternative transportation modes and reduce automobile travel in concert with other parts of the Plan that foster supportive land uses, building types, and activities. The City Council accepted the following key principle with regard to Mobility:

We will provide an accessible, comprehensive, and effective transportation system that integrates automobile use with sustainable and innovative transportation options—including enhanced public transit, bicycle, and pedestrian networks throughout the community.

The draft General Plan includes four goals and 19 associated policies with 94 accompanying actions that address transportation management and modes of travel. The four goals related to transportation are outlined below. Overall, the accompanying policies and actions Furthermore, proposed General Plan policies seek to maintain an acceptable LOS D or better at signalized intersections with acceptance of a lower LOS at major regional intersections (M3.1.3, M3.1.4) and promote transportation system management strategies (M2.5.2) and other alternative transportation modes.

- GOAL M1** Land use patterns, street design, parking, and access solutions that facilitate multiple transportation alternatives.
- GOAL M2** A safe, sustainable, efficient, adaptive, and accessible transportation system.
- GOAL M3** A safe, efficient, and adaptive road system.
- GOAL M4** A citywide interconnected system of safe, inviting, and accessible pedestrian ways and bikeways.

Other goals, policies and actions promote sustainable land use patterns, such as encouraging mixed-use development along the City's four major transportation corridors that have easy access to pedestrian, bike and transit facilities, and encouraging use of alternative transportation modes.

PROPOSED IMPROVEMENTS

The draft *General Plan 2030* includes several policies and actions that call for implementation of road, pedestrian, bicycle and transit improvements through the City's Capital Improvement Program and other sources (M2.1.3, M2.3.2, M3.2.2). The draft Plan supports regional funding and implementation of key regional projects "that can significantly benefit Santa Cruz and further the City's mobility policies" (M2.1.4). There are no specific road transportation improvements identified for specific locations, except for improvement of access to/from the Harvey West area, including a possible new approach to Highway 1 (M3.1.13), and that the circulation system of the specific plan for the Swenson parcel shall be from Shaffer Road (LU1.1.4).

Several policies address visitor traffic improvements. Policy ED1.2.1 specifically encourages transportation improvements and pedestrian activity along Ocean Street to stimulate economic vitality. Policy ED1.8.4 directs the City to improve access to and routes between tourist and visitor designations and lodging facilities as part of the City's economic development policies. The proposed General Plan also calls for updating the Beach and South of Laurel Area Plan to reflect needed improvements along the Visitor/Beach Area travel corridors (M3.3.3) with improvement of access along these corridors through coordinated signs and street naming, protected turn lanes, remote parking/shuttle programs, and other strategies (M3.3.2).

The draft Plan promotes alternative transportation improvements with TSM strategies, road improvements and widening/expansion projects that can achieve an acceptable LOS (M2.3.2). Action M4.3.2 seeks to develop bike commute routes along the railroad right-of-way, West Cliff Drive, Broadway, King and other streets. The draft General Plan also includes a policy that prohibits approval or construction of an Eastern Access to the University without a citywide

vote (M2.1.5). No other specific road or alternative transportation projects are identified for specific support. The draft *General Plan 2030* also encourages passenger rail transit or other alternative transportation options along the existing rail corridor via the continued support, acquisition, and expansion of railroad rights-of-way (M2.2) and encourages the continuing transport of goods by rail (M2.2.1). Policy LU4.5 supports securing land for development of a transit center along the rail line, and evaluation of a rail transit stop is to be included in the Area Plan analysis for the Golf Club Drive area (LU1.15). Pedestrian and bicycle access to Pogonip and nearby employment areas are also to be included in this future area plan.

POTENTIAL FUTURE DEVELOPMENT

The *General Plan 2030* Land Use Map and land use designations are largely unchanged from the 1990-2005 General Plan / Local Coastal Program, except for three new mixed use land designations that have been developed and applied to the following major transportation corridors: Mission Street, Ocean Street, Soquel Avenue, and Water Street. Additionally, land use designation changes are proposed for three specified sites: Swenson, Golf Club Drive area, and an addition to the Dimeo Lane landfill site. The Swenson and Golf Club Drive sites are designated for residential uses. A 5.5-acre parcel immediately south of and adjacent to the City's Landfill and Resource Recovery Center on Dimeo Lane has been acquired by the City, and it is expected that future uses would be ancillary to the landfill and Resource Recovery Center uses. Specific uses have not yet been identified and will be determined in the future, however, the parcel is not planned for expansion of the landfill disposal operations (Arman, personal communication, April 2010).

Additionally, some of the *General Plan 2030* policies and actions also support mixed use districts and/or intensified redevelopment along transit and commercial corridors (Policies LU3.3.1 and LU4.1). In addition, the proposed *General Plan 2030* supports development of a downtown performing arts center or expansion of the Civic Center (Policy HA2.2.5).

4.4.3 IMPACTS AND MITIGATION MEASURES

CRITERIA FOR DETERMINING SIGNIFICANCE

In accordance with the California Environmental Quality Act (CEQA), State CEQA Guidelines (including Appendix G), City of Santa Cruz plans, policies and/or guidelines, and agency and professional standards, a project impact would be considered significant if the project would:

- 4a Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit (see discussion of City standards below);

- 4b Change the level of service of a State Highway roadway segment from acceptable operation (LOS A, B, or C) to deficient operation (LOS D, E or F) based on Caltrans significance criteria⁷;
- 4c Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways;
- 4d Substantially increase hazards due to a design feature (for example, sharp curves or dangerous intersections) or incompatible uses (for example, farm equipment);
- 4e Result in inadequate emergency access; or
- 4f Conflict with adopted policies, plans, or programs regarding public transit, bicycle or pedestrian facilities or otherwise decrease the performance or safety of such facilities.

The City of Santa Cruz considers “D” or better to be an acceptable intersection level of service for intersections, which is a policy in the City’s existing General Plan as well as in the proposed General Plan. A significant impact would result if LOS dropped below a “D” level of service or where a project would contribute traffic increases of more than 3% at intersections currently operating at unacceptable levels (E or F), as further described below. The existing and proposed General Plans also account for accepting a LOS below “D” at major regional intersections where improvements would be prohibitively costly or result in significant, unacceptable environmental impacts. There are no other adopted plans, ordinances or policies that establish “measures of effectiveness” for the performance of the circulation system.

For City intersections that already operate at unacceptable levels of service (E or F), the City considers project impacts to be significant if congestion will measurably worsen at the intersection as a result of the project. “Measurably worse” is considered to be a 3% increase in trips at the affected intersection. The City has used the 3% significance criterion for project trip contribution at existing impacted intersections, in part based on directives in the City’s existing General Plan to accept a certain level of congestion during peak hours at major intersections, as well as to reflect variations in daily traffic volumes. The 3% criterion has been used throughout the City and is based upon the likelihood that a project will result in an observable increase in congestion at a given intersection or road segment. This is based in part on information provided by Caltrans in the yearly “Traffic Volumes” reports that identifies the standard deviation expected with regards to reliability of traffic count data. The standard deviation ranges indicate a 12% deviation at 10,000 vehicle trips, meaning that if a traffic count totals 10,000 vehicles per day, then approximately 90% of the time, the actual traffic counts will lie within a range of 8,800 to 11,200 vehicles. Thus, the 3% reflects this variation in daily traffic conditions (California Department of Transportation, June 2006).

⁷ Caltrans. December 2002. “Guide for the Preparation of Traffic Impact Studies.”

IMPACT ANALYSIS

Based on the significance criteria identified above, the following impact analyses address potential impacts to the City's circulation system (4a); potential traffic impacts on state highways (4b); potential increase in hazards (4d); and potential conflicts with adopting policies, plans or programs that support alternative transportation (4f). There are no applicable congestion management programs in effect within the City of Santa Cruz (4c), and thus this is not an issue that needs discussion. Emergency access issues (4e) are addressed in the "Fire Protection" and "Police Protection" subsections of the PUBLIC SERVICES (Chapter 4.8) section of this EIR.

Potential Future Development & Buildout

Adoption and implementation of the proposed *General Plan 2030* would not directly result in increased new development. However, the draft General Plan includes policies and a land use map that support additional development. The proposed General Plan would accommodate future development. As described in the PROJECT DESCRIPTION and LAND USE sections of this EIR (Chapters 3.0 and 4.1, respectively), buildout projections were estimated for the draft General Plan to provide an estimate of the amount of development that is expected to occur by the year 2030.⁸ The projections indicate the following level of new development by the year 2030:

- ❑ 3,350 residential units
- ❑ 1,087,983 square feet of commercial development and 311 hotel rooms
- ❑ 1,273,913 square of office space
- ❑ 776,926 square feet of industrial development.

The proposed *General Plan 2030* supports infill development along transportation corridors to promote alternative land use patterns to help reduce automobile travel. Development under the proposed General Plan would primarily occur on vacant infill sites, on underutilized properties that could be redeveloped at higher densities and/or land use intensities, and in the new mixed-use districts along the City's four major street corridors: Mission Street, Ocean Street, Soquel Avenue, and Water Street. Based on the estimated development occurring under the proposed plan,⁹ approximately 55 percent of all new housing, 45 percent of new commercial development and 52 percent of new office development would be located along these corridors. Thus, new development would be concentrated in specific areas.

The proposed General Plan also includes other policies and actions that could result in development that supports year-round expanded performances, events, visitors that would result in potential traffic increases. These potential uses include:

⁸ The projections are based on the draft Land Use Map, taking into account land use map changes, vacant lands, sites subject to reuse or redevelopment, and underutilized parcels, assuming that not all development will occur at maximum density. On average it is assumed that all new development will occur at 80% of the permitted residential density or floor area ratio. See Appendix B for further discussion.

⁹ See Table 3-3 in the PROJECT DESCRIPTION (Chapter 3.0) section of this EIR and Figure 2-3 for estimated distribution of new development per specific areas in the City.

- ❑ Supporting a downtown performing arts center or expansion of the Civic Center (HA2.2.5),
- ❑ Amending the Zoning Ordinance to allow development of arts and cultural facilities in a wide variety of districts (HA2.2.4),
- ❑ Supporting Santa Cruz as a year-round conference destination (Policy ED1.4), and supporting development of a new conference center (ED1.4.1) or developments that accommodate conferences (ED1.5.1),
- ❑ Encouraging development of new lodging facilities (ED1.5) and attracting top-end, full-service hotels (ED1.5.2),
- ❑ Supporting year-round events (HA3.2.4), and promoting Santa Cruz as a year-round arts destination, and
- ❑ Promoting Santa Cruz as a principal retail, cultural, recreational, entertainment and commercial destination in the region (ED1.1).

There are no specific locations or intensity of development anticipated for these types of uses. It is likely that development of such entertainment and/or visitor-serving uses would be within the total square footage of commercial development that has been estimated for the proposed *General Plan 2030* buildout. Adoption of Arts and Entertainment Districts also is supported in the draft plan (HA3.1.1), but most performances do not occur during peak commute hours.

Impact 4.4-1: Traffic Impacts on Intersections Levels of Service (LOS)

Adoption and implementation of the proposed *General Plan 2030* would accommodate future development that would result in increased vehicle trips and traffic, resulting in changes in intersection levels of service to unacceptable levels or further deterioration of intersections currently operating at unacceptable levels of service. With implementation of proposed *General Plan 2030* policies and actions, including road improvements identified in an updated Traffic Impact Fee program, intersection operations would be improved and traffic levels would be reduced, except at eight intersections. This is considered a *significant impact*.

PROJECT TRIP GENERATION AND DISTRIBUTION

Adoption and implementation of the proposed *General Plan 2030* would not directly result in increased population or new development. However, the draft General Plan includes policies and a land use map that support additional development as summarized above. This potential development would generate an estimated 78,260 new daily trips with approximately 7,180 trips occurring during the PM peak hour. The Traffix model was used for the traffic impact analysis, which estimates the trip generation for all uses and distributes these new trips to the existing road network.

The trip generation is based on the new potential development expected with buildout under the *General Plan 2030*. Results of surveys conducted for the MTS indicate that 58% of all trips by City residents are made for shopping, work or personal purposes. In addition about 75% of

all trips made by residents remain within the City of Santa Cruz. If it is assumed that this distribution will remain relatively constant for all new residents in the City then approximately 44% of all trips made by new residents will be to commercial, office, industrial or personal service facilities within the City (Marquez, March 2010). Appendix C provides a full description of trip generation assumptions. A reduction was also included for trips generated along the new mixed-use corridors in which transportation modes other than vehicles would be used.

The traffic forecast includes assumptions regarding trip reduction due to mixed use and smart growth developments, which in part utilized information identified in the MTS regarding travel patterns, taking into account travel patterns identified in the City's "Master Transportation Study." See Appendix C for further discussion of these underlying assumptions and the details of determining trip generation rates.

INTERSECTION LEVEL OF SERVICE

Project traffic volumes were calculated by adding peak-hour project trips generated by the estimated General Plan buildout to the existing volumes, which are provided in Appendix F-5. The LOS calculations are included in Technical Appendix F-6, which is available for review at the City of Santa Cruz Planning Department¹⁰ and is also included on the Draft EIR CD and on the online version of the Draft EIR on the City's website at www.cityofsantacruz.com, Planning Department.

Intersection levels of service during the PM peak hour with addition of new development accommodated by the *General Plan 2030* are summarized on Table 4.4-2. A majority of the intersections would drop from LOS B or C to LOS C or D, but would remain within the City's acceptable LOS of "D". However, 21 intersections would operate at unacceptable levels of service. Of these, the following ten intersections would degrade from acceptable to unacceptable levels of service as follows, which include three unsignalized intersections:

- Mission / Laure1 – from LOS B to **F**
- Mission / King-Union – from LOS C to **F**
- Mission / Chestnut – from LOS D to **F**
- Ocean / Broadway – From LOS C to **F**
- N. Branciforte / Water – From LOS D to **E**
- Branciforte / Soquel – From LOS C to **E**
- Seabright / Murray – From LOS D to **E**
- Beach / Pacific – From LOS C to **E**
- River / Fern – From LOS B to **F**
- Swift / Delaware– From LOS C to **F**

Five intersections would drop from an unacceptable "E" to "F" LOS s to include the following, of which only one is unsignalized (Western/High):

- Mission / Bay – From LOS **E** to **F**
- River / Encinal – From LOS **E** to **F**
- Ocean / San Lorenzo-East Cliff – From **E** to **F**

¹⁰ Located at 809 Center Street, Room 107, Santa Cruz, California during business hours: Monday through Thursday, 8 AM to 12 PM and 1 to 5 PM.

- Ocean / Water – From **E** to **F**
- Western / High – From **E** to **F**

Six intersections would continue to operate at unacceptable levels of service E or F as identified below, which are unsignalized, except for the signalized River/Highway 1 intersection. For unsignalized intersections the delays are experienced on the minor approach.

- River / Highway 1 – Remain at **F** with further delays
- Bay / Escalona – Remain at **F** with further delays
- High / Laurent – Remain at **F** with further delays
- Seabright / Water – Remain at **F** with further delays
- Bay / California Ave. – Remain at **F** with further delays
- Bay / California St. – Remain at **F** with further delays

Improvements have been identified for the intersections forecast to operate at unacceptable levels of service as a result of future development accommodated by the *General Plan 2030*. Many of the impacted intersections can be improved to an acceptable LOS with signalization, turning restrictions, and/or other improvements. Table 4.4-3 summarizes these improvements and resulting LOS and delays for the impacted intersections. However, even with improvements, the following eight intersections would remain at an unacceptable LOS:

- Western / High – Would improve from **F** to **E**
- River / Highway 1 – Would remain at **F**
- Bay / Mission – Would remain at **E**
- Laurel / Mission – Would remain at **F**
- Chestnut / Mission – Would remain at **F**
- Ocean / Water – Would improve from **F** to **E**
- Seabright / Water – Would improve from **F** to **E**
- Seabright / Murray – Would remain at **E**

Intersections that are identified in the current TIF Program as requiring improvement in the future are those listed below. The proposed General Plan 2030 supports maintaining and updating the City's Traffic Impact Fee (TIF) program to implement road improvements (M3.1.5, M2.1.3). The TIF Program would be updated to reflect new intersections and/or new or revised improvements identified as a result of the EIR analyses and recommendations. Improvement costs and potentially revised impact fees would be calculated.

- Western/High (Extended two-way left turn lane)
- High/Laurent (Signalization)
- River-Hwy 9/Hwy 9
- Bay/Escalona (turn Restrictions)
- Mission/Bay
- Mission/Chestnut
- Ocean/Water
- Bay/California Street
- Branciforte/Soquel
- Ocean/San Lorenzo-E. Cliff Dr
- Seabright/Murray
- Beach/Pacific

TABLE 4.4-2
Intersection PM Peak Hour Levels of Service with General Plan 2030 Buildout

	Intersection	PM Peak LOS	Delay [in seconds]	V/C Ratio
SIGNALIZED INTERSECTIONS				
1	Western/Hwy. 1	B		
2	Swift/Mission	D		
3	Miramar/Mission	C		
4	Almar-Younglove/Mission	C		
5	Bay/Mission	F	164.1	1.347
6	Laurel/Mission	F	87.9	1.201
7	Walnut/Mission	D		
8	King-Union/Mission	F	90.5	1.143
9	Chestnut-Hwy. 1/Mission	F	121.8	1.228
10	Moore/High	A		
11	Bay/High/Coolidge	D		
12	Bay/Nobel-Iowa	B		
13	Bay/King	C		
14	California/Laurel	C		
15	Chestnut/Laurel	C		
16	Center/Laurel	C		
17	Center/Mission	C		
18	Pacific/Laurel	D		
19	Front/Laurel	D		
20	Front/Metro Center	A		
21	Front/Cathcart	A		
22	Front/Soquel	C		
23	Front/Cooper	A		
24	Front-Pacific/Mission-Water	C		
25	River/Water	D		
26	N. Pacific/River	B		
27	River/Potrero	B		
28	River/Hwy. 1	F	209.0	1.540
29	River/Encinal	F	198.7	1.715
30	San Lorenzo/Laurel-Broadway	B		
31	Riverside/San Lorenzo	D		
32	Riverside/Third	D		
33	Riverside/Beach	A		
34	Ocean/San Lorenzo-East Cliff	F	113.9	1.168
35	Ocean/Broadway	F	90.8	1.153
36	Ocean/Soquel	D		
37	Ocean/Water	F	169.4	1.454
38	Ocean/Kennan-Washburn	B		
39	Ocean-Hwy.17/Ocean-Plymouth	D		
40	Market/Water	C		

TABLE 4.4-2
Intersection PM Peak Hour Levels of Service with General Plan 2030 Buildout

	Intersection	PM Peak LOS	Delay [in seconds]	V/C Ratio
41	N. Branciforte/Water	E	73.7	1.117
42	Branciforte/Soquel	E	67.6	1.073
43	S. Branciforte/Broadway	B		
44	Seabright/Soquel	D		
45	Seabright/Broadway	C		
46	Seabright/Murray	E	62.7	1.013
47	Morrissey/Water-Soquel	D		
48	Morrissey/Fairmount	B		
49	Frederick/Soquel	D		
50	Hagemann-Trevethan/Soquel	B		
51	Park/Soquel	B		
52	Capitola Rd./Soquel Ave.	C		
53	La Fonda/Soquel	B		
54	Riverside-Dakota/Soquel (new)	A		
55	River S./Soquel	B		
56	Seventh Ave./Soquel Ave.	C		
57	Seventh Ave./Capitola Rd.	C		
58	Seventh Ave./Eaton	D		
UNSIGNALIZED INTERSECTIONS				
59	Bay/California St	F	OVRFLW	2.917
60	Bay/California Ave	F	150.3	1.429
61	West Cliff/Bay	C		
62	Beach/Pacific Ave	E	39.9	1.058
63	Pacific Avenue/Center	C		
64	Storey/King	D		
65	River/Fern	F	OVRFLW	1,251
66	King/Laurel	D		
67	Laurent/High	F	94.1	1.190
68	Market/Isbel-Goss	C		
69	North Branciforte/Goss	C		
70	Highway 1/Shaffer Rd	C		
71	Cedar/Laurel	D		
72	Bay/Escalona	F	OVRFLW	
73	Western/High	F	69.5	0.678
74	Cliff/Beach	B		
75	Riverside/Second-Liebrandt	A		
76	Seabright/Water	F	OVRFLW	2.963
77	Swift and Delaware	F	241.6	2.751
78	Seventh Ave./Brommer	D		
79	Seventh Ave./E. Cliff	C		
SOURCE: Hatch Mott MacDonald				

TABLE 4.4-3
Intersection PM Peak Hour Levels of Service with Recommended Improvements

Intersection	Existing		Buildout		Recommended Improvement	With Mitigation	
	LOS	Delay	LOS	Delay		LOS	Delay
Western Dr/High St	E	45.9	F	69.5	TWLTL	E	38.1
High/Laurent	F	59.6	F	94.1	Signalize	B	18.2
River-Hwy 9/Hwy 1	F	83.9	F	209	Ebnd 2l 3t 1r, wbnd 2l 3t 1r, nbnd 1tl 1t 2r, sbnd 2l 1tl 1t 1r	F	80.8
River/Fern	B	14.5	F	Ovrfl	Signalize no l esbnd	B	15.1
River/Encinal	E	73.9	F	198.7	Ebnd 1l 1tr 1r, wbnd 1l 1tr, nbnd 1l, 1t, 1r, sbnd 1l,1t, 1tr	D	37.9
Bay St/Escalona Dr	F	782.2	F	Ovrfl	Escalona right turns only	C	18.3
Bay/Mission	E	55.8	F	164.1	Ebnd 1l, 2t,1r, wbnd 1l,2t,1r,nbnd 1l,1t,1r, sbnd 2l,1t,1r	E	57.7
Mission/Laurel	C	24.9	F	87.9	Add Ebnd r	F	85.6
Mission/King	C	32.7	F	90.5	Ebnd no l, 2t, 1tr, wbnd 1l, 1t, 1tr,nbnd 1ltr, sbnd 2l 1ltr	D	50.8
Mission/Chestnut	D	42.9	F	121.8	Ebnd 2l, 2t, 1r, wbnd 1l,1t, 1r, nbnd 1l, 1t, 1tr, sbnd 1l,2t, 2r	F	112.9
Ocean/Water	E	73.6	F	169.4	Ebnd 2l, 2t, 1r, wbnd 1l,2t, 1r, nbnd 1l, 2t, 1tr, sbnd 2l, 3t, 1r	F	130.7
Seabright/Water	F	112.8	F	Ovrfl	Extend TWLTL & add nbnd r	E	39
Water/Branciforte	D	36.6	E	73.7	Add ebnd l, nbound r & sbnd r	D	53.6
California Ave/Bay	F	67.6	F	150.3	Allow nbnd t free	D	26.4
California St/Bay	F	434	F	Ovrfl	Allow sbnd t free	B	12.5
Branciforte/Soquel	C	23.6	E	67.6	Esbnd 1 l, 1t, 1 tr, wsbnd 1l, 1tr no spl t phase	C	24.5
Ocean St/Broadway	C	34.3	F	90.8	Prohibit lfts from Ocean	D	36.5
Pacific/Beach	C	20.9	E	39.9	Roundabout	C	
Ocean St/San Lorenzo-ECliff Dr	E	64.7	F	113.9	Add sbnd r	D	53.2
Seabright/Murray	D	43.7	E	62.7	ADD wsbnd r, nbnd r & sbnd r	E	59.4
Swift/Delaware	C	23.9	F	241.6	Roundabout/Signal	C	20.1

The mitigation measure column reflects the recommended lane geometry where r = right turn lane, rt = right/through lane, l = left turn lane, lt = left/through lane, t = through lane, and twltl = two-way left turn lane.

SOURCE: Ron Marquez

IMPACT DISCUSSION

The proposed *General Plan 2030* strives to maintain LOS D or better at signalized intersections with acceptance of a lower LOS at major regional intersections if necessary improvements would be too costly or result in significant environmental impacts (Policies M3.1.3, M3.1.4). In conjunction with this directive, Policies M2.1.3, M2.1.4 and ED1.9.2 direct the City to implement pedestrian, bike, mass transit, and road system improvements through the Capital Improvements Program (CIP), and draft plan supports “regional funding and implementation of key regional projects that can significantly benefit Santa Cruz and further the City’s mobility policies,” although it is not clear what these projects may be. As most of the recommended improvements to impacted intersections are within the City’s TIF Program or would be added with proposed updating of the TIF (M3.1.5), the needed improvements are expected to be implemented over time as projects are added to the City’s CIP. Intersections along state highways would also come under the jurisdiction of Caltrans. Overall, intersection improvements would be constructed within existing developed rights-of way, and would not be expected to require construction on undeveloped land that would result in potential significant impacts. However, an appropriate level of environmental review would be required at the time a specific intersection improvement is proposed.

As shown on Table 4.4-3, eight intersections would remain at unacceptable levels of service even with implementation of identified improvements. These include four major intersections within the City that carry regional and visitor traffic: River-Highway 9/Highway 1; Mission/Chestnut, Mission/Bay and Ocean/Water. For these intersections, the proposed *General Plan 2030* accepts a lower LOS at major regional intersections (M3.1.4). These intersections would be considered major intersections, and are also included in the existing General Plan as deficient intersections for which a lower LOS would be accepted. However, while, the City may be willing to accept a lower LOS at the intersections along Highway 1- Mission Street, these intersections are within the jurisdiction of Caltrans and would not meet its desired C-D LOS. The recommended intersection improvements would improve delay to slightly less than what occurs under existing conditions even though an acceptable LOS still would not be achieved with the improvements at one of these intersections: River-Highway 9/Highway 1.

The other four intersections that would remain at unacceptable levels of service include: Mission/Laurel (Caltrans intersection), High/Western, Seabright/Water and Seabright/Murray. As shown on Table 4.4-3, delays would be reduced below existing levels with implementation of the recommended improvements at the High/Western and Seabright/Water intersections. The level of service calculation for these two intersections is based on the left turn movement from the minor stop controlled street. Overall both of these intersections operate well, despite the LOS. However, the Mission/Laurel and Seabright/Murray intersection would operate at an unacceptable level of service.

The Draft *General Plan 2030* includes goals, policies and actions that set forth comprehensive measures to reduce vehicle trips, increase vehicle occupancy, encourage use of alternative transportation modes, and promote alternative-sustainable land use patterns, all of which would help reduce vehicle trips, and avoid and minimize adverse impacts related to traffic. A summary of the proposed *General Plan 2030* policies that serve to reduce/mitigate impacts of increased traffic is presented in Table 4.4-4.

Policy M2.3 and its four accompanying actions seek to increase the efficiency of the City’s multi-modal transportation system to design for and accommodate multiple transportation modes (M2.3.1), as well as TSM measures and road improvements to achieve an acceptable level of service (M2.3.2). Policies M3.1.1 and M3.1.2 direct the City to seek ways to reduce vehicle trip demand, reduce the number of peak hour vehicle trips, and encourage high occupant vehicle travel. A significant rise in vehicle occupancy from the existing average of 1.2-1.3 persons per vehicle would provide additional road capacity, increase the efficiency of the existing transportation and roadway system and reduce the need for costly improvement to the road system (Santa Cruz County Regional Transportation Commission, June 2010).

**TABLE 4.4-4
Proposed General Plan Policies and Actions that Reduce Traffic Impacts**

Type of Measure / Action	Policies / Actions
<p>MAINTAIN LEVEL OF SERVICE STANDARD & IMPLEMENT TRANSPORTATION IMPROVEMENTS</p>	<ul style="list-style-type: none"> ♦ Maintain LOS D or better at signalized intersections; accept lower LOS at major regional intersections: M3.1.3, M3.1.4 ♦ Implement road improvements & alternative transportation to achieve acceptable LOS: M2.3.2 ♦ Manage, reduce congestion: M.3.1, M2.4.4 (work with UCSC) ♦ Maintain road system with efficient arterial operations: M3.2.2, M3.3.6, M3.1.12 (coordinated signal timing) ♦ Promote TSM strategies: M2.5.2 ♦ Improve access along the Visitor/Beach Area travel corridors: M3.3.2 ♦ Maintain/update Traffic Impact Fee and implement road improvements: M3.1.5; M2.1.3 <ul style="list-style-type: none"> ↳ Implement pedestrian, bike, transit & road improvement through CIP: M2.1.3, ED1.9.2 ↳ Support regional funding & implementation of key regional projects that benefit Santa Cruz: M2.1.4 ↳ Transportation improvements on Ocean: ED1.2.1 ↳ Visitor access improvements: ED1.8.4
<p>REDUCE AUTO/VEHICLE TRIPS & INCREASE VEHICLE OCCUPANCY</p>	<ul style="list-style-type: none"> ♦ Reduce auto dependence, vehicle trips and peak hour trip & increase vehicle occupancy: M1.1, M3.1.1, M3.1.2 ♦ Encourage employment-related strategies (i.e., flex-time, telecommuting, parking management, ridesharing): M3.1.7, M3.1.8, M2.4.4
<p>ENCOURAGE MULTI-MODAL SYSTEMS</p>	<ul style="list-style-type: none"> ♦ Design, accommodate & increase efficiency of multiple transportation modes: M2.3, M2.3.1, ED1.9.2 (alternative transportation), NRC4.4.2, M3.1.11 (studies to determine deficiencies) ♦ Include pedestrian, bike, transit facilities in ROW acquisition, street design, bridge & road projects: M1.4.1, M1.4.2, M2.3.3 ♦ Develop Depot Park as multi-modal center: LU3.5.2 ♦ Multi-modal use of future rights-of-way: M1.4.2
<p>ENCOURAGE ALTERNATIVE TRANSPORTATION MODES</p>	<ul style="list-style-type: none"> ♦ Encourage use of alternative transportation modes: M.2.1.2 ♦ Promote alternative transportation with TSM strategies: M2.3.2, M2.5.2 ♦ Connect activity centers with pedestrian & bike paths: M1.1.2 ♦ Encourage hotels to provide bike/shuttle programs: M2.3.4 ♦ Employment and parking-related strategies: M3.1.7, M3.1.8, M3.1.9 <p style="text-align: center;">(CONTINUED ON NEXT PAGE)</p>

**TABLE 4.4-4
Proposed General Plan Policies and Actions that Reduce Traffic Impacts**

Type of Measure / Action	Policies / Actions
<ul style="list-style-type: none"> ➤ Bicycle Use ➤ Pedestrian Use ➤ Transit Use & Expansion ➤ Rail 	<ul style="list-style-type: none"> ♦ Interconnected bike network & maintain/update Bike Plan: M4.2, M4.2.1, M4.2.2, M4.2.3 ♦ Implement bicycle improvements: M2.1.3 ♦ Bike lanes: M4.3.1, 4.5.4 ♦ Bike commute routes: M4.3.2 (rail r-o-w, West Cliff, Broadway) ♦ Support bicycle improvements, amenities & maintenance: M4.4 & actions, M4.2.6, M4.3, M4.5 & actions, PR1.6.4 (at parks); CC8.4 (at educational facilities) ♦ Connected street and pedestrian network: CD5.1, M1.1.2, M1.1.3, M4.1.5 (development dedication) ♦ Implement pedestrian improvements: M2.1.3, M1.3.1 ♦ Implement MTS pedestrian recommendations; update/implement Pedestrian Master Plan: CD5.1.1, M1.2, M4.1.1 ♦ Encourage walking: M4.1, M4.1.3 and pedestrian access: CC8.4 ♦ Neighborhood parking strategies & development designs to foster pedestrians: CD 5.2.3, M4.1.7 ♦ Encourage transit options & increased transit service, capacity & ridership: M1.1.3, M2.1.1, M2.4, M2.4.2, M2.4.6, M2.4.7, M2.4.8 (commuter travel), M2.4.9 ♦ Implement transit improvements: M2.1.3 ♦ Consider giving priority to transit on City corridors: M2.4.5 ♦ Conveniently located transit stops, centers & transit links: M.1.4, M2.4.11 and as part of new development: M2.4.12, M2.4.12 ♦ Encourage maintenance/upgrading of transit infrastructure: M.2.4.10 ♦ Encourage Beach shuttle: M2.4.1 ♦ Encourage/support passenger rail transit & other modes along rail ROW: M2.2, M2.2.1 ♦ Rail Land Use Plan: LU4.2.4 ♦ Rail Transit Center: LU4.5, LU4.5.2 ♦ Condition development along rail-potential stops: LU4.5.2 ♦ Encourage transport of good by rail: M2.2.2
<p>LAND USES / PATTERNS TO REDUCE VEHICLE TRIPS</p>	<ul style="list-style-type: none"> ♦ Reduce auto use with pedestrian/transit-oriented activity centers & development centers (M1.1) ♦ Expand neighborhood facilities (LU4.3, LU4.3.1) ♦ Encourage land use changes that reduce auto use: LU4.2); locate community facilities within walking distance to residential areas and transit: (CC2.1.4) ♦ Encourage home occupations & telecommuting: LU4.4, LU4.4.1 and live-work units: LU4.1.4, HA4.4 (artists) ♦ Ensure optimum utilization of infill parcels (LU1.1, LU1.1.1) and Consolidation of Underutilized Parcels (LU1.1.2) ♦ Encourage mixed uses: LU3.5 (Lower Pacific), LU3.6 (River) , LU4.1.1, LU4.2.2 (new districts), LU4.2.3, LU4.1.3 ♦ Encourage assembly of small parcels along transit: CD3.3, CD3.3.1, CD3.3.2 <p style="text-align: center;">(CONTINUED ON NEXT PAGE)</p>

**TABLE 4.4-4
Proposed General Plan Policies and Actions that Reduce Traffic Impacts**

Type of Measure / Action	Policies / Actions
	<ul style="list-style-type: none"> ♦ Encourage higher/maximum densities: LU3.6.1 (Lower Front St), LU3.7, LU3.7.1, LU3.8 ♦ Encourage higher densities along transit/commercial corridors: LU4.1, LU4.1.1 ♦ Encourage University shopping/services on UC lands: LU4.2.5
<p>REDUCE & DISCOURAGE THROUGH-TRAFFIC IN NEIGHBORHOODS</p>	<ul style="list-style-type: none"> ♦ Discourage, reduce, and slow through-traffic: M3.3 ♦ Enhance neighborhood livability through road& transit design: M3.3.1 ♦ New development to be designed to discourage through traffic and encourage bicycle or pedestrian connections: M3.3.5 ♦ Reduce traffic in residential neighborhoods by improving arterial and collector streets: M3.3.6 ♦ Develop neighborhood traffic control plans where necessary to minimize traffic impacts on local streets: M3.3.7

Policy M2.1.2 encourages use of alternative modes of transportation, and numerous policies and actions support expanded and improved bicycle and pedestrian facilities, a well as increased transit use. Several policies support higher land use densities along transit corridors (LU4.1, LU4.2, M1.1) to support land use patterns that reduce reliance on automobiles. Home occupations and telecommuting also are encouraged (LU4.4). The draft General Plan also directs the City to improve access to and routes between tourist and visitor designations and lodging facilities as part of the City’s economic development policies ED1.8.4).

These policies would serve to help reduce project vehicular traffic and thus reduce traffic impacts in addition to proposed intersection improvements. Of the eight identified intersections that would remain at unacceptable levels of service with implementation of identified improvements, four are at major intersections where the City has historically accepted a lower level of service at major regional intersections where improvements would be too prohibitively costly or could result in unacceptable significant environmental impacts, and this policy is maintained in the proposed General Plan (M3.1.4), although the intersections within Caltrans’ jurisdiction would not meet Caltrans LOS standards. Additionally, the delays at these intersections would be less than without the improvement, and at the Highway 1/Highway 9 intersection, the delay would be less than under existing conditions. The other four intersections that would remain at unacceptable levels of service, although delays would be reduced to levels below existing conditions at the Western/High and Seabright/Water intersections.

Roadway, as well as bicycle and other non-vehicular improvements, would be contingent on future funding. The potential growth estimated to result from implementation of the proposed *General Plan 2030* could generate nearly \$32 million in impact fees at current rates that could be used for improvements, of which 15% would be for alternative transportation. However the TIF program, including improvements, costs and impact fees, would be updated pursuant to actions specified in the draft General Plan (M3.1.5). Improvements to intersections along state highways would be contingent on Caltrans approval and state and/or federal funding. Revenues for transportation, including road and other transportation mode improvements, have not kept pace with the multimodal needs of travelers in Santa Cruz County (Santa Cruz County

Regional Transportation Commission, June 2010). Given chronic state budget deficits, as well as reduced local revenues funding road, bicycle, and pedestrian improvements will continue to be a challenge. Additionally, the lack of community consensus on regional highway improvements and local multi-use paths further constrain the feasibility of either roadway or alternative transportation mode improvements being implemented (Santa Cruz County Regional Transportation Commission, June 2010).

Revenue issues and service cuts have reduced the SCMTD's level of service, affecting the ability to increase transit service. It is estimated that 1,500 to 2,000 additional transit passengers may need to be served with projected General Plan buildout. It is expected that service would continue along major the City's major transportation corridors and where high use is concentrated. However, additional funding will be necessary to expand transit service in the future and provide implementation of "Sustainable Community" strategies,¹¹ and such funding, is at this time uncertain (SCMTD, White, personal communication, August 2011).

Conclusion. Future development accommodated by the proposed *General Plan 2030* would generate traffic that would result in unacceptable levels of service at 21 intersections, all of which could be improved to acceptable levels with intersection improvements, except for four local intersections and four intersections on state highways. Therefore, these intersections could not be improved to an acceptable LOS to meet City or Caltrans' standards, and the resulting effects on these eight intersections would be considered a significant impact unavoidable impact as no feasible improvements have been identified. With implementation of the identified improvements and proposed *General Plan 2030* policies and actions to reduce vehicular traffic, increase vehicle occupancy and support/encourage use of alternative transportation measures, the impact could be reduced to a less-than-significant level at the remaining impacted intersections. However, funding availability likely will remain constrained for major facility improvements and expansion of transit service into the foreseeable future. Thus, implementation of recommended improvements and alternative transportation facilities cannot be assured, and thus, the impact to the intersections identified as operating at unacceptable levels of service under the proposed *General Plan 2030* remains significant.

Mitigation Measures

With implementation of the proposed *Plan 2030* policies and actions to reduce vehicular traffic, increase vehicle occupancy and support/encourage use of alternative transportation measures, the impact could be reduced to a less-than-significant level at all but four intersections along state highways and the four local intersections. Impacts would remain significant and unavoidable. With uncertainly regarding funding and implementation of transportation projects for the other intersections, the impact remains

¹¹ Senate Bill 375 (SB 375) provides a means for addressing greenhouse gas (GHG) emissions by aligning regional transportation planning efforts, regional GHG reduction targets, and land use and housing allocation, thereby discouraging urban sprawl and reducing vehicle miles traveled, with an emphasis on increasing land use intensity along transit corridors. See the GLOBAL CLIMATE CHANGE (Chapter 4.12) section of this EIR for further discussion.

significant and unavoidable. However, revision of the following *General Plan 2030* action is recommended.

Recommended Revisions to the Draft General Plan 2030

Revise or add policies/actions as indicated below. Deleted text is shown in ~~strikeout~~ typeface, and new text is shown in underlined typeface.

M3.1.4 Accept a lower level of service and higher congestion at major regional intersections if necessary improvements would be ~~too~~ prohibitively costly or result in significant, unacceptable environmental impacts.

Impact 4.4-2: Traffic Impacts on State Highway Levels of Service (LOS)

Adoption and implementation of the proposed *General Plan 2030* would accommodate future development that would result in increased vehicle trips and traffic on state highways in the regions (Routes 1, 17, and 9), which would further exacerbate existing unacceptable levels of service. This is considered a *significant impact*.

The proposed project would result in increased traffic on state highway segments. It is estimated that the proposed project would generate approximately 78,235 weekday daily trips. Based on the results of the TRAFFIX model, the distribution of project traffic to state highways is estimated as follows:

- Highway 1, southbound: 24.6% of all trips
- Highway 9, north of City Limits: 1.9% of all trips
- Highway 17, northbound: 20.5% of all trips

Based on this distribution, traffic resulting from future development accommodated by the proposed *General Plan 2030* would increase traffic on southbound Highway 1 by approximately 19,250 daily trips, on northbound Highway 17 by approximately 16,000 daily trips, and on northbound Highway 9 by about 1,500 daily trips. This represents an increase of approximately 20% on Highway 1 and 22% on Highway 17, which would be considered a substantial increase.

According to the Transportation Concept Report for state highways, the target level of service for State Highway 1 west of Morrissey Boulevard is LOS D, and the target level of service for State Highway 17 south of Pasatiempo is LOS E (Caltrans, April 2006, January 2006). However, according to the Caltrans Guide for the Preparation of Traffic Impact Studies (Caltrans, 2002), if an existing State Highway facility is operating at less than the target LOS, the guide states that the existing LOS should be maintained. Highway 1 between Morrissey and Branciforte Creek Bridge operates at a E-F LOS (Caltrans, October 2010), and Highway 17 operates at LOS F (Caltrans, January 2006).

The addition of project-related traffic would contribute to significantly worsened conditions. However, some of this traffic would be within projected future volumes estimated by Caltrans. According to Caltrans' studies, Highway 1 traffic near Morrissey-Branciforte Creek Bridge is expected to increase by 50,000 daily trips in 2030-2035 (Caltrans, October 2010). Future year traffic volumes were projected using growth rates from AMBAG's regional travel demand model, version April 2007, applied to 2007 counts (Ibid.). By incorporating trip reduction and smart growth design in the proposed General Plan policies and actions, the forecast of increased traffic on Route 1 as a result of potential development accommodated by the *General Plan 2030* is significantly less than that anticipated in Caltrans Corridor Systems Management Plan.

The Route Concept Report for Highway 1 includes the addition of High Occupancy Vehicle (HOV) lanes to Highway 1. This project will add a lane in each direction to reduce congestion, encourage carpooling, expand express bus service, and improve safety. The limits of this project extend from Morrissey Boulevard to San Andreas Road/Larkin Valley Road. Project environmental review and preliminary design are underway. Caltrans' draft "Corridor System Management Plan's" strategy for Highway 1 includes new express bus services on the planned HOV lanes, support of land use and transportation efforts to reduce traffic, and overall reduction of congestion by encouraging alternative transportation facilities and programs. The County and Caltrans are also working on design and environmental review for reconstruction of the La Fonda Avenue overcrossing as part of the Auxiliary Lane Project.

The Route Concept Report for Highway 17 identifies an increase of about 8,100 daily trips to the year 2023 (Caltrans, January 2006). The report acknowledges that Highway 17 will remain a 4-lane freeway without widening. Using the traffic forecast in the Corridor System Management Plan for Route 1 the increase in volume on Route 17 would range from 30,000 to 40,000 vehicles per day by the year 2035. Again this figure is well above the volume forecast for the general plan.

As discussed above in the Impact 4.4-1 analysis, the Draft *General Plan 2030* includes goals, policies and actions that set forth comprehensive measures to reduce vehicle trips, increase vehicle occupancy, encourage use of alternative transportation modes, and promote alternative-sustainable land use patterns, all of which would help reduce vehicle trips, and avoid and minimize adverse impacts related to traffic. The draft Plan encourages use of alternative modes of transportation, and numerous policies and actions support expanded and improved bicycle and pedestrian facilities, as well as increased transit use. Several policies support higher land use densities along transit corridors to support land use patterns that reduce reliance on automobiles. The draft Plan supports regional funding and implementation of key regional projects "that can significantly benefit Santa Cruz and further the City's mobility policies" (M2.1.4).

Caltrans is responsible for improvements along state routes and has proposed a series of improvements along Highway 1, which would improve transit and carpooling with addition of an HOV lane. While overall levels of service would remain unchanged if the additional lane were not an HOV lane, average speeds would be increased and delays reduced (Caltrans, October 2010). Similarly, Highway 17 is forecast to remain at an unacceptable LOS in the future with no potential improvements having been identified. Both the Highway 1 planned HOV lanes and Soquel/Morrissey auxiliary lanes are supported in the current Regional

Transportation Plan. The SCCRTC assumes that a half-cent, 30-year sales tax measure or similar local funding mechanism will be ultimately be approved (Santa Cruz Regional Transportation Plan, June 2010).

The increase of 1,500 vehicles per day on Route 9 will not result in a significant impact. The existing volumes on Route 9 range from 5,000 AADT to 5,600 ADT north of City limits during peak months. Traffic volumes have increased on this highway approximately 1,000 vehicles per day in the last 30 years. Route 9 is a conventional undivided two-lane highway which is classified as a major collector. No major improvements are planned in the corridor from Santa Cruz to Felton north of the City limits. (Transportation Planning Fact Sheet State Route (SR) 9 in Santa Cruz County, Caltrans).

Conclusion. Future development accommodated by the proposed *General Plan 2030* would generate traffic that would contribute to existing and future forecast unacceptable levels of service along Highway 1 and Highway 17. Project traffic represents a significant addition, although the estimated General Plan buildout traffic is less than the future forecasts estimated by Caltrans in its draft “Corridor System Management Plan.” With implementation of the proposed *General Plan 2030* policies and actions to reduce vehicular traffic, increase vehicle occupancy and support/encourage use of alternative transportation measures, and with future improvements along Highway 1 that are planned by Caltrans, traffic congestion along Highway 1 will be minimized. However, highway operations would continue to remain at unacceptable levels. Thus, the impact remains significant.

Mitigation Measures

None are known beyond those being considered for Highway 1 by Caltrans as discussed above.

Impact 4.4-3: Traffic Hazards

Adoption and implementation of the proposed *General Plan 2030* would not result in new roads that could potentially create hazards, and with implementation of proposed *General Plan 2030* policies and actions to ensure road safety, the project would not result in direct or indirect impacts related to increased hazards. Therefore, there is *no impact* related to road safety/hazards.

The proposed *General Plan 2030* does not include new roads or road alignments, and thus, would not create or increase hazards due to a road or intersection design. Action M3.1.13 does support an approach to Highway 1 to from the Harvey west area, but a specific location is not identified. If this option were to be considered in the future, it would require Caltrans’ approval, and would be subject to project-level design and environmental review.

Furthermore, Policy M3.2 seeks to ensure road safety for all users. To this end, the plan proposes to maintain the condition of the existing road system (M3.2.1), ensure safe and

efficient arterial operations and designs (M3.2.2, M3.2.11), ensure adequate street widths and designs for emergency vehicles (M3.2.3), and improve traffic safety and flow, including at high collision and congested areas (M3.2.4, M3.2.5). Regular inspection and maintenance of street pavements is supported to help encourage bicycling (M3.2.6).

Conclusion. The proposed *General Plan 2030* does not include new roads or road alignments, and thus, would not create or increase hazards due to a road or intersection design. Implementation of the proposed *General Plan 2030* policies and actions would help to maintain road safety and prevent hazardous conditions due to future designs of roadway or intersection improvements. Therefore, there is no impact associated with creating or increasing hazards due a specific roadway design feature.

Mitigation Measures

No mitigation measures are required as a significant impact has not been identified.

Impact 4.4-4: Conflicts with Adopted Plans

Adoption and implementation of the proposed *General Plan 2030* would not result in conflicts with adopted plans, policies or programs that support alternative transportation, as the proposed goals, policies and actions directly support implementation and use of alternative transportation modes. Therefore, there is *no impact* related to potential conflicts with plans and policies.

Both the SCCRTC's *Regional Transportation Plan* and AMBAG's *Monterey Bay Area Mobility 2035* support and promote transit, bicycling, walking, carpooling and other alternative transportation modes. The proposed *General Plan 2030* directly supports these alternative modes as well. Action M2.1.2 encourages use of alternative modes of transportation, and numerous policies and actions support expanded and improved bicycle and pedestrian facilities, a well as increased transit use and passenger rail transit, as summarized on Table 4.4-4. Policy M2.3 seeks to increase the efficiency of the City's multi-modal transportation system. Several policies support higher land use densities along transit corridors (LU4.1, LU4.2, M1.1) to support land use patterns that reduce reliance on automobiles.

Conclusion. The proposed *General Plan 2030* directly supports regional plans and policies that support alternative transportation modes as it includes numerous policies and actions that encourage use of alternative modes of transportation, and support expanded and improved bicycle and pedestrian facilities, a well as increased transit use. Therefore, there is no impact related to potential conflict with adopted plans and policies that support alternative transportation.

Mitigation Measures

No mitigation measures are required as a significant impact has not been identified.

REFERENCES

AMBAG.

- ❑ June 2010. Monterey Bay Area Mobility 2035
- ❑ “Metropolitan Transportation Planning” website, online at:
http://www.ambag.org/programs/met_transp_plann/mtp.html

California Department of Transportation, District 5, System Planning Branch.

- ❑ 2010. Traffic Data Branch website found online at:
<http://www.dot.ca.gov/hq/traffops/saferesr/trafdata/>
- ❑ June 2006. “2005 Traffic Volumes on the California State Highway System.” Prepared in cooperation with the U.S. Department of Transportation, Federal Highway Administration.
- ❑ April 2006. “Transportation Concept Report for State Route 1 in District 5.”
- ❑ January 2006. “Transportation Concept Report for State Route 17 in District 5.”

Caltrans.

- ❑ October 2010. “State Routes 1 and 183 Corridor System Management Plan, Monterey and Santa Cruz Counties.” Online at:
<http://www.dot.ca.gov/dist05/planning/csmp.htm>
- ❑ December 2002. “Guide for the Preparation of Traffic Impact Studies.”
http://www.dot.ca.gov/hq/tpp/offices/ocp/igr_ceqa_files/tisguide.pdf

CCS Planning and Engineering, Inc. and Nelson/Nygaard Consulting Associates. May 5, 2000. “Final Report Highway 17 Transportation Improvement Study.” Prepared for Santa Cruz County Regional Transportation Commission.

City of Santa Cruz. November 25, 2008 (Adopted by City Council). “City of Santa Cruz Bicycle Transportation Plan 2008.”

City of Santa Cruz Planning and Community Development Department. April 2004. “2005-2020 General Plan and Local Coastal Program Background Report.”
Online at: <http://www.ci.santa-cruz.ca.us/pl/gp/PDF/Merged%20Background%20Report.pdf>

Fukuji Planning and Design. July 23, 2003. *City of Santa Cruz Master Transportation Study Final Report*. Submitted to City of Santa Cruz and University of California Santa Cruz.

Marquez, Ron. March 30, 2010. Memorandum Chris Schneiter, City of Santa Cruz Public Works Department regarding “General Plan Traffic Analysis Methodology.”

Marquez Transportation Engineering. September 2003. “Traffic Impact Fee System Report for the City of Santa Cruz.”

Santa Cruz County Regional Transportation Commission.

- ❑ February 2011. “Santa Cruz Branch Rail Line Acquisition Fact Sheet.” Online at: <http://www.sccrtc.org/pdf/2011/02/RAILFACTSHT02-2011.pdf>
- ❑ June 2010. *RTP 2010 – Santa Cruz County Regional Transportation Plan.*
- ❑ February 2010. “Monterey Bay Sanctuary Scenic Trail Network Fact Sheet.”
- ❑ “State Highway Projects, Programs and Studies in Santa Cruz County.” Online at: http://www.sccrtc.org/completed_projects.html.
- ❑ “Highway 1 High Occupancy Vehicle (HOV) Lanes Widening Project.” Online at: <http://www.sccrtc.org/hov.html>.
- ❑ “Highway 1 Soquel Avenue/Morrissey Auxiliary Lanes Project.” Online at: <http://www.sccrtc.org/SoquelMorrissey.html>.
- ❑ “Major Transportation Investment Study, completed 1999.” Online at: <http://www.sccrtc.org/mtis.html>.

Santa Cruz Metropolitan Transit District. “METRO Fact Sheet.”

<http://www.scmtd.com/facts/factsheet.html>.

U.S. Department of Transportation, Federal Highway Administration, and the State of California Department of Transportation. September 2008. “Highway 1 Soquel + Morrissey Auxiliary Lanes Project From Soquel Avenue to Morrissey Boulevard in Santa Cruz County – Initial Study with Proposed Negative Declaration/Environmental Assessment.” (05-SCR-1-PM 14.96 to 15.94, EA 05-0F6500)

Wilbur Smith Associates. December 2008. “Santa Cruz Metro Short Range Transit Plan.”