



Transportation Concept Report

State Route 129

District 5

October, 2015

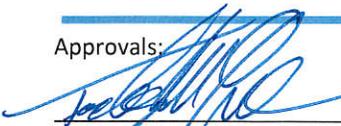


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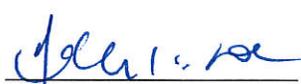
Provide a safe, sustainable, integrated, and efficient transportation system to enhance California's economy and livability

Approvals:



Timothy M. Gubbins
District 5 Director

10/26/15
Date



Aileen K. Loe
District 5 Deputy Director
Planning and Local Assistance

10/23/15
Date

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CHAPTER 1: EXECUTIVE SUMMARY

Caltrans mission is to provide a safe, sustainable, integrated and efficient transportation system to enhance California’s economy and livability. Transportation Concept Reports (TCRs) play an active role in achieving this mission to serve the traveling public. The TCR is primarily a technical document that: (1) identifies trends and deficiencies within a transportation corridor, and (2) provides a basis for considering future actions to preserve the integrity of the corridor over the long-term. This information is valuable to Caltrans and its local and regional partners as they consider needs and priorities for future investments.

SR 129 CONCEPT

The ultimate concept of the corridor is similar to the existing concept of **conventional highway** with strategic improvements to maintain the functional role and purpose of SR 129.

Table 1.1: SR 129 Concept

Segment	Route Concept
Segment 1 SR 1 to Blackburn Street (SCR PM L0.000 – SCR PM 0.540)	Maintain conventional highway with capacity of two to four lanes (four lanes from SR 1 to Main Street; two lanes from Main Street to Blackburn Street).
Segment 2 Blackburn Street to Rogge Lane (SCR PM 0.540 – SCR PM 7.200)	Maintain conventional highway with capacity of two lanes.
Segment 3 Rogge Lane to US 101 (SCR PM 7.200 – SBT PM R2.644)	Maintain conventional highway with capacity of two lanes.

Concept Rationale:

Regional travel demand models from approved RTP/MTP-SCS efforts and Caltrans historical data served as a basis for the technical analysis presented in the TCR. These projections forecast future demand on SR 129 in a 2040 horizon year¹. While the model forecasts traffic volumes to increase, a strategic combination of system management and preservation will allow the existing corridor to serve these volumes without major capacity expansions.

The traffic forecasts used in setting the capital facility concept and the system operations and management concept focus on 2040 forecasts for average daily traffic, peak hour traffic, vehicle miles traveled, commuting patterns, average speed, and truck volume. Qualitative data factors were also analyzed including a review of pertinent plans and literature, field observations, and stakeholder input.

Future growth and development is projected to have operational impacts on SR 129. This growth includes growth in Watsonville as well as growth in surrounding urban areas that may affect the route. Improvements to address these impacts must be considered and implemented strategically to maintain SR 129 mobility. The 20-25+ year

¹ Note that the AMBAG regional travel demand model developed for the MTP-SCS sets 2035 as the horizon year. For this analysis, District 5 Advanced Planning extrapolated using the AMBAG model to develop forecasts for horizon year 2040; this was completed according to standard modeling practices. The 2040 horizon year is used for the current round of District 5 TCRs to align with the 2040 California Transportation Plan. Additional information about technical methodology and performance measures are provided in Appendix A.

concept includes small-scale multimodal capacity improvements. The concept also includes system management strategies that focus on maintaining and managing transportation facilities, optimizing the capacity and efficiency of the existing system, and prolonging the functional lifespan of SR 129.

The strategic improvements included in the concept range from Intelligent Transportation Systems, Transportation Demand Management, bicycle, pedestrian, operational improvements, and access management. Multimodal projects need to be compatible with local and county active transportation and complete streets goals, plans, and programs. As appropriate, multimodal concepts within Watsonville should consider opportunities to reallocate space to provide facilities for all users and be consistent with local and regional planning efforts. Projects will need to balance a range of considerations including the needs of all modes, projected volumes, and system operations.



Figure 1.1: Location Reference Map

Multimodal Improvements

- Class III bicycle route from SR 1 to Walker Street to complete the network within the Watsonville city limits.
- Sidewalk on south side of route from Sakata Lane to Menker Street to complete the network within the Watsonville city limits.
- Improvements should consider Watsonville complete streets plans and programs. Multimodal and complete streets concepts need to be compatible with current and projected traffic volumes.

Operational Improvements

- SR 1/SR 129 interchange improvements.
- Auxiliary lanes for passing, acceleration, and deceleration at strategic locations.
- Access management concepts including median, median opening, turn lane, and driveway improvements.
- Signalization timing improvements.
- Truck parking improvements.

Maintenance and Preservation

- Pavement resurfacing and rehabilitation.
- Bridge preservation.
- Continuation of Safety Program partnership with the California Highway Patrol.

STAKEHOLDER PARTICIPATION

Stakeholders associated with SR 129 are listed in Table 1.2. The objective of stakeholder outreach for the SR 129 TCR is to partner with the listed stakeholders in identifying existing information and preferred long-term concept for SR 129.

Table 1.2: SR 129 Stakeholders

Stakeholder	Role
Association of Monterey Bay Area Governments	Metropolitan Planning Organization
City of Watsonville	Local municipality
San Benito Council of Governments	Regional Transportation Planning Agency
San Benito County	County
Santa Cruz Regional Transportation Commission	Regional Transportation Planning Agency
Santa Cruz County	County
Santa Cruz Metropolitan Transit District	Transit District

Stakeholder Outreach Tasks:

Stakeholder Outreach Task 1: TCR Kickoff – Spring, 2015

The kickoff covers basic information about TCRs, including purpose, methodology, and schedule. It also provides stakeholders an opportunity to share initial input on the route to help guide the TCR development process. Stakeholders are welcome to share the information presented in the kickoff with interested parties, such as AMBAG and RTC subcommittees, through established communication channels.

Stakeholder Outreach Task 2: Preliminary Draft – Spring, 2015

This task involves sharing the first draft of the TCR. This step provides stakeholders an opportunity to review the existing conditions and a general overview of the corridor. The draft includes preliminary modeling forecasts depicting 2040 conditions and sharing Caltrans' draft concept of the corridor with stakeholders.

Stakeholder Outreach Task 3: Final Draft – Summer, 2015

This task includes completing revisions as necessary and holding a final presentation for applicable technical committees.

ROUTE DESCRIPTION

The official route description in California Streets and Highways code is "Route 129 is from Route 1 near Watsonville to Route 101 in San Benito County."

SR 129 is a conventional highway located in both urban and rural areas. It is predominately two lanes, with a short four lane section located on the westernmost segment in Watsonville. The urban portion of the route is classified as a principal arterial while the rural portion is classified as a minor arterial. The functional role and purpose served by SR 129 is planned to continue unchanged over the 20-25 year TCR horizon.

SR 129 Goods Movement

SR 129 is a key route for freight and goods movement and is essential to regional and state economic prosperity. It serves truck traffic related to the agricultural industry in and around Watsonville, as well as a sand and gravel quarry in southeastern Santa Cruz County.

SR 129 is designated with the following county, state, and federal functional classifications:

- Principle/minor arterial
- Interregional Road System (IRRS)
- District 5 Goods Movement Route
- Terminal Access Truck Designation
- Santa Cruz Emergency Management Plan Evacuation Route

SR 129 Interregional Connectivity

The SR 129-US 101 route connecting Watsonville and Gilroy provides the shortest travel time between these urban areas. Because of this, SR 129 is the preferred option for many local commuters and goods movement stakeholders.

SR 129 TCR KEY FINDINGS

Segment 1 Corridor Performance Key Findings:

- Base Year (2013) conditions: Congestion is low in both directions for Segment 1a (west of Main Street). Congestion is moderate in both directions for Segment 1b (east of Main Street).
- Horizon Year (2040) conditions: Volumes exceed capacity on Segment 1b (east of Main Street).

Segment 2 Corridor Performance Key Findings:

- Base Year (2013) conditions: Congestion levels are low throughout the segment.
- Horizon Year (2040) conditions: Moderate congestion levels are anticipated in the eastbound direction in the PM peak. Conditions are reversed in the AM peak.

Segment 3 Corridor Performance Key Findings:

- Base Year (2013) conditions: Congestion levels are low throughout the segment. The highest volume in 2013 is located at Rogge Lane, with an AADT of 11,000.
- Horizon Year (2040) conditions: High congestion levels are anticipated in the eastbound direction in the PM peak. Conditions are reversed during the AM peak hour.

SR 129 CORRIDOR VISION

Caltrans' vision for the SR 129 corridor is to:

- Optimize the mobility of the existing facility for people and goods through system management and preservation. This includes the following list of strategies:
 - Intelligent Transportation Systems – strategies include signalization in the Watsonville urban area, ramp metering at SR 1, and support for technological improvements that enhance the viability of transit. Ongoing monitoring and evaluation of route performance.
 - Transportation Demand Management – support for vanpooling, ridesharing, and alternative commute programs.
 - Multimodal - strategic multimodal improvements that encourage mode shifts and a reduction of single occupancy vehicle trips, especially in the Watsonville urban area. Consider Complete Streets improvements to bicycle and pedestrian facilities. Improve rail crossings.
 - Operational Improvements – provide for sustainable and reliable mobility through non-capacity operational improvements including auxiliary lanes, passing lanes.
 - Access Management – maximize safety and operation through improvements to intersections, medians, and driveways.
 - Corridor Preservation – maintain and preserve the corridor including preventative maintenance, rehabilitation and reconstruction, and regulatory mandates.

CHAPTER 2: CORRIDOR OVERVIEW

ROUTE SEGMENTATION

Table 2.1: Route Segmentation

Segment	Location Description	Begin Prefix	Begin PM	County_Route_Beg. PM	End Prefix	End PM	County_Route_End PM	Length
1	SR 1 to Blackburn St	L	0.000	SCR_129_L0.000	-	0.540	SCR_129_0.540	2.009
2	Blackburn St Rogge Ln	-	0.540	SCR_129_0.540	-	7.200	SCR_129_7.200	4.202
3	Rogge Ln to US 101	-	7.200	SCR_129_7.200	R	2.644	SBT_129_R2.644	7.884

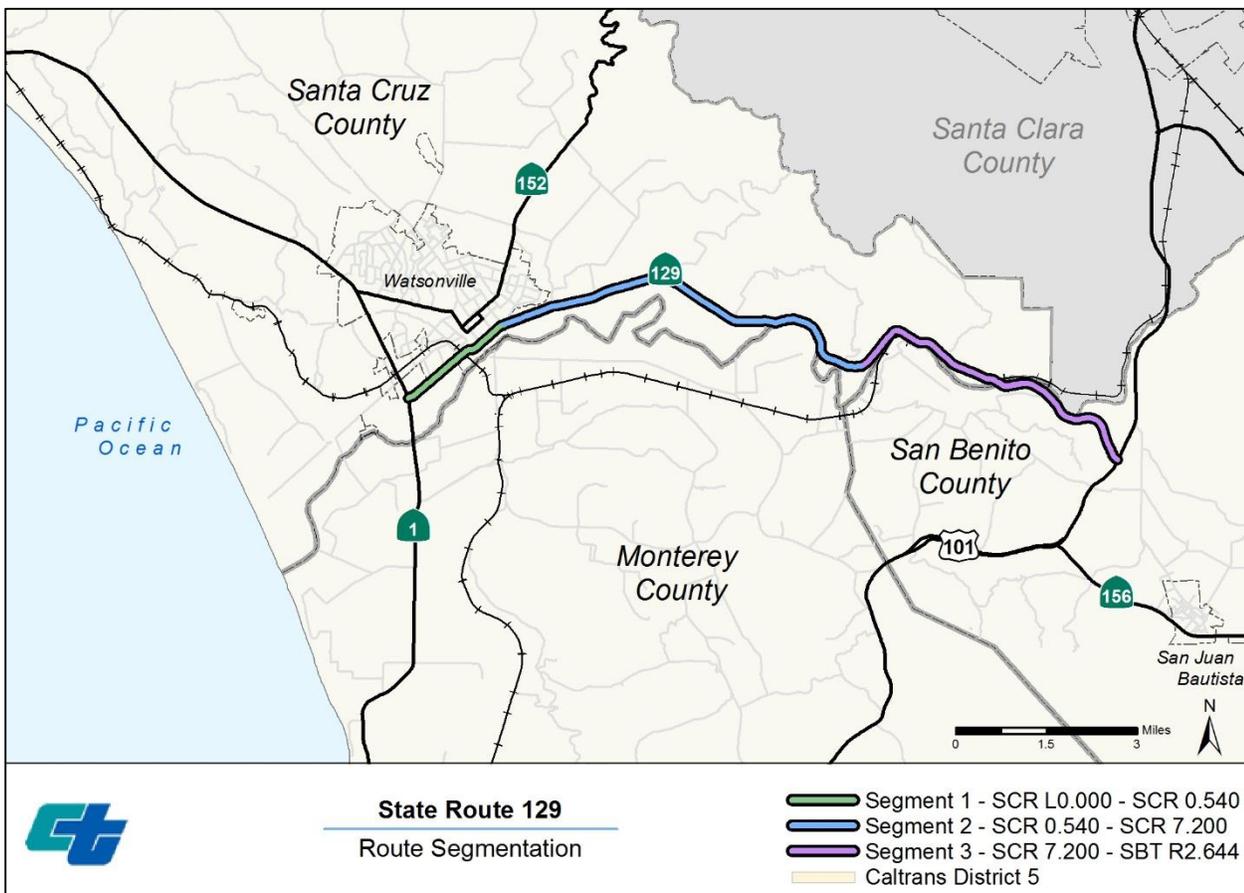


Figure 2.1: Route Segmentation

Route Location

SR 129 starts at SR 1 in Watsonville, Santa Cruz County and stretches eastwards to US 101 in San Benito County. It is 14.1 miles long (11.46 miles within Santa Cruz County and 2.64 miles within San Benito County). The route is located in the southern portion of the city of Watsonville, where it is also referred to as Riverside Drive. SR 129 is located near the Santa Cruz Branch Rail Line and the Union Pacific Coast Line. The western limit is about 3 miles from Monterey Bay and the eastern limit is about 2 miles from the city of San Juan Bautista.

Route Function

SR 129 is a conventional highway that serves local and regional traffic. It functions as a principle arterial within the city limits of Watsonville and a minor arterial in the rural area to the east. Its linkage between SR 1 and US 101 makes it a strategic facility for moving commercial, industrial, and recreational traffic. SR 129 is used by the Pajaro Valley Unified School District as a school bus route for Ann Soldo Elementary School, Landmark Elementary School, Lakeview Middle School, and Watsonville High School. SR 129 is used intermittently for traffic diverted for road closures for projects or incidents on SR 17 and SR 152. It is designated as an evacuation route in accordance with the Santa Cruz County Emergency Management Plan.

The route is an important freight and goods movement facility. It connects the Monterey Bay region with areas to the east, including the Central Valley. It serves truck traffic related to the surrounding agricultural industry in Watsonville, as well as a sand and gravel quarry in southeastern Santa Cruz County.

COMMUNITY CHARACTERISTICS

SR 129 covers two counties – Santa Cruz and San Benito. Its location provides linkage and flow between the two counties, especially serving the city of Watsonville as well as adjacent and nearby communities. In addition to Watsonville, the study area includes Gilroy, Hollister, and San Juan Bautista due to their close proximity and commuting patterns relative to SR 129. Focus on the surrounding people and activities can help project trends and future growth of the area and how that growth might affect mobility and transportation along the route.

Demographics

Watsonville has a population of 51,199². Behind the city of Santa Cruz, it has the second-largest population in Santa Cruz County. Watsonville has a total number of approximately 14,000 housing units, with a median home value of \$445,900 for owner-occupied units. Median household income is \$46,675.

Hollister and San Juan Bautista are located east of the corridor in San Benito County. Hollister is the county seat. At a population of 34,928, Hollister contains almost two-thirds of the overall San Benito County population. Hollister contains 10,401 housing units with a median home value of \$443,900 and median household income of \$63,289. San Juan Bautista is the only other incorporated city in the county and is the smallest community in the study area at 1,862. San Juan Bautista has a total of 745 housing units. The San Juan Bautista median household income is \$53,077 and the median home value is \$518,900.

The city of Gilroy, located within Santa Clara County about seven miles north of the SR 129 and US 101 interchange, is also within the SR 129 commuteshed, or location of journey-to-work originations. Gilroy has a population of 48,821 and contains the highest number of housing units in the study area at 14,854. Median household income is \$71,340 and median home value is \$592,300.

² Demographic figures are as of the 2010 Census. Socioeconomic figures such as household income and value are as of the 2006-2010 American Community Survey.

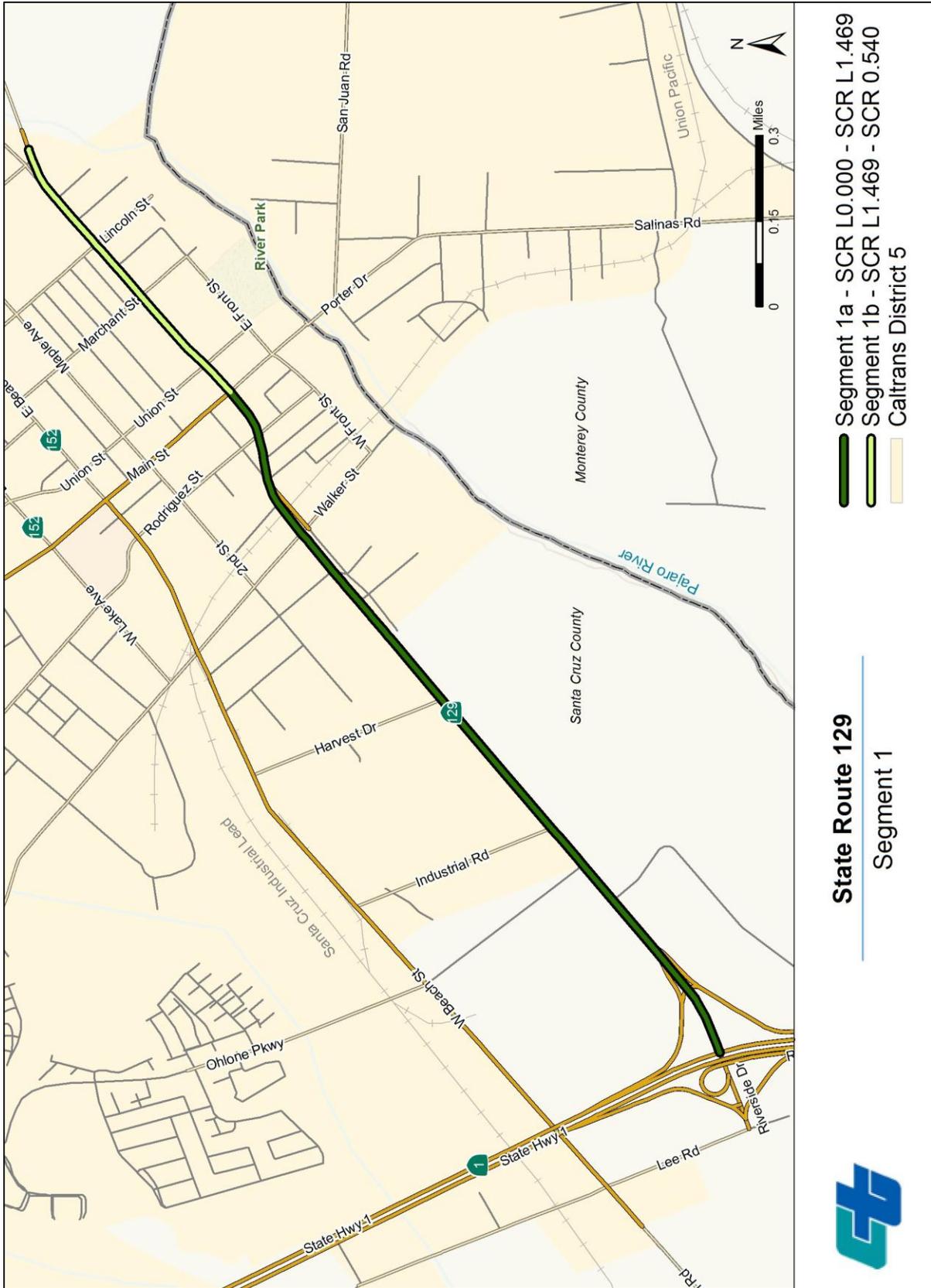


Figure 2.2: Segment 1 Map

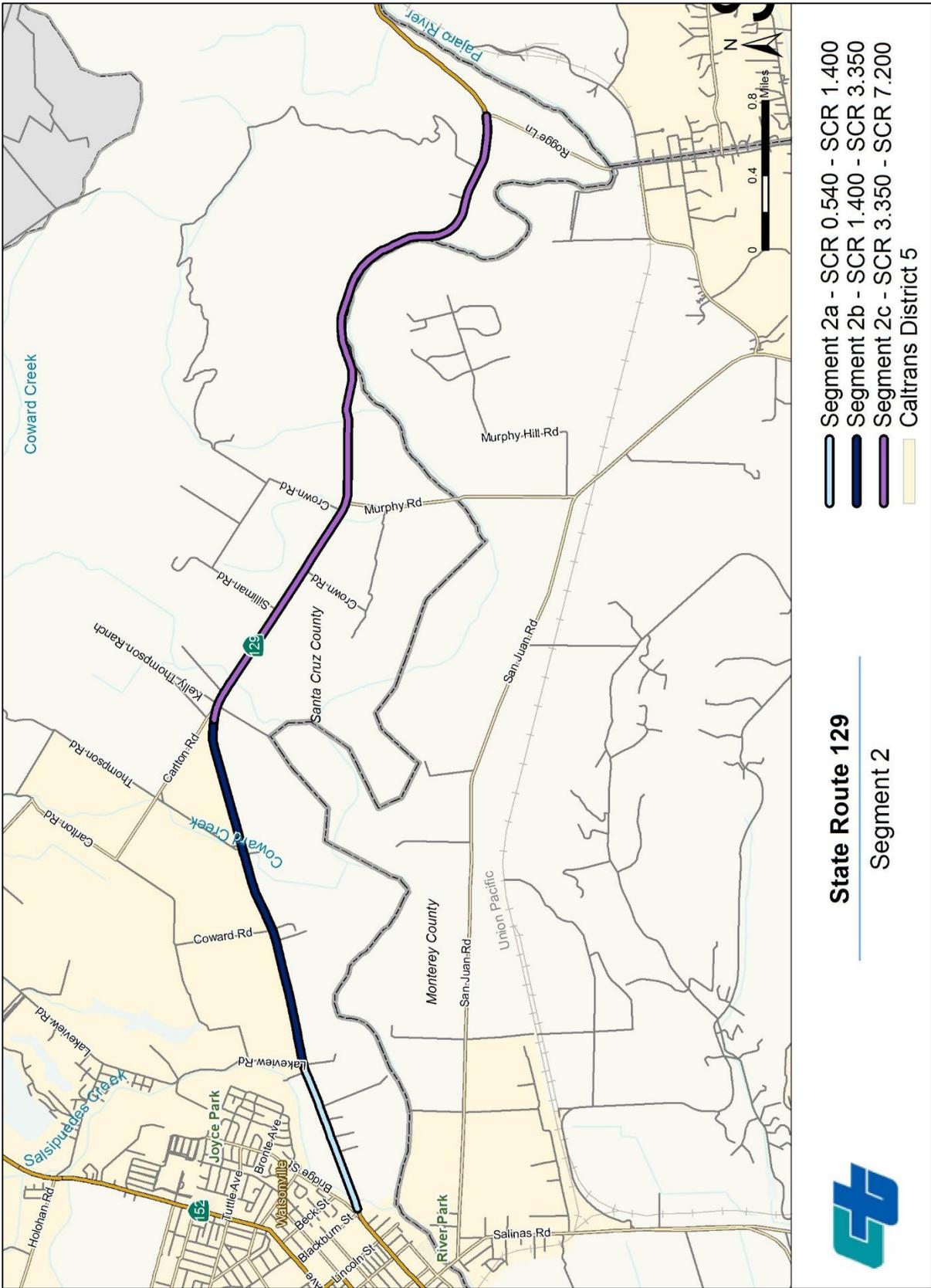


Figure 2.3: Segment 2 Map

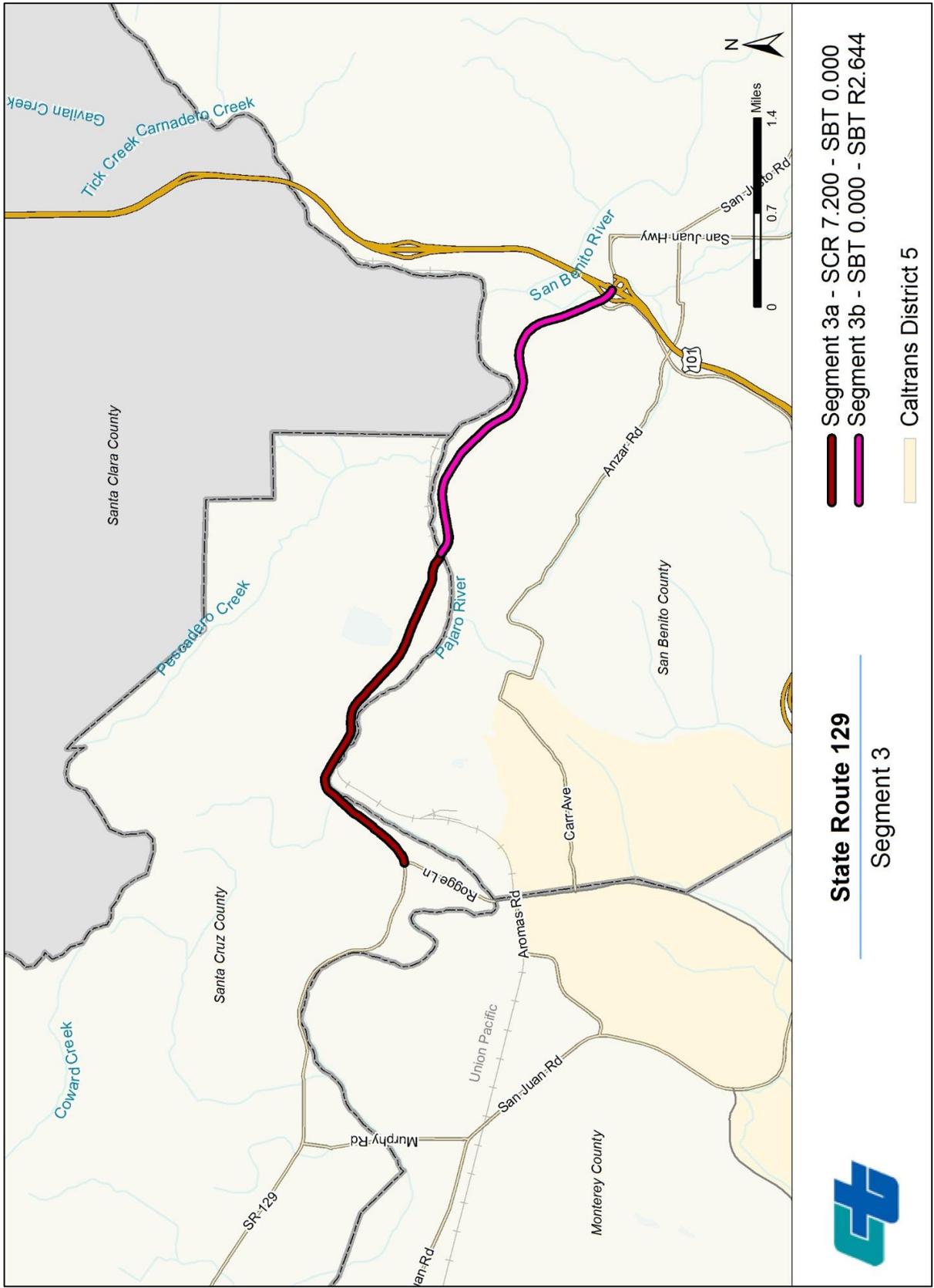


Figure 2.4: Segment 3 Map

Table 2.2: Route Designations and Characteristics

Segment	1	2	3
Freeway & Expressway	No	No	No
National Highway System	Yes	No	No
Strategic Highway Network	No	No	No
Scenic Highway	No	No	No
Interregional Road System	Yes	Yes	Yes
Functional Classification	Principle Arterial	Minor Arterial	Minor Arterial
Goods Movement Route	Yes	Yes	Yes
Truck Designation	Terminal Access	Terminal Access	Terminal Access
Primary & Secondary System	Secondary	Secondary	Secondary
Rural/Urban/Urbanized	Urbanized	Rural	Rural
Metropolitan Planning Organization	AMBAG	AMBAG	AMBAG
Regional Transportation Planning Agency	SCCRTC	SCCRTC	SCCRTC, SBTCOG
Congestion Management Agency	Santa Cruz County Regional Transportation Commission	Santa Cruz County Regional Transportation Commission	N/A
Local Agency	Santa Cruz County, City of Watsonville	Santa Cruz County	Santa Cruz County, San Benito County
Tribes	N/A	N/A	N/A
Air District	Monterey Bay Unified Air Pollution Control District	Monterey Bay Unified Air Pollution Control District	Monterey Bay Unified Air Pollution Control District
Terrain	Flat/Rolling	Flat/Rolling	Flat/Rolling

Existing Growth Trends and Development

The growing population in the areas surrounding the route increases traffic on SR 129. Watsonville has the economic advantage of prime agricultural resources surrounding the area. However, agricultural lands can be subject to urban development. Watsonville experienced a 16 percent population growth, about 6,900 people, between 2000 and 2010. The city’s vision is to continue sustainable development patterns to support the growing population while preserving the agriculturally-sensitive areas; the city’s General Plan includes provisions for new infrastructure that specifically preserves and supports agriculture (City of Watsonville General Plan, 2005).

Between 2000 and 2010, San Juan Bautista grew by 20%, from 1,549 to 1,862 people. The city’s goals for the future are to keep its small town character, maintain its agricultural community, and develop its underutilized property. 80% of the city has been designated for agricultural and rangeland uses (City of San Juan Bautista General Plan, 1998)³. The agricultural industry contributes to the truck traffic on SR 129.

³ San Benito County is updating their General Plan in 2015.

Gilroy’s population grew from 41,465 in 2000 to 48,821 in 2010. Population growth in Gilroy led a greater amount of traffic traveling to other areas such as Watsonville and the Monterey Bay region. While SR 152 is the most direct route between Gilroy and Watsonville, the route via US 101 and SR 129 is faster, according to Google Maps.

Table 2.3: Means of Commuting to Work, 2010

AREA	MODE					
	DRIVE ALONE	CARPOOL	PUBLIC TRANSPORTATION	WALK	WORK AT HOME	OTHER
GILROY	14,999	3,465	562	410	657	760
HOLLISTER	11,116	2,474	64	298	172	457
SAN JUAN BAUTISTA	495	134	7	26	7	14
WATSONVILLE	13,865	4,486	268	783	672	462

Source: American Community Survey 2006-2010

LAND USE

Local and Regional Land Use

SR 129 travels through a range of land use types within the city of Watsonville. The areas close to the SR 1 interchange are highly industrialized. Many construction contractors, waste management businesses, and food processing plants exist in the area.

As the route continues east toward the center of the city, land use shifts to commercial and residential. A variety of amenities such as dining and entertainment, religious facilities, and childcare centers are located near the SR 129 intersection with Main Street. The areas toward the eastern city limits are primarily residential. The route is also adjacent to Watsonville High School.

Outside the Watsonville limits, SR 129 is surrounded by agriculture and natural landscape. Some of the agricultural businesses include processing plants and farms with row crops and orchards. There is a significant amount of berry production in the region.

There is a quarry located in Aromas near the border. Near the interchange with US 101, the land use is comprised of residential neighborhoods, schools, construction companies, and food processing plants.

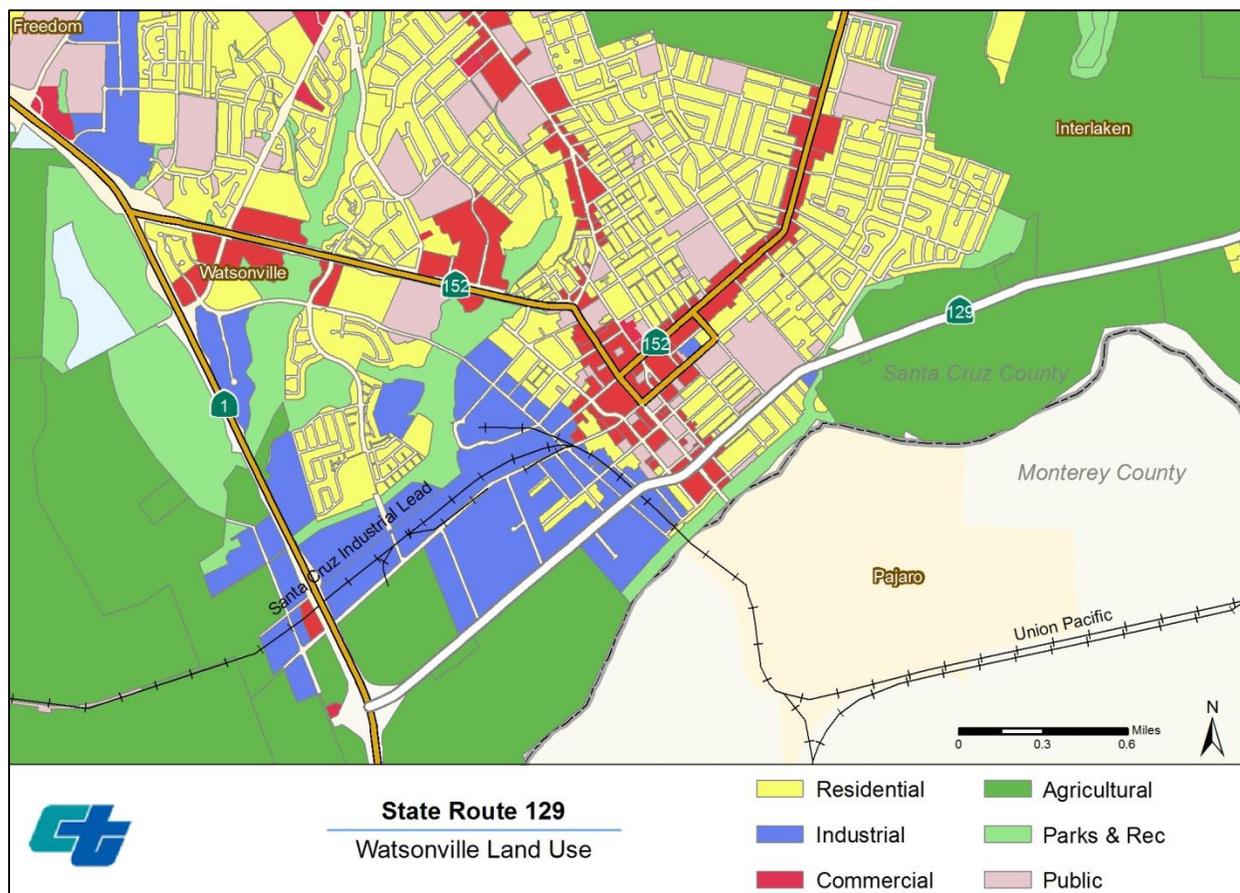


Figure 2.5: Watsonville Land Use (Sources: Santa Cruz County, City of Watsonville)

Anticipated Land Use Trends

With a steadily growing population, Watsonville has encouraged expansion that balances development and preservation of agriculturally sensitive areas. Watsonville’s goal is to redevelop designated underutilized lands. Currently, 83 percent of the city is developed, 2 percent is vacant with development potential, and 15 percent is not available for development due to the existing land uses, such as schools, parks, or environmentally sensitive areas. Figure 2.6 indicates appropriate land uses for the development of remaining vacant land. Population growth will increase the demand for goods required for consumption by local residents and freight volume can be expected to increase with population.

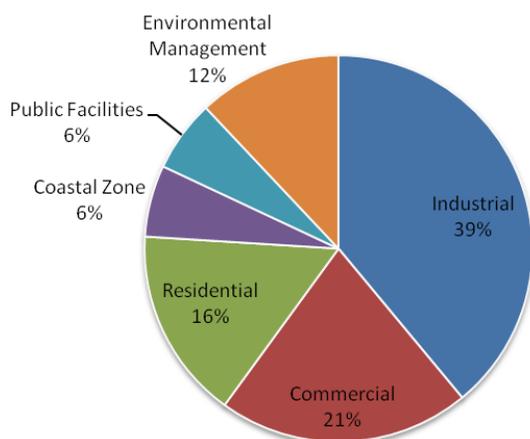


Figure 2.6: Allowable Land Uses of Vacant Land, Watsonville (Source: City of Watsonville, Land Use Element)

Economic Significance in Relation to Land Use

In the city of Watsonville, the combined value of the wholesale trade and manufacturing industries amount to over \$1.5 billion a year, according to the 2007 Economic Census. Businesses related to the agriculture industry are responsible for some of this value. Santa Cruz County is one of the main producers of berries in the state (California Department of Food and Agriculture, 2009). Dutra Farms has been recognized as one of California's most prominent growers in blackberries and raspberries (CA Employment Development Department, 2010). Other large companies, such as Driscoll's, Dole Berry Company, and Giant also add to the economic base of the area. Watsonville has over 30 berry farms and accounts for nearly half of California's strawberry fields. These industries affect traffic volumes on the surrounding road network, including SR 129, for goods movement as well as commuting of employees.

Other major trip-generating community facilities in close proximity to the route include schools. Many public schools are within a half-mile of the route, including six in Watsonville and one in San Juan Bautista. Watsonville High School directly borders the route. Recreational traffic is generated due to the proximity to Monterey Bay and nearby beaches as well as the increasing popularity of agriculture tourism.

Noise and Air Quality Sensitive Land Uses

SR 129 travels through a range of land uses, including land uses that may be sensitive to noise and air quality impacts. Segment 1b, the section of SR 129 near the eastern Watsonville limits, is close to residential areas, schools, parks, churches and community centers. Outside the Watsonville urban limits, SR 129 is located in an agricultural area. Maintaining clean air quality is necessary for these agricultural areas to ensure food safety. In San Benito County, Anzar High School is located in Segment 3c, immediately east of the SR 129 and US 101 interchange.

The two study area counties are considered in nonattainment for state standards for ozone and particulate matter (PM-10), although they do meet national standards for all criteria (as of 2011). Planning for the existing operations as well as future developments of the route should include specific provisions to mitigate adverse noise and air quality impacts near sensitive areas.

FACILITY CHARACTERISTICS

For the majority of the route, SR 129 is two-lane undivided conventional highway. The two-lane segments consist of one conventional through lane in each direction with a centerline rumble strip. Some locations along the route exhibit distressed pavement. Table 2.4 describes other route characteristics.

Table 2.4: Facility Characteristics

Segment	1a	1b	2a	2b	2c	3a	3b
Facility Type	Conventional						
Centerline Miles	1.469	.540	.860	1.950	3.85	2.798	2.628
General Purpose Lanes	4	2					
Lane Miles	5.876	1.080	1.720	3.900	7.7	5.596	5.256
Median Width	10-20	N/A					
Median Type	Painted /Raised	N/A					
HOV/HOT/BRT/Toll Lanes	N/A						
Auxiliary Lanes	0%						
Passing Lanes	0%						
Truck Climbing Lanes	0%						
Distressed Pavement	Minor, Ride	Ride	N/A	N/A	N/A	Ride	N/A

BICYCLE FACILITIES

The city of Watsonville, Santa Cruz County, and San Benito County have bicycle master plans that identify community goals for bicycle improvements. Caltrans advocates for safe mobility of all users including motorists, bicyclists, pedestrians, and transit riders. Both local bicycle master plans and Caltrans’ complete streets policy implementation and guidelines should be consulted prior to construction of new projects for all modes. Consulting the local bicycle master plans and complete streets policy early in the project development process will provide greater opportunities, coordinate mutual interests, and integrate multimodal components into projects.

Bicyclists have right of access to all public roads except where specifically prohibited, such as parts of access controlled freeways. There are no prohibitions to bicycle use on SR 129. SR 129 bicycle facilities include a designated Class III bike route in the city of Watsonville from Walker Street to Blackburn Street.

Key issues facing bicyclists on SR 129 include the following:

- 1) The US 101 overpass crossing
- 2) Shoulder widths on bridges
- 3) Pavement maintenance on shoulders
- 4) Travel through interchanges
- 5) Education of bicyclists and motorists regarding existing laws and safe practices

A future bike route has been proposed by the city of Watsonville between SR 1 and Walker Street, making the entire Segment 1 length part of the future bikeway system in Watsonville. The potential expansion is listed as an unfunded need in the city’s General Plan and the SCCRTC RTP. The Watsonville Trails and Greenways Master Plan also depicts a future expansion of the Levee Trail. The Levee Trail is an asphalt path along the Pajaro River, parallel to SR 129. It is located within the first two segments of SR 129, beginning at Sakata Lane in the west and ending at Lakeview Road in the east. The expansion would extend the trail west of Sakata Lane to SR 1.

Table 2.5: Bicycle Facilities

Segment	State Bicycle Facility						Parallel Bicycle Facility			
	Post Mile	Location Description	Bicycle Access Prohibited	Facility Type	Outside Paved Shoulder Width	Posted Speed Limit	Parallel Facility Present	Name	Location Description	Class.
1a.1	L0.000-L1.178	SR 1 to Walker St	No	No Bikeway Designation	Varying ¹	40-50	Y	Levee Trail	Along Pajaro River	>8 Ft
1a.2	L1.178-L1.469	Walker St to Main St	No	Class III	>5 ft.	25-40	Y	Levee Trail	Along Pajaro River	>8 Ft
1b	L1.469-0.540	Main St to Blackburn St	No	Class III	>5 ft.	40	Y	Levee Trail	Along Pajaro River	>8 Ft
2a	0.540-1.400	Blackburn St to Lakeview Rd	No	No Bikeway Designation	>5 ft.	50	Y	Levee Trail	Along Salispuedes Creek	>8 Ft
2b	1.400-3.350	Lakeview Rd to Carlton Rd	No	No Bikeway Designation	Varying ²	55	N	N/A	N/A	N/A
2c.1	3.350-4.742	Carlton Rd to Murphy Crossing Rd	No	No Bikeway Designation	>5 ft.	55	N	N/A	N/A	N/A
2c.2	4.742-6.700	Murphy Crossing Rd to Vanoni Rd	No	No Bikeway Designation	2-5 ft.	55	N	N/A	N/A	N/A
2c.3	6.700-7.200	Vanoni Rd to Rogge Ln	No	No Bikeway Designation	0 ft.	55	N	N/A	N/A	N/A
3a	7.200-9.998	Rogge Ln to Santa Cruz/San Benito County Line	No	No Bikeway Designation	Varying ³	55	N	N/A	N/A	N/A
3b	0.000-R2.644	Santa Cruz/San Benito County Line to US 101	No	No Bikeway Designation	Varying ⁴	55	N	N/A	N/A	N/A

Notes:

- (1) The majority of shoulder widths on Segment 1a.1 are over five feet however there are no shoulders on the SR 1 overcrossing.
- (2) The majority of the shoulder widths on Segment 2b are over five feet however there are no shoulders on the bridge over Coward Creek, just west of Thompson Street.
- (3) Shoulder widths vary between 0 feet (approximately 60% of the segment), 1 foot (approximately 2% of the segment), 2 feet (approximately 14% of the segment) and 4 feet (approximately 25% of the segment).
- (4) Shoulder widths are mostly 4 feet (approximately 50% of the segment) or 8 feet (approximately 48% of the segment). There are no shoulders on the SR 129 bridge overcrossing US 101.
- (5) Caltrans determines shoulder width based on multiple variables including but not limited to facility type, traffic volume, and number of lanes.

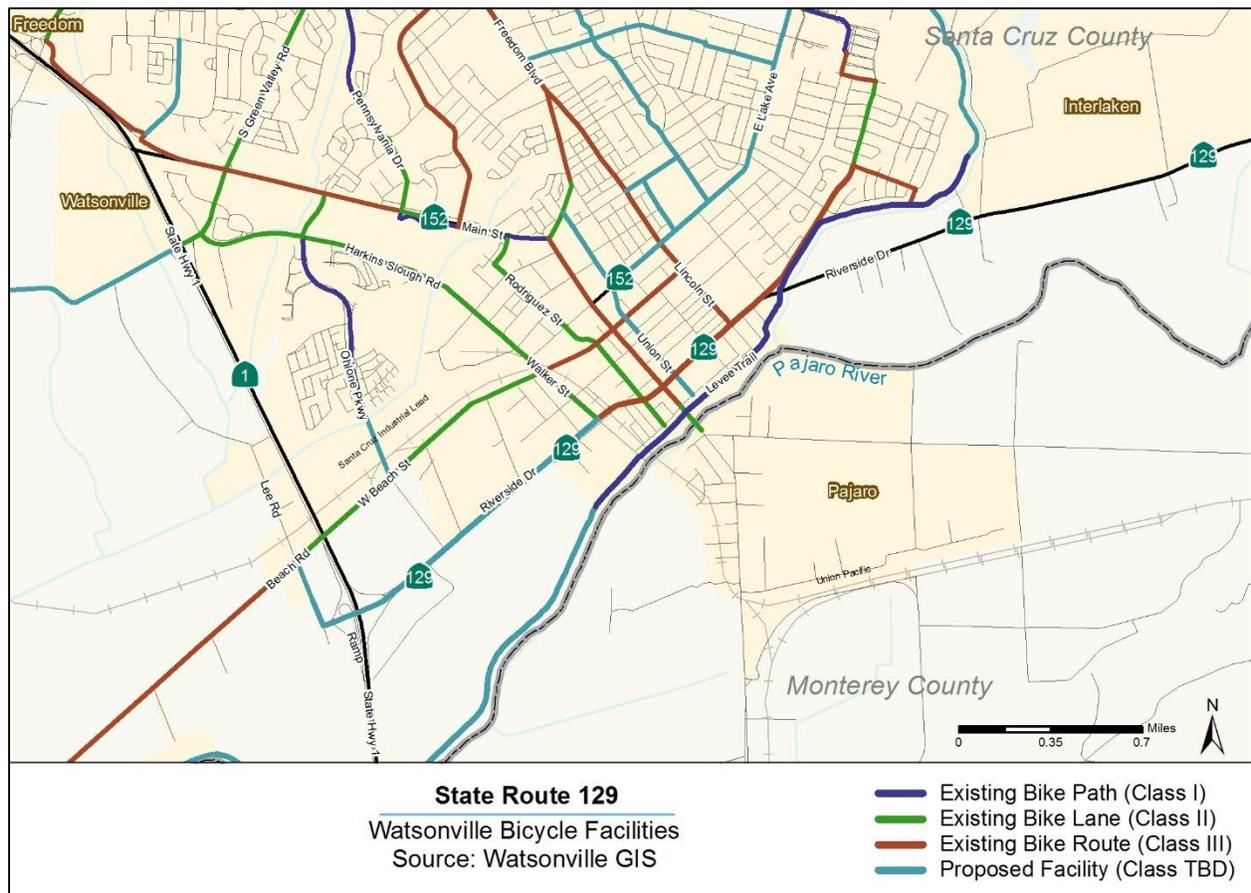


Figure 2.7: Watsonville Bicycle Facilities

SR 129 shoulder widths are depicted in Figure 2.8. Shoulder widths on Segment 2 vary and are narrow in multiple locations. Some of the locations with narrow shoulders are surrounded by cliffs on the northside and ravine on the southside. Figure 2.7 depicts all bicycle facilities that are planned and proposed on SR 129.

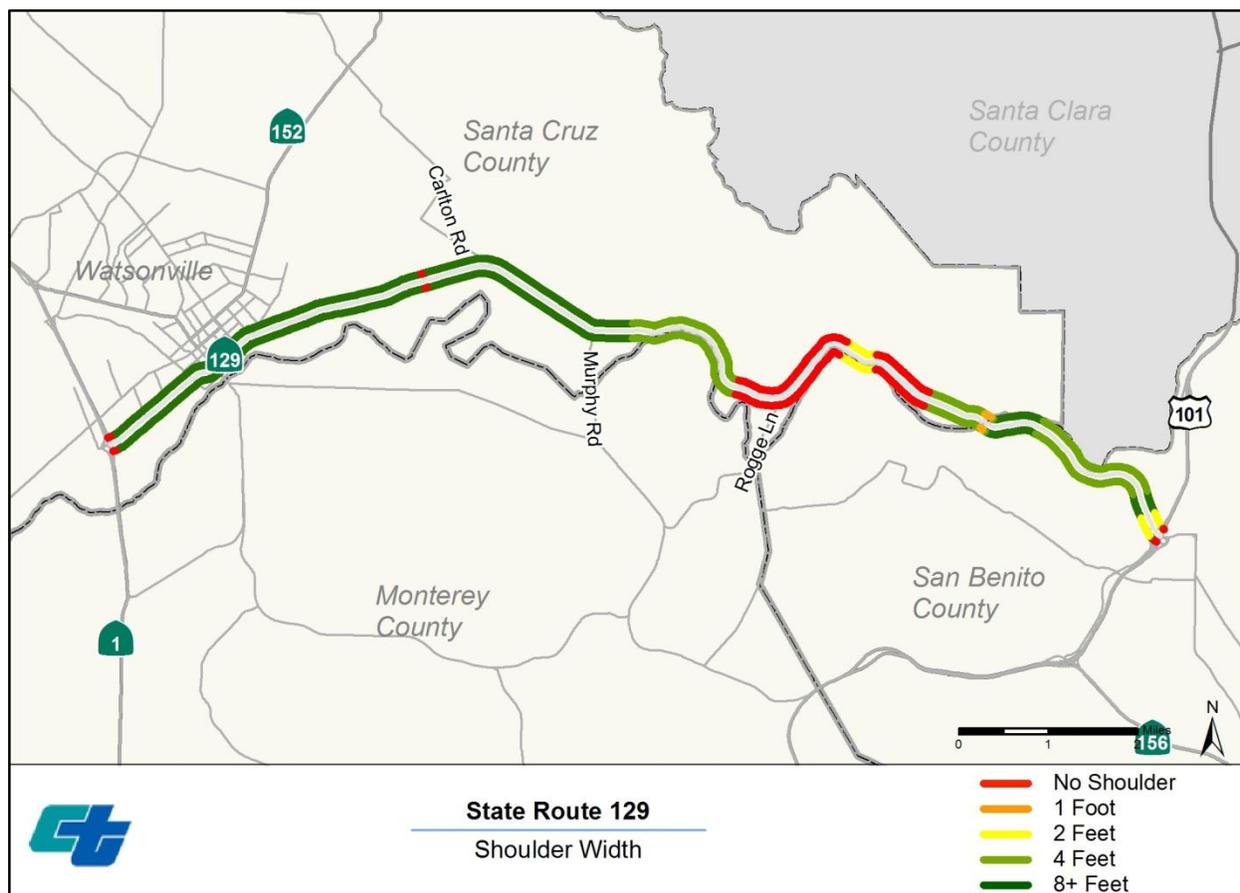


Figure 2.8: Existing Shoulder Widths

PEDESTRIAN FACILITIES

Sidewalks are located along segments in the city of Watsonville. Figure 2.9 shows sidewalks in Watsonville, highlighting SR 129 sidewalk coverage. The only gaps in the sidewalk network within the city limits are on the eastbound side between Sakata Lane and Menker Street. Future enhancements to the sidewalk network in this location would provide complete sidewalk coverage throughout the Watsonville core.

Pedestrians are more common along the route near Watsonville relative to the eastern portions of the route due to the urban character. The sidewalks on Segment 1 connect pedestrians to the residential, commercial, and industrial zones surrounding the route.

In Santa Cruz County, the Pedestrian Safety Work Group monitors and encourages maintenance of sidewalks to ensure the safety of pedestrians. The work group conducts network-wide audits to examine and report the status of the sidewalk network, promotes community value of property owners maintaining sidewalks, and informs residents of jurisdiction programs for ensuring maintenance.

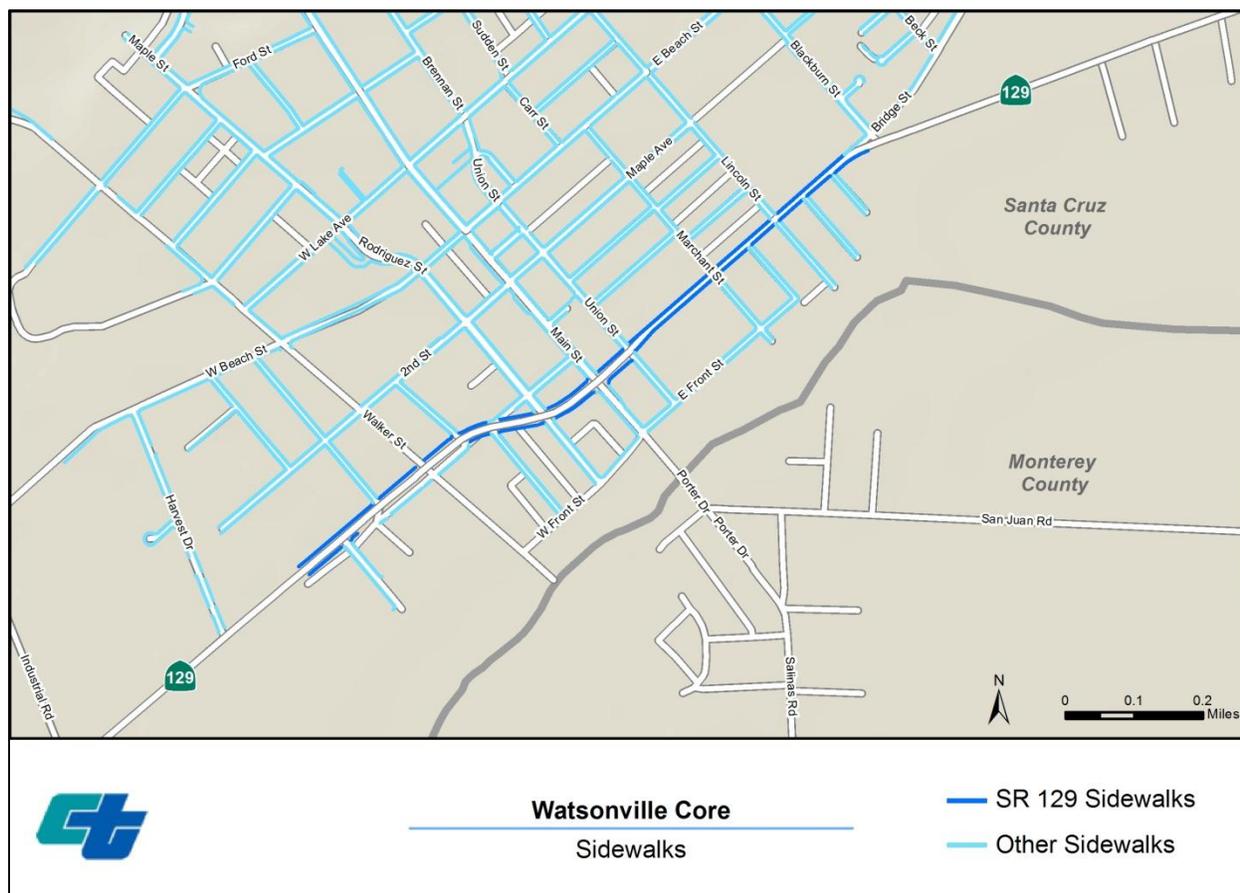


Figure 2.9: Watsonville Sidewalks

Table 2.6 shows the breakdown of commuters in Watsonville. At 5 percent, the city has a relatively high percentage of residents who walk to work (the U.S. Census estimates the national average at about 3%). Watsonville’s percentages are similar to those of Santa Cruz County as a whole.

Table 2.6: Travel Mode and Commute Time in Watsonville

MODE	%	TRAVEL TIME	%
Drive Alone	62	5 to 25 minutes	85
Carpool	26	45 to 90 minutes	12
Public Transit	3	Over 90 minutes	3
Bicycle	2		
Walk	5		
Work at Home	2		

Source: Watsonville General Plan, 2013

No pedestrian facilities exist on the SR 129 segment located within San Benito County. The San Benito County Bikeway and Pedestrian Master Plan addresses the current conditions of existing facilities and recommends improvements to make the county more pedestrian friendly. Some proposed strategies presented in the plan include infill of sidewalk gaps, pedestrian facility maintenance, and improved intersections. The plan also calls for maintenance of sidewalks and elimination of sidewalk obstructions.

The 1998 San Benito County General Plan sets policy guidance promoting safety on rural locations of the network. The plan promotes bicycle and pedestrian facility improvements such as shoulder improvements to accommodate safe alternatives to motor vehicles.

Table 2.7: Travel Mode in San Benito County

MODE	%
Bike	0.6
Carpool	18.4
Drove Alone	73.1
Public Transit	1.3
Walked	2.6
Other	4.1

Source: San Benito County General Plan, 2013

Table 2.8: Pedestrian Facilities

Segment	Post mile	Location Description	Ped. Access Prohibited	Sidewalk	Sidewalk Width	Alt. Facility
1a.1	L0.000-L0.900	SR 1 to Watsonville City Limits	No	No	N/A	N/A
1a.2	L0.900-L1.000	Watsonville City Limits to Sakata Ln	No	Yes	6'	N/A
1a.3	L1.000-L1.250	Sakata Ln to Menker St	No	No	N/A	1 st St
1a.4	L1.250-L1.469	Menker St to Main St	No	Yes	6'	N/A
1b	L1.469-0.540	Main St to Blackburn St	No	Yes	6'	N/A
2	0.540-7.200	Blackburn St to Rogge Ln	No	No	No	N/A
3	7.200-2.628	Rogge Ln to US 101	No	No	No	N/A

TRANSIT FACILITIES

The Santa Cruz Metropolitan Transit District (Santa Cruz Metro) runs fixed route transit in Watsonville. Santa Cruz Metro routes extend as far east as Lakeview Drive. Santa Cruz Metro local bus Route 77 serves a portion of Segment 1. Route 77, depicted in Figure 2.10, connects the Watsonville core with the Pajaro community to the south via SR 129 and other local roads. Public transit is not available for Segments 2 and 3.



Figure 2.10: Route 77 in Watsonville

The Watsonville Transit Center, located north of SR 129 at the intersection of Beach Street and Lake Drive, serves as a major transit hub for Santa Cruz Metro and Monterey-Salinas Transit. The Watsonville Transit Center serves transit bus service as well as interregional Greyhound service.

A commuter-based express transit service between Watsonville and Gilroy may be explored within the 2040 planning horizon. SR 129 serves many south Santa Cruz County commuters who may benefit from fixed route express service. While not included in current plans, the service is an existing concept and would support the state and regional goals of multimodalism and GHG reduction. This service would be dependent on new operating funds and capital funds for additional buses. Additional analysis would be required to study the feasibility of the service, a long-term goal for Santa Cruz Metro.

Table 2.9: Transit Facilities

Segment	Mode	Name	Route End Points	Headway	Operating Period	Stations/ Cities	Amenities
1	Bus	Santa Cruz Metro 77	Watsonville Transit Center to Pajaro	60 mins.	0630-1905	Watsonville, Pajaro	Sign posts
1	Bus	Greyhound	Watsonville	N/A	0800-2000	Watsonville	Parking; restroom; convenience store; benches
N/A	Bus	Watsonville Transit Center	N/A	N/A	0700-2100	N/A	Ticket vending; food vending; benches; customer service agents

Rail transit is not available in the region. Recent public investments in rail infrastructure may lead to future passenger operations in the region. In 2012, the SCCRTC acquired the Santa Cruz Branch Rail Line for potential passenger and freight operations. The branch line runs parallel to SR 1 from Pajaro in Monterey County to Davenport, north of the city of Santa Cruz. SCCRTC long range plans include introduction of a passenger rail service from Watsonville to Santa Cruz. The service could also include potential connections to Monterey and the San Francisco Bay Area. Short term goals for the rail line are to increase freight rail service and seasonal recreational service. Medium term goals include implementing bicycle and pedestrian paths where feasible in conjunction with rail services. The primary long term goal is to implement passenger transit operations. Capital upgrades and new infrastructure will be required for the SCCRTC to accomplish most of these goals.

FREIGHT

SR 129 is a designated interregional truck route. It serves as an important connector for east-west freight movements in the region, emphasized by the SR 1-US 101 connection. In addition to the SR 1-US 101 connection, SR 129 is also the most suitable route for trucks traveling between Watsonville and Gilroy (see Figure 2.11). The segment within the Watsonville city limits is a local truck route, as designated by the city’s General Plan and Major Street Master Plan.

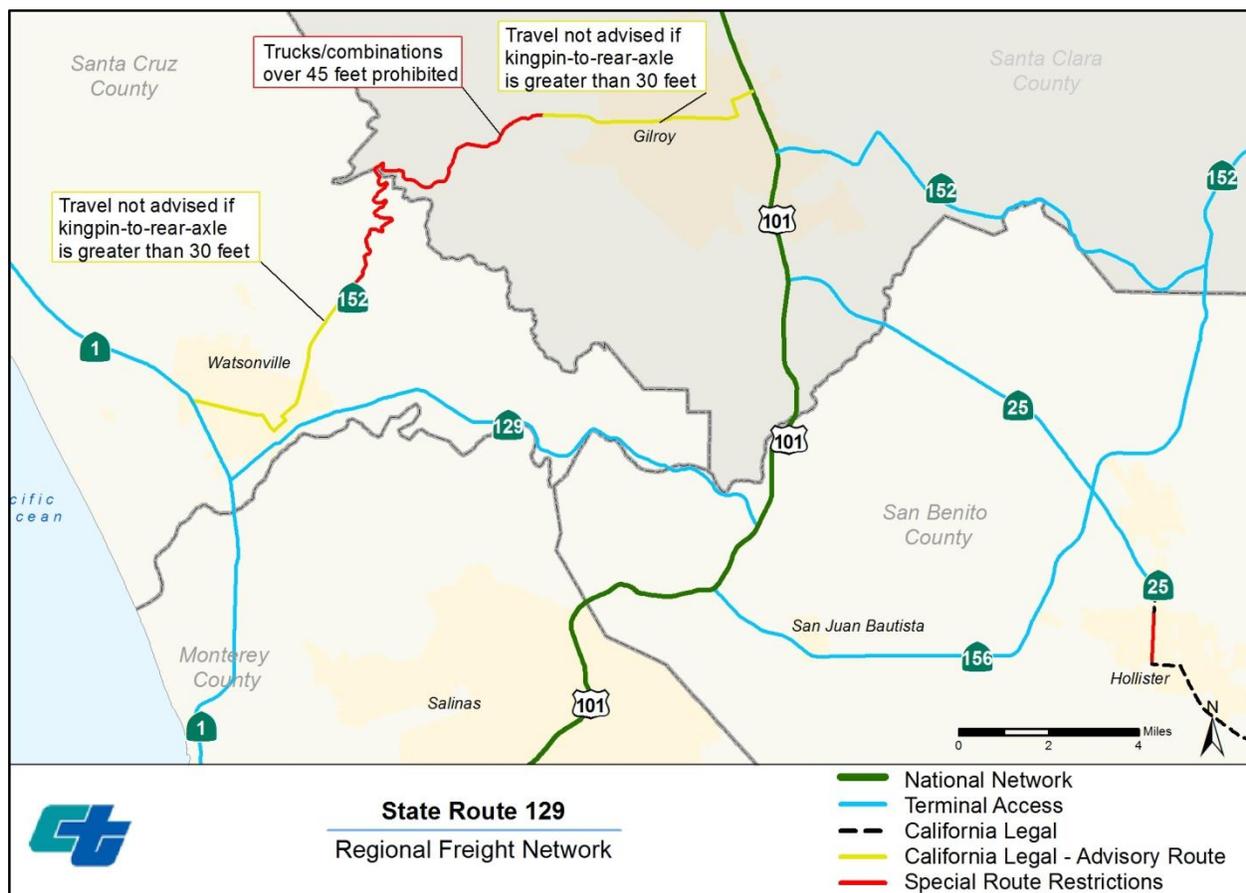


Figure 2.11: Regional Freight Network

Trucks make up 9 percent to 24 percent of the corridor’s volume, averaging approximately 2,050 trucks per day in 2010. Approximately 1,100 trucks of this total are large, 5-axle trucks.

Part of SR 129 is located within an industrial area within close proximity to many freight-dependent businesses such as fresh produce food processing, cold storage, floral, and construction. There is also a large presence of the transportation and logistics sector in the study area. Outside the urban limits, the emphasis in commercial agriculture and farming also generates freight traffic along the corridor.

Afternoon peak period congestion may be associated with the scheduled pick-up times with the cold storage warehouses in Watsonville. Congestion is also associated with modal conflicts between passenger vehicles and slower-moving trucks. Agricultural trucks entering and exiting along the route can impede throughput and mobility for all traffic, especially within the two-lane segments. The portion of the route located within the residential and commercial areas in Watsonville is not ideal for freight movements due to noise and air quality incompatibility. Additionally, there is a lack of adequate infrastructure for truck parking and queuing, which leads to parking on the local network while resting or waiting for pick-up.

The use of SR 129 as the designated truck route aligns with the Watsonville General Plan. Watsonville planners anticipate growth in the freight and logistics-dependent industries as well as continued vitality in agricultural commodities. These factors could lead to an increase in truck traffic on the route. The General Plan recommends a future study to look at the feasibility of rerouting SR 129 to a new alignment south of the city via Main Street, San Juan Road, and Murphy Street before connecting to Riverside Drive east of the city. This alignment may decrease freight-related land use conflicts in the Watsonville core, but would impact the surrounding agricultural areas as well as provide a less direct connection to truck origins and destinations in the city.

Table 2.10: Truck Traffic

Segment	1a	1b	2a	2b	2c	3a	3b
Total Average Annual Daily Truck Traffic (AADTT) (2013)	1,132	1,321 – 2,685	1,737	1,530	1,347 – 1,794	2,243 – 3,058	2,919
Total Average Annual Daily Truck Traffic (AADTT) (2040)	1,256	1,744 – 3,546	2,947	2,683	2,476 – 3,298	3,973 – 5,417	5,263
Truck Percentage	5.8%	5.8%-11.8%	15.3%	15.3%	15.3%-20.4%	20.4%-27.8%	27.8%

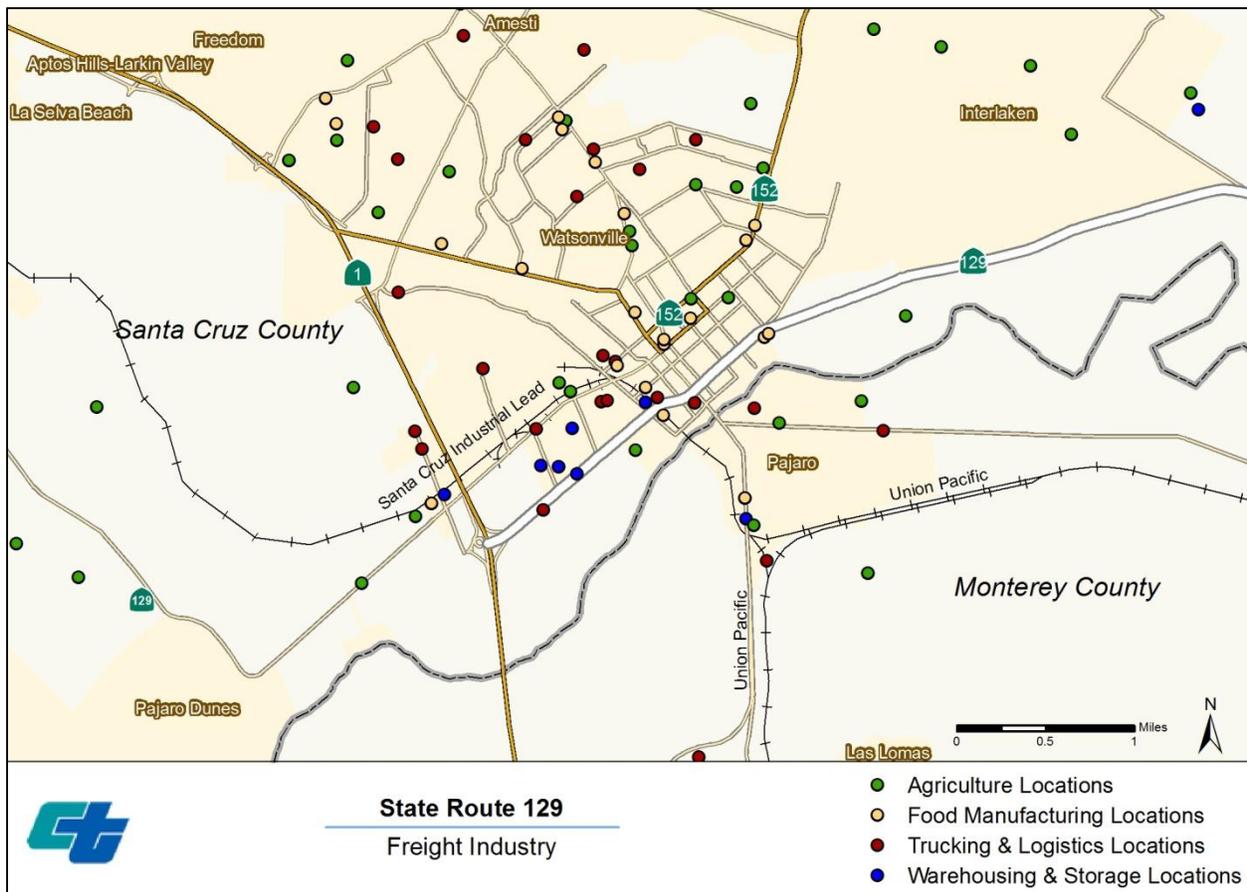


Figure 2.12: Freight Industries in Watsonville

The Santa Cruz Branch Rail Line and the Union Pacific Coast Line are the main rail lines near SR 129. The Union Pacific network continues east, linking 23 states in the western and central United States, and connecting to major lines in Canada and Mexico. In 2011, Union Pacific invested \$12.9 million for mainline track improvements on the Coast Line from Watsonville to San Lucas, south of King City. The Santa Cruz Branch Line, owned by SCCRTC, contracts with Iowa Pacific to operate freight services. Figure 2.13 depicts the Santa Cruz Branch Line.



Figure 2.13: Santa Cruz Branch Line

ENVIRONMENTAL CONSIDERATIONS

This section highlights environmental considerations specific to SR 129. This section includes an overview of agricultural resources, biological resources, hydrological features, and aesthetics. This document is not subject to CEQA and NEPA compliance.

Aesthetic and Scenic Resources

SR 129 can be broken down into two major landscapes based on surrounding land use. The first section within the city limits of Watsonville is bordered by industrial, commercial, residential, and public land uses. As the route continues eastward, it is surrounded by coastal lowlands with primarily agricultural lands and rolling topography.

Biological Resources

SR 129 traverses coast live oak vegetation habitat and is located near the Elkhorn Slough National Estuarine Research Reserve, a large tract of tidal salt marsh.

Hydrological Resources

SR 129 is located close to one major river system, the Pajaro River, as well as other small creeks. The route crosses the Pajaro River via two bridges in eastern Santa Cruz County. Other water feature crossings include the Salispuedes Creek, near the Watsonville eastern limits, and Coward Creek. Segments 1 and 2 are located within the 100 Year Floodplain (locations with a 1% chance of flooding every year). The sections of Segment 3 nearest to the Pajaro River are also within the 100 Year Floodplain.

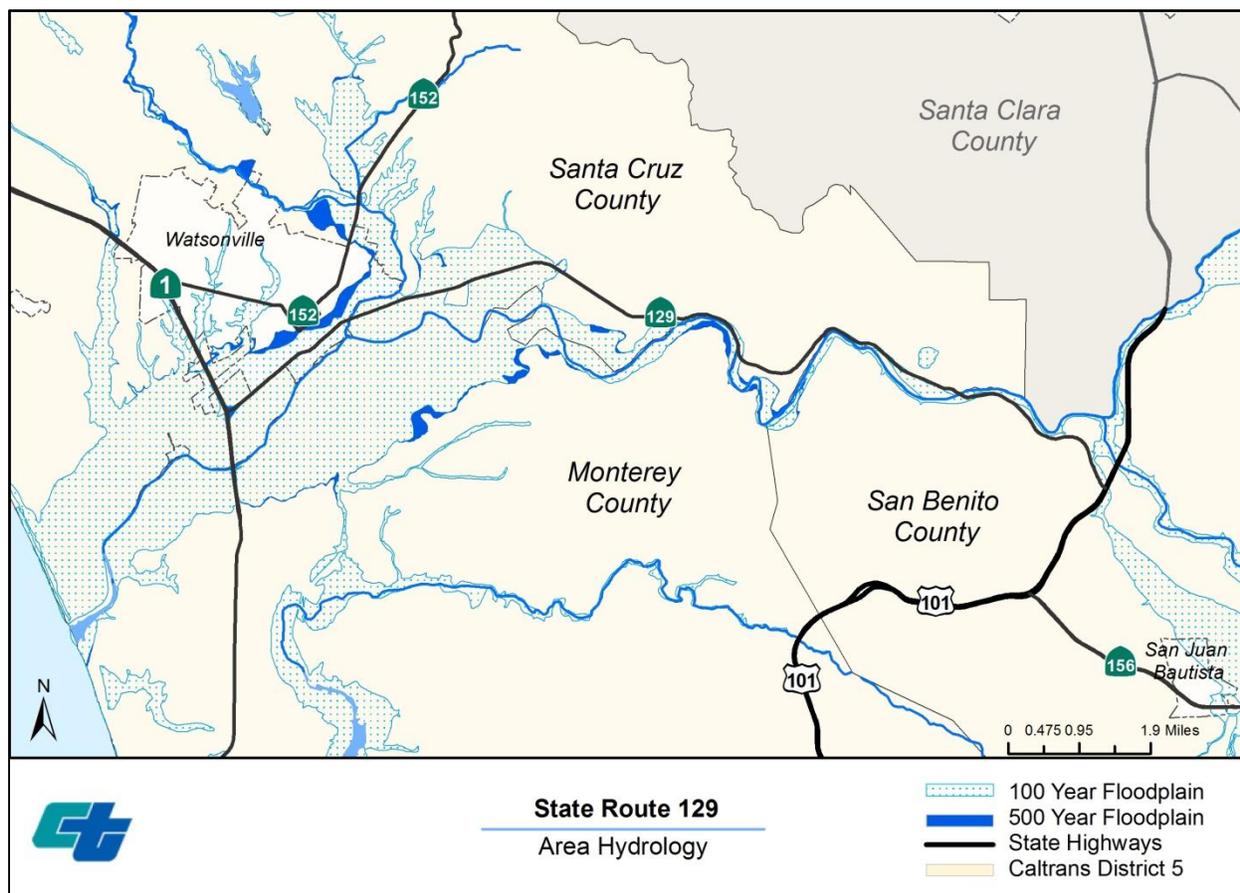


Figure 2.14: Area Hydrology

Agricultural Resources

The region consists of prime farmland resources. According to the Watsonville Economic Development Office, if the Pajaro Valley were a county, it would rank 5th in agricultural production in the state. Principle crops in the region include berries, apples, flowers, cauliflower, broccoli, and artichokes. Many berry fields are located west of Murphy Crossing Road. East of Murphy Crossing Road, agricultural resources generally consist of crop farming, greenhouses, and nurseries.

CHAPTER 3: CORRIDOR PERFORMANCE

Performance of the SR 129 corridor is analyzed in three segments. The following measures are evaluated for each segment:

- **System Characteristics** – identification of the general characteristics of the route.
- **System Operation** – evaluation of the route through the AMBAG Regional Travel Demand Model and Caltrans historical data. The base year Annual Average Daily Traffic (AADT) is based on Caltrans historical data. Horizon year AADT projections were based on the AMBAG model.
- **Peak Hour** - analysis of congestion during the PM peak period.

Note that the AMBAG regional travel demand model developed for the MTP-SCS sets 2035 as the horizon year. For this analysis, District 5 Advanced Planning extrapolated using the AMBAG model to develop forecasts for horizon year 2040; this was completed according to standard modeling practices. The 2040 horizon year is used for the SR 129 TCR to align with the 2040 California Transportation Plan.

Additional information about the technical methodology and performance measure can be found in Appendix A.

SEGMENT 1: SANTA CRUZ COUNTY

FROM SR 1 TO BLACKBURN STREET

(FROM SCR L0.000 TO SCR 0.540)

System Characteristics

Segment 1 extends from SR 1 in Santa Cruz County to Blackburn Street in Watsonville. There are several parallel roadways to Segment 1 that serve local traffic. SR 152 and SR 156 serve as alternative routes for goods movement and commuter trips between SR 1 and US 101. Model data shows that SR 129 serves commuters coming from as far as Merced and Santa Clara County. Trucks make up 5.8% to 11.8% of total traffic.

System Operations

2013 AADT volumes range from 19,500 to 22,800 (Table 3.1). Historical AADT data indicates a steady increase in volumes between 1992 and 2013. Volumes are expected to increase to a range of 21,600 to 30,000 by 2040. The most congested location in 2013 is at the Main Street intersection, with an AADT of 22,800.

PM Peak Hour Data

Base year congestion is low in both directions along Segment 1a. Base year congestion on Segment 1b is moderate. In the 2040 horizon year, congestion will remain low along Segment 1a. Traffic is forecasted to be greater than capacity along Segment 1b in 2040. The congestion along Segment 1b is due to heavy commute volume and low, two-lane roadway capacity. West of Main Street, Segment 1a has sufficient capacity to accommodate the demand.

Bottlenecks

In both the base year and horizon year, the lane reduction between Main Street and Union Street creates congestion extending to Blackburn Street. Bottlenecks will occur in the horizon year.

Table 3.1: Segment 1 Daily System Operations

AADT Base Year 2013	19,500 to 22,800
AADT Horizon Year 2040	21,600 to 30,000
AADT: Growth Rate (Vehicles/Year)	80 to 270
VMT Base Year 2013	40,900
VMT Horizon Year 2040	48,000

**2013 base year is established by Caltrans historical data and 2040 horizon year projections are based on the AMBAG regional traffic model.*

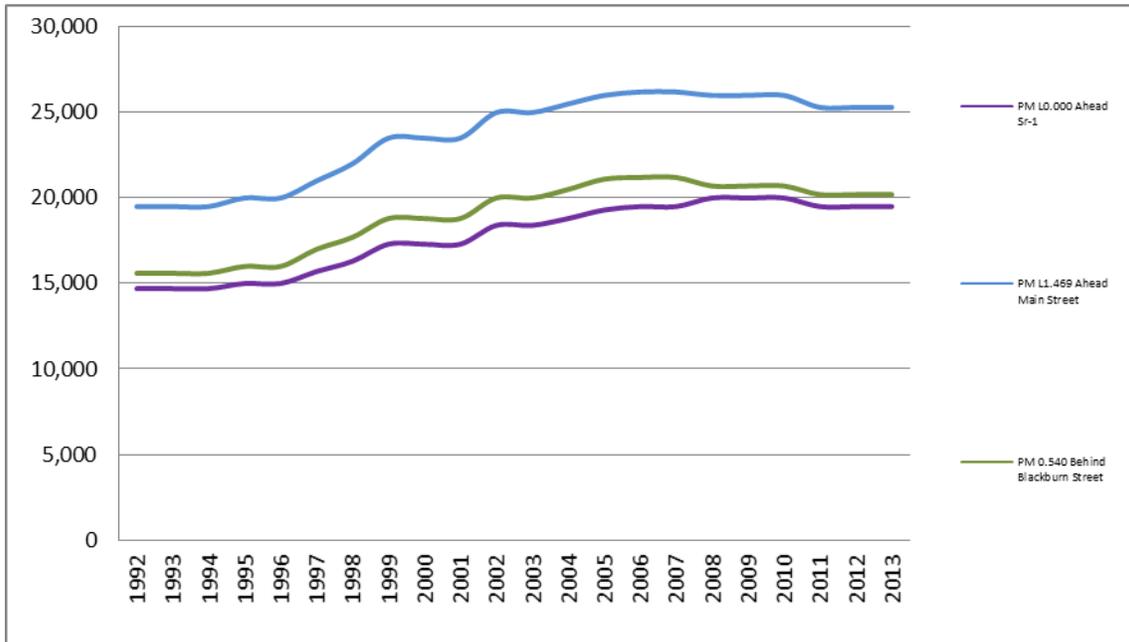


Figure 3.1: Segment 1 Historical AADT by Year

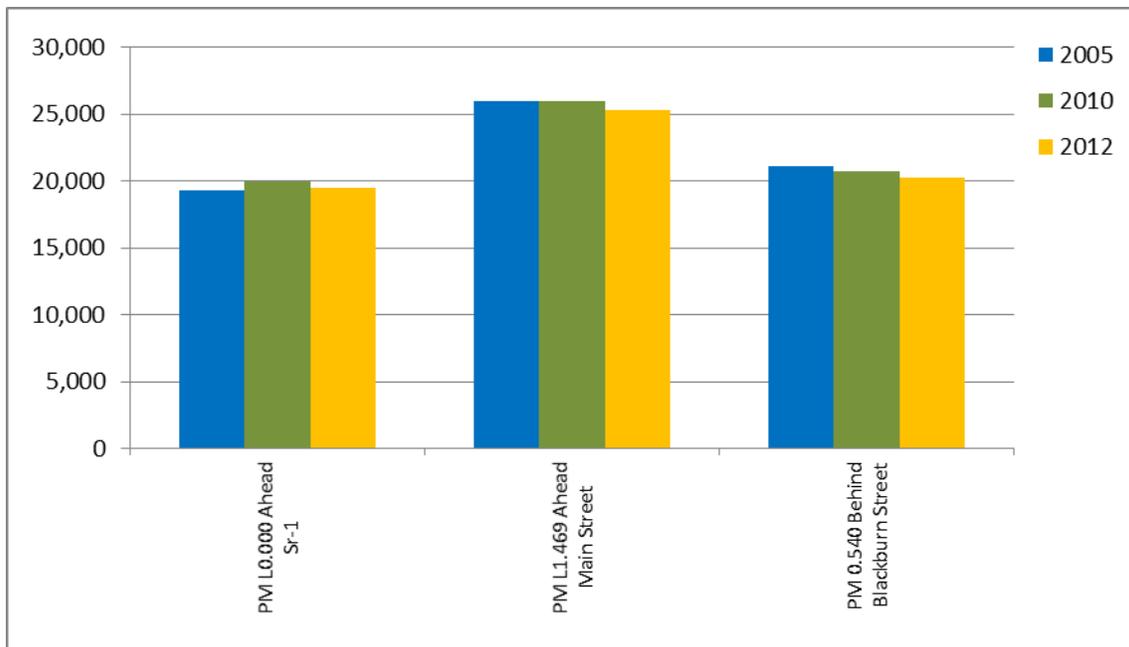


Figure 3.2: Segment 1 Historical AADT by Location

Table 3.2: Segment 1 Peak Hour Traffic Data

	Eastbound (Northbound) ¹	Westbound (Southbound) ¹
Segment Length (Miles)	2.009	
PM Peak Hour Directional Split Base Year 2013	50.1% to 50.2%	49.8% to 49.9%
PM Peak Hour Directional Split Horizon Year 2040	48.8% to 50.4%	49.6% to 51.2%
PM Peak Hour Volume Base Year 2013	2,200 to 2,600	
	1,100 to 1,300	1,100
PM Peak Hour Volume Horizon Year 2040	2,200 to 3,300	
	1,100 to 1,700	1,200 to 1,700
PM Peak Hour Growth Rate (vehicles/year)	1 to 18	
PM Peak Hour VMT Base Year 2013	2,300	2,300
PM Peak Hour VMT Horizon Year 2040	2,500	2,500
PM Peak Hour VHT Base Year 2013	72	71
PM Peak Hour VHT Horizon Year 2040	78	79
PM Peak Hour V/C Base Year 2013	0.388 to 0.849	0.390 to 0.848
PM Peak Hour V/C Horizon Year 2040	0.385 to 1.033	0.406 to 1.077
PM Speed (mph) Base Year 2013	29.9 to 33.6 mph	30.1 to 34.2 mph
	27.9 to 33.6 mph	28.6 to 34.1 mph

1: California numbering conventions for state routes assign odd route numbers to north-south oriented highways.

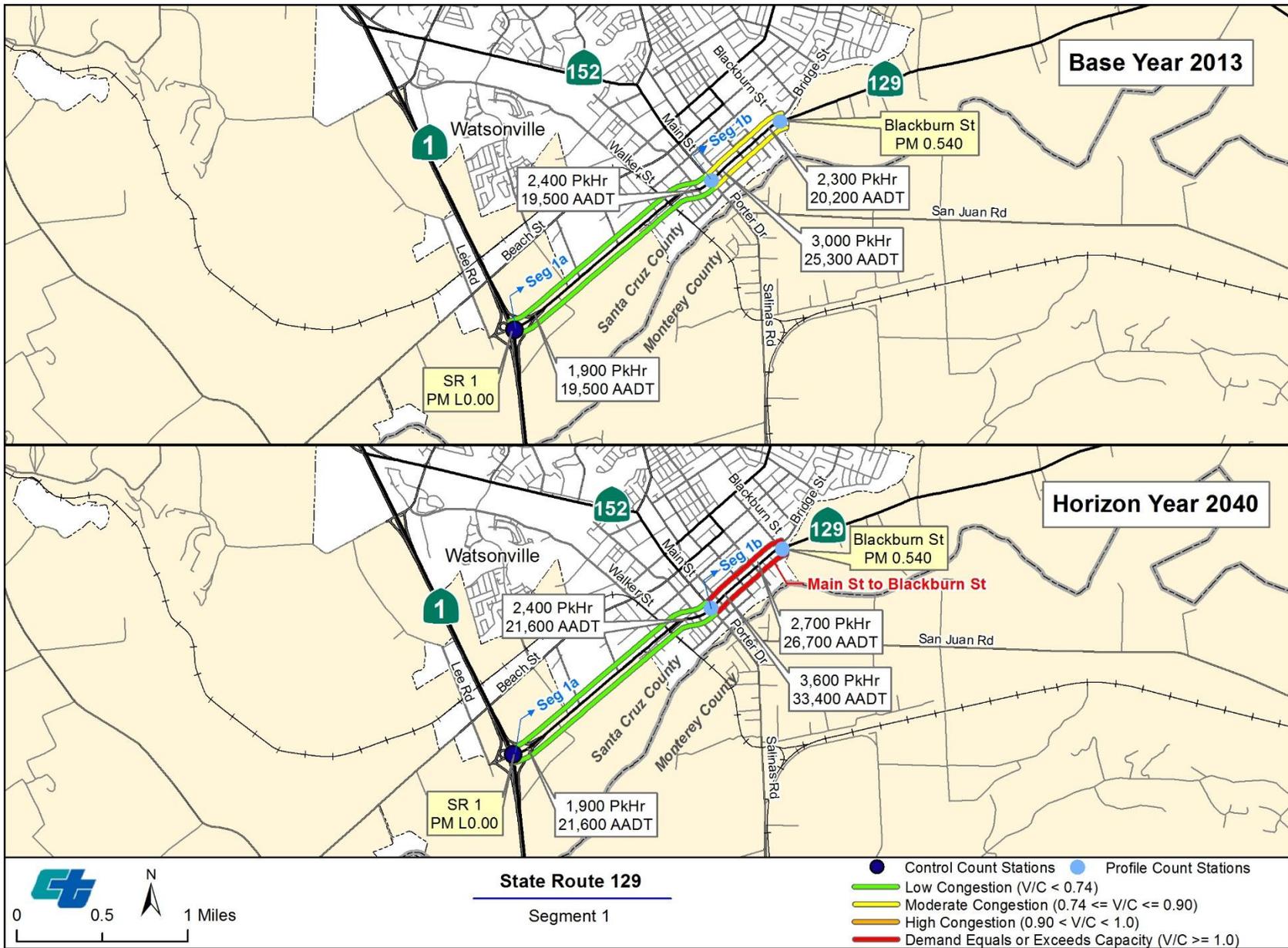


Figure 3.3: Segment 1 Base Year and Horizon Year Performance

Segment 1 Corridor Performance Key Findings

- Segment 1b experiences moderate congestion in the Watsonville urban core. Segment 1b contains intersections with significant turning movements and cross traffic. A feasibility study of the interaction between SR 129 and the intersecting roads will provide a better understanding of traffic operation deficiencies.
- Base Year (2013) Conditions: West of Main Street, congestion is low in both directions. East of Main Street, congestion is moderate in both directions.
- Horizon Year (2040) Conditions: Volumes exceed capacity on Segment 1b.

SEGMENT 2: SANTA CRUZ COUNTY

FROM BLACKBURN STREET TO ROGGE LANE

(FROM SCR 0.540 TO SCR 7.200)

System Characteristics

Segment 2 is a two lane conventional highway that extends from the eastern edge of Watsonville to Rogge Lane. It passes through a flat, rural area surrounded by prime agricultural land. Segment 2 serves commuter traffic and agricultural businesses, with truck traffic making up 15.3% - 20.4% of total daily traffic. Congestion levels are low along Segment 2 in the base year. Congestion is moderate in the westbound direction in the horizon year. San Juan Road serves as a parallel route south of Segment 2 between Main Street and Rogge Lane.

System Operations

2013 AADT volumes range from 8,800 to 11,400. By 2040 volumes are expected to increase to a range of 16,200 to 19,300 (Figure 3.6). The highest volume in 2013 is located at Blackburn Street, with an AADT of 11,400. Traffic volumes decrease east of Lakeview Road.

PM Peak Hour Data

Base year congestion is low in both directions. Increased commuter demand in 2040 will increase congestion to moderate levels in the eastbound direction during the PM Peak hour. Conditions are reversed in the AM peak hour.

Bottlenecks

There are no bottlenecks in the base and horizon year. Horizon year volumes will approach capacity ($v/c = 0.80$). Continued increases in demand may create a bottleneck near Blackburn Street, where the speed limit lowers to 25 mph entering Watsonville.

Table 3.3: Segment 2 Daily System Operations

AADT Base Year 2013	8,800 to 11,400
AADT Horizon Year 2040	16,200 to 19,300
AADT: Growth Rate (Vehicles/Year)	270 to 290
VMT Base Year 2013	63,100
VMT Horizon Year 2040	113,000

**2013 base year is established by Caltrans historical data and 2040 horizon year projections are based on the AMBAG regional traffic model.*

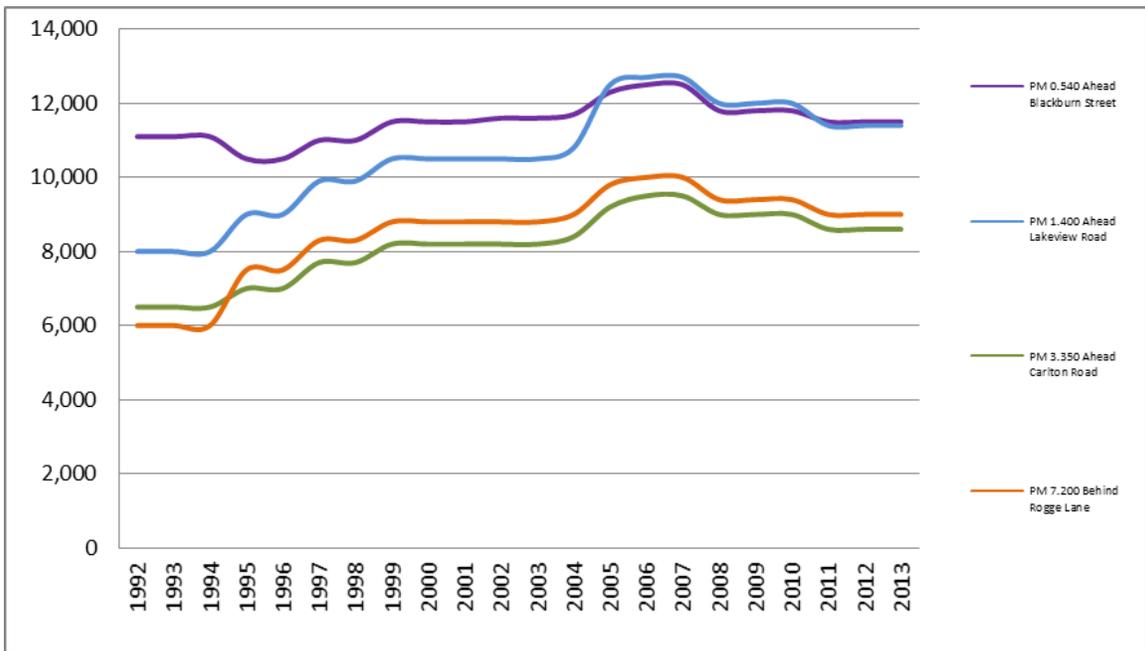


Figure 3.4: Segment 2 Historical AADT by Year

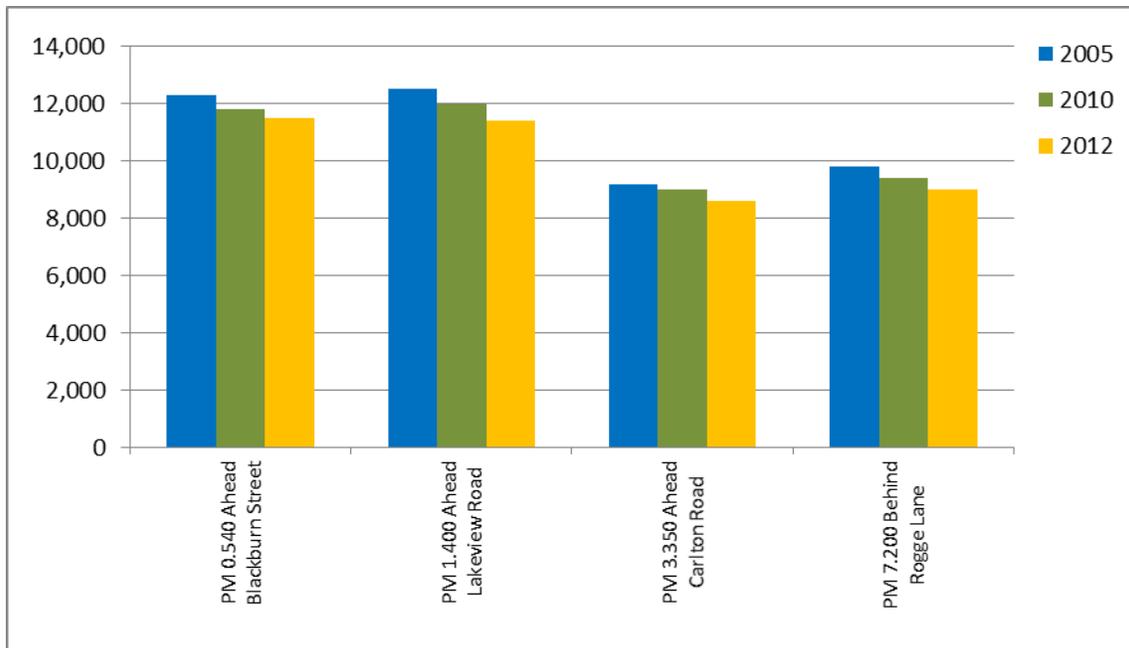


Figure 3.5: Segment 2 Historical AADT by Location

Table 3.4: Segment 2 Traffic Data

	Eastbound (Northbound) ¹	Westbound (Southbound) ¹
Segment Length (Miles)	6.66	
PM Peak Hour Directional Split Base Year 2013	59.7%	40.3%
PM Peak Hour Directional Split Horizon Year 2040	54.8%	44.3%
PM Peak Hour Volume Base Year 2013	800 to 1,100	
	500 to 700	300
PM Peak Hour Volume Horizon Year 2040	1,600 to 1,900	
	900 to 1,100	600 to 800
PM Peak Hour Growth Rate (vehicles/year)	30 to 30	
PM Peak Hour VMT Base Year 2013	3,700	2,500
PM Peak Hour VMT Horizon Year 2040	6,400	5,200
PM Peak Hour VHT Base Year 2013	107	72
PM Peak Hour VHT Horizon Year 2040	216	174
PM Peak Hour V/C Base Year 2013	0.374 to 0.503	0.253 to 0.341
PM Peak Hour V/C Horizon Year 2040	0.666 to 0.838	0.502 to 0.620
PM Speed (mph) Base Year 2013	33.4 to	33.5 to
	34.4 mph	34.5 mph
PM Speed (mph) Horizon Year 2040	29.3 to	29.4 to
	29.8 mph	30.3 mph

1: California numbering conventions for state routes assign odd route numbers to north-south oriented highways.

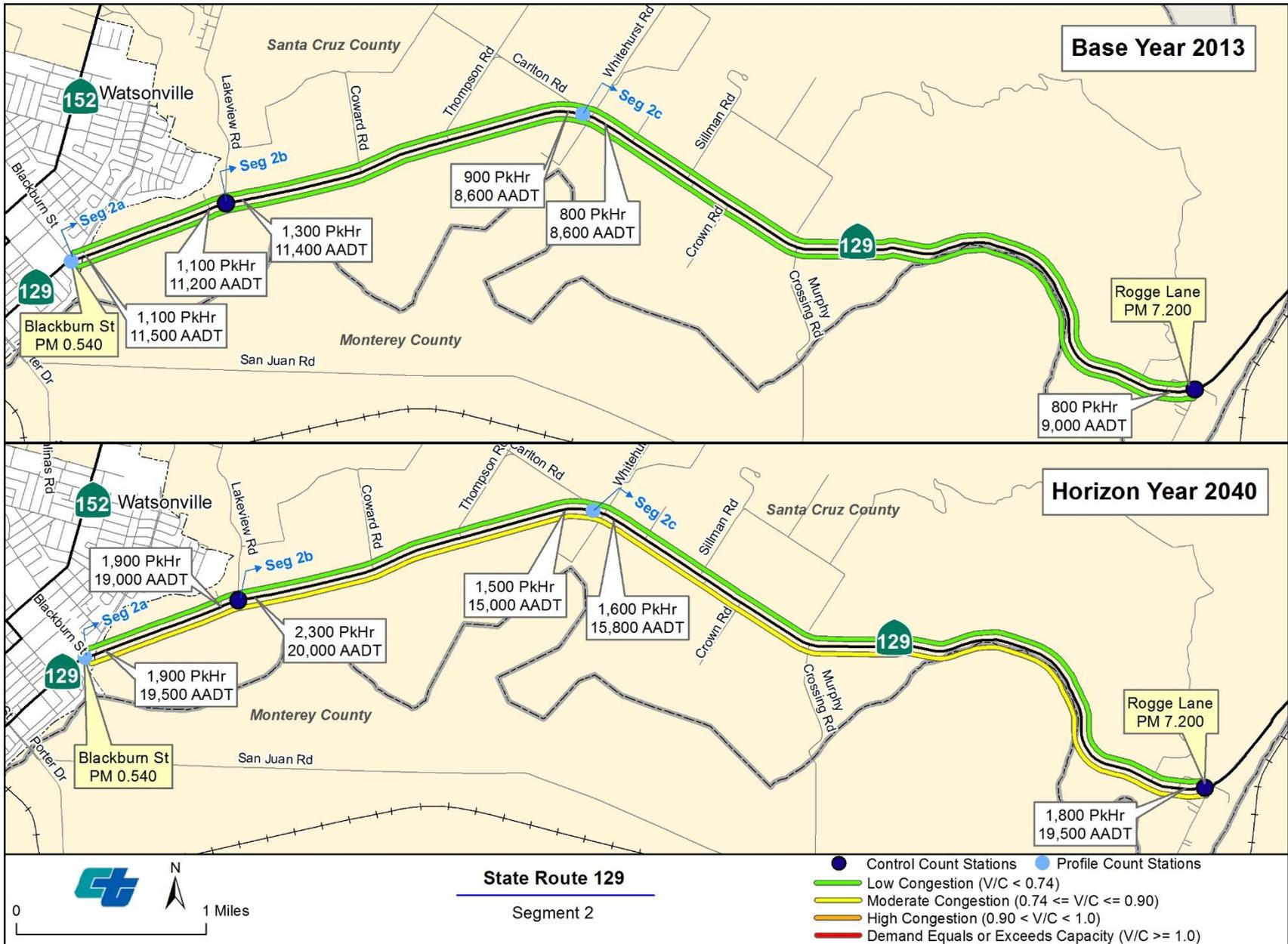


Figure 3.6: Segment 2 Base Year and Horizon Year Performance

Segment 2 Corridor Performance Key Findings

- The highest AADT volume in 2013 is located at Blackburn Street, with an AADT of 11,500 (Figure 3.6).
- Base Year (2013) Conditions: Congestion levels are low throughout the segment.
- Horizon Year (2040) Conditions: Moderate congestion levels are anticipated in the eastbound direction in the PM peak. Conditions are reversed in the AM peak.

SEGMENT 3: SANTA CRUZ COUNTY AND SAN BENITO COUNTY

FROM ROGGE LANE TO US 101

(FROM SCR 7.200 TO SBT R2.644)

System Characteristics

Segment 3 serves commuters living in the communities east of the route. It also serves agriculture businesses positioned near US 101. Truck traffic accounts for 20.4% to 27.8% of total daily traffic.

System Operations

Base year AADT volumes range from 10,000 to 11,000. Volumes are expected to increase to a range of 13,500 to 19,500 by 2040 (Figure 3.9). The highest AADT volume in 2013 is located at Rogge Lane, with an AADT of 11,000.

PM Peak Hour Data

Existing congestion is low in both directions. Like other segments, increased commuter demand in 2040 will increase westbound volumes in the AM and eastbound volumes in the PM. The horizon year forecast shows high congestion in the eastbound direction on the segment between Rogge Lane and Old Chittendon Road. Horizon year congestion is moderate in the eastbound direction between Old Chittendon Road and US 101.

Bottlenecks

There are no bottlenecks along Segment 3 for either the base year or horizon year.

Table 3.5: Segment 3 Daily System Operations

AADT Base Year 2013	10,500 to 11,000
AADT Horizon Year 2040	18,900 to 19,500
AADT: Growth Rate (Vehicles/Year)	310 to 310
VMT Base Year 2013	58,400
VMT Horizon Year 2040	104,300

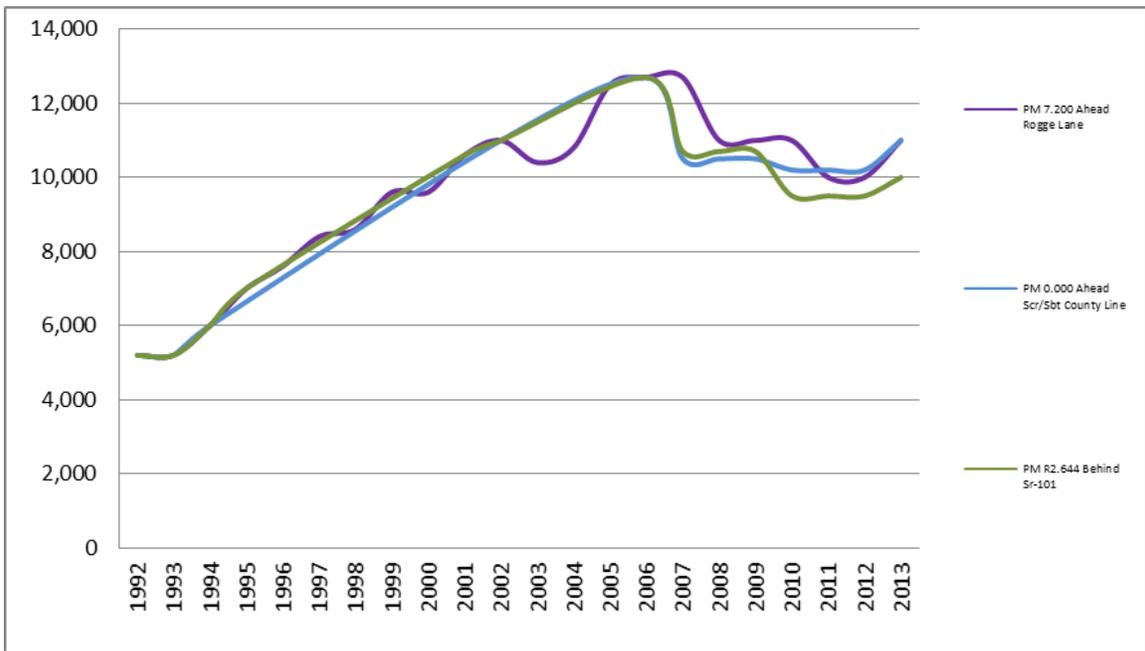


Figure 3.7: Segment 3 Historical AADT by Year

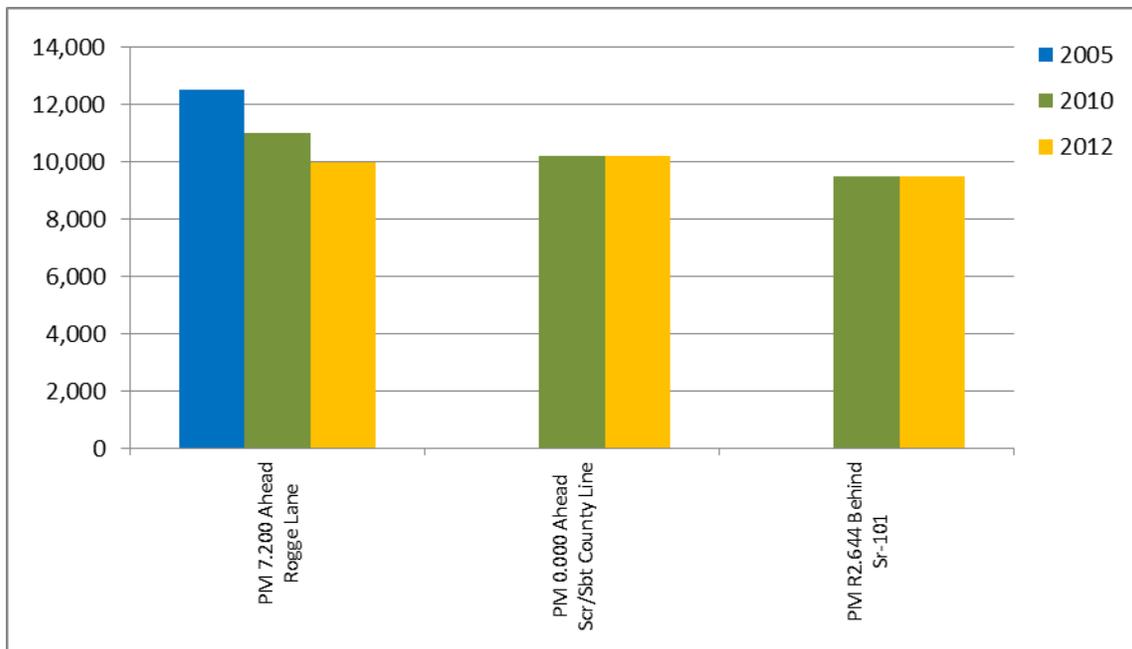


Figure 3.8: Segment 3 Historical AADT by Location

Table 3.6: Segment 3 Traffic Data

	Eastbound (Northbound) ¹	Westbound (Southbound) ¹
Segment Length (Miles)	5.426	
PM Peak Hour Directional Split Base Year 2013	59.7%	40.3%
PM Peak Hour Directional Split Horizon Year 2040	55.4%	42.0%
PM Peak Hour Volume Base Year 2013	1,000 to 1,200	
	600 to 700	400
PM Peak Hour Volume Horizon Year 2040	1,800 to 2,100	
	1,100 to 1,200	700 to 900
PM Peak Hour Growth Rate (vehicles/year)	30 to 33	
PM Peak Hour VMT Base Year 2013	3,500	2,400
PM Peak Hour VMT Horizon Year 2040	6,000	4,600
PM Peak Hour VHT Base Year 2013	102	69
PM Peak Hour VHT Horizon Year 2040	208	157
PM Peak Hour V/C Base Year 2013	0.480 to 0.539	0.322 to 0.365
PM Peak Hour V/C Horizon Year 2040	0.842 to 0.927	0.572 to 0.686
PM Speed (mph) Base Year 2013	34.3 to 34.5 mph	34.4 to 34.5 mph
PM Speed (mph) Horizon Year 2040	28.1 to 29.3 mph	29.2 to 29.3 mph

1: California numbering conventions for state routes assign odd route numbers to north-south oriented highways.

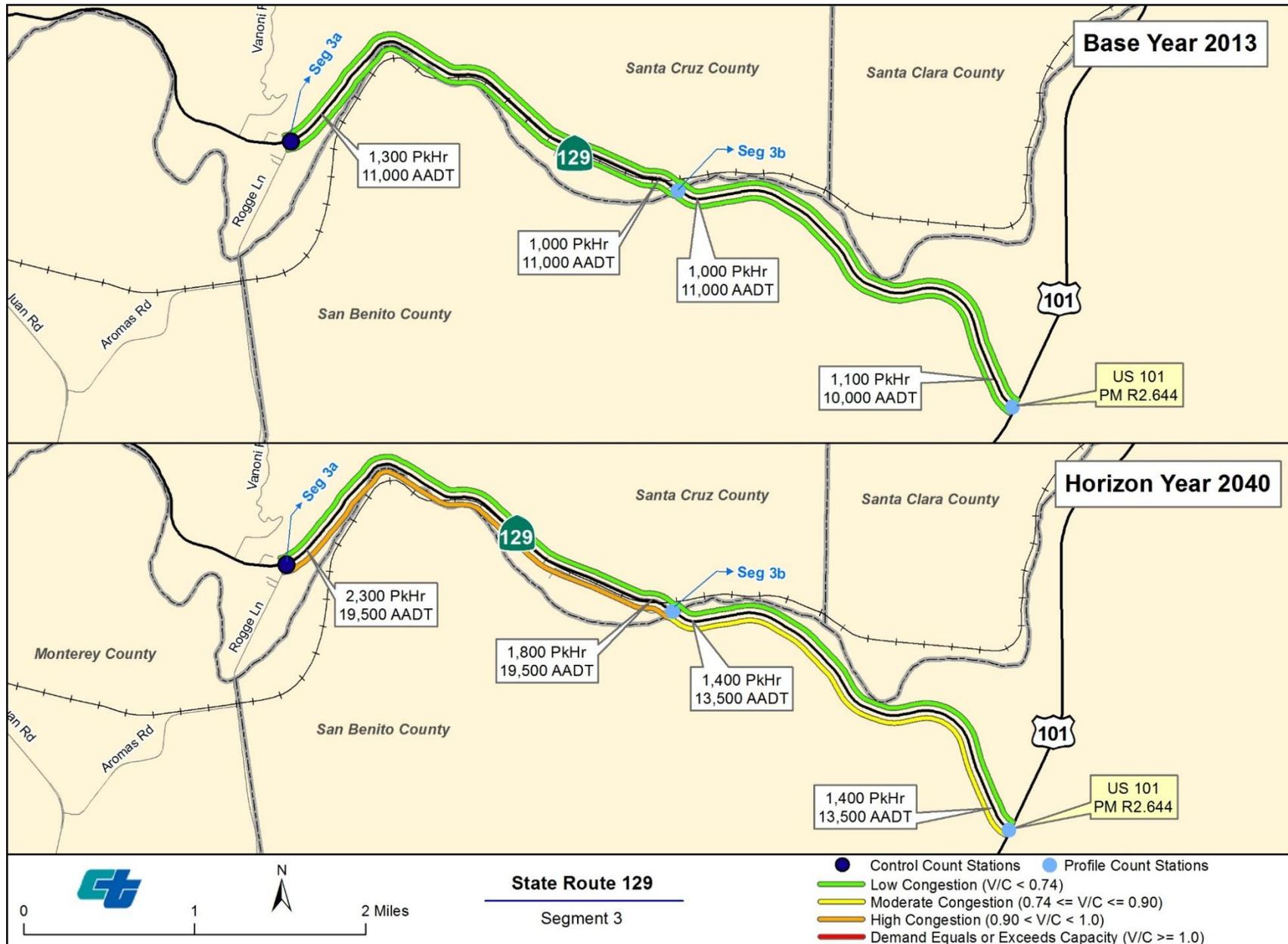


Figure 3.9: Segment 3 Base Year and Horizon Year Performance

Segment 3 Corridor Performance Key Findings

- Further investigation is warranted to address moderate congestion anticipated in the planning horizon. Solutions may include passing lanes to address the combination of increased directional traffic, high truck volumes, inclines, and curves.
- Base Year (2013) Conditions: Congestion levels are low throughout the segment. The highest volume in 2013 is located at Rogge Lane, with an AADT of 11,000 (Figure 3.9).
- Horizon Year (2040) Conditions: High congestion levels are anticipated in the eastbound direction in the PM peak. Conditions are reversed during the AM peak hour.

CHAPTER 4: KEY CORRIDOR ISSUES

Future Expansion of Operations on the Santa Cruz Branch Line

Introducing passenger operations along the branch line could have implications for both SR 1 and SR 129. The additional option for commuters between Watsonville and Santa Cruz could ease congestion on SR 1 and decrease the average travel time between the two cities.

Truck Facilities

The 2013 Watsonville General Plan anticipates growth in the freight-generating industries as well as continued vitality in agricultural commodities, which could lead to an increase in truck traffic and truck facility needs. There are no public truck parking facilities in the area, and many trucks currently park on the shoulders of SR 129 for resting, staging, queuing, or waiting for pick-up or drop-off appointments.



Figure 4.1: Trucks parked on the SR 129 shoulders near the US 101 interchange

There is a growing need for dedicated truck parking facilities that are located within close proximity to the Watsonville industrial zone. Map-21 freight provisions make truck parking projects eligible for federal funding under the National Highway Performance Program, Surface Transportation Program, and Highway Safety Improvement Program.

Route Purpose

SR 129 is a significant route for interregional travel as well as local travel within the city of Watsonville. There are different users due to its dual purpose as a major regional truck route as well as a local collector within the urban core. The multiple purposes may impact land use compatibility, including noise and air quality impacts. Stakeholders collaboratively guide the purpose and function of the route going into the future.

Route Purpose - Context Sensitive Design

The Watsonville General Plan includes a framework for a context-based street classification system. The framework describes context zones, as well as the types of streets that best serve each respective zone.

Street Type	Corresponding Functional Street Classification	Max. Travel Lanes	Speed	Intersection Spacing	Transit Service	Median	Access Mgmt.	Curb Parking	Pedestrian Facilities	Bicycle Facilities	Freight Mvmt
Suburban Boulevard	Major Arterial	6	35-45	1/4 to 1/2 mile	Express and Local	Required	Yes	Provisional	Sidewalk or Off-Street Path	Yes or parallel route	Regional Route
Boulevard	Major Arterial Minor Arterial Parkway	4-6	25-35	1/4 mile	Express and Local	Required	Yes	Provisional	Sidewalk		Regional Route
Avenue	Minor Arterial Collector	4	25-35	1/8 to 1/4 mile	Local	Optional	Partial	Parallel	Sidewalk		Local Truck Route
Connector	Collector Industrial Street	2	25	300 feet to 1/8 mile	Local	No	No	Parallel	Sidewalk		Local Deliveries Only
Main Street	Collector Local Street	2	20	150-300 feet	Local	No	No	Parallel or Diagonal	Sidewalk	Shared	Local Deliveries Only
Street	Local Street	2	20	lot width	Local	No	No	Parallel	Sidewalk	Shared	Local Deliveries Only

Figure 4.2: Context-based Classification, Source: Watsonville General Plan, 2013

The limits of SR 129 that are within the eastern portion of Watsonville are unique with respect to the context-based approach.

The *interregional* characteristics of the route are best represented by the ‘Boulevard’ description:

Boulevard—Medium-capacity thoroughfare in urban and suburban environments designed to carry intra-city traffic, serves medium distance trips and provide limited access to land. Frequently high ridership transit corridors and local transit routes. Boulevards use access management techniques and medians are required. Primary goods movement routes. On-street parking may be allowed.

However, the *local* characteristics closely resemble the descriptions of the ‘Connector’ or ‘Avenue’ street types.

As planning and other improvements for the corridor are implemented in the future, it will be important to consider these differences in order to best identify which design elements would be appropriate for the route. For example, to reinforce the interregional properties of the route, any capacity-adding projects should include context-based design elements consistent with the “Boulevard” street type. While any improvement will need to meet Highway Design Manual standards, priorities may include:

- Access management
- Street trees in wells or planting strips
- Medians with pedestrian refuges at crossings
- High amenity transit facilities
- Design for large vehicles
- Bus routes

Potential Bottleneck

The section of Segment 1 between Union Street and Blackburn Street has been identified as potential bottleneck with demand projected to exceed capacity within the plan horizon. The SR 129 and Blackburn Street intersection

operates at LOS F during the AM and PM peak. The SCCRTC RTP includes an unconstrained widening and reconstruction project at this location.

CHAPTER 5: CORRIDOR CONCEPT

CONCEPT RATIONALE

The analysis of data shows that the majority of the route should continue to operate at or under capacity through 2040. The concept for SR 129 is **conventional highway** with strategic improvements to maintain the functional role and purpose of SR 129. The concept for the route is physically and functionally similar to the route as it exists today. This concept is based on preserving and managing the existing facility in the most efficient way possible, combined with a few high return-on-investment asset management improvements.

Table 5.1: SR 129 Concept

Segment	Route Concept
Segment 1 SR 1 to Blackburn Street (SCR PM L0.000 – SCR PM 0.540)	Maintain conventional highway with capacity of two to four lanes (four lanes from SR 1 to Main Street; two lanes from Main Street to Blackburn Street).
Segment 2 Blackburn Street to Rogge Lane (SCR PM 0.540 – SCR PM 7.200)	Maintain conventional highway with capacity of two lanes.
Segment 3 Rogge Lane to US 101 (SCR PM 7.200 – SBT PM R2.644)	Maintain conventional highway with capacity of two lanes.

Multimodal projects should be compatible with local and county active transportation and complete streets goals, plans, and programs. As appropriate, multimodal concepts within Watsonville should consider opportunities to reallocate space to provide facilities for all users and be consistent with local and regional planning efforts. Projects will need to balance a range of considerations including the needs of all modes, projected volumes, and system operations.

Table 5.2: Recommended Concept – Multimodal Capacity Improvements

Concept Improvement	Rationale
Widen bikeway from Lee Street to Blackburn Street	The length of the corridor from SR 1 to Blackburn Street is identified in the future Watsonville bikeway system. The SCCRTC RTP lists this as a potential joint venture between Caltrans, the city of Watsonville, and the county of Santa Cruz.
Sidewalk improvements	SR 129 is equipped with sidewalk facilities for the majority of the length within the Watsonville limits. The only gaps in the sidewalk network occur between Sakata Lane and Menker Street on the south side of the highway. This section is approximately one quarter of a mile. Future enhancements to the sidewalk network in this location would provide complete sidewalk coverage throughout the Watsonville core.
Watsonville-Gilroy Express Bus Service	Express bus service would provide a viable alternative interregional connection between south Santa Cruz County and the Gilroy area. Potential benefits of this service may include reduced single-occupancy vehicle volumes, reduced GHG, improved transit-highway integration, and promotion of other sustainability principles. The long-term concept for SR 129 should include a partnership between Caltrans, Santa Cruz Metro, SCCRTC, and other stakeholders to assess the feasibility of this service, including identification of necessary highway improvements.

Table 5.3: Recommended Concept – Operations and Management Improvements

Concept Improvement	Rationale
SR 129/SR 1 interchange modifications	The 2013 Watsonville General Plan discusses the southbound SR 1 off ramp. The ramp operates at LOS E in the AM peak and LOS F in the PM peak. Left turning movements to go east on SR 129 queue along the ramp.
SR 129/SR 1 interchange modifications	The 2013 Watsonville General Plan discusses the northbound SR 1 ramps. Both ramps operate at LOS F during the AM and PM peak. The issue may impact, and be caused by, traffic generated by the agriculture, warehousing, and trucking distribution centers along Lee Road, directly west of the interchange. There is a turning lane for this traffic to enter the northbound ramp, but backups could impact the single through lane.
Ramp metering at SR 1/SR 129 interchange	Ramp metering at the SR 1 interchange is identified as a component of long-range SR 1 corridorwide plans. Ramp metering would require prior interchange modifications. Ramp metering is consistent with the Caltrans Deputy Directive DD-35-R1 and the Watsonville General Plan, which both promote consideration of ramp metering facilities as part of any other interchange modification projects.
SR 129 Intelligent Transportation Systems	Intelligent Transportation Systems (ITS) are a group of strategies that include advanced electronics and information technologies that increase the efficiency of highway facilities. ITS provides a means of monitoring real-time conditions on the corridor as well as dispatch and response to events that can cause nonrecurring congestions. Potential ITS facilities may include CCTV cameras, vehicle detection devices, variable messaging signage, etc.
Access management	Access management strategies in the urban core may include upgrading driveway geometry, consolidating driveways, improving medians, installing directional left turn lanes, and frontage roads. Strategies in the rural locations may include acceleration/deceleration lanes at key points where a high volume of trucks enter and exit the road. These strategies focus on facilitating efficient merging.
Ongoing maintenance including pavement resurfacing and rehabilitation and bridge maintenance	Preventative maintenance, spot improvements, and timely corrective applications have proven more cost effective than waiting until facilities need full scale replacement. Road striping and center rumble strips should also be maintained as needed.
Shoulder improvement	Shoulder widths should consider all modes and users.
Safety program (Office of Traffic Safety)	The SCCRTC 2014 RTP lists a continuation of the SR 129 Safety Program. The SR 129 Safety Program provides a grant to the CHP for designating SR 129 as a Safety Corridor. The grant provides additional funding to CHP for increased enforcement, air patrols, and public awareness.
Passing lanes where feasible in rural areas east of Watsonville	The existing through lanes are forecasted to adequately serve capacity throughout the report horizon. Passing lanes at feasible locations could address conflicts between truck traffic and passenger vehicle traffic, which generally moves at faster speeds.

PLANNED AND PROGRAMMED PROJECTS AND STRATEGIES

Table 5.4: Programmed Projects (as of February, 2015)

Seg.	Description	Planned or Programmed	Location	Source	Type	Implementation Phase
2	Intersection improvement: install accel and decel lanes	Programmed	At Carlton Rd	SHOPP	Safety	PA&ED
3	Curve realignment: improve roadway alignment	Programmed	From 0.4 miles west of Old Chittendon Rd to 0.1 miles east of Chittendon underpass	SHOPP	Safety	PS&E; RW
2; 3	Pavement rehab: place open graded friction pavement and upgrade guardrail	Programmed	Near Watsonville and in San Benito at School Road.	SHOPP	Safety	PS&E; RW

Table 5.5: Unconstrained Projects and Strategies (as of February, 2015)

Seg.	Description	Begin Post Mile	End Postmile	Location	Source	Purpose	Implementation Phase	DSMP Tier
1-3	Office of Traffic Safety SR 129 Safety Program	SCR_L0.000	SBT_R2.644	Corridorwide	SCCRTC RTP	Safety	Unconstrained	N/A
1; 2	Bicycle Facilities	SCR_L0.000	SCR_1.400	From SR 1 to Lakeview Rd	SCCRTC RTP	Multimodal	Unconstrained	N/A
1	Ramp metering	SCR_L0.000	SCR_0.000	At SR 1 interchange	SCCRTC RTP	System Management	Unconstrained	III
1	Widen from 2 to 4 lanes	SCR_0.060	SCR_0.540	From Union St to Bridge St	SCCRTC RTP	Capacity	Unconstrained	V

RESOURCES

CONTACTS

Contact	Role	Email	Phone
Jeff Berkman	Traffic Forecasting	Jeff.Berkman@dot.ca.gov	805-594-6137
Claudia Espino	Branch Chief – Project Development	Claudia.Espino@dot.ca.gov	805-549-3640
Aileen Loe	Deputy District Director	Aileen.Loe@dot.ca.gov	805-549-3161
Kelly McClendon	Planner	Kelly.McClendon@dot.ca.gov	805-549-3510
Brandy Rider	Branch Chief – Planning	Brandy.Rider@dot.ca.gov	805-549-3970

LINKS

AMBAG Regional Forecast

<http://www.ambag.org/programs-services/planning/regional-growth-forecast>

City of Hollister General Plan

<http://www.hollister.ca.gov/Site/html/about/genPlan.asp>

City of San Juan Bautista General Plan

<http://www.san-juan-bautista.ca.us/cityPlanning.htm>

City of Watsonville General Plan

<http://cityofwatsonville.org/permits-plans/major-projects>

Council of San Benito County Governments

<http://www.sanbenitocog.org/>

San Benito County Bikeway and Pedestrian Master Plan

<http://catsip.berkeley.edu/case-studies/san-benito-county-bikeway-and-pedestrian-master-plan>

San Benito County General Plan

<http://www.sanbenitogpu.com/>

Santa Cruz County Bicycle Plan

<http://www.sccrtc.org/services/bike/>

Santa Cruz County General Plan

<http://www.sccoplanning.com/PlanningHome/LongRangePlanning/GeneralPlan.aspx>

Santa Cruz Metro Transit District

<http://www.scmttd.com/>

Santa Cruz County Regional Transportation Commission

<http://www.sccrtc.org/>

U.S. Census Bureau

<http://www.census.gov/>

APPENDICES

Appendices can be accessed at: http://www.dot.ca.gov/dist05/planning/system_planning.htm#TCRs.

- Appendix A: SR 129 Corridor Data Sheet
- Appendix B: About the TCR