4.4 TRANSPORTATION & TRAFFIC

4.4.1 ENVIRONMENTAL SETTING

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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 Department[1] 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 Commissio*n (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 (Fukuji 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 Figure4.4-2). 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 program[3]) 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 Department[4] 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 ratio[5] 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' 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 1/17Merge 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 "Commute Solutions" and providing bicycle planning and funding to the region. Commute 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 claming 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 (M2.32). 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 criteria[7];

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 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 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 Department[10] 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 1lt,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 1, 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 splt 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 required 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 intersection 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

MAINTAIN LEVEL OF SERVICE STANDARD & IMPLEMENT TRANSPORTATION IMPROVEMENTS	• 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
	  ⅄ 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

REDUCE AUTO/VEHICLE TRIPS & INCREASE VEHICLE OCCUPANCY	• 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
ENCOURAGE MULTI-MODAL SYSTEMS	• 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
ENCOURAGE ALTERNATIVE TRANSPORTATION MODES	• 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 **(CONTINUED ON NEXT PAGE)**

TABLE 4.4-4
Proposed General Plan Policies and Actions that Reduce Traffic Impacts

Type of Measure / Action	Policies / Actions
➤ Bicycle Use	• 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)
➤ Pedestrian Use	• 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
➤ Transit Use & Expansion	• 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
➤ Rail	• 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
LAND USES / PATTERNS TO REDUCE VEHICLE TRIPS	• 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 **(CONTINUED ON NEXT PAGE)**

TABLE 4.4-4
Proposed General Plan Policies and Actions that Reduce Traffic Impacts

Type of Measure / Action	Policies / Actions
	• 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
REDUCE & DISCOURAGE THROUGH-TRAFFIC IN NEIGHBORHOODS	• 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.

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