

## D. Transportation and Circulation

### 1. Introduction

This section presents the potential traffic impacts of both the Original Project and the Business Plan Project Alternative. Wherever a discernible difference exists between the two projects, it is clearly called out for the reader. Unless otherwise indicated, the reader should assume that the impacts of the two projects would be identical.

Information contained in this section pertaining to transportation and circulation is based on the following technical report: Transportation Technical Report for the Santa Cruz Recreational Rail Study (Dowling Associates, Inc., January 2005). All technical reports are available for public review between the hours of 8:00 a.m. and 5:00 p.m. at the Santa Cruz County Recreational Transportation Commission (SCCRTC): 1523 Pacific Avenue, Santa Cruz, CA. Technical reports are also available online at [www.sccrtc.org](http://www.sccrtc.org).

### 2. Approach and Methodology

This chapter addresses the impact of the proposed project on the existing and future transportation and circulation patterns in the vicinity of the proposed project. Traffic conditions are assessed in terms of level of service (LOS). LOS calculations are used to rank traffic operation on various types of facilities, based on traffic volumes and roadway capacity, using a series of letter designations ranging from A to F. Generally, LOS A represents free-flow conditions and LOS F represents forced flow or over-capacity conditions. For this study, levels of service are calculated for the study intersections using computations of average vehicular delay. Table III.D.1 explains the amount of average delay allowed for each level of service at signalized and unsignalized intersections.

<b>Table III.D.1: Intersection Level of Service Criteria</b>		
<b>Level of Service (LOS)</b>	<b>Signalized Average Total Delay (seconds/vehicle)</b>	<b>Unsignalized Average Delay<sup>1</sup> (seconds/vehicle)</b>
A	0.0 to 10.0	0.0 to 10.0
B	10.1 to 20.0	10.1 to 15.0
C	20.1 to 35.0	15.1 to 25.0
D	35.1 to 55.0	25.1 to 35.0
E	55.1 to 80.0	35.1 to 50.0
F	>80.0	>50.0

<sup>1</sup> Weighted average of total delay  
Source: *Highway Capacity Manual*, Transportation Research Board, Special Report No. 209, Washington DC, 2000.

### ***a. Average Vehicular Delay***

The concept of average vehicular delay is an expression of the average amount of delay experienced by vehicles traveling through an intersection during the peak hour. To meet the criteria for LOS C at a signalized intersection, the maximum acceptable average delay is 35 seconds per vehicle, meaning that during the peak hour period, some cars will experience a greater amount of delay while others will experience less delay, but the average delay must not exceed 35 seconds per vehicle.

As an example, a new housing development will result in additional vehicles using a given roadway on a daily basis, which will in turn affect the operation of the intersection. The average delay to vehicles passing through a given intersection during the peak hour can be quantified and used to determine whether the increase in project traffic will result in average delays that cause the intersection operation to worsen to a lower (LOS D) level.

This same methodology is utilized to evaluate the affect of the proposed recreational rail service at key intersections near railroad crossings. Although the passing of a train will directly affect those vehicles approaching a railroad crossing at the moment the train passes, it will not affect those vehicles approaching the crossing outside of those times. This EIR analyzes the effect that both the Original Project and the Business Plan Project Alternative would have on average vehicular delay at project intersections to determine whether the operation of any intersection would worsen to an unacceptable level. Levels of service are described in the next section.

### ***b. Level of Service Requirements***

The technical analysis used existing LOS conditions to determine whether the proposed project could result in a significant impact to traffic.

#### ***County of Santa Cruz Standards***

The County of Santa Cruz lists the following policy in its General Plan to guide the review of transportation impacts:

##### **Policy 3.12.1 Levels of Service (LOS)**

In reviewing the traffic impacts of proposed development projects or proposed roadway improvements, LOS C should be considered the objective, but LOS D as a minimum acceptable (where costs, right-of-way requirements, or environmental impacts of maintaining LOS under this policy are excessive, capacity enhancement may be considered infeasible). Review development projects or proposed roadway improvements to the Congestion Management Program network for consistency with Congestion Management Plan goals.

Proposed development projects that would cause LOS at an intersection or on a uninterrupted highway segment to fall below D during the weekday peak hour will be required to mitigate their traffic impacts. Proposed development projects that would add traffic at intersections or on highway segments already at LOS E or F shall also be required to mitigate any traffic volume resulting in a 1% increase in the

volume/capacity ratio of the sum of all critical movements. Projects shall be denied until additional capacity is provided or where overriding finding of public necessity and or benefit is provided.

### ***City of Capitola Standards***

Policy 1 of the Circulation Element of the General Plan provides guidance for the evaluation of project impacts on local intersection:

Policy 1 - Level of Service C shall be the acceptable standard for circulation within the City with the exception of the village area.

(The village area is defined as the area bounded by the beach, the railroad right-of-way, Monterey Avenue, and Soquel Creek. The Monterey/Park Avenue intersection is located outside of the village area boundary and would therefore be required to meet the LOS C standard.

As shown in Table III.D.1, for unsignalized intersections, the average delay could not exceed 25 seconds for LOS C and 35 seconds for LOS D. For signalized intersections, the average delay could not exceed 35 seconds for LOS C and 55 seconds for LOS D.

## **3. Environmental Setting**

This section reviews the current use and physical characteristics of the proposed project location, the surrounding roadway network and all study crossings. The section also includes information on the operating conditions of study intersections as well as information on pedestrian, bicycle and transit facilities.

### ***a. Existing Rail and Road Conditions***

The proposed rail service would operate on a six-mile section of the existing Santa Cruz Branch Rail Line, which runs 32 miles between Watsonville and Davenport. According to the Business Plan, the corridor is currently designated as “FRA Excepted Track”, which is suitable for the ongoing low-speed (10 mph) freight service. Minor upgrades would be required to raise the track to a Class I<sup>1</sup> level, suitable for passenger service and are included in the Business Plan. Highway 1 runs parallel to the railroad and serves as the major connection between mid-county and southern communities, and the City of Santa Cruz including the University of California, Santa Cruz.

In addition to Highway 1, which crosses under the rail line at two locations near Aptos, several local roadways run parallel to or cross the railroad tracks in the project area, including Monterey Avenue, State Park Drive, Soquel Drive and Sumner Avenue. Four of these local roadway crossings are grade-separated, i.e., the roadway crosses over or under the rail road: Wharf Road, Riverview Drive, Capitola Avenue, Rio Del Mar Avenue. Ten at-grade crossings were identified in the proposed project corridor between Cliff

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<sup>1</sup> The current Federal Railroad Administration designation for Class 1 railroads sets the maximum freight operating speed at 10 mph and the maximum passenger operating speed at 15 mph. Despite the recent upgrades to the track along the corridor, more substantial upgrades would be required to raise the track to the Class 2 level, which would allow the proposed service to operate at speeds up to 25 mph.

Drive in Capitola and the intersection of Seascap Boulevard and Sumner Avenue. From west to east, they are as follows:

Monterey Avenue

Grove Lane (private access)

New Brighton Road (private access)

Estates Drive (private access)

Mar Vista Drive

State Park Drive

Aptos Creek Road

Trout Gulch Road

Club House Drive

Seascap Boulevard

As shown in Figure 3, six intersections were identified for more detailed analysis based on their location near a railroad crossing or station, or because future projects may affect the area:

Monterey Avenue at Park Avenue

State Park Drive at Hillcrest Drive

Trout Gulch Road at Soquel Drive

Aptos Creek Road at Soquel Drive

State Park Drive at Highway 1 southbound ramps

State Park Drive at Sea Ridge Road

Table III.D.2 presents a summary of the intersection operations under existing conditions. At all six locations, traffic counts were collected and the existing levels of service were calculated. Mid-week traffic counts for the first three locations were performed in October 2003 during the evening peak period between 4:00 PM and 6:00 PM in order to capture the weekday peak hour. All vehicular turning movements and through movements were counted, as well as bicycles and pedestrians at these three intersections. Traffic counts from November of 2002 were also available at the other three locations. These counts were reported in the "Aptos Village Traffic Impact Study" from May of 2003 and were used in this analysis.

<b>Table III.D.2 – Existing PM Peak Hour Levels of Service</b>				
<b>Intersection</b>	<b>Control</b>	<b>Approach/Movements</b>	<b>LOS</b>	<b>Average Delay (Seconds/vehicle)</b>
Monterey & Park Avenues	4-way stop	All	C	22.3
		Northbound - thru/left	B	11.8
		Northbound - right	D	30.2
		Eastbound	B	10.4
		Southbound - right	A	0
		Southbound - thru/left	C	15.9
		Westbound	C	20.7
State Park & Hillcrest Drives	Unsignalized	Eastbound	C	15.6
Trout Gulch Road & Soquel Drive	4-way stop	All	C	17.5
		Northbound	B	11.1
		Eastbound - left	C	23.7
		Eastbound - thru/right	C	19.5
		Southbound - thru/left	B	13.1
		Southbound - right	B	14.9
		Westbound - left	B	12.5
		Westbound - thru	B	12.3
		Westbound - right	B	11.8
Aptos Creek Road & Soquel Drive	Unsignalized	Southbound	E	47.3
State Park Drive & Hwy 1 Southbound ramp	Signalized	Northbound	B	17.0
State Park Drive & Sea Ridge	Unsignalized	Eastbound	C	19.1

Source: *Transportation Technical Report for Santa Cruz Recreational Rail Study*, Dowling & Associates, March 2004.

### ***Seasonal Variations***

Due to the proximity of the project to the beaches, the seasonal variations in traffic volumes were examined. The mid-week p.m. traffic counts from October were compared to mid-week p.m. traffic counts at the same locations between the summer months of July and August. The seasonal comparison focused on weekday peak hour counts. The comparison of weekday to weekend peak hour volumes is discussed below under Weekly Variations. The July and August counts were obtained from the Congestion Monitoring Report. The three locations and corresponding count dates chosen for this comparison are:

Trout Gulch Road south of Cathedral Drive (August 15, 2001 & October 28, 2003).

State Park Drive east of Hillcrest Drive (July 12, 2000 & October 28, 2003).

Park Avenue north of Monterey Avenue (July 24, 1996 & October 28, 2003).

At State Park Drive and Park Avenue, the summer weekday evening peak hour counts were lower than the October 2003 counts for the same time period. Due to the different dates for the summer counts, some of the differences could be attributed to annual growth in traffic volumes. However, at Trout Gulch Road, the summer weekday evening peak hour count from 2001 was about 10 percent higher than the October 2003 count. The fluctuations observed do not provide a definitive pattern of seasonal variation in traffic volumes during the weekday PM peak hour; therefore, no adjustment to the counts was deemed necessary.

### ***Weekly Variations***

In addition to seasonal variations, the differences between weekday and weekend traffic were also reviewed. As shown below, the research demonstrates that the mid-week peak hour traffic volumes are actually higher than the weekend peak-hour traffic volumes.

In order to determine the variations between the mid-week and weekend traffic on key roadways near the existing rail line, weekly 24-hour traffic count data from the Santa Cruz Congestion Monitoring Program was analyzed at three locations. This analysis was performed to understand the traffic patterns as well as to determine the weekly peak hour. Count data was available from the months of July and August at the following locations:

Trout Gulch Road south of Cathedral Drive.

State Park Drive east of Hillcrest Drive.

Park Avenue north of Monterey Avenue.

The data reveal that the average mid-week peak hour occurs between 4:00 p.m. and 5:00 p.m, while the weekend peak hour occurs between 1:00 and 2:00 p.m. on Saturday and between 12:00 noon and 1:00 p.m. on Sunday. Furthermore, the mid-week peak hour counts are higher than either of the weekend peak hour volumes at all three of the locations. The mid-week peak hour traffic volumes average approximately 20% higher than the weekend peak hour volumes, with the largest increase of 34% experienced at Trout Gulch south of Cathedral Drive and the smallest increase of 9% at State Park east of Hillcrest Drive.

The time periods of each of the peak hours are also fairly consistent with the cumulative average, with one exception. At the State Park Drive and Hillcrest location, the mid-week peak hour occurs between the hours of 6:00 and 7:00 p.m. which is slightly later than the average, while the weekend peak is much later than the average time period occurring between 4:00 and 5:00 p.m. on Saturday and between 3:00 and 4:00 p.m. on Sunday. The two other locations at Trout Gulch and Park Avenue closely resemble the average during the mid-week and weekend peak hours.

The roadway segment on Club House Drive west of Sumner Avenue was also analyzed to determine the volume of traffic crossing the railroad tracks in addition to the weekly peak hour. Weekly 24-hour

roadway counts were conducted which revealed that the traffic count in this area was much smaller than the three intersections analyzed above. The counts also showed that the peak hour was somewhat different than the intersections analyzed above. At this location, the p.m. hour occurred on Saturday afternoon from 1:45 to 2:45 p.m. and not during the mid-week p.m. time frame.

### ***b. Parking Facilities***

**Cliff Drive:** There are approximately 65 12-hour metered parking spaces located on either side of Cliff Drive, which are primarily used on weekends by beach and village visitors. Some parking areas have an easement to be located within the railroad right-of-way. An additional 20 on-street parking spaces are located on 47<sup>th</sup> Avenue. Unrestricted and residential neighborhood permit parking is located on portions of Prospect Avenue, above and parallel to the proposed station. There are no signs indicating restricted residential permit parking on the south side of Prospect Avenue west of Opal Street.

**Capitola Village:** On-street parking is very limited, especially during weekends and summer months (the primary months of operation of the proposed project). A fee parking lot with a total of 224 twelve-hour spaces is located in the vicinity of the proposed station. In addition, free parking is available at the Crossroads Center with a free shuttle to the village. The City of Capitola is currently analyzing the feasibility of adding 200 spaces to their fee parking lot, and has been identified in the City's Capital Improvement Plan. However, the expansion is unfunded at this time.

**New Brighton State Beach:** State Parks operates a 181 space fee parking lot below the proposed platform for park visitors and other uses. Approximately 10 unmarked, parallel parking spaces are provided on Park Avenue just west of the station on the shoulder.

**Seacliff State Beach:** Approximately 75 un-metered on-street spaces are located in the immediate vicinity of the station. Some spaces are unrestricted during the daytime and others are limited to a 2-hour period. In addition, two off-street, fee parking lots managed by State Parks offering a total of 491 spaces are located approximately 1/3 mile from the proposed station.

**Aptos Village:** Two-hour parking and both restricted and unrestricted parking lots are located in the vicinity of the proposed Aptos Village Station. A total of approximately 215 spaces are provided in various locations within easy walking distance to the proposed station.

**Seascape Resort:** Approximately 200 unrestricted street and/or off-street parking are located in the vicinity the proposed station. The Seascape Resort also provides private parking for its guests.

### ***c. Pedestrian, Bicycle and Transit Facilities***

**Pedestrian Facilities:** The railroad right-of-way is commonly used as a pedestrian trail, although on private property. At-grade crossings vary in terms of the type of pedestrian facilities provided. Some crossings include sidewalks while others do not. The proposed project does not include any specific pedestrian amenities or improvements beyond direct access to station platforms.

**Bicycle Facilities:** No new or expanded bicycle facilities are proposed as part of the project. Bike lanes are located on the following streets either parallel to or perpendicular to the existing railroad right-of-way:

- Portola Drive

- Cliff Drive
- Capitola Avenue
- Monterey Avenue from Park Avenue to Capitola Avenue
- Park Avenue
- McGregor Drive
- State Park Drive
- Soquel Drive

A future bicycle and pedestrian trail (Coastal Trail) along the railroad right-of-way is being planned independently of this project. Please see Chapter III.E *Cumulative Impacts* for further discussion.

#### **d. Safety**

Intersection railroad crossing safety data were analyzed within the project area and throughout Santa Cruz County. Between 1975 and 2003,<sup>2</sup> there were a total of 50 accidents reported for the 147 crossings on the Santa Cruz Branch Line (between Watsonville Junction in Pajaro, Monterey County and the RMC Pacific Materials cement plant in Davenport, Santa Cruz County). This averages to 0.012 accidents per crossing location per year, or one accident per crossing location every 83 years.

Within the six-mile stretch of the project area (Capitola to Seascape) seven accidents were reported between 1975 and 2003. No casualties or injuries were reported for any of the accidents in the project area; only property damage was reported. Estates Drive (a private road) was the only crossing with more than one reported accident. The largest overall concentration of accidents occurred within the Aptos Village area.

There is a correlation between increases in train speed and potential for accidents. However, it is not likely that the recreational trains would exceed 15 mph. According to the Draft Business Plan, the track would require a Class 1 FRA rating to permit passenger rail. A Class 1 designation would allow passenger rail service up to 15 mph. To exceed 15 mph would require a Class 2 rating, and the SCCRTC is not pursuing a Class 2 rating at this time.

The project would also require compliance with all Federal Railway Administration (FRA) safety and maintenance guidelines that regulate train design, locomotion, load, and infrastructure. These guidelines and regulations can be found in the Code of Federal Regulations at 49CFR238 Passenger Equipment Safety Standards. The responsibility of maintenance and repairs will be decided during negotiation between rail operator or operators and SCCRTC.

This Revised Draft EIR also includes safety measures that may be implemented to increase safety at crossings. These measures include installing gates and warning signals, performing tree trimming, and increasing sight distance. Safety measures are included in the Business Plan and the specific measures

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<sup>2</sup> Years correspond with Federal Railroad Administration records.



utilized will be determined after further analysis and coordination with the Secretary of Transportation and California Public Utilities Commission as part of the establishment of the proposed quiet zone.

### **Infrastructure Improvements**

In order to provide passenger rail service as proposed, the existing tracks must be upgraded to Federal Railroad Administration (FRA) Class 1 standards. According to the Draft Business Plan, only a relatively minor capital investment is required to bring the trackage up to FRA Class 1 status, consisting mainly of replacing cracked joint bars. The SCCRTC would meet all regulatory requirements for the provision of passenger service on the right-of-way.

Regarding the safety of bridges and/or trestles, the Business Plan states that further investigation of such structures will be conducted prior to the acquisition of the right-of-way. Any upgrades needed to comply with FRA regulations will be addressed in the final negotiations for acquisition, and the responsible party and timing for implementation will be identified in the final acquisition documents. Regular maintenance and upgrades of the rail system, including trestles is required by FRA to maintain safe operating conditions. Upgrades would be subject to the same construction period dust control measures outlined in the project description and traffic detours, if necessary would be coordinated with local jurisdictions.

### **Bike Trail and Safety**

The potential impacts associated with constructing a rail trail adjacent to the recreational rail project would be analyzed in a separate environmental document. It is worth noting, however, that there are examples of successful rail-trail projects throughout the country that are located adjacent to residential areas. Examples include The City of Irvine's Atchinson, Topeka and Sante Fe Trail; Pennsylvania's Heritage Rail Trail; Minneapolis's Cedar Lake Trail; and the Folsom Park Trail. As with any project, appropriate planning and design is required to ensure the safety for bicyclists and pedestrians. The following is an excerpt from the Santa Cruz Branch Business Plan regarding the planning and design of the trail:

“Spatial separation between the paved edge of the trail and the centerline of the railroad track is needed. However, there is no consensus on appropriate separation distance; practice varies from 10-25 feet. Over 70% of trails use some type of barrier, often fencing, which may carry its own risk of liability. Grade crossings are a potential point of conflict and will require local analysis to determine optimum treatment. Other potential design issues include utilities, structures, environmental concerns/visual quality, signage, and railroad maintenance requirements. These issues will be addressed fully in the Coastal Rail Trail Master Plan.”

### **e. Future Improvements**

Infrastructure or transportation-related activities in the vicinity of the project area are identified in order to assess potential impacts to traffic.

**State Park Drive/Seacliff Improvements:** The County of Santa Cruz is currently planning improvements on State Park Drive, including bike lanes and sidewalk widening. Please see Chapter III.E Cumulative Impacts for further discussion.

**Aptos Village:** The implementation of the Aptos Village town plan would require improvements at two of the intersections reviewed for the proposed project. A traffic study prepared for the proposed town plan recommends the signalization of the intersection at Trout Gulch Road and Soquel Drive and the addition of an eastbound left-turn lane at the intersection of Aptos Creek Road and Soquel Drive. The latter would become a county maintained intersection and related improvements. A new rail crossing and closure of an existing driveway is also as part of the Aptos Village Improvement project. At this time, the County does not have any application for development of the 6.5-acre Aptos town plan area.

## 4. Impacts and Mitigation

### *a. Standards of Significance*

The proposed project would have a significant impact if any of the following criteria are met:

**Criterion 1:** The project would cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system as directed by local County of Santa Cruz and City of Capitola policies. (i.e., result in a substantial increase in either the number of vehicle trips, the volume-to-capacity ratio on roads, or congestion at intersections).

**Criterion 2:** The project would exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways.

**Criterion 3:** The project would result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.

**Criterion 4:** The project would substantially increase hazards to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

**Criterion 5:** The project would result in inadequate emergency access.

**Criterion 6:** The project would result in inadequate parking capacity.

**Criterion 7:** The project would conflict with adopted policies, plans or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks).

### *b. Less Than Significant Impacts*

**Criteria 3, 4, and 7:** The project's potential to cause significant transportation and circulation-related impacts was evaluated in the Initial Study completed for the proposed project. In the Initial Study, it was determined that the project would not result in a change in air traffic patterns (Criterion 3), substantially increase hazards to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment) (Criterion 4), or conflict with adopted policies, plans or programs supporting alternative transportation (Criterion 7). Therefore, these issues are not discussed further in this EIR.

**Criterion 2:** The intersection operations analysis focused on four key crossings: Monterey Avenue, State Park Drive, Aptos Creek Road, and Trout Gulch Road. Three of these crossings (Monterey Avenue, State Park Drive, and Trout Gulch Road) have lights, bells, and gates marking the railroad crossings. At Aptos

Creek Road, the crossing is signed with stop signs, but other automatic crossing protection devices, such as a flashing light signal or crossing gates are not provided.

As described in Section 2 “Approach and Methodology” the analysis of the potential project impacts at the crossings was based on the *average* delay that a vehicle would experience at the rail crossing during the peak hour. The proposed train, operating at speed of 15 mph and not approaching a station stop would cause a real time traffic delay of approximately 30 seconds from the point at which the crossing gates are lowered to when they are raised after the train has cleared the intersection. If the train is approaching a station stop as it crosses a roadway, the delay increases to approximately 35 seconds.<sup>3</sup> The delay is based on the PUC requirements for railroad signals and typical train operations.

Each of the study intersections is located adjacent to a station stop and would therefore experience 35 seconds of delay each time a train passes. To assess the impacts of the proposed service to operations at the four key intersections, the additional delay during the peak hour was calculated. The proposed recreational rail service proposes to operate using 90-minute round trips, resulting in a maximum of two train crossings at any given intersection during the peak hour. This represents a total maximum delay of 70 seconds during the peak hour. However, since the intersection level of service represents average delay in seconds per vehicle during the peak hour, it was necessary to average the train delay over the same period. For the analysis, the 70 seconds per hour were divided by 60 minutes to obtain the average delay of 1.2 seconds per minute. An additional 1.2 seconds per minute of delay were added to the through and turning movements that would be delayed by the crossing gates to account for the proposed train crossing with a worst-case condition of two train crossings per hour.

The analysis was conducted for the PM peak hour when traffic volumes are the highest. Table III.D.3 shows the existing PM peak hour conditions with and without the addition of the average train delay per hour assuming a worst-case of two trains per hour.

As shown in Table III.D.3, the project would add 1.2 seconds per minute of peak hour delay to area intersections, which would not the level of service at any of the intersections to worsen to an unacceptable level. The peak hour queue at the northbound approach to the State Park Drive/Highway 1 intersection would be seven cars long, which would not affect the railroad crossing. (*Future cumulative traffic impacts were found to be potentially significant and are discussed in Section III.E of this report.*)

**Criterion 5:** Because all intersections would continue to operate at an acceptable level of service, the provision of emergency services would not be significantly affected. Implementation of mitigation measures D.1 and D.2 below would further enhance safety at crossings.

**Criterion 6 - Potential Impacts Related to Parking:** The proposed project would provide an alternative to driving for tourists already in the area for the day or staying at one of the many lodging facilities including camping areas at New Brighton and Seacliff State Beaches, as well as local residents in the vicinity of the project area. The Seascape Resort has expressed an interest in purchasing tickets for their guests, who would already be parked at this facility and would not require additional parking.

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<sup>3</sup> Correspondence with Robert Scott on October 29, 2003, November 17, 2003, and August 26, 2004.

**Table III.D.3 – Intersection Level of Service with and Without Train Delay**

Intersection	Control	Direction	Existing PM Peak Hour Conditions		Existing PM Peak Hour Conditions + Average Hourly Train Delay		
			LOS	Delay (sec)	LOS	Delay (sec)	
Monterey Avenue & Park Avenue	4-Way Stop	All	C	22.3	C	23.5	
		NB-thru/left	B	11.8	B	13.0	
		NB-right	D	30.2	D	31.4	
		EB	B	10.4	B	11.6	
		SB-right	A	0	A	0	
		SB-thru/left	C	15.9	C	17.1	
		WB	C	20.7	C	21.9	
State Park Drive & Hillcrest Drive	Unsignalized	EB-left/right	C	15.6	C	16.8	
		NB-thru/left	<sup>a</sup>	<sup>a</sup>	A	1.2	
		SB-thru/right	<sup>a</sup>	<sup>a</sup>	A	1.2	
Trout Gulch Road & Soquel Drive	4-Way Stop	All	C	17.5	C	18.7	
		NB	B	11.1	B	12.3	
		EB-left	C	23.7	C	24.9	
		EB-thru/right	C	19.5	C	19.5	
		SB-thru/left	B	13.1	B	14.3	
		SB-right	B	14.9	C	16.1	
		WB-left	B	12.5	B	12.5	
		WB-thru	B	12.3	B	12.3	
		WB-right	B	11.8	B	13.0	
--Future Condition	Signalized	All	B	13.0	B	14.2	
Aptos Creek Road & Soquel Drive	Unsignalized	SB	E	47.3	E	48.5	
		--Future Condition	Signalized	All	A	7.2	A
			SB	D	40.7	D	41.9

<sup>a</sup> Not calculated because traffic is not required to stop.

The recreational rail service is not anticipated to be a primary tourist destination that would increase the number of visitors to the area. The rail service would help to make more efficient use of existing parking along the rail corridor because many visitors staying in the project vicinity could chose not to drive their cars to visitor attractions where parking is more difficult. The rail service would also help to spread the demand for existing parking by day and overnight visitors over the length of the rail corridor by serving as a shuttle to satellite parking lots, such as the parking area on Bay Avenue serviced by the Capitola Village shuttle, thereby enabling the area as a whole to provide parking for additional tourists and residents. The service would provide a new attraction for visitors already in the area as well as an alternative means for traveling between visitor sites along the corridor. During the peak season, it is

estimated that about 550,000 visitors currently stay in or visit areas within walking distance to the proposed station, which does not include day visitors to Capitola and Aptos Villages.<sup>4</sup>

The rail service would expect to draw from this captive market to achieve its ridership estimates. The total ridership estimated in the Business Plan was used to provide a sense of the magnitude of the potential parking impacts. As shown in Table III.D.4, a maximum annual total of 25,000 riders are assumed for the Original Project, while 12,000 riders are assumed for the Business Plan Project Alternative with its shortened operating schedule. Based on a factor of three people per vehicle, either project is expected to generate up to 13 cars at each of the six proposed stations during the course of a day. However, since the service is expected to draw mostly from visitors already in the area and staying in local accommodation, the parking needs at individual stations are not expected to result in significant parking impacts.

<b>Table III.D.4 Effect of Projected Ridership on Parking Supply</b>		
	Original Project	Business Plan Project
Total Annual Ridership	10,000 to 25,000	5,000 to 12,500
Days of Operation	120	48
Maximum Passengers per day	208	260
Maximum Vehicles per day (3 persons per vehicle)	70	87
Maximum Average Vehicles per day at each of the six stations	12	15

At this time, detailed patronage forecasts are not available for each of the proposed stations. However, it is assumed that rail passengers would not drive to areas such as Capitola Village and Aptos Village to compete for scarce parking, but would utilize the parking at other proposed station locations and ride the train to these more congested locations. The project is not expected to generate additional vehicle trips at key intersections nor would it cause any trip reductions at other intersections, since the project is expected to tap into the captive market of visitors already in the Santa Cruz area and therefore not providing additional parking.

### ***c. Potentially Significant Impacts***

**Criterion 1 (intersection level of service):** Although the project would not substantially worsen the level of service at area intersections, queues from the intersection of State Park Drive and Hillcrest could present a potential hazard due to the relatively short distance of approximately 14 car lengths between the intersection and the tracks. Under such circumstances it is advisable for the railroad crossing signals to

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<sup>4</sup> This estimate is based on data for lodging, including resorts, hotels, and motels, as well as vacation rentals and visitors who paid for camping and day use at state beaches provided by the state parks.

pre-empt traffic signals to clear the crossing efficiently. The County of Santa Cruz would support traffic signal pre-emption for signals along State Park Drive in accordance with this recommendation.<sup>5</sup>

**Criterion 4 (design features):** Maximum speeds of 25 miles per hour could result in hazardous conditions at rail crossings if adequate safety devices are not in place. The Federal Railroad Administration has jurisdiction to require the implementation of safety measures at railroad crossings within established quiet zones areas. Accordingly, the SCCRTC would be required to implement any such safety measures as may be required by FRA as part of the establishment of a quiet zone in the 6-mile corridor. The jurisdiction of the California Public Utility Commission as it relates to the implementation of safety measures is pre-empted by the FRA within areas designated as quiet zones.

**Criterion 4 (pedestrian access):** The project would result in increased pedestrian activity at and around station platforms and may not provide adequate access for pedestrians and handicapped persons. This would be considered a potentially significant impact.

The SCCRTC can design the station platforms to meet applicable requirements such as the Americans with Disabilities Act. The SCCRTC can also coordinate with the Department of Public Works at the County of Santa Cruz and City of Capitola, as needed, to improve sidewalks and crosswalks accessing the stations. Such improvements are desirable since they improve the pedestrian environment and the approval of such plans can be reasonably assumed.

#### ***d. Mitigation Measures***

***Mitigation Measure D-1:*** Railroad crossing signals shall pre-empt traffic signals along State Park Drive to clear the crossing efficiently.

***Mitigation Measure D-2:*** The SCCRTC shall implement all safety measures required by the Federal Railroad Administration as part of the establishment of a quiet zone within the 6-mile project corridor. . In the event that the Federal Railroad Administration chooses not to approve the establishment of a quiet zone, SCCRTC shall work with the California Public Utilities Commission and/or other public agencies to identify any measures that, in the absence of a quiet zone, may be required at railroad crossings.

***Mitigation Measure D-3:*** SCCRTC shall review the final platform design for consistency with accepted standards, such as the Americans with Disabilities Act (ADA) requirements. SCCRTC shall also improve, as necessary, all crosswalks and sidewalks accessing the station areas to ensure that they meet local standards. SCCRTC shall coordinate with the local (City or County) public works departments, as required to implement these improvements.

The incorporation of mitigation Measures D-1, D-2, and D-3 would reduce potential impacts related to traffic safety to a less than significant level.

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<sup>5</sup> Greg Martin, Department of Public Works, Santa Cruz County. *Personal Communication* January 26, 2005