Chapter 3.7
Transportation and Traffic

Introduction

This chapter provides a discussion of the transportation and traffic issues related to the Proposed Project and 130-Unit Alternative in the Carmel Valley. This chapter includes a review of existing conditions based on available literature and field surveys; a summary of local and state policies and regulations related to transportation and traffic; and an analysis of direct and indirect environmental impacts of the project. Where feasible, mitigation measures are recommended to reduce the level of impacts.

Impact Summary

The transportation and traffic impacts resulting from the Proposed Project and the 130-Unit Alternative are summarized in **Table 3.7-1**. As shown in **Table 3.7-1**, the Proposed Project and the 130-Unit Alternative would have certain significant impacts related to transportation and circulation within the project area. With the implementation of the mitigation measures described in this chapter, some of the potentially significant impacts listed would be reduced to less-than-significant levels but some impacts would remain significant and unavoidable.

Table 3.7-1. Transportation and Traffic Impact Summary

Impact	Proposed Project Level of Significance	130-Unit Alternative Level of Significance	Mitigation Measure	Level of Significance after Mitigation
A. Signalized Intersections				
TR-1: LOS Decrease at Signalized County Intersections	LTS	LTS	None Required	–
B. Unsignalized Intersections				
TR-2: LOS Decrease at Unsignalized Intersections	Potentially Significant	Potentially Significant	TR-1: Contribute Fair-Share to Interchange Improvements of Laureles Grade and Carmel Valley Road through the CVTIP Traffic Impact Fee	Significant and Unavoidable

Impact	Proposed Project Level of Significance	130-Unit Alternative Level of Significance	Mitigation Measure	Level of Significance after Mitigation
C. Roadway Segments				
TR-3: Peak Hour LOS Decrease for Two-Lane and Multi-Lane and/or exceed ADT Threshold for Portions of Carmel Valley Road, Rio Road and Carmel Rancho Boulevard	LTS	LTS	None Required	–
TR-4: Peak Hour Segment LOS Decrease for Portions of State Route 1	Potentially Significant	Potentially Significant	TR-2: Contribute Fair-Share Regional Impact Fee	Significant and Unavoidable
D. Access, Circulation and Safety				
TR-5: Adequate Sight Distance	LTS	LTS	None Required	–
TR-6: Adequate Project Access	LTS	LTS	None Required	–
E. Transit and Bicycle Travel				
TR-7: Changes to Transit and Bicycle Travel Access	LTS	LTS	None Required	–
F. Construction Traffic				
TR-8: Construction Traffic Decreases LOS	Potentially Significant	Potentially Significant	TR-3. Develop and Implement a Construction Traffic Control Plan	Significant and Unavoidable
LTS = Less than Significant				

Environmental Setting

Research Methods

A traffic impact study was conducted for the purpose of identifying the potential traffic impacts related to the Proposed Project and 130-Unit Alternative. The impacts of the Project and 130-Unit Alternative were evaluated following the standards and methodologies set forth by Monterey County and the Transportation Agency for Monterey County (TAMC). The *Guide for the Preparation of Traffic Impact Studies* published by Monterey County was used to prepare the traffic study report. TAMC administers the Congestion Management Program (CMP) for Monterey County.

Data Sources

The following sources were reviewed for analysis of transportation and traffic found in the project area.

- California Department of Transportation. 2002. *Guide for the Preparation of Traffic Impact Studies*.
- California Department of Transportation. 2013. *Transportation Concept Report State Route 68.*
- Central Coast Transportation Consulting. 2015. *Rancho Cañada Village Draft Transportation Impact Study.* February.
- DKS Associates. 2007. *Carmel Valley Master Plan Traffic Study*.
- Hexagon Transportation Consultants. 2007. *Rancho Cañada Residential Development Traffic Study.* July 25.
- Monterey County. 1995. *Carmel Valley Road Improvement List.*
- Monterey County. 2009. *Carmel Valley Traffic Improvement Program Partial Revision of the Draft Subsequent Environmental Impact Report.*
- Monterey County. 2011. *Bicycle and Pedestrian Master Plan*.
- Monterey County. 2013. *Carmel Valley Master Plan*.
- Monterey County. 2014. *Guide for the Preparation of Traffic Impact Studies***.**
- Transportation Agency for Monterey County. 2014. *Regional Transportation Improvement Plan*.

The Traffic Study prepared by Central Coast Transportation Consulting (included in **Appendix E**) includes the methods, results, and conclusions summarized in this Draft Recirculated EIR. The traffic study conducted for the Carmel Valley Master Plan (DKS Associates 2007) is incorporated by reference and is available on the Monterey County website.

Intersection Analysis Methodology

Traffic conditions at the intersections in the study area (defined below) were evaluated using Level of Service (LOS) calculations. LOS is a qualitative description of operating conditions ranging from LOS A, or free-flow conditions with little or no delay, to LOS F, or jammed conditions with excessive delays. Levels of service for study intersections were calculated using Synchro software package applying the 2010 Transportation Research Board's *Highway Capacity Manual* (HCM) methods.

LOS for the signalized intersections is based on average control delay per vehicle, where control delay includes all of the following: initial deceleration delay, running queue delay, stopped delay, and start-up acceleration delay. For the stop sign controlled intersections, which operate under two-way stop control, the reported average delay and associated level of service represent the worst conditions for any of the controlled movements. The unsignalized intersections were also evaluated using the California Department of Transportation (Caltrans) Peak-Hour Volume Warrant in order to determine if there would be justification for installing a traffic signal.

The correlation between average delay and level of service for signalized and stop sign controlled intersections is shown below in **Table 3.7-2**.

Table 3.7-2. Intersection Level of Service Thresholds

Signalized Intersections		Stop Sign Controlled Intersections	
Level of Service	Control Delay (seconds/vehicle)	Level of Service	Control Delay (seconds/vehicle)
A	≤ 10	A	≤ 10
B	> 10–20	B	> 10–15
C	> 20–35	C	> 15–25
D	> 35–55	D	> 25–35
E	> 55–80	E	> 35–50
F	> 80	F	> 50

Source: Central Coast Consulting 2015. (Appendix E)

Segment Analysis Methodology

In accordance with the 2013 Carmel Valley Master Plan (CVMP), traffic conditions on Carmel Valley Road are evaluated using two different methods. The first method is on the basis of average daily traffic (ADT) volumes using a volume-to-capacity methodology specific to Carmel Valley Road. This study includes an evaluation of Carmel Valley Road using the 2013 CVMP ADT thresholds. This method involves comparing the existing volumes on segments of Carmel Valley Road against the 2013 CVMP thresholds. The Carmel Valley ADT thresholds are shown in **Table 3.7-3.**

Table 3.7-3. Carmel Valley Road Average Daily Traffic Thresholds

Segment	CVMP ADT Threshold
1 CVR–Valle Vista to Holman	8,487
2 CVR–Holman to Esquiline	6,835
3 CVR–Esquiline to Ford	9,065
4 CVR–Ford to Laureles Grade	11,600
5 CVR–Laureles Grade to Robinson Canyon	12,752
6 CVR–Robinson Canyon to Shulte	15,499
7 CVR–Shulte to Rancho San Carlos	16,340
8 CVR–Rancho San Carlos to Rio	48,487
9 CVR–Rio to Carmel Rancho Blvd	51,401
10 CVR–Carmel Rancho Blvd to Highway 1	27,839
11 Carmel Rancho Blvd-CVR to Rio	33,495
12 Rio-Val Verde to Carmel Rancho	6,416
13 Rio-Carmel Rancho Blvd to Hwy 1	33,928

Source: Central Coast Consulting 2015.

The study also includes an evaluation of Carmel Valley Road using the industry-standard 2010 HCM methodology for multi-lane and two-lane highways (some segments of Carmel Valley Road are two lanes and some are four lanes). The methodology for two-lane highways is based on a parameter called "percent-time-spent-following" (PTSF). The LOS thresholds vary by the two-lane facility class. Three classes of two-lane facilities are defined in the 2010 HCM, each with different LOS thresholds. All the two lane-freeway segments in this study are categorized as Class II facilities consistent with

CVMP traffic study (Central Coast Transportation Consulting 2014). The multi-lane highway methodology is based on vehicle density—a measure of the length of roadway that is occupied by vehicles. Urban street segment LOS is based on a combination of the LOS score and volume to capacity ratio using planning-level default values where appropriate. — The roadway segment LOS thresholds are shown in **Table 3.7-4**. The project impact on LOS and ADT is used for determining impact significance.

Table 3.7-4. Roadway Segment Level of Service Thresholds

Multi-lane Segments		Two-lane Highway Segments		Urban Streets Segments[3]	
Level of Service	Density (passenger car/mile/lane)	Level of Service	Percent Time Spent Following (passenger car/mile/lane)	Level of Service Score	Level of Service
A	≤ 11	A	≤ 40	≤ 2.00	A
B	> 11–18	B	> 40–55	> 2.00 – 2.75	B
C	> 18–26	C	> 55–70	> 2.75 – 3.50	C
D	> 26–35	D	> 70–85	> 3.50 – 4.25	D
E	> 35–45	E	> 85	> 4.25 – 5.00	E
F	> 45 (demand exceeds capacity)	F	See Note [1]	> 5.00 (Demand exceeds capacity)	F

Source: Central Coast Consulting 2015. (Appendix E)

Notes:

[1] LOS F is reached when the segment volume exceeds capacity.

[3] NCHRP Report 3-70 Multimodal Level of Service for Urban Streets Methodology. LOS F is demand exceeds capacity.

Study Area

The 14 intersections, 10 roadway segments, and 4 segments of SR 1 included in the traffic study are identified below.

Study Intersections

The 14 study intersections are shown in **Figure 3.7-1**.

1. SR 1/Carpenter Street
2. SR 1/Ocean Avenue
3. SR 1/Carmel Valley Road
4. SR 1/Rio Road
5. Carmel Rancho Boulevard/Carmel Valley Road
6. Carmel Middle School/Carmel Valley Road
7. Rio Road/Carmel Valley Road

8. Via Mallorca/Carmel Valley Road
9. Rancho San Carlos/Carmel Valley Road
10. Laureles Grade/Carmel Valley Road
11. Laureles Grade/SR 68
12. Crossroads Driveway/Rio Road
13. Carmel Center Place/Rio Road
14. Carmel Rancho Boulevard/Rio Road

Carmel Valley Road Study Segments

Consistent with the 2013 CVMP, 13 segments of Carmel Valley Road were evaluated.

- Segment 1: East of Holman Road
- Segment 2: Holman Road to Esquiline Road
- Segment 3: Esquiline Road to Ford Road
- Segment 4: Ford Road to Laureles Grade
- Segment 5: Laureles Grade to Robinson Canyon Road
- Segment 6: Robinson Canyon Road to Schulte Road
- Segment 7: Schulte Road to Rancho San Carlos Road
- Segment 8: Rancho San Carlos Road to Rio Road
- Segment 9: Rio Road to Carmel Rancho Boulevard
- Segment 10: Carmel Rancho Boulevard to SR 1
- Segment 11: Carmel Rancho Boulevard-Carmel Valley Road to Rio Road
- Segment 12: Rio Road-Val Verde to Carmel Rancho Boulevard
- Segment 13: Rio Road-Carmel Rancho Boulevard to SR 1

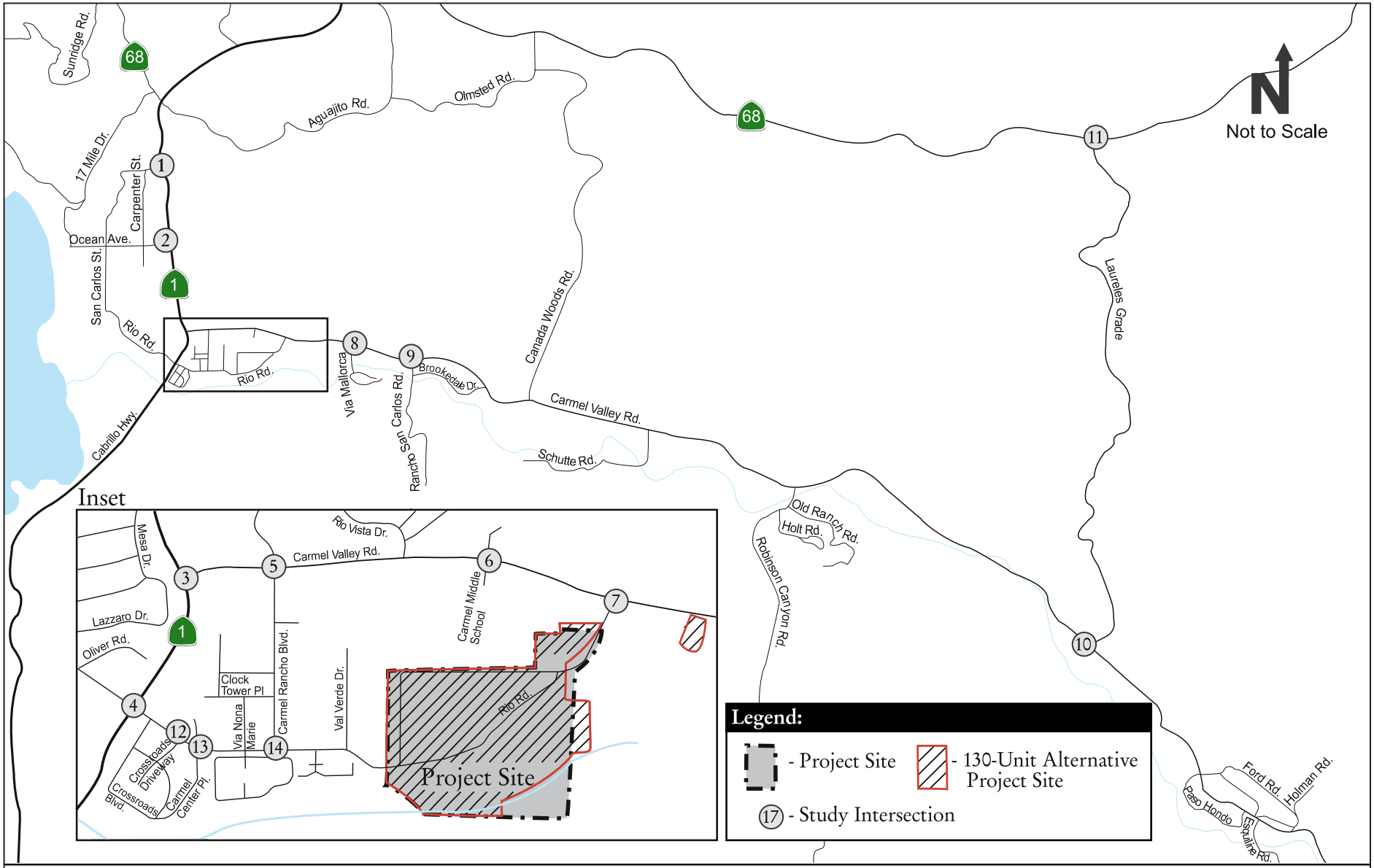
SR 1 Study Segments

Four study segments of SR 1 were also considered.

- Segment 1: Ocean Avenue to Carpenter Street
- Segment 2: Carmel Valley Road to Ocean Avenue
- Segment 3: Rio Road to Carmel Valley Road
- Segment 4: Ribera Road to Rio Road

Traffic Conditions and Scenarios

Traffic conditions were analyzed for the weekday AM and PM peak hours of traffic. The AM peak hour of traffic is generally between 7:00 a.m. and 9:00 a.m., and the PM peak hour is typically between 4:00 p.m. and 6:00 p.m. It is during these periods that the most congested traffic conditions



Source: Central Coast Transportation Consulting 2015.

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Figure 3.7-1
Study Locations

occur on an average day. Carmel Valley Road was analyzed based on peak-hour level of service and ADT. Traffic conditions were evaluated for the following scenarios.

- **Scenario 1:** *Existing Conditions.* This scenario includes 2014 traffic counts and the transportation network.
- **Scenario 2:** *Existing Plus Project Conditions*. This scenario includes existing traffic counts plus Proposed Project traffic.
- **Scenario 3:** *Existing Plus 130-Unit Alternative Conditions*. This scenario includes Existing traffic counts plus the 130-Unit Alternative traffic.
- **Scenario 4:** *Cumulative with Proposed Project Conditions.* This scenario includes cumulative conditions represented by future traffic conditions reflective of buildout in the area plus the Proposed Project and is discussed in Chapter 4, *Other CEQA-Required Sections*.
- **Scenario 5:** *Cumulative with 130-Unit Alternative Conditions.* This scenario includes cumulative conditions represented by future traffic conditions reflective of buildout in the area plus the 130-Unit Alternative and is discussed in Chapter 4, *Other CEQA-Required Sections*.

Existing Conditions

Regional Access

State Route 1

SR 1 is a major north-south roadway that connects the Monterey Peninsula with San Luis Obispo County to the south, and with Santa Cruz County and the San Francisco Bay Area to the north. SR 1 has two northbound lanes and one southbound lane between Ocean Avenue and Carmel Valley Road. North of Ocean Avenue, SR 1 provides two northbound lanes and two southbound lanes. South of Carmel Valley Road, SR 1 is a two-lane roadway. The study area's portion of SR 1 has varying grades and residential driveway access.

State Route 68

SR 68 is a major east-west link for travel between the Monterey Peninsula and the Salinas area. Between SR 1 and the Toro Park area, it is a two-lane highway. It is a four-lane highway the remaining distance to the City of Salinas. SR 68 is part of the Monterey County CMP highway network. Within the study area, SR 68 provides one lane in each direction with an at-grade intersection at Laureles Grade.

Local Access

Carmel Valley Road

Carmel Valley Road is an east–west roadway major arterial extending from SR 1 to Arroyo Seco Road. In the study area, Carmel Valley Road is four lanes wide between SR 1 and Rancho San Carlos Road and two lanes wide east of Rancho San Carlos Road, with posted speed limits varying from 25 miles per hour (mph) to 55 mph. Access to the site is provided via the unsignalized intersection at Rio Road.

Laureles Grade

Laureles Grade is a two-lane, north-south roadway that connects Carmel Valley Road with SR 68. It serves residential areas and traverses a mountainous area. It is classified as a major arterial roadway.

Rio Road

Rio Road consists of two discontinuous segments of roadway. The eastern part consists of a two-lane north–south segment that connects to Carmel Valley Road and would provide access to the site (for the Proposed Project and the 130-Unit Alternative). This portion of Rio Road currently provides access to the golf course and to the Community Church of the Monterey Peninsula (church). The western part consists of an east-west street two lanes wide between Junipero Street and SR 1 and four lanes wide between SR 1 and Val Verde Drive. The western section would provide the other potential point of access to the site (for normal access for the Proposed Project and emergency access only for the 130-Unit Alternative).

Carmel Rancho Boulevard

Carmel Rancho Boulevard Carmel Rancho Boulevard is a four-lane, north–south roadway that extends from Carmel Valley Road to Rio Road with a speed limit of 35 mph. It provides access to commercial developments along its frontage and serves through traffic between Carmel Valley Road and SR 1 south of Rio Road.

Other Roadways

Carmel Middle School, Rio Road, Via Mallorca, and Rancho San Carlos are two-lane local streets serving residential, educational, and light commercial areas along Carmel Valley Road. Their speed limits are 25 mph. Rio Road is stop controlled where it intersects with Carmel Valley Road, while Carmel Middle School, Via Mallorca and Rancho San Carlos have signalized intersections with Carmel Valley Road.

Crossroads Driveway and Carmel Center Place are two–lane local access roads to the Crossroads Shopping Center to the south of Rio Road. Their speed limits are 30 mph.

Bicycle and Pedestrian Facilities

Pedestrian facilities include sidewalks, crosswalks, multi-use paths, and pedestrian signals at signalized intersections. Laureles Grade, Carmel Rancho Road, Carmel Middle School, and Ocean Avenue have sidewalks on at least part of the road. In the study area, there are no paved sidewalks along Carmel Valley Road, SR 68, SR 1, Rio Road, and other minor roads.

Bicycle facilities in the study area consist of separated bicycle facilities (Class I paths) and on-street striped bike lanes (Class II). There is a Class I bike path that roughly parallels SR 1 from Cañada Court to a point just south of Carmel Valley Road. Class II bike lanes are provided along portions of Carmel Valley Road. While there are no designated bicycle facilities along the other study streets, many have wide paved shoulders used by cyclists.

Transit Service

The Monterey-Salinas Transit (MST) provides fixed-route transit service to the study area. Routes 22, 24, 91, 92, and 93 serve Carmel Valley Road and Carmel Rancho Boulevard, terminating in Monterey.

Route 22 serves SR 1 from Monterey to Big Sur. The nearest stop to the project is located within the Crossroads Shopping Center on Crossroads Boulevard. An additional stop is located to the South of the Rio Road and SR 1 intersection headed Southbound. Both stops have 3.5-hour headways from Memorial Day Weekend through Labor Day, stopping three times a day every day, and 3.75-hour headways from Labor Day to Memorial Day, stopping twice a day on Saturdays and Sundays only.

Route 24 serves SR 1 and Carmel Valley Road from Monterey through Carmel Valley. Stops within the study area are located at Rio Road/Crossroads Driveway, Crossroads Shopping Center, Rio Road/Carmel Center Place, Rio Road/Via Nona Marie, along Carmel Rancho Boulevard, and multiple stops on Carmel Valley Road from Rio Vista Drive to Rippling River. Route 24 provides hourly service.

Routes 91, 92, and 93 serve SR 1 and Carmel Valley Road from Monterey to Pacific Meadows, with stops along Rio Road, Carmel Rancho Boulevard, and Carmel Valley Road. Route 91 runs on weekdays, with a 2-hour headway between the twice daily stops in the AM. Route 92 runs on weekdays, with 1.5-hour headways between the three daily stops in the PM. Route 93 runs on Saturdays and Sundays, twice at each stop, with 1.5-hour headways.

Traffic Condition and Lane Configurations

The lane configurations at the study intersections were determined by field reconnaissance. The existing peak hour volumes and intersection lane configurations are shown on **Figure 3.7-2.**

Traffic Volumes

Manual turning-movement counts of vehicular traffic were conducted at all study intersections during the weekday AM (7:00 a.m. to 9:00 a.m.) and PM (4:00 a.m. to 6:00 a.m.) peak periods. The study intersections were counted in late August 2014 after the school year had commenced. The existing average daily traffic volumes for Carmel Valley Road were derived from counts collected in June and October 2014. The existing peak-hour intersection volumes and traffic count data are included in **Appendix E**.

Intersection Levels of Service

Table 3.7-5 summarizes the results of the LOS analysis under existing conditions. With the exception of four locations, all intersections operated at LOS C or better. The results show that the intersections of SR 1/Carpenter Street and SR 1/ Rio Road operate at LOS D during the PM peak hour. This matches field observed conditions, where queuing was observed along the SR 1 corridor during the PM peak hour. The southbound approach to the Carmel Valley Road/Laureles Grade intersection operates at LOS F during the AM and PM peak hours, and the overall intersection operates at the LOS D/F during the AM/PM peak hour. The stop-signed control Carmel Rancho Blvd/Rio Road intersection operates overall at LOS B, but the worst approach operates at LOS F in the PM peak hour; however a signal warrant is not met at this location.

Table 3.7-5. Existing Intersection Levels of Service

Intersection	Peak Hour	Delay[1] (sec/veh)	LOS[2]
1 SR 1/Carpenter Street	AM	19.4	B
	PM	39.9	D
2 SR 1/Ocean Avenue	AM	27.7	C
	PM	20.7	C
3 SR 1/Carmel Valley Road	AM	11.2	B
	PM	21.6	C
4 SR 1/Rio Road	AM	25.1	C
	PM	41.4	D
5 Carmel Valley Road/Carmel Rancho Blvd	AM	15.7	B
	PM	21.1	C
6 Carmel Valley Road/Carmel Middle School	AM	16.4	B
	PM	7.6	A
7 Carmel Valley Road/Rio Road (unsignalized)	AM	0.5 (33.8)	A (C)
	PM	1.5 (65.8)	**A (F)**
8 Carmel Valley Road/Via Mallorca	AM	3.6	A
	PM	5.7	A
9 Carmel Valley Road/Rancho San Carlos Road	AM	9.0	A
	PM	12.1	B
10 Carmel Valley Road/Laureles Grade (unsignalized)	AM	34.2 (122.0)	**D (F)**
	PM	59.4 (>200)	**F (F)**
11 Laureles Grade/Highway 68	AM	16.4	B
	PM	21.3	C
12 Crossroads Driveway/Rio Road	AM	13.7	B
	PM	15.3	B
13 Carmel Center Place/Rio Road	AM	5.3	A
	PM	8.5	A
14 Carmel Rancho Blvd/Rio Road (unsignalized)	AM	10.1 (18.6)	B (C)
	PM	12.6 (53.6)	**B (F)**

Source: Appendix E

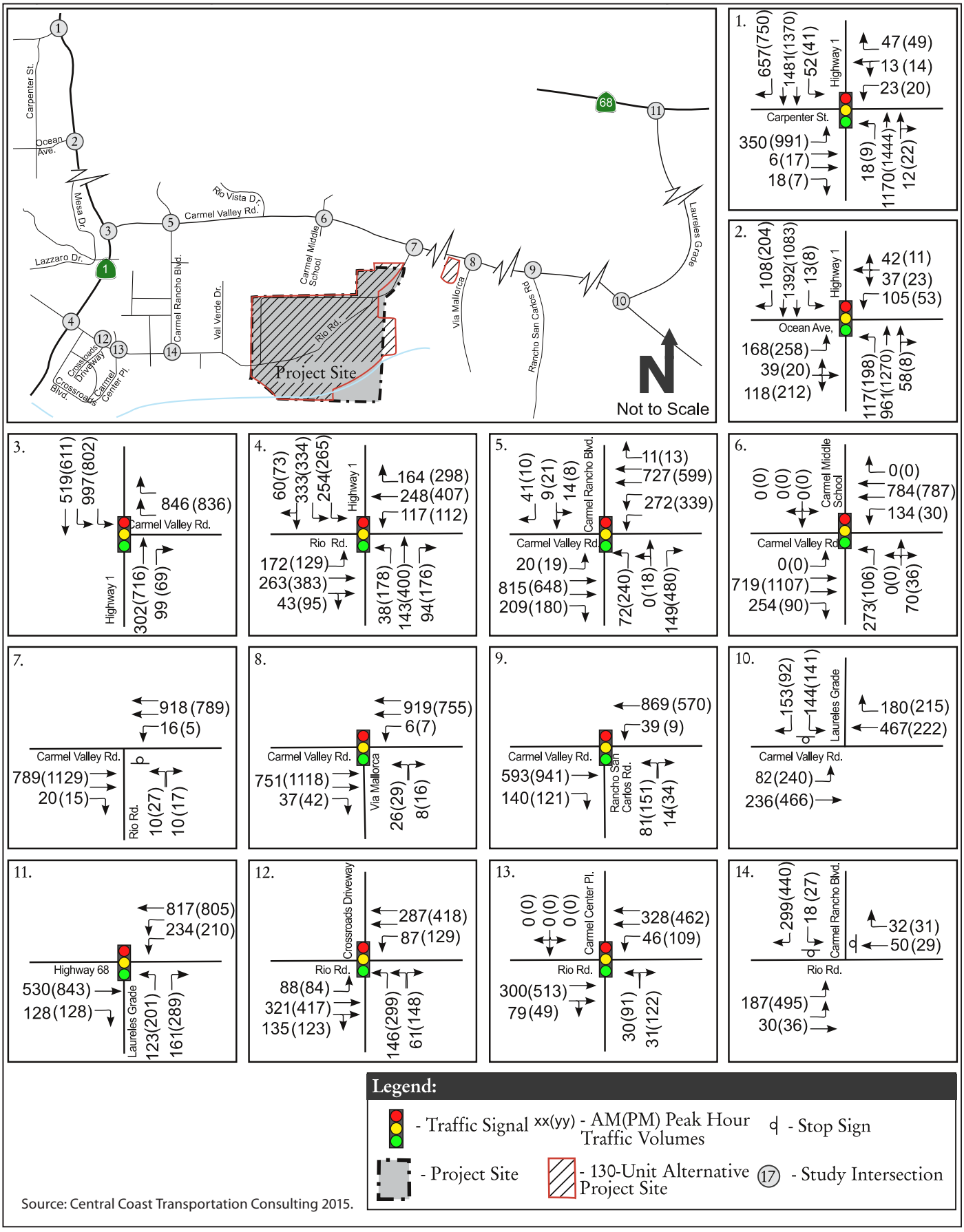
Notes:

Bold text indicates threshold has been exceeded. See threshold discussion below.

[1] HCM 2010 average control delay in seconds per vehicle.

[2] For side-street-stop controlled intersections the worst approach's delay is reported in parenthesis next to the overall intersection delay.

The intersection LOS calculations are included in **Appendix E**.



Source: Central Coast Transportation Consulting 2015.

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Figure 3.7-2
Existing Peak Hour Volumes and Lane Configurations

Signal Warrant Analysis

Peak hour signal warrant checks (Manual on Uniform Traffic Control Devices 2003, Part 4, Warrant 3) were performed for the three currently unsignalized intersections to determine whether signalization would be justified on the basis of existing peak-hour volumes. The analysis showed that the peak-hour volume warrant is satisfied under existing conditions for the Laureles Grade and Carmel Valley Road intersection, but not for either of the other two unsignalized study intersections (Carmel Valley Road/Rio Road and Carmel Rancho Blvd/Rio Road). The signal warrant calculation sheets are included in **Appendix E**.

Roadway Segment Conditions

Carmel Valley ADT Monitoring

Existing ADT volumes for the 13 segments of Carmel Valley Road are shown in **Table 3.7-6**. The result shows that none of the 13 segments has exceeded its thresholds based on the 2013 Monterey County ADT counts.

Table 3.7-6. Existing Average Daily Traffic on Carmel Valley Road

Segment	24-Hour Threshold Volume	ADT	Threshold Exceeded
1. Carmel Valley Road–Valle Vista to Holman	8,487	3,200	No
2. Carmel Valley Road–Holman to Esquiline	6,835	3,700	No
3. Carmel Valley Road–Esquiline to Ford	9,065	8,200	No
4. Carmel Valley Road–Ford to Laureles Grade	11,600	10,600	No
5. Carmel Valley Road–Laureles Grade to Robinson Canyon	12,752	10,900	No
6. Carmel Valley Road–Robinson Cyn to Schulte	15,499	13,800	No
7. Carmel Valley Road–Schulte to Rancho San Carlos	16,340	15,600	No
8. Carmel Valley Road–Rancho Blvd to Rio	48,487	18,700	No
9. Carmel Valley Road–Rio to Carmel Rancho Blvd	51,401	24,100	No
10. Carmel Valley Road–Carmel Rancho to SR 1	27,839	21,900	No
11. Carmel Rancho Blvd-Carmel Valley Road to Rio	33,495	9,877	No
12. Rio Road-Val Verde to Carmel Rancho Blvd	6,416	702	No
13. Rio Road-Carmel Rancho Blvd to SR 1	33,928	11,398	No

Source: **Appendix E**.
ADT = average daily traffic

Segment Level of Service

Existing peak-hour LOS for the two-lane segments and multi-lane segments of Carmel Valley Road are shown in **Table 3.7-7**.

The results of the study indicate that the segments of SR 1 in the study area exceed the threshold. The SR 1-Carpenter to Ocean segment AM and PM northbound and southbound operate at LOS D. The SR 1–Carmel Valley Road to Rio segment AM and PM northbound and southbound lanes operate at LOS F and E.

The results show that Carmel Valley Road segments 6, 7, 11, 12 and 13 currently exceed the threshold. Segments 6 and 7 eastbound lanes operate at LOS E during the PM peak hours. Segment 7 westbound lanes operate at LOS E during the AM peak hour. Segment 11 AM and PM northbound operates at LOS D. Segment 12 eastbound and westbound AM and PM lanes operate at LOS D. Segment 13 AM westbound operates at LOS D. The other eight segments operate within the threshold. The analysis is based on the following assumptions: for the two-lane highway segments, Carmel Valley Road is a Class II facility, and for the multi-lane highway segments, LOS is determined based on vehicle density in passenger cars per mile lane.

Table 3.7-7. Existing Highway and Roadway Segments Level of Service

	Existing LOS Conditions			
	AM		PM	
Segment	NB/EB	SB/WB	NB/EB	SB/WB
SR 1–Carpenter to Ocean	C	**D**	**D**	C
SR 1–Ocean to Carmel Valley Road	C	C	C	C
SR 1–Carmel Valley Road to Rio	**F**	C	**F**	**E**
SR 1–Rio to Ribera	B	B	B	B
1. Carmel Valley Road–Valle Vista to Holman	A	C	B	B
2. Carmel Valley Road–Holman to Esquiline	A	C	C	B
3. Carmel Valley Road–Esquiline to Ford[1]	B	D	D	C
4. Carmel Valley Road–Ford to Laureles Grade[1]	C	D	D	C
5. Carmel Valley Road–Laureles Grade to Robinson Canyon[1]	C	D	D	C
6. Carmel Valley Road–Robinson Cyn to Schulte[1]	C	D	**E**	C
7. Carmel Valley Road–Schulte to Rancho San Carlos	C	**E**	**E**	D
8. Carmel Valley Road–Rancho Blvd to Rio	B	B	B	B
9. Carmel Valley Road–Rio to Carmel Rancho Blvd	A	B	B	B
10. Carmel Valley Road–Carmel Rancho to SR 1	B	B	B	B
11. Carmel Rancho Blvd-Carmel Valley Road to Rio	**D**	B	**D**	B
12. Rio-Val Verde to Carmel Rancho Blvd	**D**	**D**	**D**	**D**
13. Rio-Carmel Rancho Blvd to SR 1	B	**D**	B	C

Source: **Appendix E.**

Notes:

Bold text indicates threshold has been exceeded. See threshold discussion below.

[1] Interpretation of the 1986 CVMP would indicate a threshold LOS of C for this segment as discussed below. However, this Recirculated Draft EIR utilizes the LOS Standards in the 2013 CVMP, which indicates a LOS D standard for this segment of Carmel Valley Road.

Regulatory Setting

State Policies and Regulations

Caltrans Level of Service Standards for State Highways

According to its *Guide for the Preparation of Traffic Impact Studies* (2002), Caltrans endeavors to maintain a target LOS at the transition between C and D on state highway facilities. 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. If an existing state highway facility is operating below the appropriate target LOS, the existing LOS should be maintained. Definitions for LOS A–F for various facility types are provided under *Intersection Analysis Methodology* in the *Environmental Setting* section.

Caltrans Transportation Concept Report for State Route 68 in District 5

Caltrans' *Transportation Concept Report for SR 68 in District 5* identifies long-range improvements and establishes the concept (desired) LOS for specific corridor segments (California Department of Transportation 2013). The report identifies long-range improvements needed to bring an existing facility up to expected standards needed to adequately serve 20-year traffic forecasts. Additionally, it identifies the ultimate design concept for conditions beyond the immediate 20-year design period. The route concept for SR 68 is to maintain a two-lane conventional highway. Strategies to achieve the route concept are maintaining existing urbanized areas with signal control and, when appropriate or as part of land use development, considering operational improvements.

Local Policies and Regulations

Current County Plans and Policies

2010 Monterey County General Plan

The 2010 Monterey County General Plan (2010 General Plan) provides policy direction for the transportation systems that serve the unincorporated lands of Monterey County and describes how the County intends to serve transportation needs for the next 20 years as its population grows.

Circulation Element

The following goals and policies are from the Circulation Element.

> **Policy C-1.8.** The County, in consultation with TAMC and Monterey County cities, shall, within 18 months of adoption of the General Plan, develop a County Traffic Impact Fee that addresses impacts of development in cities and unincorporated areas on major County roads. From the time of adoption of the General Plan until the time of adoption of a County Traffic Impact Fee, the County shall impose an ad hoc fee on its applicants based upon a fair share traffic impact fee study.
>
> **Policy C-4.3.** The needs of bicyclists and pedestrians, as well as provisions for utilities and drainage, shall be considered and, where appropriate, provided in all public rights-of way in a manner that minimized impacts to adjacent land uses.
>
> **Goal C-9:** Promote a safe, convenient bicycle transportation system integrated as part of the public roadway system.

2013 Carmel Valley Master Plan

The policies of the 2013 CVMP are relevant to the planning for County roadways adjacent to the Proposed Project and 130-Unit Alternative

The LOS standards and ADT thresholds for roadway standards from the 2013 CVMP are used for evaluation of traffic in this Recirculated Draft EIR for consistency with other current traffic evaluations.

Policy CV-2.10. The following are policies regarding improvements to specific portions of Carmel Valley Road:

a) Via Petra to Robinson Canyon Road: Every effort should be made to preserve its rural character by maintaining it as a 2-lane road with paved shoulders and left turn channelizations at intersections where warranted.

b) Robinson Canyon Road to Laureles Grade: Every effort should be made to preserve its rural character by maintain it as a 2-lane road with paved shoulders and left turn channelizations at intersections where warranted.

c) Carmel Valley Road/Laureles Grade: A grade separation should be constructed at this location instead of a traffic signal. The grade separation needs to be constructed in a manner that minimizes impacts to the rural character of the road. An interim improvement of an all-way stop or stop signal is allowable during the process necessary to secure funding for the grade separation.

d) Laureles Grade to Ford Road: Shoulder improvements and widening should be undertaken here and extended to Pilot Road, and include left turn channelization at intersections as warranted.

e) East of Esquiline Road: Shoulder improvements should be undertaken to the sharper curves. Curves should be examines for spot realignment needs.

f) Laureles Grade Improvements: Improvements to Laureles Grade should consist of the construction of shoulder widening, spot realignments, passing lanes and/or paved turn-outs. Heavy vehicles should be discouraged from using this route.

Policy CV-2.17. To implement traffic standards to provide adequate streets and highways in Carmel Valley, the County shall conduct and implement the following: a) Twice yearly monitoring by Public Works (in June and October) of peak hour traffic volumes and daily traffic volumes at the following six (6) locations indicated in bold (at least one of the yearly monitoring periods will occur when local schools are in session). [Note: See Segments 3, 4, 5, 6, 7 and 10 in **Table 3.7-6** above for the referenced 6 locations.]

b) A yearly evaluation report shall be prepared by the Public Works Department in December that shall report on traffic along the six (6) indicated segments. The report shall evaluate traffic using the PTSF methodology (or such other methodology as may be appropriate for a given segment in the opinion of the Public Works Department), and the ADT methodology. ADT thresholds for each segment are listed above [See **Table 3.7-6** above], and the Public Works Department shall annually establish appropriate PTSF or other methodology thresholds for each of the six (6) segments listed above.

c) A public hearing before the Board of Supervisors shall be held in January immediately following the December report when only 100 or fewer ADT remain before the ADT count for a segment will equal or exceed the indicated threshold, or where the PTSF (or such other methodology as may be appropriate for a given segment in the opinion of the Public Works Department) for a segment exceeds or is within one percent (1%) of the value that would cause a decrease in the LOS.

d) At five year intervals the County shall monitor all segments listed in Policy CV-2.17(a) and the annual report described in Policy CV-2.17(b) shall include a report on all segments. If such periodic monitoring and reporting shows that any segment not previously part of the annual report is within twenty percent (20%) of the listed ADT threshold, that segment shall thereafter be subject to the annual monitoring and reporting.

e) Also at five year intervals the County shall examine the degree to which estimates of changes in Levels of Service ("LOS") in the Carmel Valley Master Plan Area may be occurring earlier than predicted in the General Plan Environmental Impact Report. If the examination indicates that LOS are likely to fall to a lower letter grade than predicted for 2030, then the County shall consider adjustments to the cap on new residential units established in Policy CV-1.6 and/or the cap on new visitor serving units established in Policy CV-1.15 or other measures that may reduce the impacts, including, but not limited to, deferral of development that would seriously impact traffic conditions.

f) The traffic standards (LOS as measured by peak hour conditions) for the CVMP Area shall be as follows:

1) Signalized Intersections – LOS of "C" is the acceptable condition.

2) Unsignalized Intersections – LOS of "F" or meeting of any traffic signal warrant are defined as unacceptable conditions.

3) Carmel Valley Road Segment Operations:

a) LOS of "C" and ADT below its threshold specified in Policy CV-2.17(a) for Segments 1, 2, 8, 9, 10, 11, 12 and 13 is an acceptable condition;

b) LOS of "D" and ADT below its threshold specified in Policy CV-2.17(a) for Segments 3, 4, 5, 6, and 7 is an acceptable condition.

During review of development applications that require a discretionary permit, if traffic analysis of the proposed project indicates that the project would result in traffic conditions that would exceed the standards described above in Policy CV 2.17(f), after the analysis takes into consideration the Carmel Valley Traffic Improvement Program to be funded by the Carmel Valley Road Traffic Mitigation Fee, then approval of the project shall be conditioned on the prior (e.g., prior to project-generated traffic) construction of additional roadway improvements or an Environmental Impact Report shall be prepared for the project, which will include evaluation of traffic impacts based on the ADT methodology. Such additional roadway improvements must be sufficient, when combined with the projects programmed for completion prior to the project generated traffic in the Carmel Valley Traffic Improvement Program, to allow County to find that the affected roadway segments or intersections would meet the acceptable standard upon completion of the programmed plus additional improvements. Any EIR required by this policy shall assess cumulative traffic impacts outside the CVMP area arising from development within the CVMP area.

This policy does not apply to the first single family residence on a legal lot of record. The use of the ADT methodology as set forth in this Policy CV-2.17 shall be limited to the purposes described in the Policy, and the County may utilize any traffic evaluation methodology it deems appropriate for other purposes, including but not limited to, road and intersection design. This policy shall also not apply to commercial development in any Light Commercial Zoning ("LC") district within the CVMP area where the Director of Planning has determined that the requirement for a General Development Plan, or amendment to a General Development Plan, may be waived pursuant to Monterey County Code section 21.18.030 €.

(Amended by Board Resolution 13-029)

Policy CV-2.18. The County shall adopt a Carmel Valley Traffic Improvement Program (CVTIP) that:

a. Evaluates the conditions of Carmel Valley Road and identifies projects designed to maintain the adopted LOS standards for this roadway as follows:

1. In order to preserve the rural character of Carmel Valley, improvements shall be designed to avoid creating more than three through lanes along Carmel Valley Road.

2. Higher priority shall be given to projects that address safety issues and manage congestion.

3. The project list may include projects previously identified for inclusion in the CVTIP or their functional equivalent.

4. Priorities shall be established through community input via a Carmel Valley Road Committee, which shall be established by the Board of Supervisors and shall review and comment on proposed projects in the CVTIP, and review and comment on the annual report described in Policy CV-2.17 (b).

5. At a minimum, the project list shall be updated every five years unless a subsequent traffic analysis identifies that different projects are necessary.

b. Validates and refines the specific scope of all projects proposed by the CVTIP through preparation of a Project Study Report (PSR). The PSR will be reviewed and commented on by the Carmel Valley Road Committee prior to commencement of project design.

c. Establishes a fee program to fund the CVTIP. All projects within the Carmel Valley Master Plan (CVMP) area, and within the "Expanded Area" that contribute to traffic within the CVMP area, shall contribute a fair-share traffic impact fee to fund necessary improvements identified in the CVTIP, as updated at the time of building permit issuance. Fees will be updated annually as specified by the CVTIP to account for changes in construction costs and land values. The County shall adopt a CVTIP within one year of approval of the 2010 General Plan. The CVTIP does not apply to any roadways (including SR1) that are located outside the CVMP area.

(Amended by Board Resolution 13-029)

Policy CV-2.19. The County shall initiate proceedings for an abandonment of the Official Plan Line for the Rio Road Extension.

2014 Monterey County Regional Transportation Plan

The Regional Transportation Plan (RTP) (Transportation Agency for Monterey County 2014) for TAMC satisfies state and federal requirements to identify transportation projects that can be funded over the next 20 years to serve the county's transportation needs. This 20-year plan addresses all forms of transportation, and includes the priorities and actions embodied in the plans prepared by each of the county's 12 cities and the County of Monterey.

The RTP provides a list of transportation improvements throughout the County that support goals, objectives, and performance measures that are oriented toward achieving a balanced transportation system. The RTP identifies funding challenges created as revenues dedicated to transportation decrease while transportation needs increase. The RTP also introduces the Regional Development Impact Fee program that applies to development projects throughout the county based on their impact on the regional transportation system.

Regional Transportation Improvement Program

The Regional Transportation Improvement Program (RTIP) is a 4-year program of transportation projects for Monterey County that includes: (1) federally funded transportation projects, and (2) projects nominated for inclusion in the State Transportation Improvement Program (STIP). The RTIP is adopted by TAMC and is submitted to Caltrans and the California Transportation Commission by December 15 of every odd year. Projects in the RTIP must be consistent with the adopted RTP to be programmed into the STIP.

Carmel Valley Transportation Improvement Program (CVTIP)

Monterey County has adopted an improvement program for Carmel Valley and a traffic impact fee for certain improvements to Carmel Valley Road and other locations in the CVMP. The current impact fee program includes the following improvements:

- Completed improvements:
  - Enforcement and signage program (Completed).
  - Sight Improvements, parking restrictions, and signage in Carmel Valley Village (Completed).
  - Class II bike striping was installed from Valley Greens to Dorris (Completed)

- A Class III bike route was installed on Valley Greens to a point about 0.5 miles west of Rancho San Carlos (Completed)
- Signal installed in lieu of widening refuge area at Via Mallorca (Completed)

- Improvements yet to be completed:
  - Left-turn channelization – West of Ford Road(left-turn pockets at Boronda and Country Club Drive presently in progress).
  - Sight distance improvements at Dorris Drive (a separate right-turn lane was recently installed, but the sight distance issue is still being monitored to see if additional improvements will be needed)
  - Shoulder widening between Laureles Grade and Ford Road
  - Paved turnouts on Laureles Grade and signs
  - Upgrades to Class 2 bike lanes (all road improvements in future to include shoulder widening to allow Class 2 bike lanes)
  - Shoulder improvement and spot realignments on Laureles Grade
  - Grade separation at Laureles Grade/Carmel Valley Road
  - Passing lane in front of September Ranch
  - Passing lane opposite Garland Park
  - Passing lane (climbing lane) on Laureles Grade

Prior County Plans and Policies

As stated in Chapter 1, *Introduction*, discussions pertaining to the 1982 General Plan and 1986 CVMP are provided for informational purposes only.

1982 Monterey County General Plan

According to Monterey County Public Works Guide for the Preparation of Traffic Impact Studies (Monterey County 2003), an acceptable level of service is LOS C for signalized intersections and LOS E for unsignalized intersections.

The current 1982 General Plan establishes a LOS standard of C for County road segments. However, the General plan allows Area Plans to set different standards than the General Plan. As described below, the LOS standards for Carmel Valley Road have been established in the CVMP and differ from the County road standards.

1986 Carmel Valley Master Plan

Within the CVMP area, the LOS standard for roadway segments was previously established by CVMP Policy 39.3.2.1.

> **Policy 39.3.2.1** To implement traffic standards to provide adequate streets and highways in Carmel Valley, the County shall conduct and implement the following:

a.) Twice yearly monitoring by Public Works (in June and October) of average daily traffic at 12 locations identified in the Keith Higgins report in Carmel Valley on Carmel Valley Road, Carmel Rancho Boulevard and Rio Road.

b.) A yearly evaluation report (December) prepared jointly by the Public Works and Planning Departments to indicate segments approaching a traffic volume which would lower existing level service and which would compare average daily traffic (ADT) counts with service volumes for levels of service.

c.) Public hearings to be held in January immediately following a December report in (b) above in which only 100 or less ADT remain before a lower level of service would be reached for any of the 12 segments described on figure B-1 of EIR 85-002 on the Carmel Valley Master Plan.

d.) With respect to those 12 identified road segments that are at level of service (LOS) C or below, approval of development will be deferred if the approval would significantly impact roads in [t]he Carmel Valley Master Plan area which are at level of service (LOS) C or below unless and until an EIR is prepared which includes mitigation measures necessary to raise the LOS to an acceptable level and appropriate findings as permitted by law are made which may include a statement of overriding considerations. For purposes of this policy, "acceptable level" shall mean, at a minimum, baseline LOS as contained in the Carmel Valley Master Plan EIR. To defer approval if there is significant impact means that, at a minimum, the County will not approve development without such an EIR where the traffic created by the development would impact the level of service along any segment of Carmel Valley Road (as defined in the Keith Higgins Traffic Report which is part of the Environmental Impact Report (EIR) for the Carmel Valley Master Plan (CVMP) to the point where the level of service would fall to the next lower level. As for those road segments which are at LOS C, D and E, this would, at a minimum, occur when the LOS F, this would occur when it would cause a significant impact and worsening of traffic conditions as compared with the present condition. Specific findings will be made with each project and may depend on the type and location of any proposed development. Cumulative traffic impacts from development in areas outside the CVMP area must be considered and will cause the same result as development within the plan area.

This policy establishes the roadway segment standard as LOS C, except for those segments that were LOS D or lower at the time of the traffic study for the EIR on CVMP. According to the 1990 Carmel Valley Transportation Improvement Plan EIR (Monterey County 1990), the 1986 baseline LOS along Carmel Valley Road was as follows:

- LOS of C: Segments 1, 2, 3, 8, and 9 operated at LOS C or better in 1986;
- LOS of D: Segments 4, 5, 6, and 7 operated at LOS D in 1986; and
- LOS of E: Segment 10 operated at LOS E in 1986.

Impact Analysis

Methodology

The location and magnitude of traffic produced by a new development are estimated using a three-step process: (1) trip generation, (2) trip distribution, and (3) trip assignment. In determining project trip generation, the magnitude of traffic entering and exiting the site is estimated for the AM and PM peak hours. As part of the project trip distribution, the general origins and destination of these trips are identified. In the project trip assignment, the project trips are assigned to specific

routes to reach the origin and destination. These procedures are described further in the following sections.

Trip Generation

Through empirical research, data have been collected that correlate to common land uses their propensity for producing traffic. Thus, for the most common land uses, there are standard trip generation rates that can be applied to help predict the future traffic increases that would result from a new development.

Proposed Project

The magnitude of traffic added to the roadway system by a particular development is estimated by applying the appropriate trip generation rates to the size of the development. The standard trip generation rates are published in the Institute of Transportation Engineers (ITE) manual entitled *Trip Generation, seventh edition,* 2012.

The ITE trip generation rates for single family detached units and condominium units were applied to the proposed residential development. The Proposed Project trip estimates were 188 net new AM peak house trips and 240 net new PM peak hour trips. The site also was credited for the trips generated by the existing 18 holes of golf that would be removed. Traffic counts were conducted in August 2014 (during the school year) at the intersection of Carmel Valley Road and Rio Road, which served only the Rancho Cañada Golf Course because the church was closed. The church north of the project site would have negligible traffic during peak hours. The August 2014 count showed the golf course generates 20 AM and 33 PM peak-hour trips per 18 holes. This compares with 40 AM and 50 PM peak-hour trips that are estimated using ITE trip generation rates per 18 holes. The more conservative trip generation estimate (20 AM and 33 PM trips) was used to credit the existing 18 holes that would be removed. No trip generation credits were given for the affordable and below market rate housing proposed for area workers.

The resultant net project trips are 168 AM peak-hour trips and 207 PM peak-hour trips.

130-Unit Alternative

Similar to the Proposed Project, the ITE trip generation rates for single family residential, assisted living and condominiums units were applied to the 130-Unit Alternative. The 130-Unit Alternative estimates are 101 AM peak hour trips and 133 PM peak hour trips. However, with the 18-hole golf course credit the trip generation estimates decrease. The resultant net 130-Unit Alternative trips are 81 new AM peak hour trips and 100 new PM peak hour trips.

Table 3.7-8 shows the estimated trip generation for the existing uses onsite for the Proposed Project and the 130-Unit Alternative.

Table 3.7-8. Project Trip Generation for the Proposed Project and 130-Unit Alternative

		Number of Trips						
			AM			PM		
Land Use	Size	Daily	In	Out	Total	In	Out	Total
Proposed Project								
Single Family Residential[1]	182 units	1,822	34	103	137	113	67	180
Condo/Townhouse[2]	99 units	638	9	42	51	40	20	60
Golf Course (Portion Removed)[3]	18 holes	-414	-19	-1	-20	-6	-27	-33
Proposed Project Net New Trips		***2,046***	***24***	***144***	***168***	***147***	***60***	***207***
130-Unit Alternative								
Single Family Residential[1]	118 units	1,223	23	69	92	77	45	122
Condo/Townhouse[2]	12 units	102	2	7	9	7	4	11
Golf Course (Portion Removed)[3]	18 holes	-414	-19	-1	-20	-6	-27	-33
130-Unit Alternative Net New Trips		***911***	***6***	***75***	***81***	***78***	***22***	***100***

Source: Appendix E

Notes:

[1] ITE Land Use Code 210, Single Family Detached Housing. Regression equation used.

[2] ITE Land Use Code 230, Condominium/Townhouse Regression equation used.

[3] Golf course trip generation estimated using traffic counts at Rio Road.

Trip Distribution

The trips generated by the existing 18-hole golf course were distributed over the study area based upon the recent count data and engineering judgment. The golf course trip distribution is based upon the August 2014 count, with the existing golf course access via Carmel Valley Road. The residential trip distribution pattern used in this study was estimated using 2014 regional travel demand model (RTDM) developed by the Association of Monterey Bay Area Governments (AMBAG). The 2014 RTDM model was applied to estimate the directions of approach and departure for project trips using a select zone procedure, which tracks trips from to and from a specific Traffic Analysis Zone (TAZ) in the RTDM. The trip distribution percentages are shown in **Figure 3.7-3.**

Trip Assignment

The trip assignment was made separately for both the Proposed Project and 130-Unit Alternative. The Proposed Project trip assignment was prepared with two project access one via Carmel Valley Road and Rio Road west. The 130-Unit Alternative trip assignment was developed with project access via Carmel Valley Road only. As discussed, in Chapter 2, *Project Description*, Rio Road west is proposed for emergency, pedestrian and bicycle access under the 130-Unit Alternative. The trip assignments account for the different travel patterns under the Proposed Project and 130-Unit Alternative. As discussed above, the existing golf course trips were subtracted from the roadway system at the intersection level. **Figures 3.7-4** and **3.7-5** show the trip assignments.

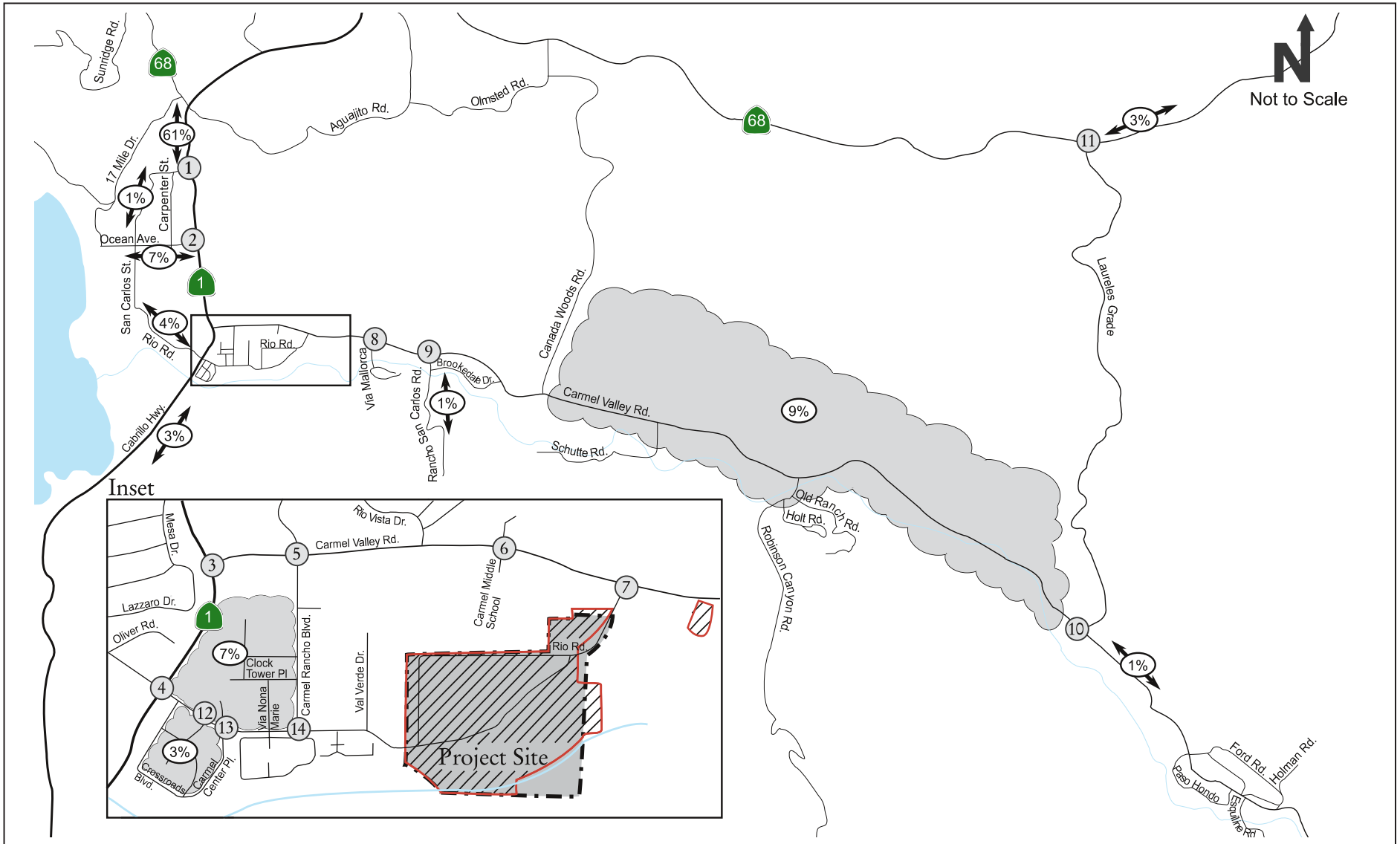
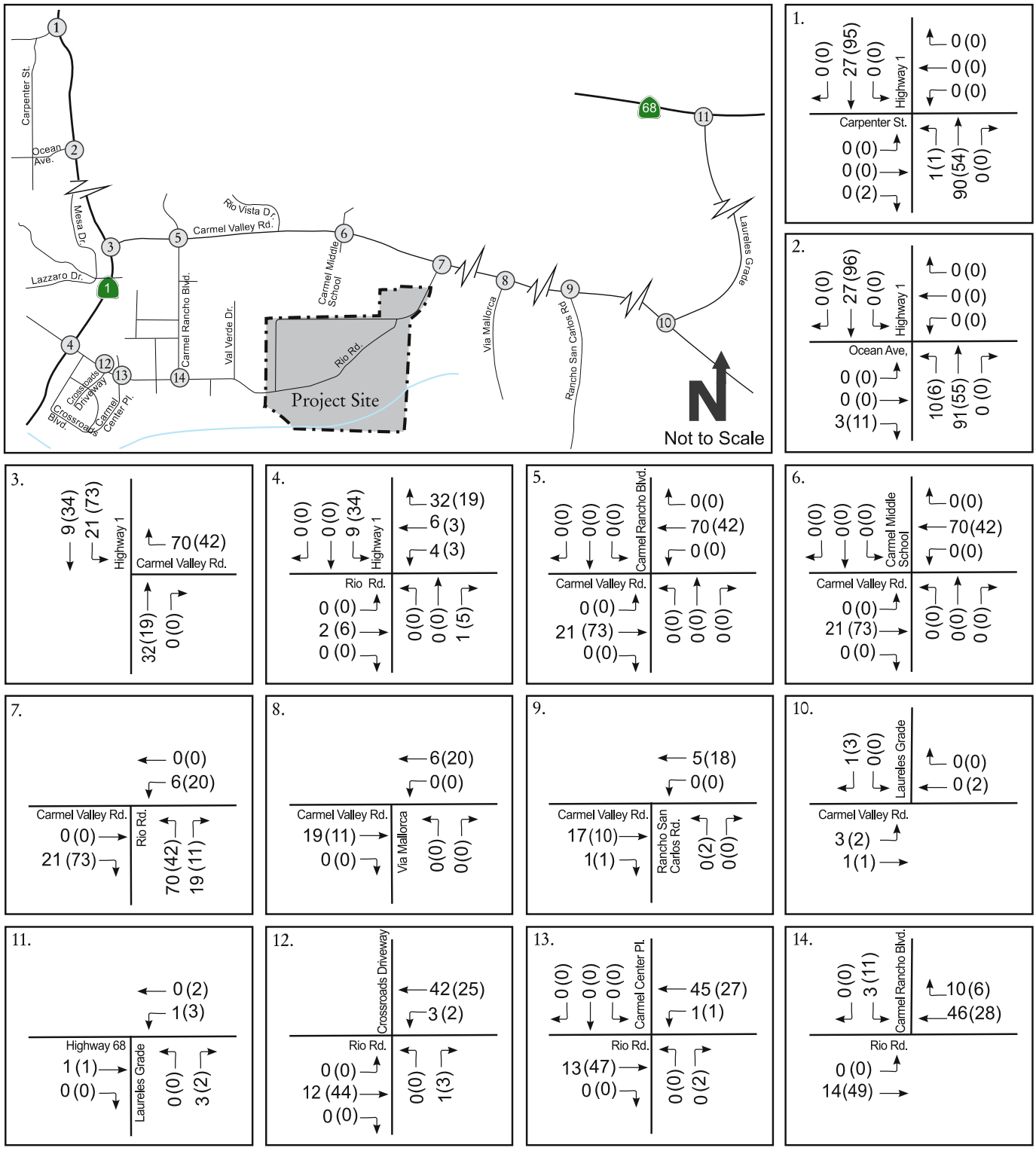


Figure 3.7-3
Trip Distribution



Source: Central Coast Transportation Consulting 2015.

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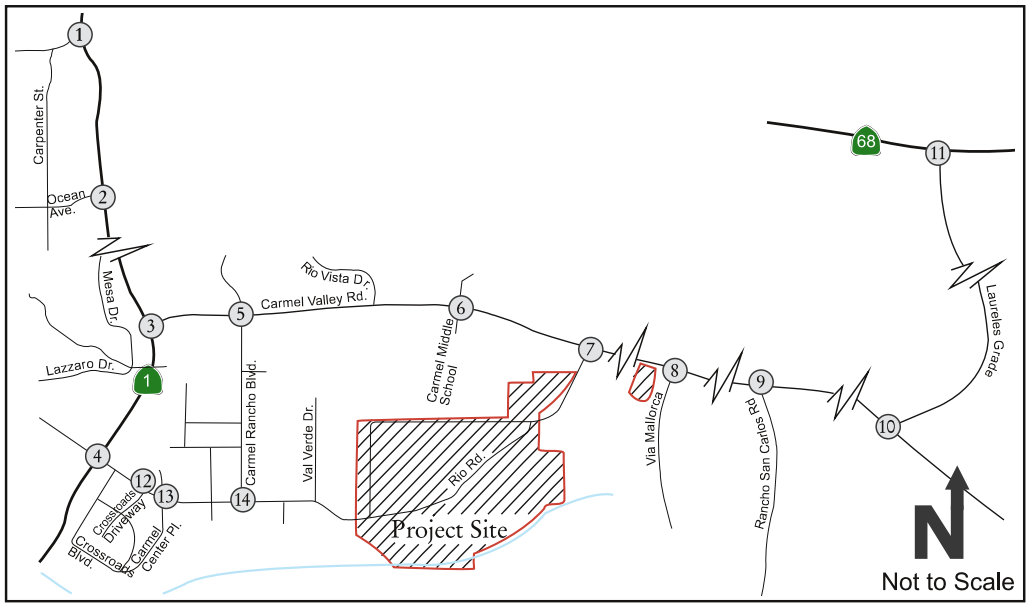
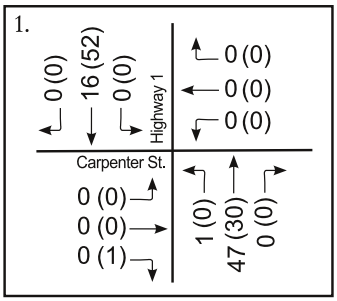
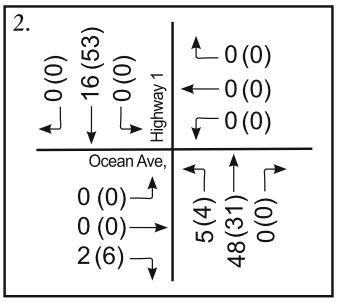
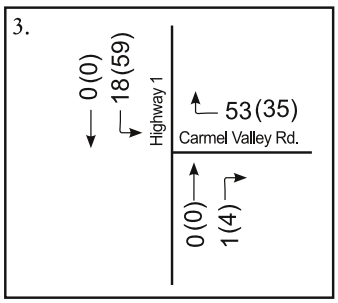
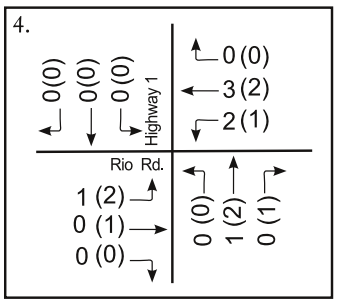
Figure 3.7-4
Proposed Project Trip Assignment

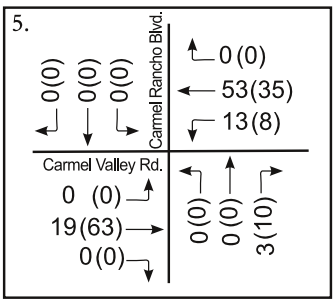


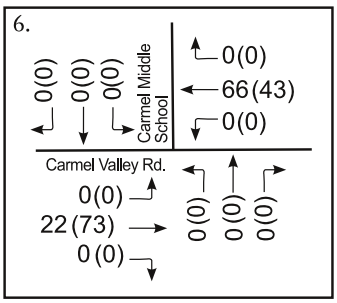


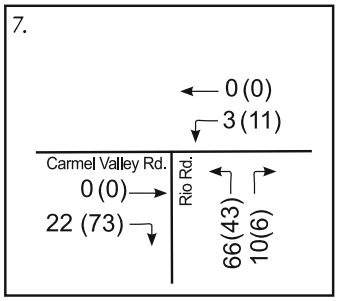


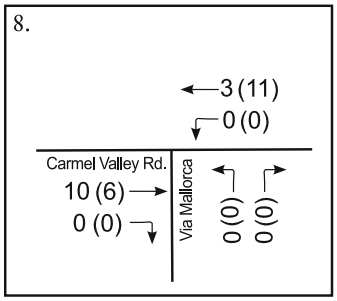


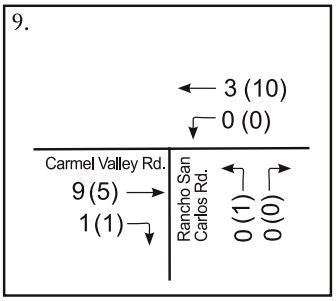


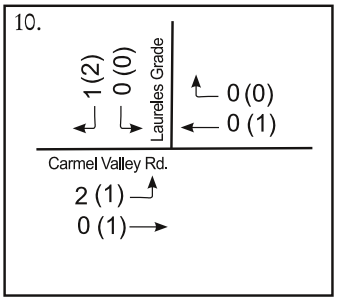


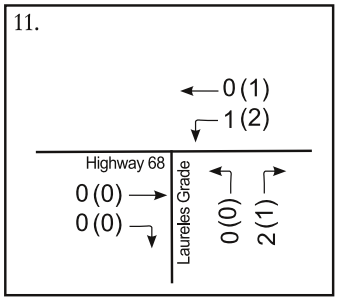


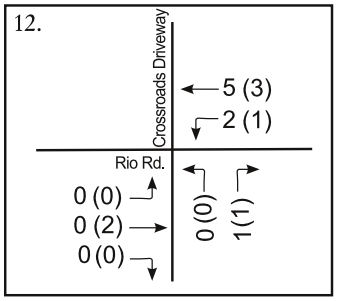


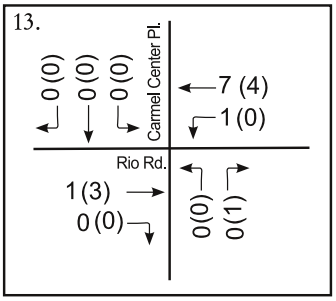


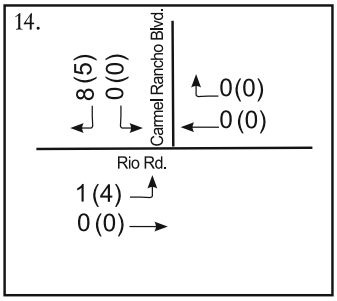












Legend:

xx(yy) - AM(PM) Peak Hour Traffic Volumes

17 - Study Intersection

- 130-Unit Alternative Project Site

Source: Central Coast Transportation Consulting 2015.

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Figure 3.7-5
130-Unit Alternative Trip Assignment

Project Traffic Volumes

Project trips, as represented in the above project trip assignments, were aggregated and added to existing traffic volumes to obtain existing plus project traffic volumes. The existing golf course trips were subtracted from the existing roadway system at the intersection level. Existing traffic volumes plus project trips are typically referred to simply as *Proposed Project traffic volumes or 130-Unit Alternative traffic volumes*; this is contrasted with the term *Proposed Project or 130-Unit Alternative trips*, which is used to signify the traffic that is produced specifically by the Proposed Project or 130-Unit Alternative. **Figure 3.7-6** shows the existing and proposed project AM and PM peak hour volumes at the 14 studied intersections. **Figure 3.7-7** shows the existing plus 130-Unit Alternative AM and PM peak hour volumes at the 14 studied intersections.

Vehicle Queuing and Storage

Vehicle queuing was evaluated qualitatively for the turning movements at the intersection of Carmel Valley Road and Rio Road, under conditions both with and without connection to Rio Road near Val Verde Drive.

Criteria for Determining Significance

In accordance with CEQA, State CEQA Guidelines, Monterey County plans and policies, CVMP plans and policies, and agency and professional standards, a project impact would be considered significant under the following conditions:

A. Signalized Intersections

- Degrade, at either peak hour, the LOS at an intersection to LOS F
- Add one or more trips to an intersection operating at an unacceptable LOS F under existing conditions.

B. Unsignalized Intersections

- Degrade the LOS intersection to operating at LOS F for an all-way stop controlled intersection, or cause any approach to degrade to LOS F for two-way stop controlled intersections or meet any traffic signal warrant.
- Add traffic to an intersection operating at LOS F under existing conditions and meet a signal warrant.

C. Roadway Segments

- Exceed, either individually or cumulatively, the LOS standard established by Monterey County for designated roadway segments or highways. This criterion is applied to Carmel Valley Road as follows.
  - The operating volume on a Carmel Valley Road, Rio Road, or Carmel Rancho Boulevard segments exceeds the 2013 CVMP ADT thresholds.
  - Operations on segments 1, 2, 8, 9, 10, 11, 12 and 13 degrade from LOS C or better to LOS D, E, or F; or the addition of project traffic worsens the LOS of a segment operating at LOS D or E; or project traffic is added to a segment operating at LOS F.

- Operations on segments 3, 4, 5, 6, and 7 degrade from LOS D or better to LOS E or F; or the addition of project traffic worsens the LOS of a segment operating at LOS E; or project traffic is added to a segment operating at LOS F.

- For SR 1 segments only: Degrade operations from LOS C or better to LOS D, E, or F, or add project traffic to an intersection or segment operating at LOS D, E, or F.

D. Access, Circulation, and Safety

- Substantially increase hazards because of a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment); or
- Result in inadequate emergency access.

E. Transit and Bicycle Travel

- Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks, pedestrian access).

F. Construction Traffic

- Cause short-term increases in traffic on roads or intersections causing existing LOS to drop to unacceptable levels or aggravating the operation of intersections previously identified as deficient.

Project Impacts and Mitigation Measures

A. Signalized Intersections

Impact TR-1: LOS Decrease at Signalized County Intersections (less than significant)

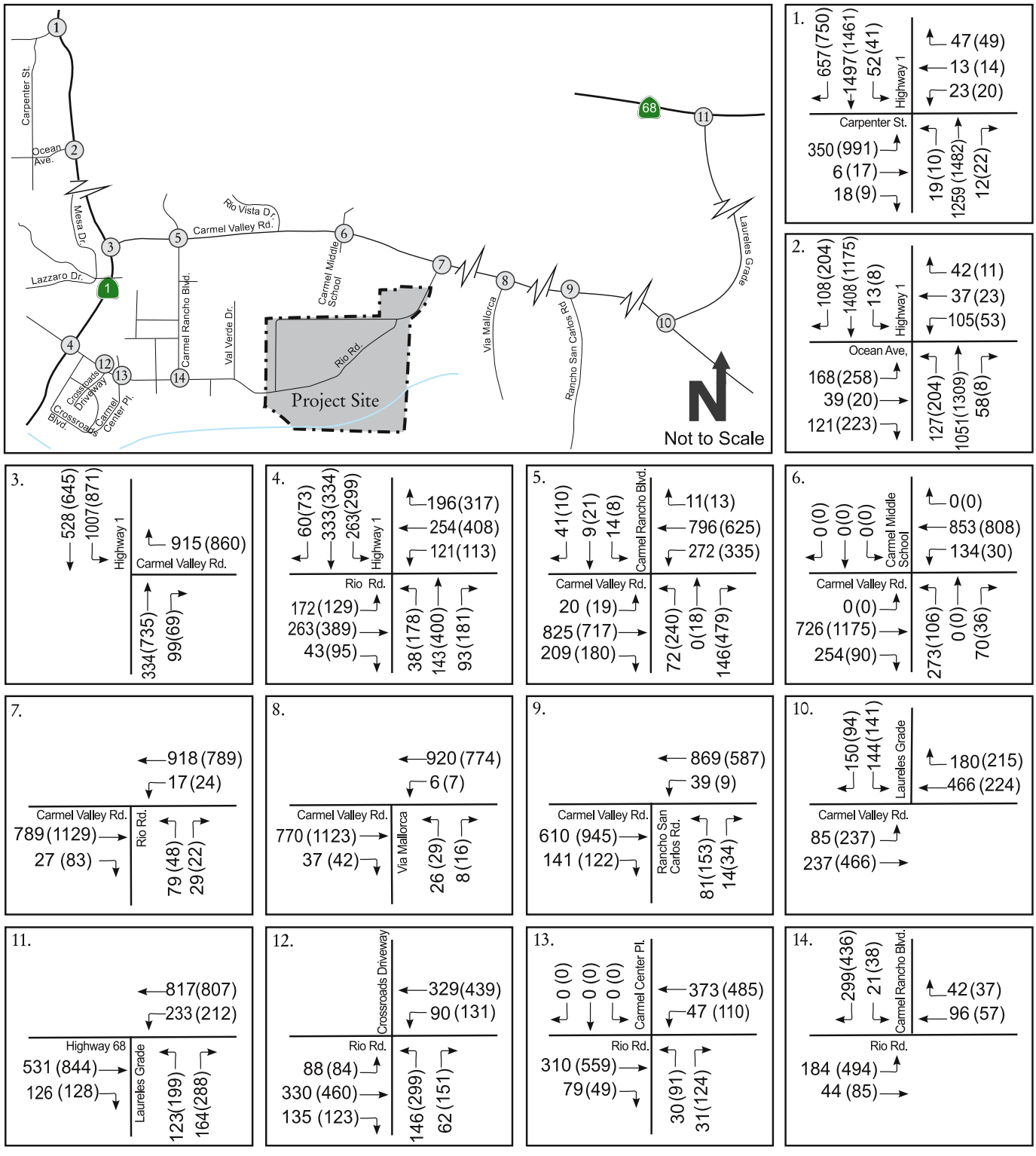
Proposed Project

The results of the LOS analysis for the Proposed Project are summarized in **Table 3.7-9**.

As shown in **Table 3.7-9**, the unsignalized intersection at Carmel Valley Road/Rio Road operates at LOS A, with the side-street operating at LOS F, under existing conditions. The Proposed Project would add traffic to this intersection, increasing the delay, but the intersection would be signalized with the project and would operate at LOS B. Because this intersection is operated by the county, increasing the delay at this intersection does not exceed the County's signalized threshold for signalized intersections. The project would not exceed the County's signalized intersection threshold at any other County intersections. Therefore, the Proposed Project would have a *less than significant* impact on the signalized County intersections. Impacts to SR1 are discussed separately below.

130-Unit Alternative

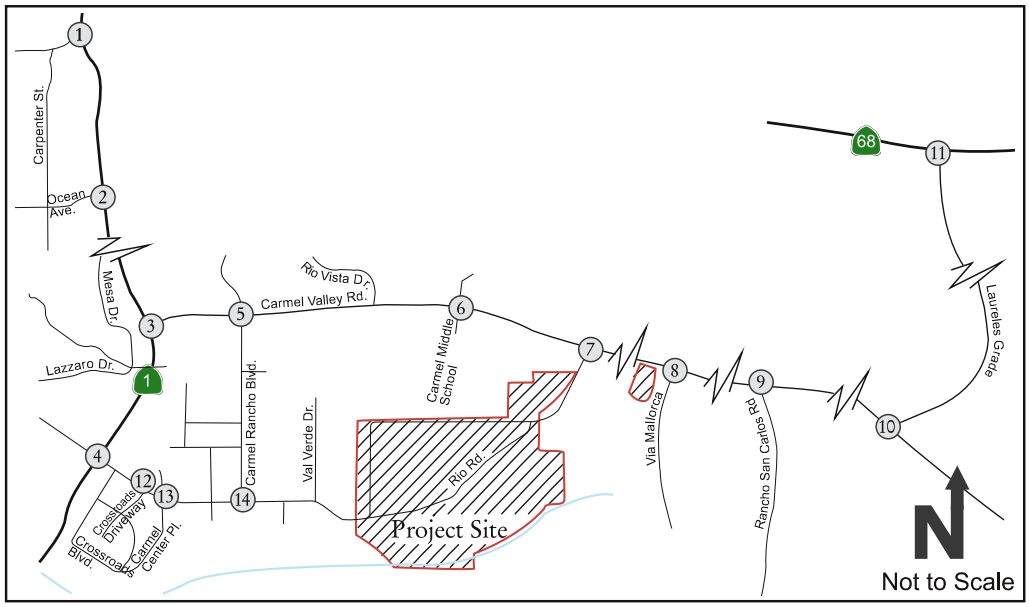
The 130-Unit Alternative would increase traffic at signalized County intersections. **Table 3.7-10** shows the LOS at the signalized County intersections would not exceed the County's signalized threshold for signalized intersections with this alternative. Therefore, the impact would be *less than significant*. Impacts to SR1 are discussed separately below.

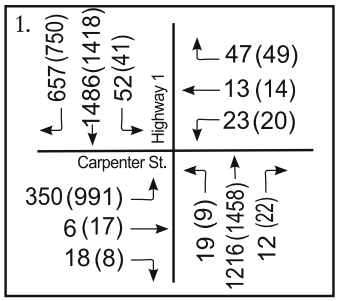


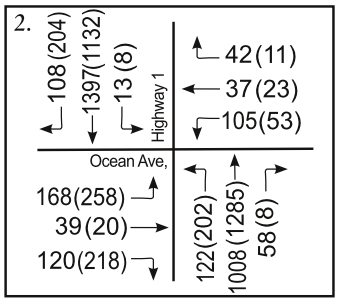
Source: Central Coast Transportation Consulting 2015.

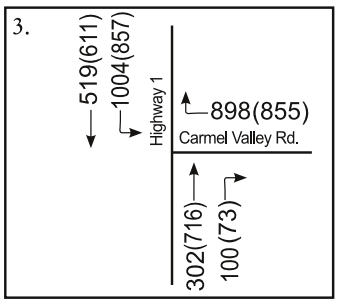
Graphics ...\05334.05 RDEIR (9-27-2015)

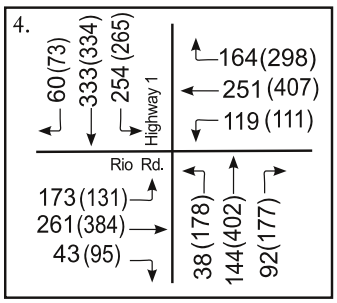
Figure 3.7-6
Existing Plus Proposed Project Volumes

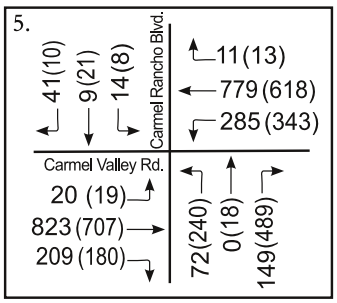


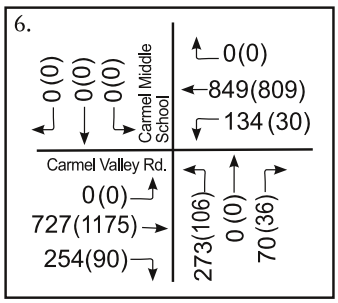


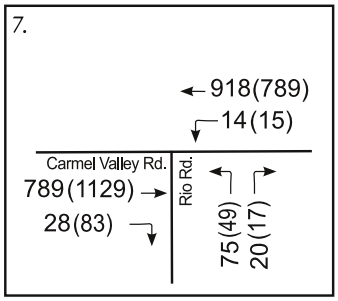


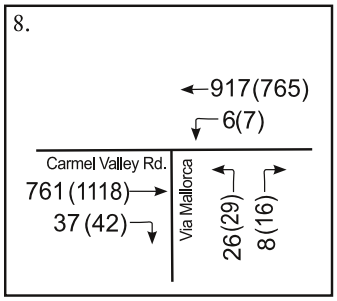


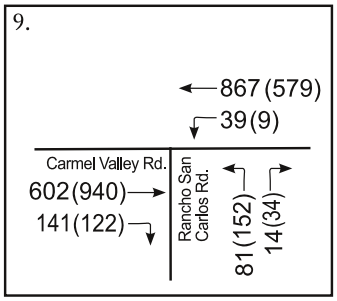


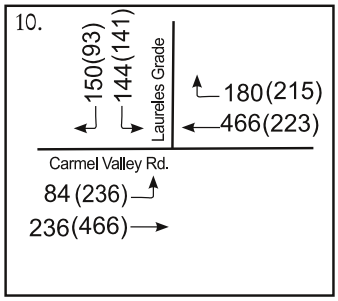


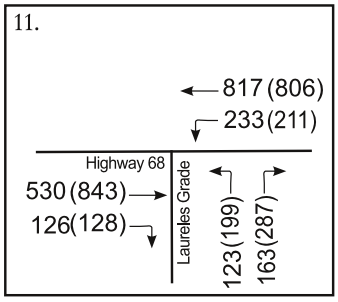


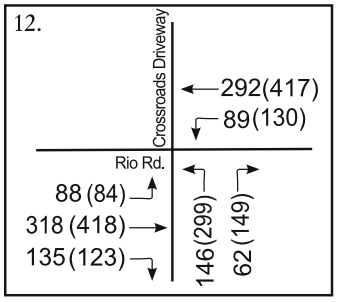


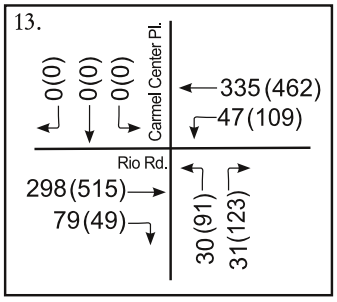


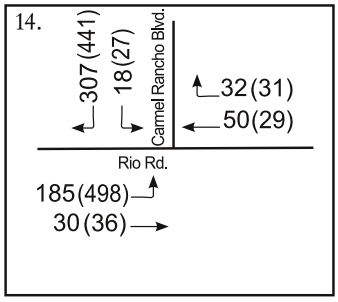












Legend:

xx(yy) - AM(PM) Peak Hour Traffic Volumes

- 130-Unit Alternative Project Site

(17) - Study Intersection

Source: Central Coast Transportation Consulting 2015.

Graphics ...\05334.05 RDEIR (9-27-2015)

Figure 3.7-7
Existing Plus 130-Unit Alternative Volumes

Table 3.7-9 Existing Plus Proposed Project Intersection Levels of Service

Intersection	Peak	Existing		Existing Plus Proposed Project	
		Delay[1] (sec/veh)	LOS[b]	Delay[2] (sec/veh)	LOS[2]
1. SR 1/Carpenter Street	AM	19.4	B	19.8	B
	PM	39.9	D	**43.3**	**D**
2. SR 1/Ocean Avenue	AM	27.7	C	29.6	C
	PM	20.7	C	25.3	C
3. SR 1/Carmel Valley Road	AM	11.2	B	11.9	B
	PM	21.6	C	23.9	C
4. SR 1/ Rio Road	AM	25.1	C	25.4	C
	PM	41.4	D	**42.6**	**D**
5. Carmel Valley Road/ Carmel Rancho Blvd	AM	15.7	B	15.5	B
	PM	21.1	C	21.6	C
6. Carmel Valley Road/Carmel Middle School	AM	16.4	B	16.3	B
	PM	7.6	A	8.0	A
7. Carmel Valley Road /Rio Road[3]	AM	0.5 (33.8)	A (C)	8.2	A
	PM	1.5 (65.8)	A (F)	10.7	B
8. Carmel Valley Road/ Via Mallorca	AM	3.6	A	3.6	A
	PM	5.7	A	5.7	A
9. Carmel Valley Road/Rancho San Carlos Road	AM	9.0	A	9.1	A
	PM	12.1	B	12.3	B
10. Carmel Valley Road/Laureles Grade (unsignalized)	AM	34.2 (122.0)	D (F)	35.2 (127.1)	E **(F)**
	PM	59.4 (>200)	F (F)	56.9 (>200)	**F (F)**
11. Laureles Grade/SR 68	AM	16.4	B	16.4	B
	PM	21.3	C	21.3	C
12. Crossroads Driveway/Rio Road	AM	13.7	B	13.4	B
	PM	15.3	B	15.1	B
13. Carmel Center Place/ Rio Road	AM	5.3	A	5.1	A
	PM	8.5	A	8.3	A
14. Carmel Rancho Blvd/ Rio Road (unsignalized)	AM	10.1 (18.6)	B (C)	11.5 (23.1)	B (C)
	PM	12.6 (53.6)	B (F)	17.9 (100.1)	C (F)

Source: Appendix E

Notes:

Bold text indicates project impact threshold has been exceeded.

[1] HCM 2010 average control delay in seconds per vehicle.

[2] For side-street stop controlled intersections the worst approach's delay is reported in parenthesis to the overall intersection delay.

[3] Unsignalized under Existing Conditions. Signalized under Existing Plus Proposed Project conditions.
sec/veh = seconds per vehicle
LOS = level of service

Table 3.7-10. Existing and Existing Plus 130-Unit Alternative Levels of Service

Intersection	Peak	Existing		Existing Plus 130-Unit Alternative	
		Delay[1] (sec/veh)	LOS[2]	Delay[1](sec/ veh)	LOS[2]
1. SR 1/Carpenter Street	AM	19.4	B	19.6	B
	PM	39.9	D	**41.2**	**D**
2. SR 1/Ocean Avenue	AM	27.7	C	28.4	C
	PM	20.7	C	22.9	C
3. SR 1/ Carmel Valley Road	AM	11.2	B	13.8	B
	PM	21.6	C	22.5	C
4. SR 1/ Rio Road	AM	25.1	C	25.2	C
	PM	41.4	D	**41.6**	**D**
5. Carmel Valley Road/ Carmel Rancho Blvd	AM	15.7	B	15.8	B
	PM	21.1	C	21.8	C
6. Carmel Valley Road/Carmel Middle School	AM	16.4	B	16.3	B
	PM	7.6	A	8.0	A
7. Carmel Valley Road /Rio Road[3]	AM	0.5 (33.8)	A (C)	7.7	A
	PM	1.5 (65.8)	A (F)	8.2	A
8. Carmel Valley Road/Via Mallorca	AM	3.6	A	3.6	A
	PM	5.7	A	5.7	A
9. Carmel Valley Road/Rancho San Carlos Road	AM	9.0	A	9.0	A
	PM	12.1	B	12.1	B
10. Carmel Valley Road/Laureles Grade (unsignalized)	AM	34.2 (122.0)	D (F)	34.7 (125)	D **(F)**
	PM	59.4 (>200)	F (F)	57.1 (>200)	**F (F)**
11. Laureles Grade/SR 68	AM	16.4	B	16.4	B
	PM	21.3	C	21.2	C
12. Crossroads Driveway/Rio Road	AM	13.7	B	13.8	B
	PM	15.3	B	15.3	B
13. Carmel Center Place/Rio Road	AM	5.3	A	5.3	A
	PM	8.5	A	8.5	A
14. Carmel Rancho Blvd/Rio Road (unsignalized)	AM	10.1 (18.6)	B (C)	10.1 (18.6)	B (C)
	PM	12.6 (53.6)	B (F)	12.7 (54.8)	B (F)

Source: Appendix E

Notes:

Bold text indicates project impact threshold has been exceeded.

[1] HCM 2010 average control delay in seconds per vehicle.

[2] For side-street stop controlled intersections the worst approach's delay is reported in parenthesis to the overall intersection delay.

[3] Unsignalized under Existing Conditions. Signalized under Existing Plus Proposed Project conditions.
sec/veh = seconds per vehicle
LOS = level of service

B. Unsignalized intersections

Impact TR-2: LOS Decrease at Unsignalized Intersections (significant and unavoidable with mitigation)

Proposed Project

Under existing conditions, as shown in **Table 3.7-9**, the unsignalized intersection at Carmel Rancho Boulevard and Rio Road operates at LOS F during PM peak hour. With the Proposed Project, the westbound side-street approach would continue to operate at LOS F. However, overall intersection LOS would not degrade to LOS F and the peak hour signal warrant would not be met. Therefore, this impact would be *less than significant*.

The unsignalized intersection at Laureles Grade and Carmel Valley Road currently operates at an unacceptable PM peak hour LOS F and AM peak hour LOS D. With the Proposed Project, the PM peak hour operations would be LOS F and the AM peak hour would operate at LOS E. The Proposed Project would add 5 AM and 8 PM trips to this intersection. This intersection meets the peak-hour volume signal warrant under existing and Proposed Project conditions. Since this intersection operates at a deficient level with or without the project, the project can only be required to contribute a fair-share to complete improvements and cannot be required to solely fund such improvements. **Mitigation Measure TR-1** would require the Project Applicant to make a fair-share contribution through the CVTIP traffic impact fee to help complete a grade separation as noted in policy CV-2.10 of the 2013 CVMP at the Laureles Grade/Carmel Valley Road intersection. With completion of proposed improvements, this impact would be *less than significant*. However, since this improvement relies on other sources of funds than just the Proposed Project (since existing operations are already failing, the Proposed Project is not the only source of impact), it may take some time to obtain full funding; in the interim, the impact at this location would be *significant and unavoidable* in the interim.

As shown in **Table 3.7-9**, all other unsignalized intersections would have acceptable LOS with the Proposed Project. Therefore, impacts on these intersections would be *less than significant*. No further mitigation is required.

130-Unit Alternative

Similar to the Proposed Project, with the 130-Unit Alternative, the westbound side-street approach at Carmel Rancho Boulevard and Rio Road would operate at LOS F during the PM peak hour. Overall the intersection LOS would not degrade to LOS F, and the peak hour signal warrant would not be met. Therefore, this impact would be *less than significant*. No mitigation is required.

With the 130-Unit Alternative, the AM peak hour LOS at the Laureles Grade and Carmel Valley Road intersection would remain at LOS D, and the PM peak hour LOS would remain at LOS F. As stated above, this intersection meets the peak hour-volume signal warrant under the existing condition and with the 130-Unit Alternative. Therefore, the 130-Unit Alternative would have a *potentially significant* impact at this unsignalized intersection. **Mitigation Measure TR-1** would require the Project Applicant to make a fair-share contribution through the CVTIP traffic impact fee to help complete interchange improvements at the Laureles Grade/Carmel Valley Road intersection. With completion of proposed interchange improvements, this impact to a *less-than-significant* level. However, since this improvement relies on other sources of funds than just the Proposed Project (since existing operations are already failing, the Proposed Project is not the only source of impact),

it may take some time to obtain full funding; in the interim, the impact at this location would be *significant and unavoidable* in the interim.

As shown in **Table 3.7-10**, all other unsignalized intersections would have acceptable levels of service with the 130-Unit Alternative. Therefore, impact on those intersections would be *less-than-significant.* No further mitigation is required.

Mitigation Measure TR-1: Contribute Fair-Share to Interchange Improvements of Laureles Grade and Carmel Valley Road through the CVTIP Traffic Impact Fee

Prior to construction, the Project Applicant will make a fair-share contribution toward the cost of improving traffic operations at the intersection of Laureles Grade and Carmel Valley Road. The nature of the improvement may include a grade separation. Installation of a grade separation as described in the *Carmel Valley Master Plan Traffic Study* (DKS Associates 2007) would improve traffic conditions to an acceptable LOS C or better during the peak hours. This fair-share contribution shall be through the CVTIP Traffic Impact Fee.

C. Roadway Segments

Impact TR-3: Peak Hour LOS Decrease for Two-Lane and Multi-Lane and/or exceed ADT Threshold for Portions of Carmel Valley Road, Rio Road or Carmel Rancho Boulevard (less than significant)

Proposed Project

Project traffic volumes on roadway segments were calculated by adding the estimated project trips to existing ADT volumes (**Table 3.7-11**).

As shown in **Table 3.7-11**, the Proposed Project would not generate enough traffic volume to exceed the 2013 CVMP threshold ADT for Carmel Valley Road, Rio Road or Rancho Carmel Boulevard segments.

As shown in **Table 3.7-11**, segments 6, 7, 11, 12, and 13 have existing deficient LOS during peak hours. Segment 6 PM peak hour operates at LOS E. Segment 7 AM westbound and PM eastbound peak hour operate at LOS E. Segment 11 AM and PM peak hour operates at LOS D. Segment 12 AM and PM peak hour operate at LOS D, and segment 13 westbound AM operates at LOS D.

With the Proposed Project, Carmel Valley Road segments 6 and 7 would continue to operate at LOS E, and Carmel Rancho Boulevard segment 11 and Rio Road segments 12 and 13 would continue to operate at LOS D. Because the addition of traffic at these segments would not lower the LOS from the existing E or D to a LOS F, it would not exceed the significance threshold and the Proposed Project impact on segments 6, 7, 11, 12 and 13 would be *less than significant.*

130-Unit Alternative

Table 3.7-12 shows the existing and existing plus 130-Unit Alternative LOS and ADT on Carmel Valley Road, Rio Road and Rancho Carmel segments.

Similar to the Proposed Project, the 130-Unit Alternative traffic volume along the 13 segments along Carmel Valley Road would not exceed the 2013 CVMP ADT thresholds.

Table 3.7-11. Proposed Project Level of Service and Average Daily Trips on Carmel Valley Road Segments

Segment	CVMP ADT Threshold	Existing LOS Conditions					Existing Plus Proposed Project LOS Conditions				
			AM		PM			AM		PM	
		ADT	NB/EB	SB/WB	NB/EB	SB/WB	ADT	NB/EB	SB/WB	NB/EB	SB/WB
1. Carmel Valley Road–Valle Vista to Holman	8,487	3,200	A	C	B	B	3,200	A	C	B	B
2. Carmel Valley Road–Holman to Esquiline	6,835	3,700	A	C	C	B	3,720	A	C	C	B
3. Carmel Valley Road–Esquiline to Ford	9,065	8,200	B	D	D	C	8,220	B	D	D	C
4. Carmel Valley Road–Ford to Laureles Grade	11,600	10,600	C	D	D	C	10,620	C	D	D	C
5. Carmel Valley Road–Laureles Grade to Robinson Canyon	12,752	10,900	C	D	D	C	10,961	C	D	D	C
6. Carmel Valley Road–Robinson Canyon to Schulte	15,499	13,800	C	D	E	C	13,964	C	D	E	C
7. Carmel Valley Road–Schulte to Rancho San Carlos	16,340	15,600	C	E	E	D	15,866	D	E	E	D
8. Carmel Valley Road–Rancho San Carlos to Rio Road	48,487	18,700	B	B	B	B	19,007	B	B	B	B
9. Carmel Valley Road–Rio to Carmel Rancho Blvd	51,401	24,100	A	B	B	B	25,491	A	B	B	B
10. Carmel Valley Road–Carmel Rancho to SR 1	27,839	21,900	B	B	B	B	23,291	B	B	B	B
11. Carmel Rancho Blvd-Carmel Valley Road to Rio	33,495	9,877	D	B	D	B	10,859	D	B	D	B
12. Rio-Val Verde to Carmel Blvd	6,416	702	D	D	D	D	968	D	D	D	D
13.Rio-Carmel Rancho Blvd to SR 1	33,928	11,398	B	D	B	C	11,644	B	D	B	C

Source: **Appendix E.**

Notes:

Bold text indicates project impact threshold has been exceeded.

[1] ADT – average daily traffic

[2] NB-northbound; SB-southbound; EB- eastbound; WB- westbound

Table 3.7-12. 130-Unit Alternative Level of Service and Average Daily Traffic on Carmel Valley Road Segments

Segment	CVMP ADT Threshold	Existing LOS Conditions					Existing Plus 130-Unit Alternative LOS Conditions				
			AM		PM			AM		PM	
		ADT	NB/EB	SB/WB	NB/EB	SB/WB	ADT	NB/EB	SB/WB	NB/EB	SB/WB
1. Carmel Valley Road–Valle Vista to Holman	8,487	3,200	A	C	B	B	3,209	A	C	B	B
2. Carmel Valley Road–Holman to Esquiline	6,835	3,700	A	C	C	B	3,709	A	C	C	B
3. Carmel Valley Road–Esquiline to Ford	9,065	8,200	B	D	D	C	8,209	B	D	D	C
4. Carmel Valley Road–Ford to Laureles Grade	11,600	10,600	C	D	D	C	10,609	C	D	D	C
5. Carmel Valley Road–Laureles Grade to Robinson Canyon	12,752	10,900	C	D	D	C	10,927	C	D	D	C
6. Carmel Valley Road–Robinson Canyon to Schulte	15,499	13,800	C	D	E	C	13,873	C	D	E	C
7. Carmel Valley Road–Schulte to Rancho San Carlos	16,340	15,600	C	E	E	D	15,718	C	E	E	D
8. Carmel Valley Road-Rancho San Carlos to Rio Road	48,487	18,700	B	B	B	B	18,837	B	B	B	B
9. Carmel Valley Road–Rio to Carmel Rancho Blvd	51,401	24,100	A	B	B	B	24,874	A	B	B	B
10. Carmel Valley Road–Carmel Rancho to SR 1	27,839	21,900	B	B	B	B	22,519	B	B	B	B
11. Carmel Rancho Blvd-Carmel Valley Road to Rio	33,495	9,877	D	B	D	B	10,670	D	B	D	B
12. Rio-Val Verde to Carmel Rancho Blvd	6,416	702	D	D	D	D	820	D	D	D	D
13. Rio-Carmel Rancho Blvd to SR 1	33,928	11,398	B	D	B	C	11,507	B	D	B	C

Source: **Appendix E.**

Notes:

Bold text indicates project impact threshold has been exceeded.

[1] ADT – average daily traffic

[2] NB-northbound; SB-southbound; EB- eastbound; WB- westbound

Similar to the Proposed Project, under the 130-Unit Alternative, Carmel Valley Road segments 6 and 7 would operate at LOS E, and Carmel Rancho Boulevard segment 11 and Rio Road segments 12 and 13 would operate at LOS D. The eastbound direction of segment 6 operates at LOS E during PM peak hour. Segment 7 westbound AM peak hour and eastbound PM peak hour operates at LOS E. With the 130-Unit Alternative, these segments would continue to operate at LOS E. Like the Proposed Project, under the 130-Unit Alternative, segments 11 through 13 would operate at LOS D. The addition of traffic at these segments would not worsen the LOS from LOS of E and LOS D to an LOS of F and thus would not exceed the significance threshold. Therefore, this impact would be *less than significant*.

Impact TR-4: Peak Hour Segment LOS Decrease for Portions of State Route 1 (significant and unavoidable with mitigation)

Proposed Project

The Proposed Project would contribute to traffic along SR 1 where current operations are deficient. **Table 3.7-13** shows the deficient segments that the Proposed Project would affect with LOS in bold. The existing southbound and northbound lanes from SR 1 between Carpenter and Ocean operate at LOS D in both AM and PM peak hours. The Proposed Project would add 16 southbound trips during the AM peak hour and 39 northbound trips during the PM peak hours. With the Proposed Project, these segments would continue to operate at the existing LOS D. However, adding traffic to an existing deficient roadway exceeds Caltrans' threshold. Therefore, this impact would be *significant*.

The Proposed Project would add 32 northbound trips during the AM peak hour and 19 northbound and 34 southbound PM peak hour on SR 1 from Carmel Valley Road to Rio Road. The LOS at SR from Carmel Valley Road to Rio Road would continue to operate at LOS F and LOS E with the Proposed Project. Because the Proposed Project would add trips to existing deficient segments, this impact would be *significant*.

In addition, as noted above in Table 3.7-9, the project would contribute traffic to existing LOS D PM peak hour operations at the SR1/Carpenter and SR1/Rio Road intersections, which would also be *significant*.

Implementation of **Mitigation Measure TR-2**, while required, would not reduce this impact to a *less-than-significant* level because the TAMC regional fee program does not include any proposed widening of SR1 in the Carmel Area north of Carmel Valley Road or south of Rio Road. Proposed Improvements between Rio Road and Carmel Valley Road in the regional fee program would help to address current conditions for that segment. There is no other state, regional, or local planning or support for widening these segments of SR 1 except between Rio Road and Carmel Valley Road. Thus, the Proposed Project would result in a *significant and unavoidable impact* to SR 1 segments.

Table 3.7-13. Existing Conditions and Existing Plus Proposed Project Level of Service on State Route 1

	Existing LOS Conditions				Existing Plus Proposed Project LOS Conditions			
	AM		PM		AM		PM	
Segment	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB
SR 1–Carpenter to Ocean	C	**D**	**D**	C	C	**D**	**D**	C
SR 1–Ocean to Carmel Valley Road	C	C	C	C	C	C	C	C
SR 1–Carmel Valley Road to Rio Road	**F**	C	**F**	**E**	**F**	C	**F**	**E**
SR 1–Rio Road to Ribera Road	B	B	B	B	B	B	B	B

Source: **Appendix E.**

Notes:

NB-northbound; SB-southbound; EB- eastbound; WB- westbound

Bold text indicates threshold has been exceeded.

130-Unit Alternative

Similar to the Proposed Project, the 130-Unit Alternative would add traffic to existing deficient segments of SR 1.

As shown in **Table 3.7-14**, under existing conditions, the LOS for SR 1 from Carpenter to Ocean southbound AM and northbound PM peak hour is LOS D. The 130-Unit Alternative would add 5 southbound trips during the AM peak hour and 14 northbound trips during the PM peak hours. Therefore, the 130-Unit Alternative impact on this segment of SR 1 would be *significant*.

The 130-Unit Alternative would add 1 northbound trips during the AM peak hour and 4 northbound PM peak hour on SR 1 from Carmel Valley Road to Rio Road. The 130-Unit Alternative would contribute to the southbound PM peak hour trips. The LOS for this SR 1 segment would continue operate at LOS F and LOS E with the 130-Unit Alternative. Because the 130-Unit Alternative would add trips to an existing deficient segment, this impact would be *significant*.

In addition, as noted above in Table 3.7-10, the 130-Unit alternative would contribute traffic to existing LOS D PM peak hour operations at the SR1/Carpenter and SR1/Rio Road intersections, which would also be *significant*.

Implementation of **Mitigation Measure TR-2**, while required, would not reduce this impact to a *less-than-significant* level because the TAMC regional fee program does not include any proposed widening of SR1 north of Carmel Valley Road or south of Ribera Road. There is no other state, regional, or local planning or support for widening this roadway. Thus, the 130-Unit Alternative would result in a *significant and unavoidable impact* to SR 1 segments.

Table 3.7-14. Existing Conditions and Existing Plus 130-Unit Alternative Level of Service on State Route 1

	Existing LOS Conditions				Existing Plus 130-Unit Alternative LOS Conditions			
	AM		PM		AM		PM	
Segment	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB
SR 1–Carpenter to Ocean	C	**D**	**D**	C	C	**D**	**D**	C
SR 1–Ocean Avenue to Carmel Valley Road	C	C	C	C	C	C	C	C
SR 1–Carmel Valley Road to Rio Road	**F**	C	**F**	**E**	**F**	C	**F**	**E**
SR 1–Rio Road to Ribera Road	B	B	B	B	B	B	B	B

Source: **Appendix E.**

Notes:

NB-northbound; SB-southbound; EB- eastbound; WB- westbound

Bold text indicates threshold has been exceeded.

Mitigation Measure TR-2: Contribute Fair-Share Regional Impact Fee

The most recently adopted 2014 RTP and the TAMC *14-Year Investment Plan Transportation Plan* both include the following improvement.

- RTP Project CT008, SR1—Carmel Operational Improvement. This Project, sponsored by Monterey County, will construct a northbound climbing lane on SR 1 between Rio Road and Carmel Valley Road to relieve congestion on this facility.

The Project Applicant will be responsible for contributing its a fair-share impact fee for regional traffic improvements as determined by TAMC in concert with Caltrans and Monterey County.

D. Access, Circulation, and Safety

Impact TR-5: Adequate Sight Distance (less than significant)

Proposed Project

The speed limit is 55 mph on Carmel Valley Road at the project site entrance (Rio Road). A vehicle stopped on Rio Road at the intersection of Carmel Valley Road has a clear line of sight of 800 feet looking west and 900 feet looking east. The sight distance standards, as prescribed in the Caltrans *Highway Design Manual,* are presented as a function of vehicle speed. The Caltrans sight distance standards indicate that a vehicle traveling at 60 mph would require 590 feet to stop under normal operating conditions. Since the sight distance in both directions exceeds 590 feet, the sight distance is satisfactory for the speeds prevailing on Carmel Valley Road. This impact would be *less than significant*. No mitigation is required.

130-Unit Alternative

Similar to the Proposed Project, the 130-Unit Alternative sight distance from Rio Road at Carmel Valley has a clear line of sight of 800 feet looking west and 900 feet looking east. The speed limit on Carmel Valley Road is 55 mph. Traveling at 60 mph would require 590 feet. Therefore, the sight

distance would be satisfactory for the speeds on Carmel Valley Road. This impact would be *less than significant*. No mitigation is required.

Impact TR-6: Adequate Project Access (less than significant)

Proposed Project

Eastbound right turn from Carmel Valley Road onto southbound Rio Road—this movement would be made by 21 vehicles in the AM peak hour and 73 vehicles in the PM peak hour. The existing turn pocket is approximately 100 feet long. Since this movement has no conflicting movement at the intersection, it can be made unimpeded, and there is no reason for queues to develop. The right-turn pocket serves principally as a deceleration lane, allowing vehicles to exit the traffic stream before slowing to a near stop. The existing 100 feet of space is adequate for this purpose.

Westbound left turn from Carmel Valley Road onto southbound Rio Road—this movement would be made by 6 vehicles in the AM peak hour and 20 vehicles in the PM peak hour. The existing turn pocket is approximately 400 feet long, which is enough space to accommodate 20 vehicles at once. However, the Project's proposed traffic signal at Carmel Valley Road and Rio Road would ensure adequate access and traffic flow at this intersection. Therefore, with the proposed traffic signal, access to the project site would be adequate to accommodate all of the future AM and PM peak-hour traffic volumes for this movement.

Northbound left turns from Rio Road onto westbound Carmel Valley Road—this movement would be made by 70 vehicles in the AM peak hour and 42 vehicles in the PM peak hour. The northbound approach of the existing road is 800 feet long and wide enough to accommodate two lanes—a left-turn lane and a right-turn lane. The northbound left-turn pocket would therefore provide 800 feet of storage, which is enough space to accommodate 40 vehicles at once. However, the proposed traffic signal at Carmel Valley Road and Rio Road would ensure adequate access and traffic flow at this intersection. Therefore, with the proposed traffic signal, access to the site would be adequate to accommodate all of the future AM and PM peak-hour traffic volumes for this movement.

Northbound right turns from Rio Road onto eastbound Carmel Valley Road—this movement would be made by 19 vehicles in the AM peak hour and 11 vehicles in the PM peak hour. The existing 800 feet of storage is therefore sufficient to accommodate all of the future AM and PM peak-hour traffic volumes for this movement.

Access to Rancho Cañada Village from the west would be by a small-scale extension of Rio Road west. The portion of Rio Road west of the proposed development is currently in private ownership, and the proposed improvements to Rio Road outside of the project area would require permission of the property owners or purchase of the right-of-way needed for the proposed improvements. Rio Road would be developed as a through road.

A through road would allow access to all vehicles. However, as discussed in Section 3.2, *Hydrology and Water Quality*, the Rio Road west is within the 100-year floodplain that would be inaccessible during a flood event. However, Rio Road east is outside the 100-year floodplain and would provide Project site access and egress during a flood event affecting Rio Road west.[1]

[1] Refer to Chapter 3.10, *Public Services, Utilities and Recreation*, for a discussion of emergency vehicle access.

Since Carmel Valley Road would provide adequate access into the project area from the east (at all times) and Rio Road west would provide access outside of flood conditions, this impact would be *less than significant.* No mitigation is required.

130-Unit Alternative

Eastbound right turn from Carmel Valley Road onto southbound Rio Road—this movement would be made by 22 vehicles in the AM peak hour and 73 vehicles in the PM peak hour. The existing turn pocket is approximately 100 feet long. Since this movement has no conflicting movement at the intersection, it can be made unimpeded, and there is no reason for queues to develop. The right-turn pocket serves principally as a deceleration lane, allowing vehicles to exit the traffic stream before slowing to a near stop. The existing 100 feet of space is adequate for this purpose.

Westbound left turn from Carmel Valley Road onto southbound Rio Road—this movement would be made by 3 vehicles in the AM peak hour and 11 vehicles in the PM peak hour. The existing turn pocket is approximately 400 feet long, which is enough space to accommodate 20 vehicles at once. Therefore, there is sufficient storage to accommodate all future AM peak and PM peak hour traffic volumes.

Northbound left turns from Rio Road onto westbound Carmel Valley Road—this movement would be made by 66 vehicles in the AM peak hour and 43 vehicles in the PM peak hour. The northbound approach of the existing road is 800 feet long and wide enough to accommodate two lanes—a left-turn lane and a right-turn lane. The northbound left-turn pocket would therefore provide 800 feet of storage, which is enough space to accommodate 40 vehicles at once. However, the proposed traffic signal at Carmel Valley Road and Rio Road would ensure adequate access and traffic flow at this intersection. Therefore, with the proposed traffic signal, access to the site would be adequate to accommodate all of the future AM and PM peak-hour traffic volumes for this movement.

Northbound right turns from Rio Road onto eastbound Carmel Valley Road—this movement would be made by 10 vehicles in the AM peak hour and 6 vehicles in the PM peak hour. The existing 800 feet of storage is therefore sufficient to accommodate all of the future AM and PM peak-hour traffic volumes for this movement.

Access to Rancho Cañada Village from the west would be by a small-scale extension of Rio Road west. The portion of Rio Road west of the proposed development is currently in private ownership, and the proposed improvements to Rio Road outside of the project area would require permission of the property owners or purchase of the right-of-way needed for the proposed improvements. Rio Road west would be developed for pedestrians, bicycles, and emergency vehicles only.

Under the 130-Unit Alternative, Rio Road west would allow access to emergency vehicles only. The emergency access road would have a gate that would be employed to prevent through traffic with the exception of emergency vehicles possessing the appropriate code or key. As noted above, Rio Road west would not provide emergency access under flood conditions, but Carmel Valley Road would still be available.

Since Carmel Valley Road would provide adequate access into the project site from the east (at all times) and Rio Road west would provide emergency access except during flooding events, this impact is considered *less than significant*. No mitigation is required.

E. Transit and Bicycle Travel

Impact TR-7: Changes to Transit and Bicycle Travel Access (less than significant)

Proposed Project

The Proposed Project would incorporate features that would encourage the use of alternative modes of transportation and would contribute to a reduction in vehicle trips from what otherwise would occur. The Proposed Project would build a road connection to Rio Road to the west that would provide vehicle access to the Crossroads Shopping Center Construction of Rio Road west would connect Carmel Valley Road to Highway. This roadway connection has the potential to serve as a cut-through route for drivers seeking to avoid congestion on Carmel Valley Road. However, as shown in **Figure 2-5**, the cut through drivers would be discouraged by multiple turns required to cut through the project site. Extension of Rio Road would also provide a convenient route for pedestrians and bicycles to access shopping and other services without using Carmel Valley Road.

The Proposed Project would develop a network of multi-use public trails that would be constructed to channel users through the habitat preserve across an existing golf bridge that would provide access to the Palo Corona Ranch Regional Park. This would provide another pedestrian and bicycle route for the Proposed Project and the general public in Carmel Valley. Trail access would be provided to Carmel Valley Middle School adjacent to the property. The project entry roads have included bicycle paths in their design.

Thus, the Project's impacts on transit and bicycle travel would be *less-than-significant*. No mitigation is required.

130-Unit Alternative

Similar to the Proposed Project, the 130-Unit Alternative would extend Rio Road west and would provide a multi-use public trail that would provide access to Rio Road west and Palo Corona Ranch Regional Park across the proposed habitat preserve and existing golf bridge. Similarly, trail access would be provided to Carmel Valley Middle School. However, unlike with the Proposed Project, with the 130-Unit Alternative, Rio Road west would provide bicycle, pedestrian and emergency vehicle access only. The 130-Unit Alternative would not provide a link between Carmel Valley Road and SR 1 with the potential to encourage drivers to cut through the project site.

As shown in **Figure 2-9**, access to Lot 130 would continue to be off of Carmel Valley Road. Therefore, the 130-Unit Alternative impact on transit and bicycle travel would be *less than significant*. No mitigation is required.

F. Construction Traffic

Impact TR-8: Construction Traffic Decreases LOS (significant and unavoidable with mitigation)

Proposed Project

Construction-related traffic is estimated to be most intensive during the grading stage of project construction. During other stages of construction, the project-related traffic is projected to be less than during this stage. According to the Project Applicant, the Proposed Project's three phases will

be graded together in one single effort. It is estimated that during this grading stage approximately 100,000 cubic yards of dirt would be imported to the project site. Using typical truck capacities, the total number of truckloads for this construction stage is estimated to be approximately 7,200 truckloads. The schedule for this hauling activity is estimated to be 28 working days, based on a 9-hour workday. This schedule equates to 257 trucks per day or 29 trucks per hour traveling to the site (514 trips/day total, 58 trips/hour total) during the 28 working days. These trip totals are less than the estimated project trip generation (**Table 3.7-8)** for daily trips (2,046 trips/day total) and for AM or PM peak-hour trips (168 and 207 trips/hour total, respectively) once the Project is completed and occupied.

With more limited trip generation, construction is not expected to lower LOS levels on any affected roadway. However, given that there are failing operations under existing conditions at certain locations (such as along SR1 and at the Laureles/SR 68 intersection), the addition of construction traffic would result in a significant impact. **Mitigation Measure TRA-3** would reduce construction period impacts, but would not avoid all contributions to locations with existing failing traffic operations so the impact would be *significant and unavoidable*.

130-Unit Alternative

Unlike the Proposed Project, the 130-Unit Alternative would not import fill to the project site to develop the building pad for the housing development. Because the 130-Unit Alternative would not require the import of soil, truck traffic would be less for that part of construction. Construction-related traffic would be temporary and would involve bringing construction materials (e.g., wood, concrete, sheet, gravel) to the site. In addition, because the 130-Unit Alternative would have fewer housing units, the trips associated with delivering building materials would also be fewer.

With more limited trip generation, construction is not expected to lower LOS levels on any affected roadway. However, given that there are failing operations under existing conditions at certain locations (such as along SR 1 and at the Laureles/SR 68 intersection), the addition of construction traffic would result in a significant impact. **Mitigation Measure TRA-3** would reduce construction period impacts, but would not avoid all contributions to locations with existing failing traffic operations, and the impact would be *significant and unavoidable*.

Mitigation Measure TRA-3. Develop and Implement a Construction Traffic Control Plan

A traffic control plan, including a comprehensive set of traffic control measures, will be prepared by the construction contractor and submitted to Monterey County for review and approval, before issuance of grading or building permits. The plan will be implemented throughout the course of Project construction and may include, but will not be limited to, the following elements.

- Limit construction activities to between 8 a.m. and 6 p.m., Monday through Saturday. No work will be permitted on Sundays or holidays. Workers may be on-site before 8 a.m. and after 6 p.m., but no work will be performed that will disturb neighboring residents. (The Project Applicant's proposed construction hours are consistent with this measure.)
- Require that written notification be provided to contractors regarding appropriate routes to and from the Project site, and the weight and speed limits on local roads used to access the Project site. Wherever possible, construction truck travel will occur on collector and arterial roads, not on local or resident streets.

- Repair or restore any damage attributable to haul trucks on haul routes to the satisfaction of the appropriate agency.
- Require traffic controls on Rio Road east and the Project entrance driveway, including flag persons wearing bright orange or red vests and using a "Stop/Slow" paddle to control oncoming traffic.
- Lane closure procedures, including signs, cones, and other warning devices for drivers, will be identified as appropriate.
- Use of steel plates to maintain through-traffic on roads will be considered, and construction access routes will be identified.
- Construction staging is anticipated to occur on-site for all Project components and will be verified by the County.

Provide adequate on-site parking for all construction workers to minimize the impact on area roads. When on-site parking cannot be provided, alternative parking and shuttle systems will be developed and verified by the County.