



## Amy's Drive Thru

### Transportation Impact Study



Prepared for  
Town of Corte Madera

April 2018

SF17-0929



THE TOWN OF  
CORTE MADERA  
MARIN COUNTY CALIFORNIA

# PC Attachment 1

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## EXECUTIVE SUMMARY

The Amy's Drive Thru project is located at 5839 Paradise Drive, on the east side of U.S. 101 south of Tamalpais Drive. It is located on an approximately 1-acre site that is currently occupied by a vacant 3,705 square foot building that was previously a Denny's, a 24-hour, sit-down restaurant that closed in May 2014.

## PROJECT DESCRIPTION

The proposed project includes a new one-story building of approximately 4,125 square feet, approximately 3,000 square feet of outdoor seating, 47 vehicle parking spaces, and 14 bicycle parking spaces. Access to the project site will primarily be via the U.S. 101/Tamalpais Drive interchange, Tamalpais Drive, Paradise Drive, and San Clemente Drive. In the vicinity of the project site, Paradise Drive is a two-lane collector with on-street parking.

Based on empirical trip generation rates developed from trip counts at the Amy's Drive Thru location in Rohnert Park, the Proposed Project would generate around 173 vehicle trips during the weekday mid-afternoon peak (2:00 – 4:00 PM) and around 168 vehicle trips during the weekday PM peak (4:00 – 6:00 PM). Most of the trips generated by project would divert from U.S. 101, made by motorists making trips for other purposes (i.e., commute, shopping, recreational). The diverted trips would be new trips on the local streets between the U.S. 101/Tamalpais Drive interchange and the project site, but not on U.S. 101.

## ANALYSIS PERIODS

The report evaluates transportation network conditions during the weekday PM (4:00 – 6:00 PM) and Mid-Afternoon (2:00 – 4:00 PM) peak periods. The weekday PM peak hour represents the highest combination of existing and project trips for travel on the local roadway network. The weekday AM (7:00 AM – 9:00 AM) peak period was not analyzed for this study due to significantly lower traffic volumes on the network compared to the weekday PM and Mid-Afternoon periods. Traditionally for restaurants and fast-food land uses, there are more trips generated during the PM period than the AM period. The weekday mid-afternoon period has the second-highest traffic levels to residential areas and has a similar number of project trips generated when compared to the PM peak hour.

## TRANSPORTATION IMPACTS AND MITIGATIONS

The Proposed Project's impact on the transportation network was found to be less-than-significant. No transportation mitigation measures are required.

## 1 INTRODUCTION

The Proposed Amy's Drive Thru restaurant would be located in the Town of Corte Madera at 5839 Paradise Drive between Tamalpais Drive and San Clemente Drive. The Project is located adjacent to U.S. 101 on Paradise Drive, where there are a variety of different retail and office uses as well as some nearby residential uses. The Village at Corte Madera, a regional shopping center, is located north of the project site.

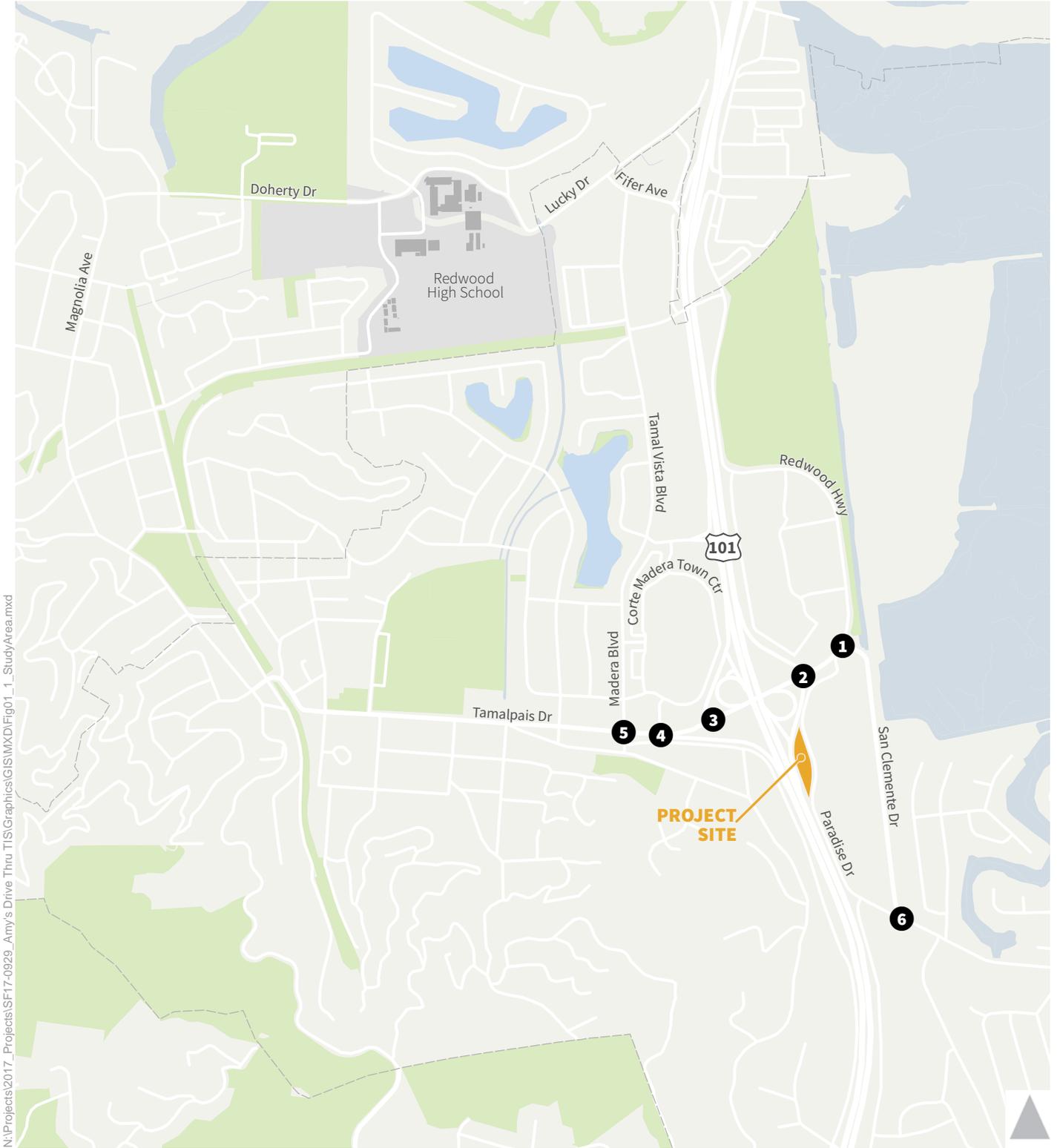
This report examines the existing transportation conditions around the 5839 Paradise Drive site and analyzes the transportation impacts of building the Amy's Drive-Thru restaurant (herein "Proposed Project" or "Project"). This Project includes a total site area of 48,744 square feet, including a one store commercial building of 4,125 gross square feet and a drive-through window with dedicated queueing space.

This transportation impact analysis evaluates the Proposed Project's potential impacts on traffic conditions, transit service, bicycle circulation, pedestrian circulation, and emergency access. This chapter summarizes the project study area and outlines the report structure.

### 1.1 PROJECT STUDY AREA

The transportation study area for the Proposed Project (herein "study area") is bounded by Tamalpais Drive, San Clemente Drive, Paradise Drive, and Madera Boulevard. **Figure 1-1-1** shows the location of the Proposed Project and streets and intersections within the study area.

# PC Attachment 1



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- 1 Study Intersection
- Project Site



Figure 1 - 1  
Project Study Area

## 1.2 PROJECT DESCRIPTION

The Proposed Project site is located at 5839 Paradise Drive in the Town of Corte Madera and adjacent to the U.S. 101 Highway, south of Tamalpais Drive. The site is currently occupied by a one story, 3,705 square foot commercial building. The Proposed Project would demolish the existing building and construct a new one-story commercial building of approximately 4,125 square feet as a drive-through restaurant further to the south of the project site. The Project site design includes approximately 3,000 square feet of outdoor seating, 47 parking spaces, 14 bicycle parking spaces, and a covered refuse enclosure. The Project would also install a crosswalk across Paradise Drive to provide a marked crossings traveling between the project site and businesses on the east side of Paradise Drive. **Figure 1-2** provides a Proposed Project site plan.

## 1.3 REPORT ORGANIZATION

The remainder of this report is divided into the following chapters:

Chapter 2 – Existing Conditions describes the operating conditions of the existing transportation network within the vicinity of the Project, including the surrounding roadway network, intersection operating conditions, transit service, pedestrian and bicycle conditions, and parking supply and occupancy.

Chapter 3 – Regulatory Framework discusses the relevant state, regional, and local jurisdictions that operate in the Town of Corte Madera and have transportation policies that may apply to the Project impact analysis.

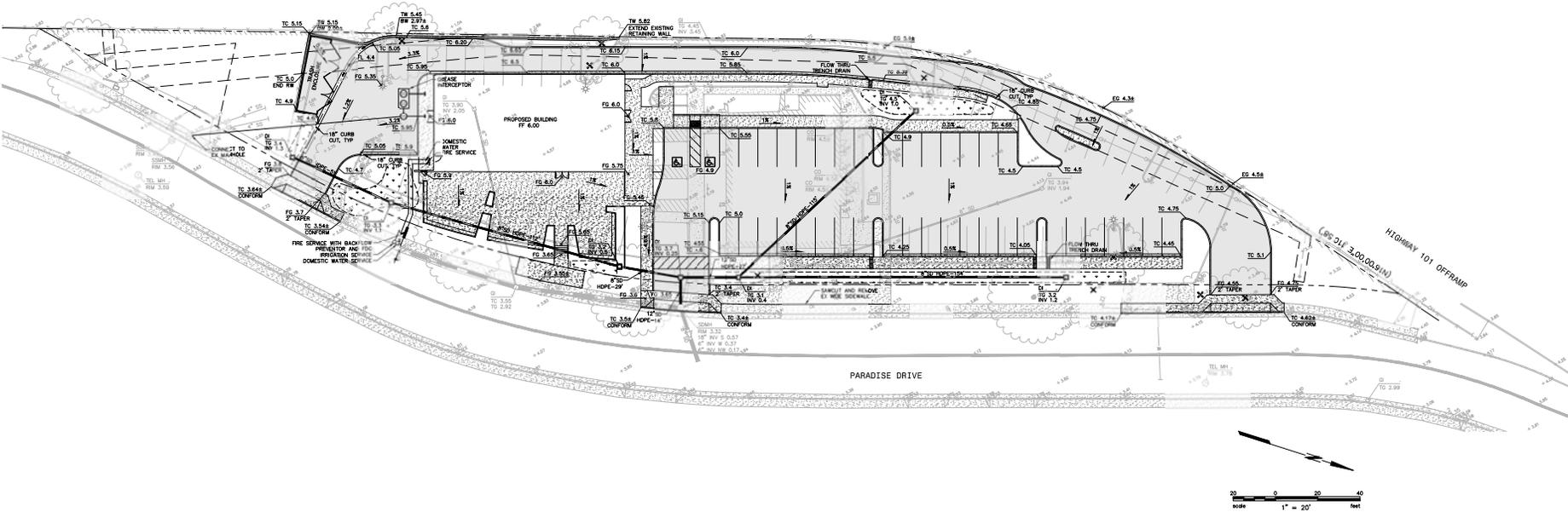
Chapter 4 – Travel Demand Analysis includes the selection of the study time periods for analysis as well as the Proposed Project's estimated trip generation, trip distribution, and trip assignment forecasts for private vehicles. The Proposed Project's trip generation was developed based on the Amy's Drive Thru location in Rohnert Park, as well as the ITE Trip Generation Manual.

Chapter 5 – Significance Criteria describes how each transportation mode was assessed for Project-related impacts based on the Town's General Plan and other relevant policy documents. Areas analyzed include traffic, transit, pedestrians, bicycles, and emergency access.

Chapter 6 – Existing Plus Project Conditions describes the anticipated operating conditions of the transportation network with the Proposed Project in place and identifies the extent to which Proposed Project traffic would impact the transportation network. Existing Plus Project conditions describes the anticipated operating conditions of the transportation network under Existing conditions with the addition of the Proposed Project. Operations of the transportation network after the addition of the travel demand from the Proposed Project is described, including the project's impacts on study intersections, transit, bicycles, pedestrians, parking, and emergency vehicles.

Chapter 7 – Cumulative Conditions describes the anticipated operating conditions of the transportation network under Cumulative conditions, including the traffic associated with the Proposed Project, and other reasonably foreseeable development projects as included in the Town of Corte Madera General Plan. Future year traffic forecasts were previously prepared as part of the Transportation Impact Analysis for the General Plan, which used the Corte Madera Travel Demand Model (which is itself based on the Marin County travel demand model). The Proposed Project's contribution to potential impacts on future transportation conditions for intersections, transit, pedestrians and bicycles, and emergency vehicles is described.

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Source: Interstice Architects

Figure 1 - 2  
Project Site Plan

## 2 EXISTING CONDITIONS

This chapter provides a description of the existing transportation and circulation setting within the surrounding vicinity of the Project. It includes descriptions of the existing roadway network, intersection operating conditions, freeway operating conditions, transit network and service, bicycle and pedestrian circulation, and parking supply and occupancy.

### 2.1 ELEMENTS OF ANALYSIS

This study examines Existing conditions related to the following transportation elements:

- Intersection and Operations – operations at key intersections providing access to and through the study area;
- Transit Service – local and regional transit operations into and within the study area;
- Pedestrian Circulation – qualitative assessment of conditions into and within the study area;
- Bicycle Circulation – qualitative assessment of conditions into and within the study area; and
- Parking Conditions – characterization of supply throughout the study area.

### 2.2 ROADWAY FACILITIES

This section describes the regional and local roadway system in the study area. The primary roadways used to access the Project include Paradise Drive, U.S. Highway 101, Tamalpais Drive, and San Clemente Drive. The Project would have three driveways located along Paradise Drive.

#### 2.2.1 Regional Access

**U.S. Highway 101 (U.S. 101)** provides the primary regional access to the Project and runs north-south through the study area. U.S. 101 connects Marin and Sonoma counties with San Francisco to the south. U.S. 101 also provides access to other regional roadways, including I-580 to the North of the project site. Vehicles approaching from US-101 northbound or southbound would reach the site via their respective freeway off-ramps, then by turning onto eastbound Tamalpais Drive and turning right onto southbound Paradise Drive. Visitors approaching from the east (i.e. Paradise Drive) would reach the site via northbound Paradise Drive. With the proposed right-out turning restriction in place at the Project driveways on Paradise Drive, drivers exiting the project site would reach the US-101 ramps by proceeding southbound on Paradise Drive, then turning left onto northbound San Clemente Drive, then left onto westbound Tamalpais Drive. This route translates into a travel distance of 0.8 miles, or approximately 3 minutes, from the project site to the US-101 northbound on-ramp; and a distance of 1.0 miles, or approximately 4 minutes, from the project site to

the US-101 southbound on-ramp. Within the study area, U.S. 101 is generally four lanes in each direction, including three mixed-flow lanes and one high occupancy vehicle (HOV) lane.

## 2.2.2 Local Access

**Paradise Drive** is a north-south running local street on the east side of U.S. 101 south of Tamalpais Drive. Along the Project site, Paradise Drive is one lane in each direction. Paradise Drive connects vehicles traveling from U.S. 101 to the Project. However, vehicles traveling northbound on Paradise Drive are not able to directly access the U.S. 101 on-ramps due to a forced right turn onto Tamalpais Drive. South of the Project, Paradise Drive connects to San Clemente Drive, and east of this intersection Paradise Drive runs east-west.

**Tamalpais Drive** is a four-lane east-west minor arterial street located north of the Project with two travel lanes in each direction. The Tamalpais Drive / U.S. 101 interchange provides the primary freeway access to the Project. East of San Clemente Drive, Tamalpais Drive becomes Redwood Highway. West of the U.S. 101 interchange, Tamalpais Drive provides access to the residential neighborhoods in Corte Madera. There are sidewalks on both sides of Tamalpais Drive West of the U.S. 101 southbound off-ramp. East of the southbound off-ramp, there is a sidewalk on the south side of Tamalpais Drive over the U.S. 101 overcrossing.

**San Clemente Drive** is a north-south minor arterial street with two travel lanes in each direction. Tamalpais Drive connects to the residential neighborhoods to the southeast of the Project site. San Clemente Drive connects with and becomes Paradise Drive approximately 2,500 feet south of its intersection with Tamalpais Drive. There are sidewalks on the east and west side of the street from Tamalpais Drive to Paradise Drive.

## 2.3 INTERSECTION OPERATIONS

This report evaluates intersection operating conditions during the weekday PM (4:00 PM to 6:00 PM) and Mid-Afternoon (2:00 PM – 4:00 PM) peak periods. A detailed discussion about the selection of these two time periods for analysis is provided in Section 4.1. Intersections, not corridors, usually form the critical capacity constraints on roadways. Therefore, most transportation analyses examine intersection operations as a measure of overall roadway conditions. The following six study area intersections were selected for analysis, through consultation with the Town of Corte Madera staff, given their location along routes where a significant number of project trips would be added.

1. Tamalpais Drive / Redwood Highway / San Clemente Drive
2. Tamalpais Drive / Northbound US-101 Ramps
3. Tamalpais Drive / Southbound US-101 Ramps

4. Tamalpais Drive / Town Center Entrance
5. Tamalpais Drive / Madera Boulevard
6. Paradise Drive / San Clemente Drive

Intersection operating conditions were evaluated for all six study intersections for the weekday PM and Mid-Afternoon peak periods.

### 2.3.1 Methodology

The operating characteristics of study intersections are evaluated using the metric of Level of Service ("LOS"). LOS is a qualitative description of driver comfort and convenience. Most often, an intersection's average delay per vehicle is used as a quantitative proxy for LOS. Intersection levels of service range from LOS A, which indicates free flow or excellent vehicle flow conditions with short delays, to LOS F, which indicates congested or overloaded vehicle flow conditions with extremely long delays. For this project, LOS A through D are considered acceptable, and LOS E and LOS F are considered unsatisfactory service levels. The intersections were evaluated using the methodology described in the *2010 Highway Capacity Manual* (HCM).

Traffic operations at signalized intersections are evaluated using the LOS method described in Chapter 16 of the HCM. A signalized intersection's LOS is based on the weighted average control delay measured in seconds per vehicle and includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration. **Table 1** summarizes the relationship between the control delay and LOS for signalized intersections.

In November 2017, the Governor's Office of Planning and Research (OPR) released proposed CEQA guidelines implementing Senate Bill (SB) 743 passed in 2013. SB 743, codified as Public Resources Code Section 21099, requires OPR to amend the CEQA Guidelines to provide an alternative to Level of Service (LOS) for evaluating transportation impacts. This transportation assessment uses LOS as a transportation impact metric because the proposed OPR CEQA guideline has yet to be adopted by the California Natural Resources Agency or the Transportation Authority of Marin (TAM), which is currently preparing guidelines for Marin jurisdictions.

TABLE 1: SIGNALIZED INTERSECTION LEVEL OF SERVICE CRITERIA		
Level of Service	Description	Average Control Delay (seconds per vehicle)
A	Operations with very low delay occurring with favorable traffic signal progression and/or short cycle lengths.	< 10
B	Operations with low delay occurring with good progression and/or short cycle lengths.	> 10 to 20
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	> 20 to 35
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.	> 35 to 55
E	Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences. This is considered to be the limit of acceptable delay.	> 55 to 80
F	Operations with delays unacceptable to most drivers occurring due to over-saturation, poor progression, or very long cycle lengths.	> 80

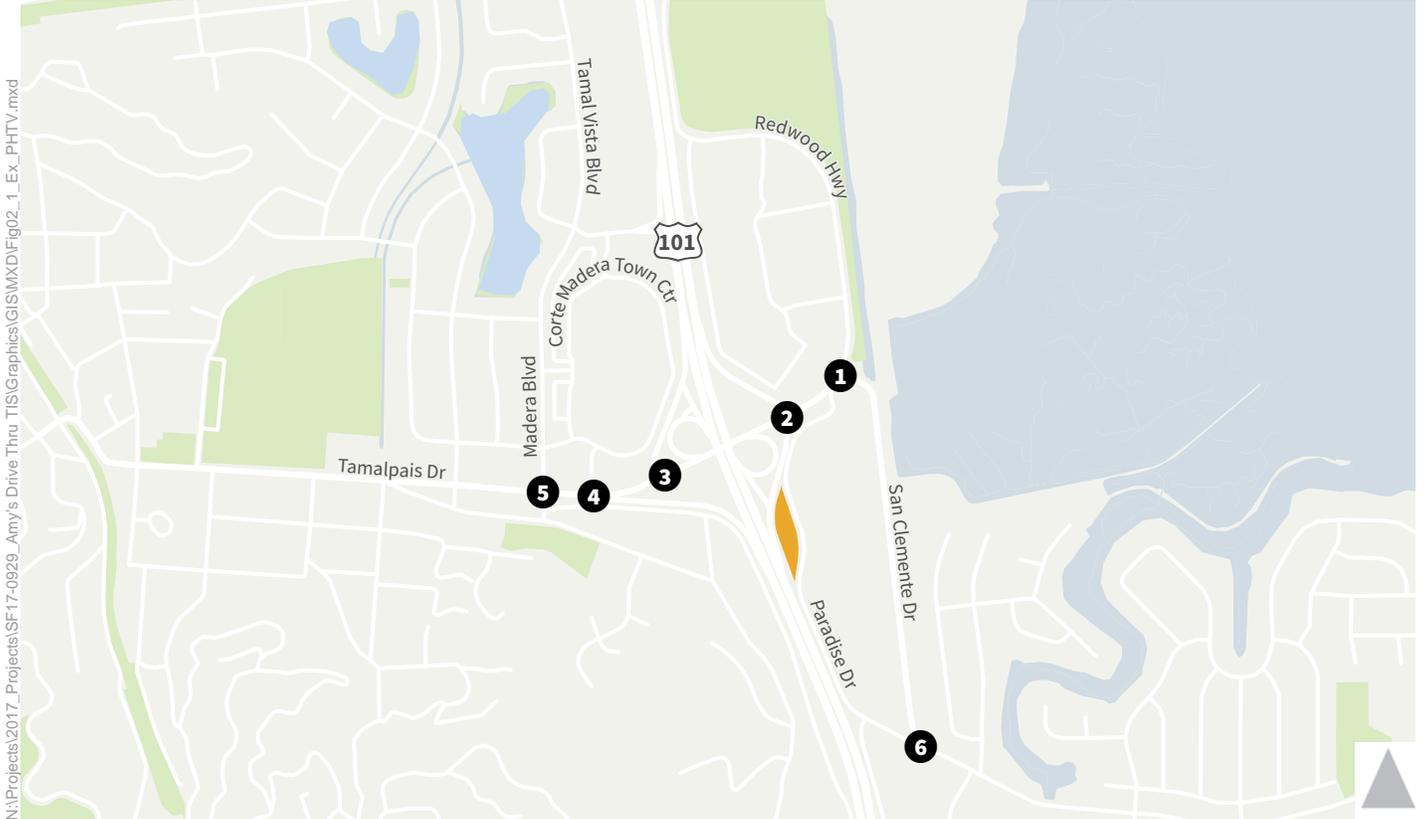
Source: *Highway Capacity Manual, Transportation Research Board, 2010.*

### 2.3.2 Intersection Operation Results

Existing traffic volumes were collected during the weekday PM and Mid-Afternoon periods for the six study intersections in May 2017 and February 2018 during typical conditions when local schools were in session. Traffic volume and intersection turning movement count summary sheets are provided in **Appendix A**. Intersection peak hour turning movements are shown in **Figure 2-1**.

LOS was calculated at each study intersection for the weekday PM and Mid-Afternoon peak hours. **Table 2** presents the existing LOS and corresponding delay at each study intersection. As shown in the table, all study intersections currently operate at LOS C or better during the PM and Mid-Afternoon peak hours. The highest delay occurs at Tamalpais Drive/Madera Boulevard with 36 seconds of average intersection delay during the Mid-Afternoon peak hour. Detailed LOS analysis results are provided in **Appendix B**.

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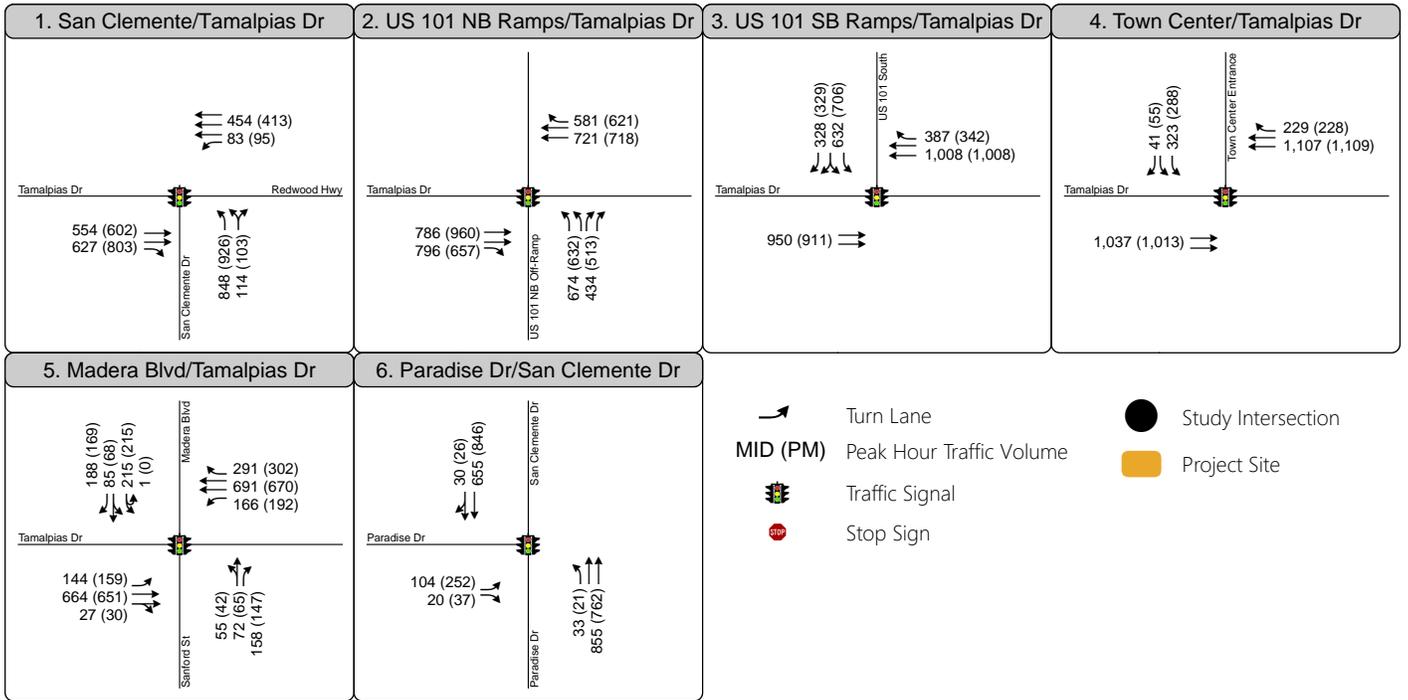


Figure 2 - 1

Peak Hour Traffic Volumes and Lane Configurations - Existing Conditions



TABLE 2: EXISTING INTERSECTION LOS AND DELAY

Intersection	Intersection Control	Mid-Afternoon Peak Hour		PM Peak Hour	
		Delay <sup>1</sup>	LOS <sup>1</sup>	Delay <sup>1</sup>	LOS <sup>1</sup>
1. San Clemente Drive / Tamalpais Drive / Redwood Highway	Signal	15	B	19	B
2. Tamalpais Drive / U.S. 101 Northbound Ramps	Signal	15	B	14	B
3. Tamalpais Drive / U.S. 101 Southbound Ramps	Signal	13	B	16	B
4. Tamalpais Drive / Town Center Drive	Signal	10	B	10	A
5. Tamalpais Drive / Madera Boulevard	Signal	36	D	33	C
6. Paradise Drive / San Clemente Drive	Signal	< 10	A	< 10	A

Notes:

**Bold** indicates LOS E or F operations

1. Delay reported as seconds per vehicle. For all intersections, a combined weighted average delay for the various movements within the intersection is reported based on the methodology in the Highway Capacity Manual 2010. This is consistent with the Town of Corte Madera's guidance for reporting intersection LOS results from the General Plan.

Sources: Fehr & Peers, 2017, *Highway Capacity Manual 2010*, *Transportation Research Board*

## 2.4 FREEWAY OPERATIONS

Based on guidance from the *2015 Congestion Management Program (CMP) Update* published by the Transportation Authority of Marin (TAM), projects that generate more than 100 peak hour trips must conduct a freeway analysis as part of the operations analysis. Though the Proposed Project generates 168 PM peak hour trips, freeway operations do not need to be analyzed given the high portion of pass-by trips generated. Given that the Project location is adjacent to the U.S. 101 and the nature of fast-food restaurant trips, approximately 50 percent of trips generated would be considered "diverted linked" trips that are already making their primary trip on U.S. 101 and would divert to the project site via the U.S. 101/Tamalpais Drive interchange. As such, the proposed project would add approximately 80-90 peak hour vehicle trips to U.S. 101 and a freeway analysis is not required under the TAM CMP.

## 2.5 TRANSIT SERVICE

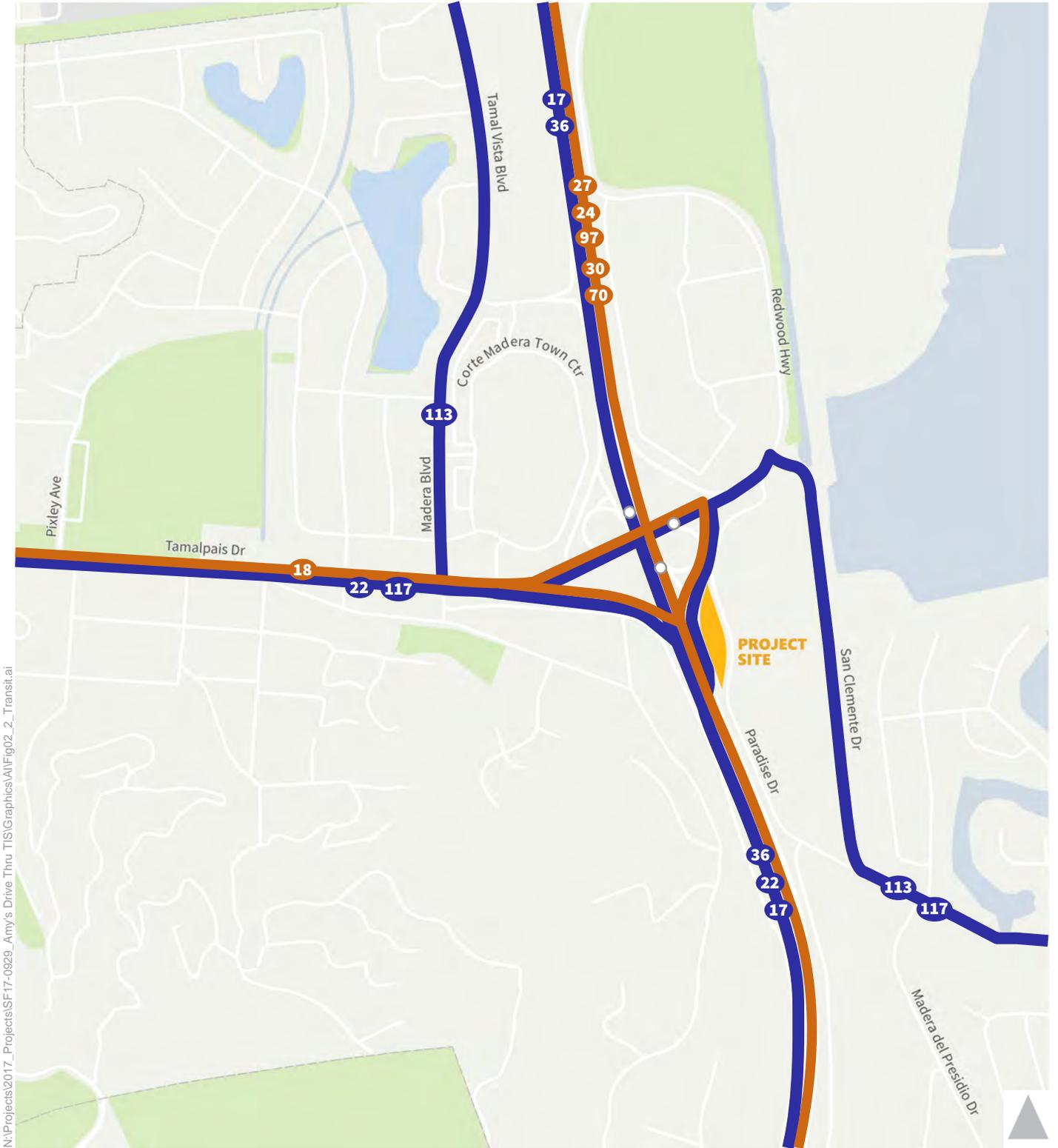
shows the transit service available within the study area. **Table** below summarizes transit service in the study area, while the remainder of this section provides detail about the two main transit operators in the area: Marin Transit and Golden Gate Transit.

The project site is near three transit stops: two bus stops at the ramps along US-101 (at Tamalpais Drive), and a local stop on the north side of Tamalpais Drive. The northbound and southbound US 101 bus pads are served by routes 17, 24, 27, 30, and 70. The local stop on Tamalpais Drive is served by routes 18 and 22. These bus stops can be reached by walking approximately 0.4 to 0.5 miles along Paradise Drive, Tamalpais Drive, and dedicated pedestrian paths to the bus pads. Additional details on the transit routes is provided in the table below and the following text.

TABLE 3: TRANSIT SERVICE SUMMARY				
Line	Major Destinations	Nearest Stop to the Project	Weekday Operations	
			Hours of Operation	Frequency
<b>Marin Transit</b>				
17	Sausalito – Mill Valley – San Rafael	Tamalpais Drive / U.S. 101 northbound off-ramp	5:30 AM – 11:25 PM	30/60 minutes
22	San Rafael – Marin City	Tamalpais Drive / Paradise Drive / U.S. 101 Overpass	5:32 AM – 11:55 PM	30/60 minutes
36	Canal – San Rafael – Marin City	Tamalpais Drive / U.S. 101 northbound off-ramp	6:53 AM – 5:54 PM	30 minutes
<b>Golden Gate Transit</b>				
18	College of Marin – San Francisco	Tamalpais Drive / Paradise Drive / U.S. 101 Overpass	6:00 AM – 9:30 AM 4:00 PM – 8:00 PM	15/30 minutes
24	Fairfax (Manor) – San Francisco	Tamalpais Drive / U.S. 101 northbound off-ramp	4:30 AM – 10 AM 2:30 PM – 8:30 PM	15/30 minutes
27	San Anselmo – San Francisco	Tamalpais Drive / U.S. 101 northbound off-ramp	4:30 AM – 11:45 AM 12:15 PM – 7:45 PM	15/30 minutes
30	San Rafael – San Francisco	Tamalpais Drive / U.S. 101 northbound off-ramp	4 AM – 2 AM	60 minutes
70	Novato – San Rafael – San Francisco	Tamalpais Drive / U.S. 101 northbound off-ramp	4 AM – 12 AM	60 minutes

Source: Golden Gate Transit and Marin Transit, 2018

# PC Attachment 1



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- Bus Stop
- Golden Gate Transit Commute Routes (18, 24, 27, 97, 30, 70)
- Marin Transit Routes (17, 36, 22, 113, 117)
- Project Site



Figure 2 - 2  
Transit Service

## 2.5.1 Local Transit Service

**Marin Transit** provides local bus service within Marin County. **Table** describes the service provided through Marin Transit within the Project study area. Bus service within vicinity of the Project is provided through Route 22, which runs along Tamalpais Drive West of San Clemente Drive, and Routes 17 and 36, which run along U.S. 101. Route 17 is a local route that carries the highest ridership of these transit lines, with approximately 900 daily riders while route 22, another local route, serves approximately 800 daily riders. Route 36 is an urban trunk line that serves approximately 400 daily riders. There are bus stop locations on the arterial street Tamalpais Drive / Paradise Drive / U.S. 101 Overpass and Tamalpais Drive / Madera Boulevard. There are two bus stops serving U.S. 101 located at Tamalpais Drive / U.S. 101 southbound on-ramp and Tamalpais Drive / U.S. 101 northbound off-ramp.

## 2.5.2 Regional Transit Service

**Golden Gate Transit** is the primary regional transit provider within Marin and Sonoma Counties. Golden Gate Transit provides extensive bus service to the San Rafael Transit Center in Downtown San Rafael from Marin and Sonoma counties, San Francisco, and Contra Costa County. Commute route 18 provides service to San Francisco on weekdays with bus stop locations along Tamalpais Drive shared with Marin transit. Commute routes 24 and 27 as well as regional routes 30 and 70 provide service to San Francisco on weekdays with bus stop locations along U.S. 101 located at Tamalpais Drive / U.S. 101 southbound on-ramp, Tamalpais Drive / U.S. 101 northbound off-ramp, Lucky Drive / U.S. 101 on-ramp and Lucky Drive / U.S. 101 off-ramp. Route 70 serves the highest ridership of all routes serviced by Golden Gate Transit, with approximately 2,400 riders per day.

Golden Gate also provides ferry service between Larkspur and San Francisco. The Larkspur ferry terminal is located to the North of the Project and is accessible via U.S. 101. Service operates with 30 minute headways during the AM and PM peak periods.

## 2.6 PEDESTRIAN CIRCULATION

Pedestrians would access the site via the sidewalk adjacent to the site, along the west side of Paradise Drive. A 5-foot-wide sidewalk is currently present at this location. However, the sidewalk is not continuous or connected to the north or south of the project site; rather, the sidewalk ends approximately 400 feet to the north and 250 feet south of the proposed building. There is no available right of way, nor are there destinations to feasibly extend the sidewalk to the north or south. There is a continuous sidewalk along the east side of Paradise Drive. There are currently no crosswalks across Paradise Drive.

Tamalpais Drive has sidewalks on both sides of the street west of the U.S. 101 southbound ramps. Between the U.S. 101 northbound on-ramp and U.S. 101 southbound off-ramp, there is a sidewalk on the south side of Tamalpais Drive for pedestrians crossing over U.S. 101. At the U.S. 101 northbound on-ramp, the sidewalk merges into a pathway that brings pedestrians down from the overcrossing, and provides access to the southern crosswalk at Tamalpais Drive / U.S. 101 northbound off-ramp. Between San Clemente Drive and the U.S. 101 northbound off-ramp there is a sidewalk on the north side of Tamalpais Drive that allows pedestrian circulation from the bus stop near the Tamalpais Drive / U.S. 101 northbound ramp intersection. There are no north-south crosswalks on Tamalpais Drive between the U.S. 101 Southbound off-ramp and San Clemente Drive on the U.S. 101 overcrossing.

## 2.7 BICYCLE CIRCULATION

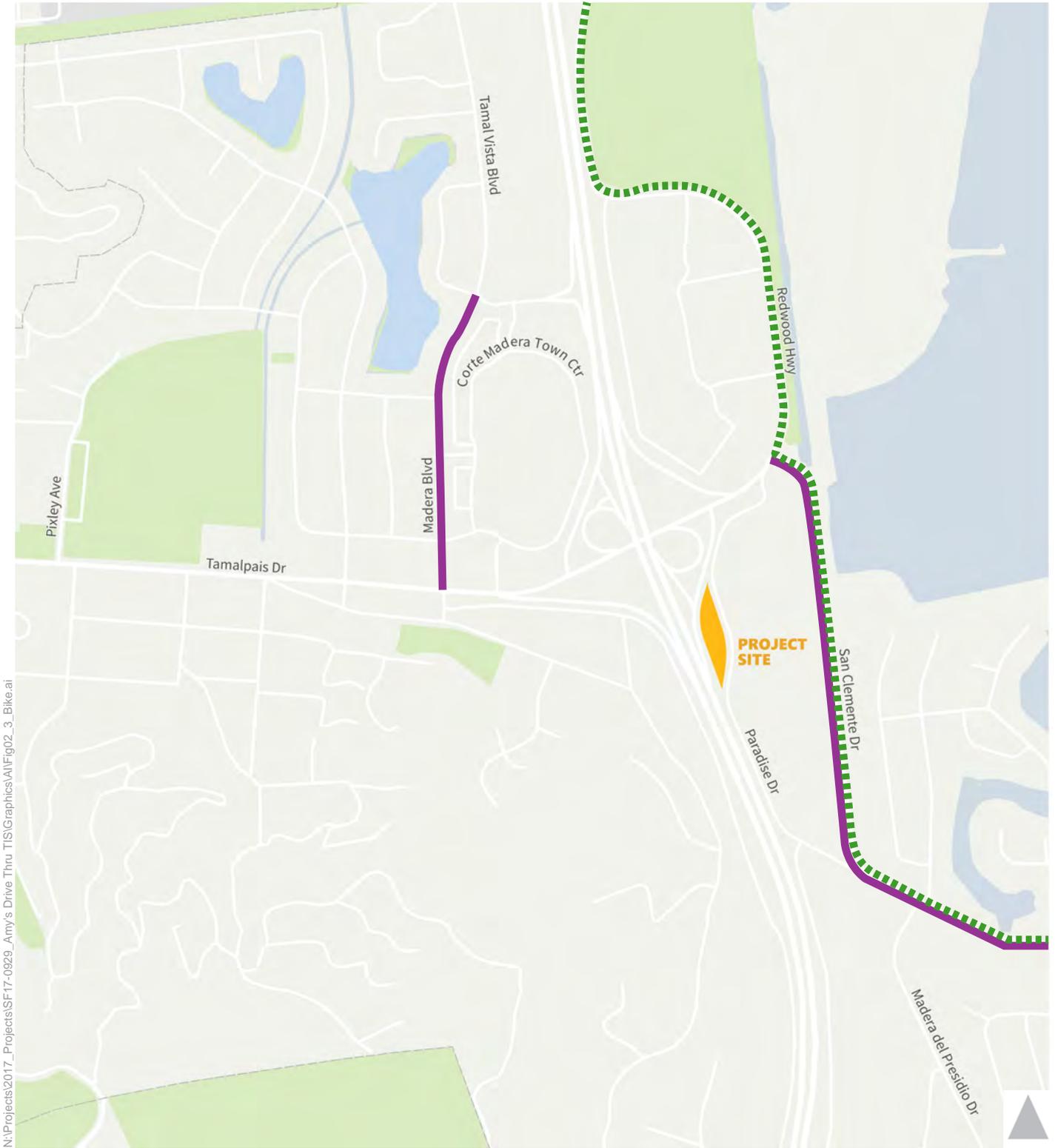
Bicycle facilities consist of bicycle paths, bicycle lanes, bicycle routes, and separated bikeways.

- Class I (Shared Use Bicycle Path): These facilities provide a dedicated area for bicyclists on a paved right-of-way completely separated from any street or highway. It is usually shared with pedestrians and other active transportation users.
- Class II (Bicycle Lanes): These facilities provide a dedicated area of bicyclists within the paved street width through the use of striping and appropriate signage.
- Class III (Bicycle Routes): These facilities are provide shared use with motor vehicle traffic. The street is designated as a bicycle route through the use of signage informing drivers to expect bicyclists.
- Class IV (Separated Bikeways or Cycle Tracks): These facilities are for the exclusive use of bicycles and requires a vertical element that separates the bikeway and adjacent vehicular traffic.

**Figure 2-3** shows the bicycle facilities within the study area. Currently there are designated Class I shared use bicycle paths along Redwood Highway and San Clemente. The Sandra Marker Trail is a shared use trail located on the east side of Redwood Highway begins South of Wornum Drive and ends at San Clemente Drive. At the intersection of Redwood Highway and San Clemente Drive, the shared use path continues on the east side of San Clemente Drive to Paradise Drive.

Class II bicycle lanes are provided along segments of Redwood Highway, Madera Boulevard, and San Clemente Boulevard. On Madera Boulevard there are north-south bicycle lanes along the east and west side from Council Crest Drive to Tamalpais Drive. On San Clemente Boulevard there are north-south bicycle lanes from Tamalpais Drive to Paradise Drive, in addition to the shared-use path to the east side of the street.

There are no Class III bicycle routes or Class IV cycle tracks within the study area.



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- Class I (Shared-Use Path)
- Bike Class II (Bicycle Lane)
- Project Site



Figure 2 - 3  
Bicycle Facilities

## 3 REGULATORY FRAMEWORK

This section describes the relevant state, regional, and local agencies with operations in the Town of Corte Madera and their associated transportation-related policies that could apply to Project-related transportation issues.

### 3.1 STATE

The **California Department of Transportation** (Caltrans) operates and maintains U.S. Highway 101 and has jurisdiction over the freeway and the on and off-ramp intersections and interchanges that access this regional facility, which includes the freeway segments and intersections studied in the TIS. U.S. 101 provides regional access to the Town of Corte Madera and the neighboring cities within Marin County. Additionally, the Caltrans Division of Planning has four major functions including the Office of Advance Planning, Regional Planning/Metropolitan Planning Organization, Local Assistance/IGR/CEQA, and System Planning Public Transportation.

### 3.2 MARIN COUNTY

The **Transportation Authority of Marin** (TAM) is designated as the Marin Congestion Management Agency (CMA), to address Marin's unique transportation issues and to fulfill the legislative requirements of Propositions 111 and 116, approved in June 1990. The agency was created for the purpose of administering the Measure A sales tax program. The Authority is responsible for programming funding for all transportation programs in Marin County. The TAM Board includes representatives from each city and town in Marin County, plus the five members of the Board of Supervisors.

### 3.3 TOWN OF CORTE MADERA

The **Town of Corte Madera** has jurisdiction over all Town streets, Town-operated traffic signals, and public rights of way. The Town's General Plan contains a Circulation Element that has several transportation-related policies and implementation programs that are applicable to the Proposed Project.

#### 3.3.1 Intersections

The Town's General Plan specifies the following Policy and Implementation Program related to traffic operations at intersections:

- Policy CIR-1.2: Ensure that current Levels of Service at intersections are maintained when considering new development within Corte Madera
  - Implementation Program CIR-1.1.a: Level of Service Standards: Ensure that current Levels of Service (LOS) at intersections are maintained at LOS D or better operation during the evening peak periods at intersections of an arterial street with either another arterial or a collector street and intersections of two collector streets. For all types of controls the LOS standard is to be applied to the average operation of the intersection, and not that for any single movement or approach. Exceptions to meeting this standard include:
    1. Stop-controlled minor street approaches to either collector or arterial streets, where safety shall be the primary consideration;
    2. Locations where the Town Engineer deems improvement to be technically, financially, or environmentally infeasible;
    3. Conditions where the improvement would result in significant adverse impacts to other travel modes, including walking, bicycling, or transit; or
    4. Locations where attainment would ensure the loss of an area's unique character.

### 3.3.2 Transit

The Town's General Plan specifies the following Policy and Implementation Program related to transit service:

- Policy CIR-1.8: Support investment in local and regional transit and transportation plans that provide alternatives to automobile-intensive transportation programs through CIP actions
  - Implementation Program CIR-1.8.a: Regional Transit: Partner with regional transportation agencies and transit providers to create programs aimed at reducing vehicle miles traveled (VMT) in the Town and region. These programs may include the provision of additional transit options, reviving fixed rail service within the County, carpooling programs, partnerships with employers to support variable work hours, transit passes, and programs aimed at altering travel behavior

### 3.3.3 Pedestrians

The Town's General Plan specifies the following Policies and Implementation Programs related to pedestrians:

- Policy CIR-1.6: Assure the adequacy and availability of the circulation system for all persons by implementing the Americans with Disabilities Act
  - Implementation Program CIR-1.6.a: Barrier Removal. Remove barriers on sidewalks and at street crossings as identified and prioritized in the Town of Corte Madera ADA Barrier Removal Implementation Plan.

- Implementation Program CIR-1.6.b: Barrier Free Design. Continue to design roadway intersection, and sidewalk projects to assure accessibility for all persons, consistent with Americans with Disabilities Act
- Policy CIR-3.5: Emphasize use of pedestrian pathways and sidewalks as an integral part of the Town's circulation system
  - Implementation Program CIR-3.5.a: Sidewalk Design: Design new and replacement sidewalks to increase pedestrian safety, use, and aesthetics
  - Implementation Program CIR-3.5.c: Sidewalk Repairs. Require property owners to pay their fair share of costs for repairing existing sidewalks

### 3.3.4 Parking

The Town's General Plan specifies the following Policies and Implementation Programs related to parking:

- Policy CIR-6.1: Require parking to meet the needs of existing and planned uses
  - Implementation Program CIR-6.1.a: Off-Street Parking. Through the design review process and appropriate update to the Zoning Ordinance, require all new development to provide sufficient off-street parking. The Zoning Ordinance parking standards shall recognize reduced on-site parking requirement when development includes mixed-uses with offset peak hour parking, and provisions for alternative transportation modes

### 3.3.5 Bicycle Plan

The Town's Bicycle Plan (adopted July 2016) establishes the Town's vision for a network of bicycle and pedestrian facilities to encourage bicycling and walking as viable modes of travel around the Town. The Plan identifies specific improvement projects around the Town to improve the walking and bicycling environment.

## 4 TRAVEL DEMAND ANALYSIS

This section describes the time periods selected for analysis, the vehicle travel demand that would be generated by the Proposed Project, and how the Project trips would be distributed throughout the study area intersections. The travel demand associated with the Proposed Project was estimated using a three-step process: trip generation, trip distribution, and trip assignment.

### 4.1 STUDY TIME PERIODS

Transportation impact studies typically evaluate the peak hours for weekday traffic conditions during morning (7:00 – 9:00 AM) and evening (4:00 – 6:00 PM) time periods as those peak hours represent the highest level of traffic when looking at the combination of added project traffic and existing/background traffic. Fast food and restaurant land uses have different travel profiles than residential or office uses that have peak traffic generation during weekday AM (7:00 – 9:00 AM) and PM (4:00 – 6:00 PM) peak hours. Fast food restaurants generate substantially fewer trips during the weekday AM peak period as most stores don't open until mid-morning. The proposed Amy's Drive Thru will not open to customers until 9 AM or later, thus the majority of Project trips will be outside of the AM (7:00 – 9:00 AM) period. Peak traffic generation for fast food restaurants occur during the weekday PM (4:00 PM – 6:00 PM) and mid-day (12:00 PM – 2:00 PM) periods. On weekdays, traffic volumes in Corte Madera are highest during the weekday PM commute period (4:00 – 6:00 PM) but also are very high during the mid-afternoon period (2:00-4:00 PM) when schools are letting out for the day.

An assessment was conducted to determine which time period(s) should be evaluated in the traffic study. To inform the decision, traffic counts were conducted at all six study intersections during the following time periods:

- Weekday PM Peak Hour (highest hour between 4:00 – 6:00 PM)
- Weekday Mid-Afternoon Peak Hour (highest hour between 2:00 – 4:00 PM)
- Weekday AM Peak Hour (highest hour between 7:00 AM – 9:00 AM)

Intersection volumes during the three time periods are presented in **Table 4**. Compared to the weekday PM period, the AM period generates ten percent fewer trips network wide. When isolating individual intersections, this decrease in traffic volumes ranges from one percent to 29 percent with the exception of Paradise Drive / San Clemente Drive. This intersection experiences higher volume during the AM peak period, which is likely due to the residential and office land uses surrounding the intersection. Compared to the weekday Mid-Afternoon period, the AM period generates nine percent fewer trips network wide. On an isolated intersection level, this decrease ranges from five to 26 percent. Similar to the PM period, the

Paradise Drive / San Clemente Drive location is higher in the AM peak than the Mid-Afternoon peak. Therefore based on this assessment, the Mid-Afternoon and PM periods were selected for analysis because of higher network vehicle volumes as well as higher trip generation for fast food restaurants.

**TABLE 4: INTERSECIION VOLUME COMPARISON BY TIME PERIOD**

Intersection	Weekday AM Volume	Weekday Mid-Afternoon Volume	Weekday PM Peak Hour	AM and PM Difference	AM and PM Percentage Difference
1. San Clemente Drive / Tamalpais Drive / Redwood Highway	1,496	2,032	2,116	-620	-29%
2. Tamalpais Drive / U.S. 101 Northbound Ramps	3,413	3,989	4,081	-668	-16%
3. Tamalpais Drive / U.S. 101 Southbound Ramps	3,372	3,702	3,552	-180	-5%
4. Tamalpais Drive / Town Center Drive	2,338	2,723	2,373	-35	-1%
5. Tamalpais Drive / Madera Boulevard	2,438	2,488	2,663	-225	-8%
6. Paradise Drive / San Clemente Drive	2,246	1,755	1,944	+302	16%

Sources: Fehr & Peers, 2018

Intersection count data for all three time periods is provided in **Appendix A**.

## 4.2 TRIP GENERATION

Trip generation refers to the process of estimating the amount of new vehicle trips that a project would add to the surrounding roadway system. Alternative sources for trip generation rates for different land use types include either using rates identified in the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 10<sup>th</sup> Edition (2017)* that is based on travel collected on a national basis or collecting localized trip generation data for land use types that are not represented well in the ITE database.

For the purposes of this study, locally derived empirical trip generation rates were used instead of rates provided by ITE or Urban Land Institute (ULI) for the following reasons.

- Specialty nature of the foods offered at Amy's Drive Thru
- ITE does not provide data for fast-food restaurants for the weekday mid-afternoon period, one of two time periods evaluated in this study

ITE recommends using observed local data, when available, to better account for unique local conditions that are not necessarily captured in their nation-wide averages. In addition, empirical data can be used to derive rates for any analysis period, whereas the data sources in ITE Trip Generation are largely focused on the weekday AM and PM peak hours.

For this study, driveway volume and drive-thru queue data were collected at the Rohnert Park Amy's Drive Thru location during the weekday mid-afternoon and PM peak periods on February 27, 2018 and May 24, 2017, respectively. These driveway counts were used to develop an empirical trip generation rate per thousand square feet of gross floor area and compared to ITE rates. The Rohnert Park Amy's Drive Thru location has a gross floor area of 4,200 square feet, which is comparable to the Project's proposed size of 4,125 square feet. The Rohnert Park location also provides approximately 5,500 square feet of outdoor seating area compared to the 3,000 square feet proposed by the Project. Both restaurant sites are located adjacent to U.S. 101, one in Sonoma County and the proposed project in Marin County.

**Table 5** shows trip generation estimates for the Proposed Project using the empirical trip generation rate. The analysis presented in this memorandum is based on 4,125 square feet of gross floor area, which is expected to generate an estimated 173 external vehicle trips in the mid-afternoon peak hour and an estimated 168 external vehicle trips during the PM peak hour.

TABLE 5: PROJECT TRIP GENERATION							
Land Use	Gross Floor Area (square feet)	Weekday Mid-Afternoon Peak Hour <sup>1</sup>			Weekday PM Peak Hour		
		In	Out	Total	In	Out	Total
Rohnert Park Amy's Drive Thru	4,200	75	101	<b>176</b>	89	82	<b>171</b>
Corte Madera Amy's Drive Thru	4,125	74	99	<b>173</b>	87	81	<b>168</b>

Notes:

1. In and out split during this period deviates from 50/50 as visitors from the typical lunch hours of 12 – 2 PM are included in the "out" count when they exit during the 2 – 4 PM period

Source: Fehr & Peers, 2018

## 4.3 TRIP DISTRIBUTION

Trip distribution is defined as the directions that vehicles would use to arrive and depart from the Proposed Project. This distribution estimate is based on the locations of major residential areas, sources of potential restaurant customers, our experience with similar land uses, the ITE published average pass-by rate of 49 percent for fast food restaurants with drive through, and discussion with Town staff. **Figure 4-1** provides the distribution to and from locations along US-101, Tamalpais Drive, San Clemente Drive, and Lucky Drive. As shown on **Figure 4-1**, the majority of Project trips are assumed to come from regional origins/destinations via US 101. Approximately 30 percent of Project trips are expected to access the Project site locally. These trips would use local roadways such as Paradise Drive and Tamalpais Drive without traveling on the freeway. **Figure 4-2** provides the Project trip assignment to the study intersections.



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Figure 4 - 1  
Estimated Project Trip Distribution

# PC Attachment 1

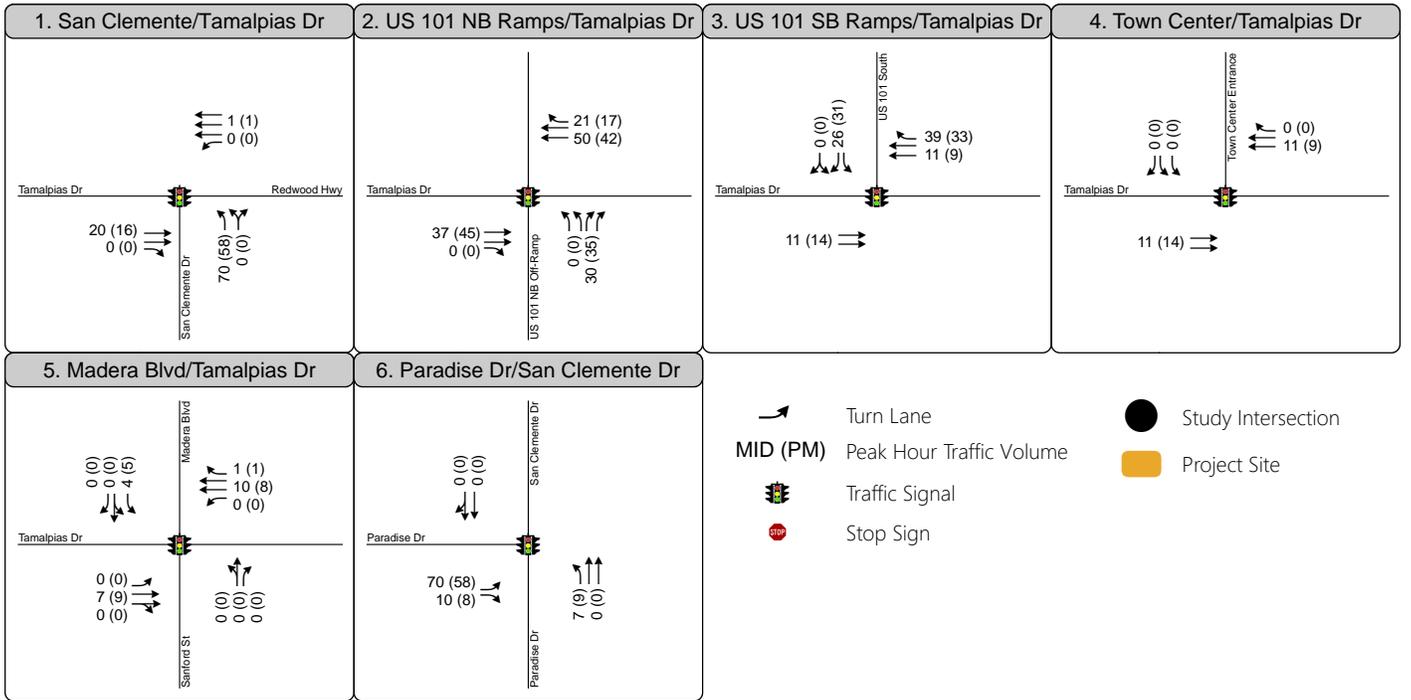
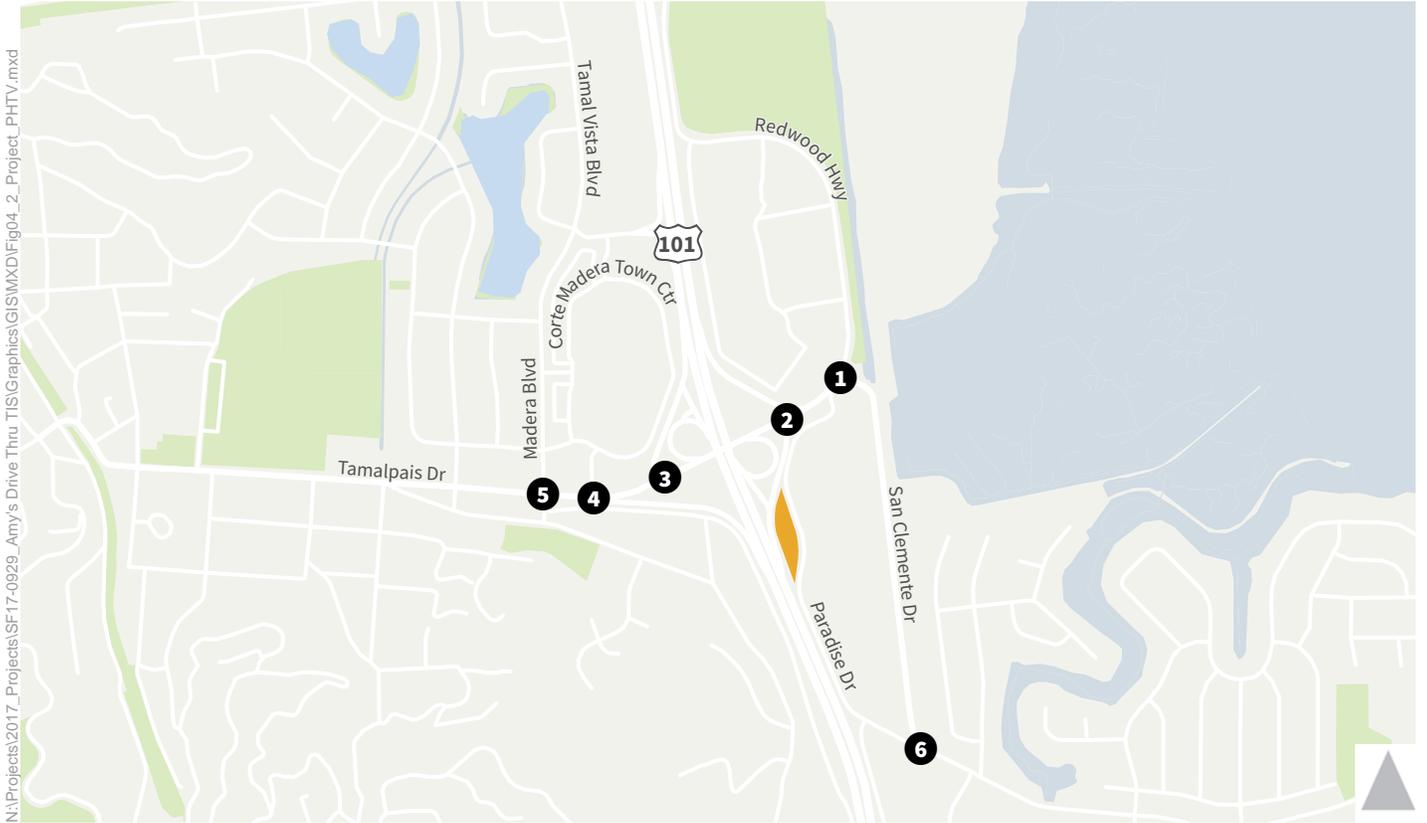


Figure 4 - 2

Peak Hour Traffic Volumes and Lane Configurations - Project Trip Assignment



## 5 SIGNIFICANCE CRITERIA

The State CEQA Guidelines state that a project will result in a significant transportation and circulation impact if it causes an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system. For the purpose of this Transportation Impact Study, impacts are considered to be significant if the following could result from the implementation of the Proposed Project:

1. Cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the V/C ratio for freeways, or congestion at intersections);
2. Exceed the level of service (LOS) standard established by the county congestion management agency, Town of Corte Madera, or City of Larkspur for designated roads or highways;
3. Result in a significant unanticipated increase in transit ridership or result in development that is inaccessible to transit riders;
4. Disrupt existing pedestrian facilities, interfere with planned pedestrian facilities, or create inconsistencies with adopted pedestrian system plans, guidelines, policies or standards;
5. Disrupt existing bicycle facilities, interfere with planned bicycle facilities, conflict or create inconsistencies with adopted bicycle system plans, guidelines, policies or standards, or not provide secure and safe bicycle parking in adequate proportion to anticipated demand;
6. Result in a change in air traffic patterns, including either an increase in air traffic levels or a change in location that results in substantial safety risks;
7. Substantially increase hazards due to a design feature (i.e., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment);
8. Result in inadequate emergency access;
9. Conflict with adopted policies, plans, or programs supporting alternative transportation;
10. Construction activity results in substantial interference with pedestrian, bicycle, or vehicle circulation and accessibility to adjoining areas, thereby resulting in potential hazardous conditions, given consideration of the project site location and other relevant project characteristics.

Based on the 2009 Town of Corte Madera General Plan, the following are the significance thresholds used to assess whether the Proposed Project would result in significant impacts to the transportation network

under the California Environmental Quality Act (CEQA). These criteria are organized by transportation mode to facilitate the transportation impact analysis.

## 5.1 TRAFFIC

### 5.1.1 Intersections

Based on Implementation Program CIR-1.1.a of the General Plan, the Project would have a significant impact to intersection operations in Corte Madera if the intersection's level of service deteriorates from LOS D or better to LOS E or F.

## 5.2 TRANSIT

Based on Policy CIR-1.8 of the General Plan, a transit impact is considered significant if it would result in a significant unanticipated increase in transit patronage or result in development that is inaccessible to transit riders. A development is typically considered inaccessible if the distance required to walk between the site and the nearest transit stop is substantially longer than the common standard for desirable walking distance of ¼ mile, taking into account barriers or obstructions.

## 5.3 PEDESTRIANS

Based on Policy CIR-1.6 and CIR-3.5 of the General Plan, a pedestrian impact is considered significant if it would disrupt existing pedestrian facilities, interfere with planned pedestrian facilities, or create inconsistencies with adopted pedestrian system plans, guidelines, policies or standards.

## 5.4 BICYCLES

A bicycle impact is considered significant if it would disrupt existing bicycle facilities, interfere with planned bicycle facilities, conflict or create inconsistencies with adopted bicycle system plans, guidelines, policies or standards, or not provide secure and safe bicycle parking in adequate proportion to anticipated demand.

## 5.5 EMERGENCY ACCESS

An emergency vehicle access impact is considered to be significant if the proposed project would provide inadequate design features to accommodate emergency vehicle access and circulation.

## 6 EXISTING PLUS PROJECT CONDITIONS

This chapter evaluates potential traffic impacts under Existing plus Project conditions. **Figure 6-1** presents the project trips described in Section 4 were added to existing traffic counts to produce Existing plus Project intersection turning movement volumes. The Project would result in **less-than-significant** impacts under intersection, transit, pedestrian, and bicycle, emergency access, and construction conditions.

### 6.1 INTERSECTION IMPACTS

Existing plus Project conditions were evaluated using the significance criteria described in Chapter 5. As shown in **Table 6**, all six intersections would operate at LOS D or better during the PM and Mid-Afternoon peak periods. Therefore, the Project's impact on the study intersections would be considered **less-than-significant** for both the PM and Mid-Afternoon peak periods based on the thresholds of significance described in Chapter 5. All six intersections experience a minor increase in delay during both time periods. The intersection of Tamalpais Drive / Madera Boulevard experiences the highest delay of the six study intersections. Detailed intersection report sheets are provided in **Appendix B**.

**TABLE 6: EXISTING PLUS PROJECT INTERSECTION LOS AND DELAY**

Intersection	Time Period	Existing		Existing Plus Project	
		Delay <sup>1</sup>	LOS <sup>1</sup>	Delay <sup>1</sup>	LOS <sup>1</sup>
1. San Clemente Drive / Tamalpais Drive / Redwood Highway	Mid-Afternoon	15	B	17	B
	PM	19	B	20	C
2. Tamalpais Drive / U.S. 101 Northbound Ramps	Mid-Afternoon	15	B	16	B
	PM	14	B	15	B
3. Tamalpais Drive / U.S. 101 Southbound Ramps	Mid-Afternoon	13	B	15	B
	PM	16	B	18	B
4. Tamalpais Drive / Town Center Drive	Mid-Afternoon	10	B	12	B
	PM	10	A	13	B
5. Tamalpais Drive / Madera Boulevard	Mid-Afternoon	36	D	36	D
	PM	33	C	39	D
6. Paradise Drive / San Clemente Drive	Mid-Afternoon	< 10	A	< 10	A
	PM	< 10	A	13	B

Notes:

**Bold** indicates LOS E or F operations

1. Delay reported as seconds per vehicle. For all intersections, a combined weighted average delay for the various movements within the intersection is reported based on the methodology in the Highway Capacity Manual 2010. This is consistent with the Town of Corte Madera's guidance for reporting intersection LOS results from the General Plan.

Sources: Fehr & Peers, 2018, *Highway Capacity Manual 2010*, *Transportation Research Board*

# PC Attachment 1

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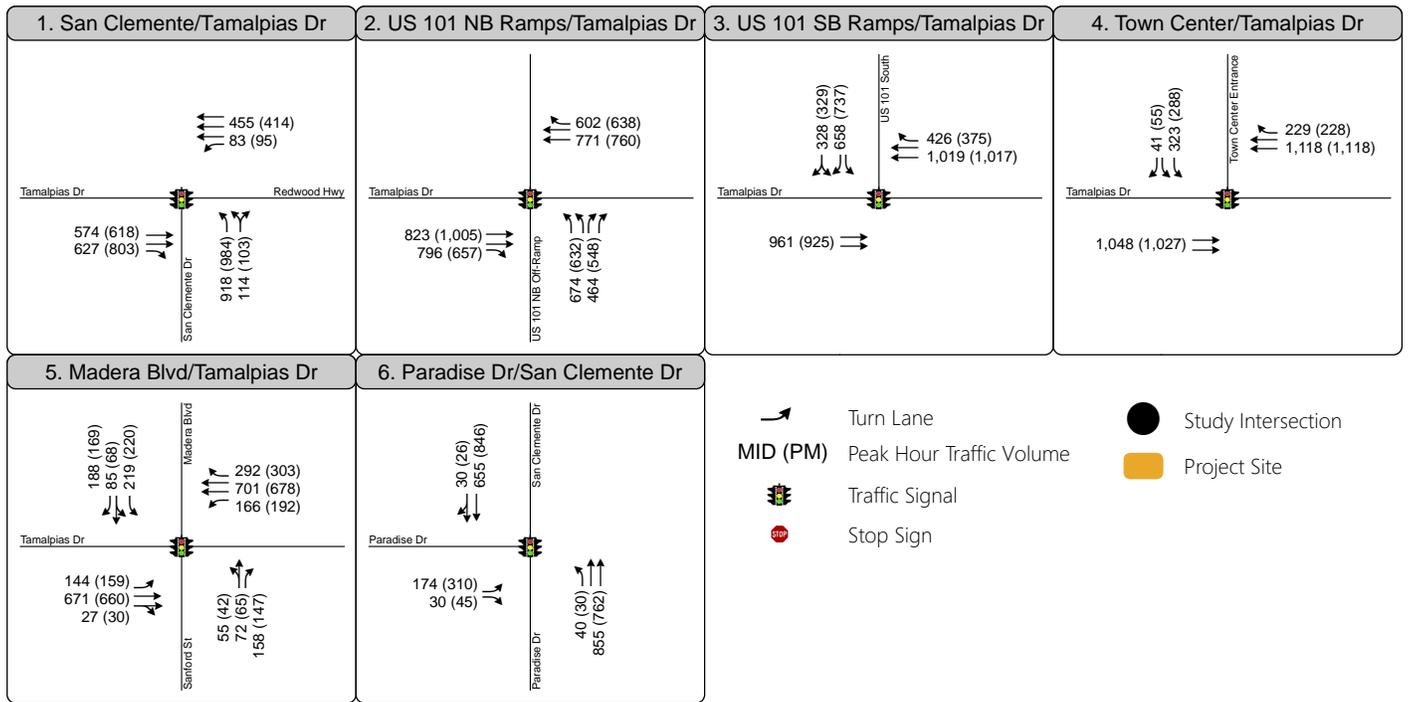
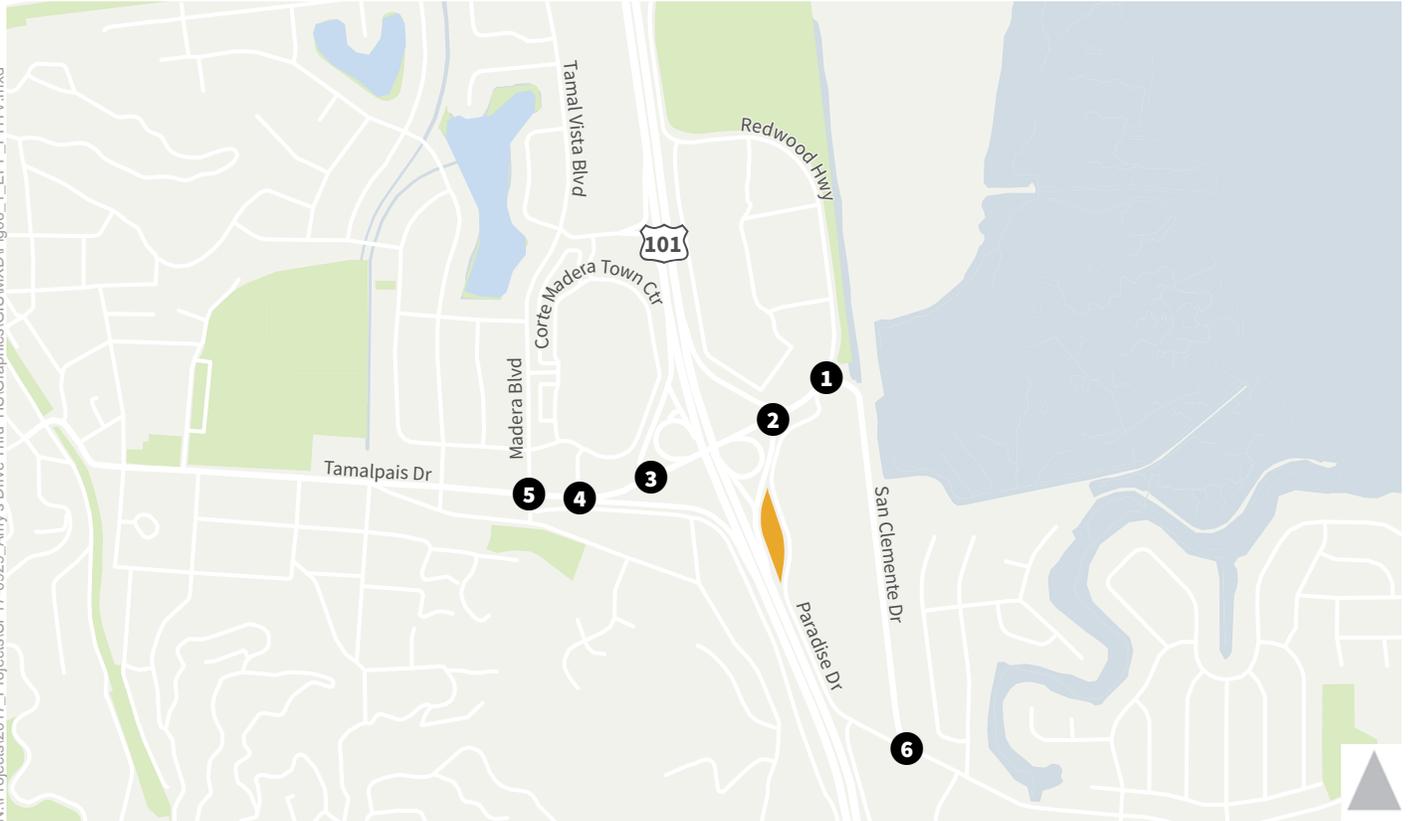


Figure 6 - 1

Peak Hour Traffic Volumes and Lane Configurations - Existing Plus Project Conditions



## 6.2 TRANSIT IMPACTS

The Project would have an average of 12 employees on-site during at any point during operating hours. Assuming that a small portion of employees would take transit to travel to the site, the Project is expected to generate less than ten transit trips during the weekday Mid-Afternoon or PM peak period. Visitors are also expected to generate very few transit trips during these periods, as most customers would travel via car.

Marin Transit Routes 17, 22, and 36 make two stops each during the PM peak hour in both the northbound and southbound direction (i.e., six northbound buses and six southbound buses) at bus stops located just north of the Project in the vicinity of the U.S. 101/Paradise Drive-Paradise Drive interchange. Assuming a conservative estimate of ten transit trips generated by the Proposed Project to these three routes would result in an average of one trip per bus. The addition of an average of one trip per bus to these routes would not constitute a significant unanticipated increase in transit ridership. The December 2016 Monthly Monitoring Report for Marin Transit indicates that Routes 17, 22, and 36 are routes that did not meet their productivity targets (i.e., passengers per hour or passengers per trip). This is an indication that sufficient capacity exists on these routes to accommodate the level of new transit trips that would be generated by the proposed project. As such, the Project's impacts to transit services and facilities are considered **less-than-significant** for the weekday PM and mid-afternoon peak periods and no transit mitigations are required.

## 6.3 PEDESTRIAN IMPACTS

The nearest transit stop is located approximately 400 feet from the Project site, which is served by transit that arrives every 30 minutes during peak service times. These bus stops can be reached by walking approximately 0.4 to 0.5 miles along Paradise Drive, Tamalpais Drive, and dedicated pedestrian paths to the bus pads. Nothing in the site plan would negatively affect any transit stops or access to any transit stops.

The Project would install a crosswalk across Paradise Drive to provide a marked crossings traveling between the project site and businesses on the east side of Paradise Drive. This crosswalk also provides continuous sidewalk connectivity on Paradise Drive, as the west side sidewalk ends to the north and south of the Project site. The Proposed Project's pedestrian impacts would be **less-than-significant**.

## 6.4 BICYCLE IMPACTS

The Proposed Project would provide 14 off-street bicycle parking spaces, which will be either Class II racks located adjacent to the sidewalk on Paradise Drive. This amount of bicycle parking is sufficient based on

the Town's Municipal Code<sup>1</sup>. The Project would also provide three Class I secure bicycle parking spaces for employees. As such, since the Project would not remove existing facilities or conflict with planned improvements and would add a small number of bicycle trips, the Project's impacts to bicycle facilities would be considered **less-than-significant** and no bicycle mitigations are required.

## 6.5 EMERGENCY ACCESS IMPACTS

The Central Marin Fire Department station 13 is located at 5600 Paradise Drive, approximately .5 miles east of the proposed project. The Central Marin Police Authority serves Corte Madera as well as Larkspur and San Anselmo via the Twin Cities Station. The Twin Cities Station is located at 250 Doherty Drive on the border of Larkspur and Corte Madera, approximately 1.75 miles west of the proposed project.

The Project would have three driveways to serve as emergency vehicle access points. The added vehicle Project trips would not result in a significant change in travel speeds on emergency response routes, based on the intersection Level of Service assessment described previously in this section. Therefore, the Project's impacts to emergency access would be considered **less-than-significant** and no mitigations are required.

## 6.6 CONSTRUCTION IMPACTS

The existing Project site is vacant and fenced off to the public. Therefore, construction related to the Proposed Project would not disrupt existing activity on-site. Construction-related activities could occur Monday through Friday, between 7:00 AM and 5:30 PM. Construction is not anticipated to occur on major legal holidays. Construction staging would generally occur within the project site. Over the course of the construction phase, construction trucks and workers arriving or departing the site would generate additional vehicle trips on the roadway network. However, due to the timing of typical construction activities, these vehicle trips are generally expected to occur outside of the Mid-Afternoon and PM peak periods. Therefore, the Proposed Project's construction impacts would be considered **less-than-significant**.

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<sup>1</sup> Town of Corte Madera Municipal Code 18.20.040 requires 1 bicycle parking space for every 400 square feet of floor area

## 7 CUMULATIVE CONDITIONS

Cumulative conditions reflect the buildout of all forecast development in the Town of Corte Madera as approved under the General Plan Alternative 4 scenario. The General Plan Alternative 4 scenario included the following land use assumptions for future growth:

- 185,000 square feet of retail expansion at the Village
- 300 residential dwelling units at the Village
- 10,000 square feet of retail at the Gateway Village Mixed Use (located on the northeast corner of the intersection of Tamal Vista Boulevard and Wornum Drive)
- 180 residential dwelling units at the Gateway Village Mixed Use

Therefore, the Proposed Project was not considered under General Plan cumulative conditions. It was assumed that minor signal timing plans would be adjusted over time to accommodate growth in traffic volumes.

Mitigation Measure C-TR-1, as described in the *Village at Corte Madera Expansion EIR (2017)*, was assumed to be implemented under all cumulative scenarios. The mitigation measure includes widening of eastbound Tamalpais Drive from Madera Boulevard to San Clemente Drive to three lanes and the widening of the northbound approach to the Tamalpais Drive/San Clemente Drive intersection to include three left-turn lanes and one right-turn lane. As outlined in the *Village at Corte Madera Expansion EIR*, that project is conditioned to fund 100 percent of the cost of implementing the improvement, and it is therefore reasonable and foreseeable to include in the cumulative scenarios.

### 7.1 INTERSECTION IMPACTS

#### 7.1.1 Cumulative Volumes

Cumulative No Project intersection volume forecasts for the PM peak period are based on forecasts developed for the Corte Madera General Plan Cumulative Alternative 4 scenario. Some minor adjustments to account for changes in existing traffic volumes for some movements were applied to General Plan volume forecasts to calculate the Cumulative No Project intersection volumes used in this analysis. For intersections that were not included in the General Plan, growth rates from the General Plan forecasts for adjacent intersections were applied to existing counts to produce cumulative volumes.

General Plan cumulative conditions assumed a sit-down restaurant at the project site (i.e., the Denny's that existed at the time of the General Plan EIR or similar use), but did not consider a fast food restaurant with

drive through, which typically generates more peak hour vehicle trips than a sit-down restaurant. To account for this change, peak hour trips associated with a sit-down restaurant (based on ITE 10<sup>th</sup> Edition published rates) were subtracted from Project trips summarized in **Table 5** to calculate the incremental project trips. The incremental project trips were then distributed to the study intersections based on Project trip distribution shown in **Figure 4-1** and added to Cumulative No Project volumes to calculate Cumulative Plus Project volumes.

Volume figures for the Cumulative No Project and Cumulative Plus Project scenarios can be found in **Figure 7-1** and **Figure 7-2**.

### 7.1.2 Cumulative Intersection Results

Cumulative Plus Project conditions were evaluated using the significance criteria described in Chapter 5. As shown in **Table 7**, all six intersections would operate at LOS D or better during the PM peak period. Therefore, the Project's impact on the study intersections would be considered **less-than-significant** for the PM peak period based on the thresholds of significance described in Chapter 5. The intersection of Tamalpais Drive / Madera Boulevard experiences the highest delay of the six intersections during the PM period. Most study intersections experience a minor increase in average delay with the addition of Project increment trips. Detailed intersection report sheets are provided in **Appendix B**.

**TABLE 7: CUMULATIVE SCENARIOS INTERSECTION LOS AND DELAY**

Intersection	Time Period	Cumulative No Project		Cumulative Plus Project	
		Delay <sup>1</sup>	LOS <sup>1</sup>	Delay <sup>1</sup>	LOS <sup>1</sup>
1. San Clemente Drive / Tamalpais Drive / Redwood Highway	PM	21	C	22	C
2. Tamalpais Drive / U.S. 101 Northbound Ramps	PM	31	C	33	C
3. Tamalpais Drive / U.S. 101 Southbound Ramps	PM	38	D	38	D
4. Tamalpais Drive / Town Center Drive	PM	24	C	23	C
5. Tamalpais Drive / Madera Boulevard	PM	42	D	43	D
6. Paradise Drive / San Clemente Drive	PM	12	B	14	B

Notes:

**Bold** indicates LOS E or F operations

1. Delay reported as seconds per vehicle. For all intersections, a combined weighted average delay for the various movements within the intersection is reported based on the methodology in the Highway Capacity Manual 2010. This is consistent with the Town of Corte Madera's guidance for reporting intersection LOS results from the General Plan.

Sources: Fehr & Peers, 2018, *Highway Capacity Manual 2010*, *Transportation Research Board*

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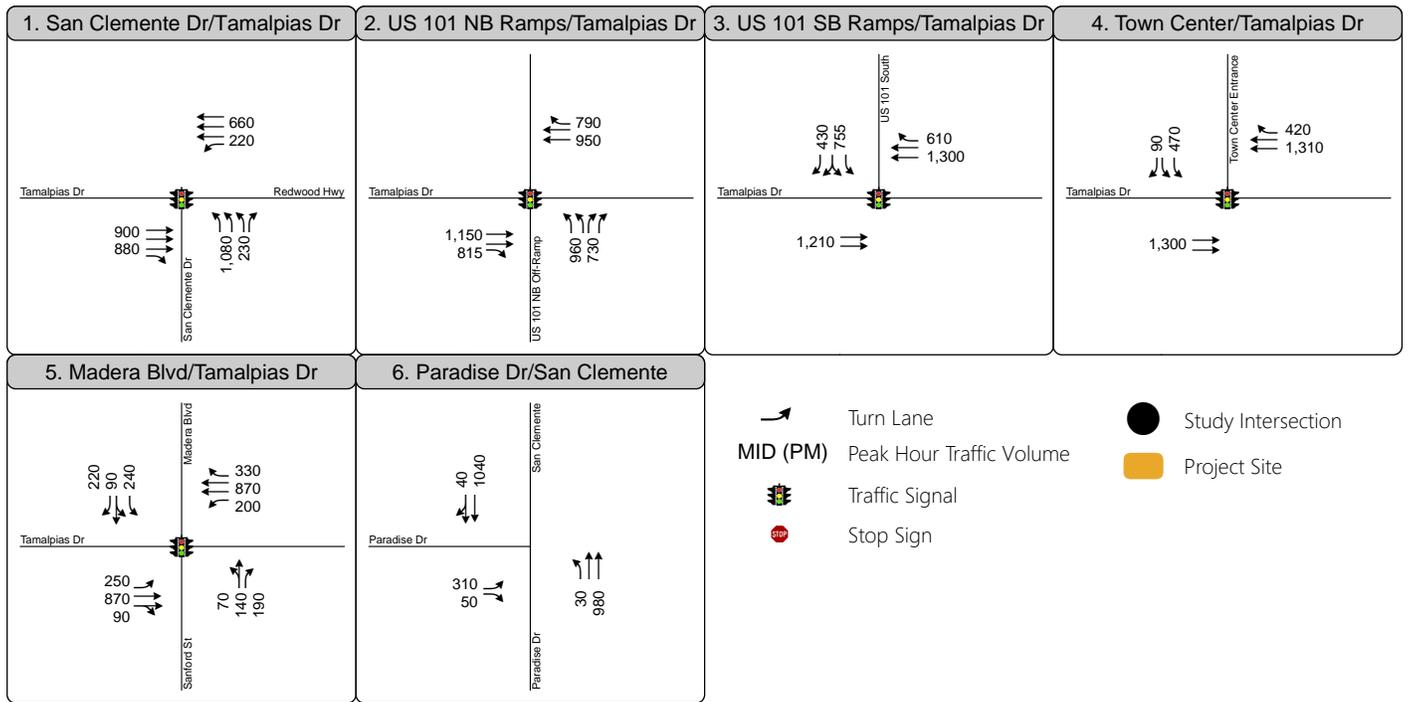
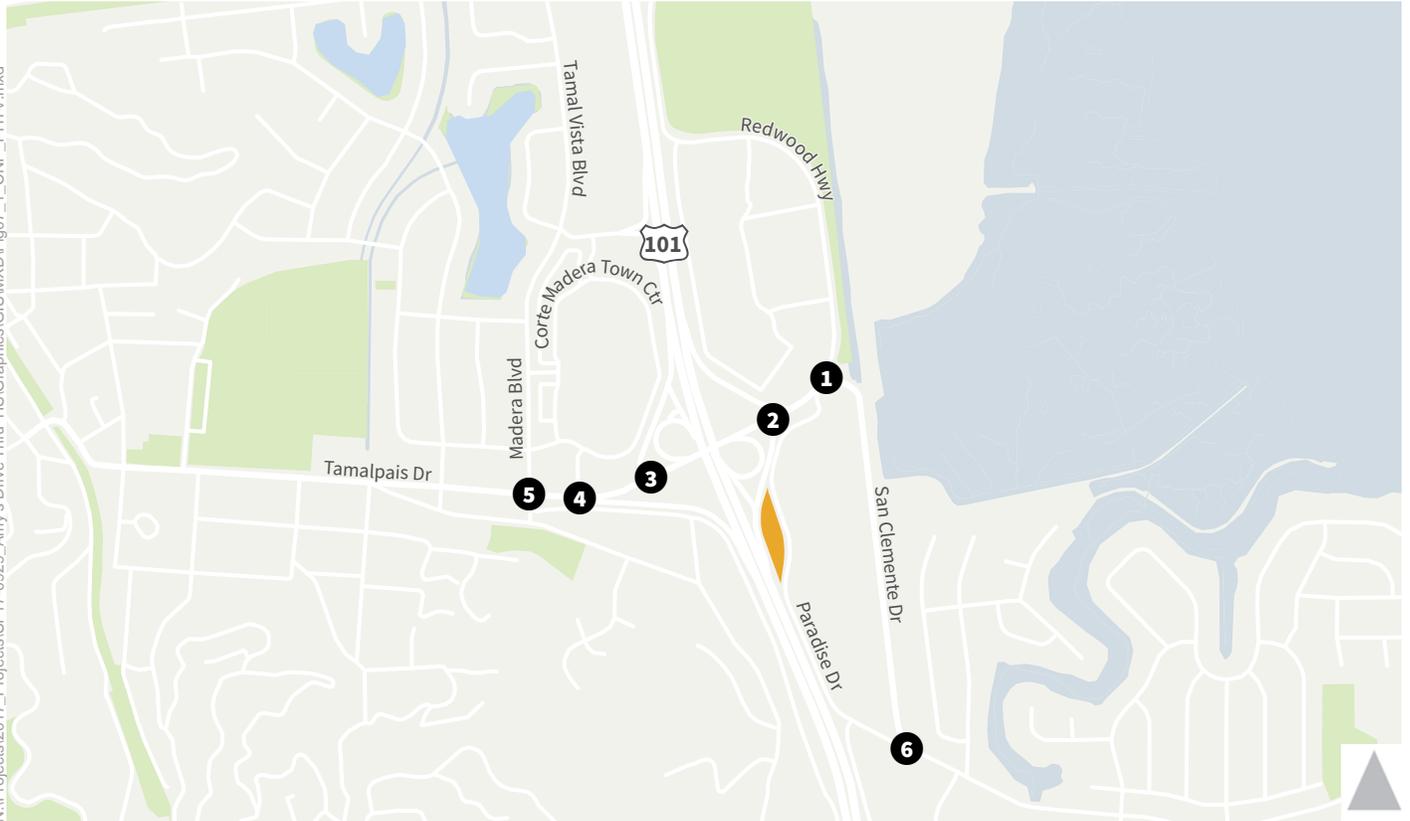


Figure 7 - 1  
Peak Hour Traffic Volumes  
and Lane Configurations -  
Cumulative No Project



# PC Attachment 1

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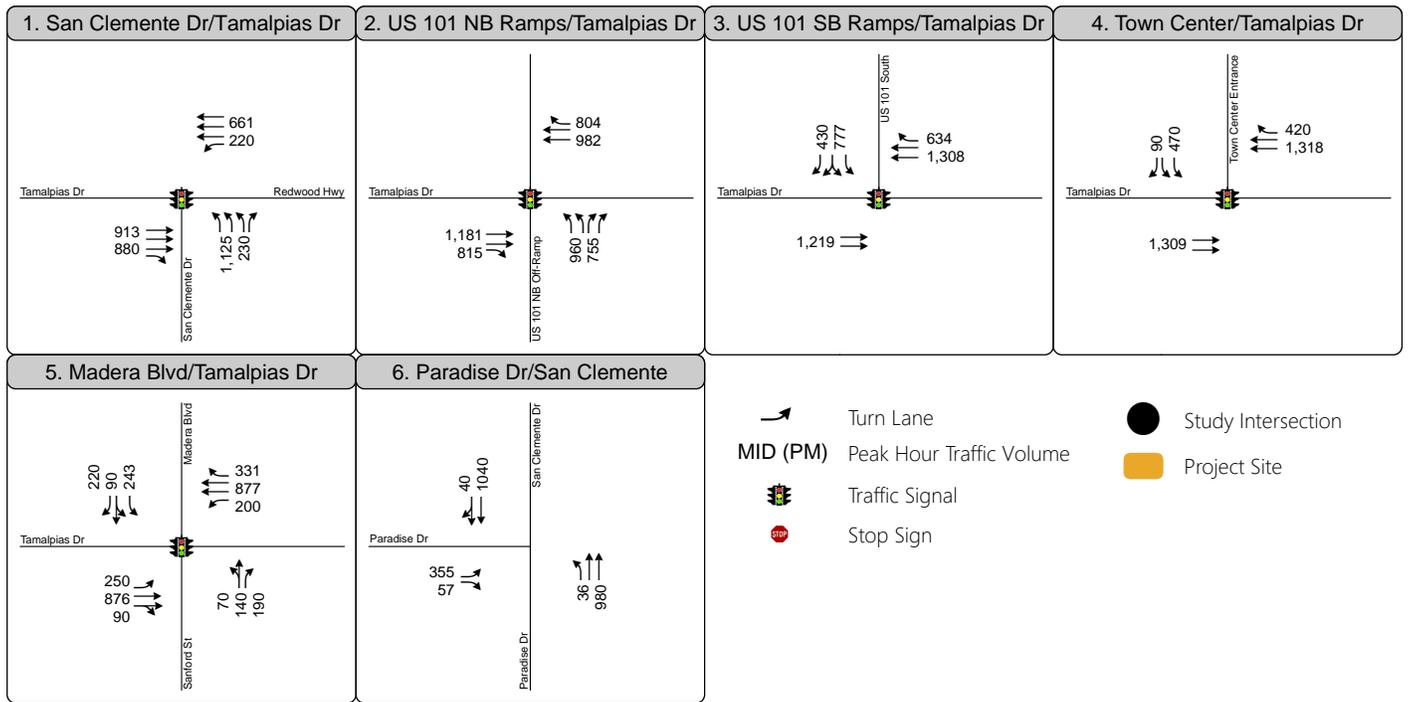
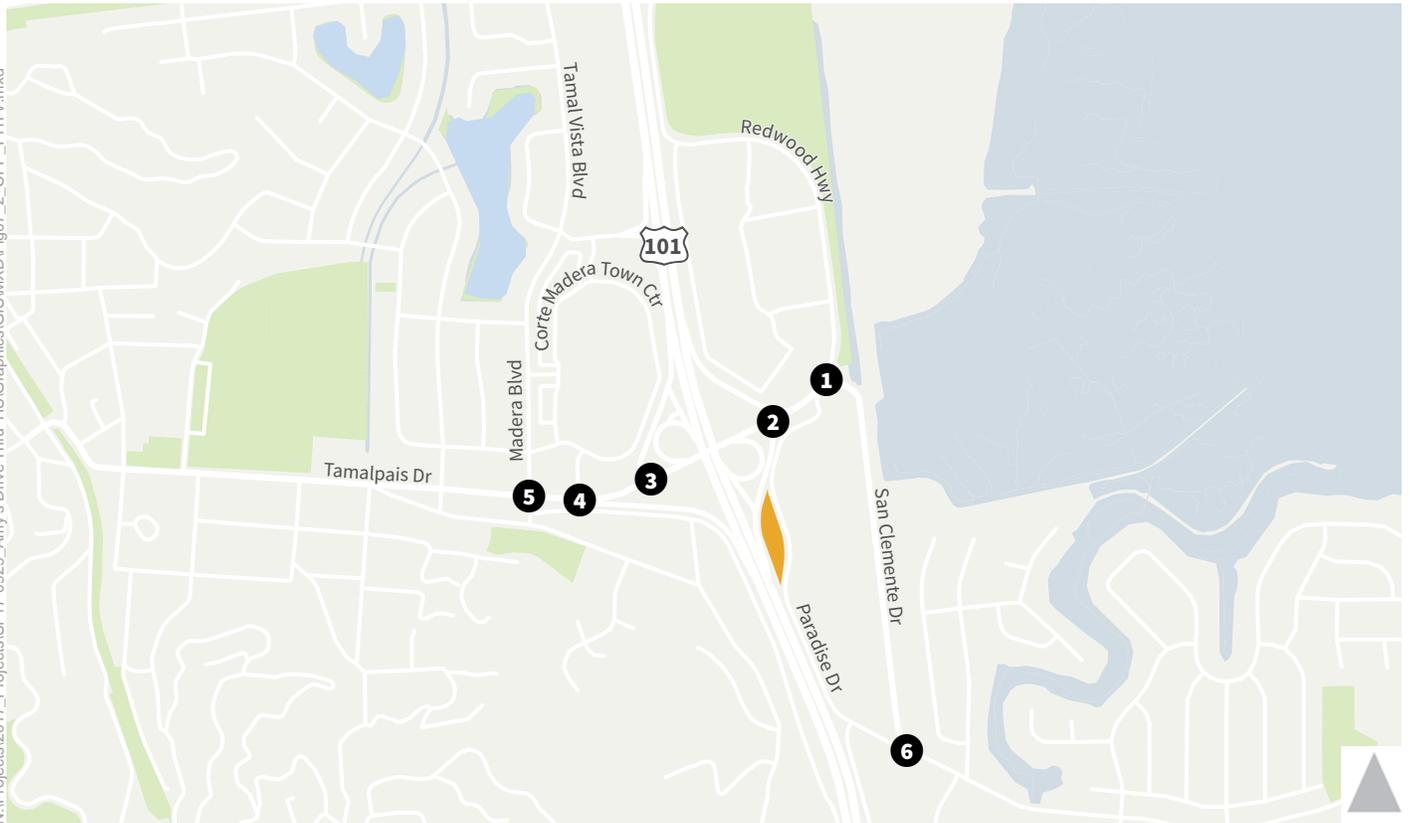


Figure 7 - 2

Peak Hour Traffic Volumes and Lane Configurations - Cumulative Plus Project



## 7.2 TRANSIT IMPACTS

Most visitors to the Project Site are expected to arrive via automobile. The General Plan seeks to foster increased transit use and a greater emphasis on transit in planning for future transportation options. In the long term, this could include increased frequency of bus services with transit priority and transit-oriented development practices.

If transit service is not enhanced to keep pace with demand, such as through increased frequency and reliability of service within the Town, increased demand for transit service may result in significant impacts. In addition, expanded service hours would necessitate increased transit subsidies, which would likely need to come from local sources.

Since the Project is expected to generate very few transit trips, its contribution to cumulative impacts to transit services and facilities are considered **less-than-significant** and mitigations are not required.

## 7.3 PEDESTRIAN AND BICYCLE IMPACTS

The General Plan seeks to promote walking and bicycling within Corte Madera by improving walking and bicycling conditions, increasing pedestrian and bicyclist safety, and creating a land use context supportive of non-motorized travel. The General Plan identifies Implementation Program CIR-2.1.a for implementing a Class I shared-use bicycle and pedestrian path along Paradise Drive to the Tiburon City limit (consistent with the Bay Trail plan), which could also include a pedestrian/bicycle bridge over U.S. 101 at the Tamalpais Drive interchange. The General Plan also identifies Implementation Programs CIR-1.7.b, CIR-1.7.c, CIR-3.1.b, and CIR-3.1.d to enhance walking and bicycle facilities around the Town.

Since the Project is expected to generate very few pedestrian or bicycle trips, its contribution to cumulative impacts to pedestrian and bicycle facilities are considered **less-than-significant** and mitigations are not required.

## 7.4 EMERGENCY ACCESS IMPACTS

The addition of cumulative vehicle trips are expected to slightly decrease travel speeds on emergency response routes compared to existing conditions. The General Plan EIR identifies Mitigation Measure C-TR-1, as described above, to address cumulative impacts. Since all study intersections are projected to operate at acceptable LOS under Cumulative Plus project conditions, the Project would not create congestion that would impact emergency vehicle access in the study area. Therefore the Project's contribution to cumulative impacts to emergency access are considered **less-than-significant**.

**APPENDIX A**

**INTERSECTION COUNT DATA**



# PC Attachment 1

## National Data & Surveying Services Intersection Turning Movement Count

Location: San Clemente Dr & Tamalpais Dr/Redwood Hwy  
 City: Corte Madera  
 Control: Signalized

Project ID: 18-08080-001  
 Date: 2/27/2018

### Total

NS/EW Streets:	San Clemente Dr				San Clemente Dr				Tamalpais Dr/Redwood Hwy				Tamalpais Dr/Redwood Hwy				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
AM	1.5	0	1.5	0	0	0	0	0	0	1.5	0.5	0	1	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
7:00 AM	125	0	28	0	0	0	0	0	0	15	0	0	11	9	0	0	188
7:15 AM	171	0	24	0	0	0	0	0	0	20	0	0	12	9	0	0	236
7:30 AM	230	0	49	0	0	0	0	0	0	19	4	0	7	2	0	0	311
7:45 AM	253	0	20	0	0	0	0	0	0	37	10	0	24	9	0	0	353
8:00 AM	313	0	24	0	0	0	0	0	0	30	10	0	11	14	0	0	402
8:15 AM	305	0	34	0	0	0	0	0	0	38	0	0	15	17	0	0	409
8:30 AM	231	0	25	0	0	0	0	0	0	41	1	0	14	20	0	0	332
8:45 AM	193	0	25	0	0	0	0	0	0	57	0	0	13	25	0	0	313
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
<b>APPROACH %'s :</b>	1821	0	229	0	0	0	0	0	0	257	25	0	107	105	0	0	2544
	88.83%	0.00%	11.17%	0.00%					0.00%	91.13%	8.87%	0.00%	50.47%	49.53%	0.00%	0.00%	
<b>PEAK HR :</b>	<b>07:45 AM - 08:45 AM</b>																TOTAL
<b>PEAK HR VOL :</b>	1102	0	103	0	0	0	0	0	0	146	21	0	64	60	0	0	1496
<b>PEAK HR FACTOR :</b>	0.880	0.000	0.757	0.000	0.000	0.000	0.000	0.000	0.000	0.890	0.525	0.000	0.667	0.750	0.000	0.000	0.914
			0.889							0.888				0.912			
PM	1.5	0	1.5	0	0	0	0	0	0	1.5	0.5	0	1	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
2:00 PM	150	0	19	0	0	0	0	0	0	115	1	0	26	123	0	0	434
2:15 PM	160	0	9	0	0	0	0	0	0	109	3	0	20	120	0	0	421
2:30 PM	176	0	25	0	0	0	0	0	0	117	1	0	23	113	0	0	455
2:45 PM	184	0	42	0	0	0	0	0	0	140	2	0	17	113	0	0	498
3:00 PM	258	0	38	0	0	0	0	0	0	118	1	0	13	106	0	0	534
3:15 PM	230	0	26	0	0	0	0	0	0	140	0	0	23	119	0	0	538
3:30 PM	185	0	26	0	0	0	0	0	0	132	1	0	26	92	0	0	462
3:45 PM	175	0	24	0	0	0	0	0	0	112	1	0	21	119	0	0	452
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
<b>APPROACH %'s :</b>	1518	0	209	0	0	0	0	0	0	983	10	0	169	905	0	0	3794
	87.90%	0.00%	12.10%	0.00%					0.00%	98.99%	1.01%	0.00%	15.74%	84.26%	0.00%	0.00%	
<b>PEAK HR :</b>	<b>02:45 PM - 03:45 PM</b>																TOTAL
<b>PEAK HR VOL :</b>	857	0	132	0	0	0	0	0	0	530	4	0	79	430	0	0	2032
<b>PEAK HR FACTOR :</b>	0.830	0.000	0.786	0.000	0.000	0.000	0.000	0.000	0.000	0.946	0.500	0.000	0.760	0.903	0.000	0.000	0.944
			0.835							0.940				0.896			

# PC Attachment 1

## National Data & Surveying Services Intersection Turning Movement Count

Location: NB US-101 Ramps & Tamalpais Dr  
 City: Corte Madera  
 Control: Signalized

Project ID: 18-08080-002  
 Date: 2/27/2018

### Total

NS/EW Streets:	NB US-101 Ramps				NB US-101 Ramps				Tamalpais Dr				Tamalpais Dr				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
AM	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
	2	0	2	0	0	0	0	0	0	2	0	0	0	2	1	0	
7:00 AM	52	0	20	0	0	0	0	0	0	105	63	0	0	55	53	0	348
7:15 AM	70	0	46	0	0	0	0	0	0	166	87	0	0	92	58	0	519
7:30 AM	86	0	63	0	0	0	0	0	0	164	105	0	0	146	85	0	649
7:45 AM	112	0	100	0	0	0	0	0	0	219	115	0	0	154	93	0	793
8:00 AM	105	0	126	0	0	0	0	0	0	282	136	0	0	187	136	0	972
8:15 AM	104	0	80	0	0	0	0	0	0	222	144	0	0	212	138	0	900
8:30 AM	92	0	88	0	0	0	0	0	0	187	109	0	0	145	127	0	748
8:45 AM	118	0	100	0	0	0	0	0	0	202	105	0	0	132	104	0	761
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
	739	0	623	0	0	0	0	0	0	1547	864	0	0	1123	794	0	5690
<b>APPROACH %'s :</b>	54.26%	0.00%	45.74%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	64.16%	35.84%	0.00%	0.00%	58.58%	41.42%	0.00%	
<b>PEAK HR :</b>	07:45 AM - 08:45 AM																TOTAL
<b>PEAK HR VOL :</b>	413	0	394	0	0	0	0	0	0	910	504	0	0	698	494	0	3413
<b>PEAK HR FACTOR :</b>	0.922	0.000	0.782	0.000	0.000	0.000	0.000	0.000	0.000	0.807	0.875	0.000	0.000	0.823	0.895	0.000	0.878
	0.873								0.846				0.851				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	2	0	2	0	0	0	0	0	0	2	0	0	0	2	1	0	
2:00 PM	126	0	94	0	0	0	0	0	0	202	144	0	0	138	129	0	833
2:15 PM	148	0	110	0	0	0	0	0	0	204	153	0	0	140	130	0	885
2:30 PM	129	0	113	0	0	0	0	0	0	198	149	0	0	151	127	0	867
2:45 PM	145	0	117	0	0	0	0	0	0	226	135	0	0	132	148	0	903
3:00 PM	166	0	117	0	0	0	0	0	0	211	187	0	0	196	155	0	1032
3:15 PM	168	0	116	0	0	0	0	0	0	184	196	0	0	211	161	0	1036
3:30 PM	173	0	99	0	0	0	0	0	0	198	218	0	0	169	133	0	990
3:45 PM	167	0	102	0	0	0	0	0	0	190	195	0	0	145	132	0	931
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
	1222	0	868	0	0	0	0	0	0	1613	1377	0	0	1282	1115	0	7477
<b>APPROACH %'s :</b>	58.47%	0.00%	41.53%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	53.95%	46.05%	0.00%	0.00%	53.48%	46.52%	0.00%	
<b>PEAK HR :</b>	03:00 PM - 04:00 PM																TOTAL
<b>PEAK HR VOL :</b>	674	0	434	0	0	0	0	0	0	783	796	0	0	721	581	0	3989
<b>PEAK HR FACTOR :</b>	0.974	0.000	0.927	0.000	0.000	0.000	0.000	0.000	0.000	0.928	0.913	0.000	0.000	0.854	0.902	0.000	0.963
	0.975								0.949				0.875				

# PC Attachment 1

## National Data & Surveying Services Intersection Turning Movement Count

Location: SB US-101 Ramps & Tamalpais Dr  
 City: Corte Madera  
 Control: Signalized

Project ID: 18-08080-003  
 Date: 2/27/2018

### Total

NS/EW Streets:	SB US-101 Ramps				SB US-101 Ramps				Tamalpais Dr				Tamalpais Dr				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
AM	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	97	0	76	0	0	72	60	0	0	62	43	0	410
7:15 AM	0	0	0	0	146	0	69	0	0	113	88	0	0	89	69	0	574
7:30 AM	0	0	0	0	137	0	85	0	0	129	112	0	0	141	90	0	694
7:45 AM	0	0	0	0	174	0	112	0	0	164	108	0	0	174	76	0	808
8:00 AM	0	0	0	0	169	0	87	0	0	236	105	0	0	196	110	0	903
8:15 AM	0	0	0	0	158	0	89	0	0	203	145	0	0	181	120	0	896
8:30 AM	0	0	0	0	148	0	100	0	0	151	118	0	0	150	98	0	765
8:45 AM	0	0	0	0	169	0	103	0	0	140	101	0	0	172	72	0	757
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
<b>APPROACH %'s :</b>	0	0	0	0	1198	0	721	0	0	1208	837	0	0	1165	678	0	5807
<b>PEAK HR :</b>	07:45 AM - 08:45 AM																TOTAL
<b>PEAK HR VOL :</b>	0	0	0	0	649	0	388	0	0	754	476	0	0	701	404	0	3372
<b>PEAK HR FACTOR :</b>	0.000	0.000	0.000	0.000	0.932	0.000	0.866	0.000	0.000	0.799	0.821	0.000	0.000	0.894	0.842	0.000	0.934
					0.906				0.884				0.903				
PM	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
2:00 PM	0	0	0	0	144	0	70	0	0	196	109	0	0	159	96	0	774
2:15 PM	0	0	0	0	157	0	70	0	0	204	100	0	0	217	84	0	832
2:30 PM	0	0	0	0	143	0	84	0	0	199	87	0	0	183	88	0	784
2:45 PM	0	0	0	0	178	0	77	0	0	202	86	0	0	212	72	0	827
3:00 PM	0	0	0	0	161	0	80	0	0	215	91	0	0	250	90	0	887
3:15 PM	0	0	0	0	163	0	89	0	0	232	105	0	0	274	124	0	987
3:30 PM	0	0	0	0	159	0	82	0	0	251	93	0	0	235	98	0	918
3:45 PM	0	0	0	0	149	0	77	0	0	248	121	0	0	240	75	0	910
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
<b>APPROACH %'s :</b>	0	0	0	0	1254	0	629	0	0	1747	792	0	0	1770	727	0	6919
<b>PEAK HR :</b>	03:00 PM - 04:00 PM																TOTAL
<b>PEAK HR VOL :</b>	0	0	0	0	632	0	328	0	0	946	410	0	0	999	387	0	3702
<b>PEAK HR FACTOR :</b>	0.000	0.000	0.000	0.000	0.969	0.000	0.921	0.000	0.000	0.942	0.847	0.000	0.000	0.911	0.780	0.000	0.938
					0.952				0.919				0.871				

# PC Attachment 1

## National Data & Surveying Services Intersection Turning Movement Count

Location: Town Center Entrance & Tamalpais Dr  
 City: Corte Madera  
 Control: Signalized

Project ID: 18-08080-004  
 Date: 2/27/2018

### Total

NS/EW Streets:	Town Center Entrance				Town Center Entrance				Tamalpais Dr				Tamalpais Dr				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
AM	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	2	0	1	0	0	2	0	0	0	2	1	0	281
7:15 AM	0	0	0	0	20	0	5	0	0	191	0	0	0	137	23	0	376
7:30 AM	0	0	0	0	27	0	4	0	0	214	0	0	0	191	31	0	467
7:45 AM	0	0	0	0	26	0	4	0	0	257	0	0	0	248	43	0	578
8:00 AM	0	0	0	0	20	0	6	0	0	313	0	0	0	228	52	0	619
8:15 AM	0	0	0	0	32	0	2	0	0	316	0	0	0	204	65	0	619
8:30 AM	0	0	0	0	24	0	2	0	0	246	0	0	0	195	55	0	522
8:45 AM	0	0	0	0	28	0	4	0	0	201	0	0	0	198	77	0	508
<b>TOTAL VOLUMES :</b>	0	0	0	0	186	0	32	0	0	1869	0	0	0	1507	376	0	3970
<b>APPROACH %'s :</b>					85.32%	0.00%	14.68%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	80.03%	19.97%	0.00%	
<b>PEAK HR :</b>	<b>07:45 AM - 08:45 AM</b>																<b>TOTAL</b>
<b>PEAK HR VOL :</b>	0	0	0	0	102	0	14	0	0	1132	0	0	0	875	215	0	2338
<b>PEAK HR FACTOR :</b>	0.000	0.000	0.000	0.000	0.797	0.000	0.583	0.000	0.000	0.896	0.000	0.000	0.000	0.882	0.827	0.000	0.944
							0.853				0.896				0.936		
PM	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
2:00 PM	0	0	0	0	95	0	9	0	0	219	0	0	0	164	72	0	559
2:15 PM	0	0	0	0	73	0	17	0	0	227	0	0	0	219	65	0	601
2:30 PM	0	0	0	0	78	0	10	0	0	208	0	0	0	200	71	0	567
2:45 PM	0	0	0	0	63	0	11	0	0	226	0	0	0	224	60	0	584
3:00 PM	0	0	0	0	89	0	10	0	0	216	0	0	0	285	43	0	643
3:15 PM	0	0	0	0	77	0	10	0	0	268	0	0	0	291	73	0	719
3:30 PM	0	0	0	0	74	0	10	0	0	272	0	0	0	246	69	0	671
3:45 PM	0	0	0	0	83	0	11	0	0	281	0	0	0	271	44	0	690
<b>TOTAL VOLUMES :</b>	0	0	0	0	632	0	88	0	0	1917	0	0	0	1900	497	0	5034
<b>APPROACH %'s :</b>					87.78%	0.00%	12.22%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	79.27%	20.73%	0.00%	
<b>PEAK HR :</b>	<b>03:00 PM - 04:00 PM</b>																<b>TOTAL</b>
<b>PEAK HR VOL :</b>	0	0	0	0	323	0	41	0	0	1037	0	0	0	1093	229	0	2723
<b>PEAK HR FACTOR :</b>	0.000	0.000	0.000	0.000	0.907	0.000	0.932	0.000	0.000	0.923	0.000	0.000	0.000	0.939	0.784	0.000	0.947
							0.919				0.923				0.908		

# PC Attachment 1

## National Data & Surveying Services Intersection Turning Movement Count

Location: Madera Blvd & Tamalpais Dr  
 City: Corte Madera  
 Control: Signalized

Project ID: 18-08080-005  
 Date: 2/27/2018

### Total

NS/EW Streets:	Madera Blvd				Madera Blvd				Tamalpais Dr				Tamalpais Dr				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
AM	0.5	0.5	1	0	1.5	0.5	1	0	1	2	0	0	1	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
7:00 AM	4	5	32	0	19	9	27	0	14	83	5	0	26	72	16	0	312
7:15 AM	2	15	38	0	26	9	23	1	9	126	3	0	26	78	31	0	387
7:30 AM	6	13	30	0	32	11	21	0	8	156	7	0	41	114	36	0	475
7:45 AM	16	32	40	0	40	19	32	0	21	186	5	0	34	166	49	0	640
8:00 AM	17	19	52	0	45	22	32	1	10	211	6	0	37	145	45	0	642
8:15 AM	7	13	42	0	51	23	18	0	30	227	5	0	43	137	34	0	630
8:30 AM	4	8	36	0	28	17	24	1	28	180	8	0	40	114	38	0	526
8:45 AM	7	14	45	0	26	16	28	0	32	127	9	0	44	108	47	0	503
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
<b>APPROACH %'s :</b>	63	119	315	0	267	126	205	3	152	1296	48	0	291	934	296	0	4115
	12.68%	23.94%	63.38%	0.00%	44.43%	20.97%	34.11%	0.50%	10.16%	86.63%	3.21%	0.00%	19.13%	61.41%	19.46%	0.00%	
<b>PEAK HR :</b>	<b>07:45 AM - 08:45 AM</b>																TOTAL
<b>PEAK HR VOL :</b>	44	72	170	0	164	81	106	2	89	804	24	0	154	562	166	0	2438
<b>PEAK HR FACTOR :</b>	0.647	0.563	0.817	0.000	0.804	0.880	0.828	0.500	0.742	0.885	0.750	0.000	0.895	0.846	0.847	0.000	0.949
	0.813				0.883				0.875				0.886				
PM	0.5	0.5	1	0	1.5	0.5	1	0	1	2	0	0	1	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
2:00 PM	9	20	39	0	55	12	34	0	27	134	6	0	34	101	33	0	504
2:15 PM	8	11	34	0	53	14	43	0	36	137	7	0	40	140	60	0	583
2:30 PM	10	8	33	0	53	12	45	1	29	130	4	0	42	113	49	0	529
2:45 PM	10	17	43	0	57	11	42	0	26	118	10	0	33	127	55	0	549
3:00 PM	20	18	33	0	50	15	48	0	38	135	8	0	51	172	77	0	665
3:15 PM	7	18	42	0	53	18	42	0	32	175	4	0	46	181	75	0	693
3:30 PM	15	18	42	0	62	23	52	1	39	174	5	0	30	142	79	0	682
3:45 PM	13	18	41	0	50	29	46	0	35	179	10	0	39	175	60	0	695
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
<b>APPROACH %'s :</b>	92	128	307	0	433	134	352	2	262	1182	54	0	315	1151	488	0	4900
	17.46%	24.29%	58.25%	0.00%	47.01%	14.55%	38.22%	0.22%	17.49%	78.91%	3.60%	0.00%	16.12%	58.90%	24.97%	0.00%	
<b>PEAK HR :</b>	<b>03:00 PM - 04:00 PM</b>																TOTAL
<b>PEAK HR VOL :</b>	55	72	158	0	215	85	188	1	144	663	27	0	166	670	291	0	2735
<b>PEAK HR FACTOR :</b>	0.688	1.000	0.940	0.000	0.867	0.733	0.904	0.250	0.923	0.926	0.675	0.000	0.814	0.925	0.921	0.000	0.984
	0.950				0.886				0.931				0.933				

# PC Attachment 1

## National Data & Surveying Services Intersection Turning Movement Count

Location: Paradise Dr & San Clemente Dr/Tamalpais Dr  
 City: Corte Madera  
 Control: 1-Way Stop(NB)

Project ID: 18-08080-006  
 Date: 2/27/2018

### Total

NS/EW Streets:	Paradise Dr					Paradise Dr				San Clemente Dr/Tamalpais Dr				San Clemente Dr/Tamalpais Dr					
AM	NORTHBOUND					SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL	
	NL	NT	NR	NU	NR2	SL	ST	SR	SU	EL	ET	ER	EU	ET2	WL	WT	WR		WU
7:00 AM	0	1	0	0	0	0	0	0	0	0	1.5	0.5	0	0	0	3	0	0	232
7:15 AM	0	0	3	0	0	0	0	0	0	0	14	38	0	71	0	106	0	0	367
7:30 AM	0	0	4	0	0	0	0	0	0	0	15	47	0	146	0	156	0	0	448
7:45 AM	0	0	7	0	1	0	0	0	0	0	30	61	0	224	0	244	0	0	567
8:00 AM	0	0	6	0	1	0	0	0	0	0	44	57	0	307	0	313	0	0	728
8:15 AM	0	0	9	0	0	0	0	0	0	0	24	84	0	190	0	342	0	0	649
8:30 AM	0	0	11	0	3	0	0	0	0	0	28	84	0	165	0	261	0	0	552
8:45 AM	0	0	12	0	2	0	0	0	0	0	38	87	0	174	0	236	0	0	549
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	NR2	SL	ST	SR	SU	EL	ET	ER	EU	ET2	WL	WT	WR	WU	TOTAL
<b>APPROACH %'s :</b>	0	0	55	0	7	0	0	0	0	0	208	511	0	1435	0	1876	0	0	4092
	0.00%	0.00%	88.71%	0.00%	11.29%	0.00%	0.00%	0.00%	0.00%	0.00%	9.66%	23.72%	0.00%	66.62%	0.00%	100.00%	0.00%	0.00%	
<b>PEAK HR :</b>	07:45 AM - 08:45 AM																	TOTAL	
<b>PEAK HR VOL :</b>	0	0	33	0	5	0	0	0	0	0	126	286	0	886	0	1160	0	0	2496
<b>PEAK HR FACTOR :</b>	0.000	0.000	0.750	0.000	0.417	0.000	0.000	0.000	0.000	0.000	0.716	0.851	0.000	0.721	0.000	0.848	0.000	0.000	0.857
	0.679									0.795				0.848					
PM	NORTHBOUND					SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL	
	NL	NT	NR	NU	NR2	SL	ST	SR	SU	EL	ET	ER	EU	ET2	WL	WT	WR		WU
2:00 PM	0	1	0	0	0	0	0	0	0	0	1.5	0.5	0	0	0	3	0	0	582
2:15 PM	0	0	22	0	1	0	0	0	0	0	106	48	0	144	0	261	0	0	598
2:30 PM	0	0	15	0	5	0	0	0	0	0	98	51	0	162	0	267	0	0	608
2:45 PM	0	0	17	0	5	0	0	0	0	0	91	45	0	172	0	278	0	0	653
3:00 PM	0	0	23	0	5	0	0	0	0	0	98	41	0	207	0	279	0	0	696
3:15 PM	0	0	20	0	8	0	0	0	0	0	117	23	0	182	0	346	0	0	681
3:30 PM	0	0	16	0	3	0	0	0	0	0	105	46	0	151	0	360	0	0	608
3:45 PM	0	0	22	0	4	0	0	0	0	0	110	34	0	147	0	291	0	0	584
	0	0	23	0	3	0	0	0	0	0	110	35	0	144	0	269	0	0	
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	NR2	SL	ST	SR	SU	EL	ET	ER	EU	ET2	WL	WT	WR	WU	TOTAL
<b>APPROACH %'s :</b>	0	0	158	0	34	0	0	0	0	0	835	323	0	1309	0	2351	0	0	5010
	0.00%	0.00%	82.29%	0.00%	17.71%	0.00%	0.00%	0.00%	0.00%	0.00%	33.85%	13.09%	0.00%	53.06%	0.00%	100.00%	0.00%	0.00%	
<b>PEAK HR :</b>	02:30 PM - 03:30 PM																	TOTAL	
<b>PEAK HR VOL :</b>	0	0	76	0	21	0	0	0	0	0	411	155	0	712	0	1263	0	0	2638
<b>PEAK HR FACTOR :</b>	0.000	0.000	0.826	0.000	0.656	0.000	0.000	0.000	0.000	0.000	0.878	0.842	0.000	0.860	0.000	0.877	0.000	0.000	0.948
	0.866									0.923				0.877					

# PC Attachment 1

## National Data & Surveying Services Intersection Turning Movement Count

Location: Paradise Dr & San Clemente Dr  
 City: Corte Madera  
 Control: Signalized

Project ID: 18-08080-007  
 Date: 2/27/2018

### Total

NS/EW Streets:	Paradise Dr				Paradise Dr				San Clemente Dr				San Clemente Dr				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
AM	1 NL	2 NT	0 NR	0 NU	1 SL	1 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	2 WT	0 WR	0 WU	
7:00 AM	0	4	103	0	20	3	0	0	0	0	0	0	82	0	2	0	214
7:15 AM	0	4	160	0	16	1	0	0	0	0	0	0	137	0	4	0	322
7:30 AM	0	3	222	0	30	6	0	0	0	0	0	0	152	0	2	0	415
7:45 AM	0	4	256	0	18	13	0	0	0	0	0	0	243	0	5	0	539
8:00 AM	0	4	319	0	30	1	0	0	0	0	0	0	334	0	5	0	693
8:15 AM	0	2	337	0	15	8	0	0	0	0	0	0	191	0	12	0	565
8:30 AM	0	8	226	0	32	1	0	0	0	0	0	0	166	0	16	0	449
8:45 AM	0	7	195	0	22	6	0	0	0	0	0	0	178	0	9	0	417
<b>TOTAL VOLUMES :</b>	0	36	1818	0	183	39	0	0	0	0	0	0	1483	0	55	0	3614
<b>APPROACH %'s :</b>	0.00%	1.94%	98.06%	0.00%	82.43%	17.57%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	96.42%	0.00%	3.58%	0.00%	
<b>PEAK HR :</b>	07:45 AM - 08:45 AM				95	23	0	0	0	0	0	0	934	0	38	0	2246
<b>PEAK HR VOL :</b>	0	18	1138	0	0.742	0.442	0.000	0.000	0.000	0.000	0.000	0.000	0.699	0.000	0.594	0.000	0.810
<b>PEAK HR FACTOR :</b>	0.000	0.563	0.844	0.000	0.894				0.810				0.717				

NS/EW Streets:	Paradise Dr				Paradise Dr				San Clemente Dr				San Clemente Dr				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
PM	1 NL	2 NT	0 NR	0 NU	1 SL	1 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	2 WT	0 WR	0 WU	
2:00 PM	0	3	112	0	26	5	0	0	0	0	0	0	154	0	6	0	306
2:15 PM	0	6	150	0	15	1	0	0	0	0	0	0	173	0	6	0	351
2:30 PM	0	2	132	0	29	3	0	0	0	0	0	0	176	0	9	0	351
2:45 PM	0	6	164	0	20	8	0	0	0	0	0	0	224	0	6	0	428
3:00 PM	0	8	267	0	32	4	0	0	0	0	0	0	195	0	6	0	512
3:15 PM	0	14	250	1	22	8	0	0	0	0	0	0	146	0	9	0	450
3:30 PM	0	8	157	0	29	4	0	0	0	0	0	0	160	0	7	0	365
3:45 PM	0	3	181	0	21	4	0	0	0	0	0	0	154	0	8	0	371
<b>TOTAL VOLUMES :</b>	0	50	1413	1	194	37	0	0	0	0	0	0	1382	0	57	0	3134
<b>APPROACH %'s :</b>	0.00%	3.42%	96.52%	0.07%	83.98%	16.02%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	96.04%	0.00%	3.96%	0.00%	
<b>PEAK HR :</b>	02:45 PM - 03:45 PM				103	24	0	0	0	0	0	0	725	0	28	0	1755
<b>PEAK HR VOL :</b>	0	36	838	1	0.805	0.750	0.000	0.000	0.000	0.000	0.000	0.000	0.809	0.000	0.778	0.000	0.857
<b>PEAK HR FACTOR :</b>	0.000	0.643	0.785	0.250	0.882				0.810				0.818				

# PC Attachment 1

## National Data and Surveying Services

City of Corte Madera  
 All Vehicles & Uturns On Unshifted  
 Bikes & Peds On Bank 1  
 Heavy Trucks On Bank 2

(323) 782-0090  
[info@ndsdata.com](mailto:info@ndsdata.com)

File Name : 17-7456-001 San Clemente Dr & Tamalpais Dr / Redwood Hwy  
 Date : 5/25/2017

### Unshifted Count = All Vehicles & Uturns

START TIME	San Clemente Dr Southbound					Tamalpais Dr / Redwood Hwy Westbound					San Clemente Dr Northbound					Tamalpais Dr / Redwood Hwy Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
7:00	0	0	0	0	0	7	7	0	0	14	109	0	16	0	125	0	22	0	0	22	161	0
7:15	0	0	0	0	0	7	10	0	0	17	171	0	46	0	217	0	15	2	0	17	251	0
7:30	0	0	0	0	0	13	9	0	0	22	205	0	30	0	235	0	23	1	0	24	281	0
7:45	0	0	0	0	0	10	10	0	0	20	247	0	44	0	291	0	37	1	0	38	349	0
Total	0	0	0	0	0	37	36	0	0	73	732	0	136	0	868	0	97	4	0	101	1042	0
8:00	0	0	0	0	0	21	9	0	0	30	259	0	30	0	289	0	29	17	0	46	365	0
8:15	0	0	0	0	0	20	19	0	0	39	288	0	31	0	319	0	46	3	0	49	407	0
8:30	0	0	0	0	0	21	26	0	0	47	237	0	21	0	258	0	40	0	0	40	345	0
8:45	0	0	0	0	0	10	16	0	0	26	216	0	15	0	231	0	45	0	0	45	302	0
Total	0	0	0	0	0	72	70	0	0	142	1000	0	97	0	1097	0	160	20	0	180	1419	0
16:00	0	0	0	0	0	27	133	0	0	160	212	0	26	0	238	0	129	1	0	130	528	0
16:15	0	0	0	0	0	23	112	0	0	135	232	0	34	0	266	0	133	0	0	133	534	0
16:30	0	0	0	0	0	22	118	0	0	140	205	0	29	0	234	0	138	1	0	139	513	0
16:45	0	0	0	0	0	18	108	0	0	126	203	0	38	0	241	0	114	1	0	115	482	0
Total	0	0	0	0	0	90	471	0	0	561	852	0	127	0	979	0	514	3	0	517	2057	0
17:00	0	0	0	0	0	29	117	0	0	146	215	0	27	0	242	0	129	2	0	131	519	0
17:15	0	0	0	0	0	21	93	0	0	114	278	0	25	0	303	0	159	1	0	160	577	0
17:30	0	0	0	0	0	22	104	0	0	126	233	0	24	0	257	0	147	2	0	149	532	0
17:45	0	0	0	0	0	23	99	0	0	122	200	0	27	0	227	0	139	0	0	139	488	0
Total	0	0	0	0	0	95	413	0	0	508	926	0	103	0	1029	0	574	5	0	579	2116	0
Grand Total	0	0	0	0	0	294	990	0	0	1284	3510	0	463	0	3973	0	1345	32	0	1377	6634	0
Apprch %	0.0%	0.0%	0.0%	0.0%	0.0%	22.9%	77.1%	0.0%	0.0%	19.4%	88.3%	0.0%	11.7%	0.0%	59.9%	0.0%	97.7%	2.3%	0.0%	20.8%	100.0%	0
Total %	0.0%	0.0%	0.0%	0.0%	0.0%	4.4%	14.9%	0.0%	0.0%	19.4%	52.9%	0.0%	7.0%	0.0%	59.9%	0.0%	20.3%	0.5%	0.0%	20.8%	100.0%	0

AM PEAK HOUR	San Clemente Dr Southbound					Tamalpais Dr / Redwood Hwy Westbound					San Clemente Dr Northbound					Tamalpais Dr / Redwood Hwy Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
7:45	0	0	0	0	0	10	10	0	0	20	247	0	44	0	291	0	37	1	0	38	349
8:00	0	0	0	0	0	21	9	0	0	30	259	0	30	0	289	0	29	17	0	46	365
8:15	0	0	0	0	0	20	19	0	0	39	288	0	31	0	319	0	46	3	0	49	407
8:30	0	0	0	0	0	21	26	0	0	47	237	0	21	0	258	0	40	0	0	40	345
Total Volume	0	0	0	0	0	72	64	0	0	136	1031	0	126	0	1157	0	152	21	0	173	1466
% App Total	0.0%	0.0%	0.0%	0.0%	0.0%	52.9%	47.1%	0.0%	0.0%	19.4%	89.1%	0.0%	10.9%	0.0%	59.9%	0.0%	87.9%	12.1%	0.0%	20.8%	100.0%
PHF	.000	.000	.000	.000	.000	.857	.615	.000	.000	.723	.895	.000	.716	.000	.907	.000	.826	.309	.000	.883	.900

PM PEAK HOUR	San Clemente Dr Southbound					Tamalpais Dr / Redwood Hwy Westbound					San Clemente Dr Northbound					Tamalpais Dr / Redwood Hwy Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	0	0	0	0	0	29	117	0	0	146	215	0	27	0	242	0	129	2	0	131	519
17:15	0	0	0	0	0	21	93	0	0	114	278	0	25	0	303	0	159	1	0	160	577
17:30	0	0	0	0	0	22	104	0	0	126	233	0	24	0	257	0	147	2	0	149	532
17:45	0	0	0	0	0	23	99	0	0	122	200	0	27	0	227	0	139	0	0	139	488
Total Volume	0	0	0	0	0	95	413	0	0	508	926	0	103	0	1029	0	574	5	0	579	2116
% App Total	0.0%	0.0%	0.0%	0.0%	0.0%	18.7%	81.3%	0.0%	0.0%	19.4%	90.0%	0.0%	10.0%	0.0%	59.9%	0.0%	99.1%	0.9%	0.0%	20.8%	100.0%
PHF	.000	.000	.000	.000	.000	.819	.882	.000	.000	.870	.833	.000	.954	.000	.849	.000	.903	.625	.000	.905	.917

# PC Attachment 1

## National Data and Surveying Services

City of Corte Madera  
 All Vehicles & Uturns On Unshifted  
 Bikes & Peds On Bank 1  
 Heavy Trucks On Bank 2

(323) 782-0090  
[info@ndsdata.com](mailto:info@ndsdata.com)

File Name : 17-7456-002 Nbound US-101 Ramps & Tamalpais Dr  
 Date : 5/25/2017

**Unshifted Count = All Vehicles & Uturns**

START TIME	Nbound US-101 Ramps Southbound					Tamalpais Dr Westbound					Nbound US-101 Ramps Northbound					Tamalpais Dr Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
7:00	0	0	0	0	0	0	72	48	0	120	50	0	23	0	73	0	136	85	0	221	414	0
7:15	0	0	0	0	0	0	100	77	0	177	75	0	49	0	124	0	163	88	0	251	552	0
7:30	0	0	0	0	0	0	135	90	0	225	75	0	66	0	141	0	169	108	0	277	643	0
7:45	0	0	0	0	0	0	166	98	0	264	111	0	89	0	200	0	207	108	0	315	779	0
Total	0	0	0	0	0	0	473	313	0	786	311	0	227	0	538	0	675	389	0	1064	2388	0
8:00	0	0	0	0	0	0	149	124	0	273	116	0	142	0	258	0	275	113	0	388	919	0
8:15	0	0	0	0	0	0	175	136	0	311	98	0	123	0	221	0	220	128	0	348	880	0
8:30	0	0	0	0	0	0	144	121	0	265	107	0	71	0	178	0	197	117	0	314	757	0
8:45	0	0	0	0	0	0	120	98	0	218	118	0	107	0	225	0	204	114	0	318	761	0
Total	0	0	0	0	0	0	588	479	0	1067	439	0	443	0	882	0	896	472	0	1368	3317	0
16:00	0	0	0	0	0	0	166	172	0	338	144	0	110	0	254	0	194	217	0	411	1003	0
16:15	0	0	0	0	0	0	183	177	0	360	161	0	104	0	265	0	241	220	0	461	1086	0
16:30	0	0	0	0	0	0	163	151	0	314	115	0	91	0	206	0	232	207	0	439	959	0
16:45	0	0	0	0	0	0	150	167	0	317	115	0	104	0	219	0	225	184	0	409	945	0
Total	0	0	0	0	0	0	662	667	0	1329	535	0	409	0	944	0	892	828	0	1720	3993	0
17:00	0	0	0	0	0	0	168	162	0	330	129	0	109	0	238	0	226	208	0	434	1002	0
17:15	0	0	0	0	0	0	204	155	0	359	142	0	118	0	260	0	267	150	0	417	1036	0
17:30	0	0	0	0	0	0	170	165	0	335	192	0	133	0	325	0	220	172	0	392	1052	0
17:45	0	0	0	0	0	0	160	139	0	299	169	0	153	0	322	0	243	127	0	370	991	0
Total	0	0	0	0	0	0	702	621	0	1323	632	0	513	0	1145	0	956	657	0	1613	4081	0
Grand Total	0	0	0	0	0	0	2425	2080	0	4505	1917	0	1592	0	3509	0	3419	2346	0	5765	13779	0
Apprch %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	53.8%	46.2%	0.0%	32.7%	54.6%	0.0%	45.4%	0.0%	25.5%	0.0%	59.3%	40.7%	0.0%	41.8%	100.0%	0
Total %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	17.6%	15.1%	0.0%	32.7%	13.9%	0.0%	11.6%	0.0%	25.5%	0.0%	24.8%	17.0%	0.0%	41.8%	100.0%	0

AM PEAK HOUR	Nbound US-101 Ramps Southbound					Tamalpais Dr Westbound					Nbound US-101 Ramps Northbound					Tamalpais Dr Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
7:45	0	0	0	0	0	0	166	98	0	264	111	0	89	0	200	0	207	108	0	315	779
8:00	0	0	0	0	0	0	149	124	0	273	116	0	142	0	258	0	275	113	0	388	919
8:15	0	0	0	0	0	0	175	136	0	311	98	0	123	0	221	0	220	128	0	348	880
8:30	0	0	0	0	0	0	144	121	0	265	107	0	71	0	178	0	197	117	0	314	757
Total Volume	0	0	0	0	0	0	634	479	0	1113	432	0	425	0	857	0	899	466	0	1365	3335
% App Total	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	57.0%	43.0%	0.0%	32.7%	50.4%	0.0%	49.6%	0.0%	25.5%	0.0%	65.9%	34.1%	0.0%	41.8%	100.0%
PHF	.000	.000	.000	.000	.000	.000	.906	.881	.000	.895	.931	.000	.748	.000	.830	.000	.817	.910	.000	.880	.907

PM PEAK HOUR	Nbound US-101 Ramps Southbound					Tamalpais Dr Westbound					Nbound US-101 Ramps Northbound					Tamalpais Dr Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	0	0	0	0	0	0	168	162	0	330	129	0	109	0	238	0	226	208	0	434	1002
17:15	0	0	0	0	0	0	204	155	0	359	142	0	118	0	260	0	267	150	0	417	1036
17:30	0	0	0	0	0	0	170	165	0	335	192	0	133	0	325	0	220	172	0	392	1052
17:45	0	0	0	0	0	0	160	139	0	299	169	0	153	0	322	0	243	127	0	370	991
Total Volume	0	0	0	0	0	0	702	621	0	1323	632	0	513	0	1145	0	956	657	0	1613	4081
% App Total	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	53.1%	46.9%	0.0%	32.7%	55.2%	0.0%	44.8%	0.0%	25.5%	0.0%	59.3%	40.7%	0.0%	41.8%	100.0%
PHF	.000	.000	.000	.000	.000	.000	.860	.941	.000	.921	.823	.000	.838	.000	.881	.000	.895	.790	.000	.929	.970

# PC Attachment 1

## National Data and Surveying Services

City of Corte Madera  
 All Vehicles & Uturns On Unshifted  
 Bikes & Peds On Bank 1  
 Heavy Trucks On Bank 2

(323) 782-0090  
[info@ndsdata.com](mailto:info@ndsdata.com)

File Name : 17-7456-004 Town Center Entrance & Tamalpais Dr  
 Date : 5/25/2017

### Unshifted Count = All Vehicles & Uturns

START TIME	Town Center Entrance Southbound					Tamalpais Dr Westbound					Town Center Entrance Northbound					Tamalpais Dr Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
7:00	13	6	5	0	24	0	128	18	0	146	0	0	0	0	0	0	97	70	0	167	337	0
7:15	8	4	2	0	14	0	175	17	0	192	0	0	0	0	0	0	85	94	0	179	385	0
7:30	10	2	2	0	14	0	181	23	0	204	0	0	0	0	0	0	126	109	0	235	453	0
7:45	9	4	1	0	14	0	235	44	0	279	0	0	0	0	0	0	151	126	0	277	570	0
Total	40	16	10	0	66	0	719	102	0	821	0	0	0	0	0	0	459	399	0	858	1745	0
8:00	12	6	4	0	22	0	233	40	0	273	0	0	0	0	0	0	212	107	0	319	614	0
8:15	14	9	6	0	29	0	215	32	0	247	0	0	0	0	0	0	184	154	0	338	614	0
8:30	9	4	0	0	13	0	189	53	0	242	0	0	0	0	0	0	135	132	0	267	522	0
8:45	13	6	2	0	21	0	199	59	0	258	0	0	0	0	0	0	129	99	0	228	507	0
Total	48	25	12	0	85	0	836	184	0	1020	0	0	0	0	0	0	660	492	0	1152	2257	0
16:00	57	19	10	0	86	0	238	53	0	291	0	0	0	0	0	0	222	75	0	297	674	0
16:15	45	23	11	0	79	0	300	62	0	362	0	0	0	0	0	0	251	75	0	326	767	0
16:30	47	24	12	0	83	0	201	48	0	249	0	0	0	0	0	0	229	56	0	285	617	0
16:45	63	25	15	0	103	0	220	48	0	268	0	0	0	0	0	0	162	61	0	223	594	0
Total	212	91	48	0	351	0	959	211	0	1170	0	0	0	0	0	0	864	267	0	1131	2652	0
17:00	57	29	16	0	102	0	250	47	0	297	0	0	0	0	0	0	199	93	0	292	691	0
17:15	50	28	9	0	87	0	276	51	0	327	0	0	0	0	0	0	188	69	0	257	671	0
17:30	42	18	10	0	70	0	281	59	0	340	0	0	0	0	0	0	176	61	0	237	647	0
17:45	44	20	20	0	84	0	277	71	0	348	0	0	0	0	0	0	155	72	0	227	659	0
Total	193	95	55	0	343	0	1084	228	0	1312	0	0	0	0	0	0	718	295	0	1013	2668	0
Grand Total	493	227	125	0	845	0	3598	725	0	4323	0	0	0	0	0	0	2701	1453	0	4154	9322	0
Apprch %	58.3%	26.9%	14.8%	0.0%		0.0%	83.2%	16.8%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	65.0%	35.0%	0.0%			
Total %	5.3%	2.4%	1.3%	0.0%	9.1%	0.0%	38.6%	7.8%	0.0%	46.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	29.0%	15.6%	0.0%	44.6%	100.0%	

AM PEAK HOUR	Town Center Entrance Southbound					Tamalpais Dr Westbound					Town Center Entrance Northbound					Tamalpais Dr Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
7:45	9	4	1	0	14	0	235	44	0	279	0	0	0	0	0	0	151	126	0	277	570
8:00	12	6	4	0	22	0	233	40	0	273	0	0	0	0	0	0	212	107	0	319	614
8:15	14	9	6	0	29	0	215	32	0	247	0	0	0	0	0	0	184	154	0	338	614
8:30	9	4	0	0	13	0	189	53	0	242	0	0	0	0	0	0	135	132	0	267	522
Total Volume	44	23	11	0	78	0	872	169	0	1041	0	0	0	0	0	0	682	519	0	1201	2320
% App Total	56.4%	29.5%	14.1%	0.0%		0.0%	83.8%	16.2%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	56.8%	43.2%	0.0%		
PHF	.786	.639	.458	.000	.672	.000	.928	.797	.000	.933	.000	.000	.000	.000	.000	.000	.804	.843	.000	.888	.945

PM PEAK HOUR	Town Center Entrance Southbound					Tamalpais Dr Westbound					Town Center Entrance Northbound					Tamalpais Dr Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 16:15 to 17:15																					
Peak Hour For Entire Intersection Begins at 16:15																					
16:15	45	23	11	0	79	0	300	62	0	362	0	0	0	0	0	0	251	75	0	326	767
16:30	47	24	12	0	83	0	201	48	0	249	0	0	0	0	0	0	229	56	0	285	617
16:45	63	25	15	0	103	0	220	48	0	268	0	0	0	0	0	0	162	61	0	223	594
17:00	57	29	16	0	102	0	250	47	0	297	0	0	0	0	0	0	199	93	0	292	691
Total Volume	212	101	54	0	367	0	971	205	0	1176	0	0	0	0	0	0	841	285	0	1126	2669
% App Total	57.8%	27.5%	14.7%	0.0%		0.0%	82.6%	17.4%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	74.7%	25.3%	0.0%		
PHF	.841	.871	.844	.000	.891	.000	.809	.827	.000	.812	.000	.000	.000	.000	.000	.000	.838	.766	.000	.863	.870

# PC Attachment 1

## National Data and Surveying Services

City of Corte Madera  
 All Vehicles & Uturns On Unshifted  
 Bikes & Peds On Bank 1  
 Heavy Trucks On Bank 2

(323) 782-0090  
[info@ndsdata.com](mailto:info@ndsdata.com)

File Name : 17-7456-003 Sbound US-101 Ramps & Tamalpais Dr  
 Date : 5/25/2017

### Unshifted Count = All Vehicles & Uturns

START TIME	Sbound US-101 Ramps Southbound					Tamalpais Dr Westbound					Sbound US-101 Ramps Northbound					Tamalpais Dr Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
7:00	115	0	58	0	173	0	83	42	0	125	0	0	0	0	0	0	99	0	0	99	397	0
7:15	138	0	82	0	220	0	106	63	0	169	0	0	0	0	0	100	0	0	100	489	0	
7:30	129	0	71	0	200	0	139	77	0	216	0	0	0	0	0	134	0	0	134	550	0	
7:45	156	0	99	0	255	0	177	99	0	276	0	0	0	0	0	158	0	0	158	689	0	
Total	538	0	310	0	848	0	505	281	0	786	0	0	0	0	0	491	0	0	491	2125	0	
8:00	198	0	95	0	293	0	178	86	0	264	0	0	0	0	0	233	0	0	233	790	0	
8:15	170	0	79	0	249	0	170	106	0	276	0	0	0	0	0	191	0	0	191	716	0	
8:30	156	0	82	0	238	0	163	80	0	243	0	0	0	0	0	150	0	0	150	631	0	
8:45	175	0	94	0	269	0	167	65	0	232	0	0	0	0	0	138	0	0	138	639	0	
Total	699	0	350	0	1049	0	678	337	0	1015	0	0	0	0	0	712	0	0	712	2776	0	
16:00	145	0	68	0	213	0	224	68	0	292	0	0	0	0	0	275	0	0	275	780	0	
16:15	175	0	75	0	250	0	283	74	0	357	0	0	0	0	0	292	0	0	292	899	0	
16:30	167	0	70	0	237	0	184	72	0	256	0	0	0	0	0	282	0	0	282	775	0	
16:45	173	0	79	0	252	0	185	103	0	288	0	0	0	0	0	227	0	0	227	767	0	
Total	660	0	292	0	952	0	876	317	0	1193	0	0	0	0	0	1076	0	0	1076	3221	0	
17:00	196	0	77	0	273	0	217	63	0	280	0	0	0	0	0	249	0	0	249	802	0	
17:15	167	0	81	0	248	0	245	84	0	329	0	0	0	0	0	236	0	0	236	813	0	
17:30	169	0	85	0	254	0	264	105	0	369	0	0	0	0	0	228	0	0	228	851	0	
17:45	174	0	86	0	260	0	250	90	0	340	0	0	0	0	0	191	0	0	191	791	0	
Total	706	0	329	0	1035	0	976	342	0	1318	0	0	0	0	0	904	0	0	904	3257	0	
Grand Total	2603	0	1281	0	3884	0	3035	1277	0	4312	0	0	0	0	0	3183	0	0	3183	11379	0	
Apprch %	67.0%	0.0%	33.0%	0.0%		0.0%	70.4%	29.6%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	100.0%	0.0%	0.0%		100.0%	
Total %	22.9%	0.0%	11.3%	0.0%	34.1%	0.0%	26.7%	11.2%	0.0%	37.9%	0.0%	0.0%	0.0%	0.0%	0.0%	28.0%	0.0%	0.0%	28.0%		100.0%	

AM PEAK HOUR	Sbound US-101 Ramps Southbound					Tamalpais Dr Westbound					Sbound US-101 Ramps Northbound					Tamalpais Dr Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
7:45	156	0	99	0	255	0	177	99	0	276	0	0	0	0	0	158	0	0	158	689	
8:00	198	0	95	0	293	0	178	86	0	264	0	0	0	0	0	233	0	0	233	790	
8:15	170	0	79	0	249	0	170	106	0	276	0	0	0	0	0	191	0	0	191	716	
8:30	156	0	82	0	238	0	163	80	0	243	0	0	0	0	0	150	0	0	150	631	
Total Volume	680	0	355	0	1035	0	688	371	0	1059	0	0	0	0	0	732	0	0	732	2826	
% App Total	65.7%	0.0%	34.3%	0.0%		0.0%	65.0%	35.0%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	100.0%	0.0%	0.0%		
PHF	.859	.000	.896	.000	.883	.000	.966	.875	.000	.959	.000	.000	.000	.000	.000	.785	.000	.000	.785	.894	

PM PEAK HOUR	Sbound US-101 Ramps Southbound					Tamalpais Dr Westbound					Sbound US-101 Ramps Northbound					Tamalpais Dr Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	196	0	77	0	273	0	217	63	0	280	0	0	0	0	0	249	0	0	249	802	
17:15	167	0	81	0	248	0	245	84	0	329	0	0	0	0	0	236	0	0	236	813	
17:30	169	0	85	0	254	0	264	105	0	369	0	0	0	0	0	228	0	0	228	851	
17:45	174	0	86	0	260	0	250	90	0	340	0	0	0	0	0	191	0	0	191	791	
Total Volume	706	0	329	0	1035	0	976	342	0	1318	0	0	0	0	0	904	0	0	904	3257	
% App Total	68.2%	0.0%	31.8%	0.0%		0.0%	74.1%	25.9%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	100.0%	0.0%	0.0%		
PHF	.901	.000	.956	.000	.948	.000	.924	.814	.000	.893	.000	.000	.000	.000	.000	.908	.000	.000	.908	.957	

# PC Attachment 1

## National Data and Surveying Services

City of Corte Madera  
 All Vehicles & Uturns On Unshifted  
 Bikes & Peds On Bank 1  
 Heavy Trucks On Bank 2

(323) 782-0090  
[info@ndsdata.com](mailto:info@ndsdata.com)

File Name : 17-7456-005 Madera Blvd & Tamalpais Dr  
 Date : 5/25/2017

### Unshifted Count = All Vehicles & Uturns

START TIME	Madera Blvd Southbound					Tamalpais Dr Westbound					Madera Blvd Northbound					Tamalpais Dr Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
7:00	18	7	15	0	40	35	71	24	0	130	4	3	32	0	39	7	118	7	0	132	341	0
7:15	19	12	22	0	53	29	111	28	0	168	5	11	42	0	58	8	116	6	0	130	409	0
7:30	26	9	20	0	55	34	125	22	0	181	9	13	37	0	59	13	164	8	0	185	480	0
7:45	41	17	31	0	89	24	155	52	0	231	20	21	39	0	80	19	194	3	0	216	616	0
Total	104	45	88	0	237	122	462	126	0	710	38	48	150	0	236	47	592	24	0	663	1846	0
8:00	55	25	34	0	114	42	140	40	0	222	13	15	55	0	83	36	213	7	0	256	675	0
8:15	55	14	24	0	93	41	138	52	0	231	10	9	47	0	66	32	229	6	0	267	657	0
8:30	36	20	26	0	82	27	110	43	0	180	5	7	26	0	38	26	209	5	0	240	540	0
8:45	37	13	31	0	81	43	107	45	0	195	9	16	40	0	65	28	155	11	0	194	535	0
Total	183	72	115	0	370	153	495	180	0	828	37	47	168	0	252	122	806	29	0	957	2407	0
16:00	39	17	36	0	92	24	157	61	0	242	10	23	39	0	72	43	221	9	0	273	679	0
16:15	43	18	37	0	98	51	183	80	0	314	6	23	34	0	63	40	243	14	0	297	772	0
16:30	55	14	38	0	107	40	122	50	0	212	12	17	35	0	64	55	194	7	0	256	639	0
16:45	61	9	48	0	118	30	143	44	0	217	12	17	29	0	58	35	135	7	0	177	570	0
Total	198	58	159	0	415	145	605	235	0	985	40	80	137	0	257	173	793	37	0	1003	2660	0
17:00	54	19	48	0	121	51	148	64	0	263	14	14	46	0	74	48	188	10	0	246	704	0
17:15	62	19	42	0	123	42	154	89	0	285	10	13	35	0	58	39	165	8	0	212	678	0
17:30	59	16	46	0	121	38	174	66	0	278	5	13	33	0	51	31	147	4	0	182	632	0
17:45	40	14	33	0	87	61	149	83	0	293	13	25	33	0	71	41	149	8	0	198	649	0
Total	215	68	169	0	452	192	625	302	0	1119	42	65	147	0	254	159	649	30	0	838	2663	0
Grand Total	700	243	531	0	1474	612	2187	843	0	3642	157	240	602	0	999	501	2840	120	0	3461	9576	0
Apprch %	47.5%	16.5%	36.0%	0.0%		16.8%	60.0%	23.1%	0.0%		15.7%	24.0%	60.3%	0.0%		14.5%	82.1%	3.5%	0.0%			
Total %	7.3%	2.5%	5.5%	0.0%	15.4%	6.4%	22.8%	8.8%	0.0%	38.0%	1.6%	2.5%	6.3%	0.0%	10.4%	5.2%	29.7%	1.3%	0.0%	36.1%	100.0%	

AM PEAK HOUR	Madera Blvd Southbound					Tamalpais Dr Westbound					Madera Blvd Northbound					Tamalpais Dr Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
7:45	41	17	31	0	89	24	155	52	0	231	20	21	39	0	80	19	194	3	0	216	616
8:00	55	25	34	0	114	42	140	40	0	222	13	15	55	0	83	36	213	7	0	256	675
8:15	55	14	24	0	93	41	138	52	0	231	10	9	47	0	66	32	229	6	0	267	657
8:30	36	20	26	0	82	27	110	43	0	180	5	7	26	0	38	26	209	5	0	240	540
Total Volume	187	76	115	0	378	134	543	187	0	864	48	52	167	0	267	113	845	21	0	979	2488
% App Total	49.5%	20.1%	30.4%	0.0%		15.5%	62.8%	21.6%	0.0%		18.0%	19.5%	62.5%	0.0%		11.5%	86.3%	2.1%	0.0%		
PHF	.850	.760	.846	.000	.829	.798	.876	.899	.000	.935	.600	.619	.759	.000	.804	.785	.922	.750	.000	.917	.921

PM PEAK HOUR	Madera Blvd Southbound					Tamalpais Dr Westbound					Madera Blvd Northbound					Tamalpais Dr Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 16:15 to 17:15																					
Peak Hour For Entire Intersection Begins at 16:15																					
16:15	43	18	37	0	98	51	183	80	0	314	6	23	34	0	63	40	243	14	0	297	772
16:30	55	14	38	0	107	40	122	50	0	212	12	17	35	0	64	55	194	7	0	256	639
16:45	61	9	48	0	118	30	143	44	0	217	12	17	29	0	58	35	135	7	0	177	570
17:00	54	19	48	0	121	51	148	64	0	263	14	14	46	0	74	48	188	10	0	246	704
Total Volume	213	60	171	0	444	172	596	238	0	1006	44	71	144	0	259	178	760	38	0	976	2685
% App Total	48.0%	13.5%	38.5%	0.0%		17.1%	59.2%	23.7%	0.0%		17.0%	27.4%	55.6%	0.0%		18.2%	77.9%	3.9%	0.0%		
PHF	.873	.789	.891	.000	.917	.843	.814	.744	.000	.801	.786	.772	.783	.000	.875	.809	.782	.679	.000	.822	.869

# PC Attachment 1

## National Data and Surveying Services

City of Corte Madera  
 All Vehicles & Uturns On Unshifted  
 Bikes & Peds On Bank 1  
 Heavy Trucks On Bank 2

(323) 782-0090  
[info@ndsdata.com](mailto:info@ndsdata.com)

File Name : 17-7456-006 San Clemente Dr & Paradise Dr  
 Date : 5/25/2017

### Unshifted Count = All Vehicles & Uturns

START TIME	San Clemente Dr Southbound					Paradise Dr Westbound					San Clemente Dr Northbound					Paradise Dr Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
7:00	0	97	7	0	104	0	0	0	0	0	4	102	0	0	106	24	0	1	0	25	235	0
7:15	0	134	3	0	137	0	0	0	0	0	0	195	0	0	195	24	0	3	0	27	359	0
7:30	0	180	4	0	184	0	0	0	0	0	3	221	0	0	224	29	0	3	0	32	440	0
7:45	0	226	2	0	228	0	0	0	0	0	3	280	0	0	283	20	0	5	0	25	536	0
Total	0	637	16	0	653	0	0	0	0	0	10	798	0	0	808	97	0	12	0	109	1570	0
8:00	0	346	9	0	355	0	0	0	0	0	7	258	0	1	266	29	0	3	0	32	653	1
8:15	0	239	6	0	245	0	0	0	0	0	3	324	0	0	327	25	0	4	0	29	601	0
8:30	0	189	11	0	200	0	0	0	0	0	7	224	0	0	231	27	0	3	0	30	461	0
8:45	0	165	5	0	170	0	0	0	0	0	7	198	0	0	205	20	0	7	0	27	402	0
Total	0	939	31	0	970	0	0	0	0	0	24	1004	0	1	1029	101	0	17	0	118	2117	1
16:00	0	167	5	0	172	0	0	0	0	0	4	228	0	0	232	33	0	11	0	44	448	0
16:15	0	203	9	0	212	0	0	0	0	0	6	209	0	0	215	43	0	11	0	54	481	0
16:30	0	174	3	0	177	0	0	0	0	0	6	203	0	0	209	39	0	11	0	50	436	0
16:45	0	184	5	0	189	0	0	0	0	0	9	165	0	0	174	54	0	11	0	65	428	0
Total	0	728	22	0	750	0	0	0	0	0	25	805	0	0	830	169	0	44	0	213	1793	0
17:00	0	196	9	0	205	0	0	0	0	0	5	207	0	0	212	73	0	9	0	82	499	0
17:15	0	196	7	0	203	0	0	0	0	0	7	200	0	0	207	56	0	13	0	69	479	0
17:30	0	204	6	0	210	0	0	0	0	0	2	185	0	0	187	61	0	8	0	69	466	0
17:45	0	250	4	0	254	0	0	0	0	0	7	170	0	0	177	62	0	7	0	69	500	0
Total	0	846	26	0	872	0	0	0	0	0	21	762	0	0	783	252	0	37	0	289	1944	0
Grand Total	0	3150	95	0	3245	0	0	0	0	0	80	3369	0	1	3450	619	0	110	0	729	7424	1
Apprch %	0.0%	97.1%	2.9%	0.0%		0.0%	0.0%	0.0%	0.0%	0.0%	2.3%	97.7%	0.0%	0.0%		84.9%	0.0%	15.1%	0.0%			
Total %	0.0%	42.4%	1.3%	0.0%	43.7%	0.0%	0.0%	0.0%	0.0%	0.0%	1.1%	45.4%	0.0%	0.0%	46.5%	8.3%	0.0%	1.5%	0.0%	9.8%	100.0%	

AM PEAK HOUR	San Clemente Dr Southbound					Paradise Dr Westbound					San Clemente Dr Northbound					Paradise Dr Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
7:45	0	226	2	0	228	0	0	0	0	0	3	280	0	0	283	20	0	5	0	25	536
8:00	0	346	9	0	355	0	0	0	0	0	7	258	0	1	266	29	0	3	0	32	653
8:15	0	239	6	0	245	0	0	0	0	0	3	324	0	0	327	25	0	4	0	29	601
8:30	0	189	11	0	200	0	0	0	0	0	7	224	0	0	231	27	0	3	0	30	461
Total Volume	0	1000	28	0	1028	0	0	0	0	0	20	1086	0	1	1107	101	0	15	0	116	2251
% App Total	0.0%	97.3%	2.7%	0.0%		0.0%	0.0%	0.0%	0.0%	0.0%	1.8%	98.1%	0.0%	0.1%		87.1%	0.0%	12.9%	0.0%		
PHF	.000	.723	.636	.000	.724	.000	.000	.000	.000	.000	.714	.838	.000	.250	.846	.871	.000	.750	.000	.906	.862

PM PEAK HOUR	San Clemente Dr Southbound					Paradise Dr Westbound					San Clemente Dr Northbound					Paradise Dr Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	0	196	9	0	205	0	0	0	0	0	5	207	0	0	212	73	0	9	0	82	499
17:15	0	196	7	0	203	0	0	0	0	0	7	200	0	0	207	56	0	13	0	69	479
17:30	0	204	6	0	210	0	0	0	0	0	2	185	0	0	187	61	0	8	0	69	466
17:45	0	250	4	0	254	0	0	0	0	0	7	170	0	0	177	62	0	7	0	69	500
Total Volume	0	846	26	0	872	0	0	0	0	0	21	762	0	0	783	252	0	37	0	289	1944
% App Total	0.0%	97.0%	3.0%	0.0%		0.0%	0.0%	0.0%	0.0%	0.0%	2.7%	97.3%	0.0%	0.0%		87.2%	0.0%	12.8%	0.0%		
PHF	.000	.846	.722	.000	.858	.000	.000	.000	.000	.000	.750	.920	.000	.000	.923	.863	.000	.712	.000	.881	.972

# PC Attachment 1

## National Data and Surveying Services

City of Corte Madera  
 All Vehicles & Uturns On Unshifted  
 Bikes & Peds On Bank 1  
 Heavy Trucks On Bank 2

(323) 782-0090  
[info@ndsdata.com](mailto:info@ndsdata.com)

File Name : 17-7456-101 Paradise Dr & Tamalpais Dr  
 Date : 5/25/2017

**Unshifted Count = All Vehicles & Uturns**

START TIME	Paradise Dr Southbound					Tamalpais Dr Westbound					Paradise Dr Northbound					Tamalpais Dr Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
7:00	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	98	50	0	148	150	0
7:15	0	0	0	0	0	0	0	0	0	0	0	8	3	0	11	0	127	60	0	187	198	0
7:30	0	0	0	0	0	0	0	0	0	0	0	7	0	0	7	0	167	48	0	215	222	0
7:45	0	0	0	0	0	0	0	0	0	0	0	10	2	0	12	0	220	51	0	271	283	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>27</b>	<b>5</b>	<b>0</b>	<b>32</b>	<b>0</b>	<b>612</b>	<b>209</b>	<b>0</b>	<b>821</b>	<b>853</b>	<b>0</b>
8:00	0	0	0	0	0	0	0	0	0	0	0	7	3	0	10	0	313	77	0	390	400	0
8:15	0	0	0	0	0	0	0	0	0	0	0	11	0	0	11	0	222	74	0	296	307	0
8:30	0	0	0	0	0	0	0	0	0	0	0	13	1	0	14	0	178	67	0	245	259	0
8:45	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8	0	158	107	0	265	273	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>39</b>	<b>4</b>	<b>0</b>	<b>43</b>	<b>0</b>	<b>871</b>	<b>325</b>	<b>0</b>	<b>1196</b>	<b>1239</b>	<b>0</b>
16:00	0	0	0	0	0	0	0	0	0	0	0	15	1	0	16	0	152	33	0	185	201	0
16:15	0	0	0	0	0	0	0	0	0	0	0	18	2	0	20	0	189	40	0	229	249	0
16:30	0	0	0	0	0	0	0	0	0	0	0	14	3	0	17	0	168	39	0	207	224	0
16:45	0	0	0	0	0	0	0	0	0	0	0	7	1	0	8	0	181	32	0	213	221	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>54</b>	<b>7</b>	<b>0</b>	<b>61</b>	<b>0</b>	<b>690</b>	<b>144</b>	<b>0</b>	<b>834</b>	<b>895</b>	<b>0</b>
17:00	0	0	0	0	0	0	0	0	0	0	0	17	4	0	21	0	175	48	0	223	244	0
17:15	0	0	0	0	0	0	0	0	0	0	0	14	3	0	17	0	195	36	0	231	248	0
17:30	0	0	0	0	0	0	0	0	0	0	0	22	1	0	23	0	192	28	0	220	243	0
17:45	0	0	0	0	0	0	0	0	0	0	0	12	4	0	16	0	241	33	0	274	290	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>65</b>	<b>12</b>	<b>0</b>	<b>77</b>	<b>0</b>	<b>803</b>	<b>145</b>	<b>0</b>	<b>948</b>	<b>1025</b>	<b>0</b>
<b>Grand Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>185</b>	<b>28</b>	<b>0</b>	<b>213</b>	<b>0</b>	<b>2976</b>	<b>823</b>	<b>0</b>	<b>3799</b>	<b>4012</b>	<b>0</b>
Apprch %	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	86.9%	13.1%	0.0%		0.0%	78.3%	21.7%	0.0%			
Total %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	4.6%	0.7%	0.0%	5.3%	0.0%	74.2%	20.5%	0.0%	94.7%	100.0%	

<b>AM PEAK HOUR</b>	Paradise Dr Southbound					Tamalpais Dr Westbound					Paradise Dr Northbound					Tamalpais Dr Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
7:45	0	0	0	0	0	0	0	0	0	0	0	10	2	0	12	0	220	51	0	271	283
8:00	0	0	0	0	0	0	0	0	0	0	0	7	3	0	10	0	313	77	0	390	400
8:15	0	0	0	0	0	0	0	0	0	0	0	11	0	0	11	0	222	74	0	296	307
8:30	0	0	0	0	0	0	0	0	0	0	0	13	1	0	14	0	178	67	0	245	259
Total Volume	0	0	0	0	0	0	0	0	0	0	0	41	6	0	47	0	933	269	0	1202	1249
% App Total	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	87.2%	12.8%	0.0%		0.0%	77.6%	22.4%	0.0%		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.788	.500	.000	.839	.000	.745	.873	.000	.771	.781

<b>PM PEAK HOUR</b>	Paradise Dr Southbound					Tamalpais Dr Westbound					Paradise Dr Northbound					Tamalpais Dr Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	0	0	0	0	0	0	0	0	0	0	0	17	4	0	21	0	175	48	0	223	244
17:15	0	0	0	0	0	0	0	0	0	0	0	14	3	0	17	0	195	36	0	231	248
17:30	0	0	0	0	0	0	0	0	0	0	0	22	1	0	23	0	192	28	0	220	243
17:45	0	0	0	0	0	0	0	0	0	0	0	12	4	0	16	0	241	33	0	274	290
Total Volume	0	0	0	0	0	0	0	0	0	0	0	65	12	0	77	0	803	145	0	948	1025
% App Total	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	84.4%	15.6%	0.0%		0.0%	84.7%	15.3%	0.0%		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.739	.750	.000	.837	.000	.833	.755	.000	.865	.884

**APPENDIX B**

**INTERSECTION LEVEL OF SERVICE CALCULATION SHEETS**



# PC Attachment 1

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Amy's Drive Thru  
Existing Conditions  
Mid-Afternoon Peak Hour

**Intersection 1**                      **San Clemente Dr/Tamalpais Dr-Redwood Hwy**                      **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	848	841	99.2%	22.1	3.7	C
	Through						
	Right Turn	114	115	101.2%	25.4	5.4	C
	Subtotal	962	956	99.4%	22.5	3.8	C
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	554	558	100.7%	20.3	2.3	C
	Right Turn	627	628	100.2%	1.2	0.1	A
	Subtotal	1,181	1,186	100.4%	10.2	1.3	B
WB	Left Turn	83	79	95.7%	23.9	3.2	C
	Through	454	471	103.7%	12.8	1.5	B
	Right Turn						
	Subtotal	537	550	102.4%	14.3	1.3	B
<b>Total</b>		<b>2,680</b>	<b>2,693</b>	<b>100.5%</b>	<b>15.4</b>	<b>0.9</b>	<b>B</b>

**Intersection 2**                      **US 101 On-ramp-US 101 Off-ramp/Tamalpais Dr**                      **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	674	660	97.9%	45.6	10.2	D
	Through						
	Right Turn	434	427	98.5%	9.8	1.7	A
	Subtotal	1,108	1,087	98.1%	31.5	6.7	C
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	786	803	102.2%	15.8	1.3	B
	Right Turn	796	759	95.3%	7.7	1.0	A
	Subtotal	1,582	1,562	98.7%	11.8	1.1	B
WB	Left Turn						
	Through	721	718	99.6%	2.7	0.3	A
	Right Turn	581	583	100.3%	3.3	0.3	A
	Subtotal	1,302	1,301	99.9%	3.0	0.2	A
<b>Total</b>		<b>3,992</b>	<b>3,951</b>	<b>99.0%</b>	<b>14.5</b>	<b>2.4</b>	<b>B</b>

# PC Attachment 1

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Amy's Drive Thru  
Existing Conditions  
Mid-Afternoon Peak Hour

**Intersection 3**                      **US 101 SB Off-ramp/Tamalpais Dr**                      **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	632	632	100.0%	26.3	4.3	C
	Through						
	Right Turn	328	334	101.7%	17.7	2.4	B
	Subtotal	960	965	100.6%	23.3	3.6	C
EB	Left Turn						
	Through	950	953	100.3%	8.5	0.8	A
	Right Turn						
	Subtotal	950	953	100.3%	8.5	0.8	A
WB	Left Turn						
	Through	1,008	1,013	100.5%	12.4	0.6	B
	Right Turn	387	380	98.2%	3.1	0.5	A
	Subtotal	1,395	1,393	99.9%	9.7	0.5	A
Total		3,305	3,312	100.2%	13.3	1.3	B

**Intersection 4**                      **Town Center Dr/Tamalpais Dr**                      **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	323	316	97.8%	18.8	2.1	B
	Through						
	Right Turn	41	43	104.6%	18.5	3.8	B
	Subtotal	364	359	98.5%	18.8	1.9	B
EB	Left Turn						
	Through	1,037	1,013	97.7%	10.5	1.8	B
	Right Turn						
	Subtotal	1,037	1,013	97.7%	10.5	1.8	B
WB	Left Turn						
	Through	1,107	1,124	101.5%	8.9	4.0	A
	Right Turn	229	236	102.8%	1.7	0.4	A
	Subtotal	1,336	1,359	101.7%	7.7	3.4	A
Total		2,737	2,731	99.8%	10.2	2.0	B

# PC Attachment 1

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Amy's Drive Thru  
Existing Conditions  
Mid-Afternoon Peak Hour

Intersection 5                      Madera Blvd/Tamalpais Dr                      Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	55	54	97.8%	47.2	8.0	D
	Through	72	71	99.0%	46.5	8.0	D
	Right Turn	158	151	95.6%	17.1	5.5	B
	Subtotal	285	276	96.9%	29.7	4.0	C
SB	Left Turn	216	213	98.5%	42.6	4.1	D
	Through	85	89	104.5%	43.5	4.7	D
	Right Turn	188	188	100.0%	10.8	3.4	B
	Subtotal	489	490	100.1%	31.3	2.1	C
EB	Left Turn	144	137	95.1%	65.6	18.2	E
	Through	664	649	97.7%	38.0	7.7	D
	Right Turn	27	30	111.5%	33.6	14.0	C
	Subtotal	835	816	97.7%	42.7	8.3	D
WB	Left Turn	166	164	98.6%	72.7	11.0	E
	Through	691	683	98.8%	36.3	6.0	D
	Right Turn	291	292	100.2%	10.0	3.0	B
	Subtotal	1,148	1,138	99.1%	35.2	4.8	D
Total		2,757	2,720	98.6%	36.3	4.2	D

## HCM 2010 Signalized Intersection Summary 6: Paradise/San Clemente

05/04/2018

Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	104	20	33	855	655	30		
Future Volume (veh/h)	104	20	33	855	655	30		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900		
Adj Flow Rate, veh/h	109	0	35	900	689	32		
Adj No. of Lanes	1	1	1	2	2	0		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	223	199	580	2558	2082	97		
Arrive On Green	0.13	0.00	0.05	0.72	0.60	0.60		
Sat Flow, veh/h	1774	1583	1774	3632	3537	160		
Grp Volume(v), veh/h	109	0	35	900	354	367		
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1770	1770	1835		
Q Serve(g_s), s	3.4	0.0	0.4	5.7	5.9	5.9		
Cycle Q Clear(g_c), s	3.4	0.0	0.4	5.7	5.9	5.9		
Prop In Lane	1.00	1.00	1.00			0.09		
Lane Grp Cap(c), veh/h	223	199	580	2558	1070	1109		
V/C Ratio(X)	0.49	0.00	0.06	0.35	0.33	0.33		
Avail Cap(c_a), veh/h	455	406	719	2558	1070	1109		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	24.4	0.0	3.5	3.1	5.9	5.9		
Incr Delay (d2), s/veh	0.6	0.0	0.0	0.4	0.8	0.8		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.7	0.0	0.2	2.9	3.1	3.2		
LnGrp Delay(d),s/veh	25.1	0.0	3.5	3.5	6.7	6.7		
LnGrp LOS	C		A	A	A	A		
Approach Vol, veh/h	109			935	721			
Approach Delay, s/veh	25.1			3.5	6.7			
Approach LOS	C			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		48.3		11.7	7.1	41.2		
Change Period (Y+Rc), s		* 4.9		* 4.2	4.0	4.9		
Max Green Setting (Gmax), s		* 36		* 15	7.8	23.7		
Max Q Clear Time (g_c+I1), s		7.7		5.4	2.4	7.9		
Green Ext Time (p_c), s		13.5		0.1	0.0	9.6		
<b>Intersection Summary</b>								
HCM 2010 Ctrl Delay			6.1					
HCM 2010 LOS			A					
<b>Notes</b>								

# PC Attachment 1

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Amy's Drive Thru  
Existing  
PM Peak Hour

**Intersection 1**                      **San Clemente Dr/Tamalpais Dr-Redwood Hwy**                      **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	926	947	102.2%	33.3	18.1	C
	Through						
	Right Turn	103	102	99.0%	40.9	29.4	D
	Subtotal	1,029	1,049	101.9%	34.1	19.3	C
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	602	602	100.0%	21.5	2.7	C
	Right Turn	803	810	100.9%	1.9	0.4	A
	Subtotal	1,405	1,412	100.5%	10.2	1.7	B
WB	Left Turn	95	94	99.3%	24.9	4.6	C
	Through	413	421	102.0%	10.5	2.0	B
	Right Turn						
	Subtotal	508	515	101.5%	13.2	1.9	B
Total		2,942	2,976	101.2%	19.3	6.9	B

**Intersection 2**                      **US 101 On-ramp-US 101 Off-ramp/Tamalpais Dr**                      **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	632	619	97.9%	37.2	5.5	D
	Through						
	Right Turn	513	514	100.1%	12.7	2.0	B
	Subtotal	1,145	1,132	98.9%	26.2	3.8	C
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	960	976	101.7%	18.0	1.3	B
	Right Turn	657	656	99.8%	10.3	1.6	B
	Subtotal	1,617	1,632	100.9%	15.0	1.3	B
WB	Left Turn						
	Through	718	721	100.4%	2.9	0.4	A
	Right Turn	621	643	103.6%	4.5	0.3	A
	Subtotal	1,339	1,364	101.9%	3.7	0.4	A
Total		4,101	4,128	100.7%	14.3	1.5	B

# PC Attachment 1

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Amy's Drive Thru  
Existing  
PM Peak Hour

**Intersection 3**                      **US 101 SB Off-ramp/Tamalpais Dr**                      **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	706	707	100.2%	32.9	7.2	C
	Through						
	Right Turn	329	324	98.6%	20.3	4.5	C
	Subtotal	1,035	1,032	99.7%	29.1	6.2	C
EB	Left Turn						
	Through	911	930	102.1%	8.6	0.5	A
	Right Turn						
	Subtotal	911	930	102.1%	8.6	0.5	A
WB	Left Turn						
	Through	1,008	1,003	99.5%	11.9	0.6	B
	Right Turn	342	344	100.4%	2.5	0.4	A
	Subtotal	1,350	1,347	99.8%	9.5	0.5	A
<b>Total</b>		<b>3,296</b>	<b>3,309</b>	<b>100.4%</b>	<b>15.5</b>	<b>2.2</b>	<b>B</b>

**Intersection 4**                      **Town Center Dr/Tamalpais Dr**                      **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	288	294	102.0%	20.0	2.4	B
	Through						
	Right Turn	55	56	101.5%	18.9	5.4	B
	Subtotal	343	350	102.0%	19.7	2.3	B
EB	Left Turn						
	Through	1,013	1,013	100.0%	9.6	1.4	A
	Right Turn						
	Subtotal	1,013	1,013	100.0%	9.6	1.4	A
WB	Left Turn						
	Through	1,109	1,107	99.8%	7.2	4.2	A
	Right Turn	228	227	99.6%	3.5	1.1	A
	Subtotal	1,337	1,335	99.8%	6.6	3.7	A
<b>Total</b>		<b>2,693</b>	<b>2,697</b>	<b>100.1%</b>	<b>9.5</b>	<b>2.0</b>	<b>A</b>

# PC Attachment 1

SimTraffic Post-Processor  
 Average Results from 10 Runs  
 Volume and Delay by Movement

Amy's Drive Thru  
 Existing  
 PM Peak Hour

Intersection 5                      Madera Blvd/Tamalpais Dr                      Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	42	45	107.4%	40.1	8.0	D
	Through	65	65	99.7%	43.2	6.6	D
	Right Turn	147	151	102.7%	14.6	4.4	B
	Subtotal	254	261	102.7%	26.3	3.5	C
SB	Left Turn	215	216	100.5%	42.5	3.9	D
	Through	68	71	104.7%	42.3	7.9	D
	Right Turn	169	168	99.1%	8.8	2.7	A
	Subtotal	452	455	100.6%	30.0	2.2	C
EB	Left Turn	159	161	100.9%	52.8	13.5	D
	Through	651	646	99.3%	35.7	11.3	D
	Right Turn	30	31	104.0%	35.0	12.3	C
	Subtotal	840	838	99.8%	39.0	10.9	D
WB	Left Turn	192	190	99.2%	57.0	6.1	E
	Through	670	666	99.4%	32.8	4.3	C
	Right Turn	302	291	96.3%	8.8	1.6	A
	Subtotal	1,164	1,147	98.5%	31.3	3.6	C
Total		2,710	2,701	99.7%	33.1	4.9	C

## HCM 2010 Signalized Intersection Summary 6: Paradise Drive/San Clemente Drive

05/04/2018

Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	252	37	21	762	846	26		
Future Volume (veh/h)	252	37	21	762	846	26		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.97		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1881	1881	1881	1881	1881	1900		
Adj Flow Rate, veh/h	255	0	21	770	855	26		
Adj No. of Lanes	1	1	1	2	2	0		
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99		
Percent Heavy Veh, %	1	1	1	1	1	1		
Cap, veh/h	307	274	461	2419	2037	62		
Arrive On Green	0.17	0.00	0.03	0.68	0.58	0.58		
Sat Flow, veh/h	1792	1599	1792	3668	3632	108		
Grp Volume(v), veh/h	255	0	21	770	432	449		
Grp Sat Flow(s),veh/h/ln	1792	1599	1792	1787	1787	1859		
Q Serve(g_s), s	8.3	0.0	0.3	5.3	8.1	8.1		
Cycle Q Clear(g_c), s	8.3	0.0	0.3	5.3	8.1	8.1		
Prop In Lane	1.00	1.00	1.00			0.06		
Lane Grp Cap(c), veh/h	307	274	461	2419	1029	1070		
V/C Ratio(X)	0.83	0.00	0.05	0.32	0.42	0.42		
Avail Cap(c_a), veh/h	460	410	632	2419	1029	1070		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	0.99	0.00	1.00	1.00	0.86	0.86		
Uniform Delay (d), s/veh	24.0	0.0	4.7	4.0	7.1	7.1		
Incr Delay (d2), s/veh	4.8	0.0	0.0	0.3	1.1	1.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	4.4	0.0	0.1	2.7	4.3	4.4		
LnGrp Delay(d),s/veh	28.8	0.0	4.8	4.3	8.2	8.2		
LnGrp LOS	C		A	A	A	A		
Approach Vol, veh/h	255			791	881			
Approach Delay, s/veh	28.8			4.3	8.2			
Approach LOS	C			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		45.5		14.5	6.1	39.4		
Change Period (Y+Rc), s		* 4.9		* 4.2	4.0	4.9		
Max Green Setting (Gmax), s		* 36		* 15	7.8	23.7		
Max Q Clear Time (g_c+I1), s		7.3		10.3	2.3	10.1		
Green Ext Time (p_c), s		13.7		0.2	0.0	8.7		
<b>Intersection Summary</b>								
HCM 2010 Ctrl Delay			9.3					
HCM 2010 LOS			A					
<b>Notes</b>								

# PC Attachment 1

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Amy's Drive Thru  
Existing Plus Project Conditions  
Mid-Afternoon Peak

**Intersection 1**                      **San Clemente Dr/Tamalpais Dr-Redwood Hwy**                      **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	918	901	98.1%	25.4	4.9	C
	Through						
	Right Turn	114	112	98.6%	31.7	10.6	C
	Subtotal	1,032	1,013	98.1%	26.2	5.6	C
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	574	570	99.3%	21.0	2.3	C
	Right Turn	627	634	101.1%	2.0	0.5	A
	Subtotal	1,201	1,204	100.3%	11.0	1.7	B
WB	Left Turn	83	83	100.4%	24.1	2.9	C
	Through	455	469	103.1%	12.2	1.4	B
	Right Turn						
	Subtotal	538	552	102.7%	14.1	1.2	B
Total		2,771	2,770	100.0%	17.1	2.3	B

**Intersection 2**                      **US 101 On-ramp-US 101 Off-ramp/Tamalpais Dr**                      **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	674	667	98.9%	46.2	7.2	D
	Through						
	Right Turn	464	460	99.2%	11.7	2.2	B
	Subtotal	1,138	1,127	99.0%	32.1	5.1	C
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	823	831	101.0%	18.5	0.9	B
	Right Turn	796	770	96.7%	10.6	2.1	B
	Subtotal	1,619	1,601	98.9%	14.7	1.3	B
WB	Left Turn						
	Through	771	770	99.9%	2.9	0.5	A
	Right Turn	602	586	97.4%	4.2	0.3	A
	Subtotal	1,373	1,357	98.8%	3.5	0.4	A
Total		4,130	4,084	98.9%	15.9	1.4	B

# PC Attachment 1

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Amy's Drive Thru  
Existing Plus Project Conditions  
Mid-Afternoon Peak

**Intersection 3**                      **US 101 SB Off-ramp/Tamalpais Dr**                      **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	658	659	100.1%	31.3	6.6	C
	Through						
	Right Turn	328	324	98.7%	19.9	3.1	B
	Subtotal	986	982	99.6%	27.7	5.3	C
EB	Left Turn						
	Through	961	971	101.0%	7.9	0.9	A
	Right Turn						
	Subtotal	961	971	101.0%	7.9	0.9	A
WB	Left Turn						
	Through	1,019	1,023	100.4%	13.1	1.1	B
	Right Turn	426	428	100.4%	3.3	0.7	A
	Subtotal	1,445	1,451	100.4%	10.2	0.9	B
<b>Total</b>		<b>3,392</b>	<b>3,404</b>	<b>100.4%</b>	<b>14.8</b>	<b>1.8</b>	<b>B</b>

**Intersection 4**                      **Town Center Dr/Tamalpais Dr**                      **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	323	322	99.8%	19.2	3.0	B
	Through						
	Right Turn	41	44	106.6%	18.7	4.9	B
	Subtotal	364	366	100.6%	19.1	2.8	B
EB	Left Turn						
	Through	1,048	1,041	99.3%	9.7	1.4	A
	Right Turn						
	Subtotal	1,048	1,041	99.3%	9.7	1.4	A
WB	Left Turn						
	Through	1,118	1,135	101.5%	13.5	7.1	B
	Right Turn	229	228	99.6%	5.6	3.1	A
	Subtotal	1,347	1,363	101.2%	12.2	6.4	B
<b>Total</b>		<b>2,759</b>	<b>2,770</b>	<b>100.4%</b>	<b>12.2</b>	<b>3.5</b>	<b>B</b>

# PC Attachment 1

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Amy's Drive Thru  
Existing Plus Project Conditions  
Mid-Afternoon Peak

Intersection 5                      Madera Blvd/Tamalpais Dr                      Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	55	53	96.5%	37.1	4.9	D
	Through	72	77	107.4%	39.2	7.9	D
	Right Turn	158	157	99.6%	16.7	4.9	B
	Subtotal	285	288	100.9%	27.0	3.1	C
SB	Left Turn	219	224	102.4%	41.3	5.2	D
	Through	85	87	102.1%	44.2	7.6	D
	Right Turn	188	190	100.9%	10.0	2.4	B
	Subtotal	492	501	101.8%	29.9	3.1	C
EB	Left Turn	144	140	96.9%	54.5	15.0	D
	Through	671	658	98.0%	39.3	8.2	D
	Right Turn	27	29	108.1%	35.5	22.6	D
	Subtotal	842	827	98.2%	42.0	8.2	D
WB	Left Turn	166	166	99.9%	63.7	12.9	E
	Through	701	687	97.9%	38.0	7.9	D
	Right Turn	292	294	100.6%	10.1	2.5	B
	Subtotal	1,159	1,146	98.9%	35.7	4.5	D
Total		2,778	2,761	99.4%	35.7	3.8	D

## HCM 2010 Signalized Intersection Summary 6: Paradise/San Clemente

05/04/2018

Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	174	30	40	855	655	30		
Future Volume (veh/h)	174	30	40	855	655	30		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900		
Adj Flow Rate, veh/h	183	0	42	900	689	32		
Adj No. of Lanes	1	1	1	2	2	0		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	254	226	570	2497	1998	93		
Arrive On Green	0.14	0.00	0.06	0.71	0.58	0.58		
Sat Flow, veh/h	1774	1583	1774	3632	3537	160		
Grp Volume(v), veh/h	183	0	42	900	354	367		
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1770	1770	1835		
Q Serve(g_s), s	5.9	0.0	0.5	6.0	6.3	6.3		
Cycle Q Clear(g_c), s	5.9	0.0	0.5	6.0	6.3	6.3		
Prop In Lane	1.00	1.00	1.00			0.09		
Lane Grp Cap(c), veh/h	254	226	570	2497	1026	1064		
V/C Ratio(X)	0.72	0.00	0.07	0.36	0.34	0.35		
Avail Cap(c_a), veh/h	455	406	697	2497	1026	1064		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	24.6	0.0	3.9	3.5	6.6	6.6		
Incr Delay (d2), s/veh	1.5	0.0	0.1	0.4	0.9	0.9		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	3.0	0.0	0.2	3.0	3.3	3.4		
LnGrp Delay(d),s/veh	26.0	0.0	4.0	3.9	7.5	7.5		
LnGrp LOS	C		A	A	A	A		
Approach Vol, veh/h	183			942	721			
Approach Delay, s/veh	26.0			3.9	7.5			
Approach LOS	C			A	A			
<b>Timer</b>	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		47.2		12.8	7.5	39.7		
Change Period (Y+Rc), s		* 4.9		* 4.2	4.0	4.9		
Max Green Setting (Gmax), s		* 36		* 15	7.8	23.7		
Max Q Clear Time (g_c+I1), s		8.0		7.9	2.5	8.3		
Green Ext Time (p_c), s		13.4		0.1	0.0	9.4		
<b>Intersection Summary</b>								
HCM 2010 Ctrl Delay			7.5					
HCM 2010 LOS			A					
<b>Notes</b>								

# PC Attachment 1

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Amy's Drive Thru  
Existing Plus Project  
PM Peak Hour

**Intersection 1**                      **San Clemente Dr/Tamalpais Dr-Redwood Hwy**                      **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	984	983	99.9%	34.6	11.0	C
	Through						
	Right Turn	103	106	103.1%	46.4	17.2	D
	Subtotal	1,087	1,089	100.2%	35.7	11.6	D
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	618	621	100.5%	22.0	1.5	C
	Right Turn	803	814	101.3%	2.0	0.4	A
	Subtotal	1,421	1,435	101.0%	10.6	1.0	B
WB	Left Turn	95	93	98.3%	25.0	3.2	C
	Through	414	428	103.4%	11.4	1.8	B
	Right Turn						
	Subtotal	509	522	102.5%	14.0	1.1	B
Total		3,017	3,045	100.9%	20.1	4.4	C

**Intersection 2**                      **US 101 On-ramp-US 101 Off-ramp/Tamalpais Dr**                      **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	632	633	100.2%	38.0	6.3	D
	Through						
	Right Turn	548	547	99.8%	14.4	2.3	B
	Subtotal	1,180	1,181	100.0%	27.3	4.2	C
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	1,005	1,018	101.3%	18.5	1.3	B
	Right Turn	657	633	96.3%	10.9	2.0	B
	Subtotal	1,662	1,651	99.3%	15.6	1.5	B
WB	Left Turn						
	Through	760	757	99.6%	3.0	0.4	A
	Right Turn	638	641	100.5%	4.4	0.2	A
	Subtotal	1,398	1,398	100.0%	3.7	0.2	A
Total		4,240	4,229	99.7%	14.9	1.7	B

# PC Attachment 1

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Amy's Drive Thru  
Existing Plus Project  
PM Peak Hour

**Intersection 3**                      **US 101 SB Off-ramp/Tamalpais Dr**                      **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	737	730	99.1%	41.3	12.7	D
	Through						
	Right Turn	329	326	99.2%	24.3	5.8	C
	Subtotal	1,066	1,057	99.1%	36.1	10.4	D
EB	Left Turn						
	Through	925	939	101.5%	8.2	1.1	A
	Right Turn						
	Subtotal	925	939	101.5%	8.2	1.1	A
WB	Left Turn						
	Through	1,017	1,034	101.6%	12.3	1.0	B
	Right Turn	375	371	98.9%	3.0	0.5	A
	Subtotal	1,392	1,405	100.9%	9.9	0.8	A
<b>Total</b>		<b>3,383</b>	<b>3,400</b>	<b>100.5%</b>	<b>17.6</b>	<b>3.5</b>	<b>B</b>

**Intersection 4**                      **Town Center Dr/Tamalpais Dr**                      **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	288	285	99.0%	19.7	1.8	B
	Through						
	Right Turn	55	60	109.1%	19.7	9.7	B
	Subtotal	343	345	100.6%	19.8	1.9	B
EB	Left Turn						
	Through	1,027	1,025	99.8%	11.4	0.7	B
	Right Turn						
	Subtotal	1,027	1,025	99.8%	11.4	0.7	B
WB	Left Turn						
	Through	1,118	1,155	103.3%	13.5	6.6	B
	Right Turn	228	225	98.8%	5.3	2.3	A
	Subtotal	1,346	1,380	102.5%	12.2	5.9	B
<b>Total</b>		<b>2,716</b>	<b>2,750</b>	<b>101.3%</b>	<b>13.0</b>	<b>2.8</b>	<b>B</b>

# PC Attachment 1

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Amy's Drive Thru  
Existing Plus Project  
PM Peak Hour

Intersection 5                      Madera Blvd/Tamalpais Dr                      Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	42	42	100.0%	45.9	12.1	D
	Through	65	66	102.0%	47.5	5.9	D
	Right Turn	147	150	102.0%	18.5	5.1	B
	Subtotal	254	258	101.7%	29.9	3.0	C
SB	Left Turn	220	219	99.3%	40.5	3.1	D
	Through	68	71	103.8%	44.2	7.5	D
	Right Turn	169	169	99.9%	10.0	1.4	B
	Subtotal	457	458	100.2%	29.9	2.9	C
EB	Left Turn	159	156	98.1%	66.6	15.3	E
	Through	660	655	99.3%	50.0	16.7	D
	Right Turn	30	28	92.0%	53.1	22.5	D
	Subtotal	849	839	98.8%	53.2	15.3	D
WB	Left Turn	192	185	96.3%	64.6	7.4	E
	Through	678	687	101.3%	35.2	3.9	D
	Right Turn	303	311	102.6%	11.7	2.7	B
	Subtotal	1,173	1,182	100.8%	33.4	3.1	C
Total		2,733	2,737	100.1%	38.7	5.5	D

## HCM 2010 Signalized Intersection Summary 6: Paradise/San Clemente

05/04/2018

Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	310	45	30	762	846	26		
Future Volume (veh/h)	310	45	30	762	846	26		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900		
Adj Flow Rate, veh/h	326	0	32	802	891	27		
Adj No. of Lanes	1	1	1	2	2	0		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	377	336	422	2251	1827	55		
Arrive On Green	0.21	0.00	0.05	0.64	0.52	0.52		
Sat Flow, veh/h	1774	1583	1774	3632	3600	106		
Grp Volume(v), veh/h	326	0	32	802	450	468		
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1770	1770	1844		
Q Serve(g_s), s	10.6	0.0	0.4	6.4	9.8	9.8		
Cycle Q Clear(g_c), s	10.6	0.0	0.4	6.4	9.8	9.8		
Prop In Lane	1.00	1.00	1.00			0.06		
Lane Grp Cap(c), veh/h	377	336	422	2251	922	961		
V/C Ratio(X)	0.87	0.00	0.08	0.36	0.49	0.49		
Avail Cap(c_a), veh/h	455	406	568	2251	922	961		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	22.8	0.0	6.0	5.1	9.2	9.2		
Incr Delay (d2), s/veh	12.2	0.0	0.1	0.4	1.8	1.8		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	6.4	0.0	0.2	3.3	5.2	5.4		
LnGrp Delay(d),s/veh	35.0	0.0	6.1	5.6	11.1	11.0		
LnGrp LOS	C		A	A	B	B		
Approach Vol, veh/h	326			834	918			
Approach Delay, s/veh	35.0			5.6	11.0			
Approach LOS	C			A	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		43.1		16.9	6.9	36.2		
Change Period (Y+Rc), s		* 4.9		* 4.2	4.0	4.9		
Max Green Setting (Gmax), s		* 36		* 15	7.8	23.7		
Max Q Clear Time (g_c+I1), s		8.4		12.6	2.4	11.8		
Green Ext Time (p_c), s		14.2		0.2	0.0	8.2		
<b>Intersection Summary</b>								
HCM 2010 Ctrl Delay			12.6					
HCM 2010 LOS			B					
<b>Notes</b>								

# PC Attachment 1

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Amy's Drive Thru  
Cumulative No Project  
PM Peak Hour

**Intersection 1**                      **San Clemente Dr/Tamalpais Dr-Redwood Hwy**                      **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	1,080	1,053	97.5%	33.1	20.9	C
	Through						
	Right Turn	230	221	96.0%	19.6	21.7	B
	Subtotal	1,310	1,274	97.3%	30.7	20.9	C
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	900	899	99.9%	24.2	2.1	C
	Right Turn	880	870	98.9%	2.1	0.6	A
	Subtotal	1,780	1,769	99.4%	12.9	1.4	B
WB	Left Turn	220	222	100.8%	53.0	16.2	D
	Through	660	671	101.6%	14.7	4.1	B
	Right Turn						
	Subtotal	880	892	101.4%	23.8	6.0	C
Total		3,970	3,936	99.1%	20.9	7.8	C

**Intersection 2**                      **US 101 On-ramp-US 101 Off-ramp/Tamalpais Dr**                      **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	960	959	99.9%	77.3	32.6	E
	Through						
	Right Turn	730	721	98.8%	28.4	9.3	C
	Subtotal	1,690	1,680	99.4%	55.7	21.2	E
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	1,150	1,150	100.0%	14.7	2.4	B
	Right Turn	815	807	99.0%	11.4	2.4	B
	Subtotal	1,965	1,957	99.6%	13.3	2.3	B
WB	Left Turn						
	Through	950	935	98.4%	41.9	35.2	D
	Right Turn	790	782	99.0%	8.7	5.1	A
	Subtotal	1,740	1,717	98.7%	26.9	21.6	C
Total		5,395	5,354	99.2%	30.8	12.0	C

# PC Attachment 1

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Amy's Drive Thru  
Cumulative No Project  
PM Peak Hour

**Intersection 3**                      **US 101 SB Off-ramp/Tamalpais Dr**                      **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	755	744	98.5%	25.5	7.9	C
	Through						
	Right Turn	430	423	98.4%	25.6	8.1	C
	Subtotal	1,185	1,167	98.5%	25.5	8.0	C
EB	Left Turn						
	Through	1,210	1,212	100.2%	19.9	6.6	B
	Right Turn						
	Subtotal	1,210	1,212	100.2%	19.9	6.6	B
WB	Left Turn						
	Through	1,300	1,276	98.1%	71.2	21.3	E
	Right Turn	610	596	97.6%	32.3	12.3	C
	Subtotal	1,910	1,871	98.0%	59.1	18.2	E
<b>Total</b>		<b>4,305</b>	<b>4,251</b>	<b>98.7%</b>	<b>38.3</b>	<b>8.4</b>	<b>D</b>

**Intersection 4**                      **Town Center Dr/Tamalpais Dr**                      **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	470	464	98.7%	23.4	8.5	C
	Through						
	Right Turn	90	85	94.8%	24.0	6.8	C
	Subtotal	560	549	98.1%	23.5	7.8	C
EB	Left Turn						
	Through	1,300	1,312	100.9%	7.6	1.8	A
	Right Turn						
	Subtotal	1,300	1,312	100.9%	7.6	1.8	A
WB	Left Turn						
	Through	1,310	1,280	97.7%	43.0	8.9	D
	Right Turn	420	410	97.5%	21.4	4.9	C
	Subtotal	1,730	1,690	97.7%	38.0	8.0	D
<b>Total</b>		<b>3,590</b>	<b>3,551</b>	<b>98.9%</b>	<b>24.4</b>	<b>3.5</b>	<b>C</b>

# PC Attachment 1

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Amy's Drive Thru  
Cumulative No Project  
PM Peak Hour

Intersection 5                      Madera Blvd/Tamalpais Dr                      Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	70	68	97.7%	40.9	8.1	D
	Through	140	139	99.6%	44.5	5.8	D
	Right Turn	190	196	102.9%	17.4	3.9	B
	Subtotal	400	403	100.8%	31.0	3.8	C
SB	Left Turn	240	242	100.8%	44.1	4.4	D
	Through	90	90	100.3%	45.8	4.5	D
	Right Turn	220	226	102.7%	13.0	1.3	B
	Subtotal	550	558	101.5%	32.2	2.7	C
EB	Left Turn	250	239	95.4%	60.9	22.5	E
	Through	870	874	100.4%	48.0	25.6	D
	Right Turn	90	87	96.9%	53.6	32.1	D
	Subtotal	1,210	1,199	99.1%	50.9	25.1	D
WB	Left Turn	200	189	94.7%	90.7	19.7	F
	Through	870	854	98.2%	40.4	4.9	D
	Right Turn	330	317	96.2%	16.6	4.6	B
	Subtotal	1,400	1,361	97.2%	41.9	4.9	D
Total		3,560	3,522	98.9%	42.4	9.3	D

## HCM 2010 Signalized Intersection Summary 6: Paradise Drive/San Clemente Drive

05/04/2018

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	310	50	30	980	1040	40		
Future Volume (veh/h)	310	50	30	980	1040	40		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.97		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1881	1881	1881	1881	1881	1900		
Adj Flow Rate, veh/h	313	0	30	990	1051	40		
Adj No. of Lanes	1	1	1	2	2	0		
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99		
Percent Heavy Veh, %	1	1	1	1	1	1		
Cap, veh/h	365	326	375	2304	1866	71		
Arrive On Green	0.20	0.00	0.05	0.64	0.53	0.53		
Sat Flow, veh/h	1792	1599	1792	3668	3601	133		
Grp Volume(v), veh/h	313	0	30	990	536	555		
Grp Sat Flow(s),veh/h/ln	1792	1599	1792	1787	1787	1853		
Q Serve(g_s), s	10.1	0.0	0.4	8.2	12.0	12.0		
Cycle Q Clear(g_c), s	10.1	0.0	0.4	8.2	12.0	12.0		
Prop In Lane	1.00	1.00	1.00			0.07		
Lane Grp Cap(c), veh/h	365	326	375	2304	951	986		
V/C Ratio(X)	0.86	0.00	0.08	0.43	0.56	0.56		
Avail Cap(c_a), veh/h	460	410	525	2304	951	986		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	0.87	0.00	1.00	1.00	0.86	0.86		
Uniform Delay (d), s/veh	23.0	0.0	6.3	5.2	9.4	9.4		
Incr Delay (d2), s/veh	9.3	0.0	0.1	0.6	2.1	2.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	5.9	0.0	0.2	4.2	6.3	6.6		
LnGrp Delay(d),s/veh	32.4	0.0	6.4	5.8	11.5	11.4		
LnGrp LOS	C		A	A	B	B		
Approach Vol, veh/h	313			1020	1091			
Approach Delay, s/veh	32.4			5.8	11.4			
Approach LOS	C			A	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		43.6		16.4	6.8	36.8		
Change Period (Y+Rc), s		* 4.9		* 4.2	4.0	4.9		
Max Green Setting (Gmax), s		* 36		* 15	7.8	23.7		
Max Q Clear Time (g_c+I1), s		10.2		12.1	2.4	14.0		
Green Ext Time (p_c), s		16.9		0.2	0.0	7.9		
<b>Intersection Summary</b>								
HCM 2010 Ctrl Delay			11.8					
HCM 2010 LOS			B					
<b>Notes</b>								

# PC Attachment 1

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Amy's Drive Thru  
Cumulative Plus Project  
PM Peak Hour

**Intersection 1**                      **San Clemente Dr/Tamalpais Dr-Redwood Hwy**                      **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	926	1,134	122.4%	30.1	8.9	C
	Through						
	Right Turn	103	227	220.4%	16.9	8.0	B
	Subtotal	1,029	1,361	132.2%	27.9	8.8	C
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	602	902	149.9%	25.4	2.6	C
	Right Turn	803	878	109.4%	3.4	1.4	A
	Subtotal	1,405	1,781	126.7%	14.5	2.1	B
WB	Left Turn	95	214	225.5%	58.6	34.4	E
	Through	413	672	162.7%	16.4	9.4	B
	Right Turn						
	Subtotal	508	886	174.5%	26.6	15.2	C
<b>Total</b>		<b>2,942</b>	<b>4,028</b>	<b>136.9%</b>	<b>21.6</b>	<b>6.2</b>	<b>C</b>

**Intersection 2**                      **US 101 On-ramp-US 101 Off-ramp/Tamalpais Dr**                      **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	632	935	147.9%	87.2	33.0	F
	Through						
	Right Turn	513	744	145.0%	36.9	13.8	D
	Subtotal	1,145	1,679	146.6%	65.1	24.2	E
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	960	1,179	122.8%	16.6	3.1	B
	Right Turn	657	803	122.2%	12.6	2.9	B
	Subtotal	1,617	1,982	122.6%	15.0	2.8	B
WB	Left Turn						
	Through	718	986	137.3%	38.7	21.5	D
	Right Turn	621	811	130.6%	3.3	2.4	A
	Subtotal	1,339	1,797	134.2%	22.5	12.7	C
<b>Total</b>		<b>4,101</b>	<b>5,457</b>	<b>133.1%</b>	<b>32.6</b>	<b>10.3</b>	<b>C</b>

# PC Attachment 1

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Amy's Drive Thru  
Cumulative Plus Project  
PM Peak Hour

**Intersection 3**                      **US 101 SB Off-ramp/Tamalpais Dr**                      **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	706	773	109.4%	27.2	7.4	C
	Through						
	Right Turn	329	434	131.8%	27.1	8.1	C
	Subtotal	1,035	1,206	116.5%	27.2	7.5	C
EB	Left Turn						
	Through	911	1,208	132.6%	21.8	14.4	C
	Right Turn						
	Subtotal	911	1,208	132.6%	21.8	14.4	C
WB	Left Turn						
	Through	1,008	1,256	124.6%	66.9	25.9	E
	Right Turn	342	638	186.5%	30.3	13.2	C
	Subtotal	1,350	1,894	140.3%	54.4	21.5	D
<b>Total</b>		<b>3,296</b>	<b>4,308</b>	<b>130.7%</b>	<b>37.7</b>	<b>12.0</b>	<b>D</b>

**Intersection 4**                      **Town Center Dr/Tamalpais Dr**                      **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	288	458	159.1%	20.1	3.0	C
	Through						
	Right Turn	55	88	160.2%	21.9	1.4	C
	Subtotal	343	546	159.3%	20.4	2.6	C
EB	Left Turn						
	Through	1,013	1,298	128.1%	8.3	3.8	A
	Right Turn						
	Subtotal	1,013	1,298	128.1%	8.3	3.8	A
WB	Left Turn						
	Through	1,109	1,280	115.4%	38.3	8.6	D
	Right Turn	228	400	175.5%	19.3	4.6	B
	Subtotal	1,337	1,680	125.6%	34.1	7.7	C
<b>Total</b>		<b>2,693</b>	<b>3,524</b>	<b>130.9%</b>	<b>22.7</b>	<b>4.4</b>	<b>C</b>

# PC Attachment 1

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Amy's Drive Thru  
Cumulative Plus Project  
PM Peak Hour

Intersection 5                      Madera Blvd/Tamalpais Dr                      Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	42	76	181.4%	46.5	9.0	D
	Through	65	143	220.2%	47.3	6.0	D
	Right Turn	147	188	127.8%	17.1	3.7	B
	Subtotal	254	407	160.3%	33.8	4.2	C
SB	Left Turn	215	244	113.3%	43.9	5.3	D
	Through	68	94	138.1%	47.7	6.0	D
	Right Turn	169	222	131.4%	11.8	1.6	B
	Subtotal	452	560	123.8%	31.7	2.7	C
EB	Left Turn	159	252	158.2%	63.8	19.9	E
	Through	651	867	133.1%	46.9	14.5	D
	Right Turn	30	88	292.3%	47.2	18.1	D
	Subtotal	840	1,206	143.5%	50.6	15.3	D
WB	Left Turn	192	186	96.7%	71.7	11.3	E
	Through	670	855	127.6%	44.1	5.0	D
	Right Turn	302	322	106.5%	21.4	3.1	C
	Subtotal	1,164	1,363	117.1%	42.2	4.1	D
Total		2,710	3,535	130.4%	42.6	6.4	D

## HCM 2010 Signalized Intersection Summary 6: Paradise Drive/San Clemente Drive

05/04/2018

Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	355	57	36	980	1040	40		
Future Volume (veh/h)	355	57	36	980	1040	40		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.97		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1881	1881	1881	1881	1881	1900		
Adj Flow Rate, veh/h	359	0	36	990	1051	40		
Adj No. of Lanes	1	1	1	2	2	0		
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99		
Percent Heavy Veh, %	1	1	1	1	1	1		
Cap, veh/h	409	365	363	2216	1756	67		
Arrive On Green	0.23	0.00	0.05	0.62	0.50	0.50		
Sat Flow, veh/h	1792	1599	1792	3668	3601	133		
Grp Volume(v), veh/h	359	0	36	990	536	555		
Grp Sat Flow(s),veh/h/ln	1792	1599	1792	1787	1787	1853		
Q Serve(g_s), s	11.6	0.0	0.5	8.7	12.8	12.8		
Cycle Q Clear(g_c), s	11.6	0.0	0.5	8.7	12.8	12.8		
Prop In Lane	1.00	1.00	1.00			0.07		
Lane Grp Cap(c), veh/h	409	365	363	2216	895	928		
V/C Ratio(X)	0.88	0.00	0.10	0.45	0.60	0.60		
Avail Cap(c_a), veh/h	460	410	502	2216	895	928		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	0.87	0.00	1.00	1.00	0.86	0.86		
Uniform Delay (d), s/veh	22.3	0.0	7.2	6.0	10.7	10.7		
Incr Delay (d2), s/veh	13.2	0.0	0.1	0.7	2.5	2.5		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	7.2	0.0	0.3	4.5	6.9	7.1		
LnGrp Delay(d),s/veh	35.6	0.0	7.3	6.6	13.2	13.1		
LnGrp LOS	D		A	A	B	B		
Approach Vol, veh/h	359			1026	1091			
Approach Delay, s/veh	35.6			6.7	13.2			
Approach LOS	D			A	B			
<b>Timer</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		42.1		17.9	7.2	34.9		
Change Period (Y+Rc), s		* 4.9		* 4.2	4.0	4.9		
Max Green Setting (Gmax), s		* 36		* 15	7.8	23.7		
Max Q Clear Time (g_c+I1), s		10.7		13.6	2.5	14.8		
Green Ext Time (p_c), s		16.6		0.1	0.0	7.3		
<b>Intersection Summary</b>								
HCM 2010 Ctrl Delay			13.7					
HCM 2010 LOS			B					
<b>Notes</b>								