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**Local  
Transportation  
Analysis**

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**CITY OF ENCINITAS**

**Torrey Crest 30 Homes (MULTI-004309-2021)**

**1220-1240 Melba Rd and 1190 Island View Ln**

**October 9, 2023**

## **Draft Local Transportation Analysis**

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Job #2015

# Table of Contents

Executive Summary .....	iv
1.0 Introduction.....	1
2.0 Transportation Analysis Methodology .....	4
2.1 Study Area .....	4
2.2 Study Scenarios .....	4
2.3 Traffic Analysis Methodology.....	4
2.3.1 Intersections.....	5
2.3.2 Street Segments.....	5
2.4 General Plan Policy Compliance.....	6
3.0 Existing Conditions .....	7
3.1 Existing Street System .....	7
3.2 Existing Traffic Volumes and LOS Analyses.....	9
4.0 Project Description .....	11
4.1 Project Traffic Generation .....	11
4.2 Project Access.....	11
4.3 Project Distribution and Assignment.....	11
5.0 Existing + Project Conditions .....	14
6.0 Conclusion .....	16
7.0 References.....	17

## List of Figures

Figure 1: Project Location.....	2
Figure 2: Site Plan .....	3
Figure 3: Existing Roadway Conditions .....	8
Figure 4: Existing Volumes .....	10
Figure 5: Project Distribution .....	12
Figure 6: Project Assignment .....	13
Figure 7: Existing + Project Volumes .....	15

## List of Tables

Table 1: Intersection Level of Service Definitions (6 <sup>th</sup> Edition HCM) .....	5
Table 2: Street Segment Daily Capacity and LOS (City of Encinitas).....	5
Table 3: City of Encinitas General Plan Circulation Element Policies 1.2 and 1.3 .....	6
Table 4: Balour Dr between Encinitas Blvd and Melba Rd Comparison.....	9
Table 5: Existing Intersection Operations.....	9
Table 6: Project Traffic Generation.....	11
Table 7: Existing + Project Intersection Operations .....	14

## Appendices

Appendix A.....	Excerpts from City of Encinitas General Plan
Appendix B.....	Excerpts from City of Encinitas General Plan on General Plan Policy
Appendix C.....	Excerpts from City of Encinitas Circulation Plan
Appendix D.....	Excerpt from SANDAG CMP
Appendix E.....	Count Data
Appendix F.....	Count Data for Comparison
Appendix G.....	Existing Intersection LOS Worksheets
Appendix H.....	Existing + Project Intersection LOS Worksheets



# Executive Summary

## Torrey Crest 30 Homes

This Local Transportation Analysis (LTA) determines if the proposed project would conflict with the City of Encinitas General Plan Circulation Element Policy 1.3 for the study intersections in the vicinity of the project. The proposed project is a subdivision with 30-homes. The project is located at 1220-1240 Melba Rd and 1190 Island View Ln in Encinitas, California. The site has six existing homes; however, only three were occupied during the Notice of Preparation in June 2022. Project sole access is from Melba Road.

This analysis is based on the local San Diego Institute of Transportation Engineers (ITE) *Guidelines for Traffic Impact Studies in the San Diego Region*, May 2019 traffic analysis criteria. The project traffic generation was calculated using the SANDAG trip rates from the *Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region*, April 2002. The project site has active uses creating traffic; therefore, a traffic credit was applied because the existing uses will be replaced by the project. The trip credit was applied for three homes that were occupied during the Notice of Preparation in June 2022. The net change in project trip generation is calculated at 270 ADT, 21 AM peak hour trips (6 inbound and 15 outbound), and 27 PM peak hour trips (19 inbound and 8 outbound).

Traffic data was collected on Thursday August 26, 2021. Surrounding schools were confirmed to be in session and there were no stay-at-home orders during the data collection. Even though surrounding schools were in session, a comparison was made between available historical City segment data for a nearby location of Balour Dr between Encinitas Blvd and Melba Rd. Current data from 8/31/21 is 3.6% higher than historical data from 6/2/2015; therefore, the existing counts were used without adjustments. The findings by study scenario are summarized below.

- 1) Under Existing Conditions, the study intersections were calculated to operate at LOS C or better.
- 2) Under Existing plus Project Conditions, the study intersections were calculated to operate at LOS C or better. The addition of project traffic to the study intersections does not conflict with the City of Encinitas General Plan Circulation Element Policy 1.3; therefore, off-site roadway improvements are not required. However, the project applicant will be required to pay City traffic mitigation fees for City roadway improvements.

## 1.0 Introduction

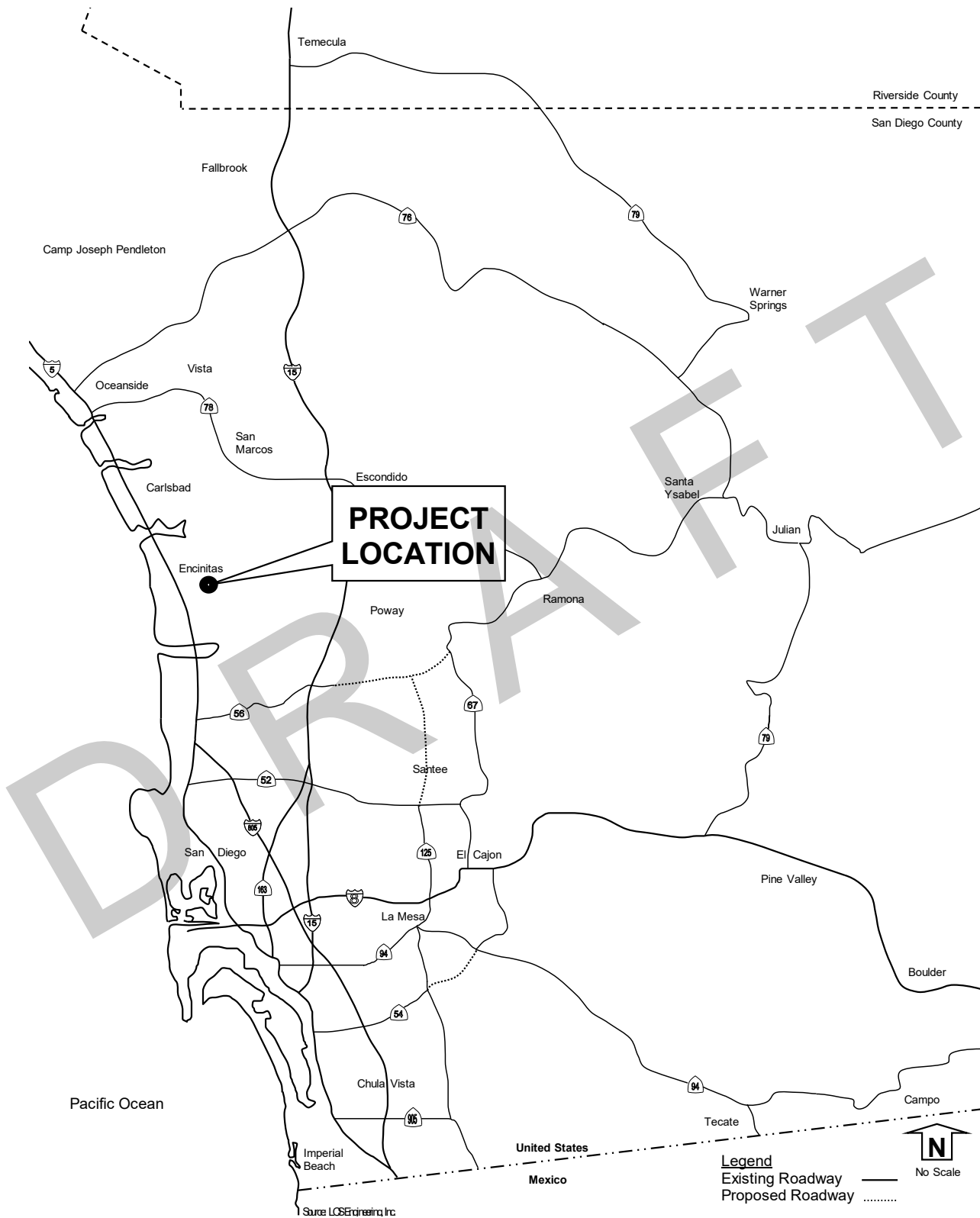
The purpose of this Local Transportation Analysis is to determine if the proposed project traffic from 30 homes would conflict with the City of Encinitas General Plan Circulation Element Policy 1.3 for the study intersections in the vicinity of the project. The project is located at 1220-1240 Melba Rd and 1190 Island View Ln in Encinitas, California. The site has six existing homes; however, only three were occupied during the Notice of Preparation in June 2022. Project sole access is from Melba Road. The regional location of the project is shown in **Figure 1**. A site plan is shown in **Figure 2**.

This report describes the existing roadway network in the vicinity of the project site and includes a review of the existing and proposed activities for weekday peak AM and PM periods when the project is completed. The format of this study includes the following chapters:

- 1.0 Introduction
- 2.0 Transportation Analysis Methodology
- 3.0 Existing Conditions
- 4.0 Project Description
- 5.0 Existing + Project Conditions
- 6.0 Conclusion
- 7.0 References

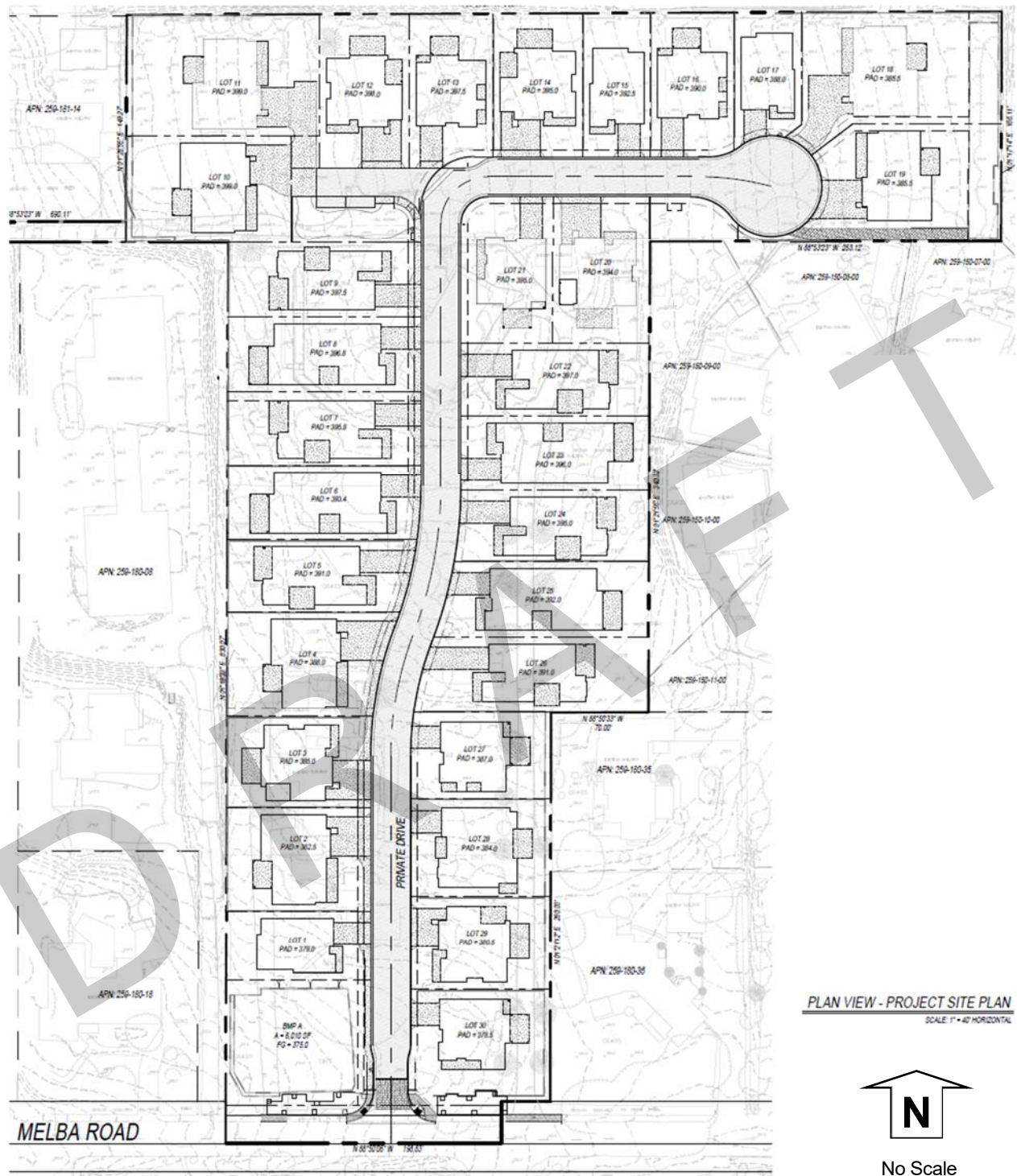


**Figure 1: Project Location**





**Figure 2: Site Plan**



Source: PLSA

## 2.0 Transportation Analysis Methodology

A Local Transportation Analysis (LTA) is provided to fulfill the Encinitas Municipal Code 23.08.060 requirement of a traffic analysis for projects with more than 2,000 square feet of building area and/or any residential project with five or more units.

This traffic study was prepared based on direction from City staff on the study intersections and roadway segments; the scenarios to be analyzed; and the methods required for analysis. The criteria for each of these parameters are included herein.

### 2.1 Study Area

The following intersections were analyzed in this study:

- 1) Melba Rd/Balour Dr (un-signalized)
- 2) Melba Rd/Project Access (future intersection)
- 3) Melba Rd/Crest Dr (un-signalized)

The following street segment had data collected for this study:

- 1) Melba Rd from Balour Dr to Crest Dr

### 2.2 Study Scenarios

The number of scenarios to be analyzed is typically based on the size of the project. For this project, the following scenarios were included based on coordination with City staff:

- 1) Existing Conditions
- 2) Existing + Project Conditions

### 2.3 Traffic Analysis Methodology

The traffic analyses prepared for this study were based on the *Highway Capacity Manual* (HCM) operations analysis using Level of Service (LOS) evaluation criteria. The operating conditions of the study intersections and street segments were measured using the HCM LOS designations, which ranges from A through F. LOS A represents the best operating condition and LOS F denotes the worst operating condition.

### 2.3.1 Intersections

The study intersections were analyzed based on the **operational analysis** outlined in the 6<sup>th</sup> Edition HCM. This process defines LOS in terms of **average control delay** per vehicle, which is measured in seconds. LOS at the intersections were calculated using the computer software program Synchro 10 (Trafficware Corporation). The 6<sup>th</sup> Edition HCM LOS for the range of delay by seconds for intersections is shown in **Table 1**.

**TABLE 1: INTERSECTION LEVEL OF SERVICE DEFINITIONS (6<sup>TH</sup> EDITION HCM)**

Level of Service	Un-Signalized Control Delay for TWSC, AWSC, and Roundabout (sec/veh where $v/c \leq 1$ )	Signalized Control Delay (sec/veh where $v/c \leq 1$ )
A	0-10	$\leq 10$
B	> 10-15	> 10-20
C	> 15-25	> 20-35
D	> 25-35	> 35-55
E	> 35-50	> 55-80
F	> 50	> 80

Source: 6<sup>th</sup> Edition HCM. TWSC: Two Way Stop Control. AWSC: All Way Stop Control. For unsignalized intersections, the control delay is the worst movement delay in seconds/vehicle.

### 2.3.2 Street Segments

The roadway segment daily capacity based on the General Plan are summarized in **Table 2**. The City of Encinitas General Plan segment capacities are included in **Appendix A**.

**TABLE 2: STREET SEGMENT DAILY CAPACITY AND LOS (CITY OF ENCINITAS)**

Facility Type	Number of Lanes	LOS C	LOS D	LOS E
Prime Arterial	6	<46,000	<51,200	<57,000
Prime Arterial – Augmented	6	<53,000	<60,000	<66,000
Major Roadway	4	<28,200	<31,600	<35,200
Major Roadway - Augmented	4+	<36,300	<41,000	<45,400
Collector Roadway	4	<26,000	<29,200	<32,400
Local Roadway - Augmented	2+	<16,000	<18,000	<20,000
Local Roadway	2	<11,200	<12,600	<14,000

Source: City of Encinitas *Public Road Standards* April 1991.

## 2.4 General Plan Policy Compliance

The City of Encinitas General Plan Circulation Element defines traffic growth policies to promote an adequate roadway circulation system. This LTA determines if the project traffic would conflict with Policy 1.3. The Highway Capacity Manual Level of Service is used to determine compliance with Policy 1.3. If a project's traffic causes a conflict with Policy 1.3 based on the criteria shown in **Table 3**, then an overriding public need should be demonstrated if there is no existing alternative (General Plan Policy excerpts included in **Appendix B**).

**TABLE 3: CITY OF ENCINITAS GENERAL PLAN CIRCULATION ELEMENT POLICIES 1.2 AND 1.3**

<b>Circulation Element Policy</b>	<b>Application</b>	<b>Conflict Criteria</b>
Policy 1.3: Prohibit development which results in Level of Service E or F at any intersection unless no alternatives exist and an overriding public need can be demonstrated.	Intersections	If project traffic causes the LOS to degrade to E/F, then there is a policy conflict. There is no policy conflict if the pre-project condition is at LOS E/F.



## 3.0 Existing Conditions

This section describes the study area streets, peak hour volumes, and existing LOS.

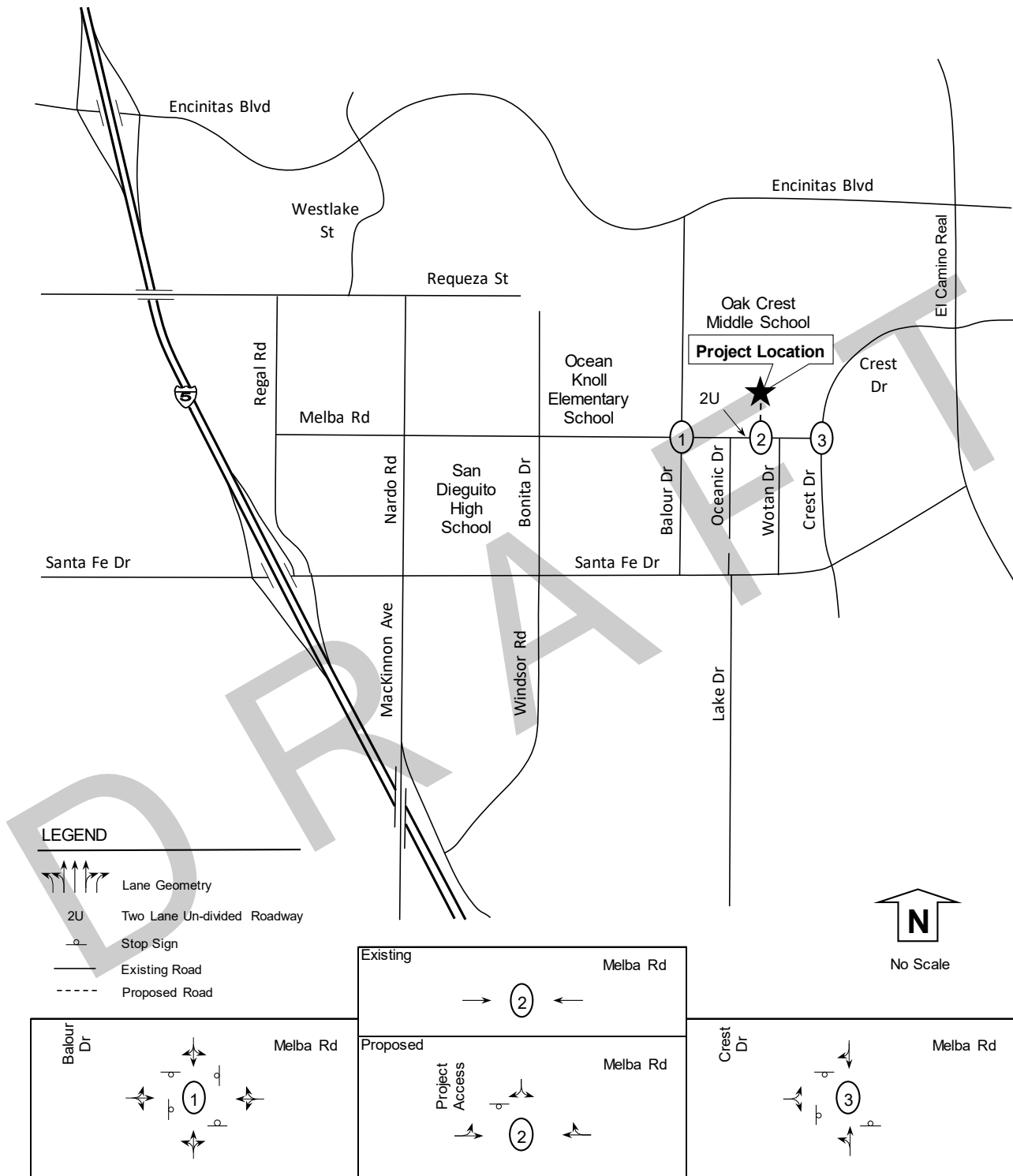
### 3.1 Existing Street System

In the vicinity of the project, the following roadways were analyzed for this report and are described below. The General Plan street classifications are ultimate classifications. The existing roadway conditions are shown in **Figure 3**.

Melba Rd from Balour Dr to Crest Dr is constructed as a two (2) lane roadway with one travel lane in each direction. There is no sidewalk on the south side along this segment. There is a sidewalk on the north side of the roadway along this segment. Bike Sharrows pavement markings are included along this segment. The posted speed limit is 25 Miles Per Hour. This segment is not classified on the City of Encinitas Circulation Plan (**Appendix C**). Because Melba Rd is not listed in the City of Encinitas Circulation Plan, a level of service cannot be provided for this residential street. However, the intersections at the ends of this streets can provide an indication of the operations. SANDAG also notes in their Congestion Management Program (excerpt included in **Appendix D**):

“LOS are not applied to residential streets since their primary purpose is to serve abutting lots, not carry through traffic. LOS normally apply to roads carrying through traffic between major trip generators and attractors.”

**Figure 3: Existing Roadway Conditions**



## 3.2 Existing Traffic Volumes and LOS Analyses

Intersection counts were collected between 7:00 AM to 9:00 AM for the AM commuter period and from 4:00 PM to 6:00 PM for the PM commuter period. Traffic data was collected on Thursday August 26, 2021. Surrounding schools were confirmed to be in session and there were no stay-at-home orders during the data collection. Counts are included in **Appendix E**. The intersection counts included:

- 1) Melba Rd/Balour Dr
- 2) Melba Rd/Project Access (through movement volumes from above intersection)
- 3) Melba Rd/Crest Dr

Daily counts (24 hour) were collected for the following segment:

- 1) Melba Rd from Balour Dr to Crest Dr

Even though surrounding schools were in session, a comparison was made between available historical City segment data for a nearby location of Balour Dr between Encinitas Blvd and Melba Rd (counts included in **Appendix F**). The City did not have any other nearby recent data. As shown in **Table 4**, current data from 8/31/21 is 3.6% higher than historical data from 6/2/2015; therefore, the existing counts were used without adjustments.

**TABLE 4: BALOUR DR BETWEEN ENCINITAS BLVD AND MELBA RD COMPARISON**

Count Date	Daily Volume
6/2/2015	7,988
8/31/2021	8,284
<b>Percent Change:</b>	<b>3.6%</b>

The existing counts are shown in **Figure 4**. The LOS calculated for the intersections are shown in **Table 5**. Since the segment of Melba Rd is not classified, a LOS cannot be measured; therefore, a segment capacity table is not provided. Intersection LOS worksheets are included in **Appendix G**.

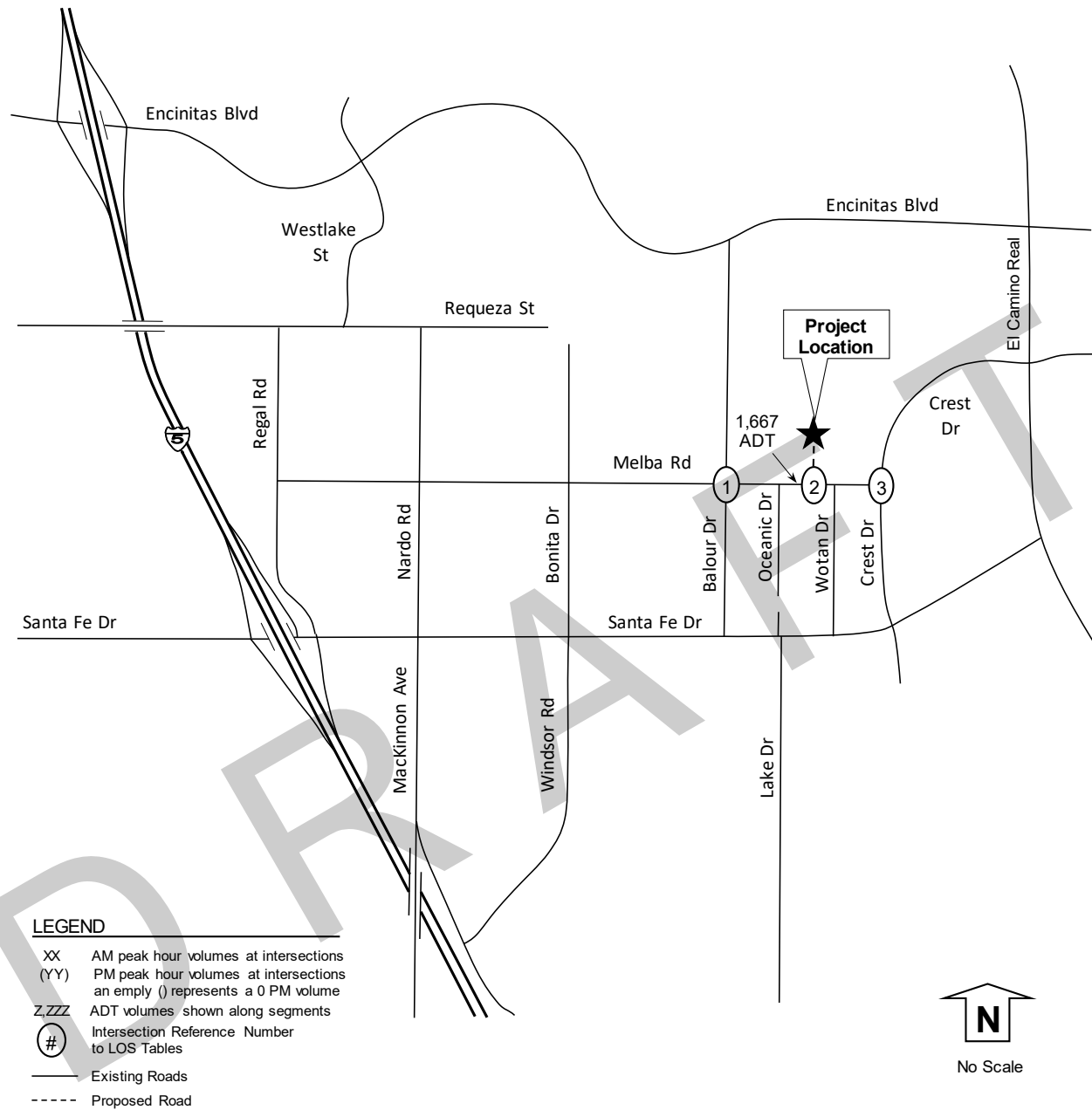
**TABLE 5: EXISTING INTERSECTION OPERATIONS**

Intersection and (Analysis) <sup>1</sup>	Approach	Peak Hour	Existing	
			Delay <sup>2</sup>	LOS <sup>3</sup>
1) Melba Rd at Balour Dr (U)	All	AM	16.1	C
	All	PM	11.4	B
2) Melba Rd at Project Dwy (U)	SB	AM	DNE	NA
	SB	PM	DNE	NA
3) Melba Rd at Crest Dr (U)	All	AM	9.5	A
	All	PM	7.5	A

Notes: 1) Intersection Analysis: (U) Unsignalized. 2) Delay: HCM Average Control Delay in seconds. 3) LOS: Level of Service.

Under Existing Conditions, the study intersections were calculated to operate at LOS C or better.

**Figure 4: Existing Volumes**



Balour Dr	173 (111)	165 (148)	21 (12)	Melba Rd	Project Access	0 (0)	0 (0)	Melba Rd	Crest Dr	216 (80)	50 (38)	Melba Rd
171 (133)	↗	↘	↖	35 (24)	0 (0)	↗	↘	0 (0)	97 (42)	↗	↘	
36 (24)	→	↖	↗	124 (54)	64 (43)	→	←	176 (85)	4 (2)	↖	↗	
2 (10)	↘	↗	↖	17 (7)						↘	↗	
	↘	↗	↖							↘	↗	
	10 (9)	164 (236)	7 (7)							17 (8)	35 (26)	



## 4.0 Project Description

The proposed project is a subdivision with 30-homes. The project is located at 1220-1240 Melba Rd and 1190 Island View Ln in Encinitas, California. The site has six existing homes; however, only three were occupied during the Notice of Preparation in June 2022. Project sole access is from Melba Road.

### 4.1 Project Traffic Generation

Project traffic generation was calculated using the SANDAG trip rates from the *Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region*, April 2002. The project site has active uses creating traffic; therefore, a traffic credit was applied because the existing uses will be replaced by the project. The trip credit was applied for three homes that were occupied during the Notice of Preparation in June 2022. All existing homes on the site will be replaced by the project. The net change in project trip generation is calculated at 270 ADT, 21 AM peak hour trips (6 inbound and 15 outbound), and 27 PM peak hour trips (19 inbound and 8 outbound) as shown in **Table 6**.

**TABLE 6: PROJECT TRAFFIC GENERATION**

TABLE C. PROJECT TRIP/TO GENERATION														
Proposed Land Use	Rate	Size & Units	ADT	%	Split	AM			PM					
						IN	OUT	%	Split	IN	OUT			
<u>Existing Homes with Trip Credit</u>														
Single Family Homes	10 /DU	-3 DU	-30	8%	0.3 0.7	-1	-2	10%	0.7 0.3	-2	-1			
<u>Proposed Project</u>														
Single Family Homes	10 /DU	30 DU	300	8%	0.3 0.7	7	17	10%	0.7 0.3	21	9			
Net Change:		27	270			6	15			19	8			

Source: SANDAG *Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region*, April 2002. ADT-Average Daily Traffic. Split-percent inbound and outbound. DU: Dwelling Unit. Spreadsheet rounding may result in  $\pm 1$  to above numbers.

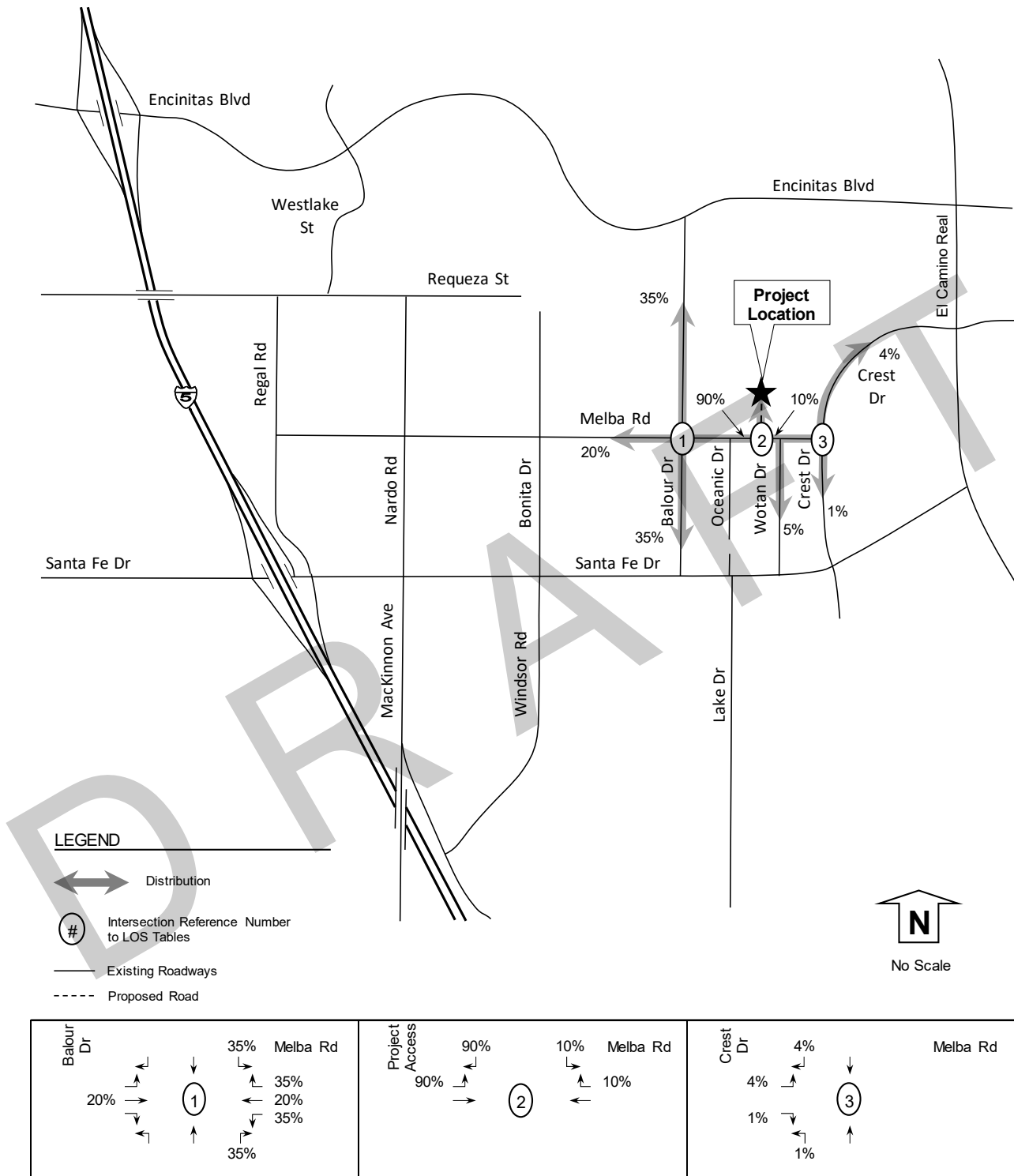
### 4.2 Project Access

The project access is proposed from one driveway on Melba Rd.

### 4.3 Project Distribution and Assignment

Project trips were distributed to the adjacent roadway network using engineering judgement and factors such as proximity to Interstate 5 and local attractions. The project distribution also includes adding traffic to Wotan Dr and Crest Dr. The project distribution is shown in **Figure 5** with assignment of project volumes shown in **Figure 6**.

**Figure 5: Project Distribution**



[illegible]

<p>Balour Dr</p> <p>0 0 2 Melba Rd</p> <p>0 (6)</p> <p>0 (1)</p> <p>0 (1)</p> <p>0 (3)</p> <p>0 (7)</p>	<p>Project Access</p> <p>14 (7)</p> <p>1 (1)</p> <p>Melba Rd</p> <p>5 (17)</p> <p>0 (2)</p> <p>0</p>	<p>Crest Dr</p> <p>1 0</p> <p>(1) (2)</p> <p>0 (3)</p> <p>0</p> <p>0</p> <p>0</p> <p>Melba Rd</p>
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## 5.0 Existing + Project Conditions

This scenario represents the addition of project traffic onto Existing volumes. The peak hour intersection volumes and daily traffic volumes are shown in **Figure 7**.

The LOS calculated for the intersections are shown in **Table 7**. Since the segment of Melba Rd is not classified, a LOS cannot be measured; therefore, a segment capacity table is not provided. Intersection LOS worksheets are included in **Appendix H**.

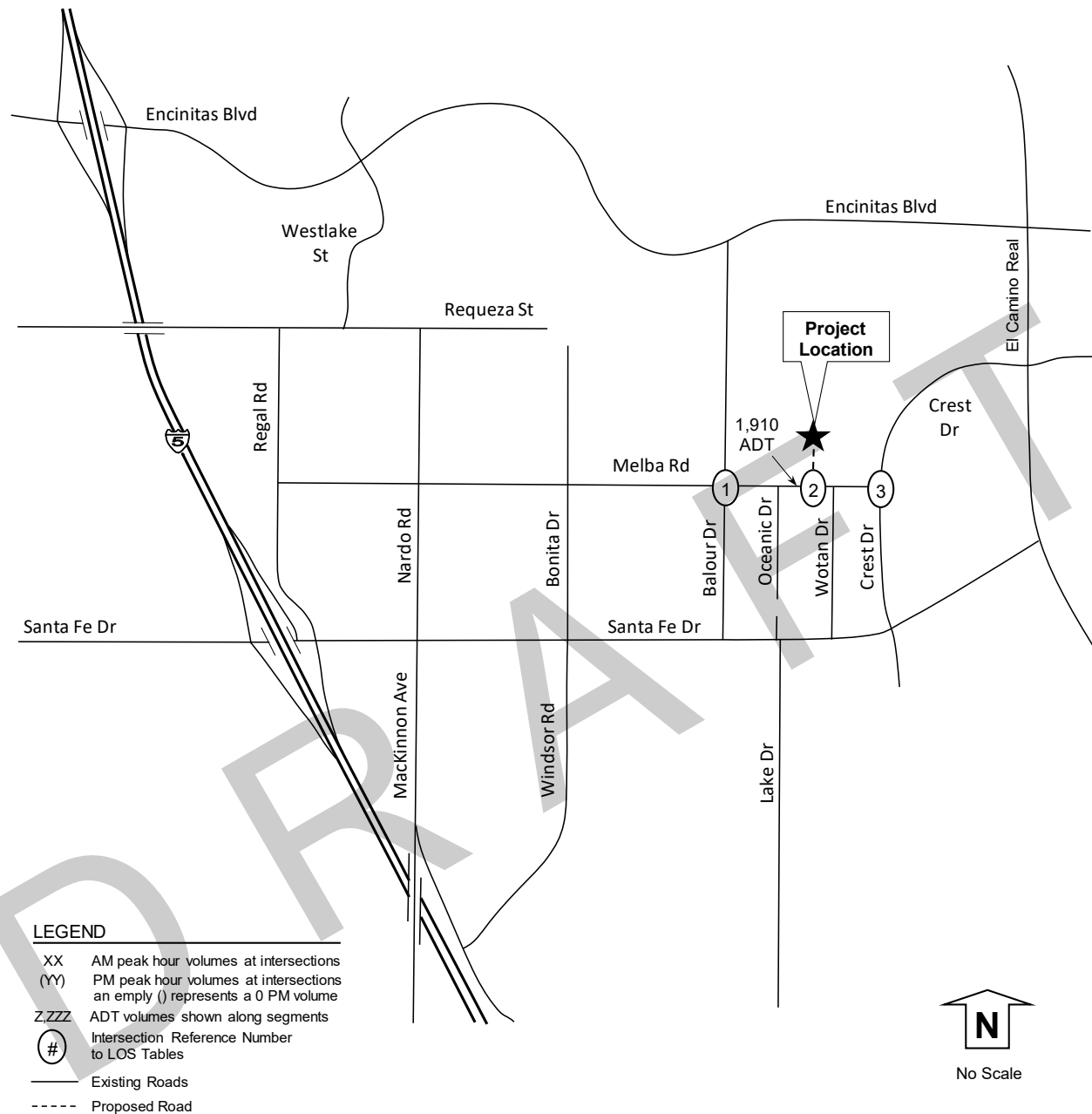
**TABLE 7: EXISTING + PROJECT INTERSECTION OPERATIONS**

Intersection and (Analysis) <sup>1</sup>	Approach	Peak Hour	Existing		Existing + Project		
			Delay <sup>2</sup>	LOS <sup>3</sup>	Delay <sup>2</sup>	LOS <sup>3</sup>	GP Conflict? <sup>4</sup>
1) Melba Rd at Balour Dr (U)	All	AM	16.1	C	16.8	C	No
	All	PM	11.4	B	11.7	B	No
2) Melba Rd at Project Dwy (U)	SB	AM	DNE	NA	9.6	A	No
	SB	PM	DNE	NA	9.0	A	No
3) Melba Rd at Crest Dr (U)	All	AM	9.5	A	9.5	A	No
	All	PM	7.5	A	7.5	A	No

Notes: 1) Intersection Analysis - (S) Signalized, (U) Unsignalized. 2) Delay - HCM Average Control Delay in sec. 3) LOS: Level of Service. 4) General Plan Circulation Element Policy 1.3 conflict if project traffic causes an LOS E/F. DNE: Does Not Exist. NA: Not Applicable.

Under Existing plus Project Conditions, the study intersections were calculated to operate at LOS C or better. The addition of project traffic to the study intersections does not conflict with the City of Encinitas General Plan Circulation Element Policy 1.3; therefore, off-site roadway improvements are not required. However, the project applicant will be required to pay City traffic mitigation fees for City roadway improvements.

**Figure 7: Existing + Project Volumes**



<p>Balour Dr</p> <p>173 (111) 165 (148) 23 (18)</p> <p>171 (133) 37 (28) 2 (10)</p> <p>10 (9) 164 (236) 9 (14)</p> <p>1</p> <p>Melba Rd</p> <p>40 (27) 128 (55) 22 (10)</p>	<p>Project Access</p> <p>5 (17) 64 (43)</p> <p>14 (7)</p> <p>2</p> <p>1 (1)</p> <p>Melba Rd</p> <p>1 (2) 176 (85)</p>	<p>Crest Dr</p> <p>217 (82) 50 (38)</p> <p>98 (43) 4 (2)</p> <p>17 (8) 35 (26)</p> <p>3</p> <p>Melba Rd</p>
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## 6.0 Conclusion

This Local Transportation Analysis (LTA) determines if the proposed project would conflict with the City of Encinitas General Plan Circulation Element Policy 1.3 for the study intersections in the vicinity of the project. The proposed project is a subdivision with 30-homes. The project is located at 1220-1240 Melba Rd and 1190 Island View Ln in Encinitas, California. The site has six existing homes; however, only three were occupied during the Notice of Preparation in June 2022. Project sole access is from Melba Road.

This analysis is based on the local San Diego Institute of Transportation Engineers (ITE) *Guidelines for Traffic Impact Studies in the San Diego Region*, May 2019 traffic analysis criteria. The project traffic generation was calculated using the SANDAG trip rates from the *Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region*, April 2002. The project site has active uses creating traffic; therefore, a traffic credit was applied because the existing uses will be replaced by the project. The trip credit was applied for three homes that were occupied during the Notice of Preparation in June 2022. All existing homes on the site will be replaced by the project. The net change in project trip generation is calculated at 270 ADT, 21 AM peak hour trips (6 inbound and 15 outbound), and 27 PM peak hour trips (19 inbound and 8 outbound).

Traffic data was collected on Thursday August 26, 2021. Surrounding schools were confirmed to be in session and there were no stay-at-home orders during the data collection. Even though surrounding schools were in session, a comparison was made between available historical City segment data for a nearby location of Balour Dr between Encinitas Blvd and Melba Rd. Current data from 8/31/21 is 3.6% higher than historical data from 6/2/2015; therefore, the existing counts were used without adjustments. The findings by study scenario are summarized below.

- 1) Under Existing Conditions, the study intersections were calculated to operate at LOS C or better.
- 2) Under Existing plus Project Conditions, the study intersections were calculated to operate at LOS C or better. The addition of project traffic to the study intersections does not conflict with the City of Encinitas General Plan Circulation Element Policy 1.3; therefore, off-site roadway improvements are not required. However, the project applicant will be required to pay City traffic mitigation fees for City roadway improvements.



## 7.0 References

City of Encinitas *Circulation Element* May 11, 1995.

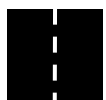
Highway Capacity Manual (6<sup>th</sup> Edition).

San Diego Institute of Transportation Engineers (ITE). May 2019. *Guidelines for Transportation Impact Studies in the San Diego Region*.

San Diego Association of Governments (SANDAG). April 2002. *Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region*.

Trafficware Corporation. Synchro 11.0 computer software.

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## **Appendix A**

### **Excerpts from City of Encinitas General Plan**

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THE CITY OF ENCINITAS  
CALIFORNIA

PUBLIC ROAD STANDARDS

April, 1991

TABLE 2  
GENERAL PLAN CIRCULATION ELEMENT  
ROADWAY CAPACITY STANDARDS \*

Facility Type	# of Lanes	ADT Capacity		
		LOS C	LOS D	LOS E
FREEWAY	6	108,00	120,000	135,000
	8	145,000	160,000	175,000
	10	175,000	195,000	215,000
Prime Arterial	6	46,000	51,200	57,000
Prime Arterial-Augmented	6	53,000	60,000	66,000
Major Roadway	4	28,200	31,600	35,200
Major Roadway-Augmented	4+	36,300	41,000	45,400
Collector Roadway	4	26,000	29,200	32,400
Local Roadway-Augmented	2+	16,000	18,000	20,000
Local Roadway	2	11,200	12,600	14,000

- NOTE:
1. Capacity means the maximum volume for the stated level of service.
  2. The above Standards are not applicable to non-circulation element roadways.

\* From City of Encinitas General Plan Circulation Element.

## **Appendix B**

### **Excerpts from City of Encinitas General Plan on General Plan Policy**

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CIRCULATION ELEMENT

CITY OF ENCINITAS GENERAL PLAN

As Amended 8/25/93, 1/12/94 9/21/94 and 5/11/95

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## CIRCULATION ELEMENT GOALS AND POLICIES

The following goals and policies included in this Element address a wide range of issues concerning circulation in and through the City. More efficient movement of traffic on existing roadways, the establishment of standards for future roads, provision of other forms of transit, preservation of scenic highways, and improved coastal access are the major areas of concern of the following goals and policies.

### **Safe, Convenient, and Efficient Transportation System**

The following goal and supporting policies emphasize the need to maintain a transportation system that is capable of handling the existing and projected traffic loads in the City. To achieve this end, a number of policies have been adopted that call for more efficient use of existing roadways by employing measures that improve the movement of traffic.

**GOAL 1: Encinitas should have a transportation system that is safe, convenient and efficient, and sensitive to and compatible with surrounding community character. (Coastal Act/30252)**

POLICY 1.1: Ensure that the arterial circulation system provides adequate connections across the freeway for convenient circulation and rapid emergency access.

POLICY 1.2: Endeavor to maintain Level of Service C as a basic design guideline for the local system of roadways understanding that the guideline may not be attainable in all cases.

POLICY 1.3: Prohibit development which results in Level of Service E or F at any intersection unless no alternatives exist and an overriding public need can be demonstrated.

POLICY 1.4: Require, where feasible, interconnecting offstreet pedestrian and vehicular circulation between adjacent commercial and office land uses. This policy should be required along major transportation corridors to minimize traffic conflicts associated with pedestrian and vehicular movement to and from these properties. (Coastal Act/30252)

POLICY 1.5: Promote maximum utilization or expansion of existing freeways and prime arterials as an alternative to new freeway or highway construction. Encourage new and/or proposed freeway construction to be outside the Encinitas sphere of influence boundaries.

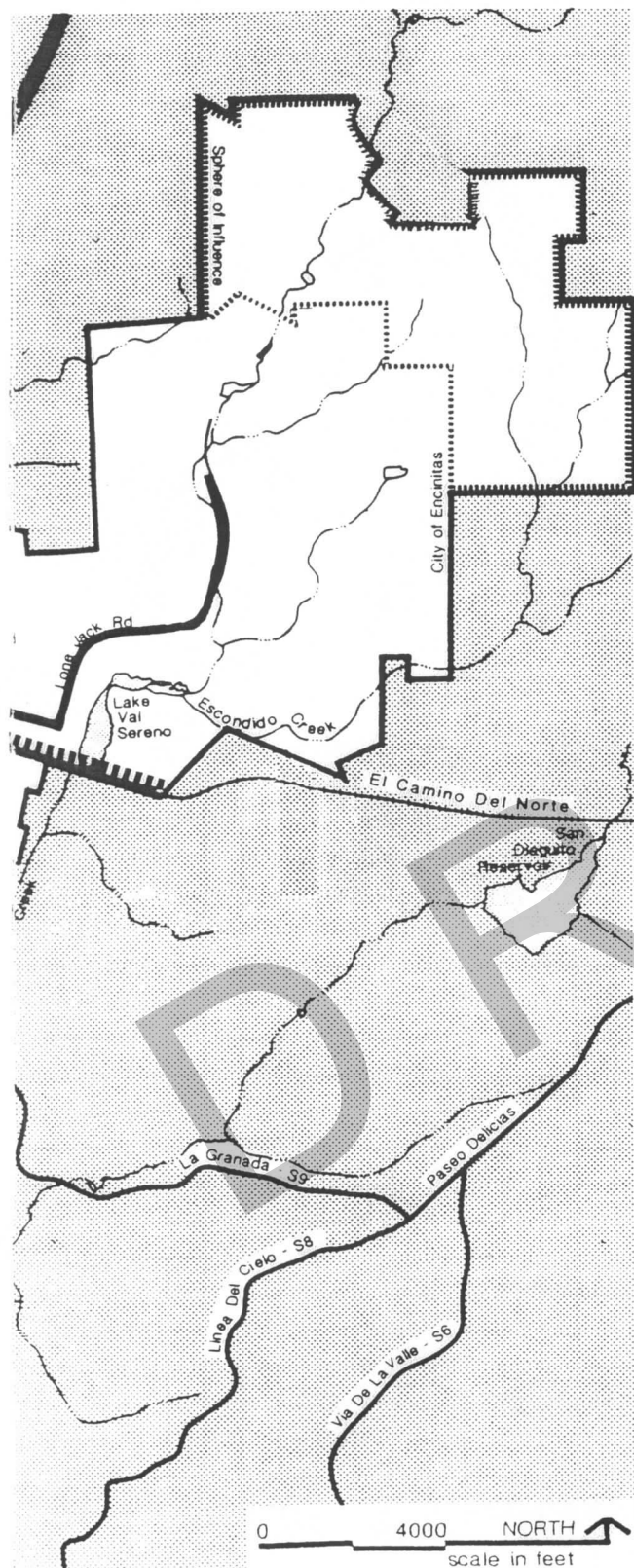
## **Appendix C**


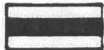
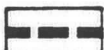
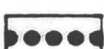
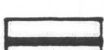



### **Excerpts from City of Encinitas Circulation Plan**

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SOURCE: Austin-Foust Associates, Inc.



-  Freeway
-  Prime Arterial (6 Lanes)
-  Major (4 Lanes)
-  Collector (4 Lanes)
-  Local Street (2 Lanes)
-  Augmented Facility
-  Limited Facility
-  Interchange Reconstruction

NOTE: Leucadia Blvd. between Interstate 5 and El Camino Real designated as 'Scenic Roadway' with 85 foot right-of-way (ROW)

**Figure 2**  
**Circulation Plan**

**Encinitas**  
General Plan  
3/29/89



## **Appendix D**

### **Excerpt from SANDAG CMP**

DRAFT

**FINAL 2008  
CONGESTION MANAGEMENT  
PROGRAM UPDATE**

DRAFT

# BOARD OF DIRECTORS



The 18 cities and county government are SANDAG serving as the forum for regional decision-making. SANDAG builds consensus; plans, engineers, and builds public transit; makes strategic plans; obtains and allocates resources; and provides information on a broad range of topics pertinent to the region's quality of life.

## CHAIR

Hon. Mary Teresa Sessom

## FIRST VICE CHAIR

Hon. Lori Holt Pfeiler

## SECOND VICE CHAIR

Hon. Jerome Stocks

## EXECUTIVE DIRECTOR

Gary L. Gallegos

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(A) Hon. Bud Lewis, Mayor  
(A) Hon. Ann Kulchin, Mayor Pro Tem

### CITY OF CHULA VISTA

Hon. Cheryl Cox, Mayor  
(A) Hon. Jerry Rindone, Deputy Mayor  
(A) Hon. John McCann, Councilmember

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Hon. Phil Monroe, Councilmember  
(A) Hon. Carrie Downey, Mayor Pro Tem  
(A) Hon. Al Ovrom, Councilmember

### CITY OF DEL MAR

Hon. Crystal Crawford, Deputy Mayor  
(A) Hon. David Druker, Mayor  
(A) Hon. Richard Earnest, Councilmember

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Hon. Mark Lewis, Mayor  
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(A) Hon. David Allan, Councilmember

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(A) Hon. Jerry Selby, Mayor Pro Tem

### CITY OF NATIONAL CITY

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(A) Hon. Louie Natividad, Councilmember

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(A) Hon. Jerry Kern, Councilmember  
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Hon. Mickey Cafagna, Mayor  
(A) Hon. Robert Emery, Deputy Mayor  
(A) Hon. Don Higginson, Councilmember

### CITY OF SAN DIEGO

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(A) Hon. Jim Madaffer, Council President Pro Tem  
(A) Hon. Anthony Young, Councilmember  
(A) Hon. Scott Peters, Council President  
(A) Hon. Toni Atkins, Councilmember  
(A) Hon. Ben Hueso, Councilmember

### CITY OF SAN MARCOS

Hon. Jim Desmond, Mayor  
(A) Hon. Hal Martin, Vice Mayor  
(A) Hon. Rebecca Jones, Councilmember

### CITY OF SANTEE

Hon. Jack Dale, Councilmember  
(A) Hon. Hal Ryan, Councilmember  
(A) Hon. John Minto, Councilmember

### CITY OF SOLANA BEACH

Hon. Lesa Heebner, Councilmember  
(A) Hon. Dave Roberts, Mayor  
(A) Hon. Mike Nichols, Deputy Mayor

### CITY OF VISTA

Hon. Judy Ritter, Councilmember  
(A) Hon. Bob Campbell, Councilmember  
(A) Hon. Steve Gronke, Councilmember

### COUNTY OF SAN DIEGO

Hon. Greg Cox, Chairman  
(A) Hon. Pam Slater-Price, Chair Pro Tem  
(A) Hon. Ron Roberts, Supervisor  
(A) Hon. Dianne Jacob, Vice Chairwoman  
(A) Hon. Bill Horn, Supervisor

### IMPERIAL COUNTY

(Advisory Member)  
Hon. Victor Carrillo, Supervisor  
(A) Hon. David Ouzan, Councilmember

### CALIFORNIA DEPARTMENT OF TRANSPORTATION

(Advisory Member)  
Will Kempton, Director  
(A) Pedro Orso-Delgado, District 11 Director

### METROPOLITAN TRANSIT SYSTEM

(Advisory Member)  
Harry Mathis, Chairman  
(A) Hon. Jerry Rindone, Vice Chairman  
(A) Hon. Robert Emery, Chair Pro Tem

### NORTH COUNTY TRANSIT DISTRICT

(Advisory Member)  
Hon. Ed Gallo, Chairman  
(A) Hon. Jerome Stocks, Planning Committee Chair  
(A) Hon. Chris Orlando, Monitoring Committee Chair

### U.S. DEPARTMENT OF DEFENSE

(Advisory Member)  
CAPT Steve Wirsching, USN, CEC,  
Southwest Division Naval Facilities Engineering Command  
(A) CAPT Robert Farley, USN, CEC  
Southwest Division Naval Facilities Engineering Command

### SAN DIEGO UNIFIED PORT DISTRICT

(Advisory Member)  
Laurie Black, Commissioner  
(A) Michael Najera, Commissioner

### SAN DIEGO COUNTY WATER AUTHORITY

(Advisory Member)  
Marilyn Dailey, Commissioner  
(A) Mark Muir, Commissioner  
(A) Gary Croucher, Commissioner

### SOUTHERN CALIFORNIA TRIBAL CHAIRMEN'S ASSOCIATION

(Advisory Member)  
Chairman Robert Smith (Pala), SCTCA Chair  
(A) Chairman Allen Lawson (San Pasqual)

### MEXICO

(Advisory Member)  
Hon. Remedios Gómez-Arnau  
Consul General of Mexico

As of July 16, 2008

**Table D.2**  
**Roadway Classifications, LOS, and ADT**

Street Classification	Lanes	Cross Sections* (approx.)	LOS with ADT**				
			A	B	C	D	E
Expressway	6 lanes	102-160/122-200	30,000	42,000	60,000	70,000	80,000
Prime Arterial	6 lanes	102-108/122-128	25,000	35,000	50,000	55,000	60,000
Major Arterial	6 lanes	102/122	20,000	28,000	40,000	45,000	50,000
Major Arterial	4 lanes	78-82/98-102	15,000	21,000	30,000	35,000	40,000
Secondary Arterial/Collector	4 lanes	64-72/84-92	10,000	14,000	20,000	25,000	30,000
Collector (no center lane)	4 lanes	64/84					
Collector (continuous left-turn lane)	2 lanes	50/70	5,000	7,000	10,000	13,000	15,000
Collector (no fronting property)	2 lanes	40/60	4,000	5,500	7,500	9,000	10,000
Collector (commercial-industrial fronting)	2 lanes	50/70	2,500	3,500	5,000	6,500	8,000
Collector (multi-family)	2 lanes	40/60	2,500	3,500	5,000	6,500	8,000
Sub-Collector (single-family)	2 lanes	36/56	—	—	2,200	—	—

LEGEND:

\* Curb-to-curb width (feet)/right of way width (feet): based upon the City of San Diego Street Design Manual and other jurisdictions within the San Diego region.

\*\* Approximate recommended ADT based upon the City of San Diego Street Design Manual.

Notes:

1 The volumes and the average daily level of service listed above are only intended as a general planning guideline.

2 LOS are not applied to residential streets since their primary purpose is to serve abutting lots, not carry through traffic. LOS normally apply to roads carrying through traffic between major trip generators and attractors.

Not all mitigation measures can feasibly be “hard” (new lanes or new capacity) improvements. A sample mitigation measure might include financing toward a regional ITS (Intelligent Transportation System) project, such as improved or “dynamic” ramp metering with real-time delay information available to motorists. The information can be accessed on either home or in-vehicle computers, or even by telephone (each ramp could have its own phone number with delay information) so the motorist can make a driving decision long before she or he arrives at a congested on-ramp. This sample mitigation would allow a project applicant (especially with a relatively small project) to meet mitigation by paying into a regional ramp meter fee, providing the fee can be established in the near future. In identifying potential mitigation measures, the *CMP Toolbox of Mitigation Strategies* and any adopted Deficiency Plans in the study area also should be consulted.

Other mitigation measures may include Transportation Demand Management (TDM) recommendations – transit facilities, bike facilities, walkability, telecommuting, traffic rideshare programs, flex-time, carpool incentives, parking cash-out, etc. Additional mitigation measures may become acceptable as future technologies and policies evolve.

## **Appendix E**

### **Count Data**

DRAFT



PO Box 1178  
Corona, CA 92880  
951-268-6268

Location: Encinitas  
N/S: Balour Drive  
E/W: Melba Road

Date: 8/26/2021  
Day: THURSDAY  
Project # 143-21377

### TURNING MOVEMENT COUNT

Count Period: 7:00 AM to 9:00 AM  
Peak Hour: 7:15 AM to 8:15 AM

#### Vehicle Counts

	Balour Drive Northbound			Balour Drive Southbound			Melba Road Eastbound			Melba Road Westbound			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
7:00 AM	0	27	0	0	30	27	15	1	0	2	10	5	117
7:15 AM	0	22	0	0	39	66	37	4	0	2	40	4	214
7:30 AM	5	38	2	1	32	61	43	13	0	6	43	9	253
7:45 AM	3	47	4	4	39	27	45	7	1	5	28	10	220
8:00 AM	2	57	1	16	55	19	46	12	1	4	13	12	238
8:15 AM	0	22	0	4	45	12	18	7	0	3	9	5	125
8:30 AM	0	20	0	6	28	11	12	4	0	2	9	5	97
8:45 AM	0	27	2	3	23	8	14	6	1	2	7	2	95
TOTAL VOLUMES:	10	260	9	34	291	231	230	54	3	26	159	52	1359

AM Peak Hr Begins at: 715 AM

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	10	164	7	21	165	173	171	36	2	17	124	35	925

PEAK HR FACTOR:	0.754	0.855	0.886	0.759	0.914
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#### Bicycle Counts

	Balour Drive Northbound			Balour Drive Southbound			Melba Road Eastbound			Melba Road Westbound			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
7:00 AM	0	0	0	0	1	4	0	0	0	0	0	2	7
7:15 AM	0	0	0	0	0	0	0	0	0	1	2	0	3
7:30 AM	0	4	1	0	6	12	5	4	0	3	14	1	50
7:45 AM	2	2	0	0	3	1	21	10	1	0	9	2	51
8:00 AM	0	0	0	0	0	1	12	2	0	0	0	1	16
8:15 AM	0	0	0	0	1	0	2	2	0	0	0	0	5
8:30 AM	0	0	0	0	0	1	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	2	6	1	0	11	19	40	18	1	4	25	6	133

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	2	6	1	0	9	14	38	16	1	4	25	4	120

#### Pedestrian Counts

	Balour Drive North Leg	Balour Drive South Leg	Melba Road East Leg	Melba Road West Leg	TOTAL
7:00 AM	3	1	1	0	5
7:15 AM	6	1	1	0	8
7:30 AM	53	3	9	1	66
7:45 AM	148	9	15	0	172
8:00 AM	33	2	0	0	35
8:15 AM	3	0	0	0	3
8:30 AM	4	1	2	6	13
8:45 AM	1	1	1	0	3
TOTAL VOLUMES:	251	18	29	7	305

	North Leg	South Leg	East Leg	West Leg	TOTAL
PEAK VOLUMES:	240	15	25	1	281



PO Box 1178  
Corona, CA 92880  
951-268-6268

Location: Encinitas  
N/S: Balour Drive  
E/W: Melba Road

Date: 8/26/2021  
Day: THURSDAY  
Project # 143-21377

### TURNING MOVEMENT COUNT

Count Period: 4:00 PM to 6:00 PM  
Peak Hour: 4:45 PM to 5:45 PM

#### Vehicle Counts

	Balour Drive Northbound			Balour Drive Southbound			Melba Road Eastbound			Melba Road Westbound			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
4:00 PM	4	47	3	2	36	31	33	11	4	0	14	8	193
4:15 PM	1	45	0	1	41	27	42	8	0	1	14	3	183
4:30 PM	1	40	1	5	37	26	27	6	1	0	11	3	158
4:45 PM	3	59	1	1	43	32	34	4	2	1	20	5	205
5:00 PM	3	53	0	2	35	31	22	8	4	1	9	3	171
5:15 PM	2	59	4	6	35	25	42	5	2	4	11	10	205
5:30 PM	1	65	2	3	35	23	35	7	2	1	14	6	194
5:45 PM	3	52	4	0	33	24	33	6	7	2	18	3	185
TOTAL VOLUMES:	18	420	15	20	295	219	268	55	22	10	111	41	1494

PM Peak Hr Begins at: 445 PM

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	9	236	7	12	148	111	133	24	10	7	54	24	775

PEAK HR FACTOR:	0.926	0.891	0.852	0.817	0.945
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#### Bicycle Counts

	Balour Drive Northbound			Balour Drive Southbound			Melba Road Eastbound			Melba Road Westbound			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
4:00 PM	0	1	0	0	0	0	0	1	0	0	0	0	2
4:15 PM	0	0	0	0	0	0	1	3	0	0	0	0	4
4:30 PM	1	0	0	0	0	0	0	0	0	0	1	1	3
4:45 PM	0	2	0	0	1	2	0	1	0	0	0	0	6
5:00 PM	0	1	0	0	2	0	4	3	0	0	1	0	11
5:15 PM	0	0	0	0	0	0	0	0	1	0	3	0	4
5:30 PM	0	0	0	0	0	0	0	1	0	0	2	0	3
5:45 PM	0	0	0	0	0	0	3	0	0	0	0	0	3
TOTAL VOLUMES:	1	4	0	0	3	2	8	9	1	0	7	1	36

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	0	3	0	0	3	2	4	5	1	0	6	0	24

#### Pedestrian Counts

	Balour Drive North Leg	Balour Drive South Leg	Melba Road East Leg	Melba Road West Leg	TOTAL
4:00 PM	1	2	2	3	8
4:15 PM	0	1	0	0	1
4:30 PM	1	0	0	0	1
4:45 PM	6	2	1	0	9
5:00 PM	1	1	1	0	3
5:15 PM	2	0	3	0	5
5:30 PM	3	0	0	0	3
5:45 PM	8	0	0	0	8
TOTAL VOLUMES:	22	6	7	3	38

	North Leg	South Leg	East Leg	West Leg	TOTAL
PEAK VOLUMES:	12	3	5	0	20



PO Box 1178  
Corona, CA 92880  
951-268-6268

Location: Encinitas  
N/S: Crest Drive  
E/W: Melba Road

Date: 8/26/2021  
Day: THURSDAY  
Project # 143-21377

### TURNING MOVEMENT COUNT

Count Period: 7:00 AM to 9:00 AM  
Peak Hour: 7:15 AM to 8:15 AM

#### Vehicle Counts

	Crest Drive Northbound			Crest Drive Southbound			Melba Road Eastbound			Melba Road Westbound			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
7:00 AM	2	1	0	0	3	10	2	0	3	0	0	0	21
7:15 AM	1	2	0	0	8	57	6	0	0	0	0	0	74
7:30 AM	9	11	0	0	12	85	24	0	1	0	0	0	142
7:45 AM	6	17	0	0	12	57	34	0	2	0	0	0	128
8:00 AM	1	5	0	0	18	17	33	0	1	0	0	0	75
8:15 AM	0	3	0	0	6	17	7	0	2	0	0	0	35
8:30 AM	1	7	0	1	7	10	8	0	0	0	0	0	34
8:45 AM	0	3	0	0	6	8	14	0	1	0	0	0	32
TOTAL VOLUMES:	20	49	0	1	72	261	128	0	10	0	0	0	541

AM Peak Hr Begins at: 715 AM

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	17	35	0	0	50	216	97	0	4	0	0	0	419

PEAK HR FACTOR:	0.565	0.686	0.701	0.000	0.738
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#### Bicycle Counts

	Crest Drive Northbound			Crest Drive Southbound			Melba Road Eastbound			Melba Road Westbound			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
7:00 AM	0	0	0	0	0	1	0	0	0	0	0	0	1
7:15 AM	1	0	0	0	0	4	0	0	0	0	0	0	5
7:30 AM	0	0	0	0	0	11	0	0	0	0	0	0	11
7:45 AM	3	0	0	0	1	12	6	0	0	0	0	0	22
8:00 AM	0	0	0	0	0	1	1	0	2	0	0	0	4
8:15 AM	0	0	0	0	0	0	2	0	0	0	0	0	2
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	4	0	0	0	1	29	9	0	2	0	0	0	45

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	4	0	0	0	1	28	7	0	2	0	0	0	42

#### Pedestrian Counts

	Crest Drive North Leg	Crest Drive South Leg	Melba Road East Leg	Melba Road West Leg	TOTAL
7:00 AM	1	0	0	1	2
7:15 AM	1	0	0	0	1
7:30 AM	0	0	0	4	4
7:45 AM	8	0	0	0	8
8:00 AM	0	0	0	0	0
8:15 AM	2	0	0	2	4
8:30 AM	0	0	0	2	2
8:45 AM	0	0	0	1	1
TOTAL VOLUMES:	12	0	0	10	22

	North Leg	South Leg	East Leg	West Leg	TOTAL
PEAK VOLUMES:	9	0	0	4	13





PO Box 1178  
Corona, CA 92880  
951-268-6268

Location: Encinitas  
N/S: Crest Drive  
E/W: Melba Road

Date: 8/26/2021  
Day: THURSDAY  
Project # 143-21377

### TURNING MOVEMENT COUNT

Count Period: 4:00 PM to 6:00 PM  
Peak Hour: 5:00 PM to 6:00 PM

#### Vehicle Counts

	Crest Drive Northbound			Crest Drive Southbound			Melba Road Eastbound			Melba Road Westbound			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
4:00 PM	2	6	0	0	9	16	14	0	0	0	0	0	47
4:15 PM	1	4	0	0	4	17	8	0	0	0	0	0	34
4:30 PM	2	7	0	0	6	12	10	0	0	0	0	0	37
4:45 PM	1	1	0	0	4	27	9	0	1	0	0	0	43
5:00 PM	2	5	0	0	10	15	9	0	0	0	0	0	41
5:15 PM	1	10	0	0	7	19	12	0	2	0	0	0	51
5:30 PM	4	8	0	0	11	20	10	0	0	0	0	0	53
5:45 PM	1	3	0	0	10	26	11	0	0	0	0	0	51
TOTAL VOLUMES:	14	44	0	0	61	152	83	0	3	0	0	0	357

PM Peak Hr Begins at: 500 PM

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	8	26	0	0	38	80	42	0	2	0	0	0	196

PEAK HR FACTOR:	0.708	0.819	0.786	0.000	0.925
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#### Bicycle Counts

	Crest Drive Northbound			Crest Drive Southbound			Melba Road Eastbound			Melba Road Westbound			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
4:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	1
4:15 PM	0	1	0	0	0	1	1	0	0	0	0	0	3
4:30 PM	0	1	0	0	1	1	0	0	0	0	0	0	3
4:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	1	1	0	0	0	0	0	2
5:30 PM	0	0	0	0	0	1	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
TOTAL VOLUMES:	0	2	0	0	2	4	5	0	0	0	0	0	13

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	0	0	0	0	1	2	2	0	0	0	0	0	5

#### Pedestrian Counts

	Crest Drive North Leg	Crest Drive South Leg	Melba Road East Leg	Melba Road West Leg	TOTAL
4:00 PM	0	0	0	0	0
4:15 PM	0	1	0	2	3
4:30 PM	0	0	0	1	1
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	1	1
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	1	0	4	5

	North Leg	South Leg	East Leg	West Leg	TOTAL
PEAK VOLUMES:	0	0	0	1	1

# Counts Unlimited, Inc.

City of Encinitas  
Melba Road  
B/ Oceanic Drive - Wotan Drive  
24 Hour Directional Volume Count

PO Box 1178  
Corona, CA 92878  
Phone: (951) 268-6268  
email: counts@countsunlimited.com

ECN001  
Site Code: 143-21377

Start Time	06-Sep-21 Mon	Eastbound		Hour Totals		Westbound		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		0	5			0	12				
12:15		0	6			1	16				
12:30		1	8			1	12				
12:45		0	7	1	26	1	12	3	52	4	78
01:00		0	8			0	4				
01:15		0	2			0	7				
01:30		1	8			0	18				
01:45		0	7	1	25	1	22	1	51	2	76
02:00		0	5			1	37				
02:15		0	11			0	25				
02:30		0	35			0	24				
02:45		0	22	0	73	0	39	1	125	1	198
03:00		1	41			0	23				
03:15		0	32			0	22				
03:30		0	12			0	25				
03:45		1	6	2	91	0	17	0	87	2	178
04:00		0	18			2	21				
04:15		0	10			0	18				
04:30		1	9			0	13				
04:45		0	9	1	46	0	26	2	78	3	124
05:00		0	12			0	18				
05:15		1	10			1	19				
05:30		0	10			1	22				
05:45		1	7	2	39	3	20	5	79	7	118
06:00		1	8			2	18				
06:15		0	12			2	16				
06:30		0	8			3	14				
06:45		1	6	2	34	7	10	14	58	16	92
07:00		3	9			15	17				
07:15		5	5			59	9				
07:30		23	4			111	8				
07:45		39	3	70	21	69	8	254	42	324	63
08:00		44	4			30	3				
08:15		2	3			5	6				
08:30		9	2			14	8				
08:45		7	1	62	10	7	6	56	23	118	33
09:00		6	2			11	4				
09:15		5	1			8	2				
09:30		6	1			10	4				
09:45		10	3	27	7	6	2	35	12	62	19
10:00		2	4			9	2				
10:15		3	1			15	0				
10:30		6	0			8	0				
10:45		6	1	17	6	9	1	41	3	58	9
11:00		7	1			10	1				
11:15		6	0			15	1				
11:30		4	1			12	1				
11:45		7	0	24	2	15	1	52	4	76	6
Total		209	380	209	380	464	614	464	614	673	994
Combined Total		589		589		1078		1078		1667	
AM Peak	-	07:15	-	-	-	07:15	-	-	-	-	-
Vol.	-	111	-	-	-	269	-	-	-	-	-
P.H.F.	-	0.631	-	-	-	0.606	-	-	-	-	-
PM Peak	-	-	02:30	-	-	-	02:00	-	-	-	-
Vol.	-	-	130	-	-	-	125	-	-	-	-
P.H.F.	-	-	0.793	-	-	-	0.801	-	-	-	-
Percentage		35.5%	64.5%			43.0%	57.0%				
ADT/AADT		ADT 1,667		AADT 1,667							

## **Appendix F**

### **Count Data for Comparison**

DRAFT

PROJECT: PTD15-0605-01

AM Period	NB		SB		EB		WB		PM Period	NB		SB		EB		WB	
00:00	6		5						12:00	58		48					
00:15	0		4						12:15	62		70					
00:30	1		0						12:30	59		44					
00:45	2	9	2	11			20		12:45	65	244	46	208			452	
01:00	2		1						13:00	56		57					
01:15	2		3						13:15	46		64					
01:30	1		0						13:30	95		70					
01:45	0	5	3	7			12		13:45	72	269	49	240			509	
02:00	2		1						14:00	78		62					
02:15	0		1						14:15	86		90					
02:30	1		1						14:30	88		66					
02:45	1	4	1	4			8		14:45	88	340	89	307			647	
03:00	0		0						15:00	76		108					
03:15	1		1						15:15	152		96					
03:30	0		2						15:30	108		79					
03:45	0	1	1	4			5		15:45	64	400	73	356			756	
04:00	3		0						16:00	95		73					
04:15	2		2						16:15	74		65					
04:30	5		0						16:30	83		66					
04:45	6	16	0	2			18		16:45	74	326	55	259			585	
05:00	4		1						17:00	82		86					
05:15	2		2						17:15	82		85					
05:30	6		3						17:30	83		64					
05:45	14	26	8	14			40		17:45	85	332	88	323			655	
06:00	16		13						18:00	71		71					
06:15	25		14						18:15	73		90					
06:30	23		7						18:30	69		70					
06:45	36	100	28	62			162		18:45	63	276	45	276			552	
07:00	61		67						19:00	65		47					
07:15	105		125						19:15	56		31					
07:30	117		159						19:30	43		42					
07:45	99	382	115	466			848		19:45	35	199	37	157			356	
08:00	63		60						20:00	41		29					
08:15	49		90						20:15	33		38					
08:30	66		73						20:30	35		40					
08:45	89	267	74	297			564		20:45	25	134	45	152			286	
09:00	64		65						21:00	23		43					
09:15	56		44						21:15	14		19					
09:30	55		47						21:30	14		20					
09:45	49	224	41	197			421		21:45	14	65	12	94			159	
10:00	44		43						22:00	10		16					
10:15	48																

PACIFIC TECHNICAL DATA, LLC

# Counts Unlimited, Inc.

City of Encinitas  
Balour Drive  
B/ Encinitas Boulevard - Melba Road  
24 Hour Directional Volume Count

PO Box 1178  
Corona, CA 92878  
Phone: (951) 268-6268  
email: counts@countsunlimited.com

ECN002  
Site Code: 143-21458

Start Time	31-Aug-21 Tue	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		1	53			2	57				
12:15		1	71			4	65				
12:30		0	57			0	62				
12:45		2	82	4	263	1	61	7	245	11	508
01:00		2	63			1	48				
01:15		1	94			3	62				
01:30		0	60			1	58				
01:45		3	61	6	278	2	63	7	231	13	509
02:00		0	58			0	78				
02:15		1	62			1	101				
02:30		0	90			0	140				
02:45		1	148	2	358	0	122	1	441	3	799
03:00		3	172			1	95				
03:15		0	157			0	63				
03:30		2	105			1	62				
03:45		2	64	7	498	1	68	3	288	10	786
04:00		1	98			0	76				
04:15		2	86			1	89				
04:30		5	99			0	61				
04:45		3	81	11	364	1	83	2	309	13	673
05:00		2	101			2	95				
05:15		7	81			3	73				
05:30		7	91			9	62				
05:45		14	72	30	345	9	50	23	280	53	625
06:00		15	67			13	68				
06:15		13	63			13	52				
06:30		33	53			19	47				
06:45		40	55	101	238	44	42	89	209	190	447
07:00		37	36			63	37				
07:15		73	36			169	41				
07:30		103	23			151	42				
07:45		166	29	379	124	190	27	573	147	952	271
08:00		205	22			170	30				
08:15		97	18			66	25				
08:30		81	10			55	19				
08:45		74	18	457	68	58	24	349	98	806	166
09:00		57	33			44	19				
09:15		62	15			47	17				
09:30		59	17			40	10				
09:45		59	7	237	72	39	16	170	62	407	134
10:00		44	9			36	15				
10:15		55	5			40	11				
10:30		60	7			38	5				
10:45		48	3	207	24	62	5	176	36	383	60
11:00		57	2			52	5				
11:15		65	0			50	2				
11:30		62	0			58	1				
11:45		66	0	250	2	45	0	205	8	455	10
Total		1691	2634	1691	2634	1605	2354	1605	2354	3296	4988
Combined Total		4325		4325		3959		3959		8284	
AM Peak	-	07:30	-	-	-	07:15	-	-	-	-	-
Vol.	-	571	-	-	-	680	-	-	-	-	-
P.H.F.	-	0.696	-	-	-	0.895	-	-	-	-	-
PM Peak	-	-	02:45	-	-	-	02:15	-	-	-	-
Vol.	-	-	582	-	-	-	458	-	-	-	-
P.H.F.	-	-	0.846	-	-	-	0.818	-	-	-	-
Percentage		39.1%	60.9%			40.5%	59.5%				
ADT/AADT		ADT 8,284	AADT 8,284								













## **Appendix G**

### **Existing Intersection LOS Worksheets**

DRAFT

AM Existing  
1: Balour Dr & Melba Rd

Volume







												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	171	36	2	17	124	35	10	164	7	21	165	173
Future Volume (vph)	171	36	2	17	124	35	10	164	7	21	165	173
Confl. Peds. (#/hr)	240		15	15		240	1		25	25		1
Confl. Bikes (#/hr)			60			40			10			30
Peak Hour Factor	0.89	0.89	0.89	0.76	0.76	0.76	0.75	0.75	0.75	0.86	0.86	0.86
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Intersection Summary												

Intersection												
Intersection Delay, s/veh	16.1											
Intersection LOS	C											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	171	36	2	17	124	35	10	164	7	21	165	173
Future Vol, veh/h	171	36	2	17	124	35	10	164	7	21	165	173
Peak Hour Factor	0.89	0.89	0.89	0.76	0.76	0.76	0.75	0.75	0.75	0.86	0.86	0.86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	192	40	2	22	163	46	13	219	9	24	192	201
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Approach	EB			WB			NB			SB		
Opposing Approach	WB			EB			SB			NB		
Opposing Lanes	1			1			1			1		
Conflicting Approach Left	SB			NB			EB			WB		
Conflicting Lanes Left	1			1			1			1		
Conflicting Approach Right	NB			SB			WB			EB		
Conflicting Lanes Right	1			1			1			1		
HCM Control Delay	14.7			13.9			13.9			19.3		
HCM LOS	B			B			B			C		
Lane	NBLn1	EBLn1	WBLn1	SBLn1								
Vol Left, %	6%	82%	10%	6%								
Vol Thru, %	91%	17%	70%	46%								
Vol Right, %	4%	1%	20%	48%								
Sign Control	Stop	Stop	Stop	Stop								
Traffic Vol by Lane	181	209	176	359								
LT Vol	10	171	17	21								
Through Vol	164	36	124	165								
RT Vol	7	2	35	173								
Lane Flow Rate	241	235	232	417								
Geometry Grp	1	1	1	1								
Degree of Util (X)	0.422	0.432	0.411	0.662								
Departure Headway (Hd)	6.302	6.619	6.388	5.713								
Convergence, Y/N	Yes	Yes	Yes	Yes								
Cap	570	542	563	630								
Service Time	4.359	4.675	4.444	3.76								
HCM Lane V/C Ratio	0.423	0.434	0.412	0.662								
HCM Control Delay	13.9	14.7	13.9	19.3								
HCM Lane LOS	B	B	B	C								
HCM 95th-tile Q	2.1	2.2	2	4.9								



AM Existing  
3: Crest Dr & Melba Rd













Volume

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Volume (vph)	97	4	17	35	50	216
Future Volume (vph)	97	4	17	35	50	216
Confl. Peds. (#/hr)	9		4			4
Confl. Bikes (#/hr)		10				30
Peak Hour Factor	0.70	0.70	0.57	0.57	0.69	0.69
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Intersection Summary						

Intersection						
Intersection Delay, s/veh	9.5					
Intersection LOS	A					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			W	W	
Traffic Vol, veh/h	97	4	17	35	50	216
Future Vol, veh/h	97	4	17	35	50	216
Peak Hour Factor	0.70	0.70	0.57	0.57	0.69	0.69
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	139	6	30	61	72	313
Number of Lanes	1	0	0	1	1	0
Approach	EB	NB		SB		
Opposing Approach		SB		NB		
Opposing Lanes	0	1		1		
Conflicting Approach Left	SB	EB				
Conflicting Lanes Left	1	1		0		
Conflicting Approach Right	NB			EB		
Conflicting Lanes Right	1	0		1		
HCM Control Delay	9.4	8.4		9.8		
HCM LOS	A	A		A		
Lane	NBLn1	EBLn1	SBLn1			
Vol Left, %	33%	96%	0%			
Vol Thru, %	67%	0%	19%			
Vol Right, %	0%	4%	81%			
Sign Control	Stop	Stop	Stop			
Traffic Vol by Lane	52	101	266			
LT Vol	17	97	0			
Through Vol	35	0	50			
RT Vol	0	4	216			
Lane Flow Rate	91	144	386			
Geometry Grp	1	1	1			
Degree of Util (X)	0.121	0.204	0.422			
Departure Headway (Hd)	4.759	5.086	3.938			
Convergence, Y/N	Yes	Yes	Yes			
Cap	753	704	914			
Service Time	2.791	3.13	1.958			
HCM Lane V/C Ratio	0.121	0.205	0.422			
HCM Control Delay	8.4	9.4	9.8			
HCM Lane LOS	A	A	A			
HCM 95th-tile Q	0.4	0.8	2.1			

PM Existing  
1: Balour Dr & Melba Rd

Volume

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	133	24	10	7	54	24	9	236	7	12	148	111
Future Volume (vph)	133	24	10	7	54	24	9	236	7	12	148	111
Confl. Peds. (#/hr)	12		3	3		12			5	12		
Confl. Bikes (#/hr)			10			10			5			5
Peak Hour Factor	0.85	0.85	0.85	0.82	0.82	0.82	0.93	0.93	0.93	0.89	0.89	0.89
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Intersection Summary												

Intersection	
Intersection Delay, s/veh	11.4
Intersection LOS	B







Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	133	24	10	7	54	24	9	236	7	12	148	111
Future Vol, veh/h	133	24	10	7	54	24	9	236	7	12	148	111
Peak Hour Factor	0.85	0.85	0.85	0.82	0.82	0.82	0.93	0.93	0.93	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	156	28	12	9	66	29	10	254	8	13	166	125
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	11.4	9.8	11.7	11.6
HCM LOS	B	A	B	B




Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	80%	8%	4%
Vol Thru, %	94%	14%	64%	55%
Vol Right, %	3%	6%	28%	41%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	252	167	85	271
LT Vol	9	133	7	12
Through Vol	236	24	54	148
RT Vol	7	10	24	111
Lane Flow Rate	271	196	104	304
Geometry Grp	1	1	1	1
Degree of Util (X)	0.395	0.312	0.162	0.422
Departure Headway (Hd)	5.244	5.723	5.638	4.985
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	686	627	634	722
Service Time	3.278	3.765	3.686	3.018
HCM Lane V/C Ratio	0.395	0.313	0.164	0.421
HCM Control Delay	11.7	11.4	9.8	11.6
HCM Lane LOS	B	B	A	B
HCM 95th-tile Q	1.9	1.3	0.6	2.1

PM Existing  
3: Crest Dr & Melba Rd

Volume

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Volume (vph)	42	2	8	26	38	80
Future Volume (vph)	42	2	8	26	38	80
Confl. Peds. (#/hr)			1			1
Confl. Bikes (#/hr)		5				5
Peak Hour Factor	0.79	0.79	0.71	0.71	0.82	0.82
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Intersection Summary						

Intersection	
Intersection Delay, s/veh	7.5
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	42	2	8	26	38	80
Future Vol, veh/h	42	2	8	26	38	80
Peak Hour Factor	0.79	0.79	0.71	0.71	0.82	0.82
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	53	3	11	37	46	98
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	7.8	7.5	7.3
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	24%	95%	0%
Vol Thru, %	76%	0%	32%
Vol Right, %	0%	5%	68%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	34	44	118
LT Vol	8	42	0
Through Vol	26	0	38
RT Vol	0	2	80
Lane Flow Rate	48	56	144
Geometry Grp	1	1	1
Degree of Util (X)	0.056	0.069	0.146
Departure Headway (Hd)	4.189	4.428	3.662
Convergence, Y/N	Yes	Yes	Yes
Cap	849	803	973
Service Time	2.243	2.487	1.711
HCM Lane V/C Ratio	0.057	0.07	0.148
HCM Control Delay	7.5	7.8	7.3
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.2	0.2	0.5













## **Appendix H**

### **Existing + Project Intersection LOS Worksheets**

DRAFT

AM Existing + Project  
1: Balour Dr & Melba Rd

Volume

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	171	37	2	22	128	40	10	164	9	23	165	173
Future Volume (vph)	171	37	2	22	128	40	10	164	9	23	165	173
Confl. Peds. (#/hr)	240		15	15		240	1		25	25		1
Confl. Bikes (#/hr)			60			40			10			30
Peak Hour Factor	0.89	0.89	0.89	0.76	0.76	0.76	0.75	0.75	0.75	0.86	0.86	0.86
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Intersection Summary												



Intersection

Intersection Delay, s/veh 16.8

Intersection LOS C

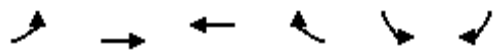
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	171	37	2	22	128	40	10	164	9	23	165	173
Future Vol, veh/h	171	37	2	22	128	40	10	164	9	23	165	173
Peak Hour Factor	0.89	0.89	0.89	0.76	0.76	0.76	0.75	0.75	0.75	0.86	0.86	0.86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	192	42	2	29	168	53	13	219	12	27	192	201
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	15	14.7	14.4	20.4
HCM LOS	B	B	B	C





Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	5%	81%	12%	6%
Vol Thru, %	90%	18%	67%	46%
Vol Right, %	5%	1%	21%	48%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	183	210	190	361
LT Vol	10	171	22	23
Through Vol	164	37	128	165
RT Vol	9	2	40	173
Lane Flow Rate	244	236	250	420
Geometry Grp	1	1	1	1
Degree of Util (X)	0.435	0.441	0.448	0.679
Departure Headway (Hd)	6.414	6.727	6.449	5.819
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	559	533	558	621
Service Time	4.479	4.793	4.515	3.874
HCM Lane V/C Ratio	0.436	0.443	0.448	0.676
HCM Control Delay	14.4	15	14.7	20.4
HCM Lane LOS	B	B	B	C
HCM 95th-tile Q	2.2	2.2	2.3	5.2

AM Existing + Project  
2: Melba Rd & Project Driveway

Volume



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Volume (vph)	5	64	176	1	1	14
Future Volume (vph)	5	64	176	1	1	14
Confl. Peds. (#/hr)	10			10	10	10
Confl. Bikes (#/hr)				10		10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Intersection Summary						

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	64	176	1	1	14
Future Vol, veh/h	5	64	176	1	1	14
Conflicting Peds, #/hr10	0	0	10	10	10	10
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	- None		- None		- None	
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	0	-	0	-	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	70	191	1	1	15
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	202	0	-	0	292	212
Stage 1	-	-	-	-	202	-
Stage 2	-	-	-	-	90	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1370	-	-	-	699	828
Stage 1	-	-	-	-	832	-
Stage 2	-	-	-	-	934	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1359	-	-	-	685	814
Mov Cap-2 Maneuver	-	-	-	-	685	-
Stage 1	-	-	-	-	822	-
Stage 2	-	-	-	-	927	-
Approach	EB	WB		SB		
HCM Control Delay, s	9.6	0		9.6		
HCM LOS			A			
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBRn1
Capacity (veh/h)	1359	-	-	-	-	804
HCM Lane V/C Ratio	0.004	-	-	-	-	0.02
HCM Control Delay (s)	7.7	0	-	-	-	9.6
HCM Lane LOS	A	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-	0.1

AM Existing + Project  
3: Crest Dr & Melba Rd













Volume

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Volume (vph)	98	4	17	35	50	217
Future Volume (vph)	98	4	17	35	50	217
Confl. Peds. (#/hr)	9		4			4
Confl. Bikes (#/hr)		10				30
Peak Hour Factor	0.70	0.70	0.57	0.57	0.69	0.69
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Intersection Summary						

Intersection						
Intersection Delay, s/veh	9.5					
Intersection LOS	A					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			W	W	
Traffic Vol, veh/h	98	4	17	35	50	217
Future Vol, veh/h	98	4	17	35	50	217
Peak Hour Factor	0.70	0.70	0.57	0.57	0.69	0.69
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	140	6	30	61	72	314
Number of Lanes	1	0	0	1	1	0
Approach	EB	NB		SB		
Opposing Approach		SB		NB		
Opposing Lanes	0	1		1		
Conflicting Approach Left	SB	EB				
Conflicting Lanes Left	1	1		0		
Conflicting Approach Right	NB			EB		
Conflicting Lanes Right	1	0		1		
HCM Control Delay	9.5	8.5		9.8		
HCM LOS	A	A		A		
Lane	NBLn1	EBLn1	SBLn1			
Vol Left, %	33%	96%	0%			
Vol Thru, %	67%	0%	19%			
Vol Right, %	0%	4%	81%			
Sign Control	Stop	Stop	Stop			
Traffic Vol by Lane	52	102	267			
LT Vol	17	98	0			
Through Vol	35	0	50			
RT Vol	0	4	217			
Lane Flow Rate	91	146	387			
Geometry Grp	1	1	1			
Degree of Util (X)	0.121	0.206	0.424			
Departure Headway (Hd)	4.765	5.092	3.943			
Convergence, Y/N	Yes	Yes	Yes			
Cap	752	704	913			
Service Time	2.797	3.134	1.962			
HCM Lane V/C Ratio	0.121	0.207	0.424			
HCM Control Delay	8.5	9.5	9.8			
HCM Lane LOS	A	A	A			
HCM 95th-tile Q	0.4	0.8	2.1			

PM Existing + Project  
1: Balour Dr & Melba Rd

Volume

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	133	28	10	10	55	27	9	236	14	18	148	111
Future Volume (vph)	133	28	10	10	55	27	9	236	14	18	148	111
Confl. Peds. (#/hr)	12		3	3		12			5	12		
Confl. Bikes (#/hr)			10			10			5			5
Peak Hour Factor	0.85	0.85	0.85	0.82	0.82	0.82	0.93	0.93	0.93	0.89	0.89	0.89
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Intersection Summary												

Intersection

Intersection Delay, s/veh 11.7

Intersection LOS B

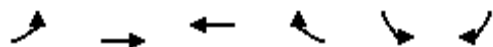
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	133	28	10	10	55	27	9	236	14	18	148	111
Future Vol, veh/h	133	28	10	10	55	27	9	236	14	18	148	111
Peak Hour Factor	0.85	0.85	0.85	0.82	0.82	0.82	0.93	0.93	0.93	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	156	33	12	12	67	33	10	254	15	20	166	125
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	11.6	10	12	12
HCM LOS	B	A	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	3%	78%	11%	6%
Vol Thru, %	91%	16%	60%	53%
Vol Right, %	5%	6%	29%	40%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	259	171	92	277
LT Vol	9	133	10	18
Through Vol	236	28	55	148
RT Vol	14	10	27	111
Lane Flow Rate	278	201	112	311
Geometry Grp	1	1	1	1
Degree of Util (X)	0.409	0.324	0.178	0.437
Departure Headway (Hd)	5.293	5.79	5.704	5.059
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	680	620	627	710
Service Time	3.337	3.836	3.757	3.101
HCM Lane V/C Ratio	0.409	0.324	0.179	0.438
HCM Control Delay	12	11.6	10	12
HCM Lane LOS	B	B	A	B
HCM 95th-tile Q	2	1.4	0.6	2.2

PM Existing + Project  
2: Melba Rd & Project Driveway

Volume



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Volume (vph)	17	43	85	2	1	7
Future Volume (vph)	17	43	85	2	1	7
Confl. Peds. (#/hr)	10			10	10	10
Confl. Bikes (#/hr)				10		10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Intersection Summary						



Intersection

Int Delay, s/veh 1.3

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations		↶	↷		↶	↷
Traffic Vol, veh/h	17	43	85	2	1	7
Future Vol, veh/h	17	43	85	2	1	7
Conflicting Peds, #/hr10	0	0	10	10	10	
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	0	-	0	-	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	47	92	2	1	8

Major/Minor Major1 Major2 Minor2

Conflicting Flow All	104	0	-	0	196	113
Stage 1	-	-	-	-	103	-
Stage 2	-	-	-	-	93	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1488	-	-	-	793	940
Stage 1	-	-	-	-	921	-
Stage 2	-	-	-	-	931	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1476	-	-	-	770	924
Mov Cap-2 Maneuver	-	-	-	-	770	-
Stage 1	-	-	-	-	902	-
Stage 2	-	-	-	-	924	-

Approach EB WB SB







HCM Control Delay, s	2.1	0	9
HCM LOS			A

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h)	1476	-	-	-	901
HCM Lane V/C Ratio	0.013	-	-	-	0.01
HCM Control Delay (s)	7.5	0	-	-	9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

PM Existing + Project  
3: Crest Dr & Melba Rd

Volume

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Volume (vph)	43	2	8	26	38	82
Future Volume (vph)	43	2	8	26	38	82
Confl. Peds. (#/hr)			1			1
Confl. Bikes (#/hr)		5				5
Peak Hour Factor	0.79	0.79	0.71	0.71	0.82	0.82
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Intersection Summary						

Intersection

Intersection Delay, s/veh 7.5  
Intersection LOS A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			W	W	
Traffic Vol, veh/h	43	2	8	26	38	82
Future Vol, veh/h	43	2	8	26	38	82
Peak Hour Factor	0.79	0.79	0.71	0.71	0.82	0.82
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	54	3	11	37	46	100
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	7.8	7.5	7.4
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	24%	96%	0%
Vol Thru, %	76%	0%	32%
Vol Right, %	0%	4%	68%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	34	45	120
LT Vol	8	43	0
Through Vol	26	0	38
RT Vol	0	2	82
Lane Flow Rate	48	57	146
Geometry Grp	1	1	1
Degree of Util (X)	0.056	0.07	0.149
Departure Headway (Hd)	4.193	4.433	3.661
Convergence, Y/N	Yes	Yes	Yes
Cap	848	802	973
Service Time	2.248	2.494	1.71
HCM Lane V/C Ratio	0.057	0.071	0.15
HCM Control Delay	7.5	7.8	7.4
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.2	0.2	0.5