Transportation Impact Study

Sandpiper Villa Residential Care Project

Draft Report

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1.0 Introduction

1.1. Purpose of the Report

The purpose of this Transportation Impact Study (TIS) is to identify and document potential traffic related impacts associated with the development of the proposed Sandpiper Villa project (Proposed Project), as well as to recommend mitigation measures, if necessary.

1.2. Study Area and Project Background

The Sandpiper Villa Residential Care Facility (Proposed Project) is located at 1914-1917 Dixie Street (the northwest corner of the intersection of Dixie Street and Grace Street) in the City of Oceanside. The Proposed Project will construct 94 residential care units and will take access via a single driveway on Dixie Street. The Proposed Project will be constructed on a vacant 2.02-acre lot, located at the north-west corner of Dixie and Grace Streets in the Dixie Village neighborhood. The vacant site has single family and multi-family residential to the north, single family to the south, and church facilities to the east and west of the site. **Figure 1-1** displays the Proposed Project's regional location and **Figure 1-2** illustrates the project study area.

1.3. Report Organization

Following this Introduction chapter, this report is organized into the following sections:

2.0 *Analysis Methodology* – This chapter describes the methodologies and standards utilized to analyze roadway and intersection facilities.

3.0 *Existing Conditions* – This chapter describes the existing traffic network within the study area and provides analysis results for existing traffic conditions.

4.0 *Project Description* – This chapter describes the Proposed Project including its estimated trip generation, trip distribution patterns, and project trip assignment.

5.0 *Existing Plus Project Conditions* – This chapter describes the existing traffic network with the addition of traffic from the Proposed Project. Based on the analysis, direct project related traffic impacts are also identified with mitigation measures, if necessary.

6.0 *Parking* – This chapter compares the required parking supply with the expected parking demand.

7.0 *Findings and Recommendation* – This chapter outlines overall study findings, identifies project-related mitigation measures, and reviews site access and circulation issues.

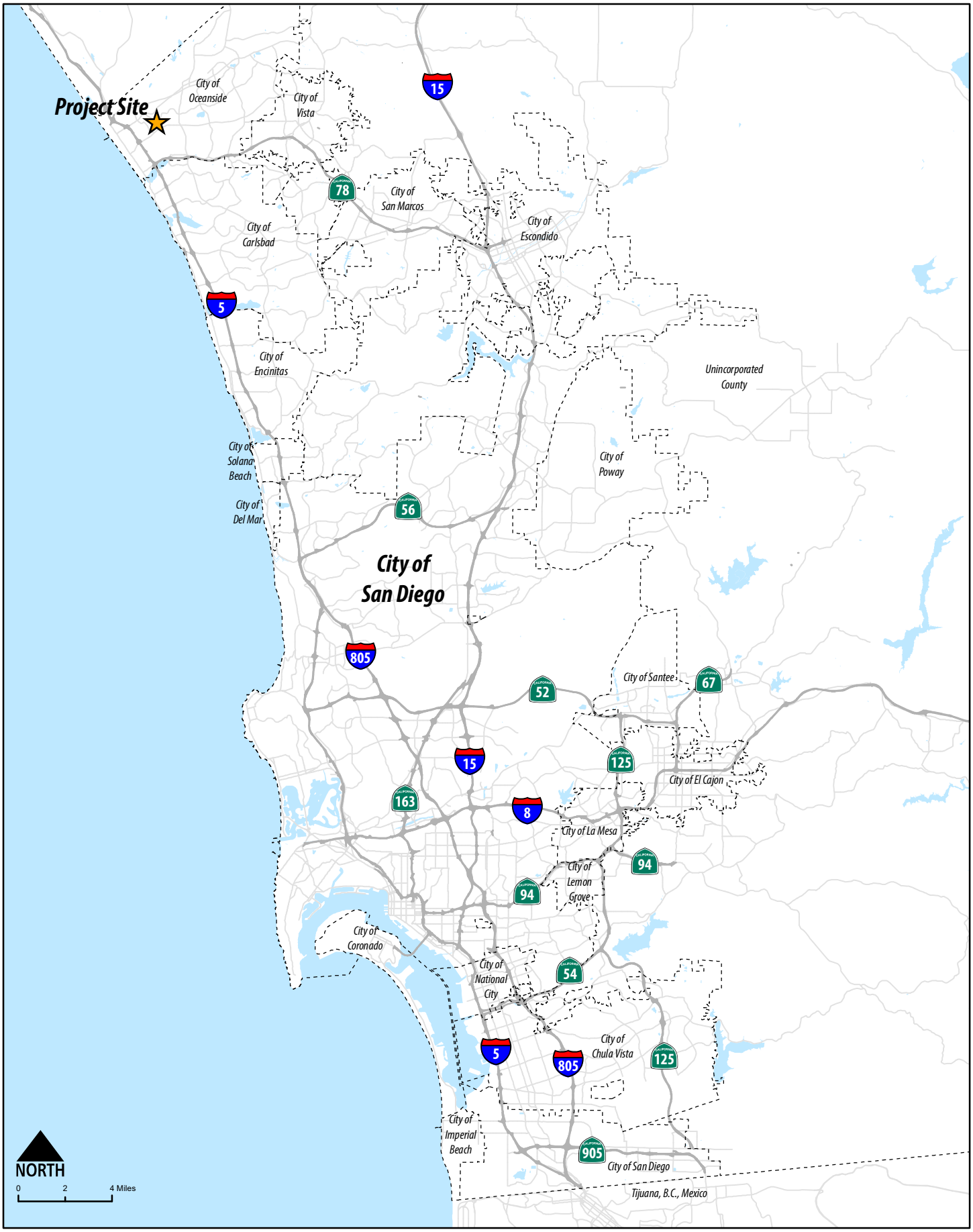

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Figure 1-1
Project Regional Location

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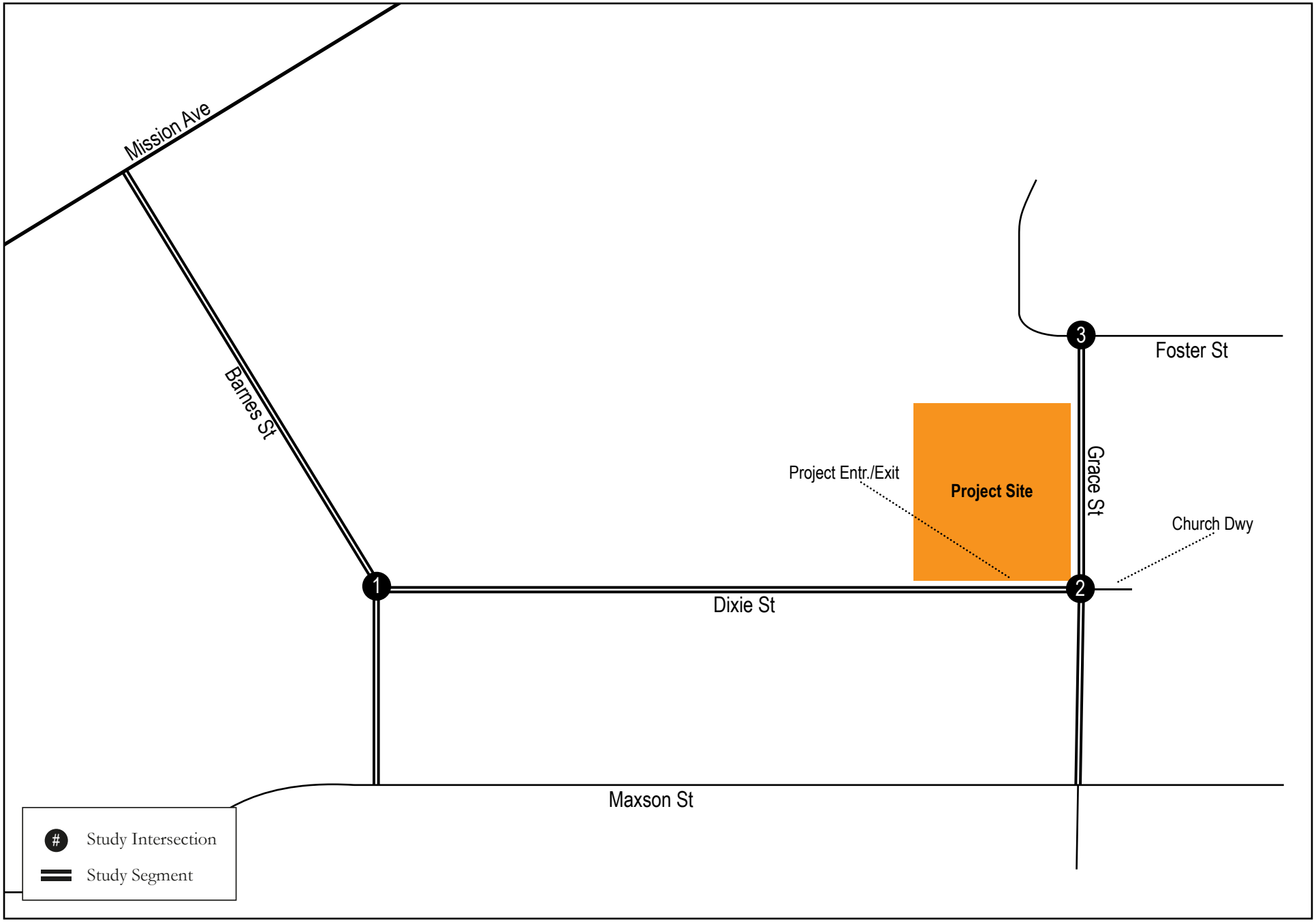

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Figure 1-2
Project Study Area

2.0 Analysis Methodology

This TIS was performed in accordance with the requirements of the City of Oceanside Transportation Impact Study Detailed Guidelines and in conformance with the California Environmental Quality Act (CEQA) project review process. Detailed information on roadway segments and intersection analysis methodologies, standards, and thresholds are discussed in the following sections.

2.1. Roadway Segment Level of Service (LOS) Standards and Thresholds

Roadway segment LOS standards and thresholds provide the basis for analysis of roadway segment performance. The analysis of roadway segment LOS is based on the functional classification of the roadway, the maximum capacity, roadway geometrics, and existing or forecast Average Daily Traffic (ADT) volumes.

Table 2.1 presents the roadway segment capacity and LOS standards utilized to analyze roadways within the City of Oceanside.

TABLE 2.1
CITY OF OCEANSIDE ROADWAY SEGMENT DAILY CAPACITY AND LEVEL OF SERVICE STANDARDS

Roadway Functional Classification	Level of Service				
	A	B	C	D	E
Expressway	30,000	42,000	60,000	**70,000**	80,000
Expressway	25,000	35,000	50,000	**55,000**	60,000
Prime Arterial	25,000	35,000	50,000	**55,000**	60,000
6-Lane Major Arterial	20,000	28,000	40,000	**45,000**	50,000
5-Lane Major Arterial	17,500	24,500	35,000	**40,000**	45,000
4-Lane Major Arterial	15,000	21,000	30,000	**35,000**	40,000
Secondary Collector (4-Lanes with 2-way left turn lane)	10,000	14,000	20,000	**25,000**	30,000
Secondary Collector (4-lanes without 2-way left-turn lane, with left turn pockets)	9,000	13,000	18,000	**22,000**	25,000
Collector (commercial fronting, 2-lanes with 2-way left turn lane)	5,000	7,000	10,000	**13,000**	15,000
Collector (residential streets in the Circulation Element or industrial fronting)	4,000	5,500	7,500	**9,000**	10,000
Local Street (residential streets NOT in the Circulation Element)	-	-	2,200	**-**	-

Source: City of Oceanside, Transportation Impact Study Detailed Guidelines

The standards shown in Table 2.1 are generally used as long-range planning guidelines to determine the functional classification of roadways. The actual capacity of a roadway facility varies according to its physical attributes. Typically, the performance and LOS of a roadway segment is heavily influenced by the ability of the intersections to accommodate peak hour volumes. For the purposes of this traffic analysis, LOS D is considered acceptable.

2.2. Peak Hour Intersection Level of Service Standards and Thresholds

This section presents the methodologies used to perform peak hour intersection capacity analysis for unsignalized intersections.

Unsignalized Intersection Analysis

Side-street stop controlled (SSSC) intersections were analyzed using the Highway Capacity Manual, Sixth Edition unsignalized intersection analysis methodology. The *Synchro 10.0* software supports this methodology and was utilized to produce LOS results. The LOS for a side-street stop controlled intersection is determined by the computed or measured control delay and is defined for each minor movement. **Table 2.2** summarizes the LOS criteria for unsignalized intersections.

The City of Oceanside Transportation Impact Study guidelines considers LOS D or better during the AM and PM peak hours to be the threshold of significance for intersection Level of Service.

TABLE 2.2
LEVEL OF SERVICE CRITERIA FOR
STOP CONTROLLED UNSIGNALIZED INTERSECTIONS

Average Control Delay (sec/veh)	Level of Service (LOS)
≤10	A
>10 to ≤15	B
>15 to ≤25	C
>25 to ≤35	D
>35 to ≤50	E
>50	F

Source: Highway Capacity Manual, Sixth Edition

2.3. Determination of Significant Impacts

The City of Oceanside requires traffic studies to be prepared in accordance to the SANTEC/ITE Traffic Study Guidelines.

In general, a significant impact would be identified when the addition of project traffic results in a level of service dropping from LOS D or better to substandard LOS E or F. **Table 2.3** summarizes the impact significance thresholds for facilities operating at substandard level of service with and without the project. These thresholds, as applied to roadway segments, are based upon an acceptable increase in the Volume / Capacity (V/C) ratio.

TABLE 2.3
SANTEC/ITE
MEASURES OF SIGNIFICANT PROJECT TRAFFIC IMPACTS

	Allowable Change Due to Impact					
	Freeways		Roadway Segments		Intersections	Ramp Metering
LOS with Project	V/C	Speed (mph)	V/C	Speed (mph)	Delay (sec)	Delay (min)
E and F	0.01	1.0	0.02	1.0	2.0	2.0

Source: SANTEC/ITE Transportation Impact Study Guidelines

3.0 Existing Conditions

This section describes the key study area roadway segments and intersections, existing daily roadway and peak hour intersection traffic volume information, as well as the LOS analysis results under the Existing Conditions.

3.1. Existing Roadway Network

Each of the key roadways, as well as associated study intersections within the study area, are discussed below.

North-South Facilities

Barnes Street – Within the project study area, Barnes Street between Mission Avenue and Dixie Street, is an undivided two-lane roadway with a 25 MPH posted speed limit. On-street parking is permitted on both sides of the roadway, sidewalks are present on both sides of the roadway and no bicycle facilities are present. To the south of Dixie Street, Barnes Street continues as an undivided two-lane roadway with a 25 MPH posted speed limit. On-street parking is permitted on both sides of the roadway and sidewalks are present on both sides of the roadway except for approximately 65 feet south of Dixie Street on the east side of the roadway where a sidewalk is not present. Additionally, there are no bicycle facilities present on either side of the roadway segment. This roadway is not part of the City of Oceanside's Circulation Element. However, for the purposes of this study, Barnes Street is classified as a two-lane collector between Mission Avenue and Dixie Street due to the physical characteristics of the roadway such as a curb-to-curb width of 40 foot, a striped yellow centerline, and adjacent commercial land uses. South of Dixie Street, Barnes Street is classified as a two-lane local street.

Grace Street – Within the project study area, Grace Street between Foster Street and Maxson Street, is an undivided two-lane roadway with no posted speed limit. On-street parking is prohibited on both sides of the roadway, sidewalk is provided on the eastside of the street, and there are no bicycle facilities present on either side of the roadway. This roadway is not part of the City of Oceanside's Circulation Element. For the purposes of this study, this roadway is classified as a two-lane local street.

East-West Facilities

Dixie Street – Dixie Street, between Barnes Street and Grace Street, is an undivided two-lane roadway with no posted speed limit. On-street parking is permitted on both sides of the roadway, a sidewalk is present for approximately 500 feet on the northside of the roadway, and there are no bicycle facilities present on either side of the roadway. This roadway is not part of the City of Oceanside's Circulation Element. For the purposes of this study, this roadway is classified as a two-lane local street.

Study Intersections

The following three (3) key study area intersections were analyzed, as well as the project driveway:

1. Barnes Street / Dixie Street (SSSC)
2. Grace Street / Dixie Street (SSSC)
3. Grace Street / Foster St (SSSC)
4. Project Driveway / Dixie Street (SSSC) – Plus Project conditions only

The existing roadway and intersection geometrics within the study area are shown in **Figures 3-1**.

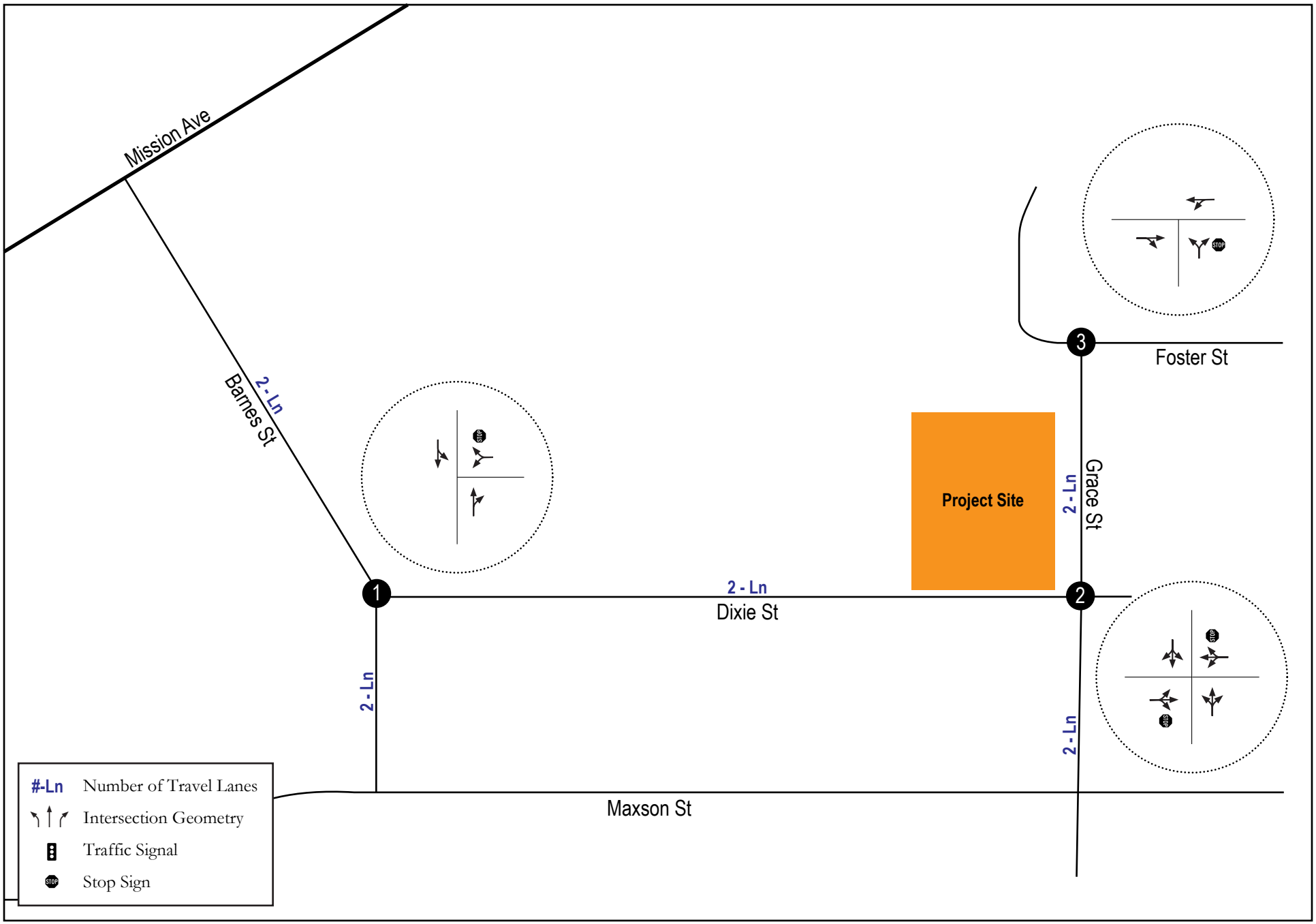

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Figure 3-1
Roadway and Intersection Geometrics - Existing Conditions

3.2. Existing Intersection and Roadway Volumes

Figure 3-2 shows existing Average Daily Traffic (ADT) volumes for study area roadway segments and AM / PM peak hour traffic volumes for the key study area intersections. Roadway segment and study area intersection traffic counts were conducted in February 2019 and are provided in **Appendix A**.

3.3. Existing Level of Service Analysis

LOS analyses under Existing Conditions were conducted using the methodologies described in Chapter 2.0. Roadway segment and intersection LOS analysis results are discussed separately below.

Roadway Segment Analysis

Table 3.1 displays the LOS analysis results for key study area roadway segments under Existing Conditions.

TABLE 3.1
ROADWAY SEGMENT LEVEL OF SERVICE RESULTS
EXISTING CONDITIONS

Roadway	Segment	Functional Classification	Average Daily Traffic (ADT)	LOS Threshold (LOS E)	V/C	Level of Service (LOS)
Barnes Street	Mission Avenue to Dixie Street	2-Lane Collector	2,983	10,000	0.298	A
	Dixie Street to Maxson Street	2-Lane Local Street	1,704	2,200	0.775	C or better
Dixie Street	Barnes Street to Grace Street	2-Lane Local Street	1,103	2,200	0.501	C or better
Grace Street	Foster Street to Dixie Street	2-Lane Local Street	1,877	2,200	0.853	C or better
	Dixie Street to Maxson Street		1,807		0.821	C or better

Source: Accurate Video Counts, Chen Ryan Associates; July 2019.

Note:
V/C = Volume / Capacity.

As shown in Table 3.1, all of the study area roadway segments currently operate at acceptable LOS C or better under Existing Conditions.

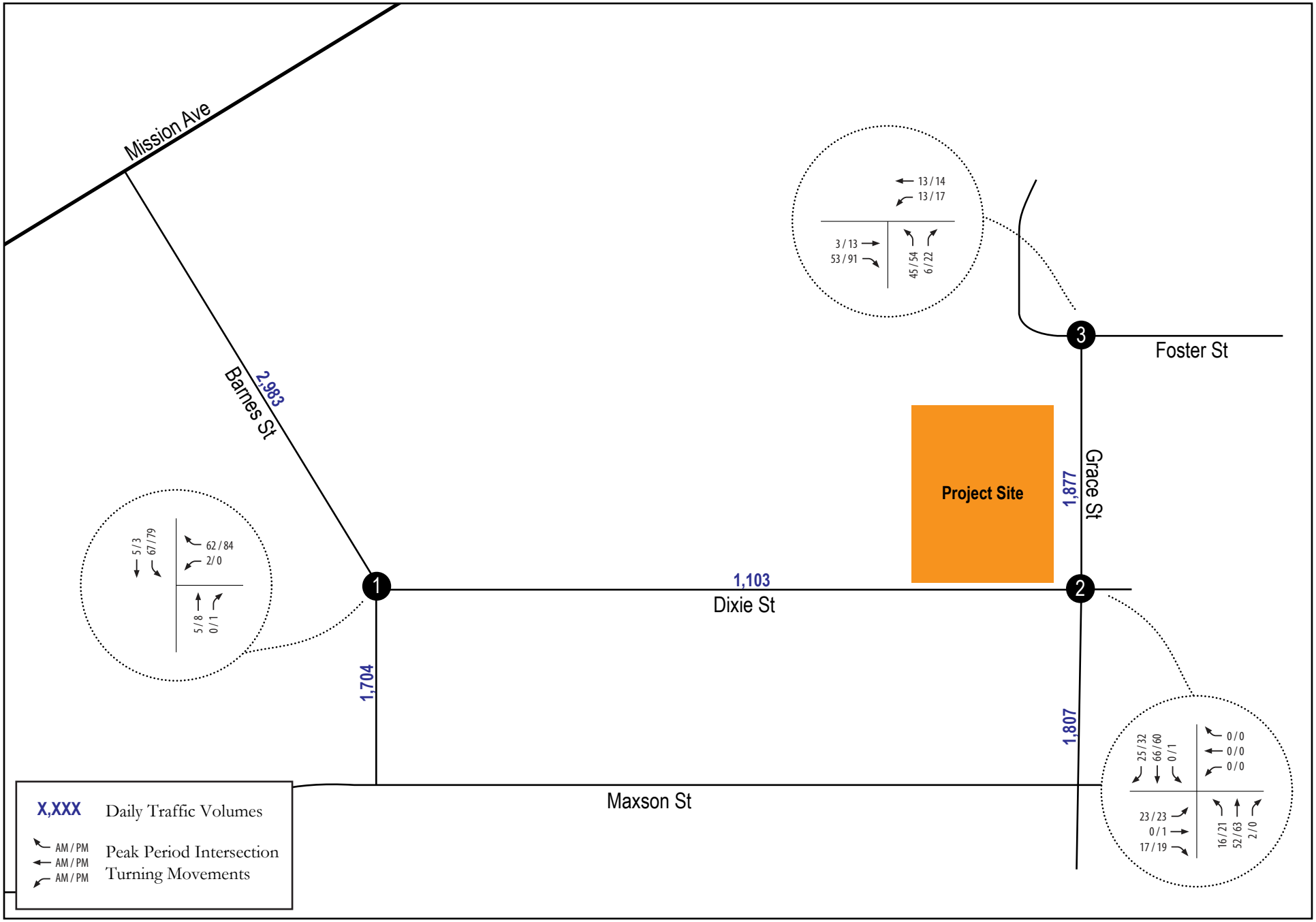

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Figure 3-2
Traffic Volumes - Existing Conditions

Intersection Analysis

Table 3.2 displays intersection LOS and average vehicle delay results for key study area intersections under Existing Conditions. LOS calculation worksheets for Existing Conditions are provided in **Appendix B**.

TABLE 3.2
PEAK HOUR INTERSECTION LEVEL OF SERVICE RESULTS
EXISTING CONDITIONS

Intersection	Traffic Control	AM Peak Hour		PM Peak Hour	
		Avg. Delay (sec)	LOS	Avg. Delay (sec)	LOS
1. Barnes Street / Dixie Street	SSSC	8.8	A	8.7	A
2. Grace Street / Dixie Street	SSSC	9.9	A	9.8	A
3. Grace Street / Foster Street	SSSC	9.4	A	9.7	A

Source: Chen Ryan Associates; July 2019.

Notes:
SSSC = Side-Street Stop Control.
For SSSC intersections, the delay shown is the worst delay experienced by any of the approaches.

As shown in Table 3.2, all of the study area intersections currently operate at acceptable LOS A during the AM and PM peak hours under the Existing Conditions.

4.0 Project Traffic

This section describes the Proposed Project, including land uses, estimated trip generation, trip distribution, and trip assignment.

4.1. Project Description

The Sandpiper Villa project is proposed to be constructed on a vacant 2.02-acre lot, located at the north-west corner of Dixie and Grace Streets in the Dixie Village neighborhood of Oceanside, CA. The vacant site has single family and multi-family residential to the north, single family to the south, and church facilities to the east and west of the site. The Proposed Project will take access via a driveway on Dixie Street. **Figure 4-1** displays the proposed project site plan.

The project proposes new sidewalks, parkway, trees, undergrounding of overhead utilities, and new street lighting along Grace Street and Dixie Street.

4.2. Project Trip Generation, Distribution, and Assignment

Project Trip Generation

Project trip generation estimates were derived utilizing the trip generation rates outlined in *SANDAG's Not So Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region, April 2002*. **Table 4.1** displays the projected trip generation associated with the proposed project.

As shown, the Proposed Project is anticipated to generate 235 more daily vehicle trips than the existing uses. During the AM peak hour, the project is anticipated to generate 10 (6 in:4 out) peak hour trips. During the PM peak hour, the project is anticipated to generate 19 (10 in:9 out) peak hour trips.

TABLE 4.1
PROJECT TRIP GENERATION

Land Use	Quantity	Trip Rate	Daily Trips	AM Peak Hour		PM Peak Hour	
				%	Trips (In:Out)	%	Trips (In:Out)
Residential – Congregate Care Facility	94 units	2.5 / unit	235	4%	10 (6 in:4 out)	8%	19 (10 in:9 out)

Source: SANDAG's Not so Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region, April 2002. Chen Ryan Associates; July 2019

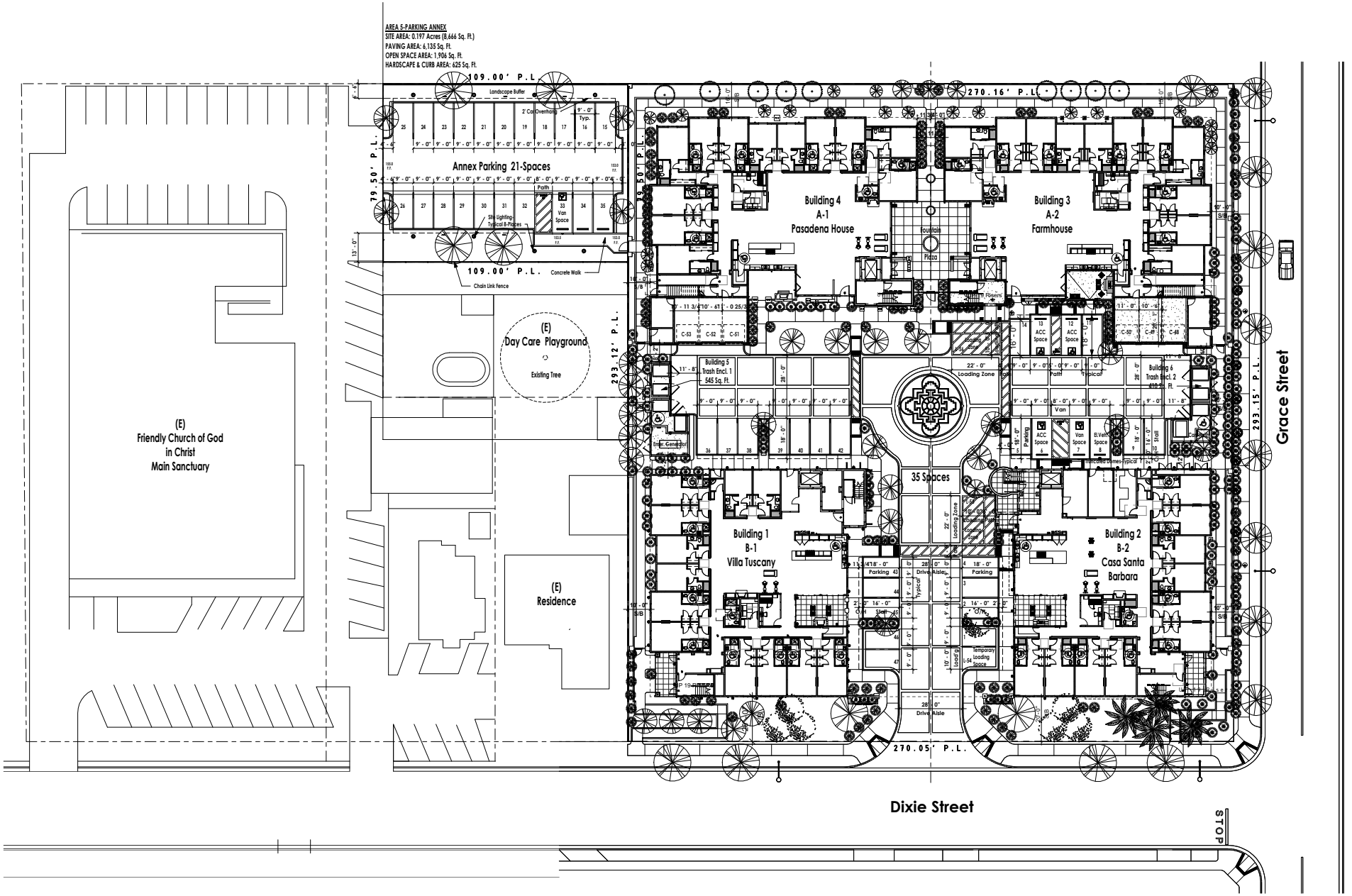

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Figure 4-1
Project Site Plan

Project Trip Distribution

Trip distribution for the Proposed Project was determined based on adjacent land uses as well as input from City staff. **Figure 4-2** displays the assumed trip distribution patterns associated with the Proposed Project.

Project Trip Assignment

Based upon the project trip distribution, daily and AM/PM peak hour project trips were assigned to the adjacent roadway network. **Figure 4-3** displays the Proposed Project trip assignment.

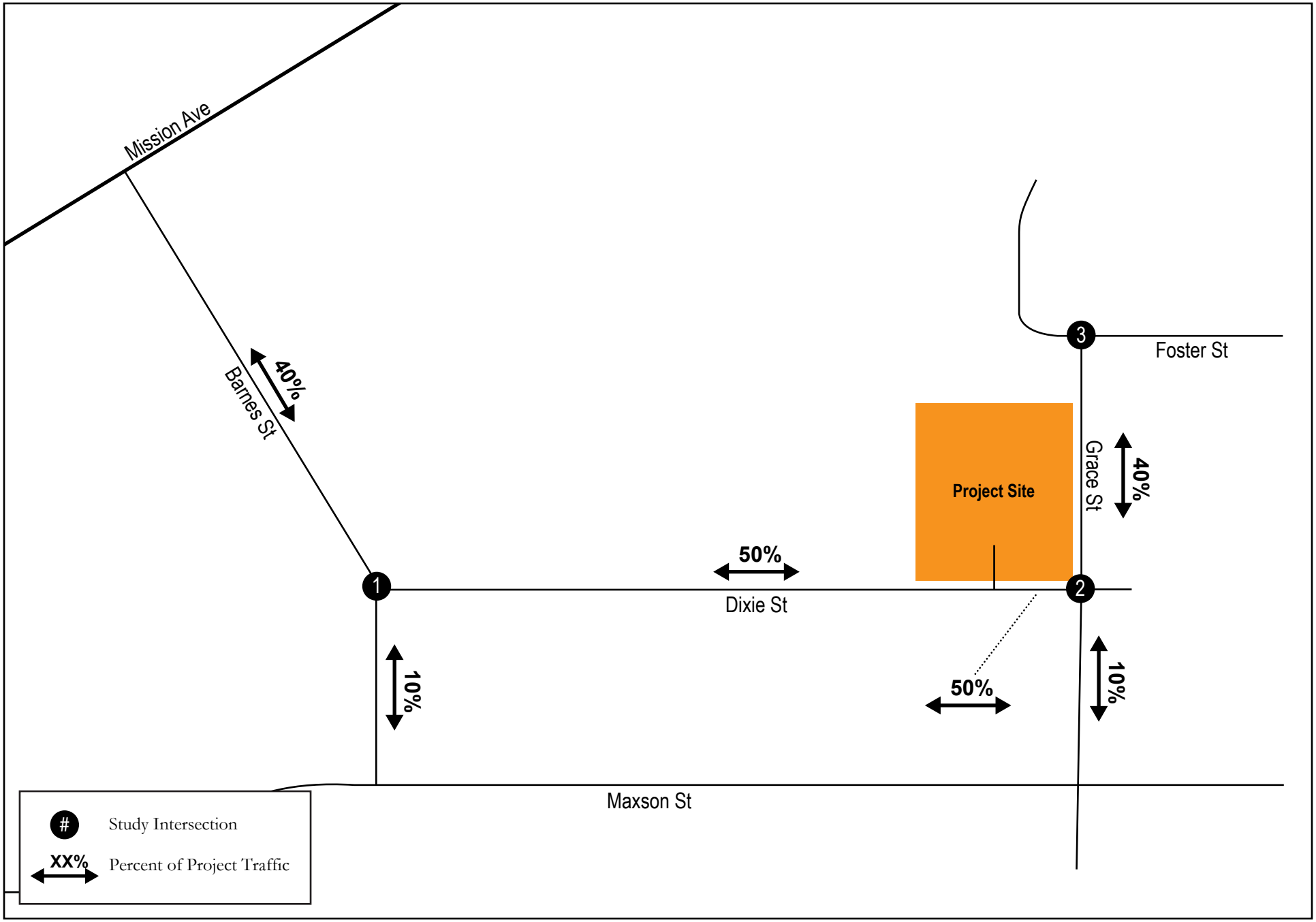

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Figure 4-2
Project Trip Distribution

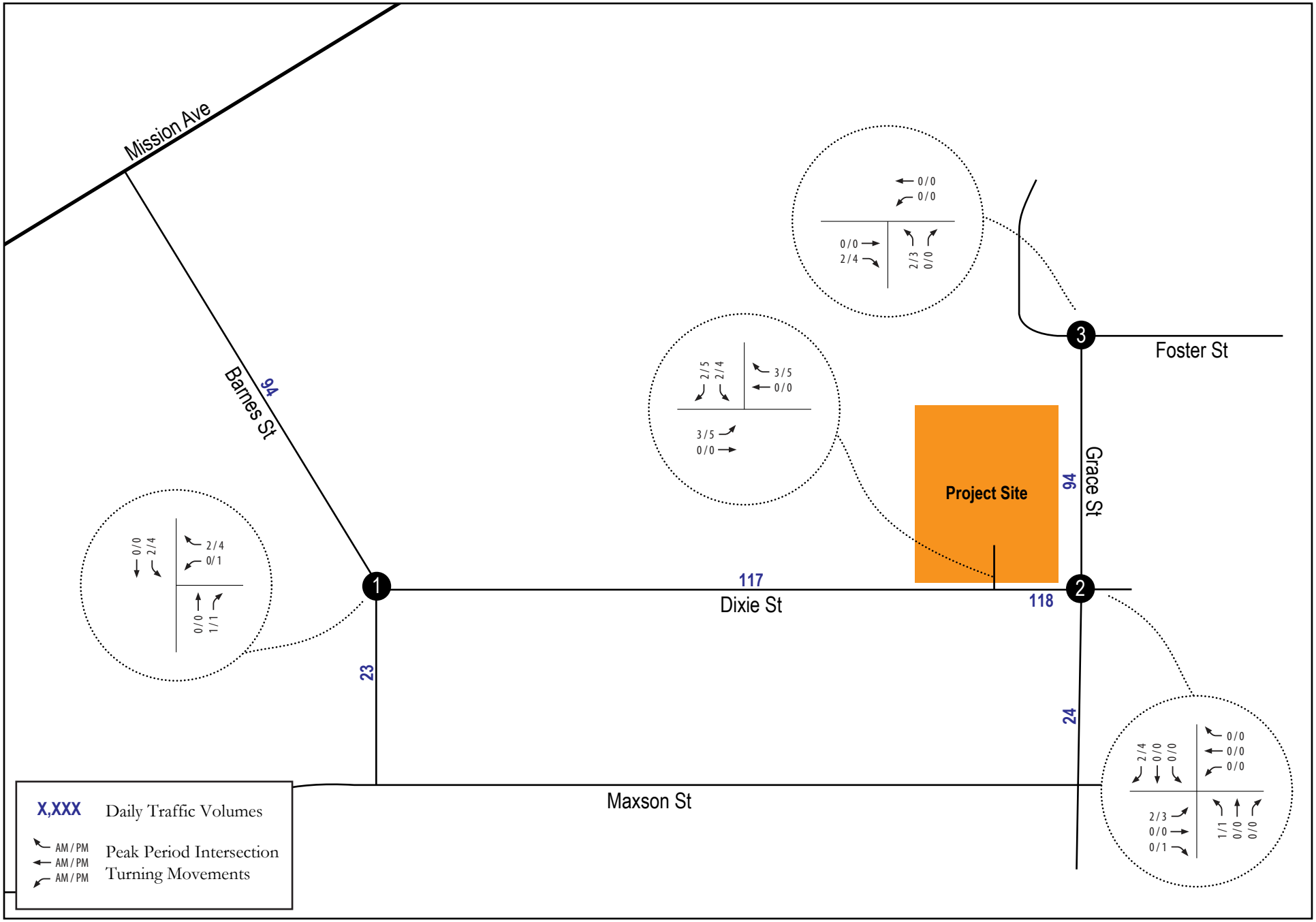

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Figure 4-3
Project Trip Assignment

5.0 Existing Plus Project Conditions

This section provides an analysis of existing traffic conditions with the addition of traffic from the Proposed Project.

5.1. Existing Plus Project Roadway Network and Traffic Volumes

Roadway and intersection geometrics under the Existing Plus Project conditions were assumed to be identical to existing geometrics (displayed in Figure 3-1). Existing Plus Project traffic volumes were derived by combining the existing traffic volumes (displayed in Figure 3-2) and the project trip assignment volumes (displayed in Figure 4-3). Daily roadway and peak hour intersection volumes for this scenario are displayed in **Figure 5-1**.

5.2. Existing Plus Project Traffic Conditions

Analyses were conducted using the methodologies described in Chapter 2.0. Roadway segment and intersection LOS analysis results are discussed separately below.

Roadway Segment Analysis

Table 5.1 displays the LOS analysis results for key study area roadway segments under Existing Plus Project conditions.

TABLE 5.1
ROADWAY SEGMENT LEVEL OF SERVICE RESULTS
EXISTING PLUS PROJECT CONDITIONS

Roadway	Segment	Functional Classification	Average Daily Traffic (ADT)	LOS Threshold (LOS E)	V/C	LOS	LOS w/o Project	ΔV/C	SI?
Barnes Street	Mission Avenue to Dixie Street	2-Lane Collector	3,077	10,000	0.307	A	A	0.009	No
	Dixie Street to Maxson Street	2-Lane Local Street	1,728	2,200	0.785	C or better	C or better	0.010	No
Dixie Street	Barnes Street to Project Driveway	2-Lane Local Street	1,221	2,200	0.559	C or better	C or better	0.058	No
	Project Driveway to Grace Street		1,221		0.559	C or better	C or better	0.058	No
Grace Street	Foster Street to Dixie Street	2-Lane Local Street	1,971	2,200	0.900	C or better	C or better	0.047	No
	Dixie Street to Maxson Street		1,831		0.836	C or better	C or better	0.015	No

Source: Chen Ryan Associates; July 2019.

Notes:
V/C = Volume / Capacity.
SI? = Significant Impact?

As shown in Table 5.1, all study area roadway segments would continue to operate at acceptable LOS C or better under the Existing Plus Project conditions.

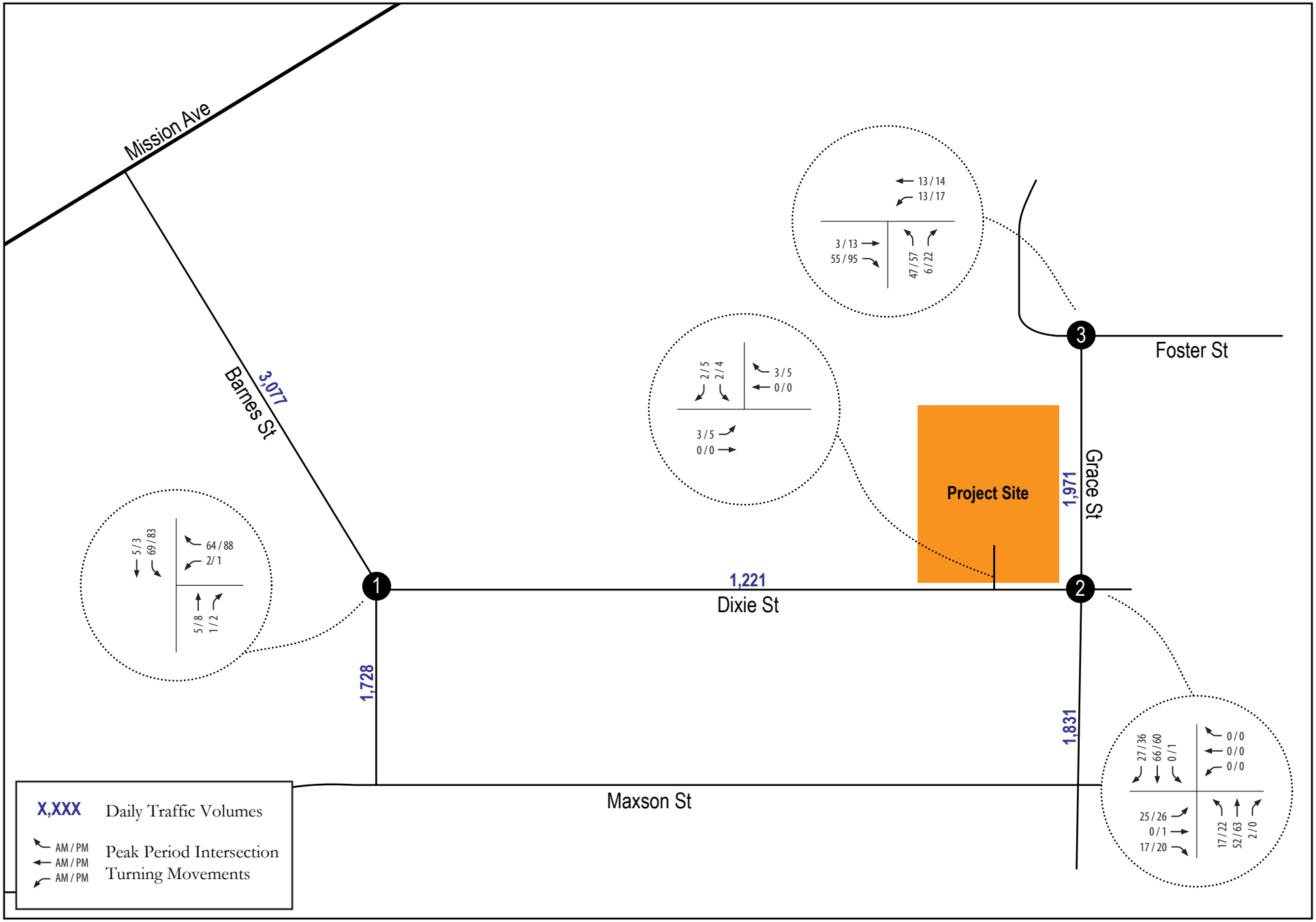

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Figure 5-1
Traffic Volumes - Existing Plus Project Conditions

Intersection Analysis

Table 5.2 displays intersection LOS and average vehicle delay results under Existing Plus Project conditions. LOS calculation worksheets for the Existing Plus Project conditions are provided in **Appendix C**.

TABLE 5.2
PEAK HOUR INTERSECTION LEVEL OF SERVICE RESULTS
EXISTING PLUS PROJECT CONDITIONS

Intersection	Traffic Control	AM Peak Hour		PM Peak Hour		Delay w/o Project (sec) AM/PM	LOS w/o Project AM/PM	Change in Delay (sec)	SI?
		Avg. Delay (sec)	LOS	Avg. Delay (sec)	LOS				
1. Barnes Street / Dixie Street	SSSC	8.8	A	8.8	A	8.8/8.7	A/A	0.0/0.1	No
2. Grace Street / Dixie Street	SSSC	9.9	A	9.9	A	9.9/9.8	A/A	0.0/0.1	No
3. Grace Street / Foster Street	SSSC	9.4	A	9.8	A	9.4/9.7	A/A	0.0/0.1	No
4. Project Driveway / Dixie Street	SSSC	8.5	A	8.5	A	N/A	N/A	8.5/8.5	No

Source: Chen Ryan Associates; July 2019.

Notes:
For SSSC intersections, the delay shown is the worst delay experienced by any of the approaches.
SI? = Significant Impact?
N/A = Not Applicable

As shown in Table 5.2, all of the key study area intersections are projected to operate at LOS A under the Existing Plus Project conditions.

5.3. Impact Significance and Mitigation

Based upon the significance criteria presented in Section 2.3 of this report, the addition of project traffic would not be associated with any identified significant traffic related impacts since neither roadways nor intersections operate at unacceptable levels of service. Therefore, no traffic mitigation measures would be required under Existing Plus Project conditions.

5.4. Project Site Access

The Proposed Project will take access via a driveway on the north side of Dixie Street. The intersection will be a side-street stop-controlled intersection, with a stop sign controlling the traffic exiting the project's driveway.

As shown previously in Table 5.1**,** the project driveway intersection is projected to operate at an acceptable LOS A under Existing Plus Project conditions

6.0 Parking

The project proposes to provide thirty-five (35) parking spaces, including six accessible parking spaces (ADA) and two accessible van parking spaces (ADA), to accommodate nursing staff as well as visitors at the project site. Additionally, the Proposed Project plans to lease a parcel from the adjacent Friendly Church of God in Christ property in order to develop a parking lot that provides twenty-one auxiliary parking spaces that will be available only for employees for a total of fifty-six (56) proposed parking spaces. In addition, two large loading and unloading zones are planned. Figure 4-1, shown previously, displays the project site plan.

6.1 Parking Supply

Parking space requirements were obtained from Article 31: Off-Street Parking and Loading Regulations from the City of Oceanside Zoning Ordinance code while accessible parking space (ADA) requirements were obtained from the California Building Code, Part 2, Title 24, Section 11B-208 Parking Spaces. See **Appendix D** for more details.

Table 7.1 displays the amount of off-street parking spaces required by the City of Oceanside, as well as the off-street parking spaces proposed by the project. See Attachment 1 for parking requirements.

TABLE 7.1
OFF-STREET PARKING REQUIRED VS PROPOSED

Scenario	Parking Space Ratio	Total Parking Spaces	ADA Parking Spaces	ADA Van Parking Spaces	Loading Zone
Required	1 space / 200 sq.ft.	5	1	1	1
	1 space / 3.0 beds	28			
	Total	33	1	1	1
Proposed		56	3	2	2
	Difference	**+23**	**+2**	**+1**	**+1**

Source: City of Oceanside – Zoning Ordinance, March 2016. Red Point Homes, Inc. February 2019. *California Building Code, Part 2, Title 24, Section 11B-208 Parking Spaces*

As shown in Table 7.1, the proposed project is anticipated to exceed both the City's and ADA off-street parking requirements.

6.2 Parking Demand

According to projections from the project applicant, a maximum of 25 staff members would be on-site during shift 1 (8:00 AM-4:00 PM). **Table 7.2** displays the anticipated shift and staff projections.

TABLE 7.2
TOTAL STAFF PROJECTIONS BY TIME OF DAY

Shift	Time	Staff Members
1	8:00 AM – 4:00 PM	22 – 25
2	4:00 PM – Midnight	17 - 20
3	Midnight – 8:00 AM	10 - 12

Source: Red Point Homes, Inc. March 2016.

As shown in the Table 7.2, the highest number of staff members on-site at any given time could be up to 25 employees, during the 8:00 AM to 4:00 PM shift. If we assume a worst-case scenario where all staff members drive their own vehicles to the site, then a total of 25 spaces would be required to accommodate the staff. As shown previously in Table 7.1, the project is proposing to provide a total of 56 parking spaces on-site. Therefore, under this worst-case scenario all employees would be anticipated to be able to park on-site. Additionally, 31 parking spaces would be available during this time.

There is also the potential for parking supply issues to occur during the 4:00PM shift change. As noted above, the 8:00AM to 4:00PM shift may require 25 parking spaces on-site. This will leave 31 parking spaces for employees arriving for the 4:00PM to midnight shift to park in, prior to the employees working the 8:00AM to 4:00PM shift leaving. If the 4:00PM to midnight shift employees (up to 20) are required to clock in before the 8:00AM to 4:00PM employees (up to 25) are allowed to leave, this could result in a demand of 45 spaces on-site. However, there is a total of 56 parking spaces proposed by the project which would be enough to accommodate employees at all times.

Parking Demand Management

As stated previously, the highest number of parking spaces required to accommodate staff could be as high as 45 parking spaces during the shift change at 4:00PM, while 56 standard parking spaces are proposed by the project, which would be enough to accommodate all employees. However, the potential overlap in parking demand during the 4:00 PM shift change would leave eleven (11) parking spaces available for visitors for a short period of time.

Therefore, if possible, it is recommended that the project applicant implements a parking management plan in order to reduce the parking demand associated with the proposed project. The parking management plan would consist of site-specific measures and strategies that are designed to reduce single occupancy trips to and from the project site. Measures and strategies could include the following:

- An employee carpool / vanpool program;
- Preferential parking for carpools / vanpools;
- Supplementing transit passes for employees;
- Employer coordination with SANDAG's iCommute program;
- Providing bicycle racks and shower facilities to encourage employees to bike to work.

The implementation of one (1) or more of the aforementioned parking management plans could potentially reduce the amount of single occupancy trips, therefore, increasing on-site parking availability that could accommodate both staff members and visitors.

It is also recommended, if possible, that shift change times be staggered throughout the hour so that both shift's employees are not trying to arrive and depart at the same time, causing a large overlap in parking demand. If the arrival and departure of employees is broken into smaller 15-minute intervals, the parking demand overlap will be much smaller and more manageable.

6.3 Parking Analysis Summary

The proposed Sandpiper Villa Residential Care Facility project meets both City of Oceanside parking space requirements (33) and the California Building Code accessible space requirements (2 accessible parking spaces, 2 accessible van parking spaces, 2 loading zones).

The maximum number of projected staff members during a single shift (25) does not surpass the amount of parking spaces proposed by the project (56). However, it is still recommended that the project applicant develops a parking management plan.

7.0 Findings and Recommendations

This chapter provides a summary of the key findings and study recommendations, including the LOS results for each scenario analyzed. Specific mitigation measures for the project's traffic impacts on the roadway network are listed.

7.1 Summary of Roadway and Intersection Analyses

Summary of Roadway Segment Analyses

Table 7.1 displays roadway segment LOS results for each scenario analyzed.

TABLE 7.1
SUMMARY OF ROADWAY SEGMENT LEVEL OF SERVICE RESULTS

Roadway	Segment	Existing	Existing Plus Project
Barnes Street	Mission Avenue to Dixie Street	C or better	C or better
	Dixie Street to Maxson Street	C or better	C or better
Dixie Street	Barnes Street to Project Driveway	C or better	C or better
	Project Driveway to Grace Street	C or better	C or better
Grace Street	Foster Street to Dixie Street	C or better	C or better
	Dixie Street to Maxson Street	C or better	C or better

Source: Chen Ryan Associates; July 2019.

The following key points summarize the roadway segment analyses:

1. *Existing Conditions* – All key study area roadway segments within the project study area operate at LOS C or better under Existing Conditions and are projected to operate at LOS C or better under Existing Plus Project conditions.

Summary of Intersection Analyses

Table 7.2 displays intersection LOS results for each of the analyzed scenarios.

TABLE 7.2
SUMMARY OF INTERSECTION PEAK HOUR LEVEL OF SERVICE RESULTS

Intersection	Existing		Existing Plus Project	
	AM	PM	AM	PM
1. Barnes Street / Dixie Street	A	A	A	A
2. Grace Street / Dixie Street	A	A	A	A
3. Grace Street / Foster Street	A	A	A	A

Source: Chen Ryan Associates; July 2019.

Note:
Bold letter indicates substandard Level of Service E or F.

The following key points summarize the intersection analyses:

1. *Existing Conditions* - All of the key study intersections are projected to operate at LOS A under the Existing and the Existing Plus Project conditions.

7.2 Summary of Mitigation Measures

This section summarizes the direct project impacts and cumulative impact mitigation measures at study area intersections under the various timeframes analyzed.

Existing Plus Project

Direct Project Impact Mitigation: None.

Appendix A
Traffic Counts

Chen Ryan Associates

3900 Fifth Avenue, Suite 310 San Diego, CA 92103

Average Daily Traffic

Location: **Barnes Street, between Mission Avenue and Dixie Street**

Date: **Wednesday, February 13, 2019** Total Daily Volume: **2983** Description: **Total Volume**

0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
7	3	17	3	21	63	116	181	186	153	196	191	201	188	232	210	180	256	197	135	87	94	40	26
1	0	6	0	1	8	23	58	43	44	51	58	55	51	56	42	50	53	51	38	28	28	13	8
5	1	2	0	6	11	28	32	50	38	48	27	42	46	53	56	35	64	44	34	18	36	9	3
1	1	0	1	9	13	35	49	47	34	39	53	56	40	59	64	34	60	44	32	14	24	10	10
0	1	9	2	5	31	30	42	46	37	58	53	48	51	64	48	61	79	58	31	27	6	8	5

Date: **Wednesday, February 13, 2019** Total Daily Volume: **1453** Description: **Northbound Volume**

0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
2	2	7	1	9	38	66	86	88	72	101	88	95	100	122	107	86	131	88	57	42	41	17	7
0	0	1	0	0	5	12	27	25	23	26	26	29	25	32	21	25	27	27	13	14	16	5	2
2	0	1	0	2	4	16	13	23	20	28	10	12	22	26	28	13	31	24	16	10	12	2	1
0	1	0	0	5	10	16	23	21	12	17	25	26	21	31	35	18	34	12	15	6	10	4	2
0	1	5	1	2	19	22	23	19	17	30	27	28	32	33	23	30	39	25	13	12	3	6	2

Date: **Wednesday, February 13, 2019** Total Daily Volume: **1530** Description: **Southbound Volume**

0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
5	1	10	2	12	25	50	95	98	81	95	103	106	88	110	103	94	125	109	78	45	53	23	19
1	0	5	0	1	3	11	31	18	21	25	32	26	26	24	21	25	26	24	25	14	12	8	6
3	1	1	0	4	7	12	19	27	18	20	17	30	24	27	28	22	33	20	18	8	24	7	2
1	0	0	1	4	3	19	26	26	22	22	28	30	19	28	29	16	26	32	17	8	14	6	8
0	0	4	1	3	12	8	19	27	20	28	26	20	19	31	25	31	40	33	18	15	3	2	3

Chen Ryan Associates

3900 Fifth Avenue, Suite 310 San Diego, CA 92103

Average Daily Traffic

Location: **Barnes Street, between Dixie Street and Maxson Street**

Date: **Wednesday, February 13, 2019** Total Daily Volume: **1704** Description: **Total Volume**

0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
2	4	5	3	8	28	55	109	122	86	102	120	125	115	149	106	97	162	105	71	47	43	22	18
0	0	3	0	0	5	13	24	31	30	34	32	28	33	33	27	21	38	32	21	16	13	6	3
0	3	1	0	1	3	12	31	26	20	22	15	24	30	31	25	24	46	25	11	11	15	2	3
2	1	0	1	2	8	14	18	33	20	26	36	37	18	41	28	22	28	26	21	7	13	8	4
0	0	1	2	5	12	16	36	32	16	20	37	36	34	44	26	30	50	22	18	13	2	6	8

Date: **Wednesday, February 13, 2019** Total Daily Volume: **853** Description: **Northbound Volume**

0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
1	3	3	1	4	18	30	43	53	36	53	55	61	64	71	61	46	88	46	41	24	26	15	10
0	0	2	0	0	3	6	8	17	15	19	10	17	19	18	15	8	26	17	13	8	10	4	1
0	2	0	0	1	2	7	10	10	7	12	7	4	15	12	17	12	24	13	6	5	8	1	2
1	1	0	0	0	5	6	6	13	9	12	18	21	10	20	16	13	15	9	13	3	7	6	1
0	0	1	1	3	8	11	19	13	5	10	20	19	20	21	13	13	23	7	9	8	1	4	6

Date: **Wednesday, February 13, 2019** Total Daily Volume: **851** Description: **Southbound Volume**

0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
1	1	2	2	4	10	25	66	69	50	49	65	64	51	78	45	51	74	59	30	23	17	7	8
0	0	1	0	0	2	7	16	14	15	15	22	11	14	15	12	13	12	15	8	8	3	2	2
0	1	1	0	0	1	5	21	16	13	10	8	20	15	19	8	12	22	12	5	6	7	1	1
1	0	0	1	2	3	8	12	20	11	14	18	16	8	21	12	9	13	17	8	4	6	2	3
0	0	0	1	2	4	5	17	19	11	10	17	17	14	23	13	17	27	15	9	5	1	2	2

Chen Ryan Associates

3900 Fifth Avenue, Suite 310 San Diego, CA 92103

Average Daily Traffic

Location: **Dixie Street, between Barnes Street and Grace Street**

Date: **Tuesday, February 19, 2019** Total Daily Volume: **1103** Description: **Total Volume**

0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
6	6	4	2	8	13	34	47	65	74	59	49	59	63	68	87	90	104	77	70	50	44	16	8
0	1	0	0	2	1	8	10	17	20	17	10	22	15	13	24	24	22	29	19	11	11	7	3
2	3	3	1	0	2	11	15	8	24	18	9	8	8	12	16	20	33	29	13	16	19	6	4
2	1	0	0	3	4	7	15	20	9	14	14	10	23	18	24	18	24	8	21	13	8	2	0
2	1	1	1	3	6	8	7	20	21	10	16	19	17	25	23	28	25	11	17	10	6	1	1

Date: **Tuesday, February 19, 2019** Total Daily Volume: **535** Description: **Eastbound Volume**

0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
4	2	2	0	2	9	13	22	24	39	24	20	27	40	28	43	36	52	44	36	27	27	10	4
0	0	0	0	0	1	3	6	6	10	8	7	9	9	6	14	11	12	16	9	5	5	4	2
1	1	2	0	0	2	4	8	5	12	7	4	3	3	7	6	5	17	18	6	7	14	5	1
1	0	0	0	1	2	3	7	6	6	5	4	8	16	7	9	9	14	5	11	11	4	1	0
2	1	0	0	1	4	3	1	7	11	4	5	7	12	8	14	11	9	5	10	4	4	0	1

Date: **Tuesday, February 19, 2019** Total Daily Volume: **568** Description: **Westbound Volume**

0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
2	4	2	2	6	4	21	25	41	35	35	29	32	23	40	44	54	52	33	34	23	17	6	4
0	1	0	0	2	0	5	4	11	10	9	3	13	6	7	10	13	10	13	10	6	6	3	1
1	2	1	1	0	0	7	7	3	12	11	5	5	5	5	10	15	16	11	7	9	5	1	3
1	1	0	0	2	2	4	8	14	3	9	10	2	7	11	15	9	10	3	10	2	4	1	0
0	0	1	1	2	2	5	6	13	10	6	11	12	5	17	9	17	16	6	7	6	2	1	0

Chen Ryan Associates

3900 Fifth Avenue, Suite 310 San Diego, CA 92103

Average Daily Traffic

Location: **Grace Street, between Foster Street and Dixie Street**

Date: **Tuesday, February 19, 2019** Total Daily Volume: **1877** Description: **Total Volume**

0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
14	4	2	5	12	22	61	84	113	106	90	103	100	124	129	149	167	170	147	99	69	66	32	9
3	0	1	1	2	0	14	13	24	24	26	17	25	27	20	33	38	56	48	29	18	14	10	4
4	1	0	1	1	7	21	21	22	31	21	26	23	26	23	31	43	38	43	19	21	29	10	1
4	1	1	1	2	7	15	25	29	21	24	37	25	36	42	40	51	40	28	27	12	15	8	3
3	2	0	2	7	8	11	25	38	30	19	23	27	35	44	45	35	36	28	24	18	8	4	1

Date: **Tuesday, February 19, 2019** Total Daily Volume: **891** Description: **Northbound Volume**

0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
5	1	1	2	8	17	36	38	50	50	36	46	51	61	54	70	64	79	72	50	42	36	17	5
0	0	1	1	2	0	10	9	8	9	13	8	14	14	8	19	13	27	22	11	11	4	7	1
3	0	0	0	1	6	11	7	11	14	5	13	12	10	6	11	18	20	23	11	14	21	6	0
0	1	0	0	1	6	9	11	15	12	10	17	12	19	18	20	17	20	17	15	6	7	3	3
2	0	0	1	4	5	6	11	16	15	8	8	13	18	22	20	16	12	10	13	11	4	1	1

Date: **Tuesday, February 19, 2019** Total Daily Volume: **986** Description: **Southbound Volume**

0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
9	3	1	3	4	5	25	46	63	56	54	57	49	63	75	79	103	91	75	49	27	30	15	4
3	0	0	0	0	0	4	4	16	15	13	9	11	13	12	14	25	29	26	18	7	10	3	3
1	1	0	1	0	1	10	14	11	17	16	13	11	16	17	20	25	18	20	8	7	8	4	1
4	0	1	1	1	1	6	14	14	9	14	20	13	17	24	20	34	20	11	12	6	8	5	0
1	2	0	1	3	3	5	14	22	15	11	15	14	17	22	25	19	24	18	11	7	4	3	0

Chen Ryan Associates

3900 Fifth Avenue, Suite 310 San Diego, CA 92103

Average Daily Traffic

Location: **Grace Street, between Dixie Street and Maxson Street**

Date: **Tuesday, February 19, 2019** Total Daily Volume: **1807** Description: **Total Volume**

0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
11	6	1	3	15	19	59	87	96	109	97	103	108	124	126	133	157	167	118	88	72	65	32	11
3	4	0	1	3	1	11	13	18	21	23	27	29	26	23	30	33	46	37	29	18	14	8	4
4	0	0	0	1	5	20	27	16	30	26	23	22	24	21	33	39	52	38	21	20	22	12	2
4	1	0	1	2	6	13	21	27	22	26	31	24	37	37	39	48	40	21	15	17	20	8	3
0	1	1	1	9	7	15	26	35	36	22	22	33	37	45	31	37	29	22	23	17	9	4	2

Date: **Tuesday, February 19, 2019** Total Daily Volume: **885** Description: **Northbound Volume**

0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
3	2	1	2	10	11	37	42	50	49	48	49	54	53	59	67	67	87	55	48	39	30	16	6
0	1	0	1	3	0	9	8	8	9	13	9	13	13	9	16	13	22	17	13	9	5	6	1
3	0	0	0	1	4	12	10	8	13	11	12	12	9	6	15	18	29	17	13	15	10	5	1
0	0	0	0	1	5	7	9	17	10	13	15	10	16	17	22	16	22	12	9	5	10	3	3
0	1	1	1	5	2	9	15	17	17	11	13	19	15	27	14	20	14	9	13	10	5	2	1

Date: **Tuesday, February 19, 2019** Total Daily Volume: **922** Description: **Southbound Volume**

0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
8	4	0	1	5	8	22	45	46	60	49	54	54	71	67	66	90	80	63	40	33	35	16	5
3	3	0	0	0	1	2	5	10	12	10	18	16	13	14	14	20	24	20	16	9	9	2	3
1	0	0	0	0	1	8	17	8	17	15	11	10	15	15	18	21	23	21	8	5	12	7	1
4	1	0	1	1	1	6	12	10	12	13	16	14	21	20	17	32	18	9	6	12	10	5	0
0	0	0	0	4	5	6	11	18	19	11	9	14	22	18	17	17	15	13	10	7	4	2	1

Intersection Turning Movement - Peak Hour Vehicle Count

Chen	Location:	#01	File Name:	ITM-19-012-01
Ryan	Intersection:	Barnes Street a & Dixie Street	Project:	CRA Ref. 119
Associates	Date of Count:	Wednesday, February 13, 2019		Oceanside

AM	Barnes Street **Southbound**			Dixie Street **Westbound**			Barnes Street **Northbound**			Business Driveway **Eastbound**			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
7:00	2	0	12	0	6	2	3	1	0	3	14	2	45
7:15	8	1	6	0	8	1	0	1	0	5	16	1	47
7:30	1	0	5	0	6	1	1	0	1	6	11	1	33
7:45	5	0	6	0	17	3	1	0	0	4	12	0	48
8:00	3	1	7	1	18	1	0	1	0	3	11	1	47
8:15	1	1	11	1	8	1	0	1	0	9	15	0	48
8:30	4	1	6	0	11	3	0	2	0	6	16	1	50
8:45	1	2	5	1	13	0	1	0	0	2	13	0	38
Total	25	6	58	3	87	12	6	6	1	38	108	6	356
Approach%	28.1	6.7	65.2	2.9	85.3	11.8	46.2	46.2	7.7	25.0	71.1	3.9	
Total%	7.0	1.7	16.3	0.8	24.4	3.4	1.7	1.7	0.3	10.7	30.3	1.7	

AM Intersection Peak Hour: **07:45 to 08:45**

Volume	13	3	30	2	54	8	1	4	-	22	54	2	193
Approach%	28.3	6.5	65.2	3.1	84.4	12.5	20.0	80.0	-	28.2	69.2	2.6	
Total%	6.7	1.6	15.5	1.0	28.0	4.1	0.5	2.1	-	11.4	28.0	1.0	
PHF			0.88			0.80			0.63			0.81	0.96

PM	Barnes Street **Southbound**			Dixie Street **Westbound**			Barnes Street **Northbound**			Business Driveway **Eastbound**			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
16:00	1	0	10	1	9	2	1	0	1	11	10	1	47
16:15	4	1	7	1	8	3	1	3	1	6	9	0	44
16:30	2	1	7	1	11	1	0	1	1	8	8	0	41
16:45	3	1	12	0	12	4	0	0	0	12	18	0	62
17:00	2	0	8	0	20	3	1	0	0	11	14	0	59
17:15	2	0	12	0	16	6	1	2	0	12	21	0	72
17:30	1	0	17	0	16	1	0	2	1	9	17	1	65
17:45	2	1	13	0	22	0	1	1	0	10	20	1	71
Total	17	4	86	3	114	20	5	9	4	79	117	3	461
Approach%	15.9	3.7	80.4	2.2	83.2	14.6	27.8	50.0	22.2	39.7	58.8	1.5	
Total%	3.7	0.9	18.7	0.7	24.7	4.3	1.1	2.0	0.9	17.1	25.4	0.7	

PM Intersection Peak Hour: **17:00 to 18:00**

Volume	7	1	50	-	74	10	3	5	1	42	72	2	267
Approach%	12.1	1.7	86.2	-	88.1	11.9	33.3	55.6	11.1	36.2	62.1	1.7	
Total%	2.6	0.4	18.7	-	27.7	3.7	1.1	1.9	0.4	15.7	27.0	0.7	
PHF			0.81			0.91			0.75			0.88	0.93

Intersection Turning Movement - Bicycle & Pedestrian Count

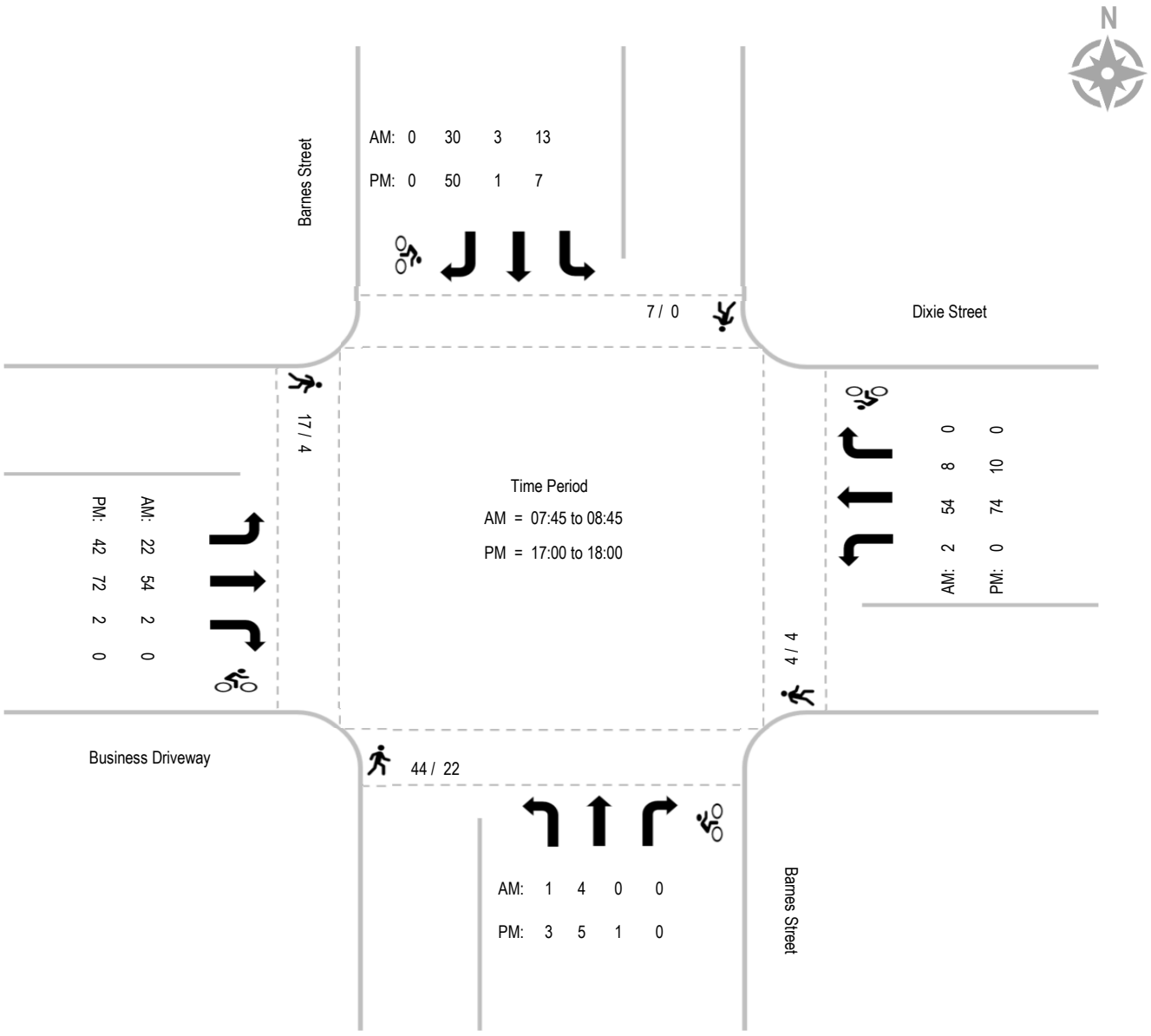
Chen	Location:	#01	File Name:	ITM-19-012-01
Ryan	Intersection:	Barnes Street a & Dixie Street	Project:	CRA Ref. 119
Associates	Date of Count:	Wednesday, February 13, 2019		Oceanside

AM	Barnes Street **Southbound**				Dixie Street **Westbound**				Barnes Street **Northbound**				Business Driveway **Eastbound**				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	1	0	0	0	0	0	0	0	5	0	0	0	2	0	0	0	8	0
7:15	0	0	0	0	0	0	0	0	3	0	0	0	3	0	0	0	6	0
7:30	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	6	0
7:45	2	0	0	0	1	0	0	0	6	0	0	0	0	0	0	0	9	0
8:00	2	0	0	0	1	0	0	0	7	0	0	0	3	0	0	0	13	0
8:15	2	0	0	0	0	0	0	0	5	0	0	0	2	0	0	0	9	0
8:30	0	0	0	0	2	0	0	0	12	0	0	0	2	0	0	0	16	0
8:45	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	5	0
Ped Total	7				4				44				17				72	
Bike Total		0	0	0		0	0	0		0	0	0		0	0	0		0

PM	Barnes Street **Southbound**				Dixie Street **Westbound**				Barnes Street **Northbound**				Business Driveway **Eastbound**				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
16:00	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	0
16:15	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	3	0
16:30	0	0	0	0	0	0	0	0	6	0	0	0	1	0	0	0	7	0
16:45	0	0	0	0	0	0	0	0	4	0	0	0	2	0	0	0	6	0
17:00	0	0	0	0	2	0	0	0	1	0	0	0	1	0	0	0	4	0
17:15	0	0	0	0	1	0	0	0	3	0	0	0	0	0	0	0	4	0
17:30	0	0	0	0	1	0	0	0	2	0	0	0	0	0	0	0	3	0
17:45	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0
Ped Total	0				4				22				4				30	
Bike Total		0	0	0		0	0	0		0	0	0		0	0	0		0

Intersection Turning Movement - Peak Hour Summary

Chen	Location:	#01	File Name:	ITM-19-012-01
Ryan	Intersection:	Barnes Street a & Dixie Street	Project:	CRA Ref. 119
Associates	Date of Count:	Wednesday, February 13, 2019		Oceanside



Intersection Turning Movement - Peak Hour Vehicle Count

Chen	Location:	#02	File Name:	ITM-19-012-02
Ryan	Intersection:	Grace Street a & Dixie Street	Project:	CRA Ref. 119
Associates	Date of Count:	Wednesday, February 13, 2019		Oceanside

AM	Grace Street **Southbound**			Church Driveway **Westbound**			Grace Street **Northbound**			Dixie Street **Eastbound**			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
7:00	0	18	8	0	0	0	4	14	2	7	0	4	57
7:15	0	24	8	0	0	0	3	19	0	6	0	6	66
7:30	0	13	5	0	0	0	4	9	0	5	0	3	39
7:45	0	11	4	0	0	0	5	10	0	5	0	4	39
8:00	0	7	6	0	0	0	5	12	0	6	0	2	38
8:15	0	9	10	0	0	0	6	11	0	5	1	6	48
8:30	1	6	5	0	1	0	4	14	0	7	0	5	43
8:45	0	9	4	0	0	0	1	10	0	1	0	3	28
Total	1	97	50	0	1	0	32	99	2	42	1	33	358
Approach%	0.7	65.5	33.8	-	100.0	-	24.1	74.4	1.5	55.3	1.3	43.4	
Total%	0.3	27.1	14.0	-	0.3	-	8.9	27.7	0.6	11.7	0.3	9.2	

AM Intersection Peak Hour: **07:00 to 08:00**

Volume	-	66	25	-	-	-	16	52	2	23	-	17	201
Approach%	-	72.5	27.5	-	-	-	22.9	74.3	2.9	57.5	-	42.5	
Total%	-	32.8	12.4	-	-	-	8.0	25.9	1.0	11.4	-	8.5	
PHF			0.71			#DIV/0!			0.80			0.83	0.76

PM	Grace Street **Southbound**			Church Driveway **Westbound**			Grace Street **Northbound**			Dixie Street **Eastbound**			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
16:00	0	11	4	1	4	1	4	15	1	6	0	8	55
16:15	0	13	6	0	0	0	1	17	0	5	0	2	44
16:30	0	22	5	0	0	0	5	19	0	3	0	2	56
16:45	0	8	12	0	0	0	5	12	0	4	0	7	48
17:00	0	17	4	0	0	0	3	17	0	7	0	3	51
17:15	1	13	11	0	0	0	8	15	0	9	1	7	65
17:30	0	10	4	0	0	0	7	11	0	5	0	4	41
17:45	0	13	9	0	0	0	10	10	0	4	0	4	50
Total	1	107	55	1	4	1	43	116	1	43	1	37	410
Approach%	0.6	65.6	33.7	16.7	66.7	16.7	26.9	72.5	0.6	53.1	1.2	45.7	
Total%	0.2	26.1	13.4	0.2	1.0	0.2	10.5	28.3	0.2	10.5	0.2	9.0	

PM Intersection Peak Hour: **16:30 to 17:30**

Volume	1	60	32	-	-	-	21	63	-	23	1	19	220
Approach%	1.1	64.5	34.4	-	-	-	25.0	75.0	-	53.5	2.3	44.2	
Total%	0.5	27.3	14.5	-	-	-	9.5	28.6	-	10.5	0.5	8.6	
PHF			0.86			#DIV/0!			0.88			0.63	0.86

Intersection Turning Movement - Bicycle & Pedestrian Count

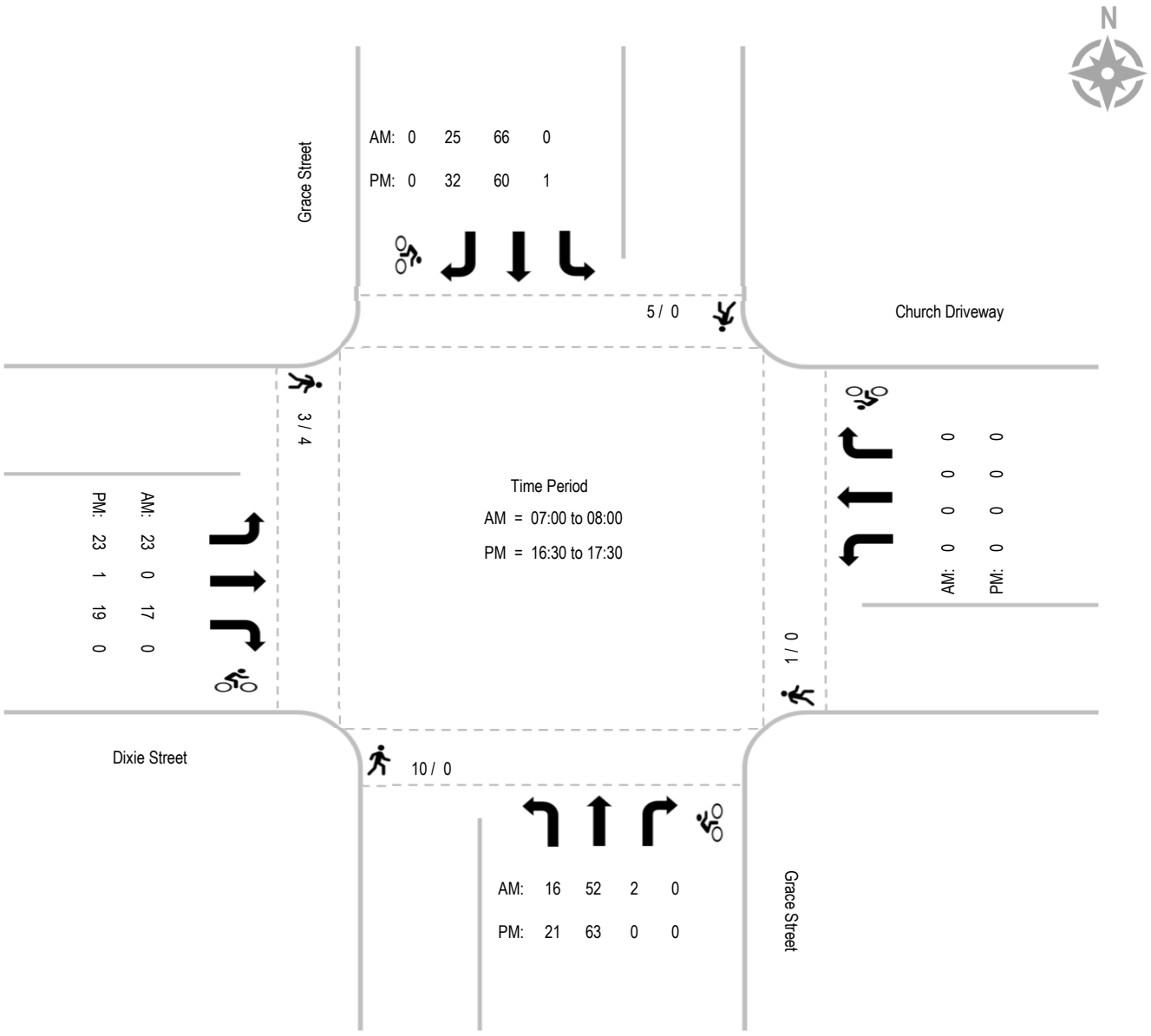
Chen	Location:	#02	File Name:	ITM-19-012-02
Ryan	Intersection:	Grace Street a & Dixie Street	Project:	CRA Ref. 119
Associates	Date of Count:	Wednesday, February 13, 2019		Oceanside

AM	Grace Street **Southbound**				Church Driveway **Westbound**				Grace Street **Northbound**				Dixie Street **Eastbound**				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	0	0	0	0	0	0	0	0	5	0	0	0	1	0	0	0	6	0
7:15	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0
7:30	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	3	0
7:45	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	2	0
8:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0
8:15	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2	0
8:30	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
8:45	2	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	3	0
Ped Total	5				1				10				3				19	
Bike Total		0	0	0		0	0	0		0	0	0		0	0	0		0

PM	Grace Street **Southbound**				Church Driveway **Westbound**				Grace Street **Northbound**				Dixie Street **Eastbound**				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0
Ped Total	0				0				0				4				4	
Bike Total		0	0	0		0	0	0		0	0	0		0	0	0		0

Intersection Turning Movement - Peak Hour Summary

Chen Ryan Associates	Location:	#02	File Name:	ITM-19-012-02
	Intersection:	Grace Street a & Dixie Street	Project:	CRA Ref. 119 Oceanside
	Date of Count:	Wednesday, February 13, 2019		



Intersection Turning Movement - Peak Hour Vehicle Count

Chen	Location:	#03	File Name:	ITM-19-012-03
Ryan	Intersection:	Grace Street a & Foster Street	Project:	CRA Ref. 119
Associates	Date of Count:	Tuesday, February 19, 2019		Oceanside

AM	Private Driveway **Southbound**			Foster Street **Westbound**			Grace Street **Northbound**			Foster Street **Eastbound**			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
7:00	0	0	0	2	3	0	7	0	2	0	0	2	16
7:15	0	0	0	4	4	0	5	0	1	0	1	11	26
7:30	0	0	0	5	2	0	7	0	4	0	1	9	28
7:45	0	0	0	2	1	0	9	0	3	0	2	11	28
8:00	0	0	0	3	1	0	8	0	0	0	2	13	27
8:15	0	0	0	1	4	0	10	0	2	0	0	11	28
8:30	0	0	0	3	3	0	12	0	2	0	1	13	34
8:45	0	0	0	6	5	0	15	0	2	0	0	16	44
Total	0	0	0	26	23	0	73	0	16	0	7	86	231
Approach%	-	-	-	53.1	46.9	-	82.0	-	18.0	-	7.5	92.5	
Total%	-	-	-	11.3	10.0	-	31.6	-	6.9	-	3.0	37.2	

AM Intersection Peak Hour: **08:00 to 09:00**

Volume	-	-	-	13	13	-	45	-	6	-	3	53	133
Approach%	-	-	-	50.0	50.0	-	88.2	-	11.8	-	5.4	94.6	
Total%	-	-	-	9.8	9.8	-	33.8	-	4.5	-	2.3	39.8	
PHF			#DIV/0!			0.59			0.75			0.88	0.76

PM	Private Driveway **Southbound**			Foster Street **Westbound**			Grace Street **Northbound**			Foster Street **Eastbound**			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
16:00	0	0	0	3	3	0	11	0	4	0	3	20	44
16:15	0	0	0	6	5	0	16	0	2	0	4	19	52
16:30	0	0	0	6	3	0	8	0	9	0	6	29	61
16:45	0	0	0	4	6	0	11	0	6	0	0	14	41
17:00	0	0	0	1	0	0	19	0	5	0	3	29	57
17:15	0	0	0	2	3	0	18	0	2	0	3	15	43
17:30	0	0	0	2	0	0	13	0	8	0	3	17	43
17:45	0	0	0	3	1	0	11	0	2	0	3	17	37
Total	0	0	0	27	21	0	107	0	38	0	25	160	378
Approach%	-	-	-	56.3	43.8	-	73.8	-	26.2	-	13.5	86.5	
Total%	-	-	-	7.1	5.6	-	28.3	-	10.1	-	6.6	42.3	

PM Intersection Peak Hour: **16:15 to 17:15**

Volume	-	-	-	17	14	-	54	-	22	-	13	91	211
Approach%	-	-	-	54.8	45.2	-	71.1	-	28.9	-	12.5	87.5	
Total%	-	-	-	8.1	6.6	-	25.6	-	10.4	-	6.2	43.1	
PHF			#DIV/0!			0.70			0.79			0.74	0.86

Intersection Turning Movement - Bicycle & Pedestrian Count

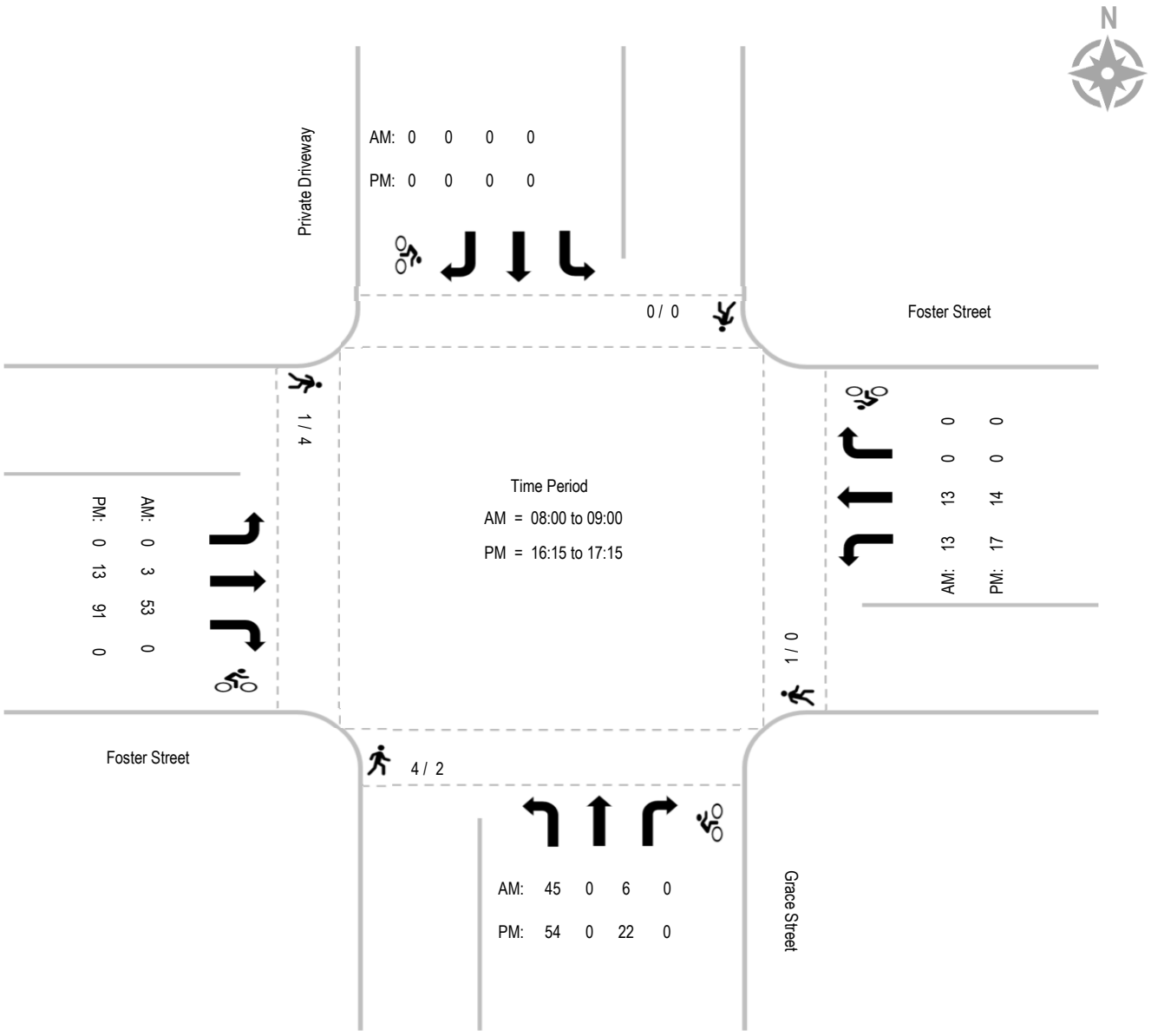
Chen	Location:	#03	File Name:	ITM-19-012-03
Ryan	Intersection:	Grace Street a & Foster Street	Project:	CRA Ref. 119
Associates	Date of Count:	Tuesday, February 19, 2019		Oceanside

AM	Private Driveway **Southbound**				Foster Street **Westbound**				Grace Street **Northbound**				Foster Street **Eastbound**				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	2	0
7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0
8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0
8:30	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	0
8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Total	0				1				4				1				6	
Bike Total		0	0	0		0	0	0		0	0	0		0	0	0		0

PM	Private Driveway **Southbound**				Foster Street **Westbound**				Grace Street **Northbound**				Foster Street **Eastbound**				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	2	0
17:30	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Total	0				0				2				4				6	
Bike Total		0	0	0		0	0	0		0	0	0		0	0	0		0

Intersection Turning Movement - Peak Hour Summary

Chen	Location:	#03	File Name:	ITM-19-012-03
Ryan	Intersection:	Grace Street a & Foster Street	Project:	CRA Ref. 119
Associates	Date of Count:	Tuesday, February 19, 2019		Oceanside



Appendix B
Peak Hour Intersection Capacity Worksheets
Existing Conditions

Intersection	
Int Delay, s/veh	7.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	62	5	0	67	5
Future Vol, veh/h	2	62	5	0	67	5
Conflicting Peds, #/hr	44	7	0	4	4	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	80	80	63	63	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	78	8	0	76	6

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	214	19	0	0	12	0
Stage 1	12	-	-	-	-	-
Stage 2	202	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	774	1059	-	-	1607	-
Stage 1	1011	-	-	-	-	-
Stage 2	832	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	703	1048	-	-	1601	-
Mov Cap-2 Maneuver	703	-	-	-	-	-
Stage 1	958	-	-	-	-	-
Stage 2	797	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.8	0	6.8
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	1032	1601	-
HCM Lane V/C Ratio	-	-	0.078	0.048	-
HCM Control Delay (s)	-	-	8.8	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0.1	-

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	23	0	17	0	0	0	16	52	2	0	66	25
Future Vol, veh/h	23	0	17	0	0	0	16	52	2	0	66	25
Conflicting Peds, #/hr	5	0	10	10	0	5	3	0	1	1	0	3
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	92	92	92	80	80	80	71	71	71
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	28	0	20	0	0	0	20	65	3	0	93	35

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	226	223	124	239	239	73	131	0	0	69	0	0
Stage 1	114	114	-	108	108	-	-	-	-	-	-	-
Stage 2	112	109	-	131	131	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	729	676	927	715	662	989	1454	-	-	1532	-	-
Stage 1	891	801	-	897	806	-	-	-	-	-	-	-
Stage 2	893	805	-	873	788	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	716	664	916	684	650	983	1450	-	-	1531	-	-
Mov Cap-2 Maneuver	716	664	-	684	650	-	-	-	-	-	-	-
Stage 1	876	799	-	884	794	-	-	-	-	-	-	-
Stage 2	876	793	-	845	786	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.9	0	1.7	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1450	-	-	789	-	1531	-	-
HCM Lane V/C Ratio	0.014	-	-	0.061	-	-	-	-
HCM Control Delay (s)	7.5	0	-	9.9	0	0	-	-
HCM Lane LOS	A	A	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	-	0	-	-

Intersection	
Int Delay, s/veh	4.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	3	53	13	13	45	6
Future Vol, veh/h	3	53	13	13	45	6
Conflicting Peds, #/hr	0	4	4	0	1	1
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	88	88	59	59	75	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	60	22	22	60	8

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	67	0	104	38
Stage 1	-	-	-	-	37	-
Stage 2	-	-	-	-	67	-
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	-	-	1535	-	894	1034
Stage 1	-	-	-	-	985	-
Stage 2	-	-	-	-	956	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1529	-	876	1029
Mov Cap-2 Maneuver	-	-	-	-	876	-
Stage 1	-	-	-	-	966	-
Stage 2	-	-	-	-	955	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.7	9.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	892	-	-	1529	-
HCM Lane V/C Ratio	0.076	-	-	0.014	-
HCM Control Delay (s)	9.4	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection	
Int Delay, s/veh	7.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	84	8	1	79	3
Future Vol, veh/h	0	84	8	1	79	3
Conflicting Peds, #/hr	22	0	0	4	4	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	75	75	81	81
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	92	11	1	98	4

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	238	16	0	0	16	0
Stage 1	16	-	-	-	-	-
Stage 2	222	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	750	1063	-	-	1602	-
Stage 1	1007	-	-	-	-	-
Stage 2	815	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	686	1059	-	-	1596	-
Mov Cap-2 Maneuver	686	-	-	-	-	-
Stage 1	941	-	-	-	-	-
Stage 2	798	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.7	0	7.1
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	1059	1596	-
HCM Lane V/C Ratio	-	-	0.087	0.061	-
HCM Control Delay (s)	-	-	8.7	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0.2	-

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	23	1	19	0	0	0	21	63	0	1	60	32
Future Vol, veh/h	23	1	19	0	0	0	21	63	0	1	60	32
Conflicting Peds, #/hr	0	0	0	0	0	0	4	0	0	0	0	4
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	63	63	63	92	92	92	88	88	88	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	37	2	30	0	0	0	24	72	0	1	70	37

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	215	215	93	227	233	72	111	0	0	72	0	0
Stage 1	95	95	-	120	120	-	-	-	-	-	-	-
Stage 2	120	120	-	107	113	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	742	683	964	728	667	990	1479	-	-	1528	-	-
Stage 1	912	816	-	884	796	-	-	-	-	-	-	-
Stage 2	884	796	-	898	802	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	729	668	960	695	652	990	1473	-	-	1528	-	-
Mov Cap-2 Maneuver	729	668	-	695	652	-	-	-	-	-	-	-
Stage 1	893	812	-	869	782	-	-	-	-	-	-	-
Stage 2	869	782	-	867	798	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.8	0	1.9	0.1
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1473	-	-	814	-	1528	-	-
HCM Lane V/C Ratio	0.016	-	-	0.084	-	0.001	-	-
HCM Control Delay (s)	7.5	0	-	9.8	0	7.4	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	-	0	-	-

Intersection	
Int Delay, s/veh	4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	13	91	17	14	54	22
Future Vol, veh/h	13	91	17	14	54	22
Conflicting Peds, #/hr	0	2	2	0	4	0
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	74	74	70	70	79	79
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	123	24	20	68	28

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	143	0	154	82
Stage 1	-	-	-	-	82	-
Stage 2	-	-	-	-	72	-
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	-	-	1440	-	838	978
Stage 1	-	-	-	-	941	-
Stage 2	-	-	-	-	951	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1437	-	819	976
Mov Cap-2 Maneuver	-	-	-	-	819	-
Stage 1	-	-	-	-	923	-
Stage 2	-	-	-	-	947	-

Approach	EB	WB	NB
HCM Control Delay, s	0	4.1	9.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	859	-	-	1437	-
HCM Lane V/C Ratio	0.112	-	-	0.017	-
HCM Control Delay (s)	9.7	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0.1	-

Appendix C
Peak Hour Intersection Capacity Worksheets
Existing Plus Project Conditions

Intersection	
Int Delay, s/veh	7.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	64	5	1	69	5
Future Vol, veh/h	2	64	5	1	69	5
Conflicting Peds, #/hr	44	7	0	4	4	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	80	80	63	63	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	80	8	2	78	6

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	219	20	0	0	14	0
Stage 1	13	-	-	-	-	-
Stage 2	206	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	769	1058	-	-	1604	-
Stage 1	1010	-	-	-	-	-
Stage 2	829	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	697	1047	-	-	1598	-
Mov Cap-2 Maneuver	697	-	-	-	-	-
Stage 1	956	-	-	-	-	-
Stage 2	794	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.8	0	6.9
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	1031	1598	-
HCM Lane V/C Ratio	-	-	0.08	0.049	-
HCM Control Delay (s)	-	-	8.8	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0.2	-

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	25	0	17	0	0	0	17	52	2	0	66	27
Future Vol, veh/h	25	0	17	0	0	0	17	52	2	0	66	27
Conflicting Peds, #/hr	5	0	10	10	0	5	3	0	1	1	0	3
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	92	92	92	80	80	80	71	71	71
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	30	0	20	0	0	0	21	65	3	0	93	38

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	229	226	125	242	244	73	134	0	0	69	0	0
Stage 1	115	115	-	110	110	-	-	-	-	-	-	-
Stage 2	114	111	-	132	134	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	726	673	926	712	658	989	1451	-	-	1532	-	-
Stage 1	890	800	-	895	804	-	-	-	-	-	-	-
Stage 2	891	804	-	871	785	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	712	660	915	681	645	983	1447	-	-	1531	-	-
Mov Cap-2 Maneuver	712	660	-	681	645	-	-	-	-	-	-	-
Stage 1	874	798	-	881	791	-	-	-	-	-	-	-
Stage 2	873	791	-	843	783	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.9	0	1.8	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1447	-	-	782	-	1531	-	-
HCM Lane V/C Ratio	0.015	-	-	0.065	-	-	-	-
HCM Control Delay (s)	7.5	0	-	9.9	0	0	-	-
HCM Lane LOS	A	A	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	-	0	-	-

Intersection	
Int Delay, s/veh	4.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	3	55	13	13	47	6
Future Vol, veh/h	3	55	13	13	47	6
Conflicting Peds, #/hr	0	4	4	0	1	1
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	88	88	59	59	75	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	63	22	22	63	8

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	70	0	106	40
Stage 1	-	-	-	-	39	-
Stage 2	-	-	-	-	67	-
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	-	-	1531	-	892	1031
Stage 1	-	-	-	-	983	-
Stage 2	-	-	-	-	956	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1525	-	874	1026
Mov Cap-2 Maneuver	-	-	-	-	874	-
Stage 1	-	-	-	-	964	-
Stage 2	-	-	-	-	955	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.7	9.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	889	-	-	1525	-
HCM Lane V/C Ratio	0.079	-	-	0.014	-
HCM Control Delay (s)	9.4	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0	-

Intersection	
Int Delay, s/veh	5.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	3	0	0	3	2	2
Future Vol, veh/h	3	0	0	3	2	2
Conflicting Peds, #/hr	0	0	0	0	0	0
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	3	0	0	3	2	2

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	3	0	-	0	8	2
Stage 1	-	-	-	-	2	-
Stage 2	-	-	-	-	6	-
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	1619	-	-	-	1013	1082
Stage 1	-	-	-	-	1021	-
Stage 2	-	-	-	-	1017	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1619	-	-	-	1011	1082
Mov Cap-2 Maneuver	-	-	-	-	1011	-
Stage 1	-	-	-	-	1019	-
Stage 2	-	-	-	-	1017	-

Approach	EB	WB	SB
HCM Control Delay, s	7.2	0	8.5
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1619	-	-	-	1045
HCM Lane V/C Ratio	0.002	-	-	-	0.004
HCM Control Delay (s)	7.2	0	-	-	8.5
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	7.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	88	8	2	83	3
Future Vol, veh/h	1	88	8	2	83	3
Conflicting Peds, #/hr	22	0	0	4	4	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	75	75	81	81
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	97	11	3	102	4

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	247	17	0	0	18	0
Stage 1	17	-	-	-	-	-
Stage 2	230	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	741	1062	-	-	1599	-
Stage 1	1006	-	-	-	-	-
Stage 2	808	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	677	1058	-	-	1593	-
Mov Cap-2 Maneuver	677	-	-	-	-	-
Stage 1	938	-	-	-	-	-
Stage 2	791	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.8	0	7.2
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	1051	1593	-
HCM Lane V/C Ratio	-	-	0.093	0.064	-
HCM Control Delay (s)	-	-	8.8	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0.2	-

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	26	1	20	0	0	0	22	63	0	1	60	36
Future Vol, veh/h	26	1	20	0	0	0	22	63	0	1	60	36
Conflicting Peds, #/hr	0	0	0	0	0	0	4	0	0	0	0	4
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	63	63	63	92	92	92	88	88	88	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	41	2	32	0	0	0	25	72	0	1	70	42

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	219	219	95	232	240	72	116	0	0	72	0	0
Stage 1	97	97	-	122	122	-	-	-	-	-	-	-
Stage 2	122	122	-	110	118	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	737	679	962	723	661	990	1473	-	-	1528	-	-
Stage 1	910	815	-	882	795	-	-	-	-	-	-	-
Stage 2	882	795	-	895	798	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	724	663	958	688	646	990	1467	-	-	1528	-	-
Mov Cap-2 Maneuver	724	663	-	688	646	-	-	-	-	-	-	-
Stage 1	890	811	-	866	781	-	-	-	-	-	-	-
Stage 2	866	781	-	863	794	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.9	0	1.9	0.1
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1467	-	-	806	-	1528	-	-
HCM Lane V/C Ratio	0.017	-	-	0.093	-	0.001	-	-
HCM Control Delay (s)	7.5	0	-	9.9	0	7.4	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.3	-	0	-	-

Intersection	
Int Delay, s/veh	4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	13	95	17	14	57	22
Future Vol, veh/h	13	95	17	14	57	22
Conflicting Peds, #/hr	0	2	2	0	4	0
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	74	74	70	70	79	79
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	128	24	20	72	28

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	148	0	156	84
Stage 1	-	-	-	-	84	-
Stage 2	-	-	-	-	72	-
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	-	-	1434	-	835	975
Stage 1	-	-	-	-	939	-
Stage 2	-	-	-	-	951	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1431	-	816	973
Mov Cap-2 Maneuver	-	-	-	-	816	-
Stage 1	-	-	-	-	921	-
Stage 2	-	-	-	-	947	-

Approach	EB	WB	NB
HCM Control Delay, s	0	4.1	9.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	854	-	-	1431	-
HCM Lane V/C Ratio	0.117	-	-	0.017	-
HCM Control Delay (s)	9.8	-	-	7.6	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0.1	-

Intersection	
Int Delay, s/veh	5.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	0	0	5	4	5
Future Vol, veh/h	5	0	0	5	4	5
Conflicting Peds, #/hr	0	0	0	0	0	0
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	0	0	5	4	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	5	0	-	0	13	3
Stage 1	-	-	-	-	3	-
Stage 2	-	-	-	-	10	-
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	1616	-	-	-	1006	1081
Stage 1	-	-	-	-	1020	-
Stage 2	-	-	-	-	1013	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1616	-	-	-	1003	1081
Mov Cap-2 Maneuver	-	-	-	-	1003	-
Stage 1	-	-	-	-	1017	-
Stage 2	-	-	-	-	1013	-

Approach	EB	WB	SB
HCM Control Delay, s	7.2	0	8.5
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1616	-	-	-	1045
HCM Lane V/C Ratio	0.003	-	-	-	0.009
HCM Control Delay (s)	7.2	0	-	-	8.5
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Appendix D
Parking Requirements
City of Oceanside and California Building Code

TABLE *11B*-208.2
PARKING SPACES

TOTAL NUMBER OF PARKING SPACES PROVIDED IN PARKING FACILITY	MINIMUM NUMBER OF REQUIRED ACCESSIBLE PARKING SPACES
1 to 25	1
26 to 50	2
51 to 75	3
76 to 100	4
101 to 150	5
151 to 200	6
201 to 300	7
301 to 400	8
401 to 500	9
501 to 1000	2 percent of total
1001 and over	20, plus 1 for each 100, or fraction thereof, over 1000

that lots accessed by the public are provided with a passenger loading zone complying with *Section 11B*-503.

***11B*-208.2 Minimum number.** Parking spaces complying with *Section 11B*-502 shall be provided in accordance with Table *11B*-208.2 except as required by *Sections 11B*-208.2.1, *11B*-208.2.2, and *11B*-208.2.3. Where more than one parking facility is provided on a site, the number of accessible spaces provided on the site shall be calculated according to the number of spaces required for each parking facility.

***11B*-208.2.1 Hospital outpatient facilities.** Ten percent of patient and visitor parking spaces provided to serve hospital outpatient facilities, *and free-standing buildings providing outpatient clinical services of a hospital,* shall comply with *Section 11B*-502.

***11B*-208.2.2 Rehabilitation facilities and outpatient physical therapy facilities.** Twenty percent of patient and visitor parking spaces provided to serve rehabilitation facilities specializing in treating conditions that affect mobility and outpatient physical therapy facilities shall comply with *Section 11B*-502.

***11B*-208.2.3 Residential facilities.** Parking spaces provided to serve residential facilities shall comply with *Section 11B*-208.2.3.

***11B*-208.2.3.1 Parking for residents.** Where at least one parking space is provided for each residential dwelling unit, at least one parking space complying with *Section 11B*-502 shall be provided for each residential dwelling unit required to provide mobility features complying with *Sections 11B*-809.2 through *11B*-809.4.

***11B*-208.2.3.2 Additional parking spaces for residents.** Where the total number of parking spaces provided for each residential dwelling unit exceeds one parking space per residential dwelling unit, 2 percent, but no fewer than one space, of all the parking spaces not covered by *Section 11B*-208.2.3.1 shall comply with *Section 11B*-502.

***11B*-208.2.3.3 Parking for guests, employees, and other non-residents.** Where parking spaces are provided for persons other than residents, parking shall be provided in accordance with Table *11B*-208.2.

Note: When assigned parking is provided, Chapter 11A indicates designated accessible parking for the adaptable residential dwelling units shall be provided on requests of residents with disabilities on the same terms and with the full range of choices (e.g., off-street parking, carport or garage) that are available to other residents.

***11B*-208.2.4 Van parking spaces.** For every six or fraction of six parking spaces required by *Section 11B*-208.2 to comply with *Section 11B*-502, at least one shall be a van parking space complying with *Section 11B*-502.

***11B*-208.3 Location.** Parking facilities shall comply with *Section 11B*-208.3.

***11B*-208.3.1 General.** Parking spaces complying with *Section 11B*-502 that serve a particular building or facility shall be located on the shortest accessible route from parking to an entrance complying with *Section 11B*-206.4. Where parking serves more than one accessible entrance, parking spaces complying with *Section 11B*-502 shall be dispersed and located on the shortest accessible route to the accessible entrances. In parking facilities that do not serve a particular building or facility, parking spaces complying with *Section 11B*-502 shall be located on the shortest accessible route to an accessible pedestrian entrance of the parking facility.

Exceptions:

1. All van parking spaces shall be permitted to be grouped on one level within a multi-story parking facility.
2. Parking spaces shall be permitted to be located in different parking facilities if substantially equivalent or greater accessibility is provided in terms of distance from an accessible entrance or entrances, parking fee, and user convenience.

OFF-STREET PARKING AND LOADING SPACES REQUIRED

Use Classification	Off-Street Parking Spaces: Schedule A	Off-Street Loading Spaces: Schedule B Group Number
Residential		
Group Residential	1 per 2 beds; plus 1 per 100 sq. ft. used for assembly purposes.	1
Multifamily Residential	1.5/unit including 1 covered for studios and one-bedroom units: 2/unit including 1 covered for units with two bedrooms or more.	
Guest Parking	4-10 units: 1 space More than 10 units: 1 space plus 20% total number of units.	
Residential Care, Limited	1 per 3 beds.	
Single-Family Residential	2 enclosed spaces/unit. A 20 foot wide by 19 foot deep 2-car garage is required in all districts not subject to an overlay district, except on designated historic sites. Garage space for 3 cars is required for all new single family residential units in excess of 2,500 sq.ft. Garage spaces must be a minimum size of 10 feet wide by 19 feet deep and shall	

Off-Street Parking and Loading Spaces Required (continued)

Use Classification	Off-Street Parking Spaces: Schedule A	Off-Street Loading Spaces: Schedule B Group Number
Food and Beverage Sales	1 per 200 sq. ft.	1
Funeral and Interment Services	1 per 35 sq. ft. of seating area.	1
Horticulture, Limited	1 per 2 acres.	
Laboratories	1 per 500 sq. ft.	1
Maintenance and Repair Services	1 per 500 sq. ft.	1
Marinas	0.8 per berth.	1
Marine Sales and Services	1 per 350 sq. ft.	
Nurseries	1 per 1,000 sq. ft. lot area for first 10,000 sq. ft.; 1 per 5,000 sq. ft. thereafter, plus 1 per 250 sq. ft. gross floor area.	
Offices, Business and Professional	1 per 300 sq. ft.	2
Offices, Medical and Dental	1 per 200 sq. ft.	2
Pawn Shops	1 per 250 sq. ft.	1
Personal Improvement Services:	1 per 250 sq. ft.	