



TRANSPORTATION LOCAL MOBILITY ANALYSIS (LMA)

Parkview Townhomes

City of Escondido, CA

July 16, 2025

C² Reference: 24.147

A WENN4650 Company

C2 CONSULTING COLLECTIVE
Historic Santa Fe Depot
1050 Kettner Blvd, Suite D-551
San Diego, CA 92101
info@c2-mobility.com
858.270.4444

Planning.Design.Technology

www.c2-mobility.com

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1. INTRODUCTION

The Consulting Collective (C²) prepared the following Transportation Local Mobility Analysis (LMA) for the Parkview Townhomes project in the City of Escondido. The LMA was prepared in compliance with the City's Transportation Impact Analysis Guidelines (2021) and City staff direction.

An LMA is required by the City's General Plan to assess transportation effects, promote orderly project development, ensure adequate land development site planning and infrastructure, and consistency with the General Plan. The LMA is not a California Environmental Quality Act (CEQA) transportation review.

1.1 PROJECT DESCRIPTION

The project is located at 550 W El Norte Parkway in the City of Escondido. The project proposes a 3-story 70-unit townhome community on a 4.96-acre site. The project will provide approximately 2.3 acres of open space including a swimming pool, children's play area, and green belts. The site is currently vacant and undeveloped apart from one (1) single-family dwelling unit that will remain occupied until the project is constructed.

The project site is currently zoned as *Professional Commercial (C-P)* and the land use is governed by the *Imperial Oakes Specific Plan Area (SPA) #13*. The project proposes a General Plan Amendment to remove the property from the specific plan area and designate the property as Urban IV (24 du/ac); process a zone map amendment to the zoning district R-4 in support of the proposed development program.

Figure 1-1 shows the regional vicinity map. **Figure 1-2** shows in more detail the local project area map. The project site plan is illustrated in **Figure 1-3**.

1.2 REPORT ORGANIZATION

This report is structured to provide a comprehensive transportation analysis, consistent with City guidelines and industry best practices. The organization of the report is as follows:

1. Introduction
2. Analysis Approach & Methodology
3. Existing Transportation Conditions
4. Proposed Project
5. Cumulative Transportation Conditions
6. Transportation Analysis

Each section is designed to build on the previous one, providing a logical flow from the report introduction to the detailed analysis and finally to recommendations, if any. Relevant figures can be found at the end of each report section.

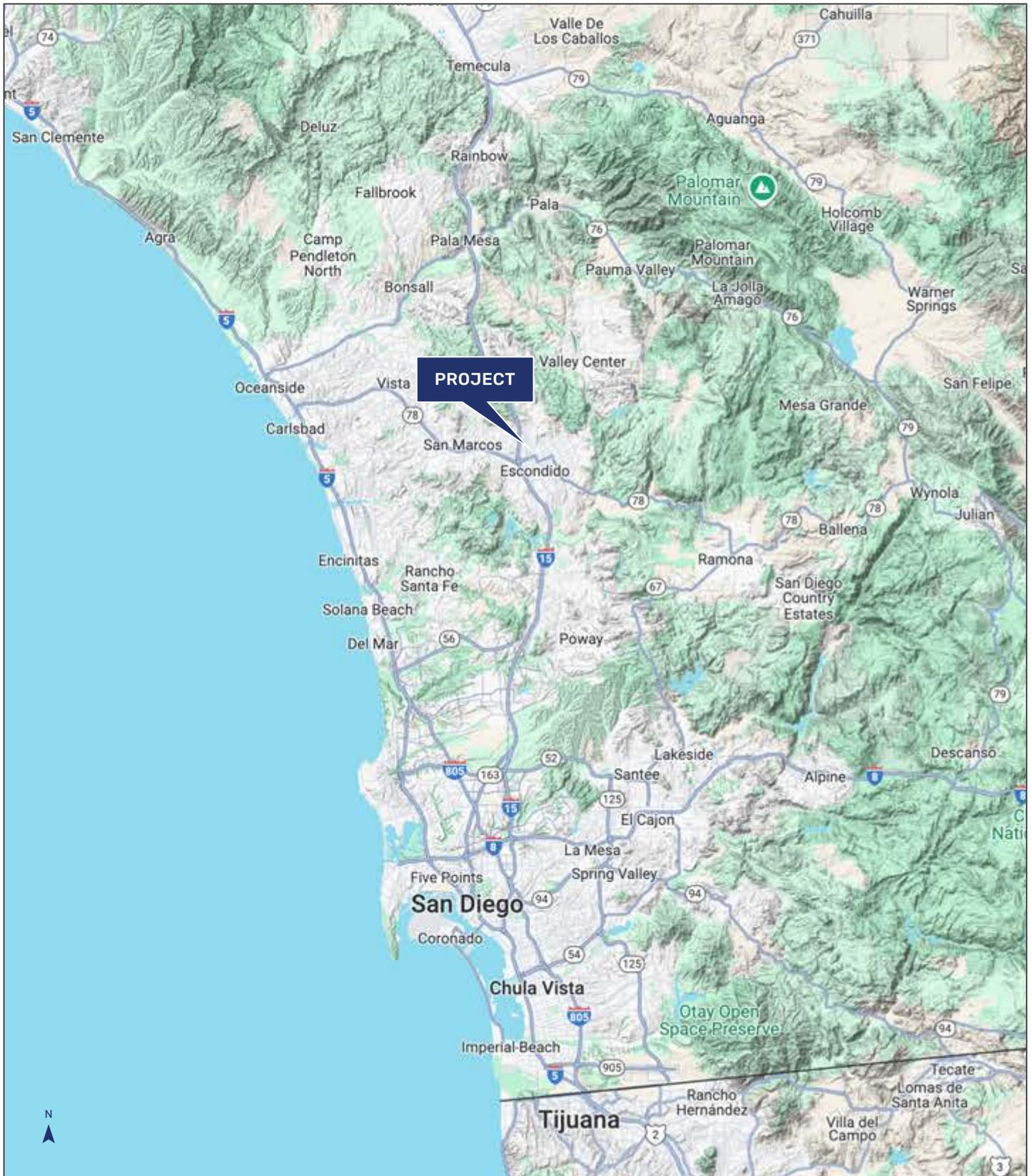


Figure 1-1
Regional Vicinity Map



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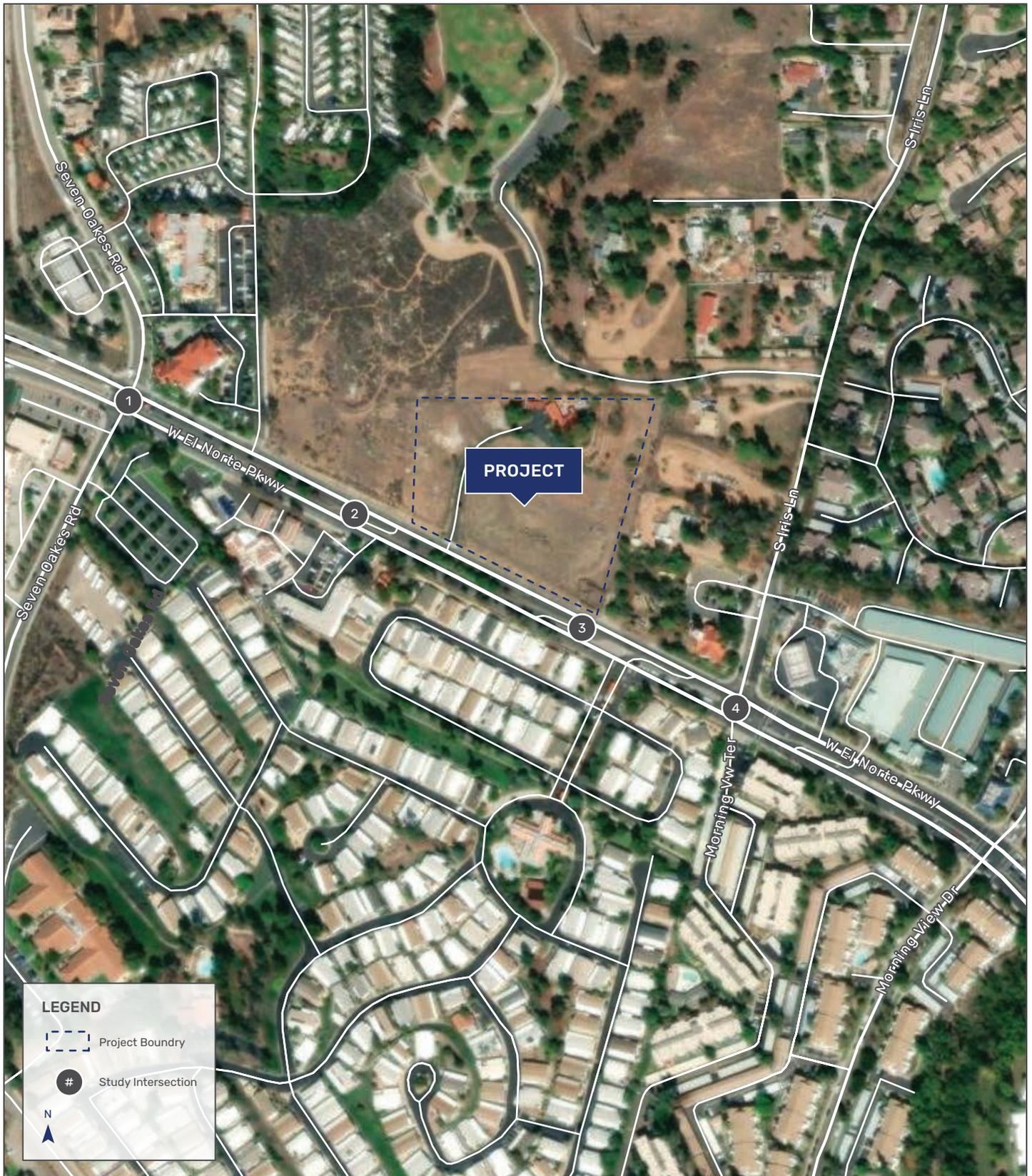


Figure 1-2
Local Project Area Map



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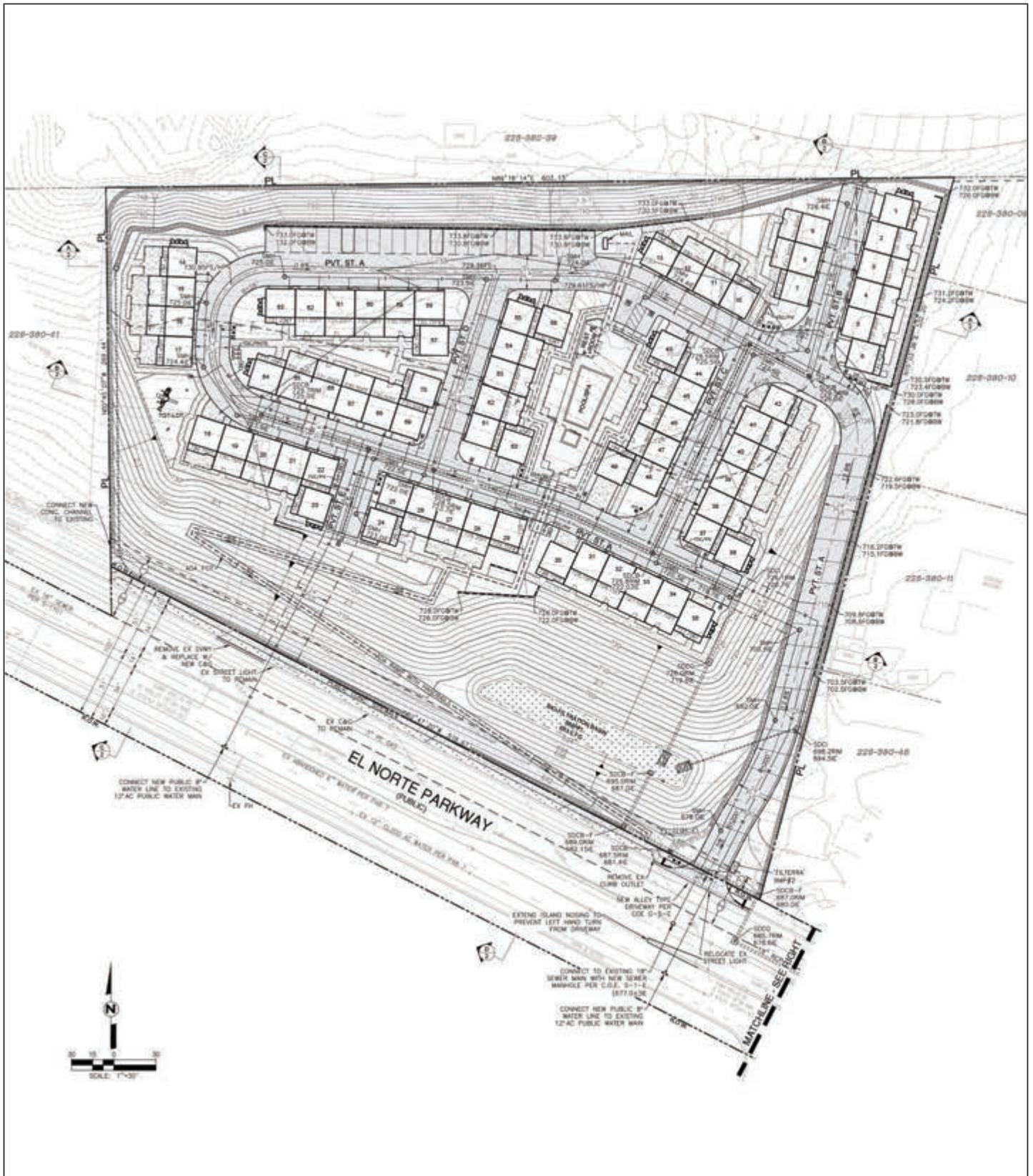


Figure 1-3
Site Plan



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2. ANALYSIS APPROACH & METHODOLOGY

2.1 MOBILITY AND DESTINATION CONTEXT

The Parkview Townhomes project benefits from a well-connected transportation network and a variety of nearby retail and recreational amenities. Situated near Interstate 15, residents have convenient access to major highways, facilitating easy travel throughout the region. Public transportation is readily available through the North County Transit District's BREEZE bus service, with multiple routes operating along El Norte Parkway, connecting to the Escondido Transit Center and other key destinations. The transportation network is discussed in more detail later in the report.

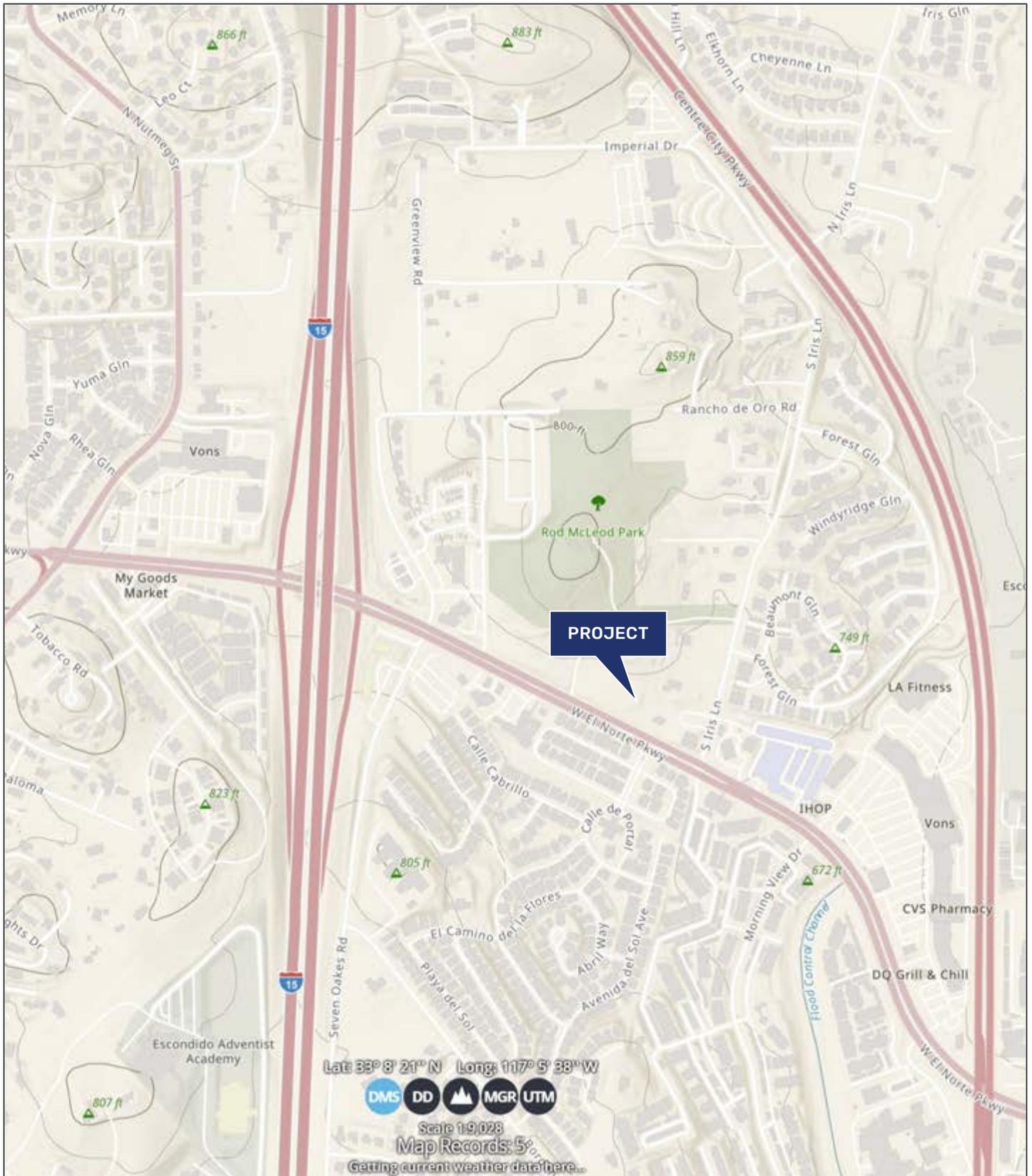
Retail opportunities abound in the vicinity, with El Norte Parkway Plaza located just west of the project site, offering a range of shopping and dining options. Additionally, the North County Mall, a major shopping center featuring numerous stores and eateries, is a short drive away, minimizing the need to long trip lengths.

For recreation, residents can enjoy El Norte Park, a 2.5-acre neighborhood park featuring open turf areas, picnic tables, and ADA-accessible facilities, located nearby. Further outdoor activities can be found at Kit Carson Park, a 285-acre municipal park offering sports fields, hiking trails, and the unique Queen Califia's Magical Circle sculpture garden.

Overall, the project provides residents with excellent transportation options and access to a variety of retail and recreational facilities, enhancing the appeal of the residential project. **Figure 2-1** provides additional context within the project's influence area.

2.2 STUDY AREA

The City of Escondido Transportation Impact Analysis Guidelines, as tabulated in **Table 2-1**, provide guidance on the extent of the study area. The Parkview Townhomes project is located on W El Norte Parkway, a Major Road, per the City's *General Plan - Circulation Element*. The study area was selected based on this guidance and vetted through the Scoping Agreement process with City staff, regardless of whether the LMA trigger was met or not. *Figure 1-2* provides more detail of the study area.



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Figure 2-1
Mobility and Destination Context

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TABLE 2- 1 EXTENT OF STUDY AREA

Classification	Lanes	LMA Trigger
Street Segments		
Prime Arterial	8 lanes, No Parking	900 ADT ^a
	6 lanes, No Parking	800 ADT
Major Road	6 lanes, No Parking	700 ADT
	4 lanes, No Parking	500 ADT
Collector	4 lanes, No Parking	500 ADT
	4 lanes	250 ADT
Local Collector and other	2 lanes, No Parking	200 ADT
	2 lanes	200 ADT
Intersections		
Prime Arterial	n/a	50 peak hour trips ^b
Major Road	n/a	40 peak hour trips
Collector	n/a	30 peak hour trips
Local Collector and other	n/a	20 peak hour trips

Notes:

- a. The LMA street segment triggers are based on the addition of traffic representing more than a 2% increase in ADT of street segments operating at LOS C or worse.
- b. The LMA intersection triggers are based on the AM or PM peak hours trips and represent the sum of all trips (inbound and outbound) added to any leg of the intersection.

2.2 AUTO ANALYSIS

Auto Signalized Intersections

The auto analysis addresses the adequacy of the signalized intersection geometry to serve the existing, forecast, and project traffic through the study intersections. Where applicable, the vehicle delay was determined utilizing the methodology found in Chapter 19 of the *Highway Capacity Manual 7th Edition (HCM 7)*, with the assistance of the *Synchro* computer software. A more detailed explanation of the methodology is attached in **Appendix A**.

Auto Unsignalized Intersections

For unsignalized intersections, where applicable, the vehicle delay was determined based upon the procedures found in Chapter 20 and Chapter 21 of the *HCM 7* with the assistance of the *Synchro* computer software. A more detailed explanation of the methodology is also attached in *Appendix A*. All-way stop intersections are reported for the entire intersection's average value. Minor side-street stop intersections are reported for the overall intersection and the worst-case minor street movement

Auto Roadway Segments

Roadway segments, where applicable, are analyzed based on the functional classification of the roadway using the City of Escondido Street Segment Average Daily Vehicle Trip Thresholds table. The threshold table provides level-of-service (LOS) standards based on the roadway classification and average daily traffic (ADT). The roadway segment capacity and LOS standards used to analyze street segments are attached in **Appendix B**.

Improvement Thresholds

The City provides guidance for identifying when transportation improvements should be considered by the project. Thresholds, by facility type, are shown in **Table 2-2**.

TABLE 2-2 AUTO ANALYSIS - IMPROVEMENT THRESHOLDS

Level-of-Service with Project ^a	Allowable Change due to Project		
	Roadway Segments		Intersections
	V/C ^b	Speed Reduction (mph)	Delay (sec/veh)
D, E, or F	0.02	1	2

Notes:

- a. LOS D or worse is considered unacceptable. The Downtown Specific Plan identifies select roadway segments where LOS E is acceptable if adjacent intersections operate at LOS D or better.
- b. Volume-to-Capacity ratio. The roadway capacity represents LOS E as defined in the City’s Street Segment Average Daily Vehicle Trip Threshold table.
- c. Where existing facilities operate at LOS F, projects should coordinate with City staff to determine if any improvements can be made to improve operations.

2.3 ACTIVE TRANSPORTATION ANALYSIS

An active transportation assessment of pedestrian, bicycle, and transit facilities are identified in the City’s guidelines.

Pedestrian

Pedestrian facilities review includes the documentation of existing and planned pedestrian facilities and basic deficiencies (missing sidewalk, curb ramps, and major obstructions) within ¼-mile walking distance measured from each pedestrian access point (which may include driveways, internal project sidewalk connections to the street, etc.). Planned facilities are identified based on relevant planning documents such as the General Plan or other City planning documents.

Bicycle

Bicycle facilities review includes the documentation of existing and planned bicycle facilities and basic deficiencies (bike lane gaps, obstructions) within 1-mile bicycling distance measured from the center of the intersection formed by each project driveway. Planned facilities are identified based on relevant planning documents such as the General Plan or the Bicycle Master Plan.

Transit

Transit service review includes the identification of the closest transit routes and stops to the project within ¼-mile walking distance and documentation of amenities at existing transit stops (such as shelters, maps, benches, etc.).

Improvement Guidance

The City provides guidance for identifying when transportation improvements, relative to active transportation, should be considered by the project (section 4.3 and Appendix F of the City’s guidelines). This guidance is summarized in **Table 2-3**.

TABLE 2-3 ACTIVE TRANSPORTATION - IMPROVEMENT GUIDANCE

<p>Pedestrian</p>	<p>Construct sidewalks to close sidewalk gaps adjacent to the project site.</p> <p>Remove sidewalk obstructions that limit the pedestrian accessible route to less than four feet in width adjacent to the project site.</p> <p>Construct curb ramps and meet ADA accessibility standards for any intersections adjacent to the project site.</p> <p>Consideration for traffic calming and pedestrian-related timing changes (e.g. leading pedestrian interval signal timing, pedestrian signal head upgrades, installation of accessible signal features) to accommodate an increase in pedestrian demand on roadways and intersections adjacent to the project site.</p>
<p>Bicycle</p>	<p>Construct (or preserve space for) any planned bicycle facility pursuant to the City’s Bicycle Master Plan, other planning documents, and City design standards.</p> <p>Consider upgrading adjacent bicycle facilities by adding upgraded treatments (e.g. adding buffers or protected bike lanes, where appropriate) to accommodate an increase in bicycle demand.</p> <p>Construct any planned bicycle facilities adjacent to the project frontage to be consistent with the City’s Mobility and Infrastructure Element, the Bicycle Master Plan, and other applicable City documents, and through coordination with the City. (This might not be appropriate for short segments)</p>
<p>Transit</p>	<p>Evaluate transit amenities considering the requirements of the North County Transit District (NCTD) Bus Stop Development Handbook and improved where demand of the project warrants such improvements. Coordination with the City and NCTD shall determine appropriate transit amenities and applicable guidelines.</p>

3. EXISTING TRANSPORTATION CONDITIONS

3.1 EXISTING ROADWAY & INTERSECTION CONFIGURATIONS

The Parkview Townhomes project benefits from a well-connected transportation network and a variety of nearby retail and recreational amenities. Situated near I-15, residents have convenient access to major highways, facilitating easy travel throughout the region. Public transportation is readily available through the North County Transit District's BREEZE bus service, with multiple routes operating along El Norte Parkway, connecting to the Escondido Transit Center and other key destinations.

The transportation network is discussed in more detail in this section. The following is a description of the major roadways within the study area. **Figure 3-1** illustrates the roadway classifications per the General Plan – Circulation Element. **Figure 3-2** illustrates the existing conditions in the study area in terms of roadway and intersection configurations/controls.

W El Norte Pkwy is classified as a *Major Road* in the *City of Escondido General Plan - Circulation Element*. Within the study area, it is constructed as a four-lane divided roadway with intermittent turn lanes. The posted speed limit is 45 mph. Curbside parking is not permitted. W El Norte Pkwy provides direct access to I-15 and Cente City Pkwy, major transportation corridors.

Seven Oaks Rd is classified as a *Local Collector* in the *City of Escondido General Plan - Circulation Element*. Within the study area, it is constructed as a two-lane undivided roadway. The posted speed limit is 45 mph. Curbside parking is generally not permitted within the study area.

S Iris Ln is classified as a *Local Collector* in the *City of Escondido General Plan - Circulation Element*. Within the study area, it is constructed as a two-lane undivided roadway. The posted speed limit is 30 mph. Curbside parking is not permitted.

3.2 EXISTING PEDESTRIAN FACILITIES

Existing pedestrian facilities along the study roadways and intersections are illustrated in **Figure 3-3**.

W El Norte Pkwy provides continuous sidewalks within the study area, though pedestrian facilities at intersections vary in design and accessibility. An approximate 1,000-foot sidewalk section along the project frontage and adjacent areas is unimproved utilizing asphalt materials. Protected crossings along and intersecting W El Norte Pkwy are provided at the signalized intersections; however, crossings are only marked at the east leg of W El Norte Pkwy and S Iris Ln. *Figure 3-3* provides details on the pedestrian network at both study street segments and intersections.

Seven Oaks Rd provides continuous sidewalks on both the east and west sides until it's terminus at Loma Ln, north of W El Norte Pkwy. South of W El Norte Pkwy, continuous sidewalks are provided on the east side until Borden Rd and on the west side until developable area ends due to CALTRANS right-of-way. The intersection at W El Norte Pkwy and Seven Oaks Rd is signalized providing a protected crossing with pedestrian accessible ramps.

S Iris Ln provides a continuous sidewalk along the east side and along a portion on the west side within the vicinity of W El Norte Pkwy. Protected crossings with pedestrian ramps are provided at the signalized intersection.

3.3 EXISTING BICYCLE FACILITIES

Existing bicycle facilities along the study roadways are illustrated in *Figure 3-3*. An excerpt from the City's Bicycle Master Plan is provided in **Appendix C**.

W El Norte Pkwy W El Norte Pkwy provides a range of bicycle facilities throughout the study area, including Class II bike lanes, buffered Class II bike lanes, and shared lane markings, as shown in *Figure 3-3*.

S Iris Ln currently does not provide any dedicated bicycle facilities. However, the City's Bicycle Master Plan designates S Iris Ln as a future Class III bike route

Seven Oaks Rd currently does not provide any dedicated bicycle facilities. However, the City's Bicycle Master Plan proposes a Class III bike route for the south of W El Norte Pkwy.

3.4 EXISTING LOCAL & REGIONAL TRANSIT SERVICE

The North County Transit District (NCTD) operates transit services within the study area, with bus route 358/359 serving westbound and eastbound travel on W El Norte Pkwy, respectively. Two bus stops are located near the project site, east of the project driveway. Bus route 358/359 operates at 120-minute headways Monday through Friday and Saturday through Sunday. Additionally, bus route 356 intersects with Morning View Drive to the east of the project, with a bus station located approximately 1/4 mile from Project Driveway. Bus route 356 operates at 30-minute headways Monday through Friday and 30 to 60-minute headways Saturday through Sunday.

Existing transit routes and existing stations are illustrated in **Figures 3-4**. NCTD routes information is provided in **Appendix D**.

3.5 EXISTING TRAFFIC VOLUMES AND PEDESTRIAN/BICYCLE ACTIVITY

Traffic volumes within the study area were commissioned during October and November 2024, while adjacent schools were in session. 24-hour machine traffic counts AM/PM peak hours were conducted to capture daily and commuter peak periods activity, respectively. In addition, pedestrian and bicycle activity were captured during the same time periods.

Figure 3-5 illustrates the existing traffic volumes and pedestrian/bicycle activity. The intersection and segment count sheets are provided in **Appendix E**.



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Figure 3-1
General Plan - Circulation Element

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Figure 3-2
Existing Roadway and Intersection Configurations



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Figure 3-3
Existing Pedestrian and Bicycle Facilities



Figure 3-4
Existing Transit Service

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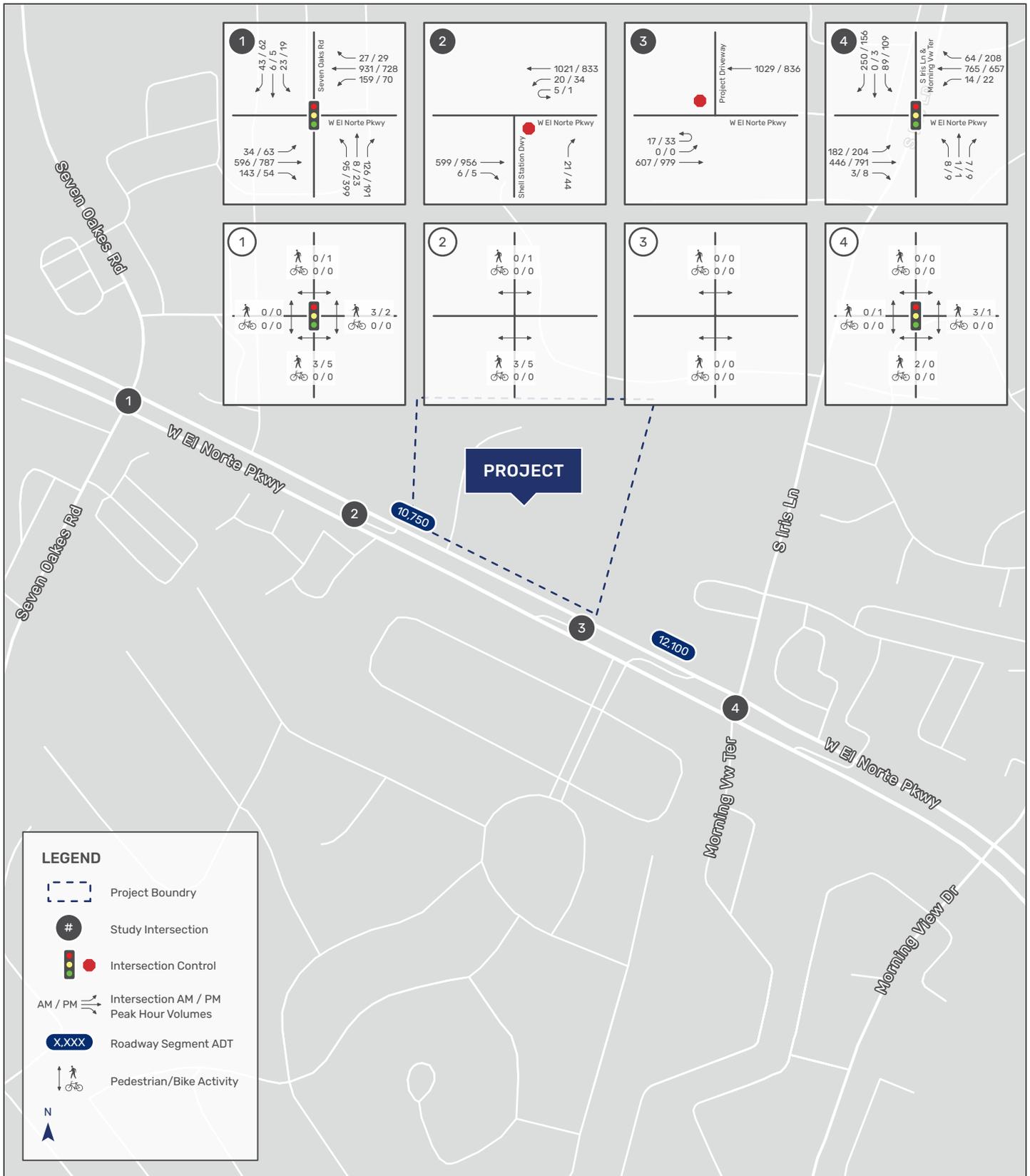


Figure 3-5

Existing Traffic Volumes and Pedestrian/Bicycle Activity



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4. PROPOSED PROJECT

This section describes the project’s estimated trip generation, trip distribution, and assignment of trips to the adjacent roadway network.

4.0 PROJECT DESCRIPTION

The project proposes a 3-story 70-unit townhome community on a 4.96-acre site. The project will provide approximately 2.3 acres of open space including a swimming pool, children’s play area, and green belts. The site is currently vacant and undeveloped apart from one (1) single-family dwelling unit that will remain occupied until the project is constructed.

Full vehicular access will be provided via W El Norte Pkwy, except for outbound left turns, which will be restricted due to the raised median.

4.1 TRIP GENERATION

The project’s trip generation was developed for the traffic impact analysis. **Table 4-1** presents the trip generation rates assumed and summarizes the forecast trips generated by the project. No existing trip credits, associated with the existing single family dwelling unit onsite, were assumed. The project is forecast to generate approximately 560 trips per day, which includes approximately 45 AM and 56 PM peak hour trips.

TABLE 4-1 TRIP GENERATION

Land Use	Size	Daily Trips		% of ADT	AM Peak Hour ^c				% of ADT	PM Peak Hour			
		Trip Rate ^a	ADT ^b		In:Out Split	In	Out	Total		In:Out Split	In	Out	Total
<i>Proposed</i>													
Multi-Family Residential ^{d, e}	70 units	8 /unit	560	8%	20:80	9	36	45	10%	70:30	39	17	56
<i>Existing</i>													
Vacant ^f	4.9 ac	n/a	0	n/a	n/a	0	0	0	n/a	n/a	0	0	0
TOTAL			560			9	36	45			39	17	56

Notes:

- Trip generation rates are based on SANDAG’s (Not So) Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region, April 2002.
- Average Daily Traffic (ADT)
- AM and PM peak hours are between 7-9am and 4-6pm, respectively.
- Multi-Family Residential (6-20 DU/acre) trip rate was selected based on the project’s approximate 14 DU/acre density (based on 70 DU on a 4.9 acre site)
- The Primary:Diverted:Pass-By trip category distribution are 86:11:3, respectively. For the purposes of the trip generation calculations, Diverted or Pass-By trips were conservatively not considered.
- The site is generally vacant apart from one (1) single-family dwelling unit that will remain occupied until the project is constructed. No existing trip credits assumed.

4.2 TRIP DISTRIBUTION & ASSIGNMENT

The project's trip distribution was developed based on existing travel patterns, access to major road networks in the study area, understanding of surrounding land uses, and the project access scheme. A 15-minute drive travel shed was also conducted to assist in estimating travel patterns and is attached in **Appendix F**.

Figure 4-1 illustrates the inbound/outbound trip distribution within the study area. Based on the trip distribution, project trips were assigned to the study area roadway network. **Figure 4-2** illustrates the trip assignment for AM and PM peak hour and daily traffic volumes associated with the proposed Project. **Figure 4-3** illustrates Existing + Project traffic volumes.



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Figure 4-1
Project Distribution

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Figure 4-2
Project Trip Assignment

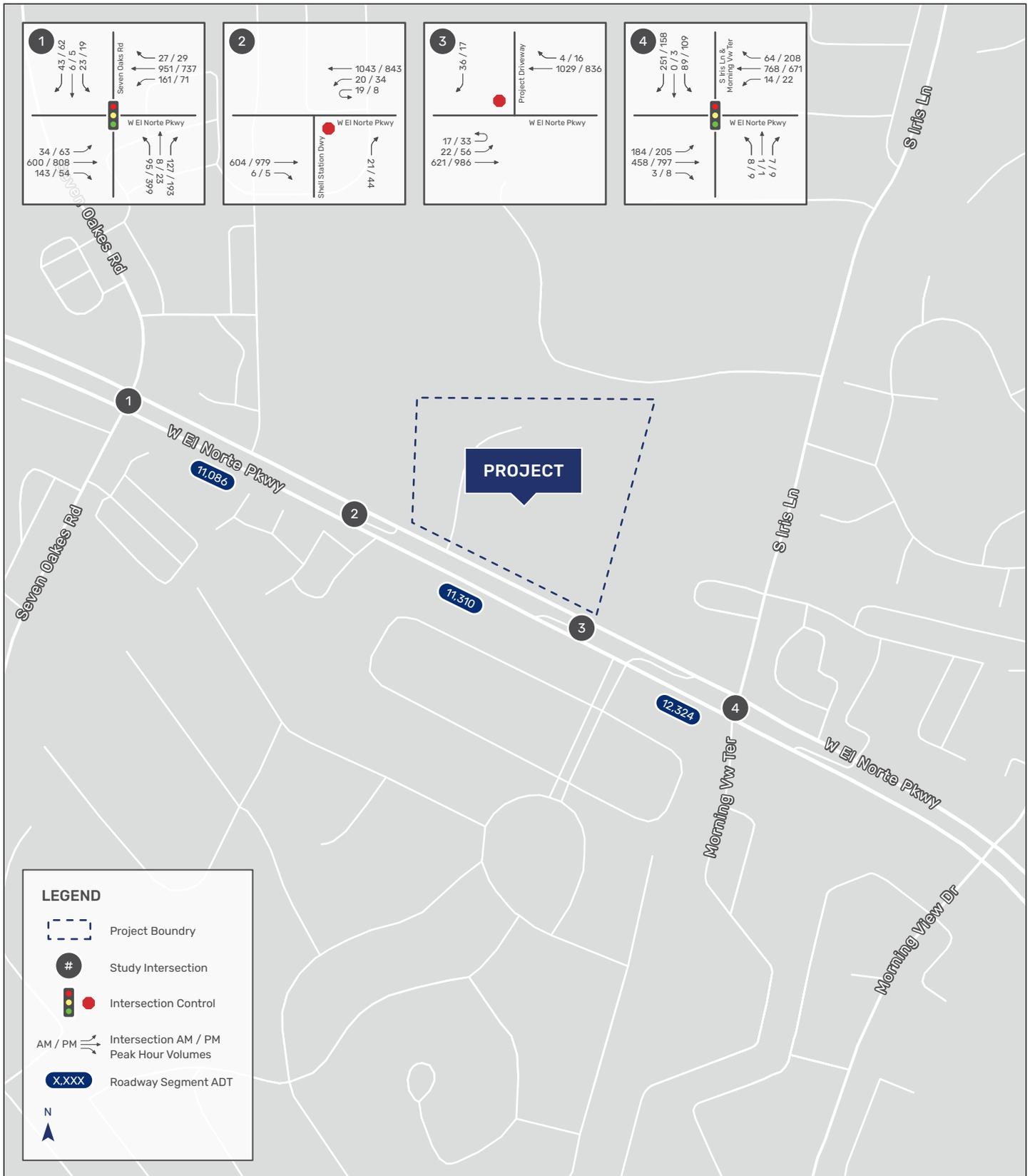


Figure 4-3
Existing + Project Volumes



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5. CUMULATIVE TRANSPORTATION CONDITIONS

5.1 Cumulative Conditions Roadway & Intersection Configurations

For the purposes of this traffic impact analysis, local and regional roadway improvements were not assumed. *Figure 3–1* illustrates the transportation conditions assumed for Near-Term conditions.

5.2 Cumulative Conditions Pedestrian Facilities

For the purposes of this traffic impact analysis, pedestrian improvements were not assumed. *Figure 3–2* illustrates the pedestrian facilities assumed for the Near-Term conditions.

5.3 Cumulative Conditions Bicycle Facilities

Similar to the pedestrian facilities assumption, bicycle improvements were not assumed. *Figure 3–3* illustrates the bicycle facilities assumed for the Near-Term Year conditions.

5.4 Cumulative Conditions Local & Regional Transit Service

The existing transit routes and existing stations, as illustrated in *Figures 3-3* and *3-4*, were assumed for the Near-Term Conditions.

5.5 Cumulative Conditions Traffic Volumes

Through City coordination, approved or pending cumulative projects were identified within the study area. The cumulative conditions represent near-term conditions, and the identified cumulative projects are anticipated to add traffic within the study area. Six (6) cumulative projects were identified as tabulated in **Table 5-1** and shown in **Figure 5-1**.

TABLE 5-1 CUMULATIVE PROJECTS

Project	Description
1. Nutmeg South	The project consists of 7.66 acres of residential development, located on a vacant site along the east side of I-15, east of N. Centre City Parkway and north and south of N. Nutmeg Street, proposing up to 137 multi-family dwelling units.
2. N Iris Condominiums	The project consists of 7.7 acres of multi-family residential development, located on the southwest corner of N. Iris Lane at Robin Hill Lane, proposing up to 102 dwelling units.
3. Conway Subdivision	The project consists of single family and multi-family residential development, located on the southwest corner of the Conway Dr and Stanley Ave, proposing up to 54 dwelling units.
4. Ash Subdivision	The project proposes 20 single-family units to be built on the northwest corner of the Ash St and Lehner Ave.
5. Jehovah Witness Assembly Hall SPA 13 GPA	A General Plan Amendment (GPA) to modify Specific Planning Area (SPA) 13 to allow the development of an approximate 21,892 square foot assembly hall, located at 521 Imperial Dr.
6. Residential SPA 13 GPA	A General Plan Amendment (GPA) to modify the residential area overlay of Specific Planning Area (SPA) 13 to allow residential development up to 30 du/acre, located on the northwest corner of W El Norte Pkwy and S Iris Ln.



The total cumulative projects traffic volumes within the study area are shown in **Figure 5-2**. Existing + Cumulative Project volumes are shown in **Figure 5-3**. Existing + Cumulative Projects + Project traffic volumes are shown in **Figure 5-4**.

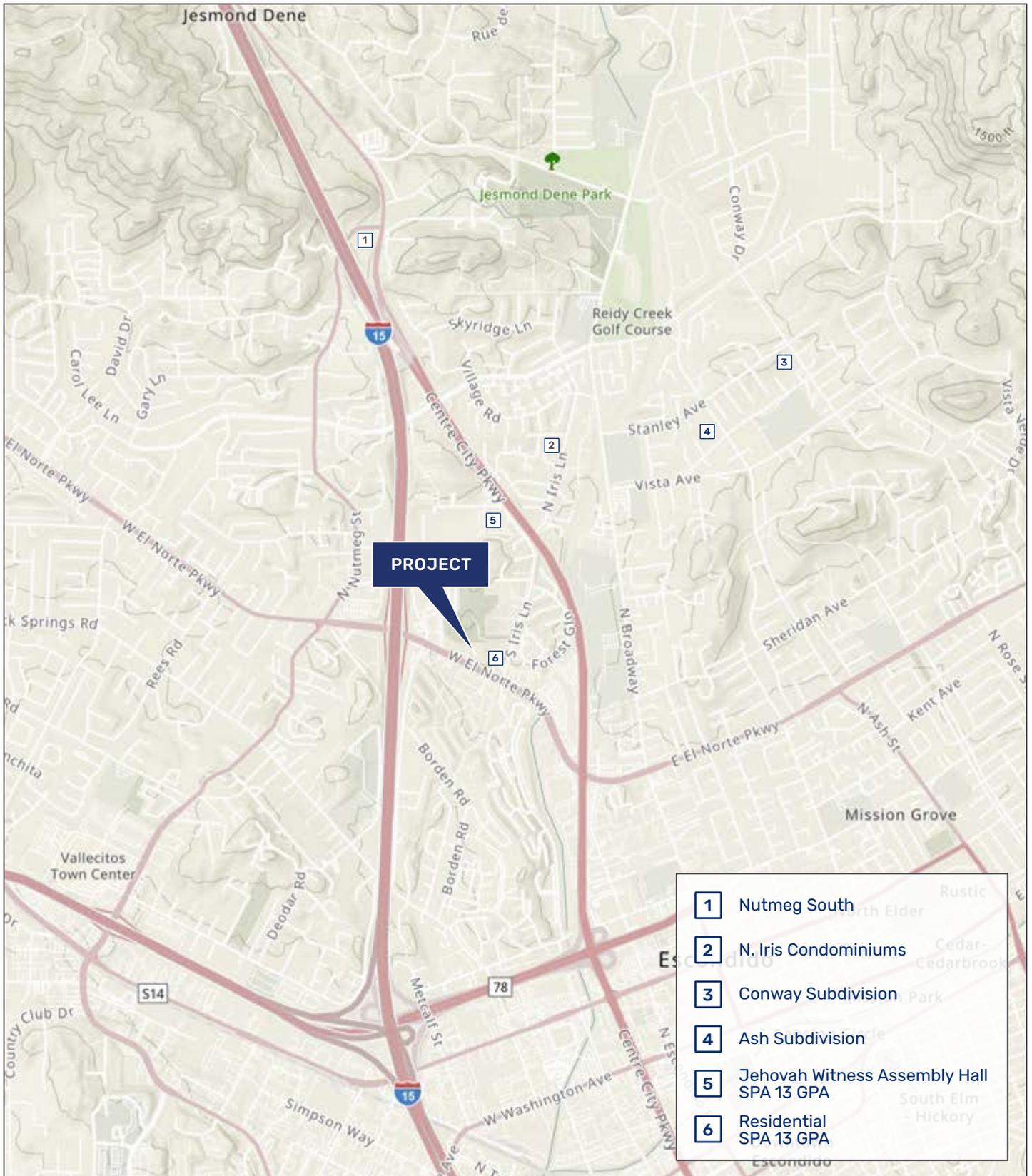


Figure 5-1
Cumulative Projects Map



Figure 5-2
Cumulative Project Trips

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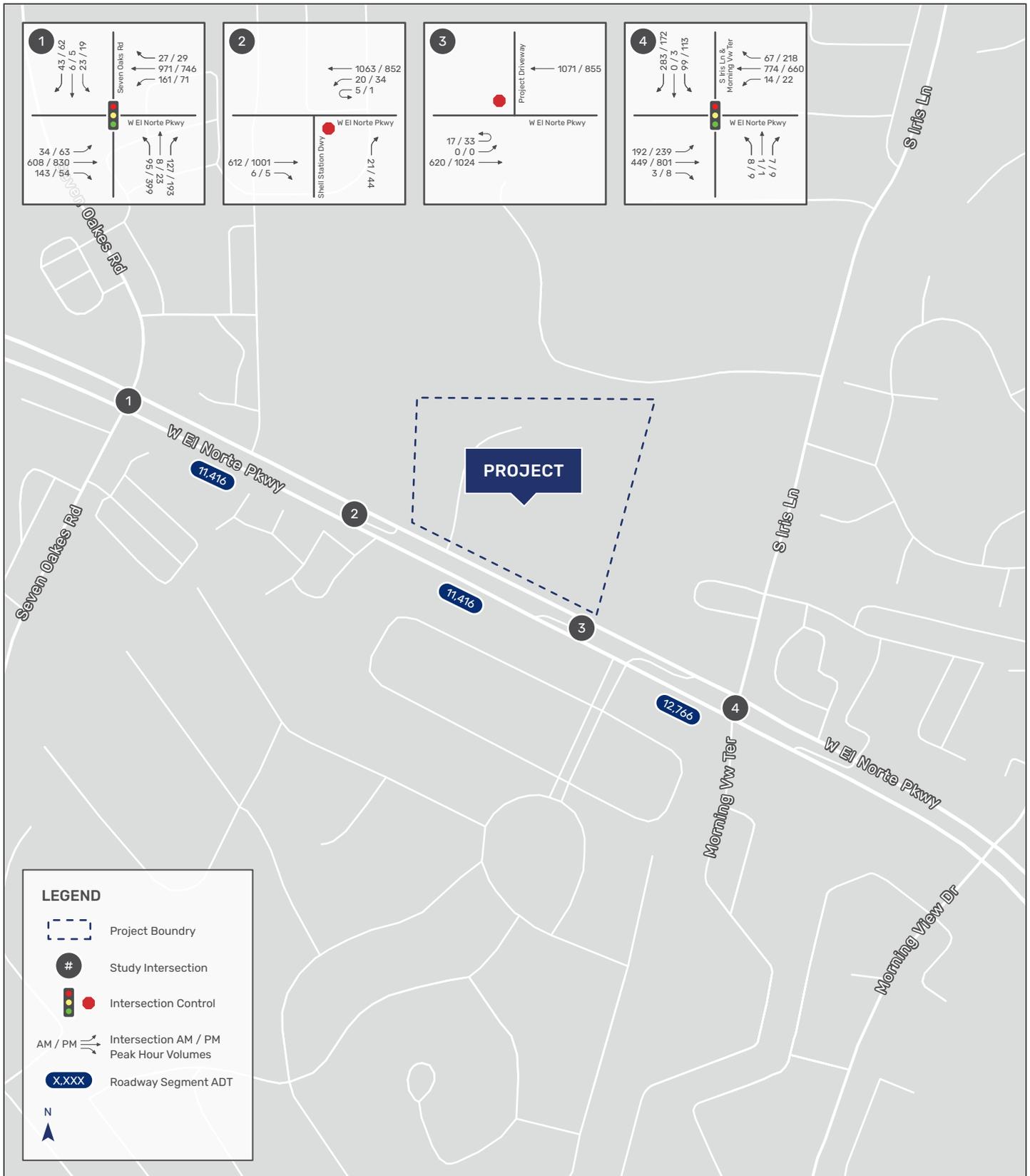


Figure 5-3
Existing + Cumulative Traffic Volumes



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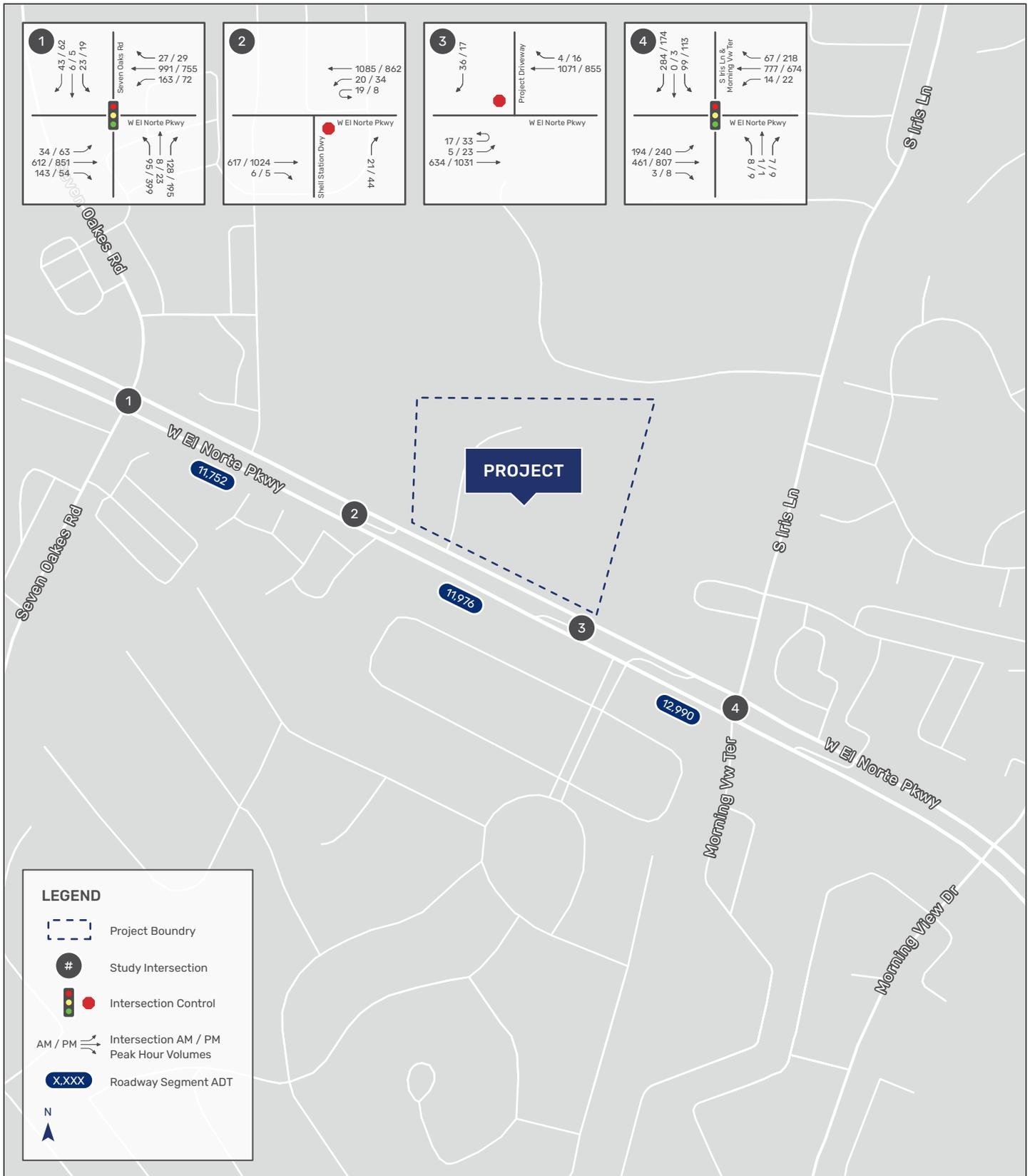


Figure 5-4
Existing + Cumulative + Project Traffic Volumes



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6. TRANSPORTATION ANALYSIS

6.1 AUTO INTERSECTION ANALYSIS

Intersection operations were reviewed for Existing and Near-Term conditions. **Tables 6-1** and **6-2** summarize the results of the auto intersection analysis. The analysis worksheets are included in **Appendix G**.

Overall, the study intersections operate at acceptable operations (i.e. LOS C or better) and no deficiencies were identified under all conditions and under all intersection control types. Therefore, no intersection improvements are recommended.

TABLE 6-1 INTERSECTION OPERATIONS – EXISTING CONDITIONS

	Intersection (Traffic Control)	Peak Hour	Existing		Existing + Project			Deficient
			Delay ^{a,b}	LOS ^c	Delay	LOS	Delta ^d	
1	Seven Oakes Rd & W El Norte Pkwy (signalized)	AM	16.0	B	16.0	B	0.0	No
		PM	25.4	C	25.7	C	0.3	No
2	Commercial Dwy & W El Norte Pkwy (unsignalized, two-way stop)	AM	0.3 (10.6)	A (B)	0.4 (10.7)	A (B)	0.1 (0.1)	No
		PM	0.5 (13.0)	A (B)	0.6 (13.1)	A (B)	0.1 (0.1)	No
3	Project Dwy & W El Norte Pkwy (unsignalized, two-way stop)	AM	0.3 (15.6)	A (C)	0.6 (15.7)	A (C)	0.3 (0.1)	No
		PM	0.5 (13.2)	A (B)	0.7 (13.3)	A (B)	0.2 (0.1)	No
4	Iris Ln & W El Norte Pkwy (signalized)	AM	24.4	C	24.7	C	0.3	No
		PM	20.1	C	20.2	C	0.1	No

Notes:

- Signalized and unsignalized (all-way stop): average delay expressed in seconds per vehicle.
- Unsignalized (two-way): average (worst-case minor street movement) delay expressed in seconds per vehicle.
- Level of Service (LOS).
- Increase in delay attributed to the project.
- An intersection is considered deficient if the allowable increase in delay due to the project exceeds 2.0 sec for intersections operating at an unacceptable LOS (LOS D or worse) with the project. The Downtown Specific Plan identifies select roadways segments where LOS E is acceptable if adjacent intersections operate at LOS D or better.

SIGNALIZED DELAY/LOS THRESHOLDS		UNSIGNALIZED DELAY/LOS THRESHOLDS	
Delay	LOS	Delay	LOS
0.0 ≤ 10.0	A	0.0 ≤ 10.0	A
10.1 to 20.0	B	10.1 to 15.0	B
20.1 to 35.0	C	15.1 to 25.0	C
35.1 to 55.0	D	25.1 to 35.0	D
55.1 to 80.0	E	35.1 to 50.0	E
≥ 80.1	F	≥ 50.1	F

TABLE 6-2 INTERSECTION OPERATIONS – CUMULATIVE CONDITIONS

	Intersection (Traffic Control)	Peak Hour	Existing + Cumulative		Existing + Cumulative +Project			Deficient ^e
			Delay ^{a,b}	LOS ^c	Delay	LOS	Delta ^d	
1	Seven Oakes Rd & W El Norte Pkwy (signalized)	AM	16.0	B	16.0	B	0.0	No
		PM	25.9	C	26.1	C	0.2	No
2	Commercial Dwy & W El Norte Pkwy (unsignalized, two-way stop)	AM	0.3 (10.7)	A (B)	0.4 (10.7)	A (B)	0.1 (0.0)	No
		PM	0.5 (13.3)	A (B)	0.6 (13.5)	A (B)	0.1 (0.2)	No
3	Project Dwy & W El Norte Pkwy (unsignalized, two-way stop)	AM	0.2 (18.1)	A (C)	0.5 (18.7)	A (C)	0.3 (0.6)	No
		PM	0.4 (14.4)	A (B)	0.5 (14.5)	A (B)	0.1 (0.1)	No
4	Iris Ln & W El Norte Pkwy (signalized)	AM	28.0	C	28.0	C	0.0	No
		PM	21.2	C	21.3	C	0.1	No

Notes:

- Signalized and unsignalized (all-way stop): average delay expressed in seconds per vehicle.
- Unsignalized (two-way): average (worst-Case minor street movement) delay expressed in seconds per vehicle.
- Level of Service (LOS).
- Increase in delay attributed to the project.
- An intersection is considered deficient if the allowable increase in delay due to the project exceeds 2.0 sec for intersections operating at an unacceptable LOS (LOS D or worse) with the project. The Downtown Specific Plan identifies select roadways segments where LOS E is acceptable if adjacent intersections operate at LOS D or better.

SIGNALIZED DELAY/LOS THRESHOLDS		UNSIGNALIZED DELAY/LOS THRESHOLDS	
Delay	LOS	Delay	LOS
0.0 ≤ 10.0	A	0.0 ≤ 10.0	A
10.1 to 20.0	B	10.1 to 15.0	B
20.1 to 35.0	C	15.1 to 25.0	C
35.1 to 55.0	D	25.1 to 35.0	D
55.1 to 80.0	E	35.1 to 50.0	E
≥ 80.1	F	≥ 50.1	F

6.2 AUTO ROADWAY SEGMENT ANALYSIS

Roadway segment operations were reviewed for Existing and Near-Term conditions. **Tables 6-3 and 6-4** summarize the results of the auto intersection analysis.

Overall, the study roadway segments operate at acceptable operations (i.e. LOS C or better) and no deficiencies were identified under all conditions. Therefore, no intersection improvements are recommended.

TABLE 6-3 ROADWAY SEGMENT OPERATIONS - EXISTING CONDITIONS

Roadway Segment	Classification / Configuration	Segment Capacity (LOS E) ^a	Existing			Existing + Project			Delta	Deficient ^e
			ADT ^b	V/C ^c	LOS ^d	ADT	V/C	LOS		
W El Norte Pkwy										
Seven Oakes Rd to Commercial Dwy	Major / 4-lanes / 45mph / Divided	37,000	10,750	0.291	A	11,086	0.300	A	0.009	No ^a
Commercial Dwy to Project Dwy	Major / 4-lanes / 45mph / Divided	37,000	10,750	0.291	A	11,310	0.306	A	0.015	No
Project Dwy to S Iris Ln	Major / 4-lanes / 45mph / Divided	37,000	12,100	0.327	A	12,324	0.333	A	0.006	No

Notes:

- Segment capacity based on street classification Level-of-Service (LOS) E capacity from the City of Escondido LOS standards.
- Average Daily Traffic
- Volume-to-Capacity ratio
- Level-of-Service
- A roadway segment is considered deficient if the allowable V/C change due to the project exceeds 0.02 for segments operating at an unacceptable LOS (LOS D or worse) with the project. The Downtown Specific Plan identifies select roadways segments where LOS E is acceptable if adjacent intersections operate at LOS D or better.
- This section of roadway is not built to its ultimate classification; therefore, it is not considered deficient.

TABLE 6-4 ROADWAY SEGMENT OPERATIONS - CUMULATIVE CONDITIONS

Roadway Segment	Configuration	Segment Capacity (LOS E) ^a	Existing + Cumulative			Existing + Cumulative + Project			Delta	Deficient ^e
			ADT ^b	V/C ^c	LOS ^d	ADT	V/C	LOS		
W El Norte Pkwy										
Seven Oakes Rd to Commercial Dwy	4-lanes / 45mph / Divided	37,000	11,416	0.309	A	11,752	0.318	A	0.009	No ^a
Commercial Dwy to Project Dwy	4-lanes / 45mph / Divided	37,000	11,416	0.309	A	11,976	0.324	A	0.015	No
Project Dwy to S Iris Ln	4-lanes / 45mph / Divided	37,000	12,766	0.345	B	12,990	0.351	B	0.006	No

Notes:

- Segment capacity based on street classification Level-of-Service (LOS) E capacity from the City of Escondido LOS standards.
- Average Daily Traffic
- Volume-to-Capacity ratio
- Level-of-Service
- A roadway segment is considered deficient if the allowable V/C change due to the project exceeds 0.02 for segments operating at an unacceptable LOS (LOS D or worse) with the project. The Downtown Specific Plan identifies select roadways segments where LOS E is acceptable if adjacent intersections operate at LOS D or better.
- This section of roadway is not built to its ultimate classification; therefore, it is not considered deficient.

6.3 SITE ACCESS / ACCESS MANAGEMENT REVIEW

Access management refers to the design, implementation and management of entry and exit points (i.e., driveways, entrances or exits) between roadways and adjacent properties. The project’s access scheme was reviewed from this perspective to ensure efficient operations, mobility for pedestrians and bicyclists, and transit accessibility.

The following access management factors were considered with project specific notations and recommendations provided, where appropriate in **Table 6-5**.

TABLE 6-5 ACCESS MANAGEMENT

Site Access - Driveway Design	
Sight Distance	<p>Provide adequate vertical/horizontal sight distance at the project driveways.</p> <p><i>A preliminary review does not indicate any major deficiencies; however, the property parcel is sloped and could hinder visibility if not adequately designed. Driveway sight distance will need to be verified to the satisfaction of the City traffic engineer.</i></p>
Location Near Adjacent Intersections	<p>Locate driveways upstream of potential conflicts with vehicle queues from an adjacent traffic signal.</p> <p><i>The project driveway is not located in the immediate vicinity of a signalized intersection. Therefore, any potential queues from signalized intersections are not expected to extend to project driveway or measurably impact operations.</i></p>
Alignment with Adjacent Driveways	<p>In cases where there is a two-way left-turn lane (i.e TWLTL), aligning driveways to have a positive offset to minimize conflicts between left-turning vehicles is advantageous. Where it is not possible to align driveways with a positive offset, align driveways directly across the street from one another</p> <p><i>There are no opposing driveways within the project driveway vicinity. Furthermore, the raised median restricts and formalizes movements. Therefore, driveway operations are expected to operate acceptably.</i></p>
Other Considerations	<p>Identify any unique conditions that could affect site access operations.</p> <p><i>An approximate 40-ft median opening currently exists at the location of the proposed project driveway. This opening, particularly with project traffic, may encourage illegal outbound left-turn movements. If determined feasible and to the extent possible, an extension of the median nose could mitigate these conditions. It is also recommended that any turn restrictions be reinforced with appropriate signage and pavement markings to the satisfaction of the City engineer.</i></p>
Site Access - Bicycle, Pedestrian and Transit Accessibility	
Pedestrian Accessibility	<p>Ensure project sidewalks and pedestrian pathways provide direct access to the roadway and local pedestrian facilities.</p> <p><i>The project provides an ADA accessible pedestrian path that will afford direct access to W El Norte Pkwy. The ADA ramp will be constructed at a slope not exceeding 8% with handrails.</i></p>
Driveway Width	<p>Minimize the width of the driveway as much as possible in order to reduce pedestrian crossing distances (i.e., reduce exposure)</p> <p><i>A preliminary review does not indicate any excessive width of the project driveway.</i></p>
Pedestrian Visibility	<p>Place sidewalks and pedestrian driveway crossings so that pedestrians are visible to the drivers, and drivers are visible to the pedestrians. Do not block pedestrian-driver sightlines with landscaping or signage.</p>

	<p><i>A preliminary review does not indicate pedestrian visibility constraints; however, driveway sight distance will need to be verified to the satisfaction of the City traffic engineer.</i></p>
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6.4 PEDESTRIAN REVIEW

The local pedestrian facilities were reviewed to determine whether the project will impact pedestrian facilities and whether improvements are required involves assessing several factors related to pedestrian accessibility, demand, and the existing infrastructure. These factors include:

- **Land Use and Scale:** determine if the project will generate measurably new pedestrian traffic based on the land use and project size.
- **Proximity to Key Destinations:** identify nearby facilities such as transit stops, schools, parks, or downtown areas that pedestrians may likely access.
- **Existing Pedestrian Conditions:** identify the existing pedestrian facilities, potential deficiencies, and identify any network gaps.
- **City Mobility Goals:** select improvements designed to compliment the surrounding network and support broader mobility goals.

For the project, the following project improvements were determined relative to pedestrian facilities and infrastructure:

1. The project will provide direct and ADA compliant pedestrian access to W El Norte Pkwy.
2. The project will construct approximately 520 feet of new concrete ADA-compliant sidewalk along the project frontage. This segment provides direct pedestrian access to the project and adjacent bus stops. The existing sidewalk is currently unimproved pavement.
1. The project will provide a pedestrian connection from the project site to the Rod McLeod Park access road. This connection will eliminate the need for a circuitous route around the block, offering residents a more direct and convenient path to the park. Improving pedestrian connectivity to local recreational amenities encourages walking by reducing travel distance and perceived effort. This enhancement will promote active transportation among residents, particularly children and families, who may otherwise rely on short vehicle trips to access the park. As a result, the direct pedestrian connection is expected to reduce local vehicle miles travelled (VMT), support public health, and foster a more walkable community. Due to existing grade differences and site constraints, the proposed connection is anticipated to be non-ADA compliant; however, it will still serve as a valuable route for able-bodied pedestrians and enhance overall connectivity between the residential area and community amenities.
2. The project will extend the raised median on El Norte Pkwy at the project driveway to discourage midblock pedestrian crossings and prohibit left-turn vehicle movements from the site. The existing median currently provides a gap that may encourage undesirable pedestrian and vehicle movements.
3. The project will install high visibility crosswalks at four (4) legs at the intersection of El Norte Pkwy and Morning View Dr. The improvements would encourages short trips on foot, particularly to the local retail area at this intersection, reducing local car trips. The crosswalks would also improve

first/last-mile connections to transit.

4. The project will install a high visibility crosswalk on the west leg of the N Broadway and Lincoln Avenue intersection. This location is adjacent to Lincoln Elementary School and has been identified as a priority improvement through the Safe Routes to School (SRTS) program. The improvement will enhance the visibility of pedestrians, particularly school-aged children, and improve driver awareness at a critical crossing location. By providing a clearly marked and designated crossing, the improvement supports safer and more direct pedestrian access to Lincoln Elementary, encouraging more students to walk to school rather than be driven.
5. Project will install high visibility crosswalks at the N Broadway and Lincoln Avenue intersection. This location is adjacent to Lincoln Elementary School and has been identified as a priority improvement through the Safe Routes to School (SRTS) program.

6.5 BICYCLE REVIEW

The review of bicycle facilities evaluated whether the project would impact existing infrastructure. It also assessed whether improvements are warranted based on factors such as bicycle accessibility, anticipated demand, and current facility conditions. This ensures that new developments align with community goals for connectivity and sustainability. These factors include:

- Land Use and Scale: determine if the project will generate measurably new bicycle activity based on the land use and project size.
- Proximity to Bicycle Networks: identify nearby or planned bicycle facilities.
- Key Destinations: identify locations bicyclists may access.
- Existing Bicycle Conditions: identify the existing bicycle facilities, potential deficiencies, and identify any network gaps.
- City Mobility Goals: select improvements designed to compliment the surrounding network and support broader mobility goals.

For the project, the following project improvements were determined relative to bicycle facilities and infrastructure:

1. The project will provide direct bicycle access to W El Norte Pkwy and align with existing bike facilities in the public right-of-way (ROW).
2. Given the site topography, the project will also provide dual-purpose ADA compliant pedestrian-bicycle access with a maximum grade of 5% to promote ease of access.
3. The project will provide secure on-site bicycle parking to directly support and encourage transit use by addressing the key barriers to public transportation use - the first/last mile gap. Bicycles extend the reach of transit by allowing residents or visitors to bike from the project site to nearby transit stops such as the Escondido Transit Station (i.e. Sprinter). By enabling a bike-to-transit mode, the need for private vehicle trips to access regional destinations is reduced.

The construction of the project and future area development will help increase future use of bicycles in the area. Therefore, the project is considered to have a positive long-term influence on bicycle use.

6.6 TRANSIT REVIEW

The local transit facilities were reviewed to determine whether the project will impact transit services and whether improvements are required. This assessment involves evaluating several factors related to transit accessibility, demand, and existing infrastructure. These factors include:

- Land Use and Scale: Determine if the project will generate new transit demand based on the proposed land use and project size.
- Proximity to Key Destinations: Identify nearby transit stops, major activity centers, schools, parks, or commercial areas that could influence transit ridership.
- Existing Transit Conditions: Evaluate existing transit services and facilities, identify potential deficiencies, and assess any service or access gaps.
- City Mobility Goals: select improvements designed to compliment the surrounding network and support broader mobility goals.

For this project, the following improvements were identified relative to transit facilities and infrastructure:

1. The project will provide direct and ADA compliant pedestrian access to W El Norte Pkwy and transit stops in the immediate vicinity.
4. The project will provide secure on-site bicycle parking to directly support and encourage transit use by addressing the key barriers to public transportation use - the first/last mile gap. Bicycles extend the reach of transit by allowing residents or visitors to bike from the project site to nearby transit stops such as the Escondido Transit Station (i.e. Sprinter). By enabling a bike-to-transit mode, the need for private vehicle trips to access regional destinations is reduced.

It is worth noting that the construction of the project and future area development will help increase future demand for transit in the area. Therefore, the project is considered to have a positive long-term influence on local transit.

End of Report



TRANSPORTATION LOCAL MOBILITY ANALYSIS (LMA)
Parkview Townhomes
City of Escondido, CA

APPENDIX SUMMARY

Appendix A	HCM signalized/unsignalized/roundabout methodologies
Appendix B	City of Escondido Street Segment ADT Trip Thresholds
Appendix C	City of Escondido Bike Master Plan
Appendix D	NCTD Transit Routes and Headways
Appendix E	Intersection and Street Segment Count Sheets
Appendix F	15-Minute Drive Travel Shed
Appendix G	Synchro Calculation Worksheets



APPENDIX A

HCM Methodologies

INTERSECTION ANALYSIS METHODOLOGY

Signalized Intersections

The analysis of signalized intersections utilized the operational analysis procedure as outlined in the *Highway Capacity Manual (HCM) 7th Edition (HCM7)* Chapter 19 signalized intersection analysis. This represents the most current methodology at the time work began on the analysis.

This method defines Level-of-Service (LOS) in terms of delay, or more specifically, average stopped delay per vehicle. Delay is a measure of driver and/or passenger discomfort, frustration, fuel consumption, and lost travel time. This technique uses 1,900 vehicles per hour per lane (VPHPL) as the maximum saturation volume of an intersection. This saturation volume is adjusted to account for lane width, on-street parking, pedestrians, traffic composition (i.e., percentage trucks) and shared lane movements (i.e., through and right-turn movements originating from the same lane). Control delays include initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. Delay is a complex measure, and is dependent on a number of variables, including the quality of progression, the cycle length, the green ratio, and the Volume-to-Capacity (V/C) ratio for the lane group or approach in question.

LEVEL OF SERVICE (LOS)	CONTROLLED DELAY PER VEHICLE (SEC)
A	< 10.0
B	10.1 to 20.0
C	20.1 to 35.0
D	35.1 to 55.0
E	55.1 to 80.0
F	> 80.0

LOS A describes operations with very low delay. This occurs when progression is extremely favorable, and most vehicles arrive during the green phase. Most vehicles do not stop. Short cycle lengths may also contribute to low delay.

LOS B describes operations with low delay. This generally occurs with good progression and/or short cycle lengths. More vehicles stop than under LOS A conditions, causing higher levels of average delay.

LOS C describes operations with more delay. These higher delays may result from fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear in the level. The number of vehicles stopping is significant at this level, although many still pass through the intersections without stopping.

LOS D describes operations with a higher delay. At Level D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high v/c ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.

LOS E describes operations with a high delay. This is considered to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios. Individual cycle failures are frequent occurrences.

LOS F describes operations with very high delay. This is considered to be unacceptable to most drivers. This condition often occurs with over-saturation (i.e. when arrival flow rates exceed the capacity of the intersection). It may also occur at high v/c ratios below 1.00 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing causes to such delay levels.



C2 CONSULTING COLLECTIVE
Historic Santa Fe Depot
1050 Kettner Blvd, Suite D-551
San Diego, CA 92101
info@c2-mobility.com
858.270.4444
Planning.Design.Technology

Unsignalized Intersections – Stop Control

The analysis of unsignalized intersections with stop sign control (i.e. All-Way or Two-Way Stop Control) utilized the operational analysis procedure as outlined in the *Highway Capacity Manual (HCM) 7th Edition (HCM7)*. This represents the most current methodology at the time work began on the analysis.

Level of Service (LOS) F exists when there are insufficient gaps of suitable size to allow a side street demand to safely cross through a major street traffic stream. This LOS is generally evident from extremely long control delays experienced by side-street traffic and by queuing on the minor-street approaches. The method, however, is based on a constant critical gap size; that is, the critical gap remains constant no matter how long the side-street motorist waits. LOS F may also appear in the form on side-street vehicles selecting smaller-than-usual gaps. In such cases, safety may be a problem, and some disruption to the major traffic stream may result. It is important to note that LOS F may not always result in long queues but may result in adjustments to normal gap acceptance behavior, which are more difficult to observe in the field than queuing.

In most cases at Two-Way Stop Controlled (TWSC) intersections, the critical movement is the minor-street left-turn movement. As such, the minor-street left-turn movement can generally be considered the primary factor affecting overall intersection performance. The lower threshold for LOS F is set at 50 seconds of delay per vehicle. There are many instances, particularly in urban areas, in which the delay equations will predict delays of 50 seconds (LOS F) or more for minor-street movements under very low volume conditions on the minor street (less than 25 vehicle/hour). Since the first term of the equation is a function only of the capacity, the LOS F threshold of 50 sec/vehicle is reached with a movement capacity of approximately 85 vehicle/hour or less.

This procedure assumes random arrivals on the major street. For a typical four-lane arterial with average daily traffic volumes in the range of 15,000 to 20,000 vehicles per day (peak hour, 1,500 to 2,000 vehicle/hour), the delay equation used in the TWSC capacity analysis procedure will predict 50 seconds of delay or more (LOS F) for many urban TWSC intersections that allow minor-street left-turn movements. The LOS F threshold will be reached regardless of the volume of minor-street left-turn traffic. Notwithstanding this fact, most low-volume minor street approaches would not meet any of the volume or delay warrants for signalization of the *Manual on Uniform Traffic Control Devices (MUTCD)* since the warrants define an asymptote at 100 vehicle/hour on the minor approach. As a result, many public agencies that use the HCM Level of Service thresholds to determine the design adequacy of TWSC intersections may be forced to eliminate the minor-street left-turn movement, even when the movement may not present any operational problem, such as the formation of long queues on the minor street or driveway approach.

LEVEL OF SERVICE (LOS)	CONTROLLED DELAY PER VEHICLE (SEC)
A	< 10.0
B	10.1 to 15.0
C	15.1 to 25.0
D	25.1 to 35.0
E	35.1 to 50.0
F	> 50.0

Unsignalized Intersections – Roundabout Control

The analysis of unsignalized intersections with roundabout control utilized the operational analysis procedure as outlined in the *Highway Capacity Manual (HCM) 7th Edition (HCM7)*. This represents the most current methodology at the time work began on the analysis.

According to the HCM, roundabout operations are defined solely on the control delay of the intersection which is calculated for each approach as well as for the overall intersection. If the Volume-to-Capacity (V/C) ratio of an approach exceeds 1.0 however, the overall intersection operation is determined to be LOS F.

LEVEL OF SERVICE (LOS)	CONTROLLED DELAY PER VEHICLE (SEC) FOR $V/C \leq 1.0$
A	< 10.0
B	10.1 to 15.0
C	15.1 to 25.0
D	25.1 to 35.0
E	35.1 to 50.0
F	> 50.0

Note: If $V/C > 1.0$, the resultant operations is LOS F regardless of the delay.



APPENDIX B

City of Escondido Street Segment ADT Trip Thresholds

Vehicle

The City’s General Plan (2012) establishes a goal of LOS C for all City streets; however, due to overall citywide traffic conditions, LOS D was considered acceptable. If the existing LOS is D or worse, preservation of the existing LOS must be maintained, or acceptable mitigation must be identified.

Currently the approved level of service standards for different street segments based on their classifications and average daily vehicle trips (ADT) within the City of Escondido are provided in **Table 1**.

Table 1: City of Escondido Level of Service Standards:
 Street Segments Average Daily Vehicle Trip Thresholds

Street Classification	Lanes	Cross Sections	Level of Service				
			A	B	C	D	E
Prime Arterial	(8 lanes)	116/136 (NP)	23,800	37,800	51,800	62,300	70,000
	(6 lanes)	106/126 (NP)	20,400	32,400	44,400	53,400	60,000
Major Road	(6 lanes)	90/110 (NP)	17,000	27,000	37,000	44,500	50,000
	(4 lanes)	82/102 (NP)	12,600	20,000	27,400	32,900	37,000
Collector	(4 lanes)	64/84 (NP)	11,600	18,500	25,300	30,400	34,200
	(4 lanes)	(WP)	6,800	10,800	14,800	17,800	20,000
Local Collector	(2 lanes)	42/66 (NP)	5,100	8,100	11,100	13,400	15,000
		(WP)	3,400	5,400	7,400	8,900	10,000

Source: City of Escondido former Traffic Impact Analysis Guidelines.

Notes:

NP: No Parking, WP: With Parking

The following V/C Ratios were utilized for determining Existing and Future Level of Service (rounded to the nearest hundredth).

Level of Service	(V/C Ratio)
A - Less than or Equal to	0.00 to 0.34
B - Less than or Equal to	0.35 to 0.54
C - Less than or Equal to	0.55 to 0.74
D - Less than or Equal to	0.75 to 0.89
E - Less than or Equal to	0.90 to 1.00

Trip generation should be determined following the guidelines outlined in **Section 2.2**. Based on the adopted 2013 General Plan with a goal of LOS C, an LMA must be prepared for any project that generates and adds more than 2% of the ADT to any street segments operating at LOS C or worse within the preliminary study area identified by the City staff. Based on this threshold, **Table 2** contains the trigger-points for a required LMA within the City of Escondido for each street classification.

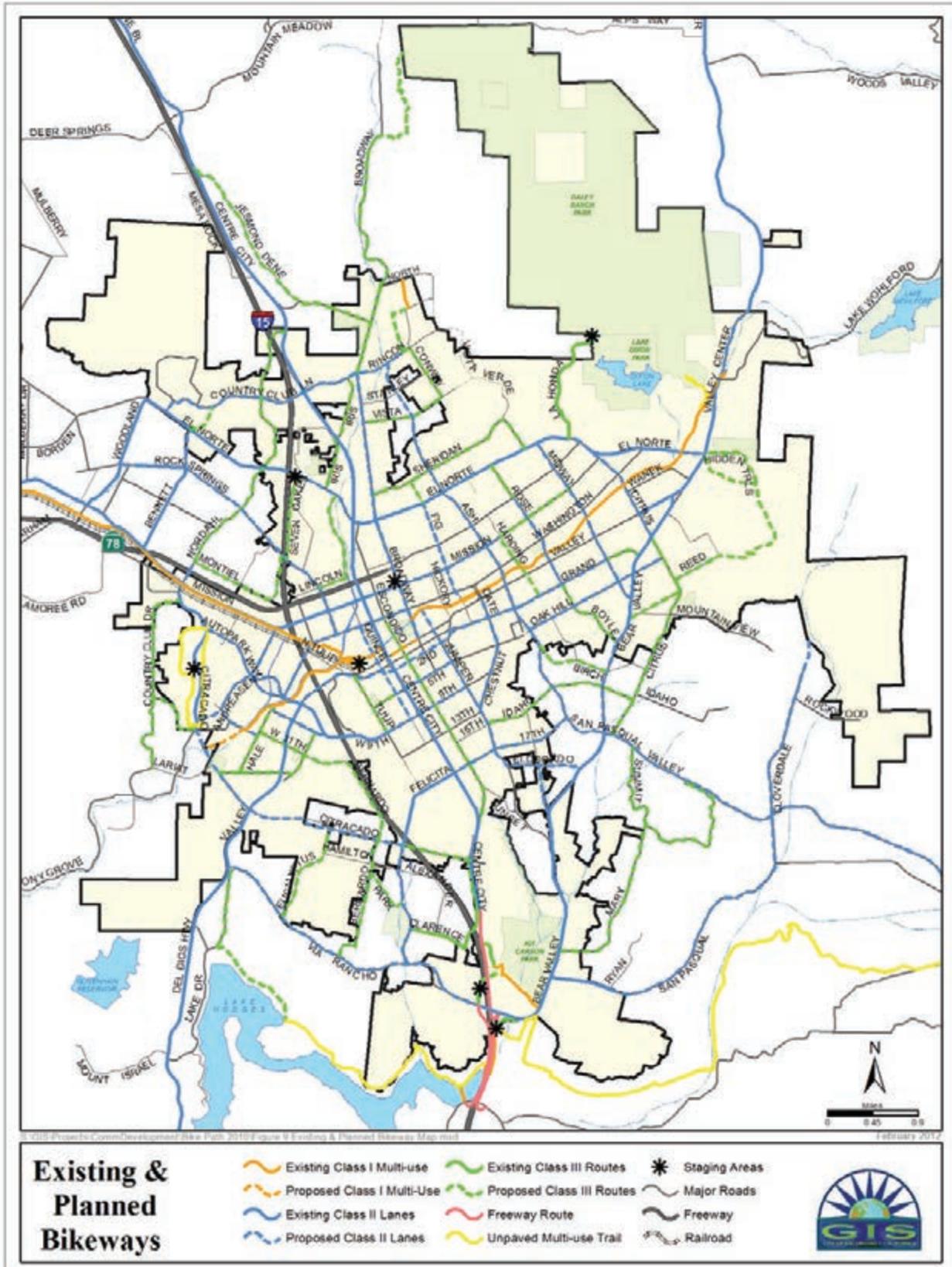


APPENDIX C

City of Escondido Bike Master Plan



Figure 6.1 Existing and Proposed Bicycle Facilities





APPENDIX D

NCTD Transit Routes and Headways

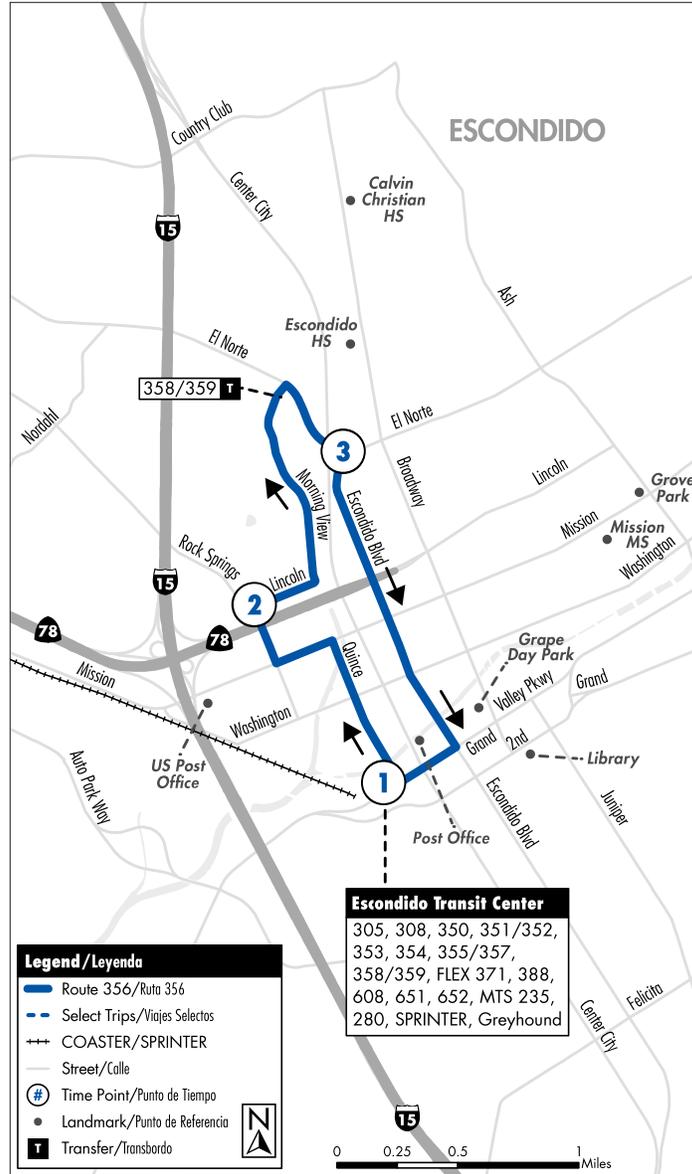
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Morning View Dr., El Norte Pkwy. & Escondido Blvd.

Morning View Dr., El Norte Pkwy. y Escondido Blvd.

M-F • SA • SU
L-V • SÁ • DO

Destinations/Destinos
• Escondido Civic Center



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Morning View Dr., El Norte Pkwy. & Escondido Blvd. Morning View Dr, El Norte Pkwy. y Escondido Blvd.

Monday - Friday
Morning View Dr.
then Escondido Blvd.
Lunes a Viernes • Morning View Dr.
luego Escondido Blvd.

Escondido Transit Center	Lincoln Ave. & Rock Springs Rd.	Escondido Bl. & El Norte Pkwy.	Escondido Transit Center
1	2	3	1
5:02a	5:06a	5:11a	5:19a
5:32a	5:36a	5:41a	5:49a
6:02a	6:06a	6:12a	6:21a
6:32a	6:37a	6:44a	6:54a
7:02a	7:07a	7:14a	7:24a
7:32a	7:37a	7:44a	7:54a
8:02a	8:07a	8:14a	8:24a
8:32a	8:37a	8:44a	8:54a
9:02a	9:07a	9:14a	9:24a
9:32a	9:37a	9:44a	9:54a
10:02a	10:07a	10:14a	10:24a
10:32a	10:37a	10:44a	10:54a
11:02a	11:07a	11:14a	11:24a
11:32a	11:37a	11:44a	11:54a
12:02p	12:07p	12:14p	12:24p
12:32p	12:37p	12:44p	12:54p
1:02p	1:07p	1:14p	1:24p
1:32p	1:37p	1:44p	1:54p
2:02p	2:07p	2:14p	2:24p
2:32p	2:37p	2:44p	2:54p
3:02p	3:08p	3:15p	3:25p
3:32p	3:38p	3:45p	3:55p
4:02p	4:07p	4:14p	4:25p
4:32p	4:37p	4:44p	4:55p
5:02p	5:07p	5:14p	5:25p
5:32p	5:37p	5:44p	5:55p
6:02p	6:07p	6:14p	6:24p
6:32p	6:37p	6:43p	6:53p
7:02p	7:07p	7:13p	7:22p
7:32p	7:36p	7:42p	7:51p
8:02p	8:06p	8:11p	8:20p
8:32p	8:36p	8:41p	8:50p
9:02p	9:06p	9:11p	9:20p

Saturday & Sunday
Morning View Dr.
then Escondido Blvd.
Sábado y Domingo • Morning View Dr.
luego Escondido Blvd.

Escondido Transit Center	Lincoln Ave. & Rock Springs Rd.	Escondido Bl. & El Norte Pkwy.	Escondido Transit Center
1	2	3	1
7:32a	7:37a	7:43a	7:53a
8:32a	8:37a	8:43a	8:53a
9:02a	9:07a	9:13a	9:23a
9:32a	9:37a	9:43a	9:53a
10:02a	10:07a	10:13a	10:23a
10:32a	10:37a	10:43a	10:53a
11:02a	11:07a	11:13a	11:23a
11:32a	11:37a	11:43a	11:53a
12:02p	12:07p	12:13p	12:23p
12:32p	12:37p	12:43p	12:53p
1:02p	1:07p	1:13p	1:23p
1:32p	1:37p	1:43p	1:53p
2:02p	2:07p	2:13p	2:23p
2:32p	2:37p	2:43p	2:53p
3:02p	3:07p	3:13p	3:23p
3:32p	3:37p	3:43p	3:53p
4:02p	4:07p	4:13p	4:23p
4:32p	4:37p	4:43p	4:53p
5:02p	5:07p	5:13p	5:23p
5:32p	5:37p	5:43p	5:53p

358/359

N. Broadway, Country Club & El Norte Pkwy.

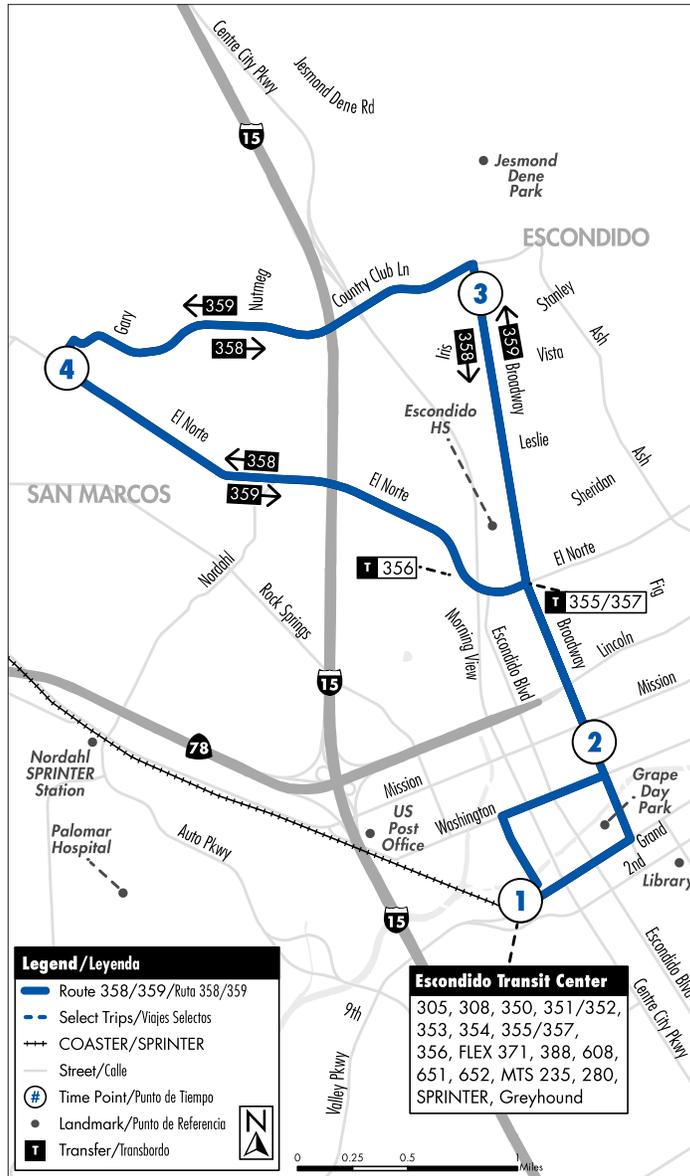
N. Broadway, Country Club y El Norte Pkwy.

M-F
L-V

Destinations/Destinos

- Escondido Civic Center
- Kaiser Permanente
- Escondido Senior Center

- Escondido High School
- YMCA



358/359

N. Broadway, Country Club & El Norte Pkwy.

N. Broadway, Country Club y El Norte Pkwy.

 358 Monday - Friday El Norte Pkwy, then N. Broadway <i>358 Lunes a Viernes • El Norte Pkwy. luego N. Broadway</i>					
Escondido Transit Center	N. Broadway & Park Ave.	El Norte Pkwy. & Country Club Ln.	Country Club Ln. & N. Broadway	N. Broadway & Park Ave.	Escondido Transit Center
1	2	4	3	2	1
6:02a	6:06a	6:18a	6:24a	6:35a	6:42a
8:02a	8:06a	8:21a	8:27a	8:39a	8:46a
10:02a	10:06a	10:20a	10:27a	10:38a	10:45a
12:02p	12:07p	12:21p	12:27p	12:39p	12:46p
2:02p	2:08p	2:23p	2:30p	2:45p	2:53p
4:02p	4:08p	4:23p	4:30p	4:42p	4:49p
6:02p	6:07p	6:21p	6:28p	6:37p	6:44p
8:02p	8:06p	8:19p	8:24p	8:33p	8:38p

 359 Monday - Friday N. Broadway then El Norte Pkwy. <i>359 Lunes a Viernes • N. Broadway luego El Norte Pkwy.</i>					
Escondido Transit Center	N. Broadway & Park Ave.	Country Club Ln. & N. Broadway	El Norte Pkwy. & Country Club Ln.	N. Broadway & Park Ave.	Escondido Transit Center
1	2	3	4	2	1
5:02a	5:06a	5:12a	5:17a	5:29a	5:35a
7:02a	7:07a	7:20a	7:29a	7:46a	7:53a
9:02a	9:08a	9:17a	9:24a	9:39a	9:45a
11:02a	11:08a	11:16a	11:24a	11:40a	11:47a
1:02p	1:08p	1:18p	1:25p	1:41p	1:49p
3:02p	3:08p	3:18p	3:25p	3:42p	3:49p
5:02p	5:08p	5:18p	5:26p	5:42p	5:49p
7:02p	7:07p	7:15p	7:22p	7:35p	7:41p

Route 358/359 does not operate on Saturdays, Sundays, or holidays.
 La Ruta 358/359 no opera los sábados, domingos o en días festivos.



APPENDIX E

Intersection and Street Segment Count Sheets

National Data & Surveying Services

Intersection Turning Movement Count

Location: Seven Oakes Rd & W El Norte Pkwy
City: Escondido
Control: Signalized

Project ID: 24-040225-001
Date: 11/13/2024

Data - Totals

NS/EW Streets:	Seven Oakes Rd				Seven Oakes Rd				W El Norte Pkwy				W El Norte Pkwy				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
AM	1 NL	1 NT	0 NR	0 NU	1 SL	1 ST	0 SR	0 SU	1 EL	2 ET	0 ER	0 EU	1 WL	2 WT	0 WR	0 WU	TOTAL
7:00 AM	28	0	17	0	3	2	16	0	4	128	21	1	18	241	3	0	482
7:15 AM	21	0	21	0	7	0	14	0	7	151	44	0	25	249	4	1	544
7:30 AM	21	2	26	0	8	2	12	0	8	150	47	0	27	235	4	0	542
7:45 AM	21	3	28	0	6	2	11	0	9	140	35	2	42	227	3	0	529
8:00 AM	20	1	40	0	5	1	8	0	6	164	36	1	41	236	9	1	569
8:15 AM	33	2	32	0	4	1	12	0	8	142	25	0	47	233	11	1	551
8:30 AM	16	3	14	0	5	2	9	0	6	146	31	1	33	214	4	0	484
8:45 AM	18	1	17	0	4	1	8	0	9	135	26	0	19	167	8	1	414
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	46.23%	3.12%	50.65%	0.00%	29.37%	7.69%	62.94%	0.00%	3.84%	77.95%	17.87%	0.34%	11.98%	85.65%	2.19%	0.19%	4115
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	95	8	126	0	23	6	43	0	31	596	143	3	157	931	27	2	2191
PEAK HR FACTOR :	0.720	0.667	0.788	0.000	0.719	0.750	0.896	0.000	0.861	0.909	0.761	0.375	0.835	0.986	0.614	0.500	0.963
	0.854				0.818				0.934				0.956				
PM	1 NL	1 NT	0 NR	0 NU	1 SL	1 ST	0 SR	0 SU	1 EL	2 ET	0 ER	0 EU	1 WL	2 WT	0 WR	0 WU	TOTAL
4:00 PM	92	4	50	0	3	2	13	0	5	179	14	2	18	172	4	0	558
4:15 PM	101	4	46	0	3	0	14	0	15	203	20	1	11	184	9	1	612
4:30 PM	112	7	40	0	4	2	15	0	13	183	15	3	22	175	7	0	598
4:45 PM	98	5	39	0	6	1	17	0	17	207	9	1	21	173	6	1	601
5:00 PM	88	7	66	0	6	2	16	0	8	194	10	5	14	196	7	0	619
5:15 PM	101	6	36	0	11	1	15	0	7	188	6	3	11	180	8	1	574
5:30 PM	95	7	27	0	2	3	13	0	14	203	12	1	16	186	7	2	588
5:45 PM	75	7	35	0	7	3	13	0	9	142	11	2	10	189	9	0	512
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	66.38%	4.09%	29.53%	0.00%	24.42%	8.14%	67.44%	0.00%	5.17%	88.07%	5.70%	1.06%	7.50%	88.72%	3.48%	0.30%	4662
PEAK HR :	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL :	399	23	191	0	19	5	62	0	53	787	54	10	68	728	29	2	2430
PEAK HR FACTOR :	0.891	0.821	0.723	0.000	0.792	0.625	0.912	0.000	0.779	0.950	0.675	0.500	0.773	0.929	0.806	0.500	0.981
	0.952				0.896				0.946				0.953				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Seven Oakes Rd & W El Norte Pkwy
City: Escondido

Project ID: 24-040225-001
Date: 11/13/2024

Data - Pedestrians (Crosswalks)

NS/EW Streets:	Seven Oakes Rd		Seven Oakes Rd		W El Norte Pkwy		W El Norte Pkwy		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
7:00 AM	0	0	1	0	0	1	0	0	2
7:15 AM	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	1	2	0	0	3
8:30 AM	1	0	0	0	1	1	0	0	3
8:45 AM	0	0	0	0	2	0	0	0	2
TOTAL VOLUMES :	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
APPROACH %'s :	1	0	1	0	4	4	0	0	10
	100.00%	0.00%	100.00%	0.00%	50.00%	50.00%			
PEAK HR :	07:30 AM - 08:30 AM								TOTAL
PEAK HR VOL :	0	0	0	0	1	2	0	0	3
PEAK HR FACTOR :					0.250	0.250			0.250

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
4:00 PM	1	0	0	0	0	0	0	0	1
4:15 PM	0	0	0	0	1	1	0	0	2
4:30 PM	0	1	0	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0
5:15 PM	0	1	0	0	0	0	1	1	3
5:30 PM	0	0	0	0	1	0	0	1	2
5:45 PM	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
APPROACH %'s :	1	2	0	0	2	1	1	2	9
	33.33%	66.67%			66.67%	33.33%	33.33%	66.67%	
PEAK HR :	04:15 PM - 05:15 PM								TOTAL
PEAK HR VOL :	0	1	0	0	1	1	0	0	3
PEAK HR FACTOR :					0.250	0.250			0.375

National Data & Surveying Services

Intersection Turning Movement Count

Location: Seven Oakes Rd & W El Norte Pkwy
City: Escondido
Control: Signalized

Project ID: 24-040225-001
Date: 11/13/2024

Data - Bikes

NS/EW Streets:	Seven Oakes Rd				Seven Oakes Rd				W El Norte Pkwy				W El Norte Pkwy				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1 NL	1 NT	0 NR	0 NU	1 SL	1 ST	0 SR	0 SU	1 EL	2 ET	0 ER	0 EU	1 WL	2 WT	0 WR	0 WU	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2
8:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
8:45 AM	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	2
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	33.33%	33.33%	33.33%	0.00%	0.00%	100.00%	0.00%	0.00%	7
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	1	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	3
PEAK HR FACTOR :	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.000	0.000	0.000	0.000	0.000	0.375
	0.250				0.500				0.500				0.250				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1 NL	1 NT	0 NR	0 NU	1 SL	1 ST	0 SR	0 SU	1 EL	2 ET	0 ER	0 EU	1 WL	2 WT	0 WR	0 WU	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2
4:45 PM	0	1	0	0	0	1	0	0	0	0	1	0	0	0	1	0	4
5:00 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	33.33%	66.67%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	33.33%	33.33%	33.33%	0.00%	0.00%	0.00%	100.00%	0.00%	9
PEAK HR :	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL :	0	2	0	0	0	2	0	0	0	1	1	0	0	0	1	0	7
PEAK HR FACTOR :	0.000	0.500	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.250	0.250	0.000	0.000	0.000	0.250	0.000	0.438
	0.500				0.500				0.500				0.250				

National Data & Surveying Services Intersection Turning Movement Count

Location: Firestone Complete Auto Care Dwy/Lourdes Mexican Food To Go E Dwy & W El Norte Pkwy
City: Escondido
Control: No Control

Project ID: 24-040204-001
Date: 10/10/2024

Data - Totals

NS/EW Streets:	Firestone Complete Auto Care Dwy/Lourdes Mexican Food To Go E Dwy				Firestone Complete Auto Care Dwy/Lourdes Mexican Food To Go E Dwy				W El Norte Pkwy					W El Norte Pkwy					DRTHBOUND2	TOTAL	
	NORTHBOUND		SOUTHBOUND		EASTBOUND		WESTBOUND														
AM	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	ER2	WL	WT	WR	WU	WL2	N2R2		
7:00 AM	0	0	6	0	0	0	0	0	0	93	0	0	0	5	245	0	0	0	0	349	
7:15 AM	0	0	5	0	0	0	0	0	0	116	1	0	0	3	289	0	1	1	0	416	
7:30 AM	0	0	10	0	0	0	0	0	0	152	1	0	0	4	291	0	1	1	0	460	
7:45 AM	0	0	5	0	0	0	0	0	0	175	0	1	0	9	231	0	0	0	2	423	
8:00 AM	0	0	1	0	0	0	0	0	0	156	4	0	0	4	210	0	1	0	2	378	
8:15 AM	0	0	10	0	0	0	0	0	0	160	1	0	1	10	202	0	3	1	1	389	
8:30 AM	0	0	12	0	0	0	0	0	0	158	2	0	1	8	211	0	1	0	4	397	
8:45 AM	0	0	6	0	0	0	0	0	0	158	2	0	0	8	175	0	0	0	0	349	
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	ER2	WL	WT	WR	WU	WL2	N2R2	TOTAL	
APPROACH %'s:	0	0	55	0	0	0	0	0	0	1168	11	1	2	51	1854	0	7	3	9	3161	
	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	98.82%	0.93%	0.08%	0.17%	2.66%	96.81%	0.00%	0.37%	0.16%	100.00%		
PEAK HR VOL:	0	0	21	0	0	0	0	0	0	599	6	1	0	20	1021	0	3	2	4	1677	
PEAK HR FACTOR:	0.000	0.000	0.525	0.000	0.000	0.000	0.000	0.000	0.000	0.856	0.375	0.250	0.000	0.556	0.877	0.000	0.750	0.500	0.500	0.911	
			0.525							0.861				0.880							
PM	NORTHBOUND		SOUTHBOUND		EASTBOUND		WESTBOUND														
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	ER2	WL	WT	WR	WU	WL2	N2R2	TOTAL	
4:00 PM	0	0	1	0	0	0	0	0	0	200	3	0	1	4	211	0	0	0	3	442	
4:15 PM	1	0	20	0	0	0	0	0	0	227	1	0	0	5	189	0	1	0	4	438	
4:30 PM	0	0	8	0	0	0	0	0	0	220	3	0	0	8	183	0	1	0	5	428	
4:45 PM	0	0	15	0	0	0	0	0	0	249	1	0	0	6	205	0	0	0	2	478	
5:00 PM	0	0	12	0	0	0	0	0	0	240	1	0	1	10	200	0	0	0	2	466	
5:15 PM	0	0	7	0	0	0	0	0	0	251	1	0	0	9	206	0	1	0	3	478	
5:30 PM	0	0	10	0	0	0	0	0	0	216	0	0	1	9	222	0	0	0	1	459	
5:45 PM	0	0	9	0	0	0	0	0	0	205	2	0	0	6	213	0	3	0	4	442	
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	ER2	WL	WT	WR	WU	WL2	N2R2	TOTAL	
APPROACH %'s:	1	0	91	0	0	0	0	0	0	1808	12	0	3	57	1629	0	6	0	24	3631	
	1.09%	0.00%	98.91%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	99.18%	0.66%	0.00%	0.16%	3.37%	96.28%	0.00%	0.35%	0.00%	100.00%		
PEAK HR VOL:	0	0	44	0	0	0	0	0	0	956	3	0	2	34	833	0	1	0	8	1881	
PEAK HR FACTOR:	0.000	0.000	0.733	0.000	0.000	0.000	0.000	0.000	0.000	0.952	0.750	0.000	0.500	0.850	0.938	0.000	0.250	0.000	0.667	0.984	
			0.733							0.953				0.939							

Explanation for extra leg movements	
Movements entering the extra leg	
WL2	Movements coming from WB on W El Norte Pkwy entering into the Extra Leg (Firestone Complete Auto Care Dwy)
ER2	Movements coming from EB on W El Norte Pkwy entering into the Extra Leg (Firestone Complete Auto Care Dwy)
Movements exiting the extra leg	
N2R2	Movements exiting from Extra Leg (Firestone Complete Auto Care Dwy) entering into W El Norte Pkwy WB.



National Data & Surveying Services

Intersection Turning Movement Count

Location: Firestone Complete Auto Care Dwy/Lourdes Mexican Food To Go E Dwy & W El Norte Pkwy **Project ID:** 24-040204-001

City: Escondido

Date: 10/10/2024

Data - Pedestrians (Crosswalks)

NS/EW Streets:	Firestone Complete Auto Care Dwy/Lourdes		Firestone Complete Auto Care Dwy/Lourdes		W El Norte Pkwy		W El Norte Pkwy				
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		SOUTH LEG 2		
	EB	WB	EB	WB	NB	SB	NB	SB	EB	WB	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	1	0	0	0	0	0	1	2
7:30 AM	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	1	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	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
TOTAL VOLUMES :	EB	WB	EB	WB	NB	SB	NB	SB	EB	WB	TOTAL
APPROACH %'s :	0	0	0	1	0	0	0	0	0	2	3
PEAK HR :	07:15 AM - 08:15 AM		0.00%	100.00%					0.00%	100.00%	
PEAK HR VOL :	0	0	0	1	0	0	0	0	0	2	3
PEAK HR FACTOR :			0.250	0.250					0.500	0.500	0.375
PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		SOUTH LEG 2		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	EB	WB	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	1	0	0	0	0	0	1	2	4
5:15 PM	0	0	0	1	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	EB	WB	EB	WB	NB	SB	NB	SB	EB	WB	TOTAL
APPROACH %'s :	0	0	1	1	0	0	0	0	1	2	5
PEAK HR :	04:45 PM - 05:45 PM		50.00%	50.00%					33.33%	66.67%	
PEAK HR VOL :	0	0	1	1	0	0	0	0	1	2	5
PEAK HR FACTOR :			0.250	0.250					0.250	0.250	0.313
			0.500						0.250		

National Data & Surveying Services

Intersection Turning Movement Count

Location: Firestone Complete Auto Care Dwy/Lourdes Mexican Food To Go E Dwy & W El Norte Pkwy
City: Escondido
Control: No Control

Project ID: 24-040204-001
Date: 10/10/2024

Data - Bikes

NS/EW Streets:	Firestone Complete Auto Care Dwy/Lourdes Mexican Food To Go E Dwy				Firestone Complete Auto Care Dwy/Lourdes Mexican Food To Go E Dwy				W El Norte Pkwy					W El Norte Pkwy							
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND					WESTBOUND					ORTHBOUND2		
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	ER2	WL	WT	WR	WU	WL2	N2R2	TOTAL	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	1
7:15 AM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	2
7:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	2
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2
8:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	ER2	WL	WT	WR	WU	WL2	N2R2	TOTAL	
APPROACH %'s :	1	0	0	0	0	0	0	0	0	2	0	0	0	0	5	0	1	0	0	9	
	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	83.33%	0.00%	16.67%	0.00%	0.00%		
PEAK HR :	07:15 AM - 08:15 AM																		TOTAL		
PEAK HR VOL :	1	0	0	0	0	0	0	0	0	2	0	0	0	0	3	0	1	0	0	7	
PEAK HR FACTOR :	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.375	0.000	0.250	0.000	0.000	0.875	
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND					WESTBOUND					ORTHBOUND2		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:15 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	1	0	0	0	3	
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	
5:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	ER2	WL	WT	WR	WU	WL2	N2R2	TOTAL	
APPROACH %'s :	0	0	0	0	0	0	0	0	0	4	0	0	0	0	2	0	0	0	0	6	
	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%		
PEAK HR :	04:45 PM - 05:45 PM																		TOTAL		
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	4	
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.333	

National Data & Surveying Services

Intersection Turning Movement Count

Location: W El Norte Pkwy Median Opening & W/O Portal/Rancho Escondido Dwy
City: Escondido
Control: No Control

Project ID: 24-040204-002
Date: 10/10/2024

Data - Totals

NS/EW Streets:	W El Norte Pkwy Median Opening				W El Norte Pkwy Median Opening				W/O Portal/Rancho Escondido Dwy				W/O Portal/Rancho Escondido Dwy				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	1	2	0	0	0	2	0	0	344
7:15 AM	0	0	0	0	0	0	0	0	0	99	0	1	0	244	0	0	411
7:30 AM	0	0	0	0	0	0	0	0	0	116	0	6	0	289	0	0	445
7:45 AM	0	0	0	0	0	0	0	0	0	149	0	6	0	290	0	0	434
8:00 AM	0	0	0	0	0	0	0	0	0	185	0	4	0	245	0	0	363
8:15 AM	0	0	0	0	0	0	0	0	0	157	0	1	0	205	0	0	386
8:30 AM	0	0	0	0	0	0	0	0	0	170	0	6	0	210	0	0	380
8:45 AM	0	0	0	0	0	0	0	0	0	158	0	11	0	211	0	0	346
	0	0	0	0	0	0	0	0	0	165	0	5	0	176	0	0	
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	0	0	0	0	0	0	0	0	1199	0	40	0	1870	0	0	3109
	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	96.77%	0.00%	3.23%	0.00%	100.00%	0.00%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	607	0	17	0	1029	0	0	1653
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.820	0.000	0.708	0.000	0.887	0.000	0.000	0.929
									0.825				0.887				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0	216	0	9	0	209	0	0	434
4:15 PM	0	0	0	0	0	0	0	0	0	234	0	8	0	184	0	0	426
4:30 PM	0	0	0	0	0	0	0	0	0	229	0	2	0	193	0	0	424
4:45 PM	0	0	0	0	0	0	0	0	0	260	0	9	0	199	0	0	468
5:00 PM	0	0	0	0	0	0	0	0	0	243	0	9	0	205	0	0	457
5:15 PM	0	0	0	0	0	0	0	0	0	258	0	6	0	206	0	0	470
5:30 PM	0	0	0	0	0	0	0	0	0	218	0	9	0	226	0	0	453
5:45 PM	0	0	0	0	0	0	0	0	0	209	0	10	0	208	0	0	427
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	0	0	0	0	0	0	0	0	1867	0	62	0	1630	0	0	3559
	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	96.79%	0.00%	3.21%	0.00%	100.00%	0.00%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	979	0	33	0	836	0	0	1848
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.941	0.000	0.917	0.000	0.925	0.000	0.000	0.983
									0.941				0.925				

National Data & Surveying Services

Intersection Turning Movement Count

Location: W El Norte Pkwy Median Opening & W/O Portal/Rancho Escondido Dwy
City: Escondido
Control: No Control

Project ID: 24-040204-002
Date: 10/10/2024

Data - Bikes

NS/EW Streets:	W El Norte Pkwy Median Opening				W El Norte Pkwy Median Opening				W/O Portal/Rancho Escondido Dwy				W/O Portal/Rancho Escondido Dwy				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	1	2	0	0	0	2	0	0	2
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2
7:45 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	3
8:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	0	0	0	0	0	0	0	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	9
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	3	0	0	0	3	0	0	6
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.750	0.000	0.000	0.000	0.375	0.000	0.000	0.500
													0.750	0.375			
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	2
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	0	0	0	0	0	0	0	0.00%	75.00%	0.00%	25.00%	0.00%	100.00%	0.00%	0.00%	5
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	0	3
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.000	0.250	0.000	0.000	0.375
													0.250	0.250			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Morning Vw Ter/S Iris Ln & W El Norte Pkwy
City: Escondido
Control: Signalized

Project ID: 24-040204-004
Date: 10/10/2024

Data - Totals

NS/EW Streets:	Morning Vw Ter/S Iris Ln				Morning Vw Ter/S Iris Ln				W El Norte Pkwy				W El Norte Pkwy					
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND					
		1	1	0	0	1	1	0	0	1	2	0	0	1	2	1	0	
		NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
	7:00 AM	4	2	5	0	20	2	81	0	19	77	1	5	0	153	14	0	383
	7:15 AM	3	0	0	0	22	0	69	0	31	87	0	4	0	217	17	2	452
	7:30 AM	3	1	6	0	26	0	71	0	38	105	3	5	3	217	16	3	497
	7:45 AM	1	0	0	0	22	0	62	0	60	123	0	4	1	175	9	3	460
	8:00 AM	1	0	1	0	19	0	48	0	35	131	0	5	1	156	22	1	420
	8:15 AM	2	0	2	0	17	1	54	0	40	135	0	3	1	150	16	6	427
	8:30 AM	4	1	1	0	19	0	49	0	34	124	2	4	0	155	16	4	413
8:45 AM	0	1	5	0	19	0	32	0	29	140	1	2	0	147	16	0	392	
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL	
APPROACH %'s :	18	5	20	0	164	3	466	0	286	922	7	32	6	1370	126	19	3444	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL	
PEAK HR VOL :	8	1	7	0	89	0	250	0	164	446	3	18	5	765	64	9	1829	
PEAK HR FACTOR :	0.667	0.250	0.292	0.000	0.856	0.000	0.880	0.000	0.683	0.851	0.250	0.900	0.417	0.881	0.727	0.750	0.920	
	0.400				0.874				0.844				0.882					
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND					
		1	1	0	0	1	1	0	0	1	2	0	0	1	2	1	0	
		NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
	4:00 PM	2	0	4	0	16	0	28	0	30	189	2	4	4	180	50	2	511
	4:15 PM	0	0	1	0	20	1	38	0	38	197	4	1	4	152	50	0	506
	4:30 PM	4	0	4	0	23	0	47	0	40	191	2	0	2	149	64	3	529
	4:45 PM	1	0	1	0	27	2	38	0	48	203	3	6	2	171	56	3	561
	5:00 PM	2	0	1	0	27	0	36	0	47	194	2	4	6	161	52	1	533
	5:15 PM	2	1	3	0	32	1	35	0	54	203	1	5	3	176	36	2	554
	5:30 PM	1	0	3	0	16	1	39	0	46	168	2	4	9	183	49	5	526
5:45 PM	1	1	1	0	20	0	35	0	48	155	4	0	3	178	49	2	497	
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL	
APPROACH %'s :	13	2	18	0	181	5	296	0	351	1500	20	24	33	1350	406	18	4217	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL	
PEAK HR VOL :	9	1	9	0	109	3	156	0	189	791	8	15	13	657	208	9	2177	
PEAK HR FACTOR :	0.563	0.250	0.563	0.000	0.852	0.375	0.830	0.000	0.875	0.974	0.667	0.625	0.542	0.933	0.813	0.750	0.970	
	0.594				0.957				0.953				0.956					

National Data & Surveying Services

Intersection Turning Movement Count

Location: Morning Vw Ter/S Iris Ln & W El Norte Pkwy
City: Escondido

Project ID: 24-040204-004
Date: 10/10/2024

Data - Pedestrians (Crosswalks)

NS/EW Streets:	Morning Vw Ter/S Iris Ln		Morning Vw Ter/S Iris Ln		W El Norte Pkwy		W El Norte Pkwy		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
	7:00 AM	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	1	1	1	0	3
	7:30 AM	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	1	0	1	0	2
	8:00 AM	0	0	0	0	0	0	0	0
	8:15 AM	0	0	2	1	0	0	0	3
	8:30 AM	0	0	0	0	0	1	0	1
	8:45 AM	0	0	0	0	1	0	0	1
TOTAL VOLUMES :	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
APPROACH %'s :	0	0	2	3	2	3	0	0	10
PEAK HR :	07:15 AM - 08:15 AM								TOTAL
PEAK HR VOL :	0	0	0	2	1	2	0	0	5
PEAK HR FACTOR :			0.500	0.500	0.250	0.500			0.417

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL	
	EB	WB	EB	WB	NB	SB	NB	SB		
	4:00 PM	0	0	0	0	1	0	0	0	1
	4:15 PM	0	0	1	0	0	0	0	0	1
	4:30 PM	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	1	1	0	0	1	3
	5:15 PM	0	0	1	0	0	0	0	0	1
	5:30 PM	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL	
APPROACH %'s :	0	0	2	1	2	0	0	1	6	
PEAK HR :	04:30 PM - 05:30 PM								TOTAL	
PEAK HR VOL :	0	0	1	1	1	0	0	1	4	
PEAK HR FACTOR :			0.250	0.250	0.250	0.250		0.250	0.333	

National Data & Surveying Services

Intersection Turning Movement Count

Location: Morning Vw Ter/S Iris Ln & W El Norte Pkwy
City: Escondido
Control: Signalized

Project ID: 24-040204-004
Date: 10/10/2024

Data - Bikes

NS/EW Streets:	Morning Vw Ter/S Iris Ln				Morning Vw Ter/S Iris Ln				W El Norte Pkwy				W El Norte Pkwy					
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND					
	1	1	0	0	1	1	0	0	1	2	0	0	1	2	1	0		
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL	
	0	0	0	0	1	0	0	0	0	0	0	0	0	2	0	0	3	
	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2
	7:30 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	3
	7:45 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	3
	8:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL	
APPROACH %'s :	0	0	0	0	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	10	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL	
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	3	0	0	0	3	0	0	6	
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.750	0.000	0.000	0.000	0.375	0.000	0.000	0.500	
									0.750				0.375					
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND					
	1	1	0	0	1	1	0	0	1	2	0	0	1	2	1	0		
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL	
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	4:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	
5:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL	
APPROACH %'s :	0	0	0	0	0	0	0	0	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	4	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL	
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.250	
									0.250									

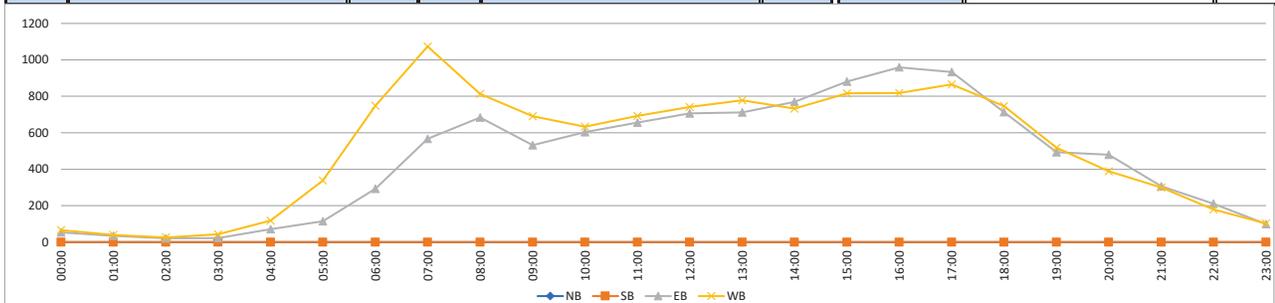
VOLUME

W El Norte Pkwy E/O Portal/Rancho Escondido Dwy

Day: Thursday
Date: 10/10/2024

City: Escondido
Project #: CA24_040205_002

DAILY TOTALS						NB	SB	EB	WB	Total	DAILY TOTALS																																																																																																																																			
						0	0	10,908	12,266	23,174																																																																																																																																				
15-Minutes Interval											Hourly Intervals																																																																																																																																			
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0:15			13	17	30	12:15			171	175	346	01:00 02:00			34	39	73																																																																																																																													
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2:30			5	6	11	14:30			189	194	383	10:00 11:00			603	634	1237																																																																																																																													
2:45			7	5	12	14:45			233	162	395	11:00 12:00			656	692	1348																																																																																																																													
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6:00			48	135	183	18:00			205	204	409	STATISTICS <table border="1"> <thead> <tr> <th></th> <th>NB</th> <th>SB</th> <th>EB</th> <th>WB</th> <th>TOTAL</th> </tr> </thead> <tbody> <tr> <td>Peak Period 00:00 to 12:00</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Volume</td> <td></td> <td></td> <td>3648</td> <td>5280</td> <td>8928</td> </tr> <tr> <td>Peak Hour</td> <td></td> <td></td> <td>7:45</td> <td>7:00</td> <td>7:15</td> </tr> <tr> <td>Peak Volume</td> <td></td> <td></td> <td>697</td> <td>1074</td> <td>1668</td> </tr> <tr> <td>Peak Hour Factor</td> <td></td> <td></td> <td>0.927</td> <td>0.904</td> <td>0.925</td> </tr> <tr> <td>Peak Period 12:00 to 00:00</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Volume</td> <td></td> <td></td> <td>7260</td> <td>6986</td> <td>14246</td> </tr> <tr> <td>Peak Hour</td> <td></td> <td></td> <td>16:30</td> <td>17:00</td> <td>16:45</td> </tr> <tr> <td>Peak Volume</td> <td></td> <td></td> <td>1003</td> <td>865</td> <td>1852</td> </tr> <tr> <td>Peak Hour Factor</td> <td></td> <td></td> <td>0.953</td> <td>0.948</td> <td>0.967</td> </tr> <tr> <td>Peak Period 07:00 to 09:00</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Volume</td> <td></td> <td></td> <td>1249</td> <td>1887</td> <td>3136</td> </tr> <tr> <td>Peak Hour</td> <td></td> <td></td> <td>7:45</td> <td>7:00</td> <td>7:15</td> </tr> <tr> <td>Peak Volume</td> <td></td> <td></td> <td>697</td> <td>1074</td> <td>1668</td> </tr> <tr> <td>Peak Hour Factor</td> <td></td> <td></td> <td>0.927</td> <td>0.904</td> <td>0.925</td> </tr> <tr> <td>Peak Period 16:00 to 18:00</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Volume</td> <td></td> <td></td> <td>1892</td> <td>1683</td> <td>3575</td> </tr> <tr> <td>Peak Hour</td> <td></td> <td></td> <td>16:30</td> <td>17:00</td> <td>16:45</td> </tr> <tr> <td>Peak Volume</td> <td></td> <td></td> <td>1003</td> <td>865</td> <td>1852</td> </tr> <tr> <td>Peak Hour Factor</td> <td></td> <td></td> <td>0.953</td> <td>0.948</td> <td>0.967</td> </tr> </tbody> </table>						NB	SB	EB	WB	TOTAL	Peak Period 00:00 to 12:00						Volume			3648	5280	8928	Peak Hour			7:45	7:00	7:15	Peak Volume			697	1074	1668	Peak Hour Factor			0.927	0.904	0.925	Peak Period 12:00 to 00:00						Volume			7260	6986	14246	Peak Hour			16:30	17:00	16:45	Peak Volume			1003	865	1852	Peak Hour Factor			0.953	0.948	0.967	Peak Period 07:00 to 09:00						Volume			1249	1887	3136	Peak Hour			7:45	7:00	7:15	Peak Volume			697	1074	1668	Peak Hour Factor			0.927	0.904	0.925	Peak Period 16:00 to 18:00						Volume			1892	1683	3575	Peak Hour			16:30	17:00	16:45	Peak Volume			1003	865	1852	Peak Hour Factor			0.953	0.948	0.967
	NB	SB	EB	WB	TOTAL																																																																																																																																									
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7:15			118	292	410	19:15			112	134	246																																																																																																																																			
7:30			154	297	451	19:30			121	125	246																																																																																																																																			
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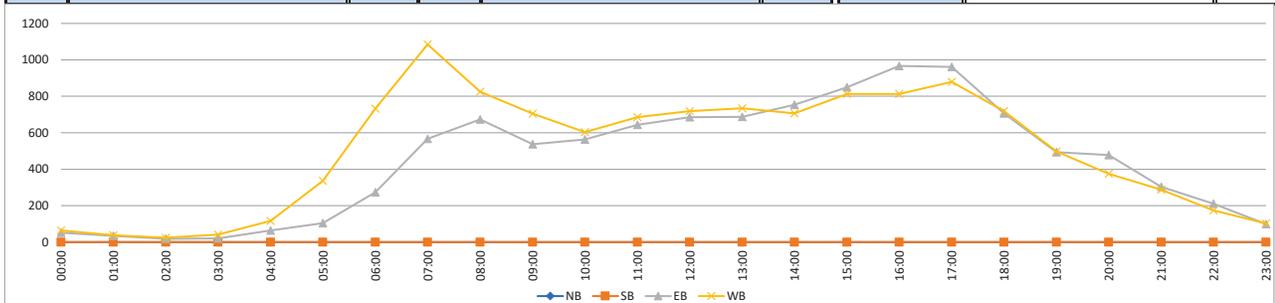
VOLUME

W El Norte Pkwy W/O Portal/Rancho Escondido Dwy

Day: Thursday
Date: 10/10/2024

City: Escondido
Project #: CA24_040205_001

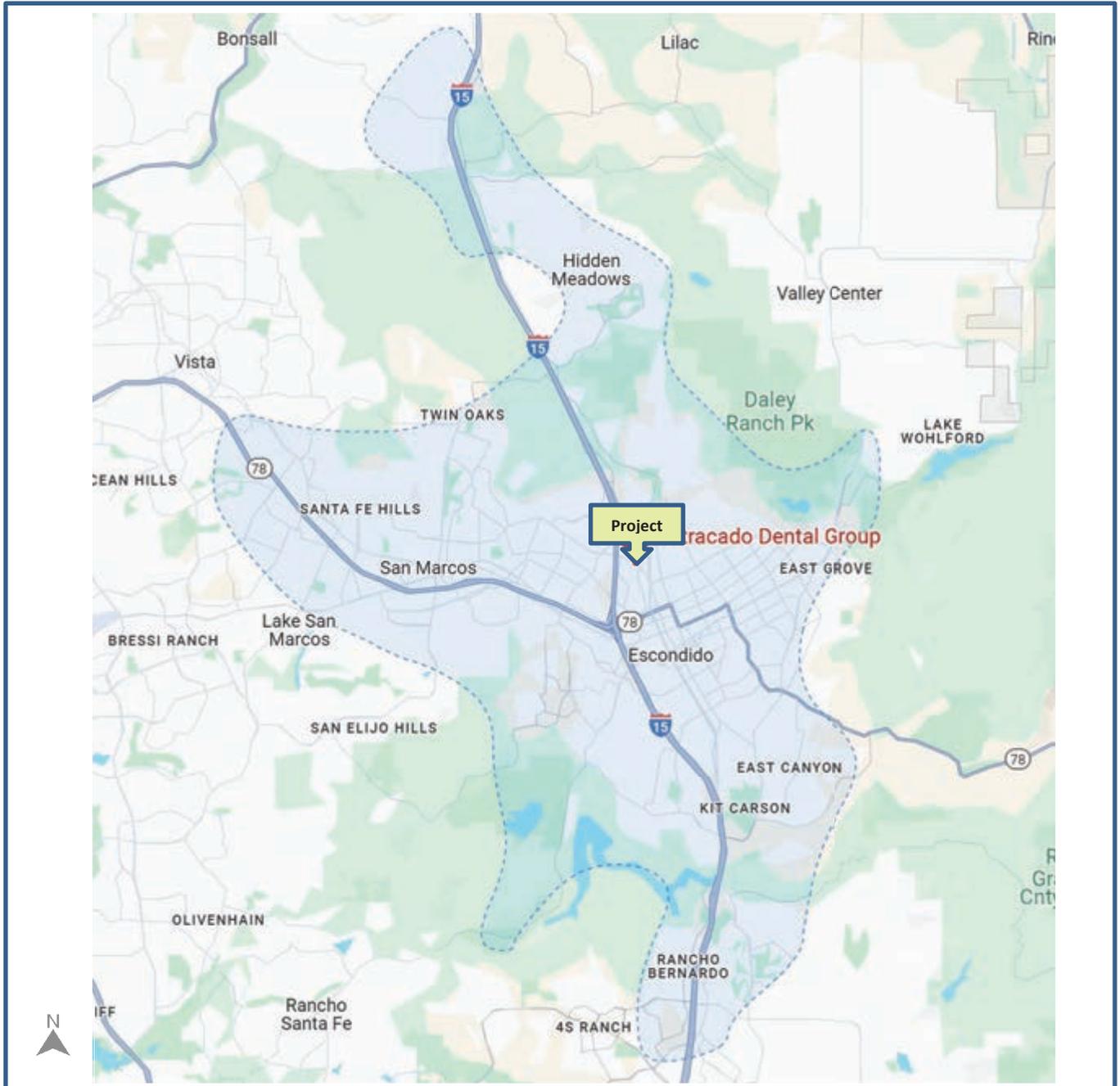
DAILY TOTALS						NB	SB	EB	WB	Total	DAILY TOTALS																																																																																																																																										
						0	0	10,744	12,076	22,820																																																																																																																																											
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9:30			116	181	297	21:30			78	82	160																																																																																																																																										
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APPENDIX F

15-Minute Drive Travel Shed



ATTACHMENT G
15-Minute Drive Travel shed



APPENDIX G

Synchro Calculation Worksheets

HCM 7th Signalized Intersection Summary
 1: Seven Oakes Rd & W El Norte Pkwy

Existing AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	596	143	159	931	27	95	8	126	23	6	43
Future Volume (veh/h)	34	596	143	159	931	27	95	8	126	23	6	43
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	0.99		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	37	648	155	173	1012	29	103	9	137	25	7	47
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	49	1680	401	214	2411	69	229	14	207	147	29	194
Arrive On Green	0.03	0.59	0.59	0.12	0.68	0.68	0.14	0.14	0.14	0.14	0.14	0.14
Sat Flow, veh/h	1781	2844	679	1781	3528	101	1343	98	1492	1237	208	1399
Grp Volume(v), veh/h	37	405	398	173	510	531	103	0	146	25	0	54
Grp Sat Flow(s),veh/h/ln	1781	1777	1746	1781	1777	1852	1343	0	1590	1237	0	1608
Q Serve(g_s), s	1.8	10.4	10.4	8.2	11.0	11.0	6.4	0.0	7.5	1.7	0.0	2.6
Cycle Q Clear(g_c), s	1.8	10.4	10.4	8.2	11.0	11.0	9.0	0.0	7.5	9.2	0.0	2.6
Prop In Lane	1.00		0.39	1.00		0.05	1.00		0.94	1.00		0.87
Lane Grp Cap(c), veh/h	49	1050	1032	214	1215	1266	229	0	220	147	0	223
V/C Ratio(X)	0.76	0.39	0.39	0.81	0.42	0.42	0.45	0.00	0.66	0.17	0.00	0.24
Avail Cap(c_a), veh/h	165	1050	1032	495	1215	1266	354	0	368	262	0	373
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	41.7	9.4	9.4	37.0	6.1	6.1	37.1	0.0	35.3	39.6	0.0	33.1
Incr Delay (d2), s/veh	21.4	1.1	1.1	7.1	1.1	1.0	1.4	0.0	3.4	0.5	0.0	0.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	3.6	3.5	3.8	3.2	3.4	2.1	0.0	3.0	0.5	0.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	63.1	10.4	10.5	44.2	7.1	7.1	38.5	0.0	38.6	40.2	0.0	33.7
LnGrp LOS	E	B	B	D	A	A	D		D	D		C
Approach Vol, veh/h		840			1214			249				79
Approach Delay, s/veh		12.8			12.4			38.6				35.7
Approach LOS		B			B			D				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	14.4	56.0		16.0	6.4	64.0		16.0				
Change Period (Y+Rc), s	4.0	5.0		4.0	4.0	5.0		4.0				
Max Green Setting (Gmax), s	24.0	43.0		20.0	8.0	59.0		20.0				
Max Q Clear Time (g_c+I1), s	10.2	12.4		11.2	3.8	13.0		11.0				
Green Ext Time (p_c), s	0.4	5.0		0.2	0.0	7.4		0.7				
Intersection Summary												
HCM 7th Control Delay, s/veh				16.0								
HCM 7th LOS				B								

Intersection							
Int Delay, s/veh	0.3						
Movement	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↔	↑↑		↗
Traffic Vol, veh/h	599	6	5	20	1021	0	21
Future Vol, veh/h	599	6	5	20	1021	0	21
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	-	None	-	None
Storage Length	-	-	-	90	-	-	0
Veh in Median Storage, #	0	-	-	-	0	0	-
Grade, %	0	-	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	651	7	5	22	1110	0	23

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	658
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.44	4.14
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	2.52	2.22
Pot Cap-1 Maneuver	-	550	926
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	806	806
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0.23	10.59
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	667	-	-	806	-
HCM Lane V/C Ratio	0.034	-	-	0.034	-
HCM Control Delay (s/veh)	10.6	-	-	9.6	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-

Intersection							
Int Delay, s/veh	0.3						
Movement	EBU	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↕↕	↕↕			↕
Traffic Vol, veh/h	17	10	607	1029	0	0	0
Future Vol, veh/h	17	10	607	1029	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	None	-	None	-	None
Storage Length	-	70	-	-	-	-	-
Veh in Median Storage, #	-	-	0	0	-	0	-
Grade, %	-	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	18	16	660	1118	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1118	1118	0	-	0	- 559
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	6.44	4.14	-	-	-	- 6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.52	2.22	-	-	-	- 3.32
Pot Cap-1 Maneuver	279	620	-	-	-	0 472
Stage 1	-	-	-	-	-	0 -
Stage 2	-	-	-	-	-	0 -
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	376	376	-	-	-	- 472
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0.78	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	376	-	-	-	-
HCM Lane V/C Ratio	0.093	-	-	-	-
HCM Control Delay (s/veh)	15.6	-	-	-	0
HCM Lane LOS	C	-	-	-	A
HCM 95th %tile Q(veh)	0.3	-	-	-	-

HCM 7th Signalized Intersection Summary
4: Morning View Tr/S Iris Ln & W El Norte Pkwy

Existing AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	182	446	3	14	765	64	8	1	7	89	0	250
Future Volume (veh/h)	182	446	3	14	765	64	8	1	7	89	0	250
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	198	485	3	15	832	70	9	1	8	97	0	272
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	236	2306	14	24	1842	822	118	37	293	355	0	324
Arrive On Green	0.13	0.64	0.64	0.01	0.52	0.52	0.21	0.21	0.21	0.21	0.00	0.21
Sat Flow, veh/h	1781	3621	22	1781	3554	1585	1107	178	1428	1400	0	1578
Grp Volume(v), veh/h	198	238	250	15	832	70	9	0	9	97	0	272
Grp Sat Flow(s),veh/h/ln	1781	1777	1866	1781	1777	1585	1107	0	1606	1400	0	1578
Q Serve(g_s), s	10.6	5.5	5.5	0.8	14.3	2.2	0.8	0.0	0.4	5.8	0.0	16.1
Cycle Q Clear(g_c), s	10.6	5.5	5.5	0.8	14.3	2.2	16.9	0.0	0.4	6.2	0.0	16.1
Prop In Lane	1.00		0.01	1.00		1.00	1.00		0.89	1.00		1.00
Lane Grp Cap(c), veh/h	236	1132	1189	24	1842	822	118	0	330	355	0	324
V/C Ratio(X)	0.84	0.21	0.21	0.61	0.45	0.09	0.08	0.00	0.03	0.27	0.00	0.84
Avail Cap(c_a), veh/h	439	1132	1189	92	1842	822	118	0	330	355	0	324
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	41.2	7.4	7.4	47.7	14.7	11.8	45.2	0.0	30.9	33.4	0.0	37.1
Incr Delay (d2), s/veh	7.8	0.4	0.4	22.5	0.8	0.2	0.3	0.0	0.0	1.9	0.0	22.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	1.8	1.9	0.5	5.3	0.7	0.2	0.0	0.2	2.1	0.0	8.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	49.0	7.8	7.8	70.2	15.5	12.0	45.5	0.0	30.9	35.3	0.0	59.3
LnGrp LOS	D	A	A	E	B	B	D		C	D		E
Approach Vol, veh/h		686			917			18				369
Approach Delay, s/veh		19.7			16.2			38.2				52.9
Approach LOS		B			B			D				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.3	67.0		25.0	16.9	55.5		25.0				
Change Period (Y+Rc), s	4.0	5.0		* 5	4.0	5.0		5.0				
Max Green Setting (Gmax), s	5.0	62.0		* 20	24.0	43.0		19.0				
Max Q Clear Time (g_c+I1), s	2.8	7.5		18.1	12.6	16.3		18.9				
Green Ext Time (p_c), s	0.0	2.8		0.4	0.4	6.0		0.0				

Intersection Summary

HCM 7th Control Delay, s/veh	24.4
HCM 7th LOS	C

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 7th Signalized Intersection Summary
1: Seven Oakes Rd & W El Norte Pkwy

Existing PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	63	787	54	70	728	29	399	23	191	19	5	62
Future Volume (veh/h)	63	787	54	70	728	29	399	23	191	19	5	62
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	68	855	59	76	791	32	434	25	208	21	5	67
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	88	1351	93	98	1415	57	566	68	562	415	43	582
Arrive On Green	0.05	0.40	0.40	0.06	0.41	0.41	0.39	0.39	0.39	0.39	0.39	0.39
Sat Flow, veh/h	1781	3371	233	1781	3481	141	1327	173	1437	1147	111	1489
Grp Volume(v), veh/h	68	451	463	76	404	419	434	0	233	21	0	72
Grp Sat Flow(s),veh/h/ln	1781	1777	1827	1781	1777	1845	1327	0	1609	1147	0	1600
Q Serve(g_s), s	3.2	17.3	17.3	3.6	14.8	14.8	26.3	0.0	8.7	1.1	0.0	2.4
Cycle Q Clear(g_c), s	3.2	17.3	17.3	3.6	14.8	14.8	28.7	0.0	8.7	9.9	0.0	2.4
Prop In Lane	1.00		0.13	1.00		0.08	1.00		0.89	1.00		0.93
Lane Grp Cap(c), veh/h	88	712	732	98	722	750	566	0	629	415	0	626
V/C Ratio(X)	0.77	0.63	0.63	0.78	0.56	0.56	0.77	0.00	0.37	0.05	0.00	0.12
Avail Cap(c_a), veh/h	189	712	732	168	722	750	750	0	853	575	0	848
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	39.9	20.4	20.4	39.6	19.3	19.3	25.6	0.0	18.4	21.9	0.0	16.5
Incr Delay (d2), s/veh	13.4	4.2	4.1	12.2	3.1	3.0	3.4	0.0	0.4	0.0	0.0	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	7.2	7.4	1.8	6.1	6.3	7.9	0.0	3.0	0.3	0.0	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	53.3	24.7	24.6	51.8	22.5	22.3	29.1	0.0	18.8	22.0	0.0	16.6
LnGrp LOS	D	C	C	D	C	C	C		B	C		B
Approach Vol, veh/h		982			899			667				93
Approach Delay, s/veh		26.6			24.9			25.5				17.8
Approach LOS		C			C			C				B
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.7	39.0		37.2	8.2	39.5		37.2				
Change Period (Y+Rc), s	4.0	5.0		4.0	4.0	5.0		4.0				
Max Green Setting (Gmax), s	8.0	34.0		45.0	9.0	33.0		45.0				
Max Q Clear Time (g_c+I1), s	5.6	19.3		11.9	5.2	16.8		30.7				
Green Ext Time (p_c), s	0.0	4.6		0.5	0.0	4.2		2.4				
Intersection Summary												
HCM 7th Control Delay, s/veh			25.4									
HCM 7th LOS			C									

Intersection							
Int Delay, s/veh	0.5						
Movement	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↔	↑↑		↗
Traffic Vol, veh/h	956	5	1	34	833	0	44
Future Vol, veh/h	956	5	1	34	833	0	44
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	-	None	-	None
Storage Length	-	-	-	90	-	-	0
Veh in Median Storage, #	0	-	-	-	0	0	-
Grade, %	0	-	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	1039	5	1	37	905	0	48

Major/Minor	Major1	Major2	Minor1				
Conflicting Flow All	0	0	1045	1045	0	-	522
Stage 1	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.44	4.14	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	2.52	2.22	-	-	3.32
Pot Cap-1 Maneuver	-	-	311	662	-	0	499
Stage 1	-	-	-	-	-	0	-
Stage 2	-	-	-	-	-	0	-
Platoon blocked, %	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	637	637	-	-	499
Mov Cap-2 Maneuver	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0.44	12.97
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	499	-	-	637	-
HCM Lane V/C Ratio	0.096	-	-	0.06	-
HCM Control Delay (s/veh)	13	-	-	11	-
HCM Lane LOS	B	-	-	B	-
HCM 95th %tile Q(veh)	0.3	-	-	0.2	-

Intersection							
Int Delay, s/veh	0.5						
Movement	EBU	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↕↕	↕↕			↗
Traffic Vol, veh/h	33	10	979	836	0	0	0
Future Vol, veh/h	33	10	979	836	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	None	-	None	-	None
Storage Length	-	70	-	-	-	-	-
Veh in Median Storage, #	-	-	0	0	-	0	-
Grade, %	-	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	36	40	1064	909	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	909	909	0	-	0	- 454
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	6.44	4.14	-	-	-	- 6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.52	2.22	-	-	-	- 3.32
Pot Cap-1 Maneuver	380	745	-	-	-	0 553
Stage 1	-	-	-	-	-	0 -
Stage 2	-	-	-	-	-	0 -
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	513	513	-	-	-	- 553
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0.88	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	513	-	-	-	-
HCM Lane V/C Ratio	0.148	-	-	-	-
HCM Control Delay (s/veh)	13.2	-	-	-	0
HCM Lane LOS	B	-	-	-	A
HCM 95th %tile Q(veh)	0.5	-	-	-	-

HCM 7th Signalized Intersection Summary

4: Morning View Tr/S Iris Ln & W El Norte Pkwy

Existing PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↗	↖	↗		↖	↗	
Traffic Volume (veh/h)	204	791	8	22	657	208	9	1	9	109	3	156
Future Volume (veh/h)	204	791	8	22	657	208	9	1	9	109	3	156
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	222	860	9	24	714	226	10	1	10	118	3	170
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	262	2202	23	35	1719	767	228	32	322	378	6	344
Arrive On Green	0.15	0.61	0.61	0.02	0.48	0.48	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	1781	3603	38	1781	3554	1585	1210	146	1456	1398	27	1555
Grp Volume(v), veh/h	222	424	445	24	714	226	10	0	11	118	0	173
Grp Sat Flow(s),veh/h/ln	1781	1777	1864	1781	1777	1585	1210	0	1601	1398	0	1583
Q Serve(g_s), s	11.5	11.6	11.6	1.3	12.3	8.1	0.7	0.0	0.5	6.9	0.0	9.1
Cycle Q Clear(g_c), s	11.5	11.6	11.6	1.3	12.3	8.1	9.8	0.0	0.5	7.4	0.0	9.1
Prop In Lane	1.00		0.02	1.00		1.00	1.00		0.91	1.00		0.98
Lane Grp Cap(c), veh/h	262	1086	1139	35	1719	767	228	0	354	378	0	350
V/C Ratio(X)	0.85	0.39	0.39	0.68	0.42	0.29	0.04	0.00	0.03	0.31	0.00	0.49
Avail Cap(c_a), veh/h	526	1086	1139	150	1719	767	228	0	354	378	0	350
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	39.4	9.4	9.4	46.2	15.8	14.7	36.6	0.0	29.0	31.8	0.0	32.3
Incr Delay (d2), s/veh	7.4	1.1	1.0	20.7	0.7	1.0	0.1	0.0	0.0	2.1	0.0	4.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.3	4.0	4.2	0.7	4.7	2.9	0.2	0.0	0.2	2.5	0.0	3.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	46.8	10.5	10.4	66.9	16.6	15.7	36.6	0.0	29.0	34.0	0.0	37.2
LnGrp LOS	D	B	B	E	B	B	D		C	C		D
Approach Vol, veh/h		1091			964			21				291
Approach Delay, s/veh		17.8			17.6			32.6				35.9
Approach LOS		B			B			C				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.9	63.0		26.0	18.0	50.9		26.0				
Change Period (Y+Rc), s	4.0	5.0		* 5	4.0	5.0		5.0				
Max Green Setting (Gmax), s	8.0	58.0		* 21	28.0	38.0		20.0				
Max Q Clear Time (g_c+I1), s	3.3	13.6		11.1	13.5	14.3		11.8				
Green Ext Time (p_c), s	0.0	5.7		1.0	0.5	5.4		0.0				

Intersection Summary

HCM 7th Control Delay, s/veh	20.1
HCM 7th LOS	C

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 7th Signalized Intersection Summary
 1: Seven Oakes Rd & W El Norte Pkwy

Existing + Project AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	600	143	161	951	27	95	8	127	23	6	43
Future Volume (veh/h)	34	600	143	161	951	27	95	8	127	23	6	43
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	0.99		0.99	0.99		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	37	652	155	175	1034	29	103	9	138	25	7	47
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	49	1679	399	216	2413	68	229	13	206	146	29	194
Arrive On Green	0.03	0.59	0.59	0.12	0.68	0.68	0.14	0.14	0.14	0.14	0.14	0.14
Sat Flow, veh/h	1781	2847	676	1781	3530	99	1343	97	1487	1233	208	1399
Grp Volume(v), veh/h	37	407	400	175	520	543	103	0	147	25	0	54
Grp Sat Flow(s),veh/h/ln	1781	1777	1747	1781	1777	1853	1343	0	1584	1233	0	1608
Q Serve(g_s), s	1.8	10.5	10.5	8.3	11.3	11.3	6.4	0.0	7.6	1.7	0.0	2.6
Cycle Q Clear(g_c), s	1.8	10.5	10.5	8.3	11.3	11.3	9.0	0.0	7.6	9.3	0.0	2.6
Prop In Lane	1.00		0.39	1.00		0.05	1.00		0.94	1.00		0.87
Lane Grp Cap(c), veh/h	49	1048	1030	216	1214	1266	229	0	220	146	0	223
V/C Ratio(X)	0.76	0.39	0.39	0.81	0.43	0.43	0.45	0.00	0.67	0.17	0.00	0.24
Avail Cap(c_a), veh/h	165	1048	1030	495	1214	1266	354	0	367	260	0	372
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	41.7	9.4	9.4	37.0	6.1	6.1	37.1	0.0	35.3	39.7	0.0	33.1
Incr Delay (d2), s/veh	21.4	1.1	1.1	7.1	1.1	1.1	1.4	0.0	3.5	0.6	0.0	0.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	3.6	3.6	3.8	3.3	3.5	2.1	0.0	3.0	0.5	0.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	63.1	10.5	10.5	44.1	7.2	7.2	38.5	0.0	38.8	40.3	0.0	33.7
LnGrp LOS	E	B	B	D	A	A	D		D	D		C
Approach Vol, veh/h		844			1238			250				79
Approach Delay, s/veh		12.8			12.4			38.7				35.8
Approach LOS		B			B			D				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	14.5	55.9		16.0	6.4	64.0		16.0				
Change Period (Y+Rc), s	4.0	5.0		4.0	4.0	5.0		4.0				
Max Green Setting (Gmax), s	24.0	43.0		20.0	8.0	59.0		20.0				
Max Q Clear Time (g_c+I1), s	10.3	12.5		11.3	3.8	13.3		11.0				
Green Ext Time (p_c), s	0.4	5.1		0.2	0.0	7.6		0.7				
Intersection Summary												
HCM 7th Control Delay, s/veh				16.0								
HCM 7th LOS				B								

Intersection							
Int Delay, s/veh	0.4						
Movement	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↔	↑↑		↗
Traffic Vol, veh/h	604	6	19	20	1043	0	21
Future Vol, veh/h	604	6	19	20	1043	0	21
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	-	None	-	None
Storage Length	-	-	-	90	-	-	0
Veh in Median Storage, #	0	-	-	-	0	0	-
Grade, %	0	-	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	657	7	21	22	1134	0	23

Major/Minor	Major1	Major2	Minor1				
Conflicting Flow All	0	0	663	663	0	-	332
Stage 1	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.44	4.14	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	2.52	2.22	-	-	3.32
Pot Cap-1 Maneuver	-	-	545	922	-	0	664
Stage 1	-	-	-	-	-	0	-
Stage 2	-	-	-	-	-	0	-
Platoon blocked, %	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	675	675	-	-	664
Mov Cap-2 Maneuver	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0.39	10.61
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	664	-	-	675	-
HCM Lane V/C Ratio	0.034	-	-	0.063	-
HCM Control Delay (s/veh)	10.6	-	-	10.7	-
HCM Lane LOS	B	-	-	B	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	-

Intersection							
Int Delay, s/veh	0.6						
Movement	EBU	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↕↕	↕↕			↗
Traffic Vol, veh/h	17	22	621	1029	4	0	36
Future Vol, veh/h	17	22	621	1029	4	0	36
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	None	-	None	-	None
Storage Length	-	70	-	-	-	-	-
Veh in Median Storage, #	-	-	0	0	-	0	-
Grade, %	-	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	18	24	675	1118	4	0	39

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1123	1123	0	-	0	- 561
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	6.44	4.14	-	-	-	- 6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.52	2.22	-	-	-	- 3.32
Pot Cap-1 Maneuver	277	618	-	-	-	0 471
Stage 1	-	-	-	-	-	0 -
Stage 2	-	-	-	-	-	0 -
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	380	380	-	-	-	- 471
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0.93	0	13.34
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	380	-	-	-	471
HCM Lane V/C Ratio	0.112	-	-	-	0.083
HCM Control Delay (s/veh)	15.7	-	-	-	13.3
HCM Lane LOS	C	-	-	-	B
HCM 95th %tile Q(veh)	0.4	-	-	-	0.3

HCM 7th Signalized Intersection Summary
 4: Morning View Tr/S Iris Ln & W El Norte Pkwy

Existing + Project AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	184	458	3	14	768	64	8	1	7	89	0	251
Future Volume (veh/h)	184	458	3	14	768	64	8	1	7	89	0	251
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	200	498	3	15	835	70	9	1	8	97	0	273
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	237	2320	14	24	1851	826	113	36	290	352	0	320
Arrive On Green	0.13	0.64	0.64	0.01	0.52	0.52	0.20	0.20	0.20	0.20	0.00	0.20
Sat Flow, veh/h	1781	3621	22	1781	3554	1585	1106	178	1427	1400	0	1573
Grp Volume(v), veh/h	200	244	257	15	835	70	9	0	9	97	0	273
Grp Sat Flow(s),veh/h/ln	1781	1777	1866	1781	1777	1585	1106	0	1606	1400	0	1573
Q Serve(g_s), s	10.8	5.6	5.6	0.8	14.5	2.2	0.8	0.0	0.4	5.9	0.0	16.4
Cycle Q Clear(g_c), s	10.8	5.6	5.6	0.8	14.5	2.2	17.2	0.0	0.4	6.3	0.0	16.4
Prop In Lane	1.00		0.01	1.00		1.00	1.00		0.89	1.00		1.00
Lane Grp Cap(c), veh/h	237	1138	1196	24	1851	826	113	0	327	352	0	320
V/C Ratio(X)	0.84	0.21	0.21	0.62	0.45	0.08	0.08	0.00	0.03	0.28	0.00	0.85
Avail Cap(c_a), veh/h	435	1138	1196	72	1851	826	113	0	327	352	0	320
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	41.6	7.4	7.4	48.2	14.7	11.8	46.1	0.0	31.4	33.9	0.0	37.8
Incr Delay (d2), s/veh	7.9	0.4	0.4	22.6	0.8	0.2	0.3	0.0	0.0	1.9	0.0	24.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.0	1.9	2.0	0.5	5.4	0.7	0.2	0.0	0.2	2.2	0.0	8.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	49.5	7.8	7.8	70.9	15.5	12.0	46.4	0.0	31.4	35.8	0.0	61.7
LnGrp LOS	D	A	A	E	B	B	D		C	D		E
Approach Vol, veh/h		701			920			18				370
Approach Delay, s/veh		19.7			16.2			38.9				55.0
Approach LOS		B			B			D				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.3	68.0		25.0	17.1	56.2		25.0				
Change Period (Y+Rc), s	4.0	5.0		* 5	4.0	5.0		5.0				
Max Green Setting (Gmax), s	4.0	63.0		* 20	24.0	43.0		19.0				
Max Q Clear Time (g_c+I1), s	2.8	7.6		18.4	12.8	16.5		19.2				
Green Ext Time (p_c), s	0.0	2.9		0.3	0.4	6.0		0.0				

Intersection Summary												
HCM 7th Control Delay, s/veh				24.7								
HCM 7th LOS				C								

Notes
 * HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 7th Signalized Intersection Summary
 1: Seven Oakes Rd & W El Norte Pkwy

Existing + Project PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	63	808	54	71	737	29	399	23	193	19	5	62
Future Volume (veh/h)	63	808	54	71	737	29	399	23	193	19	5	62
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	68	878	59	77	801	32	434	25	210	21	5	67
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	88	1352	91	99	1416	57	566	67	562	413	43	582
Arrive On Green	0.05	0.40	0.40	0.06	0.41	0.41	0.39	0.39	0.39	0.39	0.39	0.39
Sat Flow, veh/h	1781	3378	227	1781	3483	139	1327	171	1436	1144	111	1489
Grp Volume(v), veh/h	68	462	475	77	409	424	434	0	235	21	0	72
Grp Sat Flow(s),veh/h/ln	1781	1777	1828	1781	1777	1845	1327	0	1607	1144	0	1600
Q Serve(g_s), s	3.2	17.9	17.9	3.6	15.1	15.1	26.3	0.0	8.9	1.1	0.0	2.4
Cycle Q Clear(g_c), s	3.2	17.9	17.9	3.6	15.1	15.1	28.8	0.0	8.9	10.0	0.0	2.4
Prop In Lane	1.00		0.12	1.00		0.08	1.00		0.89	1.00		0.93
Lane Grp Cap(c), veh/h	88	711	731	99	722	750	566	0	629	413	0	626
V/C Ratio(X)	0.77	0.65	0.65	0.78	0.57	0.57	0.77	0.00	0.37	0.05	0.00	0.12
Avail Cap(c_a), veh/h	189	711	731	168	722	750	749	0	851	572	0	847
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	39.9	20.7	20.7	39.6	19.4	19.4	25.7	0.0	18.4	22.0	0.0	16.5
Incr Delay (d2), s/veh	13.4	4.6	4.4	12.1	3.2	3.1	3.5	0.0	0.4	0.1	0.0	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	7.5	7.7	1.8	6.2	6.4	7.9	0.0	3.0	0.3	0.0	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	53.4	25.2	25.1	51.7	22.6	22.5	29.1	0.0	18.8	22.1	0.0	16.6
LnGrp LOS	D	C	C	D	C	C	C		B	C		B
Approach Vol, veh/h		1005			910			669				93
Approach Delay, s/veh		27.1			25.0			25.5				17.8
Approach LOS		C			C			C				B
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.7	39.0		37.2	8.2	39.5		37.2				
Change Period (Y+Rc), s	4.0	5.0		4.0	4.0	5.0		4.0				
Max Green Setting (Gmax), s	8.0	34.0		45.0	9.0	33.0		45.0				
Max Q Clear Time (g_c+I1), s	5.6	19.9		12.0	5.2	17.1		30.8				
Green Ext Time (p_c), s	0.0	4.7		0.5	0.0	4.3		2.5				
Intersection Summary												
HCM 7th Control Delay, s/veh				25.7								
HCM 7th LOS				C								

Intersection							
Int Delay, s/veh	0.6						
Movement	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↓	↑↑		↑
Traffic Vol, veh/h	979	5	8	34	843	0	44
Future Vol, veh/h	979	5	8	34	843	0	44
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	-	None	-	None
Storage Length	-	-	-	90	-	-	0
Veh in Median Storage, #	0	-	-	-	0	0	-
Grade, %	0	-	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	1064	5	9	37	916	0	48

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	1070
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.44	4.14
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	2.52	2.22
Pot Cap-1 Maneuver	-	300	647
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	511	511
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0.6	13.14
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	490	-	-	511	-
HCM Lane V/C Ratio	0.098	-	-	0.089	-
HCM Control Delay (s/veh)	13.1	-	-	12.7	-
HCM Lane LOS	B	-	-	B	-
HCM 95th %tile Q(veh)	0.3	-	-	0.3	-

Intersection							
Int Delay, s/veh	0.7						
Movement	EBU	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↕↕	↕↕			↗
Traffic Vol, veh/h	33	56	986	836	16	0	17
Future Vol, veh/h	33	56	986	836	16	0	17
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	None	-	None	-	None
Storage Length	-	70	-	-	-	-	-
Veh in Median Storage, #	-	-	0	0	-	0	-
Grade, %	-	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	36	61	1072	909	17	0	18

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	926	926	0	-	0	- 463
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	6.44	4.14	-	-	-	- 6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.52	2.22	-	-	-	- 3.32
Pot Cap-1 Maneuver	370	734	-	-	-	0 546
Stage 1	-	-	-	-	-	0 -
Stage 2	-	-	-	-	-	0 -
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	528	528	-	-	-	- 546
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s/v	1.1	0	11.83
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	528	-	-	-	546
HCM Lane V/C Ratio	0.183	-	-	-	0.034
HCM Control Delay (s/veh)	13.3	-	-	-	11.8
HCM Lane LOS	B	-	-	-	B
HCM 95th %tile Q(veh)	0.7	-	-	-	0.1

HCM 7th Signalized Intersection Summary
 4: Morning View Tr/S Iris Ln & W El Norte Pkwy

Existing + Project PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	205	797	8	22	671	208	9	1	9	109	3	158
Future Volume (veh/h)	205	797	8	22	671	208	9	1	9	109	3	158
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	223	866	9	24	729	226	10	1	10	118	3	172
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	263	2203	23	35	1717	766	226	32	322	378	6	343
Arrive On Green	0.15	0.61	0.61	0.02	0.48	0.48	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	1781	3603	37	1781	3554	1585	1206	146	1456	1398	27	1552
Grp Volume(v), veh/h	223	427	448	24	729	226	10	0	11	118	0	175
Grp Sat Flow(s),veh/h/ln	1781	1777	1864	1781	1777	1585	1206	0	1601	1398	0	1579
Q Serve(g_s), s	11.6	11.7	11.7	1.3	12.7	8.2	0.7	0.0	0.5	6.9	0.0	9.2
Cycle Q Clear(g_c), s	11.6	11.7	11.7	1.3	12.7	8.2	9.9	0.0	0.5	7.4	0.0	9.2
Prop In Lane	1.00		0.02	1.00		1.00	1.00		0.91	1.00		0.98
Lane Grp Cap(c), veh/h	263	1086	1139	35	1717	766	226	0	354	378	0	349
V/C Ratio(X)	0.85	0.39	0.39	0.68	0.42	0.30	0.04	0.00	0.03	0.31	0.00	0.50
Avail Cap(c_a), veh/h	526	1086	1139	150	1717	766	226	0	354	378	0	349
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	39.4	9.4	9.4	46.2	15.9	14.8	36.7	0.0	29.0	31.8	0.0	32.3
Incr Delay (d2), s/veh	7.4	1.1	1.0	20.7	0.8	1.0	0.1	0.0	0.0	2.1	0.0	5.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	4.1	4.3	0.7	4.8	2.9	0.2	0.0	0.2	2.5	0.0	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	46.7	10.5	10.5	66.9	16.7	15.8	36.8	0.0	29.0	34.0	0.0	37.4
LnGrp LOS	D	B	B	E	B	B	D		C	C		D
Approach Vol, veh/h		1098			979			21				293
Approach Delay, s/veh		17.8			17.7			32.7				36.0
Approach LOS		B			B			C				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.9	63.0		26.0	18.0	50.8		26.0				
Change Period (Y+Rc), s	4.0	5.0		* 5	4.0	5.0		5.0				
Max Green Setting (Gmax), s	8.0	58.0		* 21	28.0	38.0		20.0				
Max Q Clear Time (g_c+I1), s	3.3	13.7		11.2	13.6	14.7		11.9				
Green Ext Time (p_c), s	0.0	5.7		1.0	0.5	5.5		0.0				
Intersection Summary												
HCM 7th Control Delay, s/veh				20.2								
HCM 7th LOS				C								
Notes												
* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM 7th Signalized Intersection Summary
 1: Seven Oakes Rd & W El Norte Pkwy

Existing + Cumulative AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	608	143	161	971	27	95	8	127	23	6	43
Future Volume (veh/h)	34	608	143	161	971	27	95	8	127	23	6	43
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	0.99		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	37	661	155	175	1055	29	103	9	138	25	7	47
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	49	1684	394	216	2415	66	229	13	207	146	29	194
Arrive On Green	0.03	0.59	0.59	0.12	0.68	0.68	0.14	0.14	0.14	0.14	0.14	0.14
Sat Flow, veh/h	1781	2856	669	1781	3533	97	1343	97	1493	1236	208	1399
Grp Volume(v), veh/h	37	411	405	175	531	553	103	0	147	25	0	54
Grp Sat Flow(s),veh/h/ln	1781	1777	1748	1781	1777	1853	1343	0	1590	1236	0	1608
Q Serve(g_s), s	1.8	10.7	10.7	8.3	11.6	11.6	6.4	0.0	7.6	1.7	0.0	2.6
Cycle Q Clear(g_c), s	1.8	10.7	10.7	8.3	11.6	11.6	9.0	0.0	7.6	9.3	0.0	2.6
Prop In Lane	1.00		0.38	1.00		0.05	1.00		0.94	1.00		0.87
Lane Grp Cap(c), veh/h	49	1048	1031	216	1214	1266	229	0	220	146	0	223
V/C Ratio(X)	0.76	0.39	0.39	0.81	0.44	0.44	0.45	0.00	0.67	0.17	0.00	0.24
Avail Cap(c_a), veh/h	165	1048	1031	495	1214	1266	354	0	368	261	0	372
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	41.7	9.5	9.5	37.0	6.2	6.2	37.1	0.0	35.3	39.7	0.0	33.1
Incr Delay (d2), s/veh	21.4	1.1	1.1	7.1	1.1	1.1	1.4	0.0	3.5	0.5	0.0	0.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	3.7	3.6	3.8	3.4	3.6	2.1	0.0	3.0	0.5	0.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	63.1	10.6	10.6	44.1	7.3	7.3	38.5	0.0	38.7	40.2	0.0	33.7
LnGrp LOS	E	B	B	D	A	A	D		D	D		C
Approach Vol, veh/h		853			1259			250				79
Approach Delay, s/veh		12.9			12.4			38.6				35.8
Approach LOS		B			B			D				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	14.5	55.9		16.0	6.4	64.0		16.0				
Change Period (Y+Rc), s	4.0	5.0		4.0	4.0	5.0		4.0				
Max Green Setting (Gmax), s	24.0	43.0		20.0	8.0	59.0		20.0				
Max Q Clear Time (g_c+I1), s	10.3	12.7		11.3	3.8	13.6		11.0				
Green Ext Time (p_c), s	0.4	5.1		0.2	0.0	7.8		0.7				
Intersection Summary												
HCM 7th Control Delay, s/veh				16.0								
HCM 7th LOS				B								

HCM 7th TWSC
2: Commercial Dwy & W El Norte Pkwy

Existing + Cumulative AM

Intersection							
Int Delay, s/veh	0.3						
Movement	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↔	↑↑		↗
Traffic Vol, veh/h	612	6	5	20	1063	0	21
Future Vol, veh/h	612	6	5	20	1063	0	21
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	-	None	-	None
Storage Length	-	-	-	90	-	-	0
Veh in Median Storage, #	0	-	-	-	0	0	-
Grade, %	0	-	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	665	7	5	22	1155	0	23

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	672
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.44	4.14
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	2.52	2.22
Pot Cap-1 Maneuver	-	538	915
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	794	794
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0.22	10.65
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	660	-	-	794	-
HCM Lane V/C Ratio	0.035	-	-	0.034	-
HCM Control Delay (s/veh)	10.7	-	-	9.7	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-

Intersection							
Int Delay, s/veh	0.2						
Movement	EBU	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↕↕	↕↕			↗
Traffic Vol, veh/h	17	5	620	1071	0	0	0
Future Vol, veh/h	17	5	620	1071	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	None	-	None	-	None
Storage Length	-	70	-	-	-	-	-
Veh in Median Storage, #	-	-	0	0	-	0	-
Grade, %	-	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	18	5	674	1164	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1164	1164	0	-	0	582
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	6.44	4.14	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.52	2.22	-	-	-	3.32
Pot Cap-1 Maneuver	260	596	-	-	0	456
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	299	299	-	-	-	456
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0.62	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	299	-	-	-	-
HCM Lane V/C Ratio	0.08	-	-	-	-
HCM Control Delay (s/veh)	18.1	-	-	-	0
HCM Lane LOS	C	-	-	-	A
HCM 95th %tile Q(veh)	0.3	-	-	-	-

HCM 7th Signalized Intersection Summary
4: Morning View Tr/S Iris Ln & W El Norte Pkwy

Existing + Cumulative AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	192	449	3	14	774	67	8	1	7	99	0	283
Future Volume (veh/h)	192	449	3	14	774	67	8	1	7	99	0	283
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	209	488	3	15	841	73	9	1	8	108	0	308
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	247	2306	14	24	1820	812	88	37	293	355	0	324
Arrive On Green	0.14	0.64	0.64	0.01	0.51	0.51	0.21	0.21	0.21	0.21	0.00	0.21
Sat Flow, veh/h	1781	3621	22	1781	3554	1585	1071	178	1428	1400	0	1578
Grp Volume(v), veh/h	209	239	252	15	841	73	9	0	9	108	0	308
Grp Sat Flow(s),veh/h/ln	1781	1777	1866	1781	1777	1585	1071	0	1606	1400	0	1578
Q Serve(g_s), s	11.1	5.5	5.5	0.8	14.7	2.3	0.8	0.0	0.4	6.5	0.0	18.8
Cycle Q Clear(g_c), s	11.1	5.5	5.5	0.8	14.7	2.3	19.6	0.0	0.4	6.9	0.0	18.8
Prop In Lane	1.00		0.01	1.00		1.00	1.00		0.89	1.00		1.00
Lane Grp Cap(c), veh/h	247	1132	1189	24	1820	812	88	0	330	355	0	324
V/C Ratio(X)	0.85	0.21	0.21	0.61	0.46	0.09	0.10	0.00	0.03	0.30	0.00	0.95
Avail Cap(c_a), veh/h	439	1132	1189	92	1820	812	88	0	330	355	0	324
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	40.9	7.4	7.4	47.7	15.2	12.1	47.8	0.0	30.9	33.7	0.0	38.2
Incr Delay (d2), s/veh	7.8	0.4	0.4	22.5	0.8	0.2	0.5	0.0	0.0	2.2	0.0	38.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.2	1.9	2.0	0.5	5.5	0.8	0.2	0.0	0.2	2.4	0.0	10.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	48.7	7.8	7.8	70.2	16.0	12.4	48.3	0.0	30.9	35.9	0.0	76.9
LnGrp LOS	D	A	A	E	B	B	D		C	D		E
Approach Vol, veh/h		700			929			18				416
Approach Delay, s/veh		20.0			16.6			39.6				66.2
Approach LOS		C			B			D				E
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.3	67.0		25.0	17.5	54.8		25.0				
Change Period (Y+Rc), s	4.0	5.0		* 5	4.0	5.0		5.0				
Max Green Setting (Gmax), s	5.0	62.0		* 20	24.0	43.0		19.0				
Max Q Clear Time (g_c+I1), s	2.8	7.5		20.8	13.1	16.7		21.6				
Green Ext Time (p_c), s	0.0	2.8		0.0	0.4	6.0		0.0				
Intersection Summary												
HCM 7th Control Delay, s/veh				28.0								
HCM 7th LOS				C								
Notes												
* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM 7th Signalized Intersection Summary
 1: Seven Oakes Rd & W El Norte Pkwy

Existing + Cumulative PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	63	830	54	71	746	29	399	23	193	19	5	62
Future Volume (veh/h)	63	830	54	71	746	29	399	23	193	19	5	62
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	68	902	59	77	811	32	434	25	210	21	5	67
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	88	1354	89	99	1417	56	566	67	562	413	43	582
Arrive On Green	0.05	0.40	0.40	0.06	0.41	0.41	0.39	0.39	0.39	0.39	0.39	0.39
Sat Flow, veh/h	1781	3384	221	1781	3485	137	1327	171	1438	1145	111	1489
Grp Volume(v), veh/h	68	474	487	77	413	430	434	0	235	21	0	72
Grp Sat Flow(s),veh/h/ln	1781	1777	1829	1781	1777	1845	1327	0	1609	1145	0	1600
Q Serve(g_s), s	3.2	18.5	18.5	3.6	15.3	15.3	26.3	0.0	8.8	1.1	0.0	2.4
Cycle Q Clear(g_c), s	3.2	18.5	18.5	3.6	15.3	15.3	28.8	0.0	8.8	10.0	0.0	2.4
Prop In Lane	1.00		0.12	1.00		0.07	1.00		0.89	1.00		0.93
Lane Grp Cap(c), veh/h	88	711	732	99	722	750	566	0	629	413	0	626
V/C Ratio(X)	0.77	0.67	0.67	0.78	0.57	0.57	0.77	0.00	0.37	0.05	0.00	0.12
Avail Cap(c_a), veh/h	189	711	732	168	722	750	749	0	852	572	0	847
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	39.9	20.8	20.8	39.6	19.5	19.5	25.7	0.0	18.4	22.0	0.0	16.5
Incr Delay (d2), s/veh	13.4	4.9	4.8	12.1	3.3	3.2	3.5	0.0	0.4	0.1	0.0	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	7.8	8.0	1.8	6.3	6.5	7.9	0.0	3.0	0.3	0.0	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	53.4	25.7	25.6	51.7	22.8	22.7	29.1	0.0	18.8	22.1	0.0	16.6
LnGrp LOS	D	C	C	D	C	C	C		B	C		B
Approach Vol, veh/h		1029			920			669				93
Approach Delay, s/veh		27.5			25.1			25.5				17.8
Approach LOS		C			C			C				B
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.7	39.0		37.2	8.2	39.5		37.2				
Change Period (Y+Rc), s	4.0	5.0		4.0	4.0	5.0		4.0				
Max Green Setting (Gmax), s	8.0	34.0		45.0	9.0	33.0		45.0				
Max Q Clear Time (g_c+I1), s	5.6	20.5		12.0	5.2	17.3		30.8				
Green Ext Time (p_c), s	0.0	4.7		0.5	0.0	4.3		2.5				
Intersection Summary												
HCM 7th Control Delay, s/veh			25.9									
HCM 7th LOS			C									

HCM 7th TWSC
2: Commercial Dwy & W El Norte Pkwy

Existing + Cumulative PM

Intersection							
Int Delay, s/veh	0.5						
Movement	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↔	↑↑		↗
Traffic Vol, veh/h	1001	5	1	34	852	0	44
Future Vol, veh/h	1001	5	1	34	852	0	44
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	-	None	-	None
Storage Length	-	-	-	90	-	-	0
Veh in Median Storage, #	0	-	-	-	0	0	-
Grade, %	0	-	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	1088	5	1	37	926	0	48

Major/Minor	Major1	Major2	Minor1				
Conflicting Flow All	0	0	1093	1093	0	-	547
Stage 1	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.44	4.14	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	2.52	2.22	-	-	3.32
Pot Cap-1 Maneuver	-	-	289	634	-	0	481
Stage 1	-	-	-	-	-	0	-
Stage 2	-	-	-	-	-	0	-
Platoon blocked, %	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	609	609	-	-	481
Mov Cap-2 Maneuver	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0.45	13.31
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	481	-	-	609	-
HCM Lane V/C Ratio	0.099	-	-	0.062	-
HCM Control Delay (s/veh)	13.3	-	-	11.3	-
HCM Lane LOS	B	-	-	B	-
HCM 95th %tile Q(veh)	0.3	-	-	0.2	-

Intersection							
Int Delay, s/veh	0.4						
Movement	EBU	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↕↕	↕↕			↗
Traffic Vol, veh/h	33	5	1024	855	0	0	0
Future Vol, veh/h	33	5	1024	855	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	None	-	None	-	None
Storage Length	-	70	-	-	-	-	-
Veh in Median Storage, #	-	-	0	0	-	0	-
Grade, %	-	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	36	16	1113	929	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	929	929	0	-	0	- 465
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	6.44	4.14	-	-	-	- 6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.52	2.22	-	-	-	- 3.32
Pot Cap-1 Maneuver	369	732	-	-	-	0 544
Stage 1	-	-	-	-	-	0 -
Stage 2	-	-	-	-	-	0 -
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	436	436	-	-	-	- 544
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0.64	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	436	-	-	-	-
HCM Lane V/C Ratio	0.12	-	-	-	-
HCM Control Delay (s/veh)	14.4	-	-	-	0
HCM Lane LOS	B	-	-	-	A
HCM 95th %tile Q(veh)	0.4	-	-	-	-

HCM 7th Signalized Intersection Summary
4: Morning View Tr/S Iris Ln & W El Norte Pkwy

Existing + Cumulative PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	239	801	8	22	660	218	9	1	9	113	3	172
Future Volume (veh/h)	239	801	8	22	660	218	9	1	9	113	3	172
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	260	871	9	24	717	237	10	1	10	123	3	187
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	301	2203	23	35	1642	733	213	32	322	378	6	345
Arrive On Green	0.17	0.61	0.61	0.02	0.46	0.46	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	1781	3603	37	1781	3554	1585	1191	146	1456	1398	25	1558
Grp Volume(v), veh/h	260	430	450	24	717	237	10	0	11	123	0	190
Grp Sat Flow(s),veh/h/ln	1781	1777	1864	1781	1777	1585	1191	0	1601	1398	0	1583
Q Serve(g_s), s	13.5	11.8	11.8	1.3	12.9	9.0	0.7	0.0	0.5	7.2	0.0	10.1
Cycle Q Clear(g_c), s	13.5	11.8	11.8	1.3	12.9	9.0	10.8	0.0	0.5	7.7	0.0	10.1
Prop In Lane	1.00		0.02	1.00		1.00	1.00		0.91	1.00		0.98
Lane Grp Cap(c), veh/h	301	1086	1139	35	1642	733	213	0	354	378	0	350
V/C Ratio(X)	0.86	0.40	0.40	0.68	0.44	0.32	0.05	0.00	0.03	0.33	0.00	0.54
Avail Cap(c_a), veh/h	526	1086	1139	150	1642	733	213	0	354	378	0	350
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	38.4	9.5	9.5	46.2	17.2	16.1	37.5	0.0	29.0	32.0	0.0	32.7
Incr Delay (d2), s/veh	7.3	1.1	1.0	20.7	0.8	1.2	0.1	0.0	0.0	2.3	0.0	5.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.2	4.1	4.3	0.7	5.0	3.2	0.2	0.0	0.2	2.6	0.0	4.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	45.7	10.5	10.5	66.9	18.0	17.3	37.6	0.0	29.0	34.3	0.0	38.6
LnGrp LOS	D	B	B	E	B	B	D		C	C		D
Approach Vol, veh/h		1140			978			21				313
Approach Delay, s/veh		18.5			19.1			33.1				36.9
Approach LOS		B			B			C				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.9	63.0		26.0	20.0	48.8		26.0				
Change Period (Y+Rc), s	4.0	5.0		* 5	4.0	5.0		5.0				
Max Green Setting (Gmax), s	8.0	58.0		* 21	28.0	38.0		20.0				
Max Q Clear Time (g_c+I1), s	3.3	13.8		12.1	15.5	14.9		12.8				
Green Ext Time (p_c), s	0.0	5.8		1.0	0.6	5.5		0.0				
Intersection Summary												
HCM 7th Control Delay, s/veh				21.2								
HCM 7th LOS				C								
Notes												
* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM 7th Signalized Intersection Summary
 1: Seven Oakes Rd & W El Norte Pkwy

Existing + Cumulative + Project AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	612	143	163	991	27	95	8	128	23	6	43
Future Volume (veh/h)	34	612	143	163	991	27	95	8	128	23	6	43
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	0.99		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	37	665	155	177	1077	29	103	9	139	25	7	47
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	49	1682	392	218	2416	65	229	13	207	146	29	194
Arrive On Green	0.03	0.59	0.59	0.12	0.68	0.68	0.14	0.14	0.14	0.14	0.14	0.14
Sat Flow, veh/h	1781	2860	666	1781	3535	95	1343	97	1493	1235	208	1399
Grp Volume(v), veh/h	37	413	407	177	541	565	103	0	148	25	0	54
Grp Sat Flow(s),veh/h/ln	1781	1777	1749	1781	1777	1853	1343	0	1590	1235	0	1608
Q Serve(g_s), s	1.8	10.8	10.8	8.4	12.0	12.0	6.4	0.0	7.6	1.7	0.0	2.6
Cycle Q Clear(g_c), s	1.8	10.8	10.8	8.4	12.0	12.0	9.0	0.0	7.6	9.3	0.0	2.6
Prop In Lane	1.00		0.38	1.00		0.05	1.00		0.94	1.00		0.87
Lane Grp Cap(c), veh/h	49	1045	1029	218	1214	1267	229	0	221	146	0	223
V/C Ratio(X)	0.76	0.40	0.40	0.81	0.45	0.45	0.45	0.00	0.67	0.17	0.00	0.24
Avail Cap(c_a), veh/h	165	1045	1029	495	1214	1267	354	0	368	260	0	372
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	41.7	9.5	9.5	36.9	6.2	6.2	37.1	0.0	35.3	39.7	0.0	33.1
Incr Delay (d2), s/veh	21.4	1.1	1.1	7.1	1.2	1.1	1.4	0.0	3.5	0.6	0.0	0.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	3.7	3.7	3.9	3.5	3.7	2.1	0.0	3.0	0.5	0.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	63.1	10.6	10.7	44.0	7.4	7.4	38.5	0.0	38.8	40.3	0.0	33.7
LnGrp LOS	E	B	B	D	A	A	D		D	D		C
Approach Vol, veh/h	857				1283		251				79	
Approach Delay, s/veh	12.9				12.4		38.7				35.8	
Approach LOS	B				B		D				D	
Timer - Assigned Phs	1	2	4		5	6	8					
Phs Duration (G+Y+Rc), s	14.6	55.8	16.0		6.4	64.0	16.0					
Change Period (Y+Rc), s	4.0	5.0	4.0		4.0	5.0	4.0					
Max Green Setting (Gmax), s	24.0	43.0	20.0		8.0	59.0	20.0					
Max Q Clear Time (g_c+I1), s	10.4	12.8	11.3		3.8	14.0	11.0					
Green Ext Time (p_c), s	0.4	5.2	0.2		0.0	8.1	0.7					
Intersection Summary												
HCM 7th Control Delay, s/veh			16.0									
HCM 7th LOS			B									

HCM 7th TWSC
2: Commercial Dwy & W El Norte Pkwy

Existing + Cumulative + Project AM

Intersection							
Int Delay, s/veh	0.4						
Movement	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↔	↑↑		↗
Traffic Vol, veh/h	617	6	19	20	1085	0	21
Future Vol, veh/h	617	6	19	20	1085	0	21
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	-	None	-	None
Storage Length	-	-	-	90	-	-	0
Veh in Median Storage, #	0	-	-	-	0	0	-
Grade, %	0	-	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	671	7	21	22	1179	0	23

Major/Minor	Major1	Major2	Minor1				
Conflicting Flow All	0	0	677	677	0	-	339
Stage 1	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.44	4.14	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	2.52	2.22	-	-	3.32
Pot Cap-1 Maneuver	-	-	534	910	-	0	657
Stage 1	-	-	-	-	-	0	-
Stage 2	-	-	-	-	-	0	-
Platoon blocked, %	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	663	663	-	-	657
Mov Cap-2 Maneuver	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0.37	10.67
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	657	-	-	663	-
HCM Lane V/C Ratio	0.035	-	-	0.064	-
HCM Control Delay (s/veh)	10.7	-	-	10.8	-
HCM Lane LOS	B	-	-	B	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	-

Intersection							
Int Delay, s/veh	0.5						
Movement	EBU	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↕↕	↕↕			↗
Traffic Vol, veh/h	17	5	634	1071	4	0	36
Future Vol, veh/h	17	5	634	1071	4	0	36
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	None	-	None	-	None
Storage Length	-	70	-	-	-	-	-
Veh in Median Storage, #	-	-	0	0	-	0	-
Grade, %	-	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	18	8	689	1164	4	0	39

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1168	1168	0	-	0	584
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	6.44	4.14	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.52	2.22	-	-	-	3.32
Pot Cap-1 Maneuver	259	594	-	-	0	455
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	290	290	-	-	-	455
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0.69	0	13.66
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	290	-	-	-	455
HCM Lane V/C Ratio	0.092	-	-	-	0.086
HCM Control Delay (s/veh)	18.7	-	-	-	13.7
HCM Lane LOS	C	-	-	-	B
HCM 95th %tile Q(veh)	0.3	-	-	-	0.3

HCM 7th Signalized Intersection Summary
4: Morning View Tr/S Iris Ln & W El Norte Pkwy

Existing + Cumulative + Project AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	194	461	3	14	777	67	8	1	7	99	0	284
Future Volume (veh/h)	194	461	3	14	777	67	8	1	7	99	0	284
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	211	501	3	15	845	73	9	1	8	108	0	309
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	249	2307	14	24	1816	810	87	37	293	355	0	324
Arrive On Green	0.14	0.64	0.64	0.01	0.51	0.51	0.21	0.21	0.21	0.21	0.00	0.21
Sat Flow, veh/h	1781	3622	22	1781	3554	1585	1070	178	1428	1400	0	1578
Grp Volume(v), veh/h	211	246	258	15	845	73	9	0	9	108	0	309
Grp Sat Flow(s),veh/h/ln	1781	1777	1866	1781	1777	1585	1070	0	1606	1400	0	1578
Q Serve(g_s), s	11.3	5.7	5.7	0.8	14.9	2.3	0.8	0.0	0.4	6.5	0.0	18.8
Cycle Q Clear(g_c), s	11.3	5.7	5.7	0.8	14.9	2.3	19.6	0.0	0.4	6.9	0.0	18.8
Prop In Lane	1.00		0.01	1.00		1.00	1.00		0.89	1.00		1.00
Lane Grp Cap(c), veh/h	249	1132	1189	24	1816	810	87	0	330	355	0	324
V/C Ratio(X)	0.85	0.22	0.22	0.61	0.47	0.09	0.10	0.00	0.03	0.30	0.00	0.95
Avail Cap(c_a), veh/h	439	1132	1189	92	1816	810	87	0	330	355	0	324
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	40.9	7.4	7.4	47.7	15.3	12.2	47.9	0.0	30.9	33.7	0.0	38.2
Incr Delay (d2), s/veh	7.8	0.4	0.4	22.5	0.9	0.2	0.5	0.0	0.0	2.2	0.0	39.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.3	1.9	2.0	0.5	5.6	0.8	0.2	0.0	0.2	2.4	0.0	10.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	48.6	7.9	7.9	70.2	16.1	12.4	48.4	0.0	30.9	35.9	0.0	77.5
LnGrp LOS	D	A	A	E	B	B	D		C	D		E
Approach Vol, veh/h		715			933			18				417
Approach Delay, s/veh		19.9			16.7			39.7				66.7
Approach LOS		B			B			D				E
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.3	67.0		25.0	17.6	54.7		25.0				
Change Period (Y+Rc), s	4.0	5.0		* 5	4.0	5.0		5.0				
Max Green Setting (Gmax), s	5.0	62.0		* 20	24.0	43.0		19.0				
Max Q Clear Time (g_c+I1), s	2.8	7.7		20.8	13.3	16.9		21.6				
Green Ext Time (p_c), s	0.0	2.9		0.0	0.4	6.1		0.0				
Intersection Summary												
HCM 7th Control Delay, s/veh			28.0									
HCM 7th LOS			C									
Notes												
* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM 7th Signalized Intersection Summary
 1: Seven Oakes Rd & W El Norte Pkwy

Existing + Cumulative + Project PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	63	851	54	72	755	29	399	23	195	19	5	62
Future Volume (veh/h)	63	851	54	72	755	29	399	23	195	19	5	62
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	68	925	59	78	821	32	434	25	212	21	5	67
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	88	1355	86	101	1418	55	565	66	563	411	43	582
Arrive On Green	0.05	0.40	0.40	0.06	0.41	0.41	0.39	0.39	0.39	0.39	0.39	0.39
Sat Flow, veh/h	1781	3390	216	1781	3487	136	1327	170	1439	1143	111	1489
Grp Volume(v), veh/h	68	485	499	78	418	435	434	0	237	21	0	72
Grp Sat Flow(s),veh/h/ln	1781	1777	1830	1781	1777	1846	1327	0	1609	1143	0	1600
Q Serve(g_s), s	3.2	19.2	19.2	3.7	15.5	15.5	26.4	0.0	8.9	1.1	0.0	2.4
Cycle Q Clear(g_c), s	3.2	19.2	19.2	3.7	15.5	15.5	28.8	0.0	8.9	10.1	0.0	2.4
Prop In Lane	1.00		0.12	1.00		0.07	1.00		0.89	1.00		0.93
Lane Grp Cap(c), veh/h	88	710	731	101	723	751	565	0	629	411	0	626
V/C Ratio(X)	0.77	0.68	0.68	0.78	0.58	0.58	0.77	0.00	0.38	0.05	0.00	0.12
Avail Cap(c_a), veh/h	188	710	731	168	723	751	748	0	851	569	0	846
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	40.0	21.1	21.1	39.6	19.6	19.6	25.7	0.0	18.5	22.1	0.0	16.5
Incr Delay (d2), s/veh	13.4	5.3	5.1	12.0	3.4	3.2	3.5	0.0	0.4	0.1	0.0	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	8.1	8.3	1.9	6.4	6.6	8.0	0.0	3.1	0.3	0.0	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	53.4	26.3	26.2	51.6	22.9	22.8	29.2	0.0	18.9	22.1	0.0	16.6
LnGrp LOS	D	C	C	D	C	C	C		B	C		B
Approach Vol, veh/h		1052			931			671				93
Approach Delay, s/veh		28.0			25.3			25.5				17.8
Approach LOS		C			C			C				B
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.8	39.0		37.3	8.2	39.6		37.3				
Change Period (Y+Rc), s	4.0	5.0		4.0	4.0	5.0		4.0				
Max Green Setting (Gmax), s	8.0	34.0		45.0	9.0	33.0		45.0				
Max Q Clear Time (g_c+I1), s	5.7	21.2		12.1	5.2	17.5		30.8				
Green Ext Time (p_c), s	0.0	4.7		0.5	0.0	4.3		2.5				
Intersection Summary												
HCM 7th Control Delay, s/veh				26.1								
HCM 7th LOS				C								

HCM 7th TWSC
2: Commercial Dwy & W El Norte Pkwy

Existing + Cumulative + Project PM

Intersection							
Int Delay, s/veh	0.6						
Movement	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↔	↑↑		↗
Traffic Vol, veh/h	1024	5	8	34	862	0	44
Future Vol, veh/h	1024	5	8	34	862	0	44
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	-	None	-	None
Storage Length	-	-	-	90	-	-	0
Veh in Median Storage, #	0	-	-	-	0	0	-
Grade, %	0	-	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	1113	5	9	37	937	0	48

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	1118
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.44	4.14
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	2.52	2.22
Pot Cap-1 Maneuver	-	279	620
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	484	484
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0.61	13.48
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	472	-	-	484	-
HCM Lane V/C Ratio	0.101	-	-	0.094	-
HCM Control Delay (s/veh)	13.5	-	-	13.2	-
HCM Lane LOS	B	-	-	B	-
HCM 95th %tile Q(veh)	0.3	-	-	0.3	-

Intersection							
Int Delay, s/veh	0.5						
Movement	EBU	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↕↕	↕↕			↗
Traffic Vol, veh/h	33	23	1031	855	16	0	17
Future Vol, veh/h	33	23	1031	855	16	0	17
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	None	-	None	-	None
Storage Length	-	70	-	-	-	-	-
Veh in Median Storage, #	-	-	0	0	-	0	-
Grade, %	-	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	36	25	1121	929	17	0	18

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	947	947	0	-	0	- 473
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	6.44	4.14	-	-	-	- 6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.52	2.22	-	-	-	- 3.32
Pot Cap-1 Maneuver	359	721	-	-	-	0 537
Stage 1	-	-	-	-	-	0 -
Stage 2	-	-	-	-	-	0 -
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	441	441	-	-	-	- 537
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0.75	0	11.94
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	441	-	-	-	537
HCM Lane V/C Ratio	0.138	-	-	-	0.034
HCM Control Delay (s/veh)	14.5	-	-	-	11.9
HCM Lane LOS	B	-	-	-	B
HCM 95th %tile Q(veh)	0.5	-	-	-	0.1

HCM 7th Signalized Intersection Summary
 4: Morning View Tr/S Iris Ln & W El Norte Pkwy

Existing + Cumulative + Project PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	240	807	8	22	674	218	9	1	9	113	3	174
Future Volume (veh/h)	240	807	8	22	674	218	9	1	9	113	3	174
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	261	877	9	24	733	237	10	1	10	123	3	189
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	302	2203	23	35	1640	732	211	32	322	378	5	345
Arrive On Green	0.17	0.61	0.61	0.02	0.46	0.46	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	1781	3603	37	1781	3554	1585	1189	146	1456	1398	25	1558
Grp Volume(v), veh/h	261	432	454	24	733	237	10	0	11	123	0	192
Grp Sat Flow(s),veh/h/ln	1781	1777	1864	1781	1777	1585	1189	0	1601	1398	0	1582
Q Serve(g_s), s	13.5	11.9	11.9	1.3	13.3	9.0	0.7	0.0	0.5	7.2	0.0	10.2
Cycle Q Clear(g_c), s	13.5	11.9	11.9	1.3	13.3	9.0	10.9	0.0	0.5	7.7	0.0	10.2
Prop In Lane	1.00		0.02	1.00		1.00	1.00		0.91	1.00		0.98
Lane Grp Cap(c), veh/h	302	1086	1139	35	1640	732	211	0	354	378	0	350
V/C Ratio(X)	0.86	0.40	0.40	0.68	0.45	0.32	0.05	0.00	0.03	0.33	0.00	0.55
Avail Cap(c_a), veh/h	526	1086	1139	150	1640	732	211	0	354	378	0	350
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	38.3	9.5	9.5	46.2	17.3	16.2	37.6	0.0	29.0	32.0	0.0	32.7
Incr Delay (d2), s/veh	7.3	1.1	1.0	20.7	0.9	1.2	0.1	0.0	0.0	2.3	0.0	6.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.2	4.1	4.3	0.7	5.1	3.2	0.2	0.0	0.2	2.6	0.0	4.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	45.7	10.6	10.5	66.9	18.2	17.3	37.7	0.0	29.0	34.3	0.0	38.8
LnGrp LOS	D	B	B	E	B	B	D		C	C		D
Approach Vol, veh/h		1147			994			21				315
Approach Delay, s/veh		18.5			19.2			33.1				37.0
Approach LOS		B			B			C				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.9	63.0		26.0	20.1	48.8		26.0				
Change Period (Y+Rc), s	4.0	5.0		* 5	4.0	5.0		5.0				
Max Green Setting (Gmax), s	8.0	58.0		* 21	28.0	38.0		20.0				
Max Q Clear Time (g_c+I1), s	3.3	13.9		12.2	15.5	15.3		12.9				
Green Ext Time (p_c), s	0.0	5.8		1.0	0.6	5.6		0.0				

Intersection Summary												
HCM 7th Control Delay, s/veh				21.3								
HCM 7th LOS				C								

Notes
 * HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.