

Appendix J

Local Mobility Analysis

VEHICLE MILES TRAVELED AND LOCAL MOBILITY ANALYSIS

855 BROTHERTON ROAD

Escondido, California
December 10, 2025

LLG Ref. 3-23-3748

Prepared by:
Renald Espiritu
Transportation Engineer III

Under the Supervision of:
John Boarman, P.E.
Principal

**Linscott, Law &
Greenspan, Engineers**
4542 Ruffner Street
Suite 100
San Diego, CA 92111
858.300.8800 T
858.300.8810 F
www.llgengineers.com

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VEHICLE MILES TRAVELED AND LOCAL MOBILITY ANALYSIS

855 BROTHERTON ROAD

Escondido, California
December 10, 2025

1.0 INTRODUCTION

Linscott, Law and Greenspan, Engineers (LLG) has prepared this Vehicle Miles Traveled (VMT) and Local Mobility Analysis (LMA) to assess the operations of the mobility systems as a result of the proposed 855 Brotherton Road project (hereafter referred to as “Project”). The Project proposes to demolish an existing church building and parking lot and develop 258 apartment units, a new 24,627 SF church building and associated improvements east of the proposed housing development in the City of Escondido.

The transportation analysis presented in this report includes the following:

- Project Description
- Existing Conditions
- CEQA VMT Assessment
- Level of Service (LOS) Analysis Approach and Methodology
- Analysis of Existing Conditions
- Trip Generation/Distribution/Assignment
- Cumulative Projects Discussion
- Analysis of Near-Term Scenario
- Analysis of Long-Term Scenario
- Access Assessment
- Queuing Assessment
- Active Transportation Discussion
- Recommended Improvements
- Conclusions

2.0 PROJECT DESCRIPTION

The Project site currently contains a 24,395 SF church building, a 2,062 SF parking and two school buildings totaling 26,457 SF. The Project proposes to demolish the existing church building and parking lot and develop 258 apartment units, a new 24,627 SF church building and associated improvements east of the proposed housing development in the City of Escondido. A new one-story church building would be constructed on the east side of the Project site adjacent to the two school buildings that would remain.

Site access to the residential development is proposed via two (2) full access driveways: one on Brotherton Road and the other on Felicita Road. Access to the church would continue to be provided via two (2) full access driveways from Brotherton Road.

The Project would require a General Plan Amendment to change the land use designation to Urban V and a rezone to residential (R-5) to allow for multi-family residential development. A conditional use permit modification is also required to allow the new church in the R-5 zone.

Figure 2-1 shows the Project vicinity. *Figure 2-2* shows a more detailed Project area map. *Figure 2-3* shows the Project site plan.

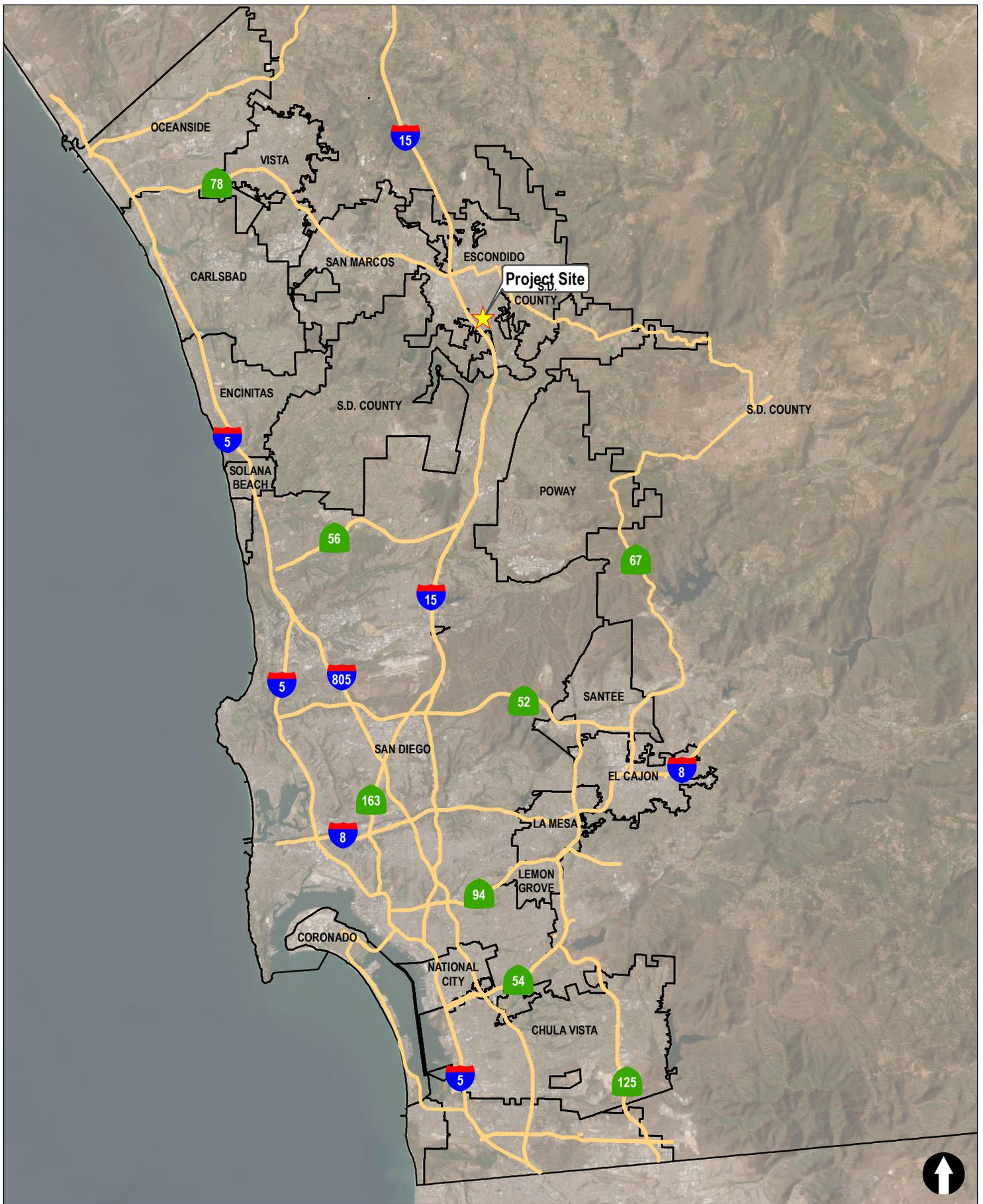


Figure 2-1

Vicinity Map

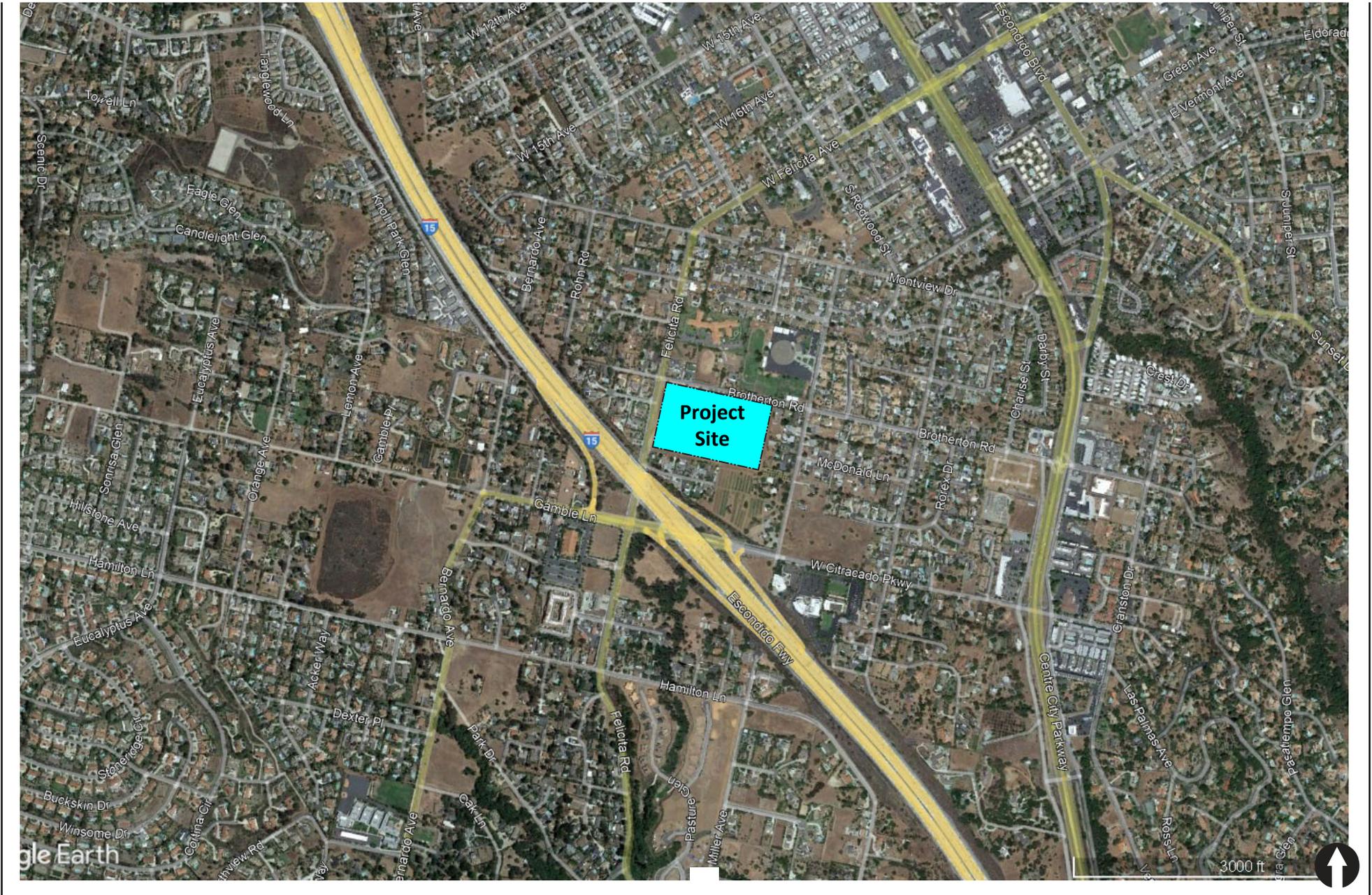


Figure 2-2
Project Area Map

855 BROTHERTON ROAD

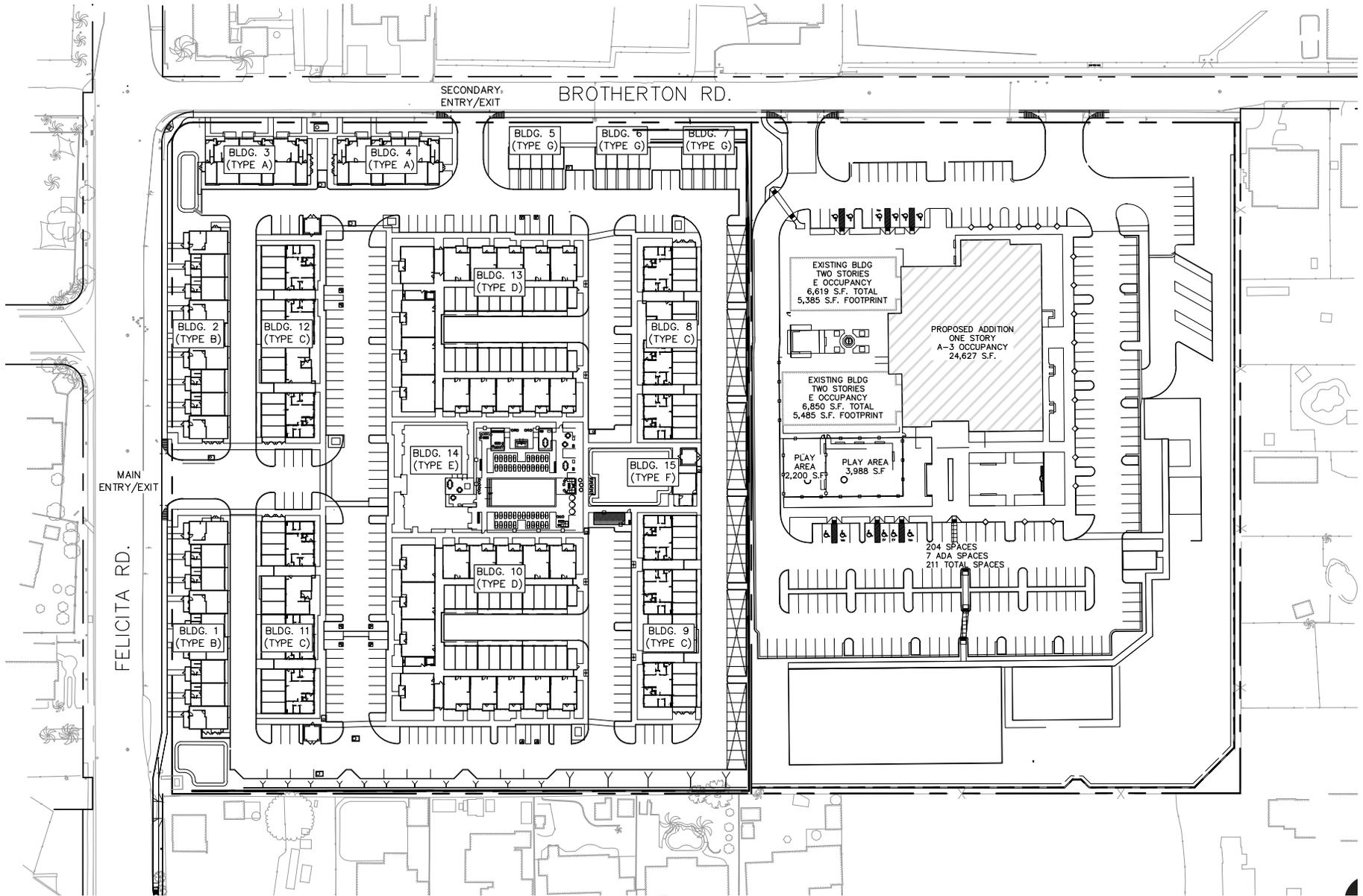


Figure 2-3
Site Plan

3.0 EXISTING CONDITIONS

Effective evaluation of the traffic impacts associated with the proposed Project requires an understanding of the existing transportation system within the project area. *Figure 3-1* shows an existing conditions diagram, including signalized intersections and lane configurations.

The study area includes the following intersections and street segments:

INTERSECTIONS

1. Brotherton Road / Felicita Road
2. Brotherton Road / Project Driveway #1
3. Brotherton Road / Miller Avenue
4. Brotherton Road / Centre City Parkway
5. Felicita Road / Project Driveway #2
6. Gamble Lane (*City jurisdiction*) / I-15 SB Off-Ramp (*Caltrans jurisdiction*)
7. Citracado Parkway / Felicita Road (*east leg is under Caltrans jurisdiction*)
8. Citracado Parkway / I-15 SB On-Ramp (*Caltrans jurisdiction*)
9. Citracado Parkway / I-15 NB Ramps (*Caltrans jurisdiction*)
10. Citracado Parkway / Miller Avenue
11. Citracado Parkway / Alexander Drive
12. Citracado Parkway / Centre City Parkway

STREET SEGMENTS

1. Brotherton Road between Felicita Road and Project Driveway #1
2. Brotherton Road between Project Driveway #1 and Miller Avenue
3. Brotherton Road between Miller Avenue and Alexander Drive
4. Brotherton Road between Alexander Drive and Centre City Parkway
5. Citracado Parkway between I-15 SB Off-Ramp and Felicita Road
6. Citracado Parkway between Felicita Road and I-15 SB On-Ramp (*Caltrans jurisdiction*)
7. Citracado Parkway between I-15 SB On-Ramp and I-15 NB Ramps (*Caltrans jurisdiction*)
8. Citracado Parkway between I-15 NB Ramps and Miller Avenue (*partial Caltrans right-of-way*)
9. Citracado Parkway between Miller Avenue and Alexander Drive
10. Citracado Parkway between Alexander Drive and Centre City Parkway
11. Felicita Road between Brotherton Road and Project Driveway #2
12. Felicita Road between Project Driveway #2 and Citracado Parkway
13. Miller Avenue between Brotherton Road and Citracado Parkway
14. Centre City Parkway between Brotherton Road and Citracado Parkway

3.1 Existing Transportation Conditions

The following is a description of the existing street network in the study area.

Brotherton Road is an unclassified roadway in the *City of Escondido Circulation Element*. It is currently constructed as a two-lane undivided roadway between Felicita Road and Centre City Parkway. Brotherton Road was widened to the City standard cross-section (on the south side only) during construction of the Bethel Baptist Church in the 1970s. Within the Project study area, sidewalks are provided intermittently between Felicita Road and Centre City Parkway: on the south side between Felicita Road and Alexander Drive, and on the north side 600 feet west of Miller Avenue to Alexander Drive, and at Centre City Parkway to 500 feet west. Of the 3,500 feet between Felicita Road and Centre City Parkway, sidewalk gaps on the north side total 1,130 feet; whereas the gaps on the south side total 820 feet. Additional transportation components of the network are discussed in *Section 13.0*, and *Figure 13-1* shows the Existing Pedestrian Network. Bike lanes are not provided. The curb-to-curb width is generally 28 feet between Felicita Road and Miller Avenue, 42 feet between Miller Avenue and Alexander Drive, and 24 feet between Alexander Drive and Centre City Parkway. The posted speed limit is 25 mph.

Citracado Parkway is classified as a Major Road between the I-15 SB Off-Ramp and the I-15 NB Ramps and a Collector between I-15 NB Ramps and Centre City Parkway in the *City of Escondido Circulation Element*. The Gamble Lane / I-15 Southbound Off-Ramp, Citracado Parkway / Felicita Road, Citracado Parkway / I-15 Southbound On-Ramp and Citracado Parkway / I-15 Northbound Ramps intersections are within Caltrans jurisdiction. Citracado Parkway is currently constructed as a four-lane divided roadway between the I-15 SB Off-ramp and I-15 NB Ramps, a three-lane divided roadway between I-15 NB Ramps and Miller Avenue and a two-lane undivided roadway between Miller Avenue and Centre City Parkway. Citracado Parkway transitions to Gamble Lane west of I-15 and does not extend beyond 1 mile west of this freeway as there is a gap approximately 1 mile west that prevents through traffic. The Circulation Element shows a future connection to Citracado Parkway east of W. Valley Parkway. Within the Project study area, sidewalks are provided between I-15 SB Off-Ramp and Felicita Road on the south side only, between Felicita Road and Miller Avenue on the north side only and between Miller Avenue and Alexander Drive on the south side only. Of the 3,500 feet between Felicita Road and Centre City Parkway, sidewalk gaps on the north side total 1,760 feet; whereas the gaps on the south side total 2,390 feet. Additional transportation components of the network are discussed in *Section 13.0*, and *Figure 13-1* shows the Existing Pedestrian Network. Bike lanes are not provided. The Gamble Lane / Citracado Parkway curb-to-curb width is generally 82 to 102 feet between I-15 Southbound Off-Ramp and I-15 Northbound Ramps, 80 feet between I-15 Northbound Ramps and Miller Avenue, 42 feet between Miller Avenue and Alexander Drive, and 22 to 32 feet between Alexander Drive and Centre City Parkway. The Gamble Lane / Citracado Parkway posted speed limit is 30 mph east of the I-15 ramps and 25 mph west of the I-15 ramps.

Felicita Road is classified as a four-lane Collector between Brotherton Road and Citracado Parkway in the *City of Escondido Circulation Element*. It is currently constructed as a two-lane undivided roadway with a two-way left-turn lane between Brotherton Road and Citracado Parkway. Within the

Project study area, sidewalks are provided between Brotherton Road and Gamble Lane/Citracado Parkway on the west side only and between Palm Terrace and Citracado Parkway on the east side. Of the 1,250 feet between Brotherton Road and Citracado Parkway, there are no sidewalk gaps on the west side; whereas the gaps on the east side total 730 feet. Additional transportation components of the network are discussed in *Section 13.0*, and *Figure 13–1* shows the Existing Pedestrian Network. Class II bike lanes are provided on both sides. The curb-to-curb width is generally 42 to 66 feet between Brotherton Road and Citracado Parkway. The posted speed limit is 40 mph.

Miller Avenue is an unclassified roadway in the *City of Escondido Circulation Element*. It is currently constructed as a two-lane undivided roadway between Brotherton Road and Citracado Parkway. Within the Project study area, sidewalks and bike lanes are not provided. The curb-to-curb width is generally 22 to 32 feet between Brotherton Road and Citracado Parkway. The posted speed limit is 25 mph.

Centre City Parkway is classified as a Super Major Road between Brotherton Road and Citracado Parkway in the *City of Escondido Circulation Element*. It is currently constructed as a four-lane divided roadway between Brotherton Road and Citracado Parkway. Within the Project study area, sidewalks are not provided; however, pedestrian can travel on the 8-foot wide paved shoulders. Shoulder Class II bike lanes are provided on both sides. The curb-to-curb width is generally 90 feet between Brotherton Road and Citracado Parkway. The posted speed limit is 50 mph.

3.2 Existing Traffic Volumes

Average daily traffic volumes and peak hour intersection turning movement volume counts were conducted on Wednesday, March 13, 2024, and Tuesday, January 14, 2025, while schools in the area were in session.

Table 3–1 is a summary of the average daily traffic volumes. *Figure 3–2* shows the Existing Traffic Volumes. *Appendix A* contains the existing count sheets.

**TABLE 3-1
EXISTING TRAFFIC VOLUMES**

Street Segment	Counts	Date
Brotherton Road		
Felicita Road to Project Driveway #1	410	January 14, 2025
Project Driveway #1 to Miller Avenue	410	January 14, 2025
Miller Avenue to Alexander Drive	630	January 14, 2025
Alexander Drive to Centre City Parkway	750	January 14, 2025
Citracado Parkway		
I-15 SB Off-Ramp to Felicita Road	11,350	January 14, 2025
Felicita Road to I-15 SB On-Ramp (<i>Caltrans jurisdiction</i>)	10,080	January 14, 2025
I-15 SB On-Ramp to I-15 NB Ramps (<i>Caltrans jurisdiction</i>)	8,420	January 14, 2025
I-15 NB Ramps to Miller Avenue (<i>partial Caltrans ROW</i>)	6,800	January 14, 2025
Miller Avenue to Alexander Drive	4,560	January 14, 2025
Alexander Drive to Centre City Parkway	3,990	January 14, 2025
Felicita Road		
Brotherton Road to Project Driveway #2	11,490	January 14, 2025
Project Driveway #2 to Citracado Parkway	11,490	January 14, 2025
Miller Avenue		
Brotherton Road to Citracado Parkway	1,590	January 14, 2025
Centre City Parkway		
Brotherton Road to Citracado Parkway	27,940	January 14, 2025

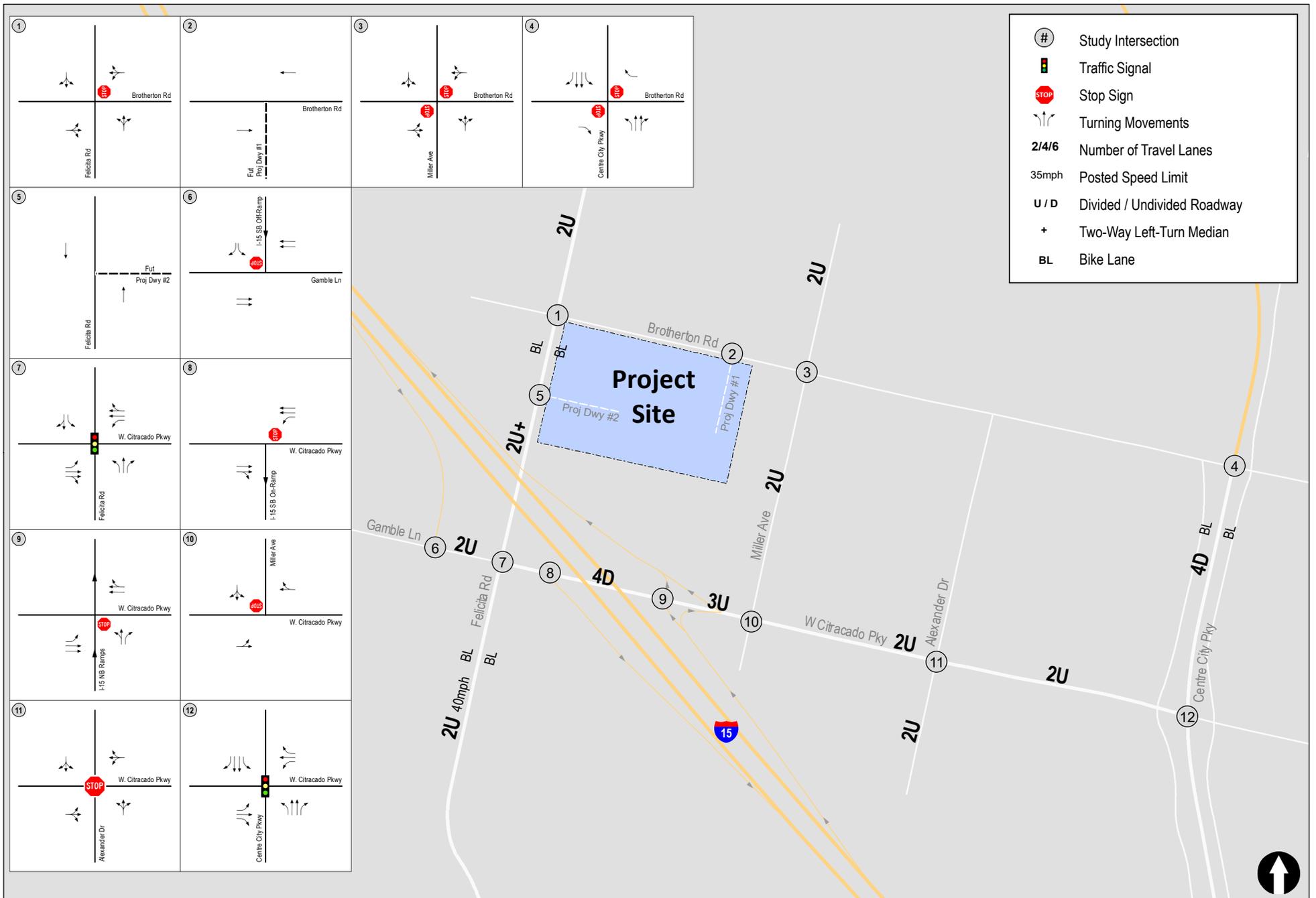
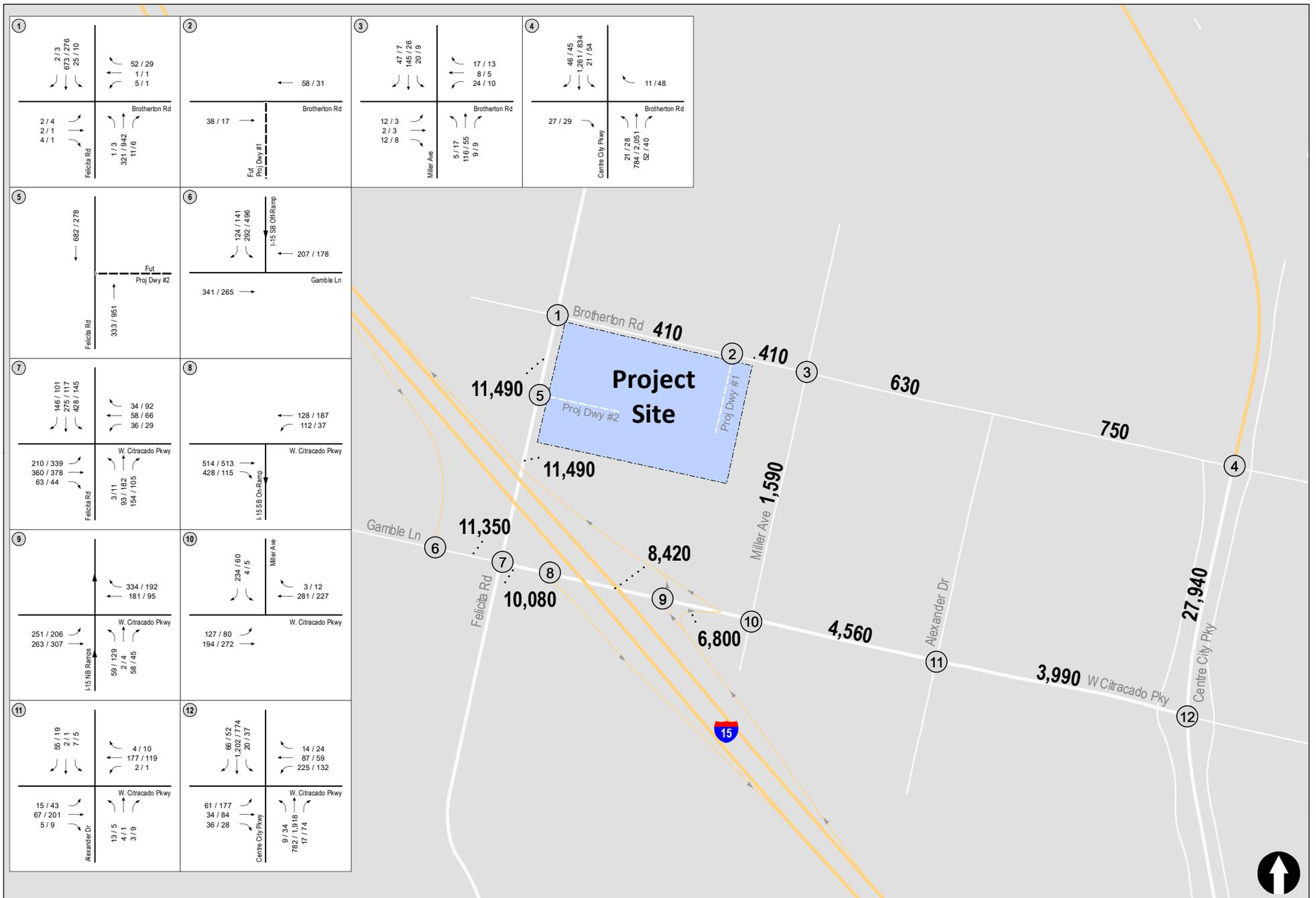


Figure 3-1
Existing Conditions Diagram



4.0 CEQA VMT ANALYSIS

The City of Escondido *Transportation Impact Analysis Guidelines (TIAG)* were adopted on April 21, 2021. This document sets out the methodology for conducting a Transportation Study and a CEQA VMT (Vehicle Miles Traveled) analysis. SB 743 changes the focus of transportation impact analysis in CEQA from measuring impacts to drivers, to measuring the impact of driving. The change was made by replacing LOS with VMT for CEQA purposes and providing streamlined review of land use and transportation projects that will help reduce future VMT growth. This shift in transportation impact focus was expected to better align transportation impact analysis and mitigation outcomes with the State's goals to reduce GHG emissions, encourage infill development, and improve public health through more active transportation.

Prior to the City's guidelines, the California Office of Planning and Research (OPR) had updated the CEQA Guidelines and provided a final Technical Advisory in December 2018, which recommended vehicle miles traveled (VMT) as the most appropriate measure of transportation impacts under CEQA. The California Natural Resources Agency certified and adopted the CEQA Guidelines including the Guidelines section implementing SB 743. The changes were approved by the Office of the Administrative Law and have been in effect since July 2020.

While VMT is the preferred quantitative metric for assessing potentially significant transportation impacts under CEQA, it should be noted that SB 743 does not prevent a city or county from using metrics such as LOS as part of the application of local general plan policies, municipal and zoning codes, conditions of approval, or any other planning requirements through a city's planning approval process; cities can still ensure adequate operation of the transportation system in terms of transportation congestion measures related to vehicular delay and roadway capacity. As such, the City continues to require congestion-related transportation analysis and mitigation projects through planning approval processes outside CEQA.

4.1 Methodology for VMT Analysis

The following summarizes the appropriate metric for various types of projects:

- *Residential*: VMT/capita
- *General Employment*: VMT/employee
- *Industrial Employment*: VMT/employee
- *Regional Retail., Regional Recreational, or Regional Public Facilities*: Change in total VMT (using the boundary method)
- *Mixed-Use*: Each project component evaluated per the appropriate metric based on land use type (e.g., residential, employment, and retail)
- *Transportation Project*: Change in total VMT (using the boundary method)
- Unique circumstances may require alternate metrics

4.2 Screening Criteria for CEQA VMT Analysis

The requirements to prepare a detailed transportation VMT analysis apply to all land development projects, except those that meet at least one of the screening criteria. A project that meets at least one of the following screening criteria below would be presumed to have a less than significant VMT impact due to project characteristics and/or location:

- Small Residential and Employment Projects
- Projects Located in a Transit-Accessible Area
- Projects in a VMT-Efficient Area
- Locally-Serving Retail Projects
- Locally-Serving Public Facilities
- Redevelopment Projects with Lower Total VMT

4.3 Thresholds of Significance

The significant thresholds and specific VMT metrics used to measure VMT are described by land use type below.

- Residential: 15% below regional average VMT/capita
- Employment: 15% below regional average VMT/employee
- Industrial Employment: At or below regional average VMT/employee
- Mixed-Use: Each project component evaluated per the appropriate metric based on land use type (e.g., residential, employment, and retail)
- Regional Retail, Regional Recreational, or Regional Public Facilities: A net increase in total regional VMT using the boundary method

4.4 CEQA VMT Assessment

The City of Escondido TIAG was adopted on April 21, 2021. This document sets out the methodology for conducting a Transportation Study and a CEQA VMT Analysis. The VMT analysis contained in this section is based on those guidelines.

4.4.1 SANDAG Screening Map

The Project is not located in a VMT efficient area (15% or more below the base year average household VMT/capita) based on the applicable location-based screening map produced by SANDAG. The San Diego average regional VMT/capita is 18.9 (and 15% below 18.9 would equate to 16.0) per SANDAG Series 14 (Year 2016) data.

Using the SANDAG screening map for residential projects under per capita measurements, the Project is located in census tract 204.03 and would be expected to generate 18.1 VMT/capita. This equates to 95.7% of the regional average VMT/capita. Hence, the Project would have a significant VMT impact. *Table 4-1* shows the VMT analysis results. *Appendix B* includes the result of the SANDAG map.

**TABLE 4-1
PROJECT VEHICLE MILES TRAVELED ANALYSIS**

VMT per Resident		
Geography	VMT per Resident	Exceeds Threshold?
San Diego Region	18.9	–
<i>Significance Threshold (85% of Regional Average VMT)</i>	16.0	–
Project Sites		
Project Site	18.1	Yes

Source: SANDAG San Diego Region SB743 VMT Maps

As mentioned in *Section 4.3*, if the project average exceeds 85% of the regional average, a detailed calculation of the remaining VMT reduction needed to avoid exceeding the threshold is required. Proper mitigation measures to avoid or reduce the impact are also required. Based on the size and the location of the Project within the City, a household size of 3.21 residents per unit¹ was used to calculate the remaining VMT reduction. *Table 4-2* shows the VMT reduction calculations. As shown in *Table 4-2*, the Project is calculated to require a VMT reduction of 1,739 VMT.

The Project proposes to demolish the existing 24,395 SF church building and develop a new, almost identical sized, 24,627 SF church building. The traffic generated by the new church will be similar to that of the existing church, as the same congregants will be registered and affiliated with it. Therefore, a VMT calculation from the new church was deemed unnecessary, as the traffic generator and trip lengths are expected to be almost identical.

¹ Obtained from the City’s Housing Element Update dated June 2021.

**TABLE 4-2
VMT REDUCTION CALCULATIONS**

Number of dwelling units: 258
Household size: 3.21 residents per unit ^a
258 units x 3.21 resident per household = 828 residents
828 residents x 18.1 VMT/resident ^b = 14,987 VMT generated by Project
Target VMT is 85% of regional mean or 16.0 VMT
828 residents x 16.0 VMT = 13,248 VMT
14,987 VMT _{Project} – 13,248 VMT _{target} = 1,739 VMT reduction required

Footnotes:

- a. General Plan Housing Element
- b. SANDAG VMT Map

4.4.2 VMT Mitigation Measures

This section discusses possible VMT adjustment and reduction strategies to avoid or reduce the Project’s impact. These strategies aim to achieve one or both of the following results:

- Reduce the number of daily vehicle trips
- Reduce the length of trips made by residents

Per the *City of Escondido Transportation Impact Analysis Guidelines*, there are several resources for determining the reduction in VMT that can be gained from implementing TDM measures. These include the *California Air Pollution Control Officers Association (CAPCOA) 2021 Handbook for Analyzing Greenhouse Gas Emission Reduction, Assessing Climate Vulnerabilities, and Advancing Health and Equity (GHG Handbook)* and the *SANDAG Mobility Management Guidebook*.

City of Escondido VMT Exchange Program

As a subsequent action, the City has adopted a *VMT Exchange Program* that provides a mechanism towards maintaining VMT efficiency within its jurisdiction. This program identifies improvements based on the GHG Handbook that could serve to facilitate or encourage residents to walk, bike or take transit as substitutes for driving. The following pedestrian network and infrastructure improvements, with reference to the City’s VMT Exchange Program, show the equivalent VMT reduction based on City-specific derivations. *Appendix B* includes excerpts from this document.

- Brotherton Road / Miller Avenue – install high visibility crosswalks on the south, west and east legs, and a curb ramp on the southwest corner – total reduction for this intersection is 53 VMT.
- Brotherton Road / Centre City Parkway – install a high visibility crosswalk on the west leg, and curb ramps on the northwest and southwest corner – total reduction for this intersection is 31 VMT.

- Citracado Parkway / Felicita Road (*east leg is under Caltrans jurisdiction*) – install a high visibility crosswalk on all four legs – total reduction for this intersection is 60 VMT.
- Citracado Parkway / Miller Avenue – install a high visibility crosswalk on the north leg, and curb ramps on the northwest and northeast corner – total reduction for this intersection is 31 VMT.
- Citracado Parkway / Alexander Drive – install high visibility crosswalks on the north and south legs, and curb ramps on all four corners – total reduction for this intersection is 62 VMT.
- Citracado Parkway / Centre City Parkway – install a high visibility crosswalk on the north leg – total reduction for this intersection is 15 VMT.
- New sidewalk – one mile of new sidewalk equates to 303 VMT reduction. It is proposed to construct approximately 320 feet of new sidewalk on the east side of Felicita Road between Brotherton Road and the current sidewalk about 320 feet to the north. This would improve pedestrian access to the Life Care Center of Escondido and would equate to a VMT reduction of approximately 18 VMT. The Project will also provide sidewalks along its frontage. However, the VMT Exchange Program does not apply towards Project frontage. *Appendix B* includes the sidewalk VMT reduction calculations. *Figure 4-1* shows the locations of the potential pedestrian network improvements.

In addition, the City conducted multiple Safe Routes to Schools assessments that identify improvements applicable to the VMT Exchange Program. These assessments include upgrades such as converting existing standard crosswalks to high visibility crosswalks. Other locations outside of the Safe Routes to Schools assessments, but which also have only standard crosswalks, were also considered. These improvements also demonstrate the equivalent VMT reduction based on City-specific derivations.

A summary of the recommended improvements is provided below. *Appendix B* includes excerpts from the Safe Routes to Schools assessments.

- Near Bernardo Elementary School
 - Bernardo Avenue / Hamilton Lane – install high visibility crosswalk on all four legs – total reduction for this intersection is 60 VMT.
 - Bernardo Avenue / Dexter Place – install high visibility crosswalk on the west leg – total reduction for this intersection is 15 VMT.
 - Mountain Heights Drive / Sunrise Way – install high visibility crosswalk on the north leg – total reduction for this intersection is 15 VMT.
- Near Del Dios Academy of Arts and Sciences School
 - 9th Avenue / Valley Parkway – install high visibility crosswalk on all four legs – total reduction for this intersection is 60 VMT.
 - 9th Avenue / Auto Park Way – install high visibility crosswalk on the north, south and west legs – total reduction for this intersection is 45 VMT.

- Near Del Lago Academy School
 - Crescent Knolls Glen / Scenic Trail Way – install high visibility crosswalk on the north and west legs – total reduction for this intersection is 30 VMT.
 - Citracado Parkway / Scenic Trail Way – install high visibility crosswalk on all four legs – total reduction for this intersection is 60 VMT.
- Near Felicita Elementary School
 - 13th Avenue / Quince Street – install high visibility crosswalk on the north leg – total reduction for this intersection is 15 VMT.
 - 13th Avenue / Redwood Street – install high visibility crosswalk on all four legs – total reduction for this intersection is 60 VMT.
 - 13th Avenue / Tulip Street – install high visibility crosswalk on the north, east and south legs – total reduction for this intersection is 45 VMT.
 - 15th Avenue / Redwood Street – install high visibility crosswalk on all four legs – total reduction for this intersection is 60 VMT.
 - 15th Avenue / Tulip Street – install high visibility crosswalk on the north and east legs – total reduction for this intersection is 30 VMT.
- Near Juniper Elementary School
 - Juniper Street / Felicita Avenue / 17th Avenue – install high visibility crosswalk on all four legs – total reduction for this intersection is 60 VMT.
 - Juniper Street – install high visibility crosswalk at the following four locations: west leg of Juniper St / Green Ave, east leg of Juniper St / Eldorado Dr, west leg of Juniper St / Vermont Ave, and east leg of Juniper St / Cypress Crest Terrace) – total reduction for these locations is 60 VMT.
- Near L.R. Green Elementary School
 - Bear Valley Parkway / Canyon Road – install high visibility crosswalk on all four legs – total reduction for this intersection is 60 VMT.
 - Bear Valley Parkway / Las Palmas Avenue – install high visibility crosswalk on all four legs – total reduction for this intersection is 60 VMT.
 - Casteneda Drive / Las Palmas Avenue – install high visibility crosswalk on the west and south legs – total reduction for this intersection is 30 VMT.
 - Casteneda Drive – install high visibility crosswalk at the L.R. Green Elementary School driveway – total reduction for this intersection is 15 VMT.
- Near Lincoln Elementary School
 - Lincoln Avenue / Broadway – install high visibility crosswalk on the west leg – total reduction for this intersection is 15 VMT.
 - Lincoln Avenue / Escondido Boulevard – install high visibility crosswalk on all four legs – total reduction for this intersection is 60 VMT.

- Near Miller Elementary School
 - Miller Avenue / Montview Drive – install high visibility crosswalk on the south and west legs – total reduction for this intersection is 30 VMT.
 - Felicita Road / Brotherton Road – install high visibility crosswalk on the east leg – total reduction for this intersection is 15 VMT.
- Other City intersections
 - Citracado Parkway / Escondido Boulevard – install a high visibility crosswalk on the east leg – total reduction for this intersection is 15 VMT.
 - Auto Park Way / Hale Avenue – install a high visibility crosswalk on all four legs – total reduction for this intersection is 60 VMT.
 - Valley Parkway / Home Depot Center – install a high visibility crosswalk on the south and west legs – total reduction for this intersection is 30 VMT.
 - Valley Parkway / 11th Avenue – install a high visibility crosswalk on all four legs – total reduction for this intersection is 60 VMT.
 - La Terraza Boulevard / 9th Avenue – install a high visibility crosswalk on all four legs – total reduction for this intersection is 60 VMT.
 - 9th Avenue / Tulip Street – install a high visibility crosswalk on all four legs – total reduction for this intersection is 60 VMT.
 - Centre City Parkway / 9th Avenue – install a high visibility crosswalk on all four legs – total reduction for this intersection is 60 VMT.
 - 9th Avenue / Escondido Boulevard – install a high visibility crosswalk on all four legs – total reduction for this intersection is 60 VMT.
 - Valley Parkway / Juniper Street – install a high visibility crosswalk on all four legs – total reduction for this intersection is 60 VMT.
 - Via Rancho Parkway / Quiet Hills Drive – install a high visibility crosswalk on all four legs – total reduction for this intersection is 60 VMT.
 - Via Rancho Parkway / Beethoven Drive – install a high visibility crosswalk on the north, east and south legs – total reduction for this intersection is 45 VMT.

The total value of the improvements shown above would result in a total VMT reduction of 1,740 VMT, which covers the entire 1,739 VMT overage, as shown in *Table 4–2*. Therefore, the VMT impact is fully mitigated.

It should be noted that the Project should only be responsible for the cost of installing the mitigations outlined above, and not any associated improvements (such as ADA improvements) that the City may require at the intersection.

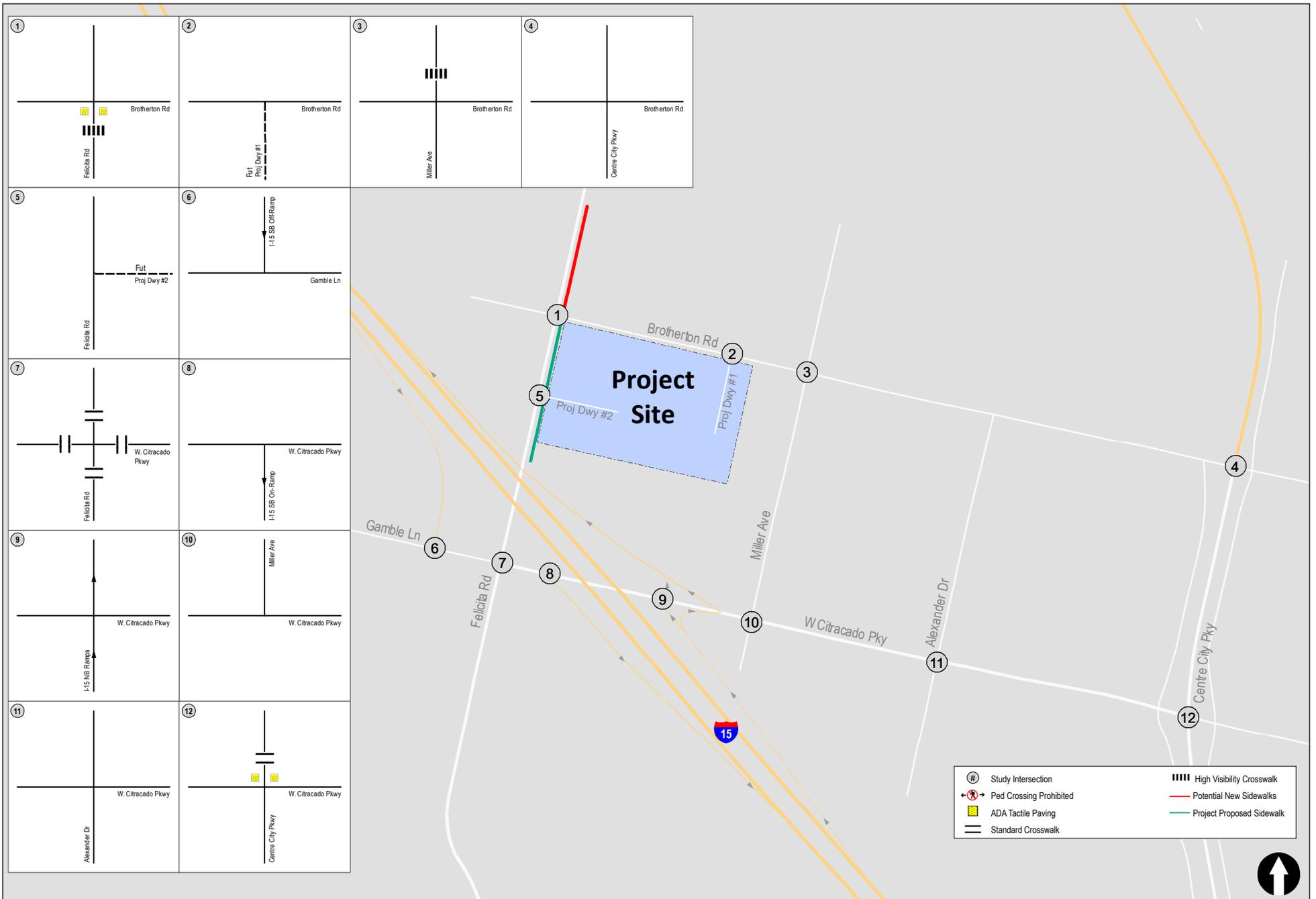


Figure 4-1
Recommended Pedestrian Network Improvements

5.0 LOCAL MOBILITY ANALYSIS

In addition to the VMT analysis presented above, a Local Mobility Analysis (LMA) was also prepared that focuses on automobile delay and Level of Service (LOS). The LOS analysis was conducted to identify Project effects on the roadway operations in the Project study area and recommend Project improvements to address noted deficiencies.

The required study scenarios and scope of the LMA varies depending on the type of project, consistency with the General Plan (GP), and the total number of daily trips the project is anticipated to generate.

Per the TIAG, the following scenarios should be evaluated for the LMA:

- Existing Conditions
- Existing Plus Project Conditions
- Near Term Conditions (includes near term planned and approved projects)
- Near Term Plus Project Conditions
- Long Term (future year) Conditions (if the project is not consistent with the GP)
- Long Term (future year) Plus Project Conditions (if the project is not consistent with the GP)

The Project requires a GPA and therefore, the six (6) scenarios listed above were evaluated in this study.

In addition, street segments and intersections are included in the LMA based on the thresholds established by the City. The tables below contain the trigger-points to identify if a roadway segment or intersection should be included in the LMA. **Table 5-1** below contains the trigger-points for street segments within the City of Escondido for different street classifications based on ADT added to the segment. **Table 5-2** below contains the trigger-points for intersections based on peak hour volumes.

**TABLE 5-1
LMA ADT THRESHOLDS FOR STREET SEGMENTS**

Street Classification	Lanes	Cross Sections (ft.)	TIA Trigger-Points (ADT generation)
Prime Arterial	(8 lanes)	116/136 (NP)	900
	(6 lanes)	106/126 (NP)	800
Super Major Road	(6 lanes)	90/110 (NP)	700
Major Road	(4 lanes)	82/102 (NP)	500
Collector	(4 lanes)	64/84 (NP)	500
	(4 lanes)	(WP)	250
Local Collector and other	(2 lanes)	42/66 (NP)	200
	(2 lanes)	(WP)	200

Source: City of Escondido former Traffic Impact Analysis Guidelines.

Notes:

2% of ADT for LOS C has been used as a guide to calculate the trigger point values

NP: No Parking, WP: With Parking

**TABLE 5-2
LMA ADT THRESHOLDS FOR INTERSECTIONS**

Street Classification	LMA Trigger-Points (AM or PM peak hour trips added to any leg)
Prime Arterial	50
Super Major Road/Major Road	40
Collector	30
Local Collector	20

Source: City of Escondido former Traffic Impact Analysis Guidelines.

Notes:

Study area can be expanded by City Engineer

5.1.1 Methodology for LOS Analysis

Level of Service (LOS) is the term used to denote the different operating conditions which occur on a given roadway segment under various traffic volume loads. It is a qualitative measure used to describe a quantitative analysis taking into account factors such as roadway geometries, signal phasing, speed, travel delay, freedom to maneuver, and safety. Level of Service provides an index to the operational qualities of a roadway segment or an intersection. Level of service designations range from A to F, with LOS A representing the best operating conditions and LOS F representing

the worst operating conditions. Level of service designation is reported differently for signalized and unsignalized intersections, as well as for roadway segments.

5.1.2 Intersections

Signalized intersections were analyzed under AM and PM peak hour conditions. Average vehicle delay was determined utilizing the methodology found in Chapter 19 of the *Highway Capacity Manual (HCM) 6th Edition*, with the assistance of the *Synchro* (version 11) computer software. The delay values (represented in seconds) were qualified with a corresponding intersection LOS. Signalized intersection calculation worksheets and a more detailed explanation of the methodology are attached in *Appendix C*.

Unsignalized intersections were analyzed under AM and PM peak hour conditions. Average vehicle delay and LOS was determined based upon the procedures found in Chapters 20 and 21 of the *HCM 6th Edition*, with the assistance of the *Synchro* (version 11) computer software. Unsignalized intersection calculation worksheets and a more detailed explanation of the methodology are attached in *Appendix C*.

5.1.3 Street Segments

Street segment analysis is based upon the comparison of ADTs to the City of Escondido *Roadway Classification, LOS, and ADT Table*. This table provides segment capacities for different street classifications, based on traffic volumes and roadway characteristics. The City of Escondido *Roadway Classification, LOS, and ADT Table* is attached in *Appendix C*.

5.1.4 Substantial Effect Criteria

The following thresholds shall be used to identify if a project is of substantial traffic effect under any scenario. Based on the TIAG, if now or in the future, the Project’s traffic effect causes the values in **Table 5–3** to be exceeded in a street segment or intersection that is operating at LOS D or worse, it is determined to be a substantial effect and the Project shall identify improvements.

**TABLE 5-3
LEVEL OF SERVICE THRESHOLDS**

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

General Notes:

The Downtown Specific Plan identifies select roadway segments where LOS E is acceptable if adjacent intersection operations are LOS D or better.

Transportation improvements should be considered for any segment or intersection operating on LOS F.

V/C: Volume-to-capacity ratio. The roadway capacity is the LOS D threshold.

Per the City's *General Plan Quality of Life Standard #1 Traffic and Transportation*:

“Circulation Element streets and intersections shall be planned and developed to achieve a minimum level of service ‘C’ defined by the Highway Capacity Manual as amended or updated, or such other national standard deemed appropriate by the city. Level of service ‘C’ may not be feasible in all areas at all times and level of service ‘D’ shall be considered the threshold for determining significant impacts and appropriate mitigation. Due to physical design characteristics, implementation of pedestrian-oriented ‘smart growth’ and Complete Streets design improvements, high density infill areas, environmental resource considerations, existing development, freeway interchange impacts, and incomplete system improvements, alternative levels of service may be appropriate for isolated areas as determined by the city.

Where existing street or intersection capacities are below level of service ‘C,’ street, operational or Transportation System Management improvements shall be required or planned to improve the service level to ‘C’ whenever feasible based upon impacts of future development. Such requirements or plans may be incremental to accommodate future development or the recycling of existing development. Feasibility of level of service ‘C’ shall be based on impacts upon existing development or environmental constraints along street segments or intersections.”

6.0 ANALYSIS OF EXISTING CONDITIONS

The analysis of existing conditions include the assessment of the study area intersections and street segments using the methodologies described in *Section 5.0*.

6.1 Peak Hour Intersection Operations

Table 6-1 summarizes the existing peak hour intersection operations. As shown in *Table 6-1*, all of the study area intersections are calculated to currently operate at LOS C or better with the exception of the following:

- Brotherton Road / Centre City Parkway (LOS D during the PM peak hour)
- Gamble Lane (*City jurisdiction*) / I-15 SB Off-Ramp (*Caltrans jurisdiction*) (LOS D during the AM and PM peak hours for the off-ramp movements)
- Citracado Parkway / Felicita Road (*east leg is under Caltrans jurisdiction*) (LOS E during the AM peak hour and LOS D during the PM peak hour)
- Citracado Parkway / I-15 NB Ramps (*Caltrans jurisdiction*) (LOS E during the AM peak hour and LOS D during the PM peak hour for the off-ramp movements)
- Citracado Parkway / Miller Avenue (LOS D during the AM peak hour)
- Citracado Parkway / Centre City Parkway (LOS D during the PM peak hour)

Appendix D contains the Existing intersection analysis worksheets.

**TABLE 6-1
EXISTING INTERSECTION OPERATIONS**

Intersection	Control Type	Peak Hour	Existing	
			Delay ^a	LOS ^b
1. Brotherton Road / Felicita Road	TWSC ^c	AM PM	12.3 21.2	B C
2. Brotherton Road / Project Driveway #1	DNE	AM PM	– –	– –
3. Brotherton Road / Miller Avenue	TWSC	AM PM	17.2 10.9	C B
4. Brotherton Road / Centre City Parkway	TWSC	AM PM	15.7 31.1	C D
5. Felicita Road / Project Driveway #2	DNE	AM PM	– –	– –
6. Gamble Lane (<i>City jurisdiction</i>) / I-15 Southbound Off-Ramp (<i>Caltrans jurisdiction</i>)	OWSC ^d	AM PM	27.7 25.9	D D
7. Citracado Parkway / Felicita Road (<i>east leg is under Caltrans jurisdiction</i>)	Signal	AM PM	75.0 37.7	E D
8. Citracado Parkway / I-15 Southbound On-Ramp (<i>Caltrans jurisdiction</i>)	N/A ^e	AM PM	– –	– –
9. Citracado Parkway / I-15 Northbound Ramps (<i>Caltrans jurisdiction</i>)	OWSC	AM PM	36.8 29.3	E D
10. Citracado Parkway / Miller Avenue	TWSC	AM PM	26.2 16.6	D C
11. Citracado Parkway / Alexander Drive	AWSC ^f	AM PM	8.4 9.2	A A

**TABLE 6-1
EXISTING INTERSECTION OPERATIONS**

Intersection	Control Type	Peak Hour	Existing	
			Delay ^a	LOS ^b
12. Citracado Parkway / Centre City Parkway	Signal	AM	21.2	B
		PM	41.9	D

Footnotes:

- a. Average delay expressed in seconds per vehicle
- b. Level of Service
- c. TWSC – Two-Way Stop Controlled intersection. Minor street left turn delay is reported
- d. OWSC – One-Way Stop Controlled intersection
- e. N/A – Not applicable. Per coordination with Caltrans, this intersection should be treated as a “no control” type since there are no stop or yield signs for any movement. Therefore, no delays are calculated.
- f. AWSC – All-Way Stop Controlled intersection

SIGNALIZED		UNSIGNALIZED	
DELAY/LOS THRESHOLDS		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

General Note:

- 1. DNE – does not exist

6.2 Daily Street Segment Operations

Table 6–2 summarizes the existing street segment operations. As shown in *Table 6–2*, all of the study area street segments are calculated to currently operate at LOS C or better with the exception of the following:

- Felicita Road between Brotherton Road and Project Driveway #2 (LOS D)
- Felicita Road between Project Driveway #2 and Citracado Parkway (LOS D)
- Centre City Parkway between Brotherton Road and Citracado Parkway (LOS D)

**TABLE 6-2
EXISTING STREET SEGMENT OPERATIONS**

Street Segment	Functional Classification	Capacity (LOS E)^a	ADT^b	LOS^c	V/C^d
Brotherton Road					
Felicita Road to Project Driveway #1	Unclassified ^e	5,000	410	A	0.082
Project Driveway #1 to Miller Avenue	Unclassified ^e	5,000	410	A	0.082
Miller Avenue to Alexander Drive	Unclassified ^e	5,000	630	A	0.126
Alexander Drive to Centre City Parkway	Unclassified ^e	5,000	750	A	0.150
Citracado Parkway					
I-15 Southbound Off-Ramp to Felicita Road	4-Lane Major Road	37,000	11,350	A	0.307
Felicita Road to I-15 Southbound On-Ramp (<i>Caltrans jurisdiction</i>)	4-Lane Major Road	37,000	10,080	A	0.272
I-15 Southbound On-Ramp to I-15 Northbound Ramps (<i>Caltrans jurisdiction</i>)	4-Lane Major Road	37,000	8,420	A	0.228
I-15 Northbound Ramps to Miller Avenue (<i>partial Caltrans ROW</i>)	2-Lane Collector	15,000	6,800	B	0.453
Miller Avenue to Alexander Drive	2-Lane Collector	15,000	4,560	A	0.304
Alexander Drive to Centre City Parkway	2-Lane Collector	15,000	3,990	A	0.226
Felicita Road					
Brotherton Road to Project Driveway #2	2-Lane Local Collector with TWLTL	15,000	11,490	D	0.766
Project Driveway #2 to Citracado Parkway	2-Lane Local Collector with TWLTL	15,000	11,490	D	0.766
Miller Avenue					
Brotherton Road to Citracado Parkway	Unclassified ^e	5,000	1,590	A	0.318
Centre City Parkway					
Brotherton Road to Citracado Parkway	4-Lane Super Major Road	37,000	27,940	D	0.755

Footnotes:

- a. Capacities based on City of Escondido Roadway Classification Table.
- b. Average Daily Traffic Volumes.
- c. Level of Service.
- d. Volume to Capacity.
- e. This is an unclassified roadway per the City of Escondido Circulation Element. Therefore, half of a Local Collect LOS E capacity of 10,000 was used to analyze this roadway.

7.0 TRIP GENERATION/DISTRIBUTION/ASSIGNMENT

The following is a discussion of the Project trip generation calculations and the Project traffic distribution and assignment through the local network. As mentioned in *Section 2.0*, the Project site currently contains a 24,395 SF church building and two school buildings. The Project proposes to demolish the existing church building and parking lot and develop 258 apartment units and a new 24,627 SF church building. The two school buildings would remain. The traffic generated by the new church will be similar to that of the existing church, as the same congregants will be registered and affiliated with it. Therefore, the Project trip generation calculation below focuses only on the apartment complex.

7.1 Trip Generation

The Project proposes the development of 258 apartment units. The Project traffic generation calculations were conducted using the trip generation rates published in SANDAG's *(Not So) Brief Guide of Vehicular Traffic Generation Rates for San Diego Region (April 2002)*. Based on the project description, the *Apartment* category was used which SANDAG specifies as 6 trips / unit.

Table 7-1 shows a summary of the Project's trip generation. As shown, the proposed Project is calculated to generate 1,548 ADTs, with 124 trips during the AM peak hour (25 inbound / 99 outbound), and 139 trips during the PM peak hour (97 inbound / 42 outbound).

7.2 Trip Distribution/Assignment

The Project traffic was distributed and assigned to the street system based on the site location, access to the I-15, existing traffic patterns in the area and anticipated traffic patterns to and from the site.

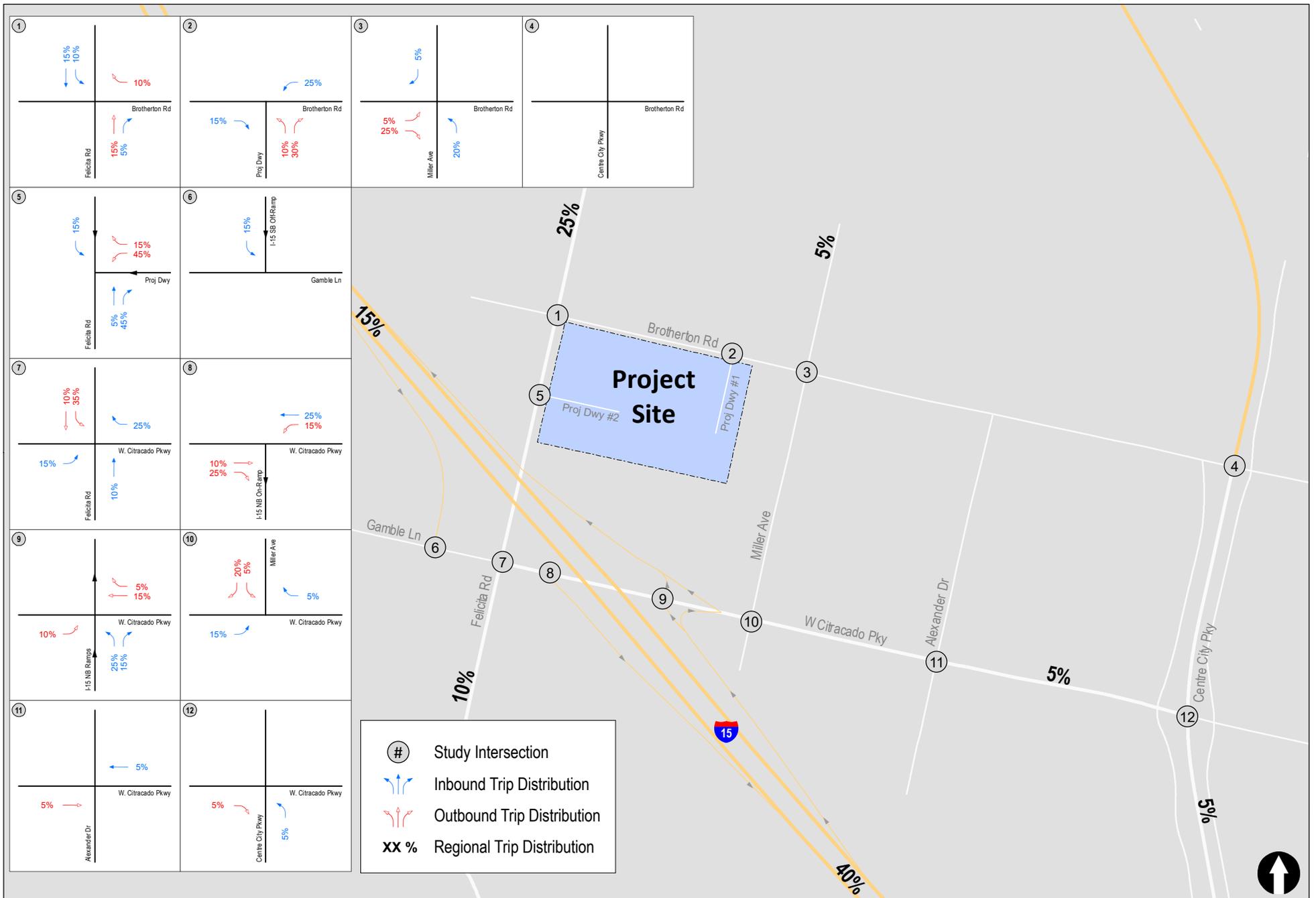
Figure 7-1 shows the Project traffic distribution. **Figure 7-2** shows the Project traffic volumes. **Figure 7-3** shows the Existing + Project traffic volumes.

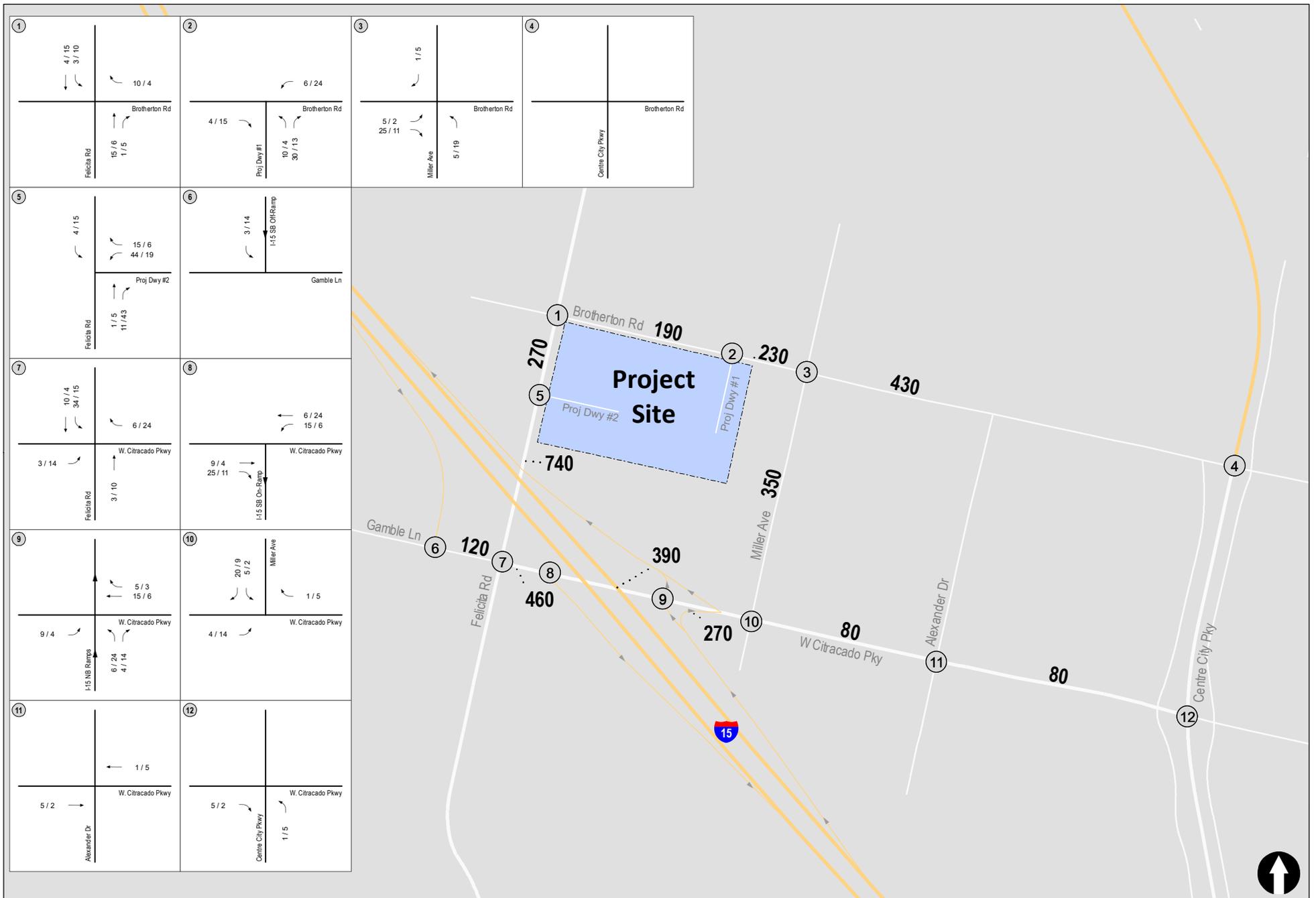
**TABLE 7-1
PROJECT TRIP GENERATION**

Land Use	Size	Daily Trip Ends (ADTs)		AM Peak Hour					PM Peak Hour				
		Rate ^a	Volume	% of ADT	In:Out Split	Volume			% of ADT	In:Out Split	Volume		
						In	Out	Total			In	Out	Total
Apartment	258 dwelling units	6 / DU ^b	1,548	8%	20:80	25	99	124	9%	70:30	97	42	139

Footnotes:

- a. Rates are based on the SANDAG's (Not So) Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region, April 2002.
- b. Rates are based on apartment trip rate of 6/ DU.





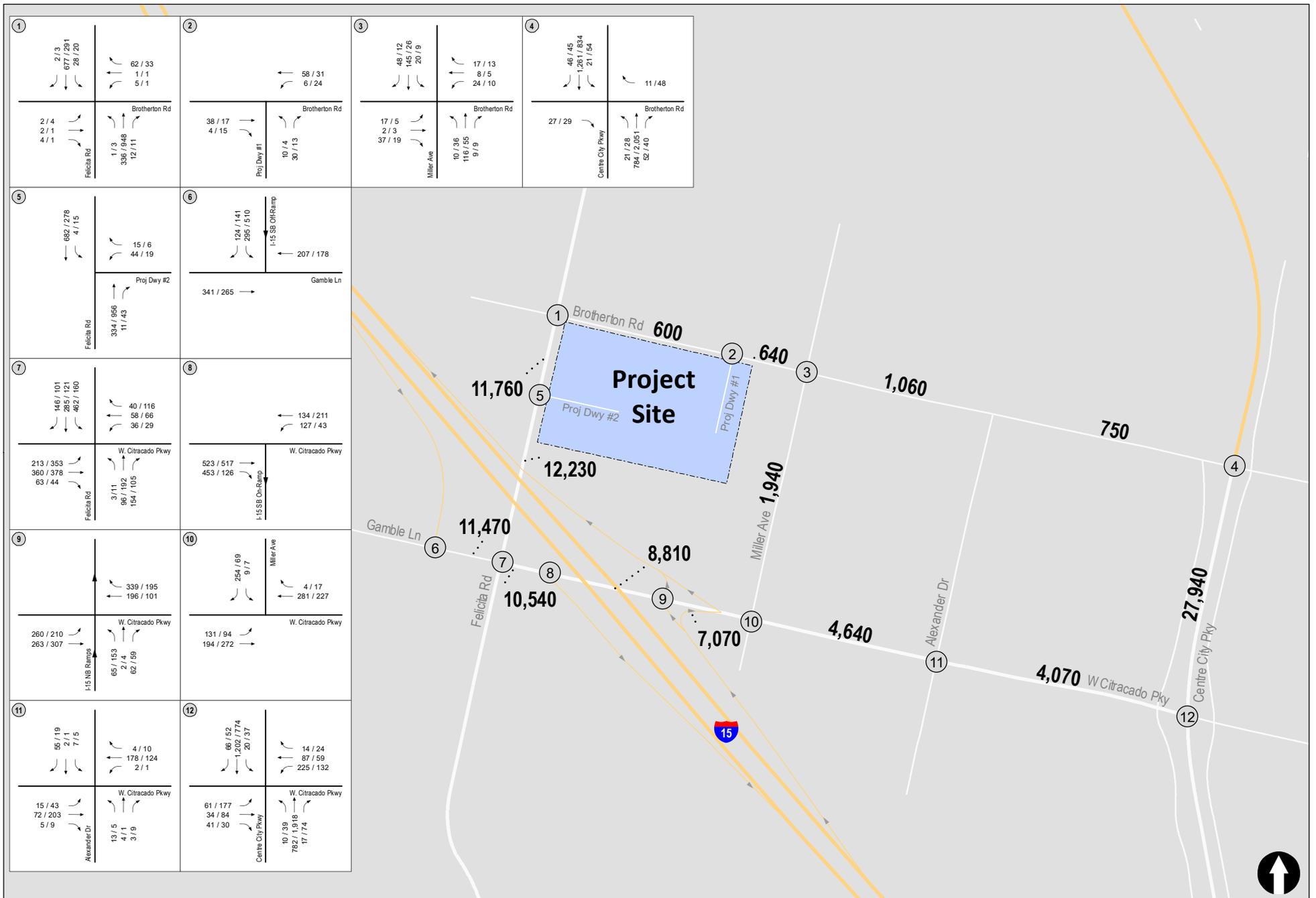


Figure 7-3
Existing + Project Traffic Volumes

8.0 CUMULATIVE PROJECTS DISCUSSION

Cumulative projects are other projects in the study area that will add traffic to the local circulation system in the near future. LLG researched potential cumulative projects that should be included in the analysis using the City of Escondido Project Information website and current projects located within the County of San Diego. Based on the research, seven (7) cumulative projects were determined to add traffic within the study area and were therefore included in the analysis. **Table 8-1** shows the list of cumulative projects included in the analysis and their descriptions and locations.

**TABLE 8-1
CUMULATIVE PROJECTS INFORMATION**

Name	Description	Location
Warmington SUB20-0006	62-unit condo project (air space subdivision), consisting of 10, three-story buildings.	Lot behind 2224 S Escondido Blvd
Del Prado Condos and PD PGH15-0031	113-unit townhome-style Planned Development.	Southwest corner of S Centre City Pkwy and Brotherton Rd
Canterbury Gardens Apartments PL21-0042	44 townhome-style units.	2402 S Escondido Blvd, Escondido, CA 92025
Hacienda De Vega Redevelopment SUB19-0010	42-unit, three-story townhome development.	Structure located north of Escondido Lodge
Villa Portofino ADM18-0225	15-unit apartment complex within a three-story building and parking garage.	Lot located south of BAPS! Restaurant.
Oak Creek 65-lot development SUB13-0002	65 single-family home development on approximately 44 acres.	Southeast corner of Hamilton Ln and Felicita Rd
Amanda Lane	21 single-family detached units	On Amanda Lane, immediately north of Gamble Lane

8.1 Summary of Cumulative Project Trips

Table 8-2 summarizes the cumulative projects traffic generation. As shown in **Table 8-2**, the cumulative projects above are estimated to generate a total of 3,078 ADTs, with 246 trips during the AM peak hour (56 inbound and 190 outbound), and 307 trips during the PM peak hour (217 inbound and 90 outbound). The traffic generated by each cumulative project was individually distributed and assigned to the study area intersections and segments.

Figure 8-1 shows the Cumulative projects location map. **Figure 8-2** shows the Cumulative projects traffic volumes. **Figure 8-3** shows the Near-Term (Year 2025) without Project traffic volumes. **Figure 8-4** shows the Near-Term (Year 2025) + Project traffic volumes.

**TABLE 8-2
CUMULATIVE PROJECTS TRIP GENERATION**

Project	Size	ADT Volume	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
1. Warmington	62 DU	496	8	32	40	35	15	50
2. Del Prado Condos and PD	113 DU	904	14	58	72	63	27	90
3. Canterbury Gardens Apartments	44 DU	352	6	22	28	25	10	35
4. Hacienda De Vega Redevelopment	42 DU	336	5	22	27	24	10	34
5. Villa Portofino	15 DU	90	1	6	7	6	2	8
6. Oak Creek 65-Lot Development	65 DU	650	16	36	52	46	19	65
7. Amanda Lane	21 DU	250	6	14	20	18	7	25
Total		3,078	56	190	246	217	90	307

General Notes:

1. DU – dwelling units

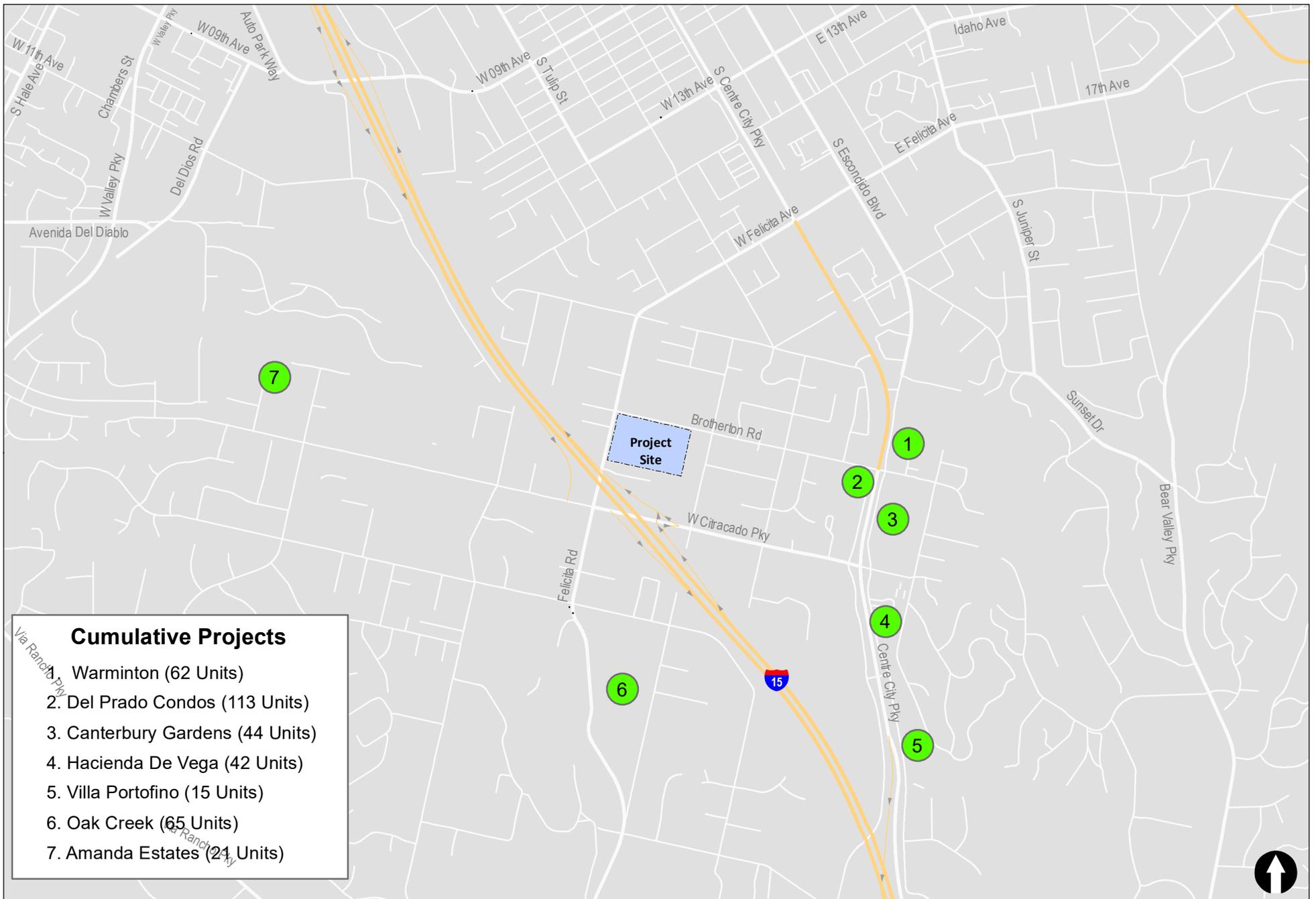
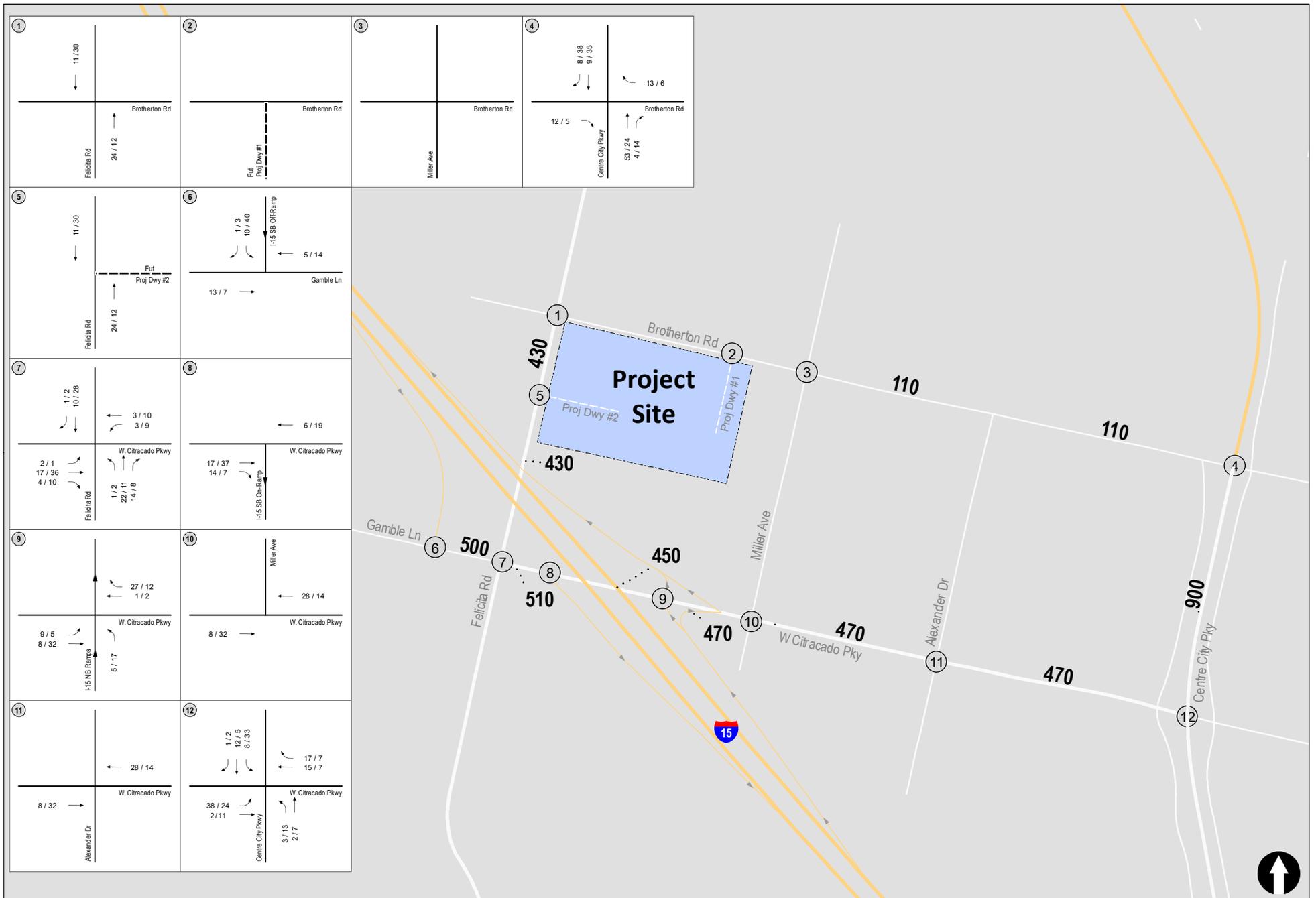


Figure 8-1

Cumulative Projects Location Map

855 Brotherton Road



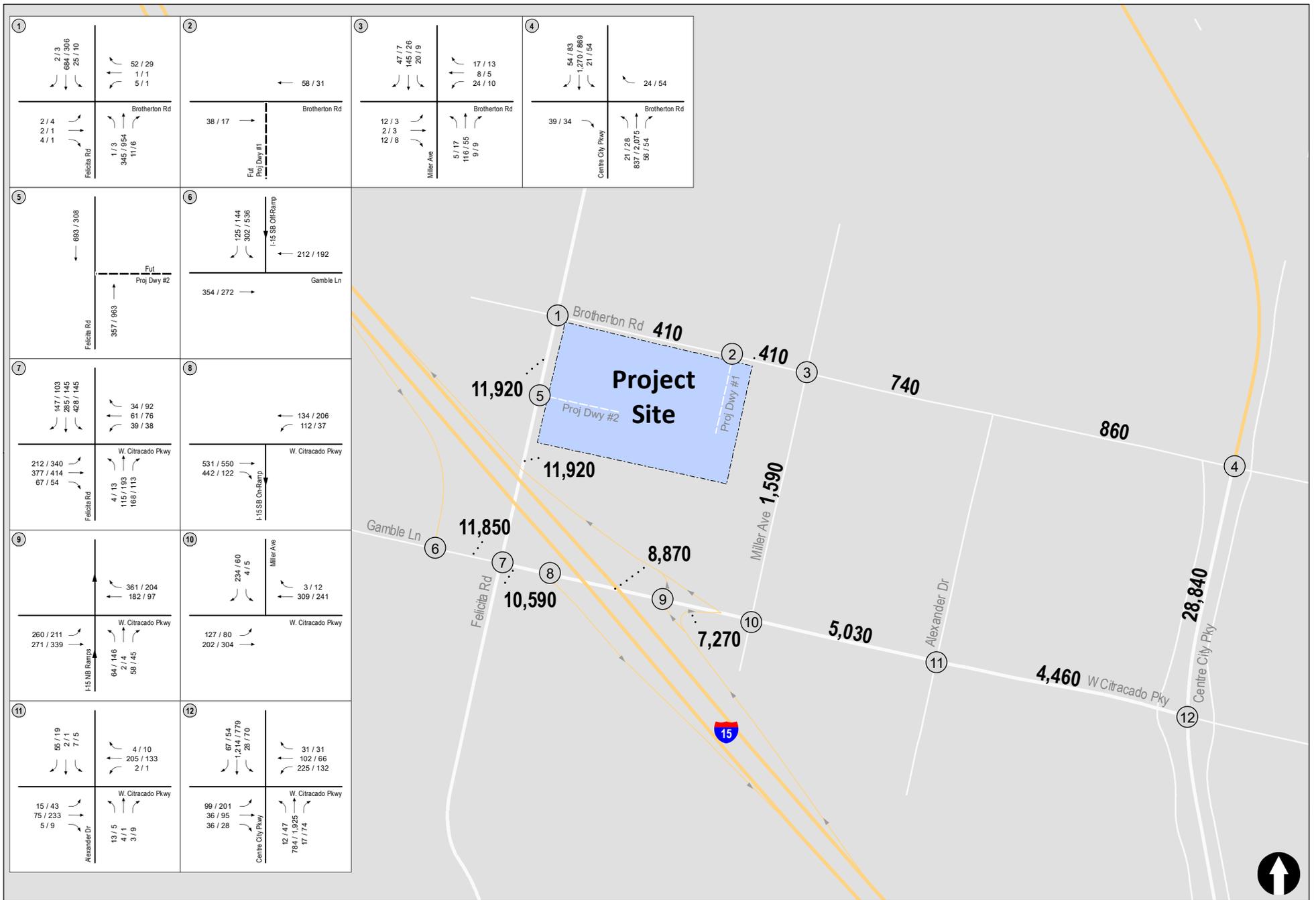


Figure 8-3
Near-Term (Year 2025) without Project Traffic Volumes

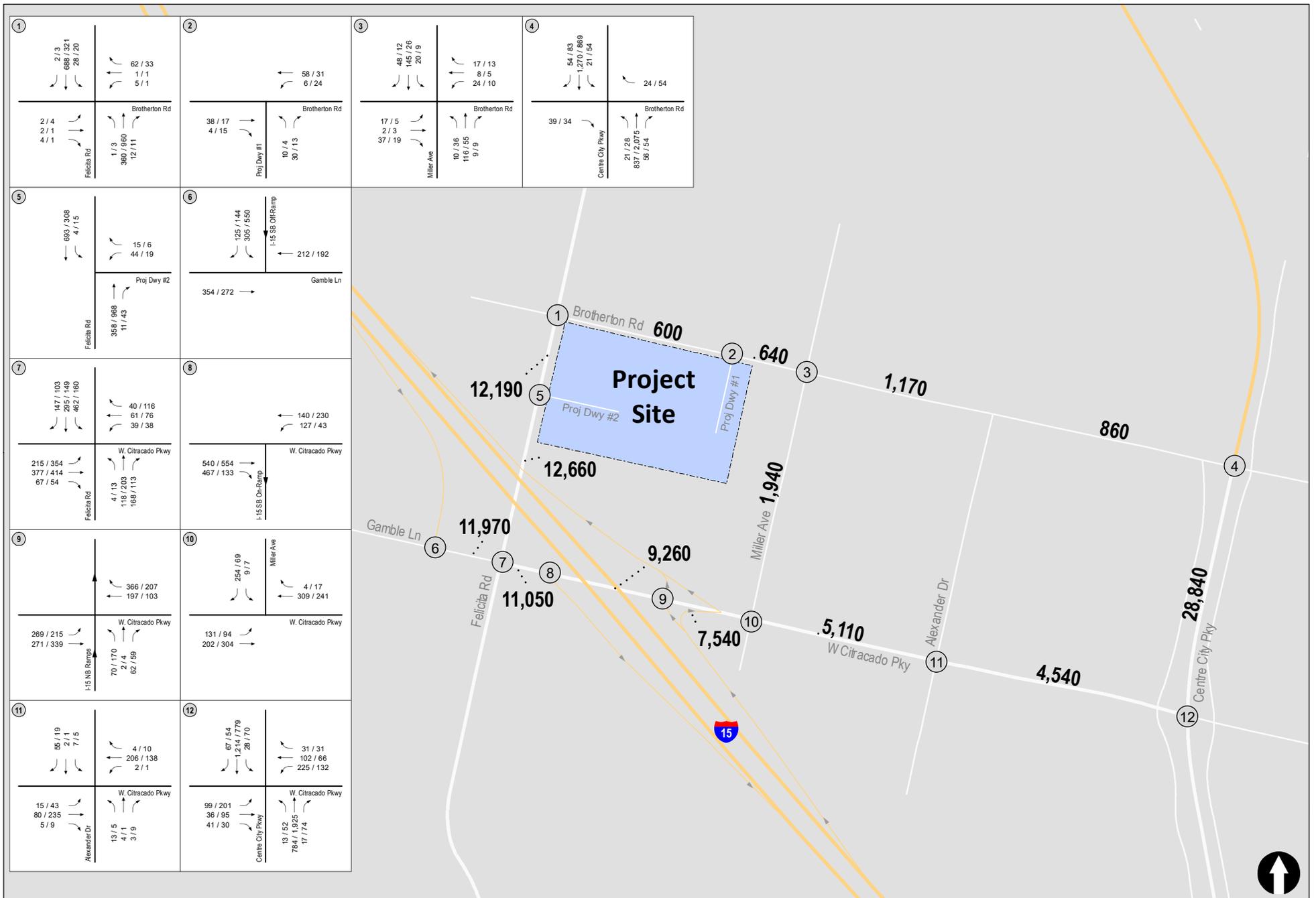


Figure 8-4
Near-Term (Year 2025) + Project Traffic Volumes

9.0 ANALYSIS OF NEAR-TERM SCENARIOS

The following section presents the analysis of study area intersections and street segments under Near-Term conditions.

9.1 Existing + Project Conditions

9.1.1 Peak Hour Intersection Operations

Table 9–1 summarizes the Existing + Project intersection operations. As shown in *Table 9–1*, with the addition of Project traffic, all the study area intersections are calculated to continue to operate at LOS C or better during both the AM and PM peak hours with exception to the following intersection:

- Brotherton Road / Centre City Parkway (LOS D during the PM peak hour)
- Gamble Lane (*City jurisdiction*) / I-15 SB Off-Ramp (*Caltrans jurisdiction*) (LOS D during the AM and PM peak hours for the off-ramp movements)
- Citracado Parkway / Felicita Road (*east leg is under Caltrans jurisdiction*) (LOS F during the AM peak hour and LOS D during the PM peak hour)
- Citracado Parkway / I-15 NB Ramps (*Caltrans jurisdiction*) (LOS E during the AM and PM peak hours for the off-ramp movements)
- Citracado Parkway / Miller Avenue (LOS D during the AM peak hour)
- Citracado Parkway / Centre City Parkway (LOS D during the PM peak hour)

A substantial effect is calculated at the following intersections since the Project-related increase in delay exceeds the substantial effect threshold of 2.0 seconds:

- Citracado Parkway / Felicita Road (*east leg is under Caltrans jurisdiction*) (LOS F during the AM peak hour)
- Citracado Parkway / I-15 NB Ramps (*Caltrans jurisdiction*) (LOS F during the AM peak hour and LOS E during the PM peak hour for the off-ramp movements)

Appendix E contains the Existing + Project intersection analysis worksheets.

9.1.2 Daily Street Segment Operations

Table 9–2 summarizes the Existing + Project street segment operations. As shown in *Table 9–2*, with the addition of Project traffic, all the study area street segments are calculated to continue to operate at LOS C or better with exception to the following street segments:

- Felicita Road between Brotherton Road and Project Driveway #2 (LOS D)
- Felicita Road between Project Driveway #2 and Citracado Parkway (LOS D)
- Centre City Parkway between Brotherton Road and Citracado Parkway (LOS D)

A substantial effect is calculated at the following street segment since the Project-related increase in V/C ratio exceeds the substantial effect threshold of 0.02.

- Felicita Road between Project Driveway #2 and Citracado Parkway (LOS D)

9.2 Near-Term without Project Conditions

9.2.1 Peak Hour Intersection Operations

Table 9–1 summarizes the Near-Term (Year 2025) without Project intersection operations. *Table 9–1* shows that in the Near-Term (Year 2025) without Project scenario, all the study area intersections are calculated to operate at LOS C or better during both the AM and PM peak hours with exception to the following intersection:

- Brotherton Road / Centre City Parkway (LOS D during the PM peak hour)
- Gamble Lane (*City jurisdiction*) / I-15 SB Off-Ramp (*Caltrans jurisdiction*) (LOS D during the AM and LOS E during the PM peak hour for the off-ramp movements)
- Citracado Parkway / Felicita Road (*east leg is under Caltrans jurisdiction*) (LOS E during the AM peak hour and LOS D during the PM peak hour)
- Citracado Parkway / I-15 NB Ramps (*Caltrans jurisdiction*) (LOS E during the AM and PM peak hours for the off-ramp movements)
- Citracado Parkway / Miller Avenue (LOS D during the AM peak hour)
- Citracado Parkway / Centre City Parkway (LOS D during the PM peak hour)

Appendix F contains the Near-Term (Year 2025) without Project intersection analysis worksheets.

9.2.2 Daily Street Segment Operations

Table 9–2 summarizes the Near-Term (Year 2025) without Project street segment operations. *Table 9–2* shows that in the Near-Term (Year 2025) without Project scenario, all the study area street segments are calculated to operate at LOS C or better with exception to the following street segments:

- Felicita Road between Brotherton Road and Project Driveway #2 (LOS D)
- Felicita Road between Project Driveway #2 and Citracado Parkway (LOS D)
- Centre City Parkway between Brotherton Road and Citracado Parkway (LOS D)

9.3 Near-Term + Project Conditions

9.3.1 Peak Hour Intersection Operations

Table 9–1 summarizes the Near-Term (Year 2025) + Project intersection operations. Table 9–1 shows that in the Near-Term (Year 2025) + Project scenario, all the study area intersections are calculated to continue to operate at LOS C or better during both the AM and PM peak hours with exception to the following intersection:

- Brotherton Road / Centre City Parkway (LOS D during the PM peak hour)
- Gamble Lane (*City jurisdiction*) / I-15 SB Off-Ramp (*Caltrans jurisdiction*) (LOS D during the AM and LOS E during the PM peak hour for the off-ramp movements)
- Citracado Parkway / Felicita Road (*east leg is under Caltrans jurisdiction*) (LOS F during the AM peak hour and LOS D during the PM peak hour)
- Citracado Parkway / I-15 NB Ramps (*Caltrans jurisdiction*) (LOS F during the AM and PM peak hours for the off-ramp movements)
- Citracado Parkway / Miller Avenue (LOS D during the AM peak hour)
- Citracado Parkway / Centre City Parkway (LOS D during the PM peak hour)

A substantial effect is calculated at the following intersections since the Project-related increase in delay exceeds the substantial effect threshold of 2.0 seconds:

- Gamble Lane (*City jurisdiction*) / I-15 SB Off-Ramp (*Caltrans jurisdiction*) (LOS E during the PM peak hour for the off-ramp movements)
- Citracado Parkway / Felicita Road (*east leg is under Caltrans jurisdiction*) (LOS F during the AM peak hour)
- Citracado Parkway / I-15 NB Ramps (*Caltrans jurisdiction*) (LOS F during the AM and PM peak hours for the off-ramp movements)

Appendix G contains the Near-Term (2025) + Project intersection analysis worksheets.

9.3.2 Daily Street Segment Operations

Table 9–2 summarizes the Near-Term (Year 2025) + Project street segment operations. As shown in Table 9–2, in the Near-Term (Year 2025) + Project scenario, all the study area street segments are calculated to continue to operate at LOS C or better with exception to the following street segment:

- Felicita Road between Brotherton Road and Project Driveway #2 (LOS D)
- Felicita Road between Project Driveway #2 and Citracado Parkway (LOS D)
- Centre City Parkway between Brotherton Road and Citracado Parkway (LOS D)

A substantial effect is calculated at the following street segment since the Project-related increase in V/C ratio exceeds the substantial effect threshold of 0.02:

- Felicita Road between Project Driveway #2 and Citracado Parkway (LOS D)

**TABLE 9-1
NEAR-TERM INTERSECTION OPERATIONS**

Intersection	Control Type	Peak Hour	Existing		Existing + Project		Δ ^c	Near-Term		Near-Term + Project		Δ ^c
			Delay ^a	LOS ^b	Delay	LOS		Delay	LOS	Delay	LOS	
1. Brotherton Road / Felicita Road	TWSC ^d	AM	12.3	B	12.4	B	0.1	12.6	B	12.7	B	0.1
		PM	21.2		21.8		0.6	21.6		22.2		0.6
2. Brotherton Road / Project Driveway #1	DNE / TWSC	AM	-	-	8.8	A	-	-	-	8.8	A	-
		PM	- C	-	8.7 C	A	-	- C	-	8.7 C	A	-
3. Brotherton Road / Miller Avenue	TWSC	AM	17.2	C	19.1	C	1.9	17.2	C	19.1	C	1.9
		PM	10.9		11.6		0.7	10.9		11.6		0.7
4. Brotherton Road / Centre City Parkway	TWSC	AM	15.7	C	15.7	C	0.0	16.2	C	16.2	C	0.0
		PM	31.1B		31.1B		0.0	33.6B		33.6B		0.0
5. Felicita Road / Project Driveway #2	DNE / TWSC	AM	-	-	15.7	C	-	-	-	16.0	C	-
		PM	- D	-	20.2 _D	C	-	- D	-	20.6 _D	C	-
6. Gamble Lane (City jurisdiction) / I-15 Southbound Off-Ramp (Caltrans jurisdiction)	OWSC ^e	AM	27.7	D	28.4	D	0.7	31.9	D	32.8	D	0.9
		PM	25.9		27.8		1.9	35.2		38.5		3.3
7. Citracado Parkway / Felicita Road (east leg is under Caltrans jurisdiction)	Signal	AM	75.0 _D	E	86.4 _D	F	11.4	75.6 _E	E	86.6 _E	F	11.0
		PM	37.7	D	38.7	D	1.0	37.8	D	38.8	D	1.0
8. Citracado Parkway / I-15 Southbound On-Ramp (Caltrans jurisdiction)	N/A ^f	AM	-	-	-	-	-	-	-	-	-	-
		PM	-	-	-	-	-	-	-	-	-	-
9. Citracado Parkway / I-15 Northbound Ramps (Caltrans jurisdiction)	OWSC	AM	36.8	E	46.2	E	9.4	46.4	E	62.1	F	15.7
		PM	29.3	D	35.6	E	6.3	38.9	E	50.7	F	11.8
10. Citracado Parkway / Miller Avenue	TWSC	AM	26.2	D	27.7	D	1.5	28.2	D	30.1	D	1.9
		PM	16.6		17.6		1.0	17.6		18.7		1.1

**TABLE 9-1
NEAR-TERM INTERSECTION OPERATIONS**

Intersection	Control Type	Peak Hour	Existing		Existing + Project		Δ^c	Near-Term		Near-Term + Project		Δ^c
			Delay ^a	LOS ^b	Delay	LOS		Delay	LOS	Delay	LOS	
11. Citracado Parkway / Alexander Drive	AWSC ^g	AM	8.4	A	8.5	A	0.1	8.7	A	8.8	A	0.1
		PM	9.2		9.3		0.1	9.8	A	9.9	A	0.1
12. Citracado Parkway / Centre City Parkway	Signal	AM	21.2		21.4		0.2	22.6		22.8		0.2
		PM	41.9 _A		42.0 _A		0.1	54.2		54.3		0.1

Footnotes:

- a. Average delay expressed in seconds per vehicle
- b. Level of Service
- c. Δ denotes an increase in delay due to project
- d. TWSC – Two-Way Stop Controlled intersection. Minor street left turn delay is reported
- e. OWSC – One-Way Stop Controlled intersection
- f. N/A – Not applicable. Per coordination with Caltrans, this intersection should be treated as a “no control” type since there are no stop or yield signs for any movement. Therefore, no delays are calculated.
- g. AWSC – All-Way Stop Controlled intersection

General Note:

- 1. DNE – does not exist
- 2. **Bold** indicates a substantial effect due to the increase in delay exceeding the allowable threshold of 2 seconds.

SIGNALIZED		UNSIGNALIZED	
D		D	
DELAY/LOS THRESHOLDS		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 9-2
NEAR-TERM STREET SEGMENT OPERATIONS**

Street Segment	Existing Capacity (LOS E) ^a	Existing			Existing + Project			Δ ^e	Near-Term			Near-Term + Project			Δ ^e
		ADT ^b	LOS ^c	V/C ^d	ADT	LOS	V/C		ADT	LOS	V/C	ADT	LOS	V/C	
Brotherton Road															
Felicita Road to Project Driveway #1	5,000 ^f	410	A	0.082	600	A	0.120	0.038	410	A	0.082	600	A	0.120	0.038
Project Driveway #1 to Miller Avenue	5,000 ^f	410	A	0.082	640	A	0.128	0.046	410	A	0.082	640	A	0.128	0.046
Miller Avenue to Alexander Drive	5,000 ^f	630	A	0.126	1,060	A	0.212	0.086	740	A	0.148	1,170	A	0.234	0.086
Alexander Drive to Centre City Parkway	5,000 ^f	750	A	0.150	750	A	0.150	0.000	860	A	0.172	860	A	0.172	0.000
Citracado Parkway															
I-15 Southbound Off-Ramp to Felicita Road	37,000	11,350	A	0.307	11,470	A	0.310	0.003	11,850	A	0.320	11,970	A	0.324	0.004
Felicita Road to I-15 Southbound On-Ramp (Caltrans jurisdiction)	37,000	10,080	A	0.272	10,540	A	0.285	0.013	10,590	A	0.286	11,050	A	0.299	0.013
I-15 Southbound On-Ramp to I-15 Northbound Ramps (Caltrans jurisdiction)	37,000	8,420	A	0.228	8,810	A	0.238	0.010	8,870	A	0.240	9,260	A	0.250	0.010
I-15 Northbound Ramps to Miller Avenue (partial Caltrans ROW)	15,000	6,800	B	0.453	7,070	B	0.471	0.018	7,270	B	0.485	7,540	B	0.503	0.018
Miller Avenue to Alexander Drive	15,000	4,560	A	0.304	4,640	A	0.309	0.005	5,030	A	0.335	5,110	B	0.341	0.006
Alexander Drive to Centre City Parkway	15,000	3,990	A	0.266	4,070	A	0.271	0.005	4,460	A	0.297	4,540	A	0.303	0.006

**TABLE 9-2
NEAR-TERM STREET SEGMENT OPERATIONS**

Street Segment	Existing Capacity (LOS E) ^a	Existing			Existing + Project			Δ ^e	Near-Term			Near-Term + Project			Δ ^e
		ADT ^b	LOS ^c	V/C ^d	ADT	LOS	V/C		ADT	LOS	V/C	ADT	LOS	V/C	
Felicita Road															
Brotherton Road to Project Driveway #2	15,000	11,490	D	0.766	11,760	D	0.784	0.018	11,920	D	0.795	12,190	D	0.813	0.018
Project Driveway #2 to Citracado Parkway	15,000	11,490	D	0.766	12,230	D	0.815	0.049	11,920	D	0.795	12,660	D	0.844	0.049
Miller Avenue															
Brotherton Road to Citracado Parkway	5,000 ^f	1,590	A	0.318	1,940	B	0.388	0.070	1,590	A	0.318	1,940	B	0.388	0.070
Centre City Parkway															
Brotherton Road to Citracado Parkway	37,000	27,940	D	0.755	27,940	D	0.755	0.000	28,840	D	0.779	28,840	D	0.779	0.000

Footnotes:

- a. Capacities based on City of Escondido Roadway Classification & LOS table (See *Appendix C*).
- b. Average Daily Traffic
- c. Level of Service
- d. Volume to Capacity ratio
- e. Δ denotes a project-induced increase in the Volume to Capacity ratio
- f. This is an unclassified roadway per the City of Escondido Circulation Element. Therefore, half of a Local Collect LOS E capacity of 10,000 was used to analyze this roadway.

10.0 ANALYSIS OF LONG-TERM (YEAR 2035) SCENARIOS

The following section presents the analysis of study area intersections and street segments under Long-Term conditions.

10.1 Long-Term (Year 2035) Traffic Volumes

Long-Term (Year 2035) volumes were obtained from the East Valley Specific Plan (EVSP) Traffic Model. This model reflects the site's current General Plan Land Use of Planned Office (PO). As mentioned in *Section 7.0*, since there is a reduction in the church size and the school buildings would remain, only the residential development will result in an increase in traffic. The proposed 258-apartment unit site will require a General Plan Land Use Amendment to allow High Density Multi-Family Residential Urban V. Since an office trip rate is higher than residential, the number of trips generated by the Project will be less than what the General Plan had anticipated and planned for. To be conservative, the Project traffic was added to the model traffic.

Table 10-1 shows a comparison between the amount of traffic the Project will generate as compared to the current General Plan allowed office use. As shown in *Table 10-1*, the Project is calculated to generate 828 less daily trips, and 209 less AM and 170 less PM peak hour trips than the General Plan Planned Office land use. *Table 10-2* shows the ADT volumes utilized under the Long-Term (Year 2035) without Project scenario.

Appendix A contains the EVSP Traffic Model results.

**TABLE 10-1
PROJECT TRIP GENERATION**

Land Use	Size	Daily Trip Ends (ADTs)		AM Peak Hour					PM Peak Hour				
		Rate ^a	Volume	% of ADT	In:Out Split	Volume			% of ADT	In:Out Split	Volume		
						In	Out	Total			In	Out	Total
<i>Project Land Use</i>													
Apartment	258 dwelling units	6 / DU ^b	1,548	8%	20:80	25	99	124	9%	70:30	97	42	139
<i>General Plan Land Use</i>													
Office	7.92 acres	300 / acre ^c	2,376	14%	90:10	300	33	333	13%	20:80	62	247	309
<i>Net Trips</i>			-828			-275	66	-209			35	-205	-170

Footnotes:

- a. Rates are based on the SANDAG's (Not So) Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region, April 2002.
- b. Rates are based on apartment trip rate of 6/DU.
- c. Rates are based on standard commercial office trip rate of 300/acre.

**TABLE 10-2
LONG-TERM (YEAR 2035) STREET SEGMENT VOLUMES**

Segment	Existing Volumes	Volume
Brotherton Road		
Felicita Road to Project Driveway #1	930	1,500
Project Driveway #1 to Miller Avenue	930	1,500
Miller Avenue to Alexander Drive	830	1,000
Alexander Drive to Centre City Parkway	2,200	2,200
Citracado Parkway		
I-15 Southbound Off-Ramps to Felicita Road	13,850	18,000
Felicita Road to I-15 Southbound On-Ramp (<i>Caltrans jurisdiction</i>)	11,370	14,710 ^a
I-15 Southbound On-Ramp to I-15 Northbound Ramps (<i>Caltrans jurisdiction</i>)	9,320	12,060 ^a
I-15 Northbound Ramps to Miller Avenue (<i>partial Caltrans ROW</i>)	6,790	8,780 ^a
Miller Avenue to Alexander Drive	4,640	4,800
Alexander Drive to Centre City Parkway	4,470	5,200
Felicita Road		
Brotherton Road to Project Driveway #2	13,130	14,000
Project Driveway #2 to Citracado Parkway	13,130	14,000
Miller Avenue		
Brotherton Road to Citracado Parkway	1,610	2,080 ^a
Centre City Parkway		
Brotherton Road to Citracado Parkway	30,720	31,400

Source: East Valley Specific Plan Traffic Model.

Footnotes:

- a. Per the City of Escondido Circulation Element, volumes for these street segments are not provided or are less than the Year 2022 volume. Therefore, a 2% per year for 13 years growth was applied onto the Year 2022 volume to obtain Year 2035 volume. The 2% growth factor was calculated from the average per year growth at the other study area street segments between Year 2022 and Year 2035.

Long-Term (Year 2035) peak hour turning movement volumes were estimated using a template in Excel developed by LLG to determine peak hour traffic at an intersection from future Year 2035 ADT volumes using the relationship between Near-Term peak hour turn movements and the Near-Term ADT volumes. This same relationship can be assumed to generally continue in the future. For example, if the segment ADT on the roadway is forecast to double by the Year 2035, it is reasonable to assume that the peak hour intersection turning movement volumes will generally double. The Project traffic was added to the Long-Term (Year 2035) without Project traffic volumes to obtain Long-Term (Year 2035) + Project traffic volumes.

Figure 10–1 depicts the Long-Term (Year 2035) Without Project traffic volumes, while *Figure 10–2* depicts the Long-Term (Year 2035) + Project traffic volumes.

10.2 Long-Term (Year 2035) without Project Conditions

10.2.1 Peak Hour Intersection Operations

Table 10–3 summarizes the Long-Term (Year 2035) without Project intersection operations. *Table 10–3* shows that in the Long-Term (Year 2035) without Project traffic, all the study area intersections are calculated to operate at LOS C or better during both the AM and PM peak hours with exception to the following intersections:

- Brotherton Road / Felicita Road (LOS D during the PM peak hour)
- Brotherton Road / Miller Avenue (LOS E during the AM peak hour)
- Brotherton Road / Centre City Parkway (LOS E during the PM peak hour)
- Gamble Lane (*City jurisdiction*) / I-15 SB Off-Ramp (*Caltrans jurisdiction*) (LOS F during the AM and PM peak hours for the off-ramp movements)
- Citracado Parkway / Felicita Road (*east leg is under Caltrans jurisdiction*) (LOS F during the AM peak hour and LOS D during the PM peak hour)
- Citracado Parkway / I-15 NB Ramps (*Caltrans jurisdiction*) (LOS F during the AM and PM peak hours for the off-ramp movements)
- Citracado Parkway / Miller Avenue (LOS E during the AM peak hour)
- Citracado Parkway / Centre City Parkway (LOS E during the PM peak hour)

Appendix H contains the Long-Term (Year 2035) without Project intersection analysis worksheets.

10.2.2 Daily Street Segment Operations

Table 10–4 summarizes the Long-Term (Year 2035) without Project roadway segment operations. *Table 10–4* shows that in the Long-Term (Year 2035) without Project traffic, all the study area street segments are calculated to operate at LOS C or better with exception to the following street segments:

- Felicita Road between Brotherton Road to Project Driveway #2 (LOS E)
- Felicita Road between Project Driveway #2 and Citracado Parkway (LOS E)
- Centre City Parkway between Brotherton Road and Citracado Parkway (LOS D)

10.3 Long-Term (Year 2035) + Project Conditions

10.3.1 Peak Hour Intersection Operations

Table 10–3 summarizes the Long-Term (Year 2035) with Project intersection operations. As shown in Table 10–3, with the addition of Project traffic, all the study area intersections are calculated to continue to operate at LOS C or better during both the AM and PM peak hours with the exception to the following intersections:

- Brotherton Road / Felicita Road (LOS D during the PM peak hour)
- Brotherton Road / Miller Avenue (LOS E during the AM peak hour)
- Brotherton Road / Centre City Parkway (LOS E during the PM peak hour)
- Gamble Lane (*City jurisdiction*) / I-15 SB Off-Ramp (*Caltrans jurisdiction*) (LOS F during the AM and PM peak hours for the off-ramp movements)
- Citracado Parkway / Felicita Road (*east leg is under Caltrans jurisdiction*) (LOS F during the AM peak hour and LOS D during the PM peak hour)
- Citracado Parkway / I-15 NB Ramps (*Caltrans jurisdiction*) (LOS F during the AM and PM peak hours for the off-ramp movements)
- Citracado Parkway / Miller Avenue (LOS E during the AM peak hour)
- Citracado Parkway / Centre City Parkway (LOS E during the PM peak hour)

A substantial effect is calculated at the following intersections since the Project-related increase in delay exceeds the substantial effect threshold of 2.0 seconds:

- Brotherton Road / Miller Avenue (LOS E during the AM peak hour)
- Gamble Lane (*City jurisdiction*) / I-15 SB Off-Ramp (*Caltrans jurisdiction*) (LOS F during the AM and PM peak hours for the off-ramp movements)
- Citracado Parkway / Felicita Road (*east leg is under Caltrans jurisdiction*) (LOS F during the AM peak hour and LOS D during the PM peak hour)
- Citracado Parkway / I-15 NB Ramps (*Caltrans jurisdiction*) (LOS F during the AM and PM peak hours for the off-ramp movements)
- Citracado Parkway / Miller Avenue (LOS E during the AM peak hour)

Appendix I contains the Long-Term (Year 2035) + Project intersection analysis worksheets.

10.3.2 Daily Street Segment Operations

Table 10-4 summarizes the Long-Term (Year 2035) with Project street segment operations. As shown in Table 10-4, with the addition of Project traffic, all study area street segments are calculated to continue to operate at LOS C or better with exception to the following street segments:

- Felicita Road between Brotherton Road to Project Driveway #2 (LOS E)
- Felicita Road between Project Driveway #2 and Citracado Parkway (LOS E)
- Centre City Parkway between Brotherton Road and Citracado Parkway (LOS D)

A substantial effect is calculated at the following street segment since the Project-related increase in V/C ratio exceeds the substantial effect threshold of 0.02:

- Felicita Road between Project Driveway #2 and Citracado Parkway (LOS E)

**TABLE 10-3
LONG-TERM (YEAR 2035) INTERSECTION OPERATIONS**

Intersection	Control Type	Peak Hour	Long-Term (Year 2035)		Long-Term (Year 2035) + Project		Δ^c
			Delay ^a	LOS ^b	Delay	LOS	
1. Brotherton Road / Felicita Road	TWSC ^d	AM	14.7	B	14.9	B	0.2
		PM	30.8	D	32.5	D	1.7
2. Brotherton Road / Project Driveway #1	DNE / TWSC	AM	–	–	9.1	A	–
		PM	–	–	8.8	A	–
3. Brotherton Road / Miller Avenue	TWSC	AM	36.0	E	45.0	E	9.0
		PM	13.0	B	14.4	B	1.4
4. Brotherton Road / Centre City Parkway	TWSC	AM	18.2	C	18.2	C	0.0
		PM	45.2	E	45.2	E	0.0
5. Felicita Road / Project Driveway #2	DNE / TWSC	AM	–	–	16.6	C	–
		PM	–	–	21.4	C	–
6. Gamble Lane (<i>City jurisdiction</i>) / I-15 Southbound Off-Ramp (<i>Caltrans jurisdiction</i>)	OWSC ^e	AM	>100.0	F	>100.0	F	>2.0
		PM	>100.0	F	>100.0	F	>2.0
7. Citracado Parkway / Felicita Road (<i>east leg is under Caltrans jurisdiction</i>)	Signal	AM	>100.0	F	>100.0	F	>2.0
		PM	42.2	D	46.3	D	4.1
8. Citracado Parkway / I-15 Southbound On-Ramp (<i>Caltrans jurisdiction</i>)	N/A ^f	AM	–	–	–	–	–
		PM	–	–	–	–	–
9. Citracado Parkway / I-15 Northbound Ramps (<i>Caltrans jurisdiction</i>)	OWSC	AM	>100.0	F	>100.0	F	>2.0
		PM	>100.0	F	>100.0	F	>2.0
10. Citracado Parkway / Miller Avenue	TWSC	AM	38.3	E	41.9	E	3.6
		PM	21.4	C	22.8	C	1.4
11. Citracado Parkway / Alexander Drive	AWSC ^g	AM	9.5	A	9.5	A	0.0
		PM	11.2	B	11.2	B	0.0

**TABLE 10-3
LONG-TERM (YEAR 2035) INTERSECTION OPERATIONS**

Intersection	Control Type	Peak Hour	Long-Term (Year 2035)		Long-Term (Year 2035) + Project		Δ^c
			Delay ^a	LOS ^b	Delay	LOS	
12. Citracado Parkway / Centre City Parkway	Signal	AM	24.3	C	24.5	C	0.2
		PM	69.8	E	70.0	E	0.2

Footnotes:

- a. Average delay expressed in seconds per vehicle
- b. Level of Service
- c. Δ denotes an increase in delay due to project
- d. TWSC – Two-Way Stop Controlled intersection. Minor street left turn delay is reported
- e. OWSC – One-Way Stop Controlled intersection
- f. N/A – Not applicable. Per coordination with Caltrans, this intersection should be treated as a “no control” type since there are no stop or yield signs for any movement. Therefore, no delays are calculated.
- g. AWSC – All-Way Stop Controlled intersection

SIGNALIZED		UNSIGNALIZED	
DELAY/LOS THRESHOLDS		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

General Note:

- 1. DNE – does not exist
- 2. **Bold** indicates a substantial effect due to the increase in delay exceeding the allowable threshold of 2 seconds.

**TABLE 10-4
LONG-TERM (YEAR 2035) STREET SEGMENT OPERATIONS**

Street Segment	Capacity (LOS E) ^a	Long-Term (Year 2035)			Long-Term (Year 2035) + Project			Δ ^e
		ADT ^b	LOS ^c	V/C ^d	ADT	LOS	V/C	
Brotherton Road								
Felicita Road to Project Driveway #1	5,000 ^f	1,500	A	0.300	1,690	A	0.338	0.038
Project Driveway #1 to Miller Avenue	5,000 ^f	1,500	A	0.300	1,730	B	0.346	0.046
Miller Avenue to Alexander Drive	5,000 ^f	1,000	A	0.200	1,430	A	0.286	0.086
Alexander Drive to Centre City Parkway	5,000 ^f	2,200	B	0.440	2,200	B	0.440	0.000
Citracado Parkway								
I-15 Southbound Off-Ramp to Felicita Road	37,000	18,000	B	0.486	18,120	B	0.490	0.004
Felicita Road to I-15 Southbound On-Ramp (Caltrans jurisdiction)	37,000	14,710	B	0.398	15,170	B	0.410	0.012
I-15 Southbound On-Ramp to I-15 Northbound Ramps (Caltrans jurisdiction)	37,000	12,060	A	0.326	12,450	A	0.336	0.010
I-15 Northbound Ramps to Miller Avenue (partial Caltrans ROW)	15,000	8,780	C	0.585	9,050	C	0.603	0.018
Miller Avenue to Alexander Drive	15,000	4,800	A	0.320	4,880	A	0.325	0.005
Alexander Drive to Centre City Parkway	15,000	5,200	B	0.347	5,280	B	0.352	0.005
Felicita Road								
Brotherton Road to Project Driveway #2	15,000	14,000	E	0.933	14,270	E	0.951	0.018
Project Driveway #2 to Citracado Parkway	15,000	14,000	E	0.933	14,740	E	0.983	0.050
Miller Avenue								
Brotherton Road to Citracado Parkway	5,000 ^f	2,080	B	0.416	2,430	B	0.486	0.070
Centre City Parkway								
Brotherton Road to Citracado Parkway	37,000	31,400	D	0.849	31,400	D	0.849	0.000

Footnotes:

- Capacity based on roadway classification operating at LOS E
- Average Daily Traffic
- Level of Service
- Volume to Capacity
- Δ denotes a project-induced increase in the Volume to Capacity (V/C) ratio
- This is an unclassified roadway per the City of Escondido Circulation Element. Therefore, half of a Local Collect LOS E capacity of 10,000 was used to analyze this roadway.

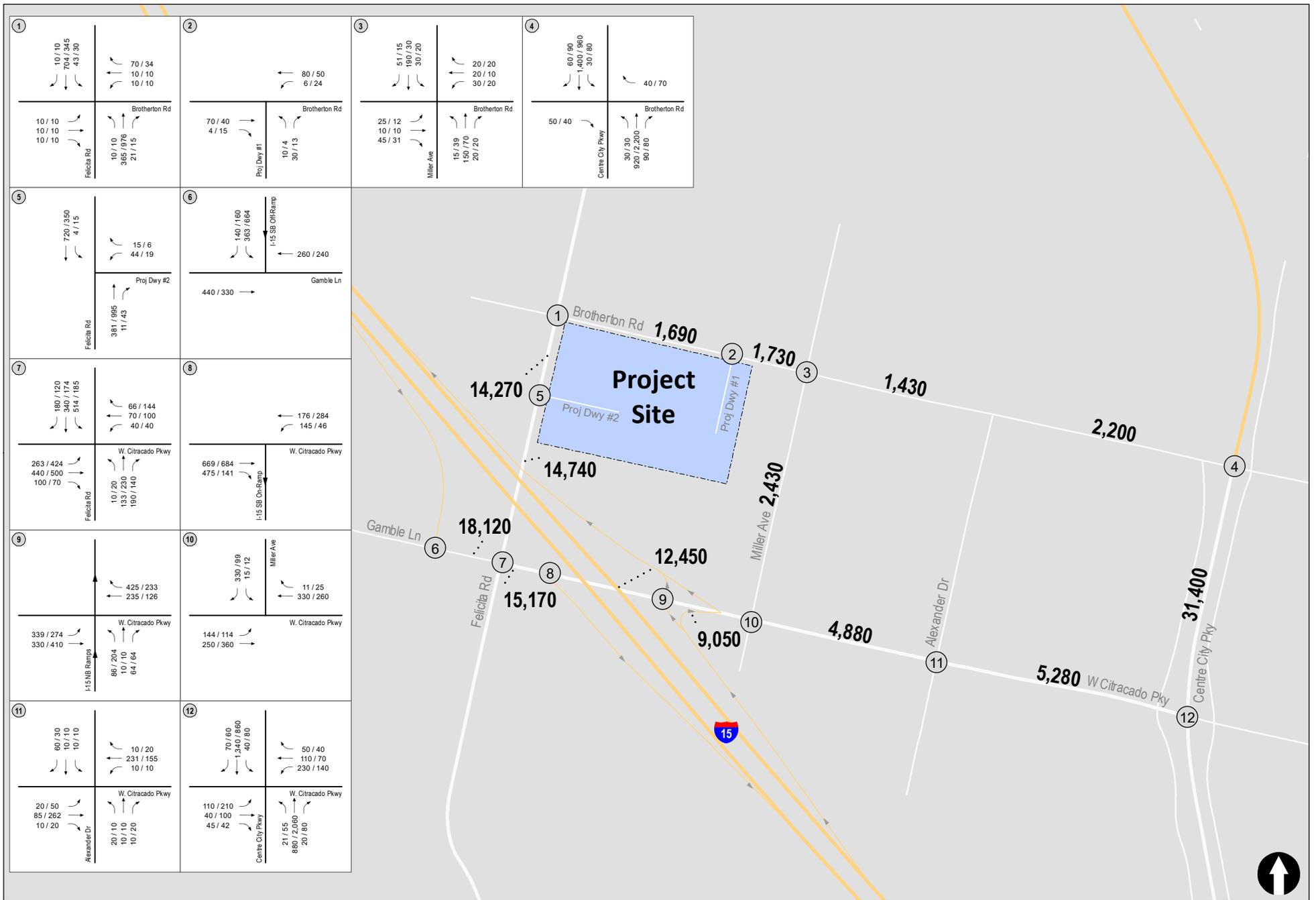


Figure 10-2
Long-Term (Year 2035) + Project Traffic Volumes

11.0 ACCESS ASSESSMENT

As described in *Section 2.0*, the Project's access to the residential development would be via two (2) full access driveways, one on Felicita Road and another on Brotherton Road. Access to the church would continue to be provided via two (2) full access driveways from Brotherton Road. The Felicita Road driveway will be fronting a two-way left-turn lane which will provide a dedicated lane for vehicles making an inbound southbound left-turn to wait for an adequate gap without blocking the southbound through traffic. The Brotherton Road driveway will be fronting a two-lane undivided roadway. Brotherton Road does not provide a left-turn pocket, however, given the low Project trips making an inbound westbound left-turn and low eastbound through traffic during the peak AM and PM peak hours, no issues are identified.

The internal circulation allows for access to any parking space for vehicles entering either driveway. The Project driveways are calculated to operate at LOS C or better during the AM and PM peak hours under all scenarios.

12.0 QUEUING ASSESSMENT

Per Caltrans request, a queuing assessment was conducted for the I-15 freeway ramp intersections where Project traffic will be added. The analysis was completed using Synchro traffic simulation with the assistance of the SimTraffic computer software. Ramp meters at the on-ramps were included in the simulation, in line with Caltrans' recommendations, to better model the traffic on the ramps and how it impacts local streets. The simulation was conducted for 5 runs of 3-minute seeding and 1-hour recording.

In addition, LLG conducted field observations at the Gamble Lane / Citracado Parkway / I-15 interchange on Wednesday, February 26, 2025, during the AM/PM peak hours. Based on the observed queues at the interchange, LLG calibrated the Synchro model to match the observed queue lengths from the field. The calibrated existing traffic simulation served as the baseline to which Project traffic volumes were added, and the simulation of the Existing + Project scenario was conducted.

The following shows the queue results for the following four (4) intersections at the Gamble Lane / Citracado Parkway / I-15 interchange: Gamble Lane / I-15 Southbound Off-Ramp, Citracado Parkway / Felicita Road, Citracado Parkway / I-15 Southbound On-Ramp and Citracado Parkway / I-15 Northbound Ramps. **Table 12-1** summarizes the available turn lane storage and the calculated queue at the above-mentioned study area intersections. The 95th percentile queues during the AM and PM peak hours are reported. The 95th percentile queue is defined to be the queue length that has only a 5-percent probability of being exceeded during the analysis time period.

- *Gamble Lane / I-15 Southbound Off-Ramp:* The 95th percentile queues are calculated to be contained within the provided storage under both Existing without and with Project scenarios with 377 feet or less at the southbound left-turn movement.
- *Citracado Parkway / Felicita Road:* The 95th percentile queues are calculated to be contained within the provided storage at the shared southbound through/right-turn, shared westbound through/right-turn, dedicated westbound left-turn and northbound through movements under both Existing without and with Project scenarios. The 95th percentile queues are calculated to exceed the provided storage at the southbound left-turn which is within Caltrans right-of-way, and the eastbound left-turn movements during the PM peak hour under both Existing without and with Project scenarios. The Project adds a maximum of 36 feet of additional queue, which is approximately twice the average car length. It should be noted that there is already a queuing deficiency even without Project traffic volumes. Therefore, the addition of Project traffic shows a nominal effect in terms of queuing at the eastbound left-turn movement. However, since the Project contributes to the existing deficiency, improvements are proposed to reduce queues within both City and Caltrans right-of-way. These include restriping the eastbound approach to include a second dedicated eastbound left-turn lane, restriping the north leg to include a second receiving lane, and installing “KEEP CLEAR” striping, to ensure that eastbound left-

turning vehicles do not obstruct the I-15 southbound off-ramp. These improvements are further discussed in *Section 14.0*.

- *Citracado Parkway / I-15 Southbound On-Ramp*: The 95th percentile queues are calculated to be contained within the provided storage under both Existing without and with Project scenarios with 16 feet or less at the westbound through movement, 71 feet or less at the westbound left-turn movement and 161 feet or less at the shared eastbound through/right-turn movement.
- *Citracado Parkway / I-15 Northbound Ramps*: The 95th percentile queues are calculated to be contained within the provided storage under both Existing without and with Project scenarios with 44 feet or less at the shared westbound through/right-turn movement, 112 feet or less at the shared northbound through/left-turn movement and 123 feet or less at the eastbound left-turn movement.

Appendix J contains the ramp meter timings and queue analysis worksheets.

**TABLE 12-1
ROADWAY / INTERSECTION QUEUE SUMMARY**

Intersection	Movement	Peak Hour	Storage	Existing	Existing + Project
Gamble Lane (<i>City jurisdiction</i>) / I-15 Southbound Off-Ramp (<i>Caltrans jurisdiction</i>)	SBL	AM	1,260	113'	170'
		PM		370'	377'
Citracado Parkway / Felicita Road (<i>east leg is under Caltrans jurisdiction</i>)	SBTR ^a	AM	1,230'	309'	374'
		PM		192'	194' ^c
	SBL	AM	350'	421'	457'
		PM		173'	179'
	WBTR ^a	AM	750'	37'	42'
		PM		71'	76'
	WBL	AM	90'	71'	72' ^c
		PM		57'	58' ^c
NBT	AM	780'	198'	200' ^c	
	PM		251'	274'	
EBL	AM	250'	214'	254'	
	PM		299'	308'	
Citracado Parkway / I-15 Southbound On-Ramp (<i>Caltrans jurisdiction</i>)	WBT	AM	500'	10'	11'
		PM		12'	16'
	WBL	AM	160'	68'	71'
		PM		43'	45'
	EBTR ^a	AM	200'	137'	161'
PM		55'		56' ^c	
Citracado Parkway / I-15 Northbound Ramps (<i>Caltrans jurisdiction</i>)	WBTR ^a	AM	400'	39'	44'
		PM		24'	26'
	NBR	AM	510'	–	–
		PM		–	–
	NBTL ^b	AM	1,050'	80'	98'
		PM		101'	112'
	EBL	AM	310'	116'	123'
PM		79'		81'	

Footnotes:

- a. Shared through/right-turn movement.
- b. Shared through/left-turn movement.
- c. In some cases, the SimTraffic output showed a queue decrease with Project traffic added. This is due to the average of 5 runs which account for fluctuation in vehicular traffic. In these cases, the queue was reported to be nominally greater with Project traffic.

General Notes:

- 1. 95th percentile queues reported.
- 2. Simulation was conducted for 5 runs of 1-hour recording.

13.0 ACTIVE TRANSPORTATION

13.1 Pedestrian Mobility

Sidewalks are located intermittently along Brotherton Road, Citracado Parkway and Felicita Road. There are no sidewalks located along Miller Avenue within the project vicinity.

Figure 13–1 shows the Existing Pedestrian Network within a 1-mile radius of the Project site.

13.2 Bicycle Mobility

Currently, there is a Class II bike lane along Felicita Road and Centre City Parkway. The Class II bike lane on Felicita Road connects to the North County Transit District (NCTD) bus route 350, which runs along Escondido Boulevard. There are no other bicycle facilities provided along the remaining street segments within the study area. Per the *City of Escondido Bicycle Master Plan*, a Class II bike lane is proposed to be provided along Citracado Parkway, west of Felicita Road, and a Class III bike route is proposed to be provided along Citracado Parkway, east of Felicita Road.

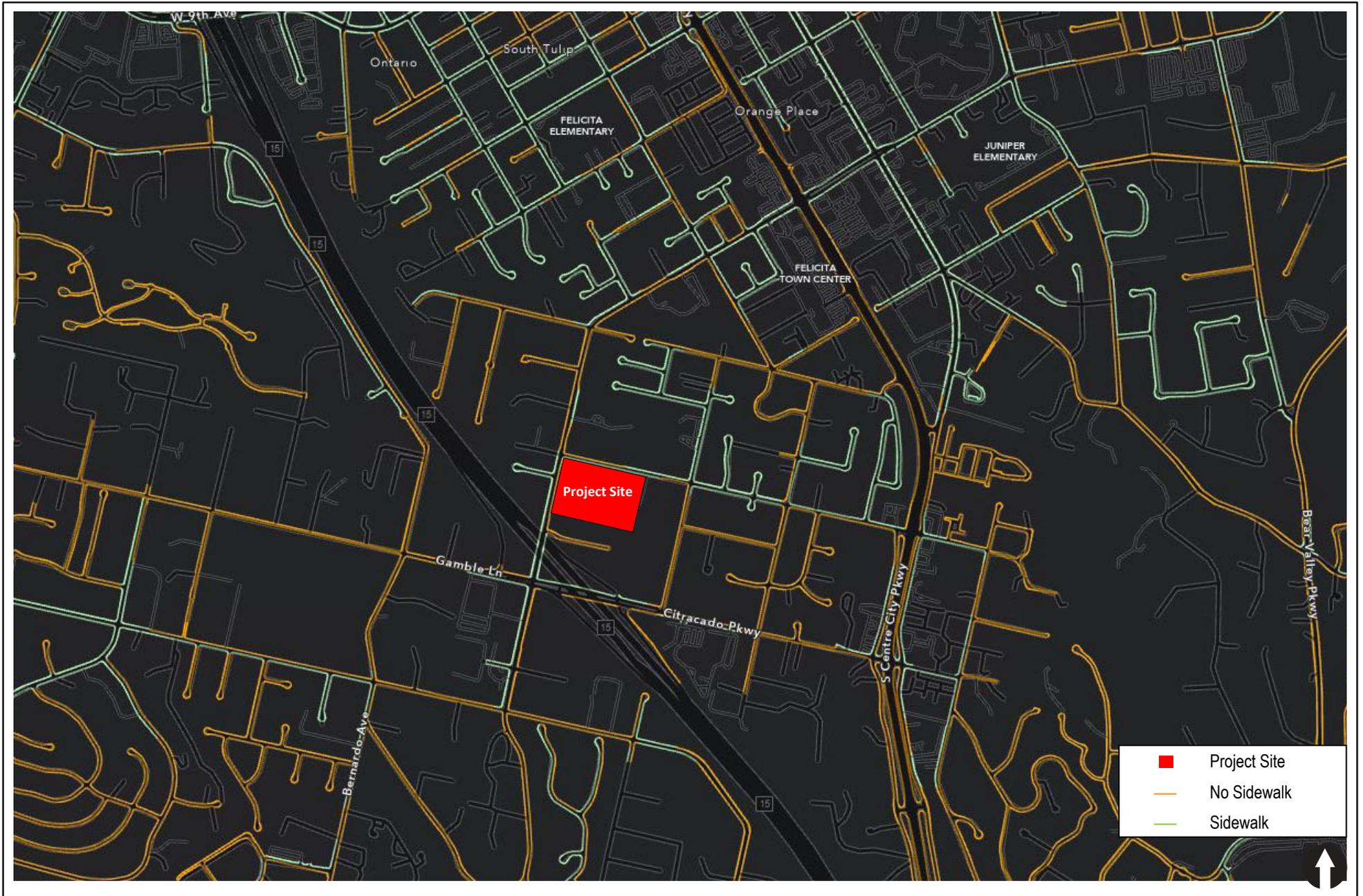
Figure 13–2 shows the Existing Bicycle Network within a 1-mile radius of the Project site.

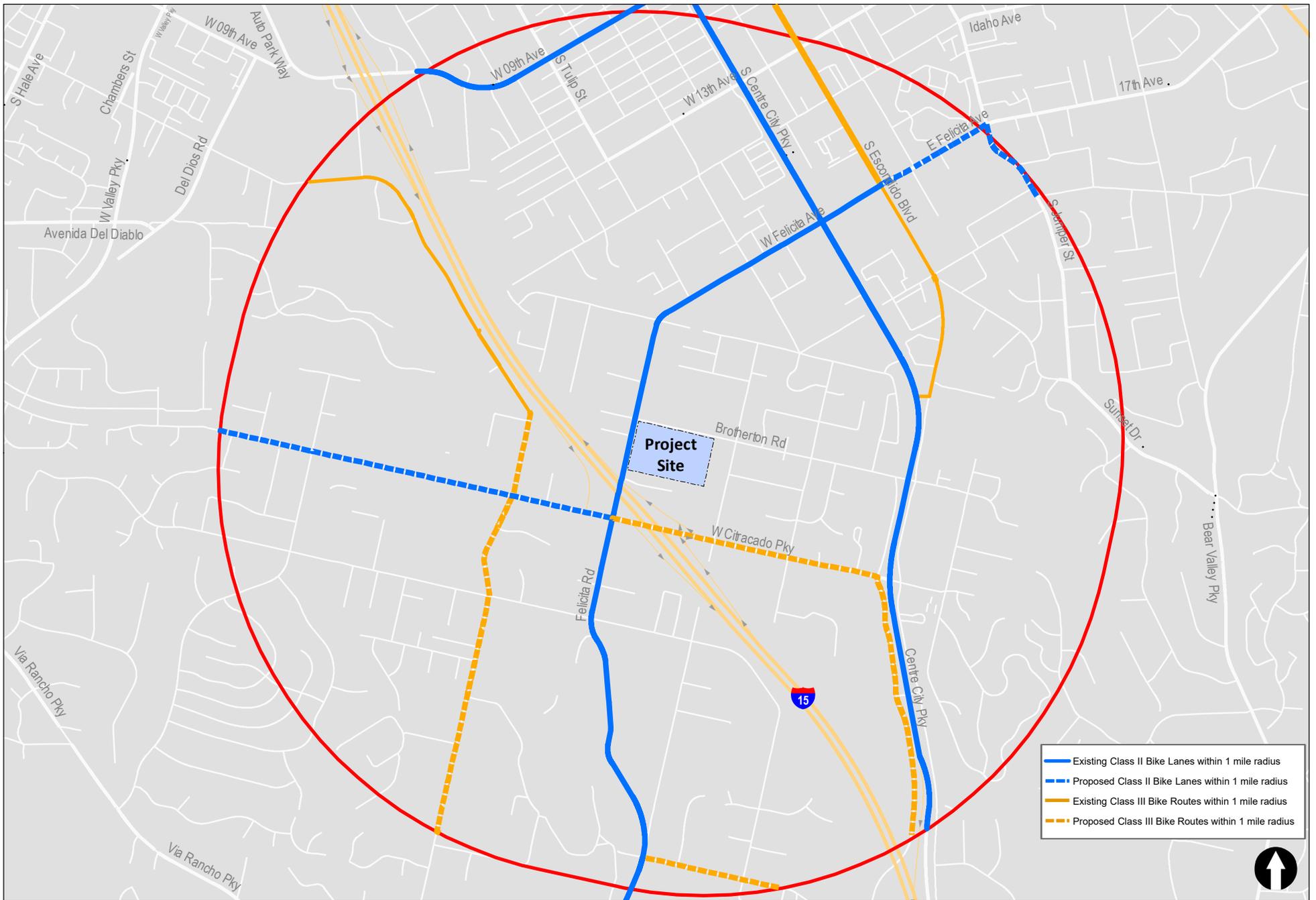
13.3 Transit Mobility

The North County Transit District (NCTD) operates within the study area. There are no bus routes that run along the street segments within the study area. The nearest bus stop is located 1 mile away from the Project site, on the northwest corner of the Escondido Boulevard / Felicita Avenue intersection and serves bus route 350. In addition, the Project site is located 2.2 miles away from the Escondido Transit Center, and 2.7 miles away from the Del Lago Transit Station. A description of the nearest transit service is as follows:

Route 350 runs between Escondido Transit Center and Del Lago Transit Station. There are a total of fourteen (14) stops along this route. Weekday service begins at 4:32 AM with 30-minute headways and ends at 9:50 PM. Weekend service begins at 5:33 AM with 60-minute headways until 7:33 AM and 30-minute headways until it ends at 9:50 PM. The nearest bus stops to the project are located at West Felicita Avenue and South Escondido Boulevard intersection.

Figure 13–3 shows the Existing Transit Network within a 2-mile radius of the Project site. *Appendix K* contains the bus route schedule and map. *Figure 13–4* shows the typical destinations within a 1-mile radius of the Project site.





- Existing Class II Bike Lanes within 1 mile radius
- - - Proposed Class II Bike Lanes within 1 mile radius
- Existing Class III Bike Routes within 1 mile radius
- - - Proposed Class III Bike Routes within 1 mile radius



Figure 13-2
Existing Bicycle Network
(1 Mile Radius)





Figure 13-4

Typical Destinations
(1 Mile Radius)

855 BROTHERTON ROAD

14.0 RECOMMENDED IMPROVEMENTS

A transportation assessment was conducted to determine any project-induced deficiencies within the study area. Based on the analysis, the following improvements are needed to accommodate Project traffic as the affected locations operate at LOS D or worse and exceed the allowable thresholds shown in *Table 5–3*.

14.1 Existing + Project and Near-Term + Project

Per the City’s significance thresholds and the analysis methodology presented in this report, project related traffic is calculated to cause a substantial effect within the study area in the near-term scenarios. The following section identifies the location and recommended improvements to address operating deficiencies. These improvements, if implemented, would improve efficiency of traffic flow and return intersection operations to an acceptable level.

In the Existing + Total Project and Near-Term + Project scenarios, Project related traffic is calculated to cause a substantial effect within the study area, as summarized below in *Table 14–1*.

**TABLE 14–1
NEAR-TERM DEFICIENT LOCATIONS**

Facility Type	Location
Intersection	<ul style="list-style-type: none"> ▪ Gamble Lane (<i>City jurisdiction</i>) / I-15 SB Off-Ramp (<i>Caltrans jurisdiction</i>) ▪ Citracado Parkway / Felicita Road (<i>east leg is under Caltrans jurisdiction</i>) ▪ Citracado Parkway / I-15 NB Ramps (<i>Caltrans jurisdiction</i>)
Street Segment	<ul style="list-style-type: none"> ▪ Felicita Road between Project Driveway #2 and Citracado Parkway

The following intersection improvements and cost participation are identified to mitigate the Existing + Project and Near-Term + Project substantial effect from the Project.

- **Gamble Lane (*City jurisdiction*) / I-15 SB Off-Ramp (*Caltrans jurisdiction*)** – Contribute a fair-share towards constructing an all-way stop-control, a traffic signal, or a roundabout. The type of traffic control will be determined based on a Caltrans Intersection Safety and Operational Assessment Process (ISOAP).
- **Citracado Parkway / Felicita Road (*east leg is under Caltrans jurisdiction*)** – The mitigations are as follows:
 - Restripe the eastbound (EB) approach on Citracado Pkwy / Gamble Lane / Felicita Road from a single left-turn lane to dual left-turn lanes.
 - Install “Keep Clear” striping on Gamble Lane at the southbound (SB) I-15 exit ramp to ensure that stop-controlled left-turn movements are not obstructed by EB Citracado Parkway / Gamble Lane / Felicita Road left turning traffic.

- North of Citracado Parkway, restripe the northbound (NB) leg of Felicita Road to two lanes. This will align with the proposed dual eastbound left-turn lanes.
- **Citracado Parkway / I-15 NB Ramps (*Caltrans jurisdiction*)** – Contribute a fair-share towards constructing an all-way stop-control, a traffic signal, or a roundabout. The type of traffic control will be determined based on an ISOAP study.
- **Felicita Road between Project Driveway #2 and Citracado Parkway** – The improvements recommended above at the Citracado Parkway / Felicita Road intersection would contribute towards reducing the substantial effect at this street segment. In addition, the proposed widening of Felicita Road along the Project frontage between Brotherton Road and the southern Project site boundary would also help reduce the substantial effect on this street segment. An exhibit showing the proposed widening and striping of this segment is included in *Appendix L*. The Proposes also proposes to provide a dedicated southbound left-turn pocket at the Brotherton Road / Felicita Road intersection to improve operations at the intersection on the northern end of this segment.

Table 14–2 summarizes the Existing + Project with improvements intersection operations. *Table 14–3* summarizes the Near-Term (Year 2025) + Project with improvements intersection operations. *Appendix L* contains the Existing + Project with improvements and Near-Term (Year 2025) + Project with improvements intersection analysis worksheets.

**TABLE 14-2
EXISTING + PROJECT WITH IMPROVEMENTS OPERATIONS**

Intersection	Control Type	Peak Hour	Existing		Existing + Project		Existing + Project with Improvement		Δ ^c
			Delay ^a	LOS ^b	Delay	LOS	Delay	LOS	
6. Gamble Ln (<i>City jurisdiction</i>) / I-15 Southbound Off-Ramp (<i>Caltrans jurisdiction</i>)	OWSC ^d / AWSC ^e	AM	35.1	E	36.0	E	16.3	C	(18.8)
		PM	30.5	D	32.8	D	27.4	D	(3.1)
	OWSC ^d / Signal	AM	35.1	E	36.0	E	7.4	A	(27.7)
		PM	30.5	D	32.8	D	7.3	A	(23.2)
7. Citracado Pkwy / Felicita Rd (<i>east leg is under Caltrans jurisdiction</i>)	Signal	AM	75.0	E	86.4	F	49.7	D	(25.3)
		PM	37.7	D	38.7	D	33.5	C	(4.2)
9. Citracado Pkwy / I-15 Northbound Ramps (<i>Caltrans jurisdiction</i>)	OWSC ^d / AWSC ^e	AM	62.4	F	79.9	F	24.2	C	(38.2)
		PM	35.9	E	45.4	E	12.1	B	(23.8)
	OWSC ^d / Signal	AM	62.4	F	79.9	F	13.9	B	(48.5)
		PM	35.9	E	45.4	E	10.8	B	(25.1)

Footnotes:

- a. Average delay expressed in seconds per vehicle
- b. Level of Service
- c. Δ denotes a change in delay from pre-Project condition due to improvement
- d. OWSC – One-Way Stop Controlled intersection
- e. AWSC – All-Way Stop Controlled intersection

SIGNALIZED		UNSIGNALIZED	
DELAY/LOS THRESHOLDS		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 14-3
NEAR-TERM + PROJECT WITH IMPROVEMENTS OPERATIONS**

Intersection	Control Type	Peak Hour	Near-Term		Near-Term + Project		Near-Term + Project with Improvement		Δ ^c
			Delay ^a	LOS ^b	Delay	LOS	Delay	LOS	
6. Gamble Ln (<i>City jurisdiction</i>) / I-15 Southbound Off-Ramp (<i>Caltrans jurisdiction</i>)	OWSC ^d / AWSC ^e	AM	40.9	E	42.0	E	17.5	C	(23.4)
		PM	42.1	E	46.1	E	37.4	E	(4.7)
	OWSC ^d / Signal	AM	40.9	E	42.0	E	7.5	A	(33.4)
		PM	42.1	E	46.1	E	7.6	A	(34.5)
7. Citracado Pkwy / Felicita Rd (<i>east leg is under Caltrans jurisdiction</i>)	Signal	AM	75.6	E	86.6	F	49.9	D	(25.7)
		PM	37.8	D	38.8	D	33.4	C	(4.4)
9. Citracado Pkwy / I-15 Northbound Ramps (<i>Caltrans jurisdiction</i>)	OWSC ^d / AWSC ^e	AM	78.5	F	>100.0	F	30.0	D	(48.5)
		PM	47.6	E	64.6	F	12.7	B	(34.9)
	OWSC ^d / Signal	AM	78.5	F	>100.0	F	15.0	B	(63.5)
		PM	47.6	E	64.6	F	11.1	B	(36.5)

Footnotes:

- a. Average delay expressed in seconds per vehicle
- b. Level of Service
- c. Δ denotes a change in delay from pre-Project condition due to improvement
- d. OWSC – One-Way Stop Controlled intersection
- e. AWSC – All-Way Stop Controlled intersection

SIGNALIZED		UNSIGNALIZED	
DELAY/LOS THRESHOLDS		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

14.2 Long-Term (Year 2035) + Project

Per the City’s significance thresholds and the analysis methodology presented in this report, project related traffic is calculated to cause a substantial effect within the study area in the Long-Term (Year 2035) + Project scenario. The following section identifies the location and recommended improvements to address operating deficiencies. These improvements, if implemented, would improve efficiency of traffic flow and return intersection operations to an acceptable level.

In the Long-Term (Year 2035) + Total Project scenario, Project related traffic is calculated to cause a substantial effect within the study area, as summarized below in *Table 14-4*.

**TABLE 14-4
LONG-TERM (YEAR 2035) + PROJECT DEFICIENT LOCATIONS**

Facility Type	Location
Intersection	<ul style="list-style-type: none"> ▪ Brotherton Road / Miller Avenue ▪ Gamble Lane (<i>City jurisdiction</i>) / I-15 SB Off-Ramp (<i>Caltrans jurisdiction</i>) ▪ Citracado Parkway / Felicita Road (<i>east leg is under Caltrans jurisdiction</i>) ▪ Citracado Parkway / I-15 NB Ramps (<i>Caltrans jurisdiction</i>) ▪ Citracado Parkway / Miller Avenue
Street Segment	<ul style="list-style-type: none"> ▪ Felicita Road between Project Driveway #2 and Citracado Parkway

The following intersection improvements and cost participation are identified to mitigate the Long-Term (Year 2035) + Project substantial effect from the Project.

- **Brotherton Road / Miller Avenue** – Install an all-way stop-control.
- **Gamble Lane (*City jurisdiction*) / I-15 SB Off-Ramp (*Caltrans jurisdiction*)** – The improvements discussed in *Section 14.1* would also improve the operations in the long-term condition to an acceptable level.
- **Citracado Parkway / Felicita Road (*east leg is under Caltrans jurisdiction*)** – The improvements discussed in *Section 14.1* would also improve the operations in the long-term condition to an acceptable level.
- **Citracado Parkway / I-15 NB Ramps (*Caltrans jurisdiction*)** – The improvement discussed in *Section 14.1* would also improve the operations in the long-term condition to an acceptable level.
- **Citracado Parkway / Miller Avenue** – Contribute a fair-share towards restriping the eastbound approach to include a dedicated eastbound left-turn lane and a dedicated eastbound through lane.

- **Felicita Road between Project Driveway #2 and Citracado Parkway** – The improvements discussed in *Section 14.1* would also improve the operations in the long-term condition to an acceptable level.

Table 14-5 summarizes the Long-Term (Year 2035) + Project with improvements intersection operations. *Appendix L* contains the Long-Term (Year 2035) + Project with improvements intersection analysis worksheets.

**TABLE 14-5
LONG-TERM (YEAR 2035) + PROJECT WITH IMPROVEMENTS OPERATIONS**

Intersection	Control Type	Peak Hour	Long-Term (Year 2035)		Long-Term (Year 2035) + Project		Long-Term (Year 2035) + Project with Improvement	
			Delay ^a	LOS ^b	Delay	LOS	Delay	LOS
3. Brotherton Rd / Miller Ave	TWSC ^d / AWSC ^f	AM	36.0	E	45.0	E	22.1	C
		PM	13.0	B	14.4	B	9.1	A
6. Gamble Ln (City jurisdiction) / I-15 SB Off-Ramp (Caltrans jurisdiction)	OWSC ^e / AWSC ^f	AM	>100.0	F	>100.0	F	32.2	D
		PM	>100.0	F	>100.0	F	83.6	F
	OWSC ^e / Signal	AM	>100.0	F	>100.0	F	8.6	A
		PM	>100.0	F	>100.0	F	8.8	A
7. Citracado Pkwy / Felicita Rd (east leg is under Caltrans jurisdiction)	Signal	AM	>100.0	F	>100.0	F	66.1	E
		PM	42.2	D	46.3	D	35.0	D
9. Citracado Pkwy / I-15 Northbound Ramps (Caltrans jurisdiction)	OWSC ^e / Signal	AM	>100.0	F	>100.0	F	21.5	C
		PM	>100.0	F	>100.0	F	12.7	B
10. Citracado Pkwy / Miller Ave	TWSC	AM	38.3	E	41.9	E	38.8	E
		PM	21.4	C	22.8	C	22.1	C

Footnotes:

- a. Average delay expressed in seconds per vehicle.
- b. Level of Service.
- c. Δ denotes a change in delay from pre-Project condition due to improvement.
- d. TWSC – Two-Way Stop Controlled intersection. Minor street left turn delay is reported.
- e. OWSC – One-Way Stop Controlled intersection.
- f. AWSC – All-Way Stop Controlled intersection.

SIGNALIZED		UNSIGNALIZED	
DELAY/LOS THRESHOLDS		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

15.0 CONCLUSIONS

The Project site currently contains a 24,395 SF church building, a 2,062 SF parking and two school buildings totaling 26,457 SF. The Project proposes to demolish the existing church building and parking lot and develop 258 apartment units, a new church building and associated improvements east of the proposed housing development in the City of Escondido. Site access to the residential development is proposed via two (2) full access driveways: one on Brotherton Road and the other on Felicita Road. Access to the church would continue to be provided via two (2) full access driveways from Brotherton Road.

Vehicle Miles Traveled (VMT)

The Project is calculated to generate more than the minimum 200 ADT and the site is located over ½ mile walking distance from an existing major transit stop; therefore, it is not screened out on the basis of Project size or its proximity to transit opportunities. In addition, since the Project VMT per capita is higher than 85% of the Regional average, a significant VMT impact is calculated.

As a subsequent action, the City has adopted a VMT Exchange Program that provides a mechanism towards maintaining VMT efficiency within its jurisdiction. This program identifies improvements based on the GHG Handbook that could serve to facilitate or encourage residents to walk, bike or take transit as substitutes for driving.

The following pedestrian network and infrastructure improvements and equivalent VMT reductions were evaluated based on information in the City's VMT Exchange Program:

- Brotherton Road / Miller Avenue – install high visibility crosswalks on the south, west and east legs, and a curb ramp on the southwest corner – total reduction for this intersection is 53 VMT.
- Brotherton Road / Centre City Parkway – install a high visibility crosswalk on the west leg, and curb ramps on the northwest and southwest corner – total reduction for this intersection is 31 VMT.
- Citracado Parkway / Felicita Road (*east leg is under Caltrans jurisdiction*) – install a high visibility crosswalk on all four legs – total reduction for this intersection is 60 VMT.
- Citracado Parkway / Miller Avenue – install a high visibility crosswalk on the north leg, and curb ramps on the northwest and northeast corner – total reduction for this intersection is 31 VMT.
- Citracado Parkway / Alexander Drive – install high visibility crosswalks on the north and south legs, and curb ramps on all four corners – total reduction for this intersection is 62 VMT.
- Citracado Parkway / Centre City Parkway – install a high visibility crosswalk on the north leg – total reduction for this intersection is 15 VMT.
- New sidewalk – one mile of new sidewalk equates to 303 VMT reduction. It is proposed to construct approximately 320 feet of new sidewalk on the east side of Felicita Road

between Brotherton Road and the current sidewalk about 320 feet to the north. This would improve pedestrian access to the Life Care Center of Escondido and would equate to a VMT reduction of approximately 18 VMT. The Project will also provide sidewalks along its frontage. However, the VMT Exchange Program does not apply towards Project frontage.

In addition, the City conducted multiple Safe Routes to Schools assessments that identify improvements applicable to the VMT Exchange Program. These assessments include upgrades such as converting existing standard crosswalks to high visibility crosswalks. Other locations outside of the Safe Routes to Schools assessments, but which also have only standard crosswalks, were also considered. These improvements also demonstrate the equivalent VMT reduction based on City-specific derivations.

A summary of the recommended improvements is provided below. *Appendix B* includes excerpts from the Safe Routes to Schools assessments.

- Near Bernardo Elementary School
 - Bernardo Avenue / Hamilton Lane – install high visibility crosswalk on all four legs – total reduction for this intersection is 60 VMT.
 - Bernardo Avenue / Dexter Place – install high visibility crosswalk on the west leg – total reduction for this intersection is 15 VMT.
 - Mountain Heights Drive / Sunrise Way – install high visibility crosswalk on the north leg – total reduction for this intersection is 15 VMT.
- Near Del Dios Academy of Arts and Sciences School
 - 9th Avenue / Valley Parkway – install high visibility crosswalk on all four legs – total reduction for this intersection is 60 VMT.
 - 9th Avenue / Auto Park Way – install high visibility crosswalk on the north, south and west legs – total reduction for this intersection is 45 VMT.
- Near Del Lago Academy School
 - Crescent Knolls Glen / Scenic Trail Way – install high visibility crosswalk on the north and west legs – total reduction for this intersection is 30 VMT.
 - Citracado Parkway / Scenic Trail Way – install high visibility crosswalk on all four legs – total reduction for this intersection is 60 VMT.
- Near Felicita Elementary School
 - 13th Avenue / Quince Street – install high visibility crosswalk on the north leg – total reduction for this intersection is 15 VMT.
 - 13th Avenue / Redwood Street – install high visibility crosswalk on all four legs – total reduction for this intersection is 60 VMT.
 - 13th Avenue / Tulip Street – install high visibility crosswalk on the north, east and south legs – total reduction for this intersection is 45 VMT.

- 15th Avenue / Redwood Street – install high visibility crosswalk on all four legs – total reduction for this intersection is 60 VMT.
- 15th Avenue / Tulip Street – install high visibility crosswalk on the north and east legs – total reduction for this intersection is 30 VMT.
- Near Juniper Elementary School
 - Juniper Street / Felicita Avenue / 17th Avenue – install high visibility crosswalk on all four legs – total reduction for this intersection is 60 VMT.
 - Juniper Street – install high visibility crosswalk at the following four locations: west leg of Juniper St / Green Ave, east leg of Juniper St / Eldorado Dr, west leg of Juniper St / Vermont Ave, and east leg of Juniper St / Cypress Crest Terrace) – total reduction for these locations is 60 VMT.
- Near L.R. Green Elementary School
 - Bear Valley Parkway / Canyon Road – install high visibility crosswalk on all four legs – total reduction for this intersection is 60 VMT.
 - Bear Valley Parkway / Las Palmas Avenue – install high visibility crosswalk on all four legs – total reduction for this intersection is 60 VMT.
 - Casteneda Drive / Las Palmas Avenue – install high visibility crosswalk on the west and south legs – total reduction for this intersection is 30 VMT.
 - Casteneda Drive – install high visibility crosswalk at the L.R. Green Elementary School driveway – total reduction for this intersection is 15 VMT.
- Near Lincoln Elementary School
 - Lincoln Avenue / Broadway – install high visibility crosswalk on the west leg – total reduction for this intersection is 15 VMT.
 - Lincoln Avenue / Escondido Boulevard – install high visibility crosswalk on all four legs – total reduction for this intersection is 60 VMT.
- Near Miller Elementary School
 - Miller Avenue / Montview Drive – install high visibility crosswalk on the south and west legs – total reduction for this intersection is 30 VMT.
 - Felicita Road / Brotherton Road – install high visibility crosswalk on the east leg – total reduction for this intersection is 15 VMT.
- Other City intersections
 - Citracado Parkway / Escondido Boulevard – install a high visibility crosswalk on the east leg – total reduction for this intersection is 15 VMT.
 - Auto Park Way / Hale Avenue – install a high visibility crosswalk on all four legs – total reduction for this intersection is 60 VMT.
 - Valley Parkway / Home Depot Center – install a high visibility crosswalk on the south and west legs – total reduction for this intersection is 30 VMT.

- Valley Parkway / 11th Avenue – install a high visibility crosswalk on all four legs – total reduction for this intersection is 60 VMT.
- La Terraza Boulevard / 9th Avenue – install a high visibility crosswalk on all four legs – total reduction for this intersection is 60 VMT.
- 9th Avenue / Tulip Street – install a high visibility crosswalk on all four legs – total reduction for this intersection is 60 VMT.
- Centre City Parkway / 9th Avenue – install a high visibility crosswalk on all four legs – total reduction for this intersection is 60 VMT.
- 9th Avenue / Escondido Boulevard – install a high visibility crosswalk on all four legs – total reduction for this intersection is 60 VMT.
- Valley Parkway / Juniper Street – install a high visibility crosswalk on all four legs – total reduction for this intersection is 60 VMT.
- Via Rancho Parkway / Quiet Hills Drive – install a high visibility crosswalk on all four legs – total reduction for this intersection is 60 VMT.
- Via Rancho Parkway / Beethoven Drive – install a high visibility crosswalk on the north, east and south legs – total reduction for this intersection is 45 VMT.

The total value of the improvements shown above would result in a total VMT reduction of 1,740 VMT, which covers the entire 1,739 VMT overage, as shown in *Table 4–2*. Therefore, the VMT impact is fully mitigated.

It should be noted that the Project should only be responsible for the cost of installing the mitigations outlined above, and not any associated improvements (such as ADA improvements) that the City may require at the intersection.

Local Mobility Analysis (LMA)

Based on the City of Escondido’s improvement thresholds, substantial effects are identified at several study area intersections and one street segment. Improvements are recommended below.

- **Felicita Road fronting the Project site** – Provide a sidewalk on the east side of Felicita Road fronting the Project site.
- **Brotherton Road / Miller Avenue** – Install an all-way stop-control (Long-Term scenario only).
- **Gamble Lane (*City jurisdiction*) / I-15 SB Off-Ramp (*Caltrans jurisdiction*)** – Contribute a fair-share towards constructing an all-way stop-control, a traffic signal, or a roundabout. The type of traffic control will be determined based on an ISOAP study.
 - **Citracado Parkway / Felicita Road (*east leg is under Caltrans jurisdiction*)** – The mitigations are as follows:
 - Restripe the eastbound (EB) approach on Citracado Pkwy / Gamble Lane / Felicita Road from a single left-turn lane to dual left-turn lanes.

- Install “Keep Clear” striping on Gamble Lane at the southbound (SB) I-15 exit ramp to ensure that stop-controlled left-turn movements are not obstructed by EB Citracado Parkway / Gamble Lane / Felicita Road left turning traffic.
- North of Citracado Parkway, restripe the northbound (NB) leg of Felicita Road to two lanes. This will align with the proposed dual eastbound left-turn lanes.
- **Citracado Parkway / I-15 NB Ramps (*Caltrans jurisdiction*)** – Contribute a fair-share towards constructing an all-way stop-control or a roundabout (Near-Term scenarios only), or signalizing the intersection. The type of traffic control will be determined based on an ISOAP study.
- **Citracado Parkway / Miller Avenue** – Contribute a fair-share towards restriping the eastbound approach to include a dedicated eastbound left-turn lane and a dedicated eastbound through lane.
- **Felicita Road between Project Driveway #2 and Citracado Parkway** – the improvements recommended above at the Citracado Parkway / Felicita Road intersection would contribute towards reducing the substantial effect at this street segment. In addition, the proposed widening of Felicita Road along the Project frontage between Brotherton Road and the southern Project site boundary would also help reduce the substantial effect on this street segment.