Appendix G

Traffic Impact Study

TRAFFIC IMPACT STUDY FOR

WEST COVINA DELIVERY STATION

DATE:
June 22, 2021

LOCATION:
1200 E San Bernardino Road
West Covina, California

PREPARED FOR:
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Executive Summary

An e-commerce company proposes to lease the property spanning the block from W San Bernardino Road to Badillo Street, midway between N Vincent and N Lake Ellen Avenues in the City of West Covina, California. The site is currently occupied by Faith Church and, until recently, its associated private school. Modifications would be made to the existing 177,440 square-foot building, existing parking areas would be restriped, and barriers erected to separate line-haul truck traffic from the southern portion of the site.

Access to the site is proposed at seven existing driveways, with two of those on San Bernardino Road shifted to better serve the facility's layout and provide safe access near Cutter Way. The facility would operate 24 hours a day, 7 days a week. Employee and delivery shifts are designed to avoid typical commuting peak periods. Approximately 14 line-haul (tractor trailer) trucks per day will deliver packages from a larger sorting facility. Most of these trucks (11) will arrive and depart after the evening commuting peak period and before the morning peak commuting period. The remainder will be spread throughout the day. The facility will typically generate a total of 914 trips per day. Of these, 602 would be passenger vehicles, 284 would be delivery vans and 28 would be tractor-trailer trucks. Typically, only one vehicle would access the site during the morning peak hour. Another 64 trips would occur during the evening peak hour. The facility would produce more traffic during the mid-morning and late evening than during normal commuting peak hours. Between 10:00 and 11:00 AM 182 trips would be expected. Then between 8:00 and 9:00 PM when delivery routes are completed another 163 trips are expected.

Most study intersections, including site driveways, are expected to operate at LOS D or better under all conditions in the facility's opening year of 2021. The only exception is the intersection of Badillo Street at Azusa Avenue. It is expected to operate at LOS E during the AM peak hour of the adjacent street under all conditions and in the PM peak hour of the adjacent street under the Cumulative No Build and Cumulative Build conditions with only a .001 increase in the V/C ratio during the AM Peak, well below the significance threshold of 0.02.

The Build conditions do not increase volume/capacity ratios or delays enough to change the LOS at any intersections or driveways.

The intersection of San Bernardino Road at Cutter Way and the site's realigned westernmost driveway will be signalized. A portion of San Bernardino Road will be restriped to provide a left-turn lane into the site at that location. Crosswalks will be added, and pedestrian phases will be included in the signal design.

With at least 15% of the tenant's employees eligible for Alternative Transportation Benefits, the proposed delivery station will have a less than significant VMT impact.

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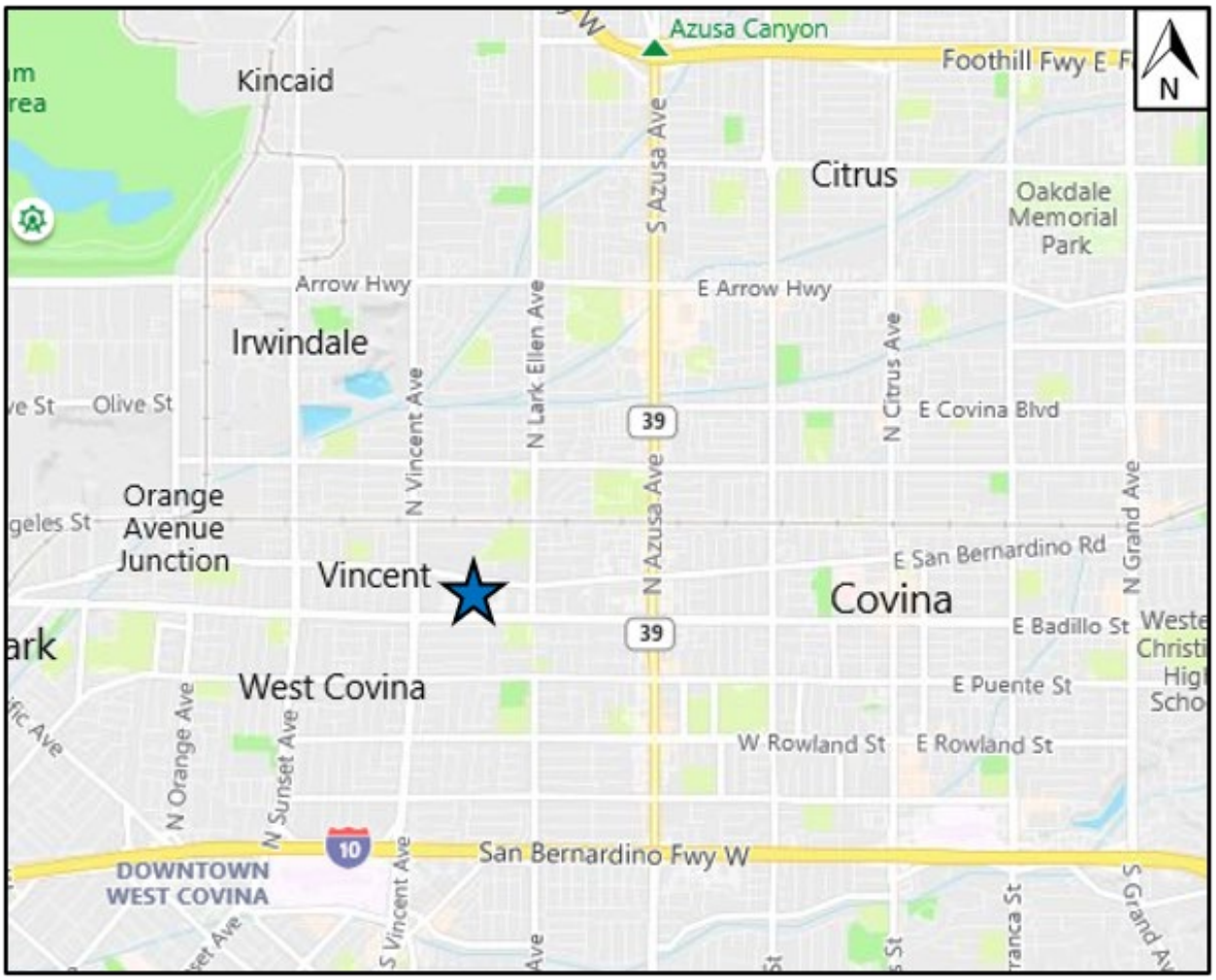
A. Introduction

A parcel delivery station facility is proposed to span the block from W San Bernardino Road to Badillo Street, midway between N Vincent and N Lake Ellen Avenues in the City of West Covina, California. The facility is planned to occupy an existing 177,440 square-foot (SF) warehouse/industrial type building, currently occupied by a church and until recently its associated private school. Figure 1 indicates the location of the project site relative to the local and regional roadway network.

Figure 1. Vicinity Map



This traffic impact study (TIS) was prepared to determine the amount of traffic expected to be added to the adjacent roadway network due to the project and identify any improvements necessary to mitigate the impacts of any additional traffic. To complete this determination, NV5 has undertaken the following tasks:

- Conducted inspections of the site and surrounding roadway network to obtain an existing inventory of the roadway geometry, traffic control, and surrounding land uses.

- Determined existing traffic conditions by performing intersection turning movement counts at key intersections in the vicinity of the proposed project during the weekday morning and weekday evening peak hours as well as the peak hour of the proposed site.
- Estimated the amount of traffic to be generated by the proposed development utilizing tenant supplied trip data for the intended operation of the site.
- Distributed this traffic throughout the study area based on the site's anticipated general service area and the resident locations of the area's employees from the 2010 census.
- Completed capacity analyses for No-Build (2021), Build (2021), and Cumulative Build (2021) Conditions throughout the study area.
- Evaluated on-site parking, access, and circulation
- Determined project consistency with adopted policies, plans, and programs regarding active transportation or public transit facilities
- Evaluated potential VMT impacts

This report represents a summary of our findings and recommendations regarding the proposed project.

A.1. Project Overview

Delivery stations are the last stop staging facilities for e-commerce companies' parcels that are not delivery by traditional postal services (USPS, UPS, FedEx). They operate 24 hours a day, 7 days a week. Employee and delivery shifts are designed to avoid typical commuting peak periods. Line-haul (tractor trailer) trucks deliver packages from sorting facilities primarily arriving and departing during the evening and overnight. Delivery vans begin exiting the site mid-morning, typically returning to the site beginning around 7:00 PM. Drivers park the vans and leave via their personal vehicles. The tenant also expects to use flex delivery drivers who will access the site between 4:00 and 6:00 PM to pick up packages and deliver them to customers via their personal vehicles. Figure 2 provides an overview of the proposed site layout including driveway modifications, truck court, parking, and staging areas. Vans will be loaded inside the building.

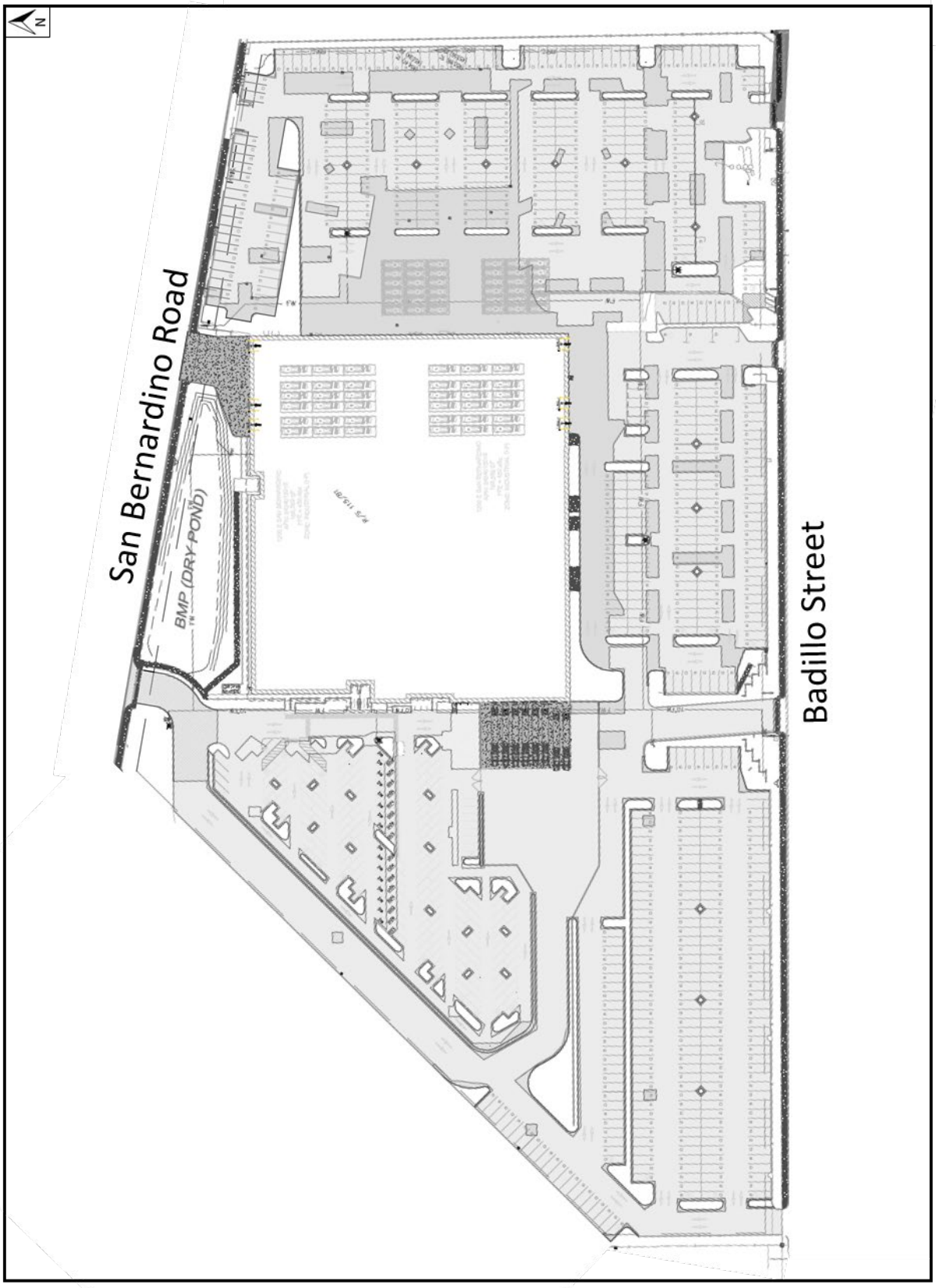
A.2. Site Location & Study Area Boundaries

The scope of this study was based on the City of West Covina's TIA Guidelines, adopted in September 2020, and additional coordination with the City as well as the City of Covina and the City of Baldwin Park.

The study includes analysis of the No Build, Build, and Cumulative Build conditions at the following intersections:

1. San Bernardino Road at Vincent Avenue
2. San Bernardino Road at Cutter Way
3. San Bernardino Road at Lark Ellen Avenue
4. San Bernardino Road at Rimsdale Avenue
5. San Bernardino Road at Azusa Avenue

Figure 2. Site Layout



6. Badillo Street at Vincent Avenue
7. Badillo Street at Lark Ellen Avenue
8. Badillo Street at Rimsdale Avenue
9. Badillo Street at Azusa Avenue

In additional to site's driveway opposite Cutter Way, four site driveways on Badillo Street (D1 – D4) as well as two site driveways (D5 – D6) on San Bernardino were evaluated for operational and queueing estimate purposes. Figure 3 illustrates the study intersections superimposed on existing aerial imagery.

Figure 3. Study Intersections

B. Project Description and Location

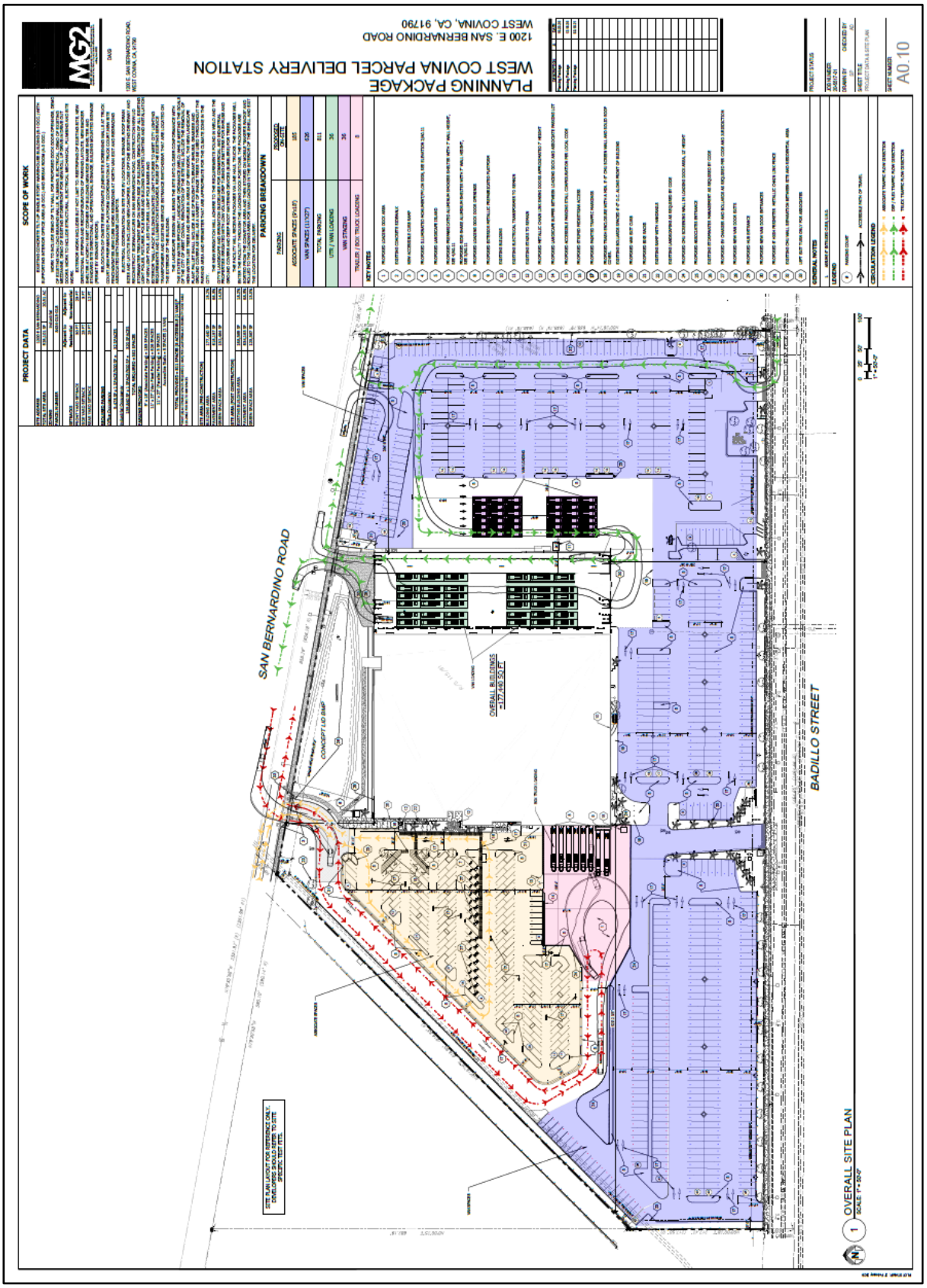
The site, located at 1211 E Badillo Street/1200 E San Bernardino Road, is occupied by Faith Church and until recently its associated private school. It is accessed from Badillo Street via four driveways and San Bernardino Road via three driveways. The two westernmost driveways on Badillo Street have full access with left turn lanes carved from the landscaped median. The other two are restricted to right turns. All three driveways on San Bernardino Road currently have full access, but none feature a left-turn lane from San Bernardino Road. The easternmost of these driveways will be restricted to right turns and the central driveway will be limited to exiting delivery vehicles.

B.1. Site Description and Operational Summary

The site is proposed for conversion to a parcel delivery station for an e-commerce company. Existing parking areas will be restriped, and barriers erected to separate line-haul truck traffic from passenger traffic beyond the westernmost driveway to San Bernardino Road. A total of 811 parking spaces will be provided, 185 for passenger vehicles and 626 for vans (and van drivers). Eight loading docks will be located on the west side of the building and will also be divided from delivery driver and vehicle parking areas and more importantly Badillo Street by physical barriers. A hardscaped (or partially paved) courtyard on the east side of the building will be converted to stage delivery vehicles prior to entering the east side of the building for loading. Access to the site is proposed at seven existing driveways. The westernmost driveway on San Bernardino Road will be shifted east to align with Cutter Way. The middle driveway on San Bernardino will be shifted west to operate as an exclusive exit only for delivery vehicles.

The facility will operate 24 hours a day, 7 days a week. Employee and delivery shifts are designed to avoid typical commuting peak periods. Typically, 14 line-haul (tractor trailer) trucks per day will deliver packages from a larger sorting facility about 20 miles southeast of the site. Most of these trucks (11) will arrive and depart after the evening commuting peak period and before the morning peak commuting period. The remainder will be spread throughout the day. Typically, the only site traffic during the AM commuting period is one of these trucks. All trucks will access the site through the westernmost driveway on San Bernardino Road. Employees (excluding delivery drivers) will arrive in shifts. They will use the same driveway as the line-haul trucks. Delivery drivers begin arriving as much as 90 minutes prior to the scheduled departure of the delivery vans to prepare for their routes and load in an efficient manner. Drivers can access the site via either the easternmost driveway on San Bernardino Road or any of the four on Badillo Street but will park on the western side of the site. As scheduled, they will line up before entering the building to load. Delivery vans begin exiting the site mid-morning via the exclusive exit to San Bernardino Road. They typically return to the site beginning around 7:00 PM entering via either the easternmost driveway on San Bernardino Road or any of the four on Badillo Street. Drivers park the vans and exit with their personal vehicles through these driveways as well. Flex drivers and possibly a line-haul truck are the only vehicles accessing the site during the typical PM commuting peak. Flex drivers enter and exit the site as if they were delivery vans.

Figure 4. Site Plan



B.2. Existing Surface Transportation Network

SAN BERNARDINO ROAD is a four to five lane divided east-west route with on-street parking where pavement width and side street or driveway sight requirements allow. West of the site, it features a two-way-left-turn-lane (TWLTL) and no on-street parking. Along the site's frontage and further eastward, where pavement is not required for travel lanes, on-street parking is allowed. Near the site, land uses vary from single family residential to industrial uses. The posted speed limit is 40 miles per hour (MPH). Sidewalks are available on both sides of San Bernardino Road. San Bernardino Road provides the only truck access for the site.

BADILLO STREET is a four-lane divided east-west arterial with a raised, landscaped median. The median has openings at signalized intersections and more significant side streets and driveways. West of Lark Ellen Avenue, it is posted at 40 MPH, while to the east it is posted at 45 MPH. It also has sidewalks along both sides and some on-street parking is allowed adjacent to the westbound lanes. Parking is prohibited along the south side of Badillo Street in the vicinity of the site. Single family homes dominate development on the south side of Badillo Street while development along the north side varies from multi-family residential to industrial uses.

VINCENT AVENUE is a north-south route with four travel lanes. South of San Bernardino it is divided by a raised median and alternating left-turn lanes. Sidewalks are available on both sides of Vincent Avenue. North of San Bernardino Road it is posted at 40 to 45 MPH. South of San Bernardino Road it is posted at 35 MPH.

LARK ELLEN AVENUE is a four-lane north-south route with left-turn lanes at major cross streets and on-street parking where pavement width allows. Both sides of the street have sidewalks and the posted speed limit is 40 MPH. Land uses along Lark Ellen Avenue are primarily residential and institutional.

RIMSDALE AVENUE is a two-lane north-south local street beginning about a block north of San Bernardino Road and ending at Badillo Street. It connects a gated multi-family residential development to Vincent Avenue, but is largely developed with commercial uses. It is also lined with sidewalks and has a regulatory speed limit of 25 MPH.

AZUSA AVENUE is a four-lane north-south divided State Highway (SR 39). It has a posted speed limit of 40 MPH and sidewalks along both sides. It is generally developed with commercial uses but has a pocket of residential uses just south of Badillo Street.

C. Methodology and Thresholds

For non CEQA purposes, the City of West Covina and the City of Covina use the Intersection Capacity Utilization (ICU) methodology to evaluate signalized intersection operations but different standards for lane capacities and clearance/lost time intervals. To be most conservative, the City of Covina's land use capacities (1,600/lane) and the City of West Covina's clearance/lost time intervals (0.100) were used in the analysis. Both Cities use the Highway Capacity Manual methodology to evaluate unsignalized intersections. The City of West Covina has adopted Level-of-Service (LOS) E, and the city of Covina LOS D as acceptable. Furthermore, within the City of West Covina if a project increases the volume/capacity (V/C) ratio at a signalized by two percent or more and the intersection's LOS drops from E to F the City may require improvements or other strategies to reduce the V/C ratio to acceptable levels. At unsignalized intersections the City may also require improvements if the LOS degrades from E to F or if an intersection is already operating at LOS F and the project increases the total peak hour volume by ten percent or more. The City of Covina considers improvements if an intersection LOS degrades to LOS F and the project increases the V/C ratio by one percent. Table 1 summarizes the LOS criteria for both Cities.

Table 1: Level of Service (LOS) Criteria

LOS	Signalized Intersection (V/C)	Unsignalized Intersection (Delay in sec/veh)	Description
A	≤0.600	≤10.0	EXCELLENT. Operations with very low delay and most vehicles do not stop.
B	>6.000 to ≤0.700	>10.0 to ≤ 15.0	VERY GOOD. Operations with good progression but with some restricted movements.
C	>7.000 to ≤0.800	>15.0 to ≤ 25.0	GOOD. Operations where a significant number of vehicles are stopping with some backup and light congestion.
D	>8.000 to ≤0.900	>25.0 to ≤ 35.0	FAIR. Operations where congestion is noticeable, longer delays occur, and many vehicles stop. The proportion of vehicles not stopping declines.
E	>9.000 to ≤1.000	>35.0 to ≤ 50.0	POOR. Operations where there is high delay, extensive queuing, and poor coordination.
F	>1.000	>50.0	FAILURE. Operations that are unacceptable to most drivers, when the arrival rates exceed the capacity of the intersection.

The City of West Covina has also adopted criteria for evaluating Vehicle Miles of Travel for determination of traffic related CEQA impacts. These include project screening criteria that if satisfied allow the presumption that a project's impacts are less than significant, use of the San Gabriel Valley Council of Government's (SGVCOG) VMT Evaluation Tool, and travel demand modeling. Where a project does not satisfy the screening criteria, the City has adopted a threshold of fifteen percent less than the SGVCOG baseline VMT/service population for determination of significance.

The project type screening is applicable in that as a redevelopment project, if the delivery station generates less than 110 new daily vehicle trips (or 110 more daily vehicle trips than the existing land use), its impacts would be considered less than significant.

C.1. Traffic Counts and Adjustments

The delivery station is scheduled to open in 2021. As a result of Covid-19, road usage has fallen considerably across the country. To account for this, historic turning movement counts (TMCs) were gathered at several study intersections from 2019 and compared to newly collected 2021 TMCs. The comparison indicated the 2019 AM peak hour traffic was 124% greater than the 2021 AM peak hour traffic and that the 2019 PM peak hour traffic was 25% greater than the 2021 PM peak hour traffic. The difference in the comparisons between the AM peak hours and the PM peak hour is likely due to the absence of school traffic in 2021. The difference in the PM peak hours is more consistent with daily traffic comparisons between pre-pandemic and pandemic conditions. TMCs were modified to reflect additional traffic that would have been present in 2021 by applying percentage-based adjustments and increasing the volumes to reflect two years of growth at one percent annually. Left turns onto Cutter Way were also adjusted during the AM Peak Hour of the adjacent street to reflect a volume closer to that counted in 2019. Newly collected traffic data is included in Appendix A while development and application of these adjustment is documented Appendix B.

C.2. Analysis Time Periods

The proposed delivery station generates the most trips outside the typical computing peak periods. The AM (10:00 – 11:00) and PM (8:00 – 9:00) peak hours of the generator are included in the analysis along with the peak hours of the adjacent street network. Adjusted peak hour volumes are displayed in Figures 5 and 6.

C.3. Adjacent Development

Traffic estimated for the 529 Cutter Way Live/Work Project as documented in its Transportation Impact Study dated September 10, 2020, was included as existing traffic in 2021, even though that project is not anticipated to be built out until 2023. That development's traffic is shown in Figure 7.

C.4. No Build Traffic

No Build 2021 traffic is illustrated in Figures 8 and 9 and includes the adjusted turning movement counts and the Cutter Way residential development traffic.

Figure 5: AM & PM Peak Hour of the Adjacent Street Converted Existing Traffic Volumes

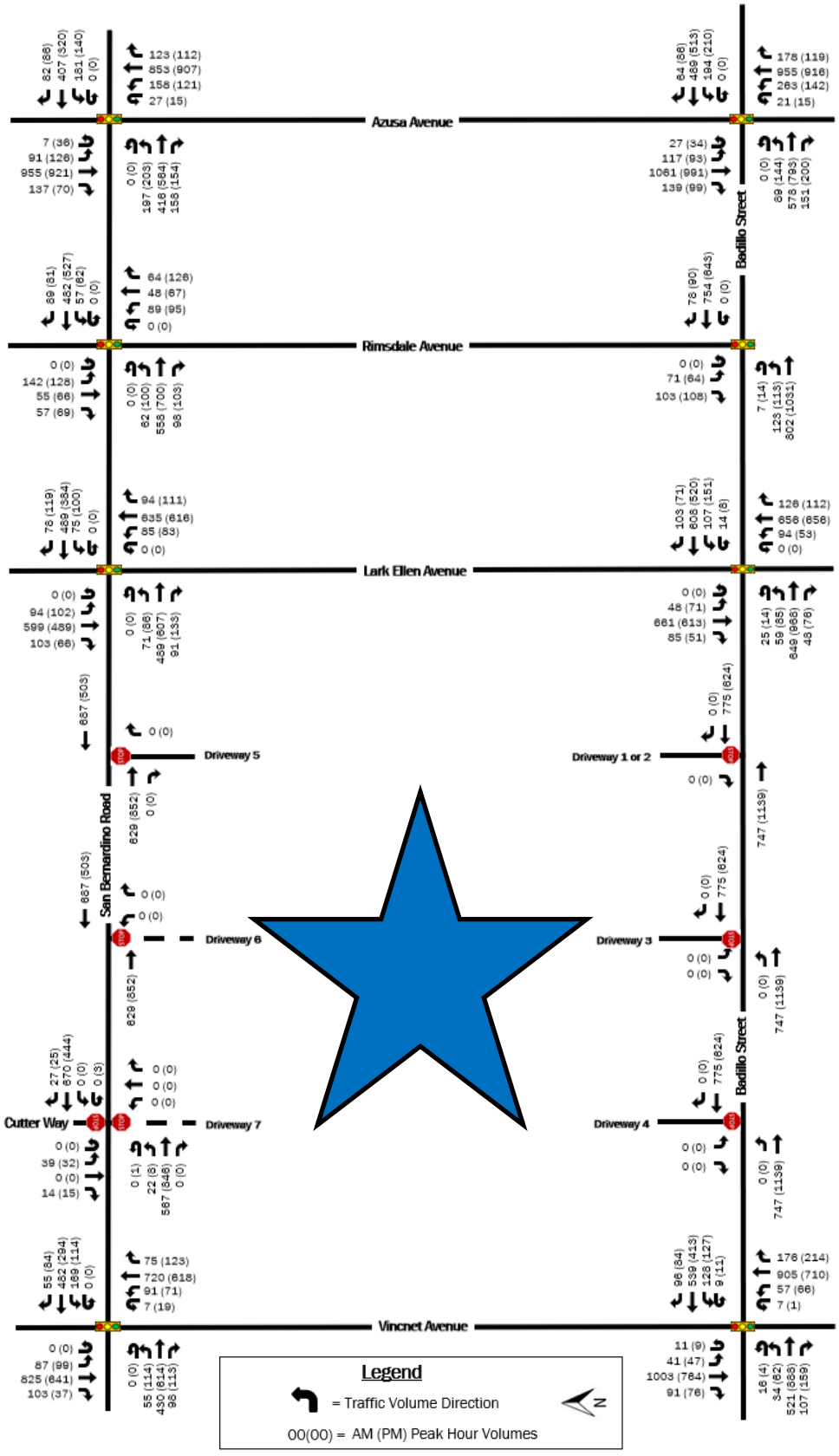


Figure 6: AM & PM Peak Hour of the Generator Converted Existing (2021) Volumes

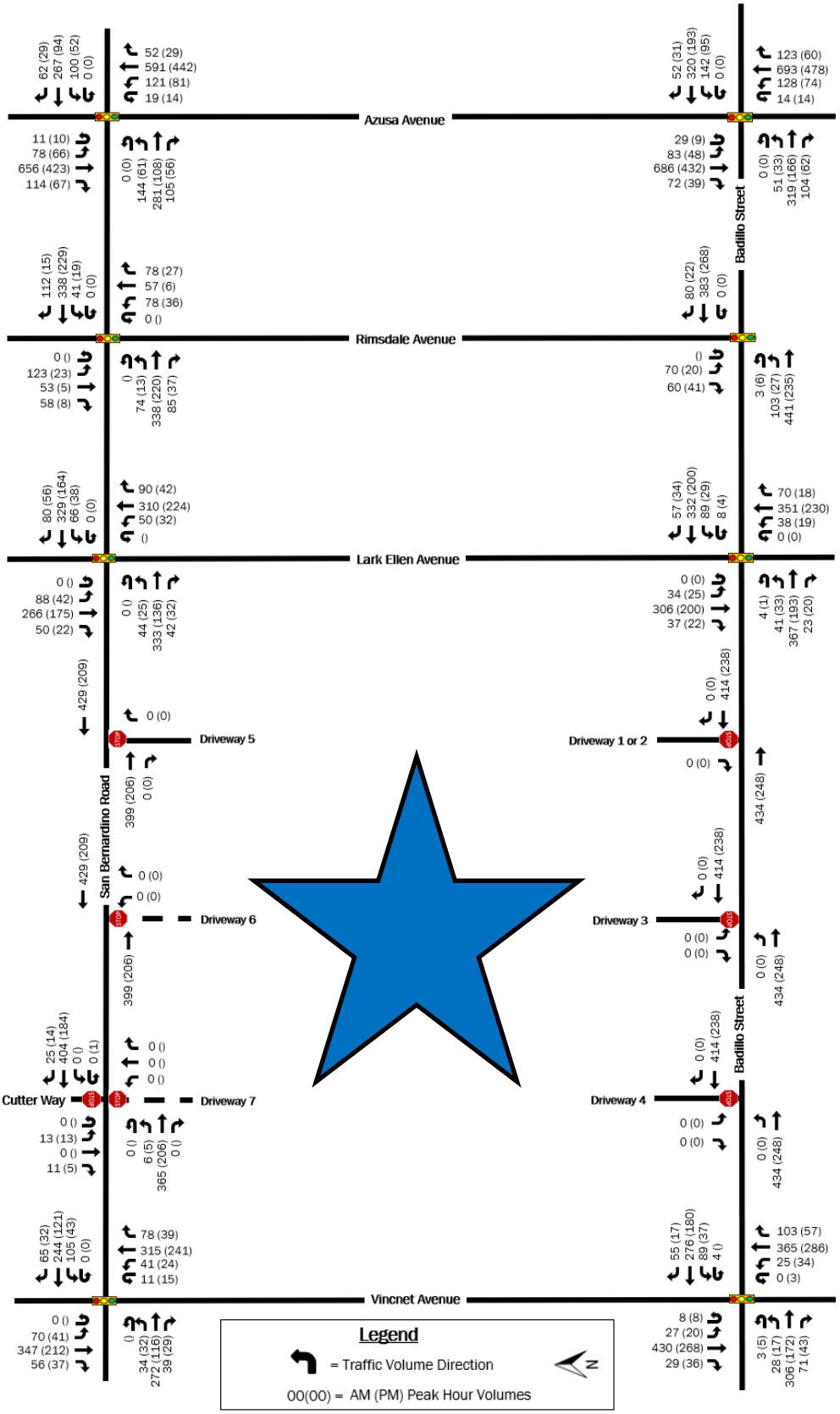


Figure 7: Cutter Way Residential Development Traffic

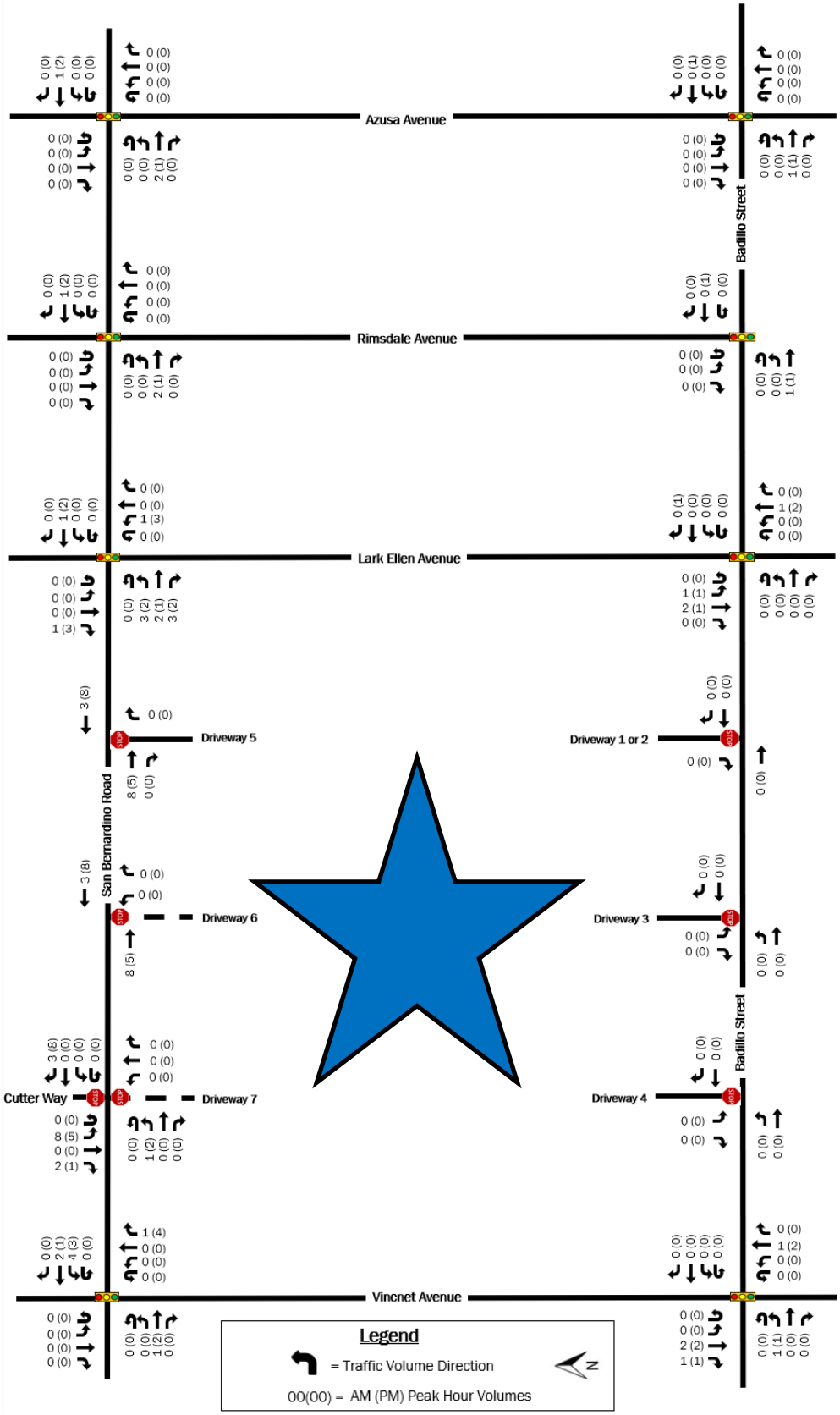


Figure 8: AM & PM Peak Hour of the Adjacent Street No Build (2021) Traffic Volumes

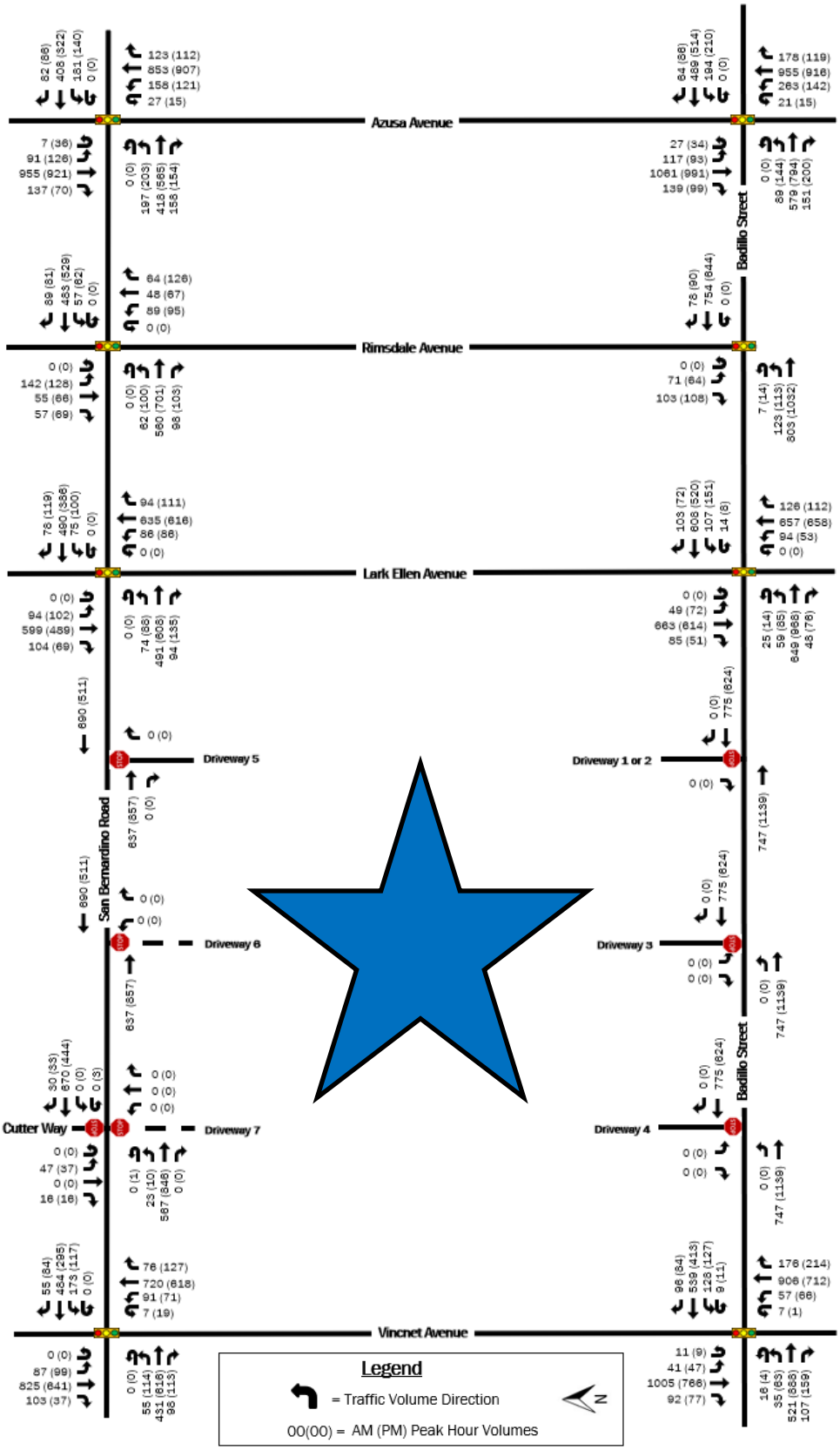
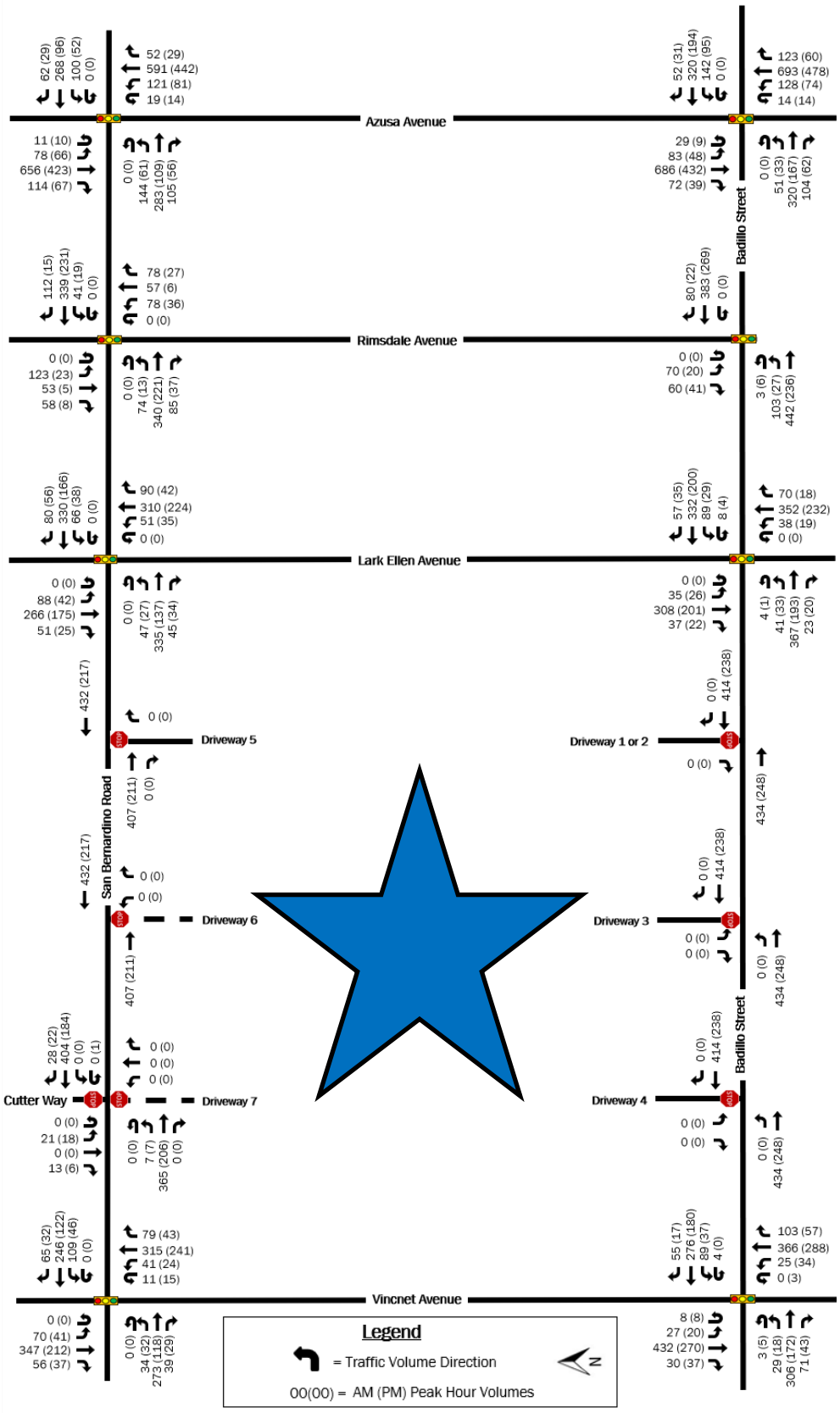


Figure 9: AM & PM Peak Hour of the Generator No Build (2021) Traffic Volumes



D. LOS Analysis

D.1. Trip Generation

The operations of this site are unique and do not match any land uses included in the Institute of Transportation Engineers' (ITE) Trip Generation Manual, 10th Edition, 2017. The tenant provided trip generation data that reflects a more accurate estimate of the traffic to be generated by the delivery station. Table 2 summarizes the delivery station's anticipated trip generation characteristics by vehicle type or purpose for the peak hours of the adjacent street and peak hours of the site (or generator). Hourly summaries of trips by purpose and vehicle type, along with a comparison to trip rates from other sites in California are provided in Appendix C. Employee and van driver trips are based on 10% using transit or other ride sharing opportunities, walking, or biking to work. This is based on an analysis of available transit schedules and stop locations compared to employee and driver shifts, as well as area transit usage (pre-COVID-19). Further documentation of this assumption is also included in Appendix C. Note that flex drivers do not return to the site after deliveries are complete.

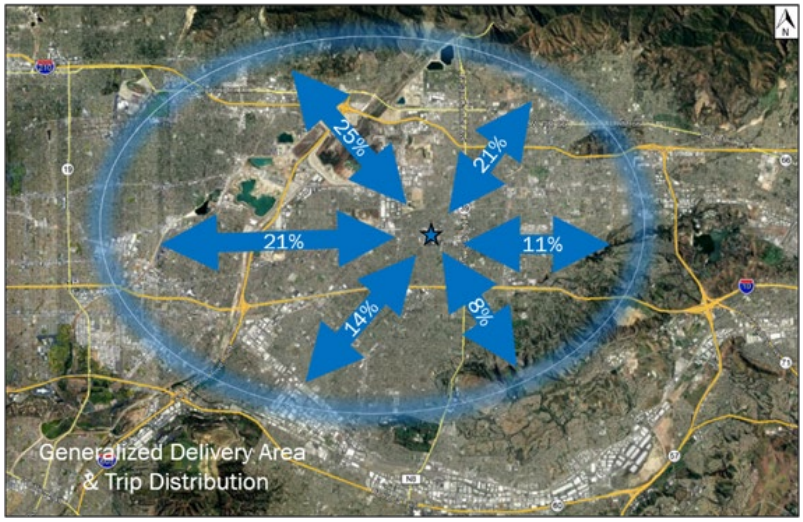
Table 2: Project Trip Generation

Time Period	Employees		Trucks		Drivers		Vans		Flex		Total
	In	Out	In	Out	In	Out	In	Out	In	Out	
AM Peak Hour (Adjacent Street)	0	0	1	1	0	0	0	0	0	0	2
PM Peak Hour (Adjacent Street)	0	0	1	0	0	0	0	0	45	18	63
AM Peak Hour (Generator)	0	0	0	1	73	0	0	108	0	0	182
PM Peak Hour (Generator)	0	0	1	1	0	80	81	0	0	0	163
Daily	129	129	14	14	127	127	142	142	45	45	914

Although the proposed delivery station will be replacing a church, that facility's specific hourly traffic generation characteristics cannot be confirmed at this time due to COVID-19 quarantines and stay at home orders. Thus, no attempt to credit any of the church's trips were made for the level of service analyses.

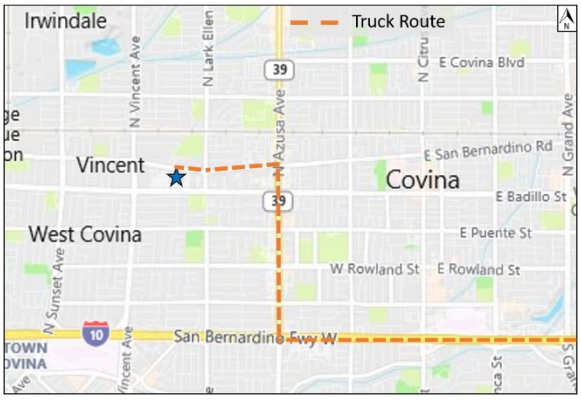
D.2. Trip Distribution and Assignment

Figure 10: Service Area



Trips associated with the site have distinct purposes: trucks delivering parcels from sort centers, employee and drivers' home-based work trips, and vans and flex drivers delivering parcels to consumers. All trucks will arrive from and depart to the east. Trip distribution for employees and drivers is assumed to be similar to other workers in the site's census tract. The site's proposed user has a network of delivery stations and expects this site will serve the generalized area identified in Figure 10. Coincidentally, the general distribution of deliveries is the same as workers employed in the area during the 2010 census.

Figure 11: Truck Routes



All line-haul trucks will approach the site from the east on I-10 using Exit 36 and Azusa Avenue to access San Bernardino Road (See Figure 11) and the site's westernmost driveway.

Trips are assigned to driveways based on vehicle type and trip purpose. Trip assignments approaching/departing the site are based on known routes (trucks) or the shortest, most reasonable routes to generalized origins/destinations (delivery vehicles, drivers, and employees). Trucks are assigned as shown in Figure 12. Employees (Associates) are all assigned to the westernmost driveway on San Bernardino Road as shown in Figure 13. Delivery drivers will use driveways 3 and 4 on Badillo Street to access the site when arriving and departing in their personal vehicles (see Figure 14). Delivery vehicles (vans and flex) will exit the facility via driveway 6 onto San Bernardino Road. They will enter the facility via driveway 5 on San Bernardino Road or any of the four driveways on Badillo Street, as shown in Figure 15. Delivery routes will avoid Lark Ellen Avenue when possible. While deliveries will be made along Lark Ellen Avenue, northeastern and southeastern routes are assumed to use Azusa Avenue for this study.

D.3. Traffic Volumes

The resulting site traffic is illustrated by vehicle type or purpose for the typical AM peak hour on Figure 16, the typical PM peak hour on Figure 17, the delivery station's AM peak hour on Figure 18,

and the delivery station's PM peak hour on Figure 19. The total Build (2021) traffic is illustrated on Figures 20 and 21 for the typical and site peak hours, respectively.

Traffic entering and exiting the westernmost driveway on San Bernardino Road is of particular interest. During normal operations no more than one truck is expected to enter the site during any hour. The same is true for exiting trucks. All employee (associate) traffic uses this driveway with 40% of that traffic turning left into and 60% turning left out of the driveway. Table 3 lists the left turn volumes at this driveway during those hours when employees are entering and exiting the site.

Table 3: Left Turning Site Traffic at Driveway 7

Hour Beginning	Inbound Lefts	Outbound Lefts
1:00 AM	29	0
5:00 AM	9	0
11:00 AM	2	0
Noon	0	42
1:00 PM	14	0
2:00 PM	0	11
6:00 PM	0	10
10:00 PM	0	14

D.4. Cumulative Development Projects

The City of West Covina as well as the Cities of Covina and Baldwin Park provided lists of land development projects that had previously received approval but were not yet fully occupied as well as development projects that were expected to be approved while this project was under consideration. Those lists are included in Appendix D. The locations of those developments are identified on Figure 22 by Map ID and summarized in Table 4. Most of these developments are unlikely to notably increase traffic at the study intersections. Those that can be reasonably assumed to add traffic to the study intersections are circled on Figure 22 and highlighted in bold text in Table 4. Traffic from two of these developments was taken directly from traffic impact studies produced during their approval processes. Traffic from the residential units at 529 Cutter Way was added as 2021 existing (or background) traffic. Traffic from the redevelopment of the Covina Bowl site at 1060 W. San Bernardino Road is included as cumulative development. Trip generation and distribution/assignment assumptions for the other land development projects assumed to contribute traffic to study intersections is also documented in Appendix D. Cumulative Traffic is illustrated in Figure 23 and Cumulative Build Traffic in Figure 24.

Figure 12. Truck Traffic Trip Assignment

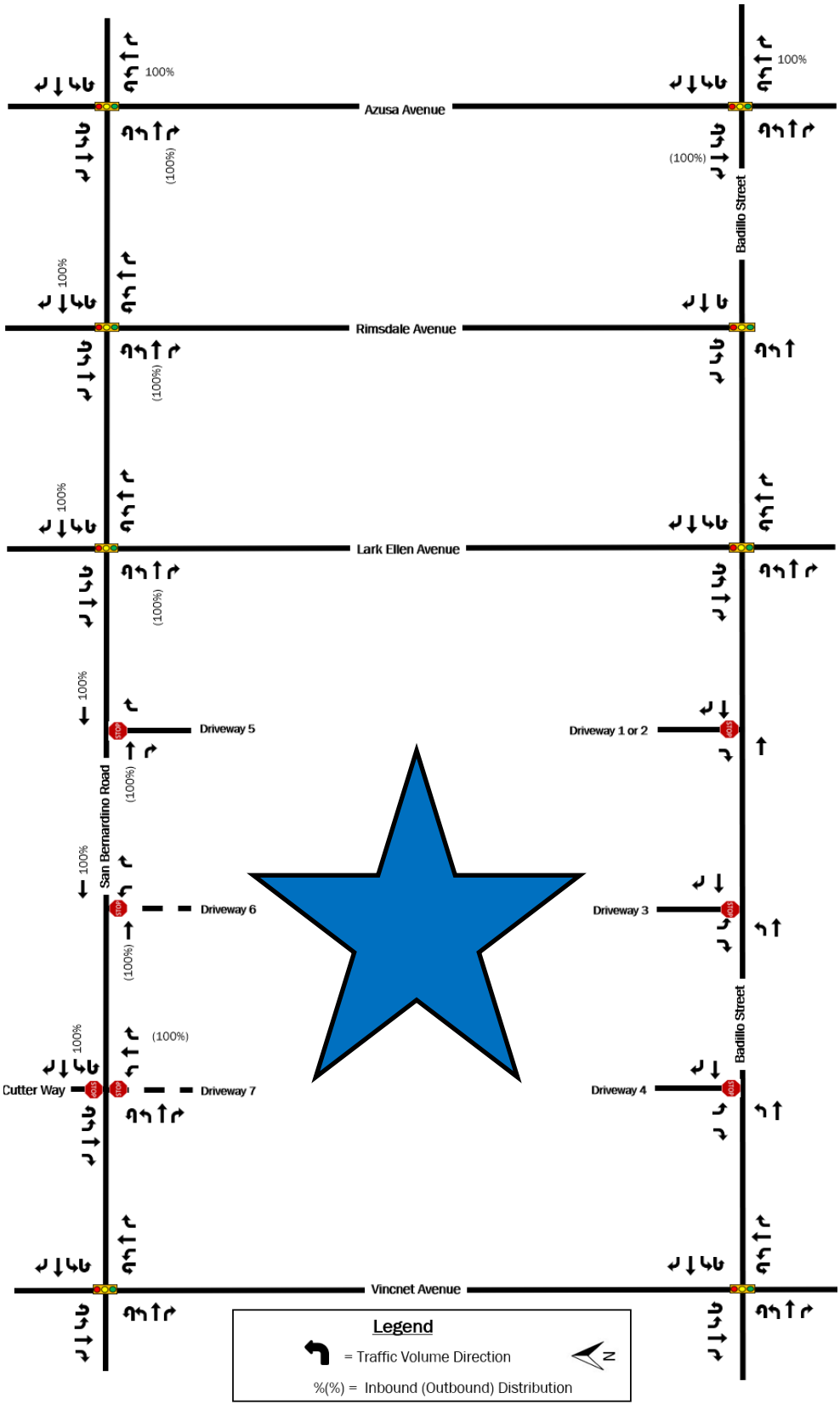


Figure 13. Employee Traffic Trip Assignment

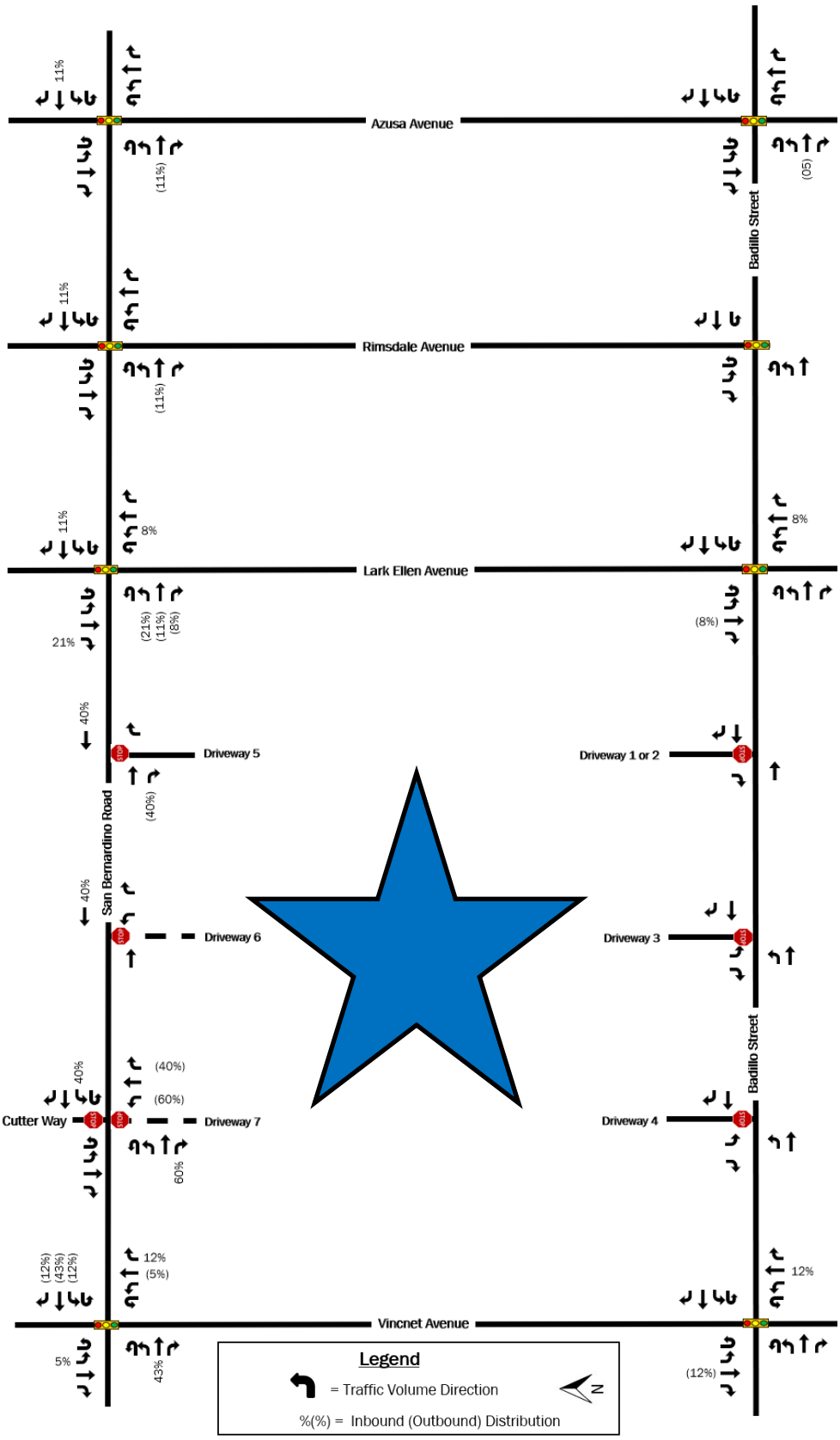


Figure 14: Van Driver Traffic Trip Assignment

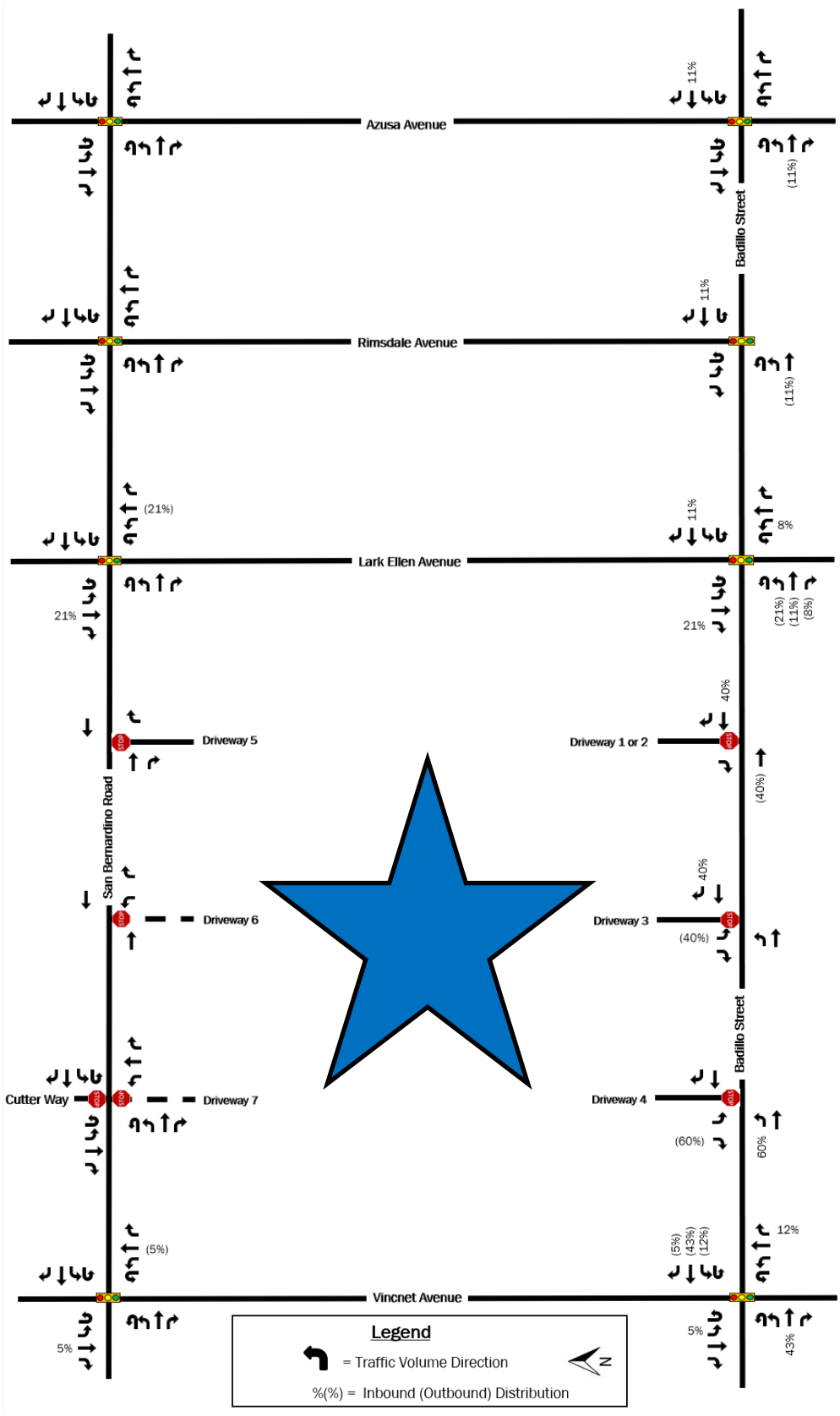


Figure 15: Delivery Vehicle Traffic Trip Assignment

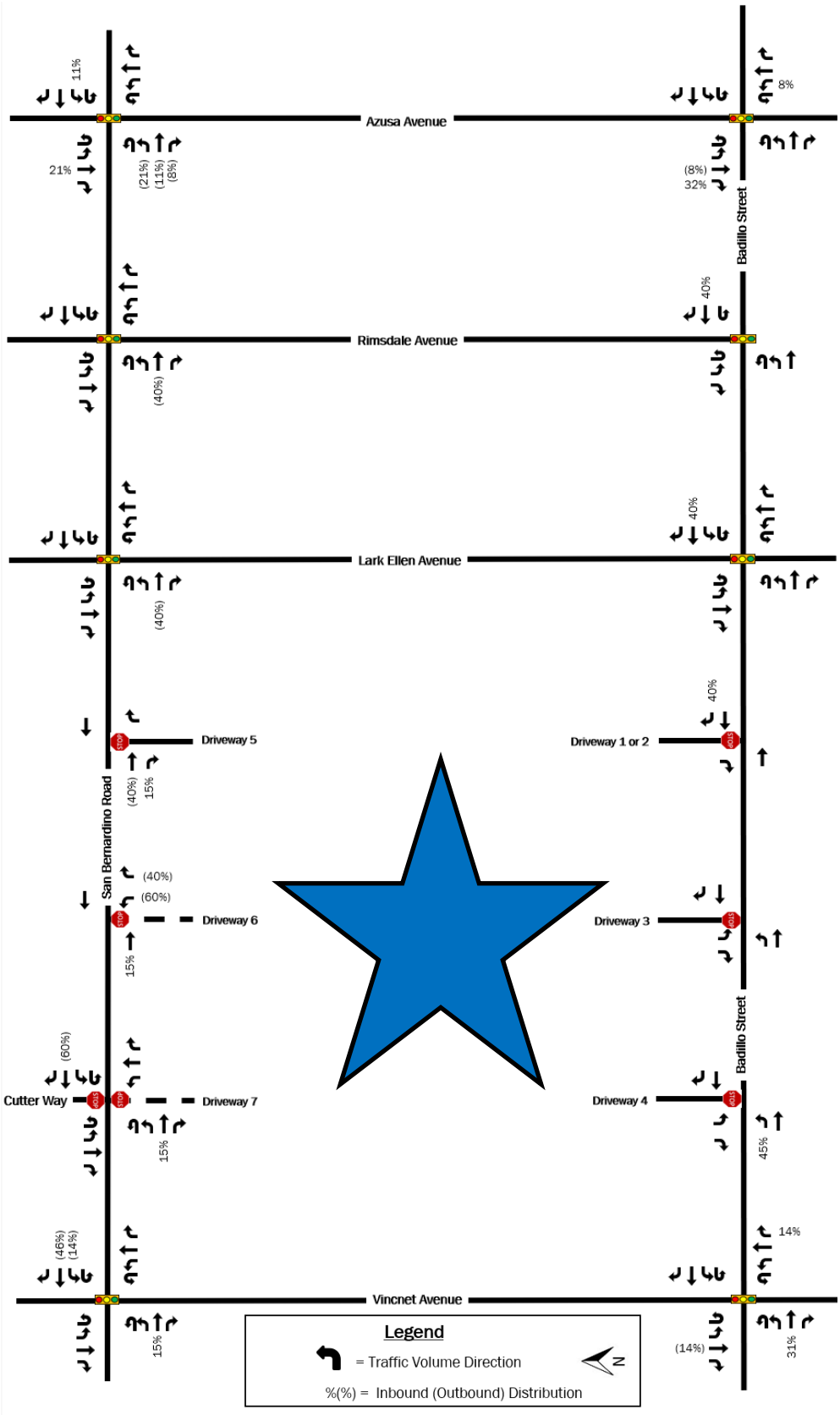


Figure 16: AM Peak Hour of the Adjacent Street Site Traffic Volumes

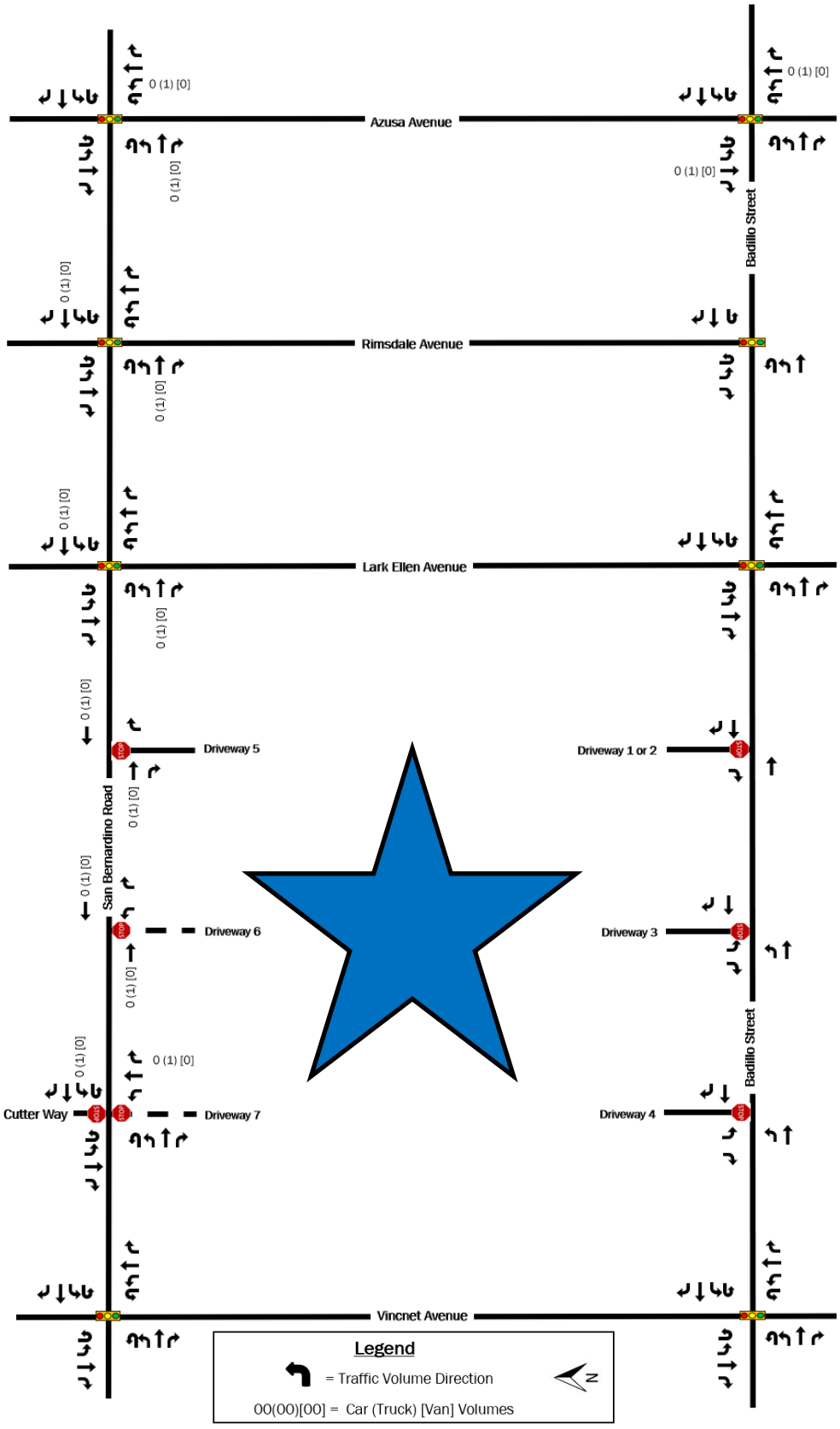


Figure 17: PM Peak Hour of the Adjacent Street Site Traffic Volumes

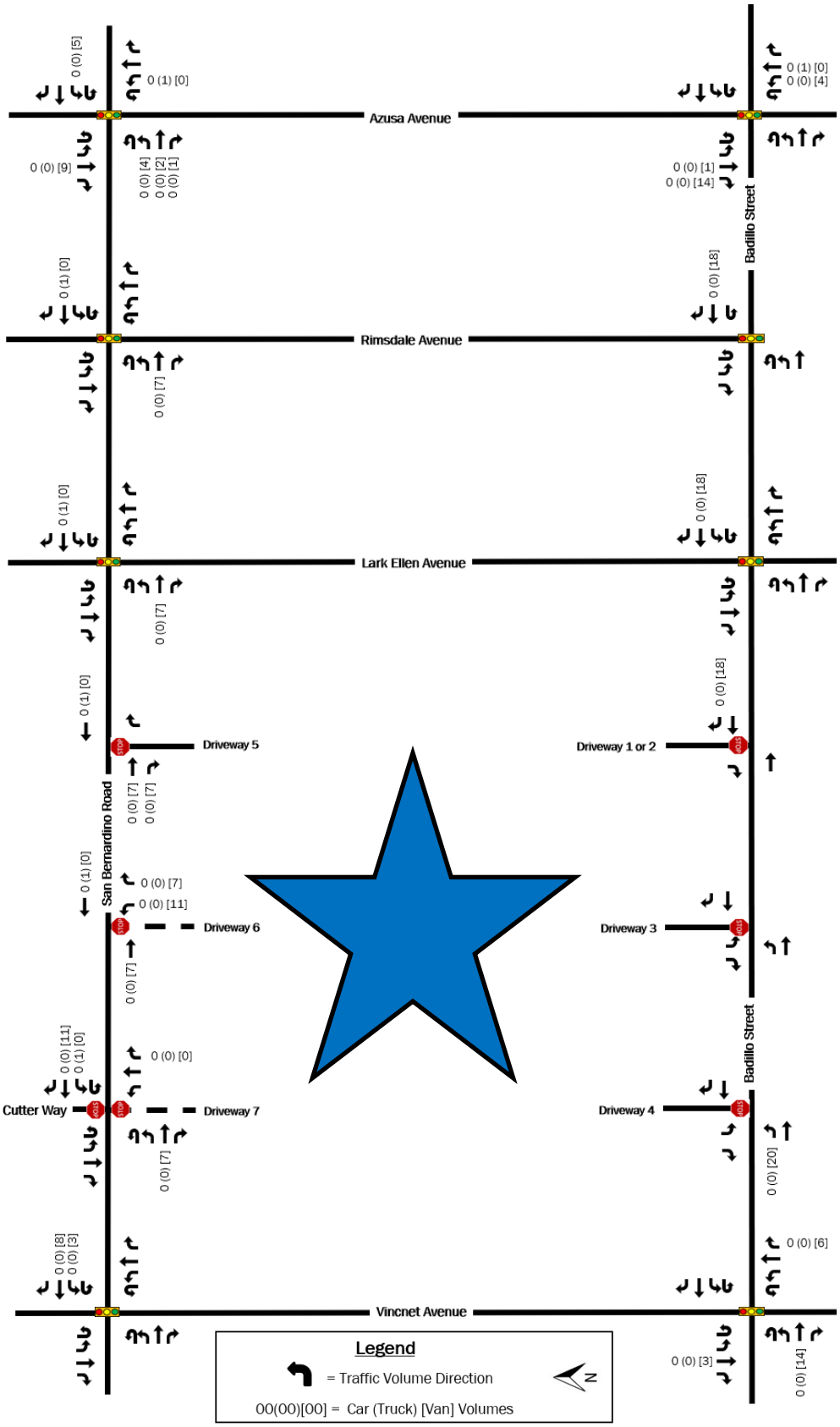


Figure 18: AM Peak Hour of the Generator Site Traffic Volumes

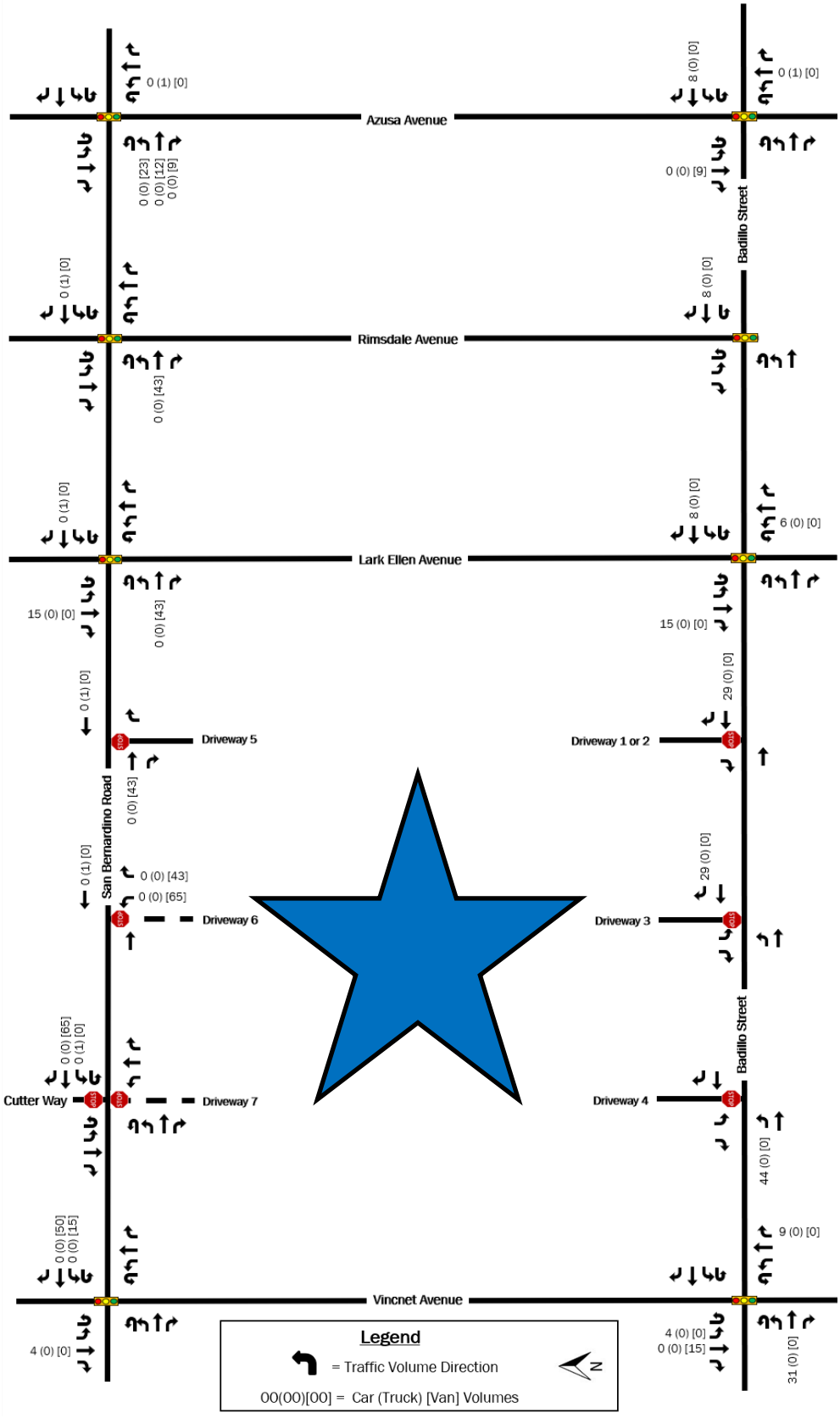


Figure 19: PM Peak Hour of the Generator Site Traffic Volumes

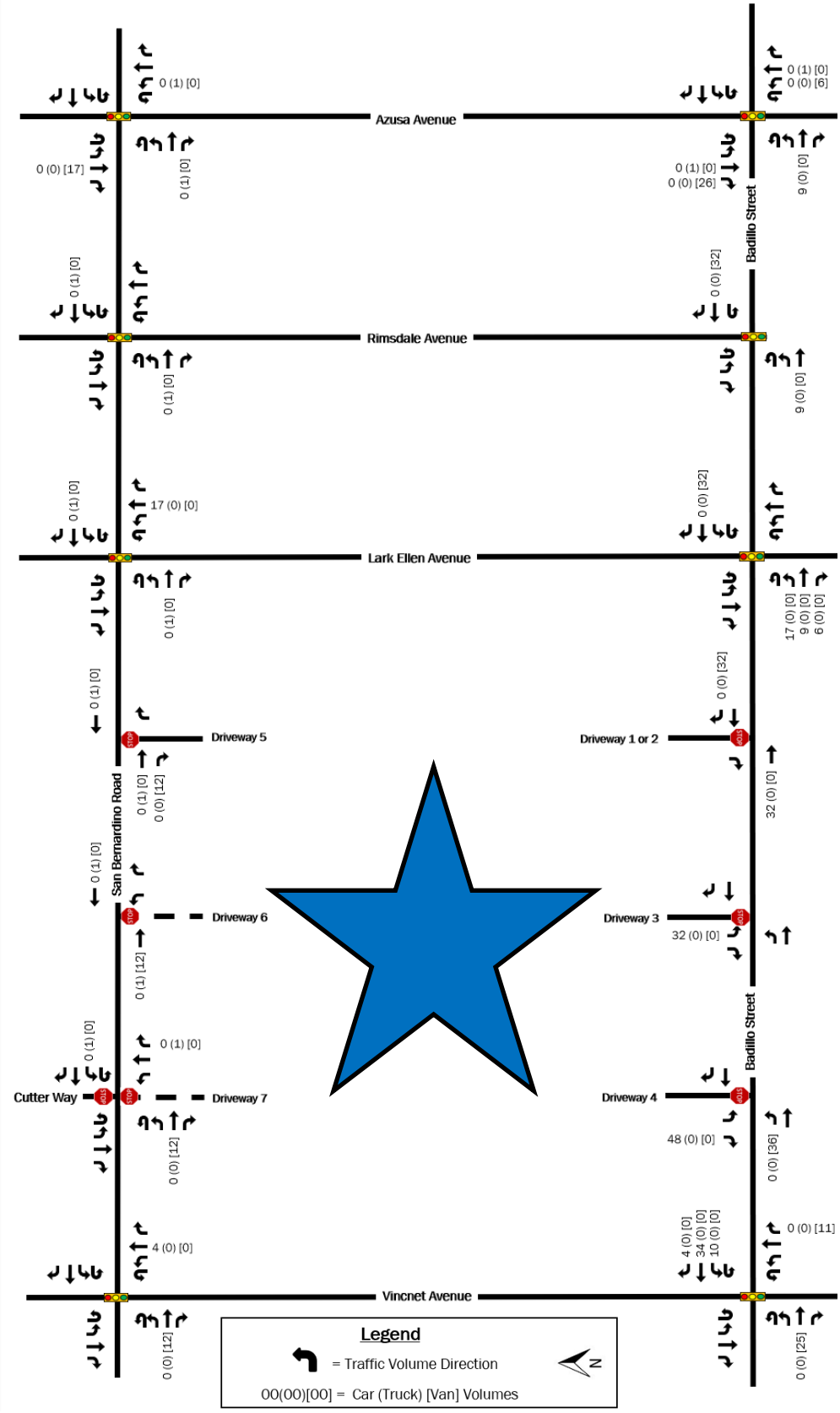


Figure 20: AM & PM Peak Hour of the Adjacent Street Build Traffic Volumes

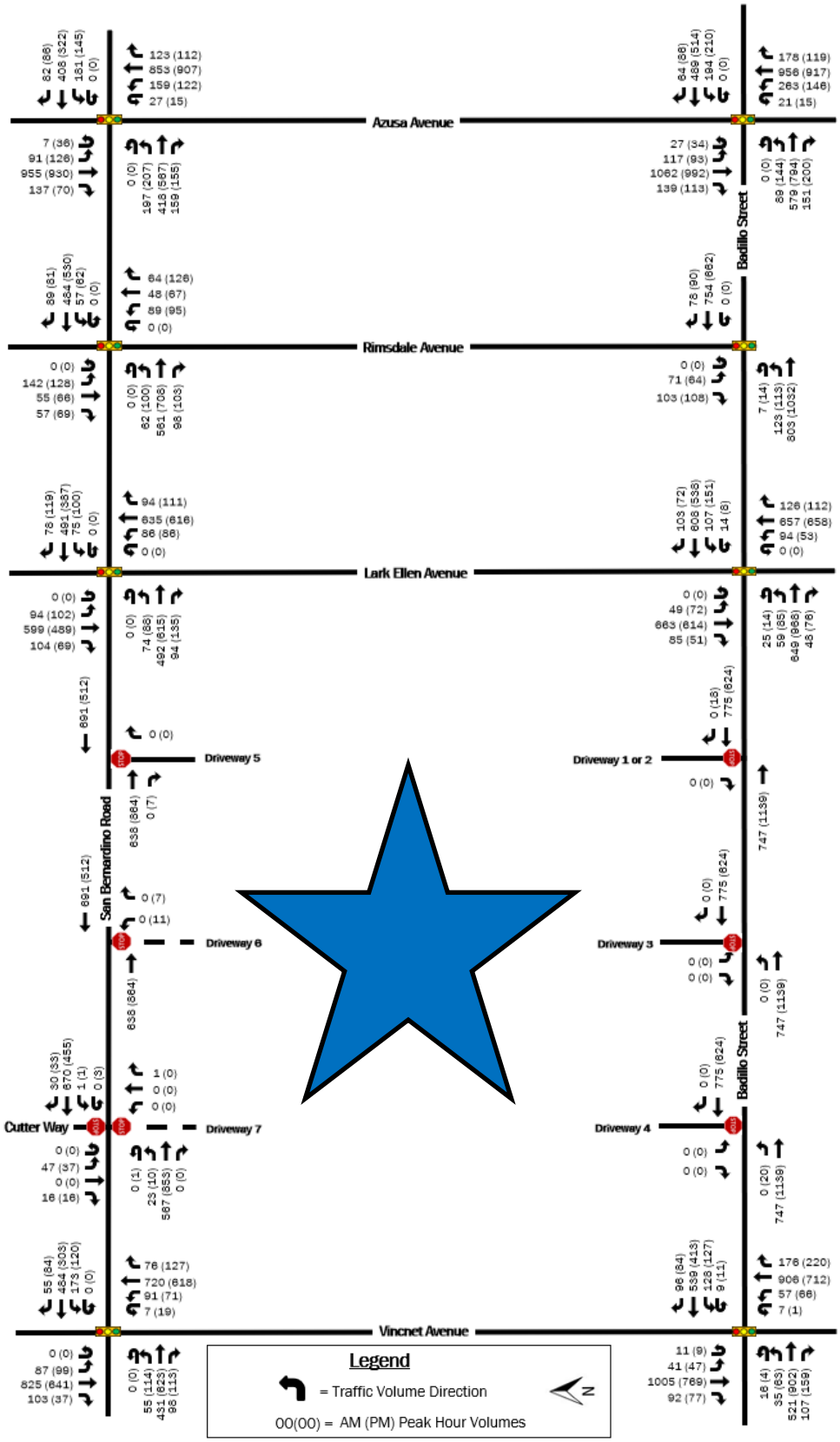


Figure 21: AM & PM Peak Hour of the Generator Build Traffic Volumes

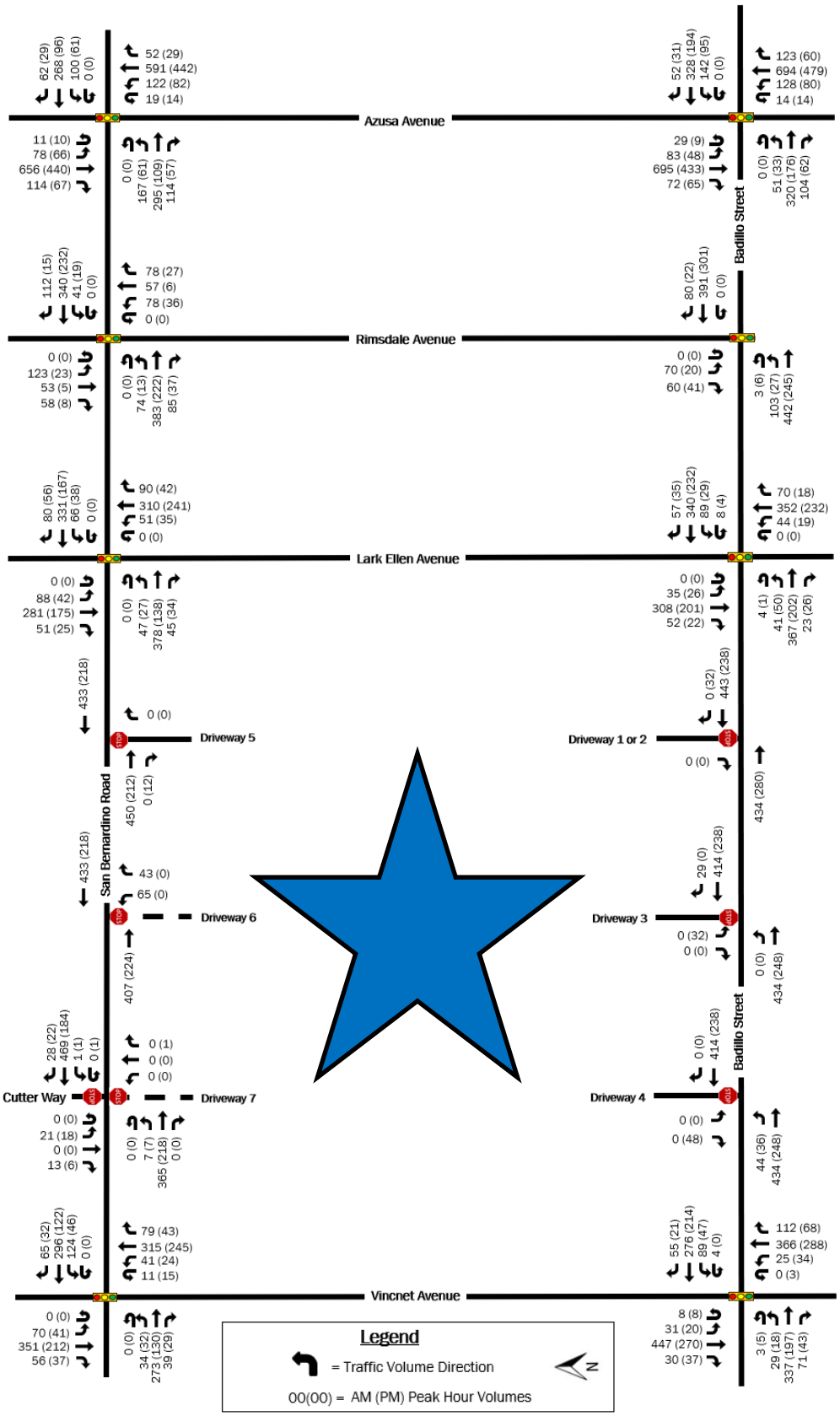


Figure 22: Cumulative Development Site Locations

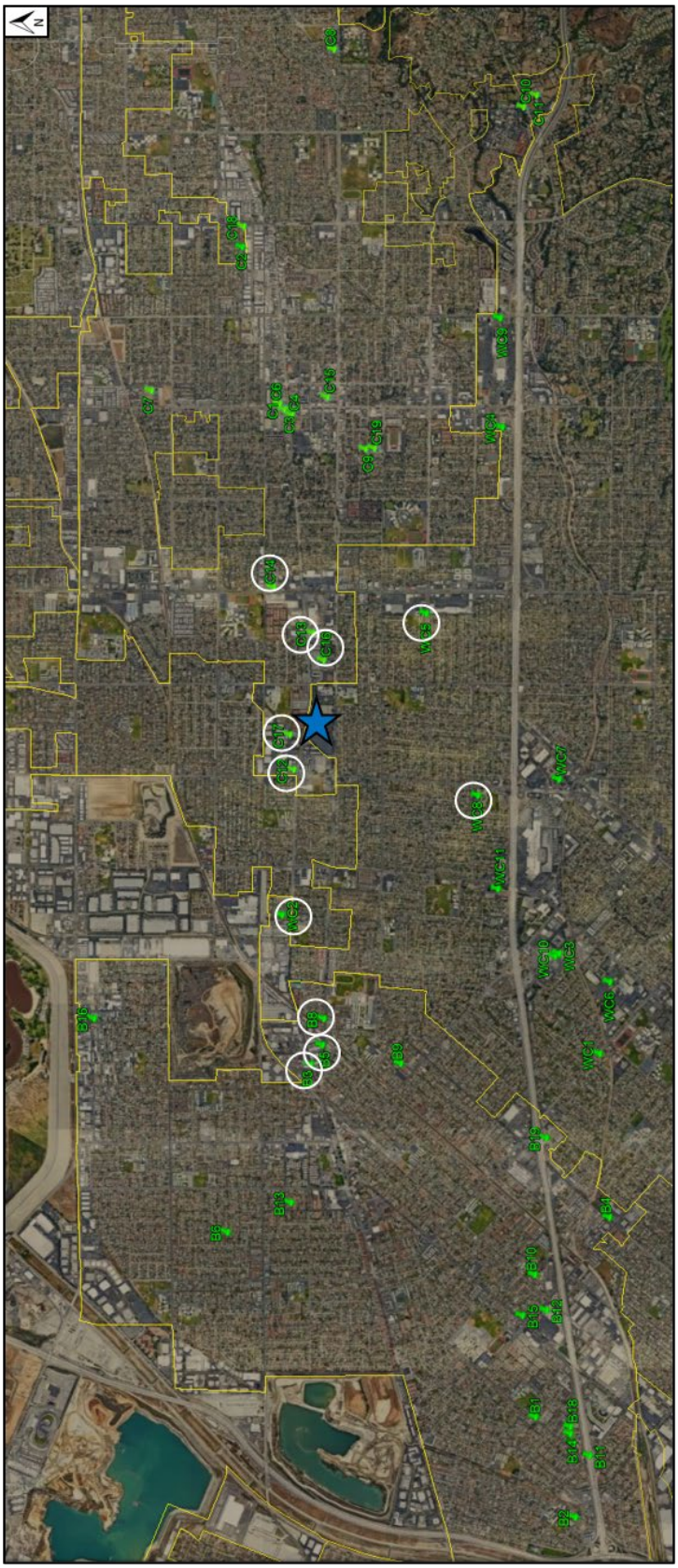


Table 4: Cumulative Development Projects

Map ID	Address	Development Type
WC1	1912 W. Merced Avenue	Assisted Living Facility
WC2	**1611/1623 San Bernardino Road**	**Industrial Condominiums**
WC3	1530 W. Cameron Avenue	Residential Townhomes
WC4	**2505/2539 E Garvey Avenue N**	**Shopping Center**
WC5	1650 E. Rowland Avenue	Multi-Family Residential
WC6	1115 S. Sunset Avenue	Medical Office Building, ICU/Emergency Dept Hospital Addition
WC7	Walnut Creek Pkwy. APN 8474-009-009	Multi-Family Residential
WC8	1024 W. Workman Avenue	Multi-Family Residential
WC9	147 N. Barranca Street	Fast-Food Restaurant with Drive-Thru
WC10	1600/1616 W. Cameron Avenue	Multifamily Residential
C1	San Bernardino Road @ Citrus Avenue	Multifamily Residential & Mixed Use
C2	777 Enda Place	Industrial
C3	401 N. Citrus Avenue	Office/Retail
C4	129-137 W. Orange Street	8 Condo Units
C5	155 E. San Bernardino Road	10 Condo Units & Small Retail
C6	N. Citrus and W. San Bernardino Rd	Multifamily Residential & Commercial
C7	1162 N. Citrus	Townhouse Units, Transit Center, Park Ride Facility, Retail, Event Center & Office
C8	1650 E. Old Badillo	Skilled Nursing & Memory-Care Facility
C9	276 W. Dexter	3 Condo Units
C10	E Holt and S Park View	Assisted Living/Memory Care Facility
C11	1154/1164 S Park View Dr	Medical Office Building
C12	**1680 W San Bernardino Rd**	**Rebuild Gas Station, New Convenience Store Plus 2 Auto Service Bays**
C13	**1060 W. San Bernardino Road**	**Townhomes, Office** (Covina Bowl Redevelopment)
C14	**578 N. Azusa Avenue**	**Small Low-Rise Hotel**
C15	135 E Badillo	Mixed-Use Development
C16	**1201 W. Badillo Street**	**Low Rise 28-Unit Apartment Building**
C17	***529 Cutter Way***	***50 Multifamily Units (11 Are Livework)***
C18	731 N. Grand Avenue	Gas Station, Convenience Store & Carwash
C19	342 S Fourth Avenue	Townhouses
BP1	3234 Frazier Street	Condominiums
BP2	12756 - 12770 Torch Street	Condominiums
BP3	**APN 8437-013-905**	**Condominiums**
BP4	1606 Puente Ave	Drive Through Car Wash & Convenience Store
BP5	**15000 Badillo Street**	**Condominiums**
BP6	3913 Stewart Avenue	Condominiums
BP7	4923-4929 Fortin Street, 15138 Nubia Street & APN 8413-013-025	Single Family Residential Subdivision
BP8	**15110-15120 Badillo Street**	**Condominiums**
BP9	14837-14839 Pacific Avenue	Single Family Residential
BP10	13853 Garvey Avenue	Gas Station A& Convenient Store
BP11	13018 Dalewood St	Single Family House
BP12	3100 Baldwin Park Blvd	Drive Thru Restaurant
BP13	4232 La Rica Avenue	condominiums
BP14	APN 8556-022-037, -038 & -039	commercial warehouse
BP15	13619 Francisquito Avenue	Express Carwash
BP16	5060 Gayurst Avenue	Small Warehouse
BP17	13057 - 13065 Garvey Avenue	Commercial Industrial Warehouse
BP18	13127 Garvey Avenue	Jack in The Box, Starbucks
BP19	14614-14622 Dalewood Street	Office, Retail & Medical Office Building

Figure 23: AM & PM Peak Hour of the Adjacent Street Cumulative Development Traffic Volumes

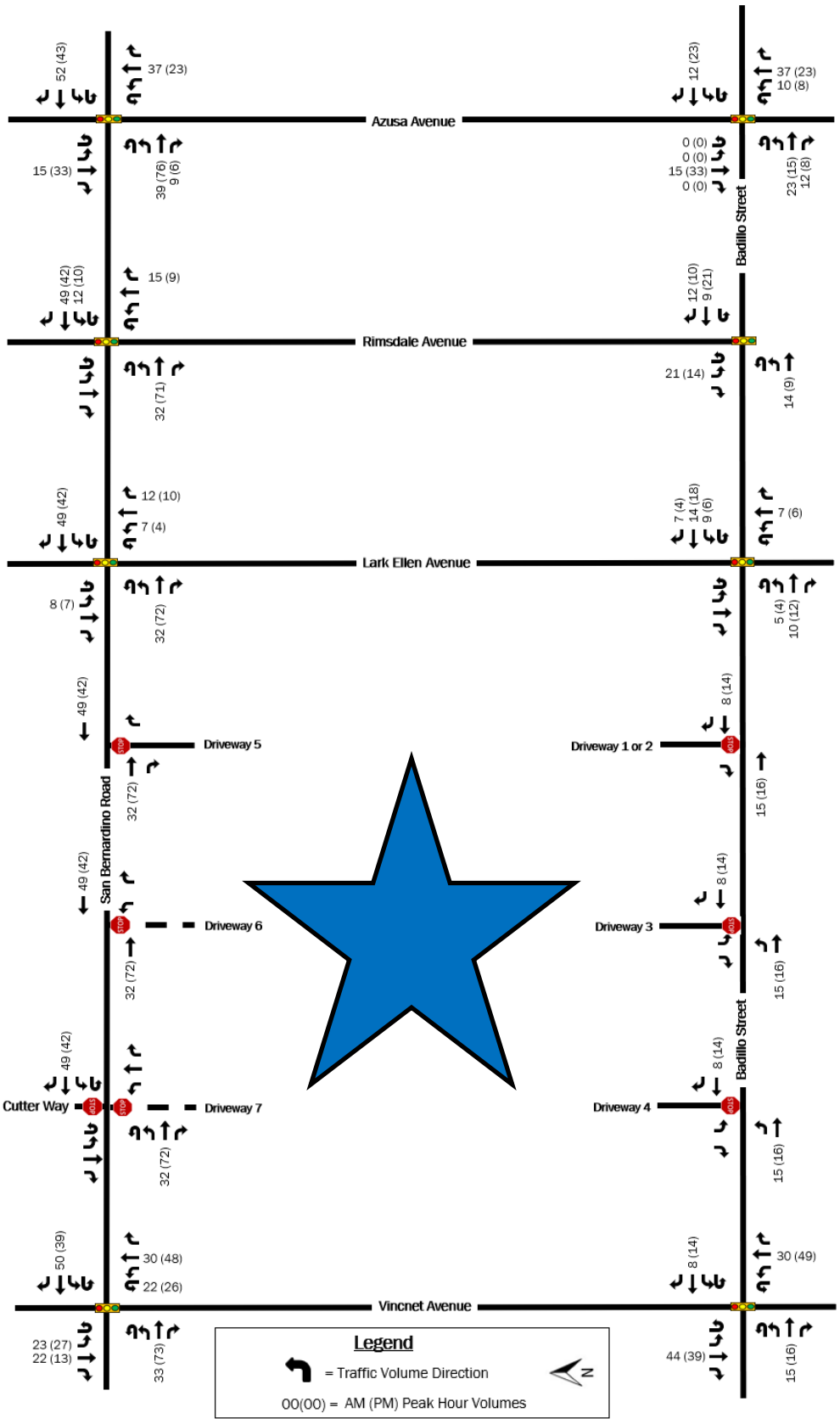
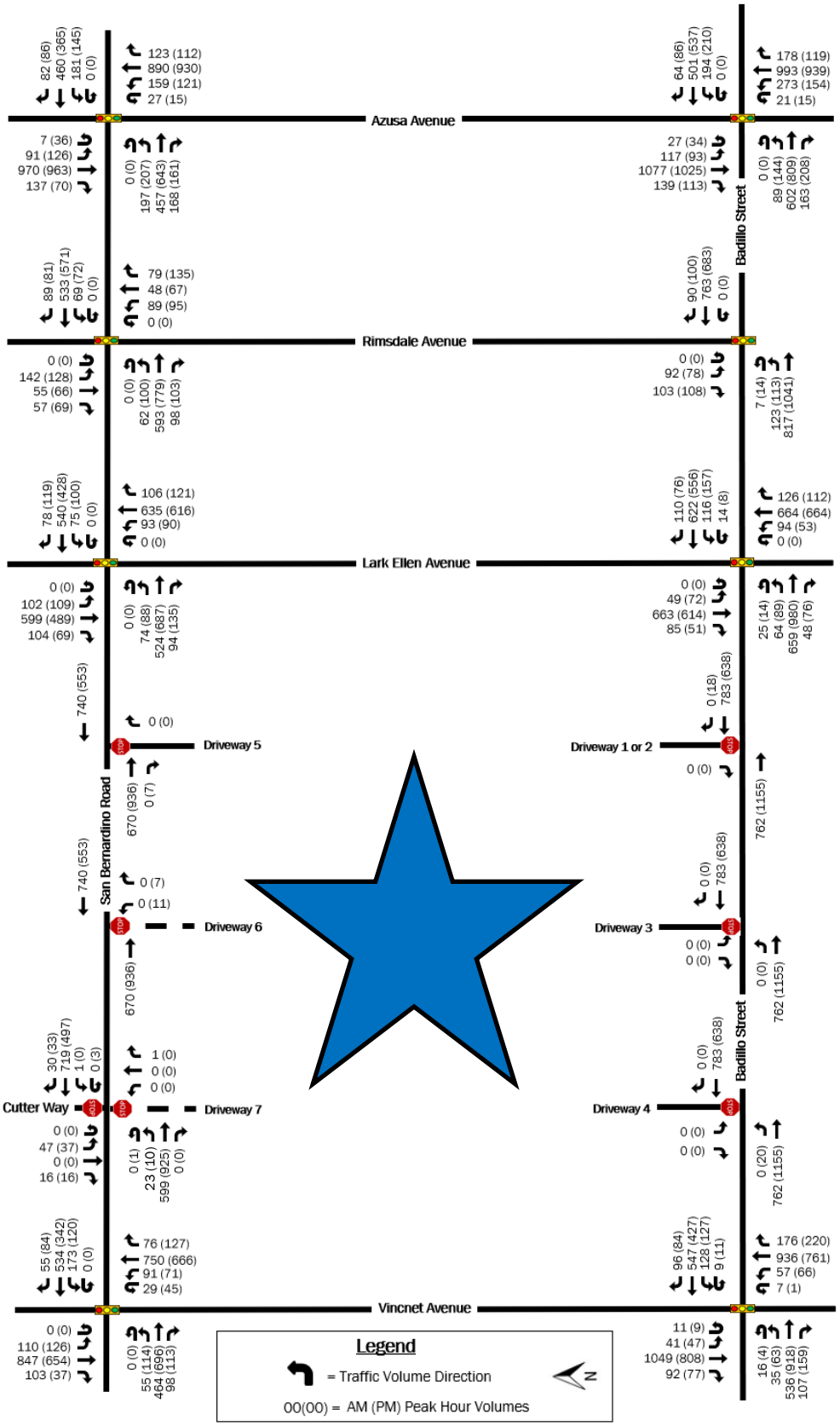


Figure 24: AM & PM Peak Hour of the Adjacent Street Cumulative Build Traffic Volumes



D.5. Traffic Signal Warrant Analysis

The Cutter Way/Driveway 7 and Driveway 6 intersections with San Bernardino Road were evaluated to determine if traffic signals would be warranted with the addition of site traffic. The Cutter Way/Driveway 7 intersection was evaluated using traffic for both the peak hours of the adjacent street and the peak hours of the generator. No signal warrant volume thresholds were met during any of these four hours. Site traffic does not exit Driveway 6 during the typical AM peak hour or during the PM peak hour of the site, so only the AM peak hour of the site and the PM peak hour of the adjacent street were evaluated. Again, no signal warrant volume thresholds were met during either of these hours. Driveway 5 has been assumed to operate with only right turns and is expected to see minimal use. It is also unlikely to meet any signal warrant volume thresholds. The signal warrant analysis is documented in Appendix E.

Nevertheless, a traffic signal with pedestrian phases will be installed at the intersection of San Bernardino Road, Cutter Way, and Driveway 7 as part of the project to provide safer pedestrian connections along and across San Bernardino Road. This will reduce the spacing of signalized crossings along San Bernardino Road from a half to a quarter mile.

D.6. Traffic Analysis Results

The signalized intersection analyses are provided in Appendix F and the result are summarized in Table 5(a, b & c). All signalized intersections, with the exception of Badillo Street at Azusa Avenue are expected to operate at LOS D or better under all conditions in 2021. Badillo Street at Azusa Avenue is the only intersection expected to operate at a worse level (LOS E). It is expected to operate at LOS E during the AM peak hour of the adjacent street under all conditions and in the PM peak hour of the adjacent street under the Cumulative No Build and Cumulative Build conditions with only a 0.001 increase in the V/C ratio during the AM Peak, well below the significance threshold of 0.02.

The unsignalized intersection analyses are provided in Appendix G and the results are summarized in Table 6. Since no traffic generated by existing church activities is included as existing traffic, there are no level-of service results for site driveways other than at Cutter Way for the No Build condition. There are also no results for the other driveways during some or all the peak hours due either to the absence of site traffic during that time period or the presence of only inbound traffic for which the analysis methodology assumes that traffic does not experience delays by default (right turns from the major street). Nevertheless, no traffic movements that are required to yield the right-of-way at site's driveways are expected to experience delays beyond the LOS D range. Left turns from the driveways on Badillo Street will operate at LOS B or better during the hour when vans drivers are leaving the site at the end of their shifts, indicating more than sufficient gaps are available for those movements. No other traffic should be exiting the site via those driveways. Traffic entering those driveways via left turns will also operate at LOS A when traffic is arriving.

Table 5a: Signalized Intersections Capacity Analysis (Adjacent Street Peak)

	No Build				Build				LOS Increase		Significant
	AM		PM		AM		PM				
	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	AM	PM	
San Bernardino Rd @ Vincent Ave	0.725	C	0.696	B	0.725	C	0.700	C	0.000	0.004	No
San Bernardino Rd @ Lark Ellen Ave	0.616	B	0.686	B	0.617	B	0.688	B	0.001	0.002	No
San Bernardino Rd @ Rimsdale Ave	0.556	A	0.650	B	0.556	A	0.652	B	0.000	0.002	No
San Bernardino Rd @ Azusa Ave	0.850	D	0.832	D	0.851	D	0.836	D	0.001	0.004	No
Badillo St @ Vincent Ave	0.703	C	0.745	C	0.703	C	0.750	C	0.000	0.005	No
Badillo St @ Lark Ellen Ave	0.671	B	0.753	C	0.671	B	0.753	C	0.000	0.000	No
Badillo St @ Rimsdale Ave	0.526	A	0.530	A	0.526	A	0.530	A	0.000	0.000	No
Badillo St @ Azusa Ave	0.911	E	0.887	D	0.912	E	0.890	D	0.001	0.003	No

No Build is without the subject Delivery Station, Build includes the Delivery Station

Table 6b: Signalized Intersections Capacity Analysis (Generator Peak)

	No Build				Build				LOS Increase		Significant
	AM		PM		AM		PM				
	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	AM	PM	
San Bernardino Rd @ Vincent Ave	0.433	A	0.289	A	0.442	A	0.294	A	0.009	0.005	No
San Bernardino Rd @ Lark Ellen Ave	0.440	A	0.296	A	0.453	A	0.301	A	0.013	0.005	No
San Bernardino Rd @ Rimsdale Ave	0.497	A	0.250	A	0.498	A	0.250	A	0.001	0.000	No
San Bernardino Rd @ Azusa Ave	0.627	B	0.397	A	0.636	B	0.408	A	0.009	0.011	No
Badillo St @ Vincent Ave	0.401	A	0.284	A	0.419	A	0.298	A	0.018	0.014	No
Badillo St @ Lark Ellen Ave	0.407	A	0.273	A	0.415	A	0.293	A	0.008	0.020	No
Badillo St @ Rimsdale Ave	0.367	A	0.243	A	0.37	A	0.253	A	0.003	0.010	No
Badillo St @ Azusa Ave	0.614	B	0.415	A	0.614	B	0.418	A	0.000	0.003	No

No Build is without the subject Delivery Station, Build includes the Delivery Station

Table 7c: Signalized Intersections Capacity Analysis (Cumulative Conditions)

	No Build				Build				LOS Increase		Significant
	AM		PM		AM		PM				
	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	AM	PM	
San Bernardino Rd @ Vincent Ave	0.756	C	0.750	C	0.756	C	0.754	C	0.000	0.004	No
San Bernardino Rd @ Lark Ellen Ave	0.635	B	0.717	C	0.635	B	0.719	C	0.000	0.002	No
San Bernardino Rd @ Rimsdale Ave	0.583	A	0.684	B	0.583	A	0.686	B	0.000	0.002	No
San Bernardino Rd @ Azusa Ave	0.868	D	0.861	D	0.868	D	0.869	D	0.000	0.008	No
Badillo St @ Vincent Ave	0.721	C	0.762	C	0.721	C	0.768	C	0.000	0.006	No
Badillo St @ Lark Ellen Ave	0.680	B	0.762	C	0.68	B	0.762	C	0.000	0.000	No
Badillo St @ Rimsdale Ave	0.542	A	0.542	A	0.542	A	0.542	A	0.000	0.000	No
Badillo St @ Azusa Ave	0.929	E	0.910	E	0.93	E	0.91	E	0.001	0.000	No

No Build is without the subject Delivery Station, Build includes the Delivery Station
Build includes both the Cumulative projects in Table 4 and the proposed Delivery Station

Table 6: Unsignalized Intersections Capacity Analysis

Intersection		No Build								Build								Cumulative Build			
		Adjacent Street Peak				Generator Peak				Adjacent Street Peak				Generator Peak				Adjacent Street Peak			
		AM		PM		AM		PM		AM		PM		AM		PM		AM		PM	
		Delay[1]	LOS	Delay[1]	LOS	Delay[1]	LOS	Delay[1]	LOS	Delay[1]	LOS	Delay[1]	LOS	Delay[1]	LOS	Delay[1]	LOS	Delay[1]	LOS	Delay[1]	LOS
San Bernardino Rd @ Cutter Way	EBL	9.2	A	8.9	A	8.3	A	7.7	A	9.2	A	8.7	A	8.5	A	7.7	A	9.4	A	8.8	A
	WBL	-	-	14.3	B	-	-	8.5	A	8.7	A	14.4	B	8.1	A	8.1	A	8.8	A	15.5	C
	NB	-	-	-	-	-	-	-	-	10.2	B	-	-	-	-	8.9	A	10.3	B	-	-
	SB	27.0	D	22.1	C	13.7	B	10.7	B	27.1	D	22.6	C	14.8	B	10.8	B	30.7	D	25.8	D
San Bernardino Rd @ Driveway 6[2]	NB	-	-	-	-	-	-	-	-	-	-	20.7	C	14.4	B	-	-	-	-	23.2	C
San Bernardino Rd @ Driveway 5[3]	NBR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Badillo St @ Driveway 1 or 2[3,4]	SBR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Badillo St @ Driveway 3[3,5]	EBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SB	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11.4	B	-	-	-	-
Badillo St @ Driveway 4[6]	EBL	-	-	-	-	-	-	-	-	-	-	9.0	A	8.4	A	7.8	A	-	-	9.0	A
	SB	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.2	A	-	-	-	-

[1]In seconds/vehicle
[2]No traffic exits during the AM Peak of the Street Traffic or the PM Peak of the Generator
[3]No traffic enters or exits during the AM Peak of the Street Traffic or AM Peak of the Generator
[4]PM traffic enters by turning right

D.7. Queuing Analysis

Queuing estimates for stop controlled and yielding movements at unsignalized intersections are included in the HCM analyses. The results for each of the hours analyzed under the build conditions are summarized in Table 7. At no time would storage be required for more than one stopped vehicle waiting to enter or exit any of the site's driveways. Queue results from HCM signalized analyses also confirms that queues on San Bernardino Road and Cutter Way would not exceed one vehicle in any turn lane (or exiting Cutter Way or Driveway 7) with the relocation and signalization of Driveway 7 and the addition of site traffic.

Table 9: Queuing Analysis

Intersection and Lanes		Street Peak Hours (vehicles)		Generator Peak Hours (vehicles)		Queue (Feet[1])
		AM	PM	10:00 AM	8:00 PM	
San Bernardino Rd @ Cutter Way	EBL	<1.0	<1.0	<1.0	<1.0	25
	WBL	<1.0	<1.0	<1.0	<1.0	25[2]
	NB	<1.0	-	-	<1.0	25
	SB	<1.0	<1.0	<1.0	<1.0	25
Badillo St @ Driveway 1 or 2	SB	-	-	-	-	-
Badillo St @ Driveway 3	EBL	-	-	-	-	-
	SB	-	-	-	0.2	25
Badillo St @ Driveway 4	EBL	-	0.1	0.1	0.1	25
	SB	-	-	-	0.2	25
San Bernardino Rd @ Driveway 5	NBR	-	-	-	-	-
San Bernardino Rd @ Driveway 6	NB	-	0.2	0.9	-	25

[1]An average of 25 feet per vehicle is assumed, rounded up to the next whole 25-foot increment.
[2]A minimum of 100 feet will be provided.

E. Peak Season Operations

The actual number of packages delivered from the station varies some throughout the year and by day of week. The trip generation characteristics used in this study are considered typical. The delivery station is expected to experience a seasonal increase in package deliveries between Thanksgiving and the end of the year, coinciding with the typical peak shopping season. While processing and delivering the increased number of packages requires more employees, delivery vehicles and drivers, those employees and delivery routes would still operate in shifts designed to minimize commuting peak hours as much as possible. For example, a second employee shift of possibly 100 – 125 associates may be utilized handle the overflow of packages, beginning their sorting shift in the evening and finishing in the early morning. An additional dispatch shift may also be added with perhaps 100 to 125 vans departing in the morning and returning in the evening but staggered a bit from the typical delivery route shifts. Depending on the need, additional package handling and delivery vehicles will be brought in to supplement the normal delivery process. Some increase in peak hour site traffic can be expected during both the typical peak hours and the site's peak hours. However, most of the increased traffic will be spread throughout the day. For instance, vans will be loaded at rates similar to typical operations, but due to the increase in the number of packages, that process will require more time and instead of all vans departing the site over a two-hour period they will depart over a four-hour period. The same is true for vans returning to the site, although delivery routes may take longer to complete, and their return may span even more hours. All delivery vehicles would still be expected to return to the station before 10:00 PM. There could be up to as twice the typical number of line-haul trucks during this season. Yet, the increase in line-haul truck traffic would be expected to occur after 6:00 PM but before 10:00 PM.

Given the results of the level-of-service and queuing analyses, the additional traffic is not expected to exceed the storage distances provided by left-turn lanes into the site or to spill out onto the adjacent roadways.

F. Site Access, Parking, and Circulation

Site access will be provided through one signalized and six unsignalized intersections, with two of the existing driveways to San Bernardino Road relocated slightly to better serve the site and provide safe access to and from that street. No changes are proposed for the other driveways. Providing adequate sight distances (see Figure 25 and Appendix H) will require the elimination of most on-street parking along the site's frontages and the removal of any landscaping 3.5 feet or taller within these sight lines behind the sidewalks or in the median along Badillo Street. None of the site driveways require signalization to operate at acceptable levels of service even during peak hours, though Driveway 7 will be signalized to improve pedestrian access. Existing and proposed left-turn lanes into the site are more than sufficient to store vehicles waiting on gaps in traffic during peak periods. Three site driveways will have full access to San Bernardino Road and Badillo Street. Entering and exiting movements at these driveways can be accommodated by existing lanes, yet a westbound left-turn lane into Driveway 7 (see Appendix H for striping plan) will be provided as part of the project. Other than aligning Driveway 7 with Cutter Way, the current spacing between driveways and major side streets will be maintained. None of the driveways provide access to other sites.

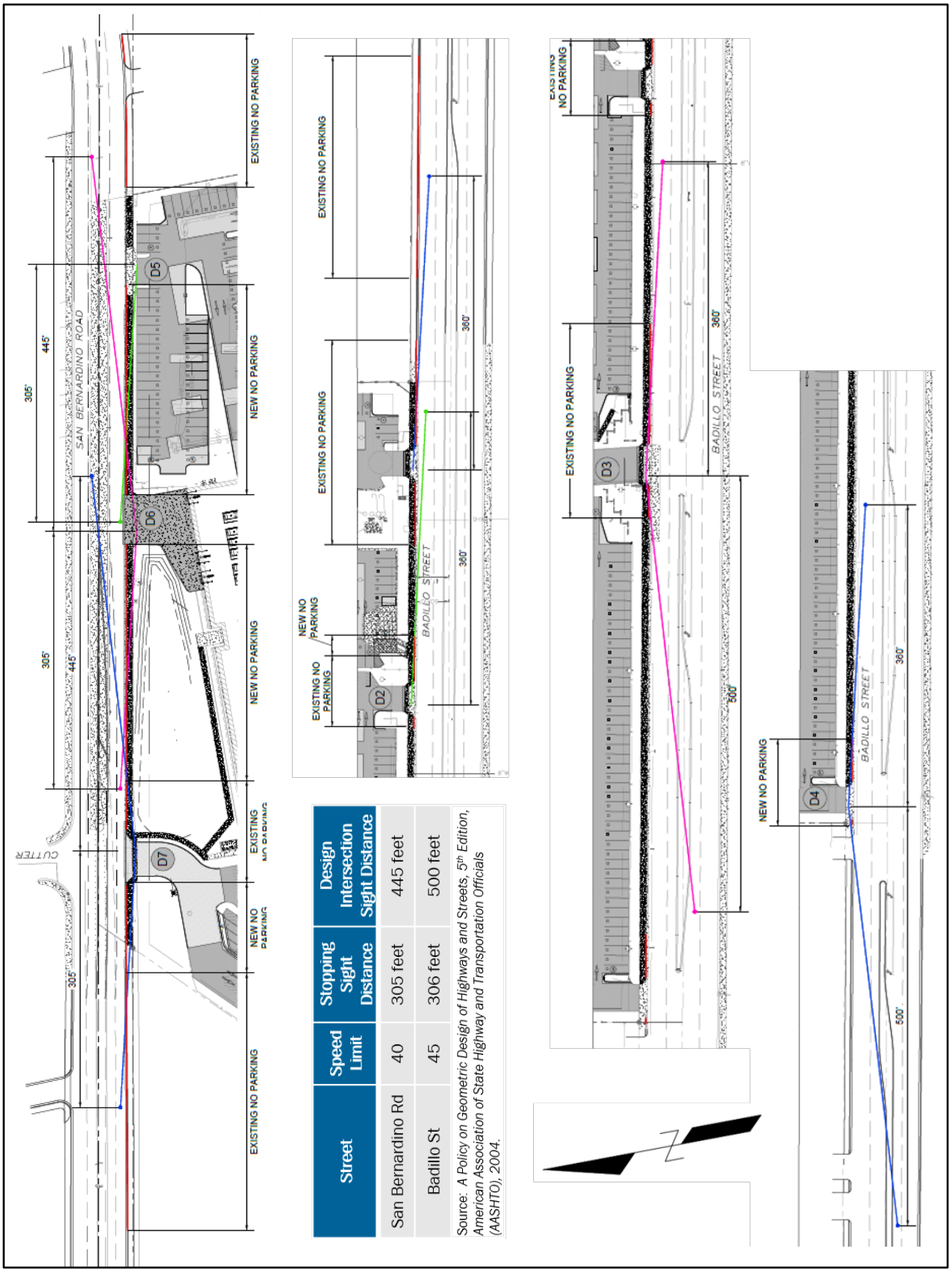
The sidewalk along San Bernardino Road will be replaced and a connection between this sidewalk and the front door provided. Crosswalks and pedestrian phases will be included in the design of the new traffic signal at the Cutter Way intersection on San Bernardino Road.

Parking for up to 811 passenger cars and vans will be available on-site. Overnight fleet vehicle and drivers' personal vehicle parking, totaling 629 spaces, is available south and east of the building, accessible from Driveways 1 through 5. All delivery vehicles will exit via driveway 6. Employees (Associates) will enter and exit opposite Cutter Way and have access to 185 passenger car spaces to the west of the building. Line-haul trucks will also enter and exit opposite Cutter Way to access 8 loading docks along the west side of the building. A site plan is provided in Figure 4.

Table 10: Parking Requirements & Provisions

Required Parking Spaces		Provided Parking Spaces	
Type	Number	Type	Number
Office: 9,478 SF @ 1 Space/300 SF	32	9' x 18' (Associates)	185
Industrial: 159,840 SF @ 1 Space/500 SF	320	11' x 27' (Van Fleet)	629
Total	352	Total	811
8 Accessible (State Accessibility Code)		8 Accessible of which 1 is van sized	

Figure 25: Sight Distance Details



Street	Speed Limit	Stopping Sight Distance	Design Intersection Sight Distance
San Bernardino Rd	40	305 feet	445 feet
Badillo St	45	306 feet	500 feet

Source: A Policy on Geometric Design of Highways and Streets, 5th Edition, American Association of State Highway and Transportation Officials (AASHTO), 2004.

G. Active Transportation and Public Transit Analysis

The delivery station is consistent with adopted policies, plans, and programs to provide infrastructure for active transportation and public transit facilities. It would not conflict with existing or proposed facilities supporting these travel modes. Specifically, the West Covina Active Transportation Plan proposes the addition of bike lanes along Badillo Street. Conversion of the site to the proposed delivery station does not require any changes to Badillo Street that would prevent the installation of these bike lanes. The delivery station does not require any on-street parking along its frontage, freeing up pavement adjacent to the north curb for striping as a bike lane. In addition, while the Plan does not call for any pedestrian improvements along either Badillo Street or San Bernardino Road, the sidewalk along the site's frontage on San Bernardino Road will be replaced as part of the site's conversion to a delivery station.

The project will also provide signalized crosswalks across San Bernardino Road reducing the spacing of such crossing from a half to a quarter mile.

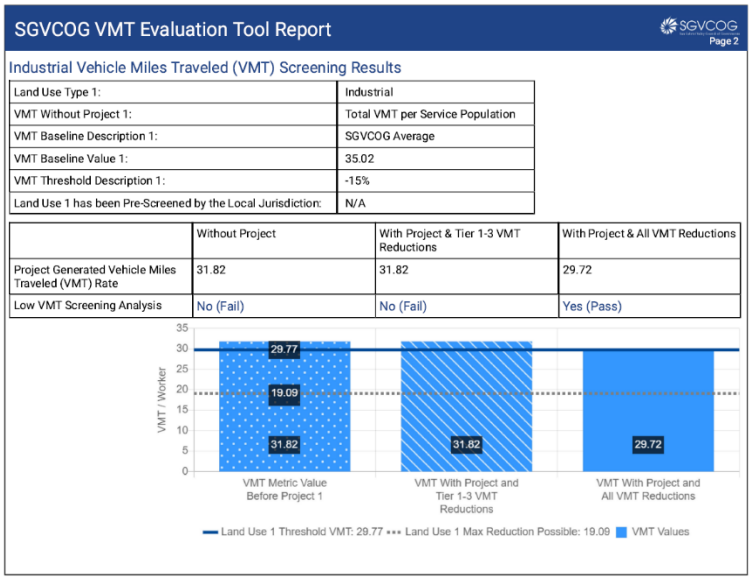
Foothills Transit Route 190 provides fixed-route bus service with stops on San Bernardino Road at Vincent Avenue and Lark Ellen Avenue. The route's schedule would accommodate all site commuters except the overnight employee shift.

H. Vehicle Miles Traveled (VMT) Analysis

The proposed delivery station in West Covina would repurpose an existing 177,440 square foot building currently occupied by Faith Church. Typical weekday trip volumes for the church are unavailable due to COVID-19 precautions and closures, so it is not possible to compare the difference between the existing and anticipated traffic volumes for the site.

H.1. SGVCOG VMT Evaluation

The City of West Covina is included in the San Gabriel Valley Council of Governments' (SGVCOG) travel demand model and is included in SGVCOG's Vehicle Miles Traveled Evaluation Tool. The City has adopted a 15% below baseline VMT per Service Population for all land uses. That baseline is 35.02 and the threshold is 29.77. The evaluation tool indicates the site would have a VMT/ Service Population of 31.82 without the project. (See Appendix I.)



SGVCOG VMT Evaluation Tool Report

SGVCOG Page 2

Industrial Vehicle Miles Traveled (VMT) Screening Results

Land Use Type 1:	Industrial
VMT Without Project 1:	Total VMT per Service Population
VMT Baseline Description 1:	SGVCOG Average
VMT Baseline Value 1:	35.02
VMT Threshold Description 1:	-15%
Land Use 1 has been Pre-Screened by the Local Jurisdiction:	N/A

	Without Project	With Project & Tier 1-3 VMT Reductions	With Project & All VMT Reductions
Project Generated Vehicle Miles Traveled (VMT) Rate	31.82	31.82	29.72
Low VMT Screening Analysis	No (Fail)	No (Fail)	Yes (Pass)

The proposed tenant offers all employees the option of setting aside up to $270/month of their before tax pay to be used to subsidize alternative transportation expenses. The tenant also offers preferential parking for car/vanpools close to the building entrance with the number of available spaces varying by demand. In addition, as normal practice the tenant provides kiosks/bulletin boards where transit and ridesharing options are posted, provides a ride-matching platform such as Waze, and assigns an employee transportation coordinator to encourage the use of alternative transportation options. Application of these measures qualify as TP11 Alternative Transportation Benefits and are expected to reduce the VMT per service population to 29.72, below the significance threshold.

Pre-tax benefits are offered through Edenred Commuter Benefits Solutions. Information about these benefits is provided to new employees during their orientation and is documented in the employee handbook. These benefits are applicable to:

- Transit Expenses
- Parking Expenses for Park & Ride Lots/Transit Stations
- Vanpool and Qualified Ridesharing (such as Uberpool & Lyft Shared) Expenses

H.2. Other Regional VMT Reductions

It is noteworthy that tenant's delivery stations are located within the company's larger delivery area to consolidate deliveries in smaller geographic areas. The tenant delivers packages to zones much like the U.S. Postal Service except that the routes the vans take vary by day and are optimized for the most efficient movement. It is possible to estimate the VMT for delivery vehicles by finding the distance from the site to the furthest point within the delivery zone and multiplying by the number of vehicles bound for those zones. The furthest point within the zone is assume to account for circuitous travel as packages are dropped off throughout a route. (Note, not every van will travel to the furthest point within a zone).

All customers for the proposed delivery station are already being served by other delivery stations. The existing VMT for deliveries servicing existing customers is 2,686 miles per day. Most of these delivery trips are within 2 to 7 miles of the proposed delivery station. The future total two-way VMT for delivery vans is 2,056 miles per day. The existing private carrier VMT is 426 miles per day. The future total VMT for the private carrier operations is 326 miles per day. There will be 730 fewer regional delivery VMT per day.

Table 11: Delivery Vehicle Miles Traveled

Trip Type	Daily Trips	VMT from Current Delivery Stations	VMT from Proposed Delivery Station	Difference
Delivery Vans	284	2,686	2,056	-630
Private Carrier[1]	45	426	326	-100
Total	329	3,112	2,382	-730

I. Conclusion and Recommendations

The site, located at 1211 E Badillo Street/1200 E San Bernardino Road, and occupied by Faith Church is proposed for conversion to a parcel delivery station for an e-commerce company. Analysis results indicate that the existing transportation network can adequately accommodate increases in traffic associated with the proposed delivery station.

I.1. Key Findings

Most study intersections, including site driveways, are expected to operate at LOS D or better under all conditions in 2021. The only exception is the intersection of Badillo Street at Azusa Avenue. It is expected to operate at LOS E during the AM peak hour of the adjacent street under all conditions and in the PM peak hour of the adjacent street under the Cumulative No Build and Cumulative Build conditions with only a .001 increase in the V/C ratio during the AM Peak, well below the significance threshold of 0.02.

The Build conditions do not increase volume/capacity ratios or delays enough to change the LOS at any intersections.

With at least 15% of the tenant's employees eligible for Alternative Transportation Benefits, the proposed delivery station will have a less than significant VMT impact.

I.2. Mitigation Measures

A portion of San Bernardino Road will be restriped to provide a left-turn lane into the site at the westernmost driveway across from Cutter Way.

APPENDIX

Appendix A – Traffic Counts

National Data & Surveying Services

Intersection Turning Movement Count

Location: Vincent Ave & San Bernardino Rd
City: West Covina
Control: Signalized

Project ID: 21-020029-001
Date: 2/2/2021

Total

NS/EW Streets:	Vincent Ave				Vincent Ave				San Bernardino Rd				San Bernardino Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	12	63	11	2	2	70	7	0	6	28	10	0	15	36	7	0	269
7:15 AM	10	88	9	1	5	92	11	0	8	39	12	0	15	44	8	0	342
7:30 AM	9	76	7	0	18	98	8	0	2	44	11	0	18	62	4	0	357
7:45 AM	12	86	10	1	11	88	13	0	8	53	13	0	26	58	5	0	384
8:00 AM	9	65	7	1	4	83	13	0	6	52	7	0	15	47	7	0	316
8:15 AM	10	78	15	0	7	85	9	0	9	43	11	0	17	42	3	0	329
8:30 AM	12	63	10	1	9	90	13	0	8	45	10	0	13	38	9	0	321
8:45 AM	10	61	12	3	10	70	8	0	5	59	11	0	15	34	10	0	308
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	84	580	81	9	66	676	82	0	52	363	85	0	134	361	53	0	2626
APPROACH %'s :	11.14%	76.92%	10.74%	1.19%	8.01%	82.04%	9.95%	0.00%	10.40%	72.60%	17.00%	0.00%	24.45%	65.88%	9.67%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	40	315	33	3	38	361	45	0	24	188	43	0	74	211	24	0	1399
PEAK HR FACTOR :	0.833	0.895	0.825	0.750	0.528	0.921	0.865	0.000	0.750	0.887	0.827	0.000	0.712	0.851	0.750	0.000	0.911
	0.897				0.895				0.861				0.868				

Mid Morning	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
10:00 AM	9	61	13	2	8	64	8	0	9	53	8	0	14	43	15	0	307
10:15 AM	9	61	13	1	15	73	11	0	8	53	5	0	23	54	12	0	338
10:30 AM	4	62	18	1	8	54	13	0	9	53	12	0	26	49	20	0	329
10:45 AM	10	64	17	5	24	82	12	0	1	55	6	0	20	46	4	0	346
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	32	248	61	9	55	273	44	0	27	214	31	0	83	192	51	0	1320
APPROACH %'s :	9.14%	70.86%	17.43%	2.57%	14.78%	73.39%	11.83%	0.00%	9.93%	78.68%	11.40%	0.00%	25.46%	58.90%	15.64%	0.00%	
PEAK HR :	10:00 AM - 11:00 AM																TOTAL
PEAK HR VOL :	32	248	61	9	55	273	44	0	27	214	31	0	83	192	51	0	1320
PEAK HR FACTOR :	0.800	0.969	0.847	0.450	0.573	0.832	0.846	0.000	0.750	0.973	0.646	0.000	0.798	0.889	0.638	0.000	0.954
	0.911				0.788				0.919				0.858				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	8	98	25	1	22	104	13	0	28	132	29	0	23	57	9	0	549
4:15 PM	9	98	22	2	24	125	17	0	19	117	26	0	23	64	11	0	557
4:30 PM	12	127	20	5	22	108	11	0	22	105	28	0	20	51	18	0	549
4:45 PM	17	120	25	2	22	117	9	0	19	147	24	0	31	57	14	0	604
5:00 PM	12	123	19	3	17	118	8	0	20	89	18	0	21	66	20	0	534
5:15 PM	14	119	23	7	18	146	8	0	25	119	29	0	13	53	19	0	593
5:30 PM	13	124	30	3	21	123	4	0	26	128	18	0	25	55	13	0	583
5:45 PM	11	121	25	2	18	101	13	0	26	79	25	0	24	59	13	0	517
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	96	930	189	25	164	942	83	0	185	916	197	0	180	462	117	0	4486
APPROACH %'s :	7.74%	75.00%	15.24%	2.02%	13.79%	79.23%	6.98%	0.00%	14.25%	70.57%	15.18%	0.00%	23.72%	60.87%	15.42%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	56	486	97	15	78	504	29	0	90	483	89	0	90	231	66	0	2314
PEAK HR FACTOR :	0.824	0.980	0.808	0.536	0.886	0.863	0.806	0.000	0.865	0.821	0.767	0.000	0.726	0.875	0.825	0.000	0.958
	0.962				0.888				0.871				0.904				

NS/EW Streets:	Vincent Ave				Vincent Ave				San Bernardino Rd				San Bernardino Rd				
Evening	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
8:00 PM	6	43	5	3	7	51	7	0	10	20	8	0	11	41	3	0	215
8:15 PM	7	52	12	4	8	34	7	0	5	31	6	0	8	26	5	0	205
8:30 PM	0	49	5	4	8	51	11	0	4	19	3	0	7	19	12	0	192
8:45 PM	6	46	9	1	9	31	4	0	6	21	6	0	8	9	5	0	161
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	19	190	31	12	32	167	29	0	25	91	23	0	34	95	25	0	773
APPROACH %'s :	7.54%	75.40%	12.30%	4.76%	14.04%	73.25%	12.72%	0.00%	17.99%	65.47%	16.55%	0.00%	22.08%	61.69%	16.23%	0.00%	
PEAK HR :	08:00 PM - 09:00 PM																TOTAL
PEAK HR VOL :	19	190	31	12	32	167	29	0	25	91	23	0	34	95	25	0	773
PEAK HR FACTOR :	0.679	0.913	0.646	0.750	0.889	0.819	0.659	0.000	0.625	0.734	0.719	0.000	0.773	0.579	0.521	0.000	0.899
	0.840				0.814				0.827				0.700				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Cutter Way & San Bernardino Rd
City: West Covina
Control: 1-Way Stop(SB)

Project ID: 21-020029-002
Date: 2/2/2021

Total

NS/EW Streets:	Cutter Way				Cutter Way				San Bernardino Rd				San Bernardino Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	2	0	1	0	1	29	0	0	0	58	3	0	94
7:15 AM	0	0	0	0	3	0	2	0	2	41	0	0	0	64	4	0	116
7:30 AM	0	0	0	0	3	0	2	0	1	60	0	0	0	64	6	0	136
7:45 AM	0	0	0	0	2	0	2	0	1	66	0	0	0	94	2	0	167
8:00 AM	0	0	0	0	4	0	3	0	0	63	0	0	0	65	5	0	140
8:15 AM	0	0	0	0	1	0	1	0	0	54	0	0	0	69	5	0	130
8:30 AM	0	0	0	0	10	0	0	0	0	65	0	0	0	65	0	0	140
8:45 AM	0	0	0	0	2	0	4	0	4	73	0	0	0	61	6	0	150
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	27	0	15	0	9	451	0	0	0	540	31	0	1073
APPROACH %'s :					64.29%	0.00%	35.71%	0.00%	1.96%	98.04%	0.00%	0.00%	0.00%	94.57%	5.43%	0.00%	
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	0	0	0	0	17	0	6	0	1	248	0	0	0	293	12	0	577
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.425	0.000	0.500	0.000	0.250	0.939	0.000	0.000	0.000	0.779	0.600	0.000	0.864
					0.575				0.929				0.794				

Mid Morning	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
10:00 AM	0	0	0	0	3	0	3	0	4	62	0	0	0	65	6	0	143
10:15 AM	0	0	0	0	3	0	3	0	0	66	0	0	0	80	4	0	156
10:30 AM	0	0	0	0	2	0	1	0	1	82	0	0	0	87	3	0	176
10:45 AM	0	0	0	0	2	0	2	0	0	77	0	0	0	86	7	0	174
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	10	0	9	0	5	287	0	0	0	318	20	0	649
APPROACH %'s :					52.63%	0.00%	47.37%	0.00%	1.71%	98.29%	0.00%	0.00%	0.00%	94.08%	5.92%	0.00%	
PEAK HR :	10:00 AM - 11:00 AM																TOTAL
PEAK HR VOL :	0	0	0	0	10	0	9	0	5	287	0	0	0	318	20	0	649
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.833	0.000	0.750	0.000	0.313	0.875	0.000	0.000	0.000	0.914	0.714	0.000	0.922
					0.792				0.880				0.909				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	10	0	2	0	0	171	0	0	0	85	9	2	279
4:15 PM	0	0	0	0	8	0	3	0	3	159	0	0	0	90	2	0	265
4:30 PM	0	0	0	0	4	0	4	0	2	159	0	0	0	92	6	0	267
4:45 PM	0	0	0	0	3	0	3	0	1	177	0	1	0	82	3	0	270
5:00 PM	0	0	0	0	8	0	1	0	1	128	0	0	0	97	8	0	243
5:15 PM	0	0	0	0	4	0	0	0	1	168	0	0	0	87	3	0	263
5:30 PM	0	0	0	0	6	0	0	0	3	171	0	0	0	90	6	0	276
5:45 PM	0	0	0	0	4	0	2	0	2	142	0	0	0	95	4	1	250
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	47	0	15	0	13	1275	0	1	0	718	41	3	2113
APPROACH %'s :					75.81%	0.00%	24.19%	0.00%	1.01%	98.91%	0.00%	0.08%	0.00%	94.23%	5.38%	0.39%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	0	0	0	0	25	0	12	0	6	666	0	1	0	349	20	2	1081
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.625	0.000	0.750	0.000	0.500	0.941	0.000	0.250	0.000	0.948	0.556	0.250	0.969
					0.771				0.940				0.946				

NS/EW Streets:	Cutter Way				Cutter Way				San Bernardino Rd				San Bernardino Rd				
Evening	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
8:00 PM	0	0	0	0	1	0	0	0	2	52	0	0	0	47	2	0	104
8:15 PM	0	0	0	0	4	0	1	0	0	38	0	0	0	41	2	1	87
8:30 PM	0	0	0	0	3	0	1	0	0	36	0	0	0	30	5	0	75
8:45 PM	0	0	0	0	2	0	2	0	2	36	0	0	0	27	2	0	71
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	10	0	4	0	4	162	0	0	0	145	11	1	337
APPROACH %'s :					71.43%	0.00%	28.57%	0.00%	2.41%	97.59%	0.00%	0.00%	0.00%	92.36%	7.01%	0.64%	
PEAK HR :	08:00 PM - 09:00 PM																TOTAL
PEAK HR VOL :	0	0	0	0	10	0	4	0	4	162	0	0	0	145	11	1	337
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.625	0.000	0.500	0.000	0.500	0.779	0.000	0.000	0.000	0.771	0.550	0.250	0.810
					0.700				0.769				0.801				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Lark Ellen Ave & San Bernardino Rd
City: West Covina
Control: Signalized

Project ID: 21-020029-003
Date: 2/2/2021

Total

NS/EW Streets:	Lark Ellen Ave				Lark Ellen Ave				San Bernardino Rd				San Bernardino Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	8	49	5	0	11	51	6	0	3	25	4	0	7	46	11	0	226
7:15 AM	9	49	6	0	7	54	9	0	3	42	10	0	5	44	6	0	244
7:30 AM	8	66	14	0	12	66	11	0	12	56	7	0	7	64	8	0	331
7:45 AM	11	85	15	0	7	71	12	0	9	53	14	0	12	52	12	0	353
8:00 AM	8	66	6	0	13	69	14	0	5	47	11	0	6	57	7	0	309
8:15 AM	10	61	6	0	9	56	8	0	5	58	8	0	8	41	7	0	277
8:30 AM	6	46	15	0	12	64	5	0	5	51	17	0	8	51	16	0	296
8:45 AM	14	75	20	0	17	55	7	0	13	55	8	0	9	46	10	0	329
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	74	497	87	0	88	486	72	0	55	387	79	0	62	401	77	0	2365
APPROACH %'s :	11.25%	75.53%	13.22%	0.00%	13.62%	75.23%	11.15%	0.00%	10.56%	74.28%	15.16%	0.00%	11.48%	74.26%	14.26%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	37	278	41	0	41	262	45	0	31	214	40	0	33	214	34	0	1270
PEAK HR FACTOR :	0.841	0.818	0.683	0.000	0.788	0.923	0.804	0.000	0.646	0.922	0.714	0.000	0.688	0.836	0.708	0.000	0.899
	0.802				0.906				0.938				0.889				

Mid Morning	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
10:00 AM	9	67	20	0	18	43	11	0	10	56	8	0	9	62	9	0	322
10:15 AM	10	63	22	0	17	65	14	0	7	70	6	0	15	61	18	0	368
10:30 AM	12	55	14	0	18	52	5	0	6	63	9	0	13	77	18	0	342
10:45 AM	8	59	15	0	16	49	9	0	12	73	10	0	15	59	18	0	343
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	39	244	71	0	69	209	39	0	35	262	33	0	52	259	63	0	1375
APPROACH %'s :	11.02%	68.93%	20.06%	0.00%	21.77%	65.93%	12.30%	0.00%	10.61%	79.39%	10.00%	0.00%	13.90%	69.25%	16.84%	0.00%	
PEAK HR :	10:00 AM - 11:00 AM																TOTAL
PEAK HR VOL :	39	244	71	0	69	209	39	0	35	262	33	0	52	259	63	0	1375
PEAK HR FACTOR :	0.813	0.910	0.807	0.000	0.958	0.804	0.696	0.000	0.729	0.897	0.825	0.000	0.867	0.841	0.875	0.000	0.934
	0.922				0.826				0.868				0.866				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	10	107	26	0	23	91	8	0	14	137	33	0	20	72	31	0	572
4:15 PM	12	99	9	0	39	86	10	0	10	139	21	0	17	76	18	0	536
4:30 PM	14	124	33	0	15	77	10	0	13	132	24	0	20	72	27	0	561
4:45 PM	14	108	23	0	14	111	14	0	16	138	27	0	22	77	22	0	586
5:00 PM	19	126	21	0	18	90	9	0	12	98	24	0	20	81	27	0	545
5:15 PM	17	121	21	0	21	90	14	0	21	118	20	0	20	65	23	0	551
5:30 PM	15	130	22	0	27	94	15	0	19	124	34	0	17	79	22	0	598
5:45 PM	11	104	26	0	24	109	8	0	18	113	17	0	16	80	27	0	553
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	112	919	181	0	181	748	88	0	123	999	200	0	152	602	197	0	4502
APPROACH %'s :	9.24%	75.83%	14.93%	0.00%	17.80%	73.55%	8.65%	0.00%	9.30%	75.57%	15.13%	0.00%	15.98%	63.30%	20.72%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	65	485	87	0	80	385	52	0	68	478	105	0	79	302	94	0	2280
PEAK HR FACTOR :	0.855	0.933	0.946	0.000	0.741	0.867	0.867	0.000	0.810	0.866	0.772	0.000	0.898	0.932	0.870	0.000	0.953
	0.954				0.930				0.899				0.928				

NS/EW Streets:	Lark Ellen Ave				Lark Ellen Ave				San Bernardino Rd				San Bernardino Rd				
Evening	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
8:00 PM	8	55	5	0	6	37	6	0	5	23	7	0	14	47	11	0	224
8:15 PM	3	44	10	0	14	27	5	0	6	34	5	0	8	34	16	0	206
8:30 PM	9	49	12	0	7	41	3	0	6	30	3	0	4	26	11	0	201
8:45 PM	5	28	6	0	6	33	3	0	3	20	10	0	4	22	6	0	146
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	25	176	33	0	33	138	17	0	20	107	25	0	30	129	44	0	777
APPROACH %'s :	10.68%	75.21%	14.10%	0.00%	17.55%	73.40%	9.04%	0.00%	13.16%	70.39%	16.45%	0.00%	14.78%	63.55%	21.67%	0.00%	
PEAK HR :	08:00 PM - 09:00 PM																TOTAL
PEAK HR VOL :	25	176	33	0	33	138	17	0	20	107	25	0	30	129	44	0	777
PEAK HR FACTOR :	0.694	0.800	0.688	0.000	0.589	0.841	0.708	0.000	0.833	0.787	0.625	0.000	0.536	0.686	0.688	0.000	0.867
	0.836				0.922				0.844				0.705				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Rimsdale Ave & San Bernardino Rd
City: West Covina
Control: Signalized

Project ID: 21-020048-001
Date: 2/16/2021

Total

NS/EW Streets:	Rimsdale Ave				Rimsdale Ave				San Bernardino Rd				San Bernardino Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	1	1	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	10	2	4	0	3	3	5	0	2	30	4	0	7	43	3	0	116
7:15 AM	8	2	6	0	6	1	7	0	2	49	6	0	3	61	6	0	157
7:30 AM	3	1	6	0	4	4	3	0	4	62	9	0	4	55	4	0	159
7:45 AM	11	2	9	0	6	3	6	0	2	61	8	0	12	64	0	0	184
8:00 AM	10	7	4	0	8	6	5	0	3	64	7	0	9	56	6	0	185
8:15 AM	11	5	11	0	10	2	4	0	7	68	11	0	7	48	9	0	193
8:30 AM	6	3	5	0	18	10	9	0	9	58	11	0	3	58	14	0	204
8:45 AM	12	6	8	0	26	6	7	0	8	54	14	0	6	49	10	0	206
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	71	28	53	0	81	35	46	0	37	446	70	0	51	434	52	0	1404
APPROACH %'s :	46.71%	18.42%	34.87%	0.00%	50.00%	21.60%	28.40%	0.00%	6.69%	80.65%	12.66%	0.00%	9.50%	80.82%	9.68%	0.00%	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	39	21	28	0	62	24	25	0	27	244	43	0	25	211	39	0	788
PEAK HR FACTOR :	0.813	0.750	0.636	0.000	0.596	0.600	0.694	0.000	0.750	0.897	0.768	0.000	0.694	0.909	0.696	0.000	0.956
	0.815				0.712				0.913				0.917				

Mid Morning	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	1	1	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
10:00 AM	16	6	22	0	19	2	10	0	18	65	13	0	7	55	13	0	246
10:15 AM	15	11	13	0	28	11	12	0	12	55	15	0	5	62	18	0	257
10:30 AM	16	11	12	0	25	13	13	0	14	66	21	0	12	70	19	0	292
10:45 AM	14	17	14	0	25	16	11	0	14	80	18	0	8	79	38	0	334
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	61	45	61	0	97	42	46	0	58	266	67	0	32	266	88	0	1129
APPROACH %'s :	36.53%	26.95%	36.53%	0.00%	52.43%	22.70%	24.86%	0.00%	14.83%	68.03%	17.14%	0.00%	8.29%	68.91%	22.80%	0.00%	
PEAK HR :	10:00 AM - 11:00 AM																TOTAL
PEAK HR VOL :	61	45	61	0	97	42	46	0	58	266	67	0	32	266	88	0	1129
PEAK HR FACTOR :	0.953	0.662	0.693	0.000	0.866	0.656	0.885	0.000	0.806	0.831	0.798	0.000	0.667	0.842	0.579	0.000	0.845
	0.928				0.889				0.873				0.772				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	1	1	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	18	13	25	0	26	11	19	0	21	127	27	0	11	100	16	0	414
4:15 PM	12	14	22	0	21	13	11	0	25	135	19	0	14	88	20	0	394
4:30 PM	26	11	23	0	29	13	12	0	20	146	18	0	11	103	11	0	423
4:45 PM	19	15	29	0	25	15	12	0	13	143	17	0	13	124	17	0	442
5:00 PM	22	10	18	0	30	14	13	0	7	131	20	0	16	98	11	1	391
5:15 PM	18	6	25	0	8	6	4	0	7	161	14	0	13	95	8	0	365
5:30 PM	18	4	18	0	10	10	7	0	5	144	17	0	6	83	8	0	330
5:45 PM	15	11	16	0	10	7	3	0	8	110	22	0	11	126	6	0	345
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	148	84	176	0	159	89	81	0	106	1097	154	0	95	817	97	1	3104
APPROACH %'s :	36.27%	20.59%	43.14%	0.00%	48.33%	27.05%	24.62%	0.00%	7.81%	80.84%	11.35%	0.00%	9.41%	80.89%	9.60%	0.10%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	75	53	99	0	101	52	54	0	79	551	81	0	49	415	64	0	1673
PEAK HR FACTOR :	0.721	0.883	0.853	0.000	0.871	0.867	0.711	0.000	0.790	0.943	0.750	0.000	0.875	0.837	0.800	0.000	0.946
	0.901				0.924				0.966				0.857				

Evening	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	1	1	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
8:00 PM	3	1	5	0	4	1	2	0	3	56	7	0	2	50	3	0	137
8:15 PM	7	2	3	0	8	0	1	0	2	49	5	0	4	50	4	0	135
8:30 PM	9	0	9	0	5	2	0	0	4	38	10	0	3	40	3	0	123
8:45 PM	9	2	4	0	1	1	3	0	1	30	7	0	6	40	2	0	106
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	28	5	21	0	18	4	6	0	10	173	29	0	15	180	12	0	501
APPROACH %'s :	51.85%	9.26%	38.89%	0.00%	64.29%	14.29%	21.43%	0.00%	4.72%	81.60%	13.68%	0.00%	7.25%	86.96%	5.80%	0.00%	
PEAK HR :	08:00 PM - 09:00 PM																TOTAL
PEAK HR VOL :	28	5	21	0	18	4	6	0	10	173	29	0	15	180	12	0	501
PEAK HR FACTOR :	0.778	0.625	0.583	0.000	0.563	0.500	0.500	0.000	0.625	0.772	0.725	0.000	0.625	0.900	0.750	0.000	0.914
	0.750				0.778				0.803				0.892				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Azusa Ave & San Bernardino Rd
City: West Covina
Control: Signalized

Project ID: 21-020029-004
Date: 2/2/2021

Total

NS/EW Streets:	Azusa Ave				Azusa Ave				San Bernardino Rd				San Bernardino Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	14	72	3	3	2	97	11	0	8	18	14	0	10	30	2	0	284
7:15 AM	7	72	7	2	2	108	9	1	10	21	19	0	18	37	1	0	314
7:30 AM	21	91	14	4	5	107	12	2	15	30	26	0	21	49	8	0	405
7:45 AM	15	70	15	4	10	121	19	0	17	45	24	0	17	46	8	0	411
8:00 AM	22	85	13	4	7	120	12	0	14	42	17	0	14	42	9	0	401
8:15 AM	14	86	15	3	14	91	12	1	31	47	17	0	25	44	5	0	405
8:30 AM	17	113	14	3	8	109	18	0	15	40	18	0	19	45	7	0	426
8:45 AM	16	89	12	2	11	98	18	2	26	53	17	0	21	47	15	0	427
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	126	678	93	25	59	851	111	6	136	296	152	0	145	340	55	0	3073
APPROACH %'s :	13.67%	73.54%	10.09%	2.71%	5.74%	82.86%	10.81%	0.58%	23.29%	50.68%	26.03%	0.00%	26.85%	62.96%	10.19%	0.00%	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	69	373	54	12	40	418	60	3	86	182	69	0	79	178	36	0	1659
PEAK HR FACTOR :	0.784	0.825	0.900	0.750	0.714	0.871	0.833	0.375	0.694	0.858	0.958	0.000	0.790	0.947	0.600	0.000	0.971
		0.864				0.937				0.878				0.883			

Mid Morning	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
10:00 AM	23	132	14	6	11	123	33	3	26	40	20	0	17	48	7	0	503
10:15 AM	25	99	7	2	13	139	21	4	28	67	18	0	26	59	16	0	524
10:30 AM	26	114	9	4	17	136	22	2	28	50	26	0	18	56	11	0	519
10:45 AM	21	120	11	3	20	118	14	0	31	64	19	0	18	47	15	0	501
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	95	465	41	15	61	516	90	9	113	221	83	0	79	210	49	0	2047
APPROACH %'s :	15.42%	75.49%	6.66%	2.44%	9.02%	76.33%	13.31%	1.33%	27.10%	53.00%	19.90%	0.00%	23.37%	62.13%	14.50%	0.00%	
PEAK HR :	10:00 AM - 11:00 AM																TOTAL
PEAK HR VOL :	95	465	41	15	61	516	90	9	113	221	83	0	79	210	49	0	2047
PEAK HR FACTOR :	0.913	0.881	0.732	0.625	0.763	0.928	0.682	0.563	0.911	0.825	0.798	0.000	0.760	0.890	0.766	0.000	0.977
		0.880				0.955				0.914				0.837			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	31	179	19	6	33	197	25	5	35	116	24	0	29	61	14	0	774
4:15 PM	23	144	15	0	23	180	18	6	34	94	41	0	36	55	12	0	681
4:30 PM	23	190	29	2	24	211	12	5	33	104	31	0	28	49	27	0	768
4:45 PM	25	175	17	5	16	147	14	10	49	115	33	0	23	75	15	0	719
5:00 PM	31	175	20	3	33	199	16	9	36	94	34	0	25	66	11	0	752
5:15 PM	16	174	22	2	26	168	13	4	42	131	23	0	34	62	15	0	732
5:30 PM	41	189	15	6	21	192	11	11	27	106	29	0	25	64	11	0	748
5:45 PM	30	156	19	5	24	157	14	10	44	121	18	0	23	60	21	0	702
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	220	1382	156	29	200	1451	123	60	300	881	233	0	223	492	126	0	5876
APPROACH %'s :	12.31%	77.34%	8.73%	1.62%	10.91%	79.12%	6.71%	3.27%	21.22%	62.31%	16.48%	0.00%	26.52%	58.50%	14.98%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	95	714	88	12	99	725	55	28	160	444	121	0	110	252	68	0	2971
PEAK HR FACTOR :	0.766	0.939	0.759	0.600	0.750	0.859	0.859	0.700	0.816	0.847	0.890	0.000	0.809	0.840	0.630	0.000	0.967
		0.931				0.882				0.920				0.951			

NS/EW Streets:	Azusa Ave				Azusa Ave				San Bernardino Rd				San Bernardino Rd				
Evening	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
8:00 PM	17	88	3	0	17	94	17	2	14	18	13	0	8	22	8	0	321
8:15 PM	16	80	11	2	10	87	12	3	8	26	14	0	15	23	5	0	312
8:30 PM	18	92	2	4	12	81	13	0	14	20	7	0	6	13	6	0	288
8:45 PM	13	88	7	5	13	71	11	3	12	21	10	0	12	16	4	0	286
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	64	348	23	11	52	333	53	8	48	85	44	0	41	74	23	0	1207
APPROACH %'s :	14.35%	78.03%	5.16%	2.47%	11.66%	74.66%	11.88%	1.79%	27.12%	48.02%	24.86%	0.00%	29.71%	53.62%	16.67%	0.00%	
PEAK HR :	08:00 PM - 09:00 PM																TOTAL
PEAK HR VOL :	64	348	23	11	52	333	53	8	48	85	44	0	41	74	23	0	1207
PEAK HR FACTOR :	0.889	0.946	0.523	0.550	0.765	0.886	0.779	0.667	0.857	0.817	0.786	0.000	0.683	0.804	0.719	0.000	0.940
		0.961				0.858				0.922				0.802			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Vincent Ave & Badillo St
City: West Covina
Control: Signalized

Project ID: 21-020029-005
Date: 2/2/2021

Total

NS/EW Streets:	Vincent Ave				Vincent Ave				Badillo St				Badillo St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	3	79	8	0	5	81	6	1	3	29	14	1	12	45	5	0	292
7:15 AM	2	107	19	1	2	101	11	1	5	38	14	3	23	61	8	0	396
7:30 AM	6	86	20	1	9	121	12	3	4	56	13	0	8	53	9	0	401
7:45 AM	11	115	23	0	3	114	6	0	3	77	11	3	11	69	14	1	461
8:00 AM	6	88	15	1	4	103	11	1	3	57	9	1	14	53	11	3	380
8:15 AM	12	70	21	0	1	100	5	1	5	55	13	0	19	46	13	1	362
8:30 AM	15	83	14	0	7	99	10	1	3	50	15	1	10	36	3	0	347
8:45 AM	12	77	15	0	6	90	4	1	3	62	12	0	22	55	8	1	368
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	67	705	135	3	37	809	65	9	29	424	101	9	119	418	71	6	3007
APPROACH %'s :	7.36%	77.47%	14.84%	0.33%	4.02%	87.93%	7.07%	0.98%	5.15%	75.31%	17.94%	1.60%	19.38%	68.08%	11.56%	0.98%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	25	396	77	3	18	439	40	5	15	228	47	7	56	236	42	4	1638
PEAK HR FACTOR :	0.568	0.861	0.837	0.750	0.500	0.907	0.833	0.417	0.750	0.740	0.839	0.583	0.609	0.855	0.750	0.333	0.888
		0.841				0.866				0.790				0.889			

Mid Morning	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
10:00 AM	5	65	20	0	8	74	5	3	3	54	17	0	17	49	12	1	333
10:15 AM	5	73	17	0	1	81	4	2	3	60	12	1	22	56	9	1	347
10:30 AM	4	74	23	0	8	85	8	1	7	63	14	0	13	56	8	0	364
10:45 AM	6	75	21	0	4	98	6	0	9	64	13	1	18	56	14	1	386
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	20	287	81	0	21	338	23	6	22	241	56	2	70	217	43	3	1430
APPROACH %'s :	5.15%	73.97%	20.88%	0.00%	5.41%	87.11%	5.93%	1.55%	6.85%	75.08%	17.45%	0.62%	21.02%	65.17%	12.91%	0.90%	
PEAK HR :	10:00 AM - 11:00 AM																TOTAL
PEAK HR VOL :	20	287	81	0	21	338	23	6	22	241	56	2	70	217	43	3	1430
PEAK HR FACTOR :	0.833	0.957	0.880	0.000	0.656	0.862	0.719	0.500	0.611	0.941	0.824	0.500	0.795	0.969	0.768	0.750	0.926
		0.951				0.898				0.922				0.935			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	8	114	51	0	11	132	9	1	8	121	23	0	38	83	16	3	618
4:15 PM	10	124	39	0	10	131	10	0	8	186	37	0	19	76	6	1	657
4:30 PM	12	142	37	1	14	181	11	5	6	151	35	2	24	92	7	0	720
4:45 PM	13	143	41	0	6	147	15	0	9	154	26	0	29	97	17	3	700
5:00 PM	14	132	37	1	8	136	17	2	15	173	45	1	24	67	16	1	689
5:15 PM	8	140	56	0	14	152	13	3	13	180	32	1	23	93	19	2	749
5:30 PM	17	144	34	0	9	166	15	2	12	192	22	1	24	68	14	3	723
5:45 PM	18	140	33	0	14	142	11	0	14	153	32	1	20	58	17	4	657
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	100	1079	328	2	86	1187	101	13	85	1310	252	6	201	634	112	17	5513
APPROACH %'s :	6.63%	71.50%	21.74%	0.13%	6.20%	85.58%	7.28%	0.94%	5.14%	79.25%	15.25%	0.36%	20.85%	65.77%	11.62%	1.76%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	52	559	168	1	37	601	60	7	49	699	125	3	100	325	66	9	2861
PEAK HR FACTOR :	0.765	0.970	0.750	0.250	0.661	0.905	0.882	0.583	0.817	0.910	0.694	0.750	0.862	0.838	0.868	0.750	0.955
		0.956				0.918				0.936				0.856			

NS/EW Streets:	Vincent Ave				Vincent Ave				Badillo St				Badillo St				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
8:00 PM	8	57	10	1	6	67	5	3	6	27	11	1	8	37	2	0	249
8:15 PM	10	63	16	0	4	37	4	1	2	45	13	1	10	40	3	0	249
8:30 PM	8	50	9	1	5	65	11	0	3	24	7	1	2	33	5	0	224
8:45 PM	1	55	10	0	1	42	8	2	2	39	3	1	9	32	3	0	208
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	27	225	45	2	16	211	28	6	13	135	34	4	29	142	13	0	930
APPROACH %'s :	9.03%	75.25%	15.05%	0.67%	6.13%	80.84%	10.73%	2.30%	6.99%	72.58%	18.28%	2.15%	15.76%	77.17%	7.07%	0.00%	
PEAK HR :	08:00 PM - 09:00 PM																TOTAL
PEAK HR VOL :	27	225	45	2	16	211	28	6	13	135	34	4	29	142	13	0	930
PEAK HR FACTOR :	0.675	0.893	0.703	0.500	0.667	0.787	0.636	0.500	0.542	0.750	0.654	1.000	0.725	0.888	0.650	0.000	0.934
		0.840				0.806				0.762				0.868			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Lark Ellen Ave & Badillo St
City: West Covina
Control: Signalized

Project ID: 21-020029-006
Date: 2/2/2021

Total

NS/EW Streets:	Lark Ellen Ave				Lark Ellen Ave				Badillo St				Badillo St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	0	0	1	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	4	50	6	0	6	50	8	0	4	36	1	2	7	51	12	0	237
7:15 AM	9	49	13	0	7	46	12	0	8	45	3	1	13	74	11	1	292
7:30 AM	10	66	11	0	4	70	11	0	9	60	3	2	17	59	12	1	335
7:45 AM	13	88	17	0	8	80	9	0	8	87	7	4	11	83	10	3	428
8:00 AM	7	72	16	0	5	74	9	0	6	63	7	5	7	75	9	1	356
8:15 AM	11	61	11	0	4	65	8	0	3	74	4	0	12	49	14	1	317
8:30 AM	4	55	16	0	8	66	5	0	7	58	6	4	12	52	8	2	303
8:45 AM	8	88	16	0	5	61	12	0	9	63	8	1	14	51	10	2	348
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	66	529	106	0	47	512	74	0	54	486	39	19	93	494	86	11	2616
APPROACH %'s :	9.42%	75.46%	15.12%	0.00%	7.42%	80.88%	11.69%	0.00%	9.03%	81.27%	6.52%	3.18%	13.60%	72.22%	12.57%	1.61%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	41	287	55	0	21	289	37	0	26	284	21	11	47	266	45	6	1436
PEAK HR FACTOR :	0.788	0.815	0.809	0.000	0.656	0.903	0.841	0.000	0.722	0.816	0.750	0.550	0.691	0.801	0.804	0.500	0.839
	0.811				0.894				0.807				0.850				

Mid Morning	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	0	0	1	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
10:00 AM	9	76	20	0	8	47	6	0	8	70	4	1	18	69	8	0	344
10:15 AM	4	65	15	0	6	70	12	0	10	58	7	1	17	65	18	2	350
10:30 AM	8	61	6	0	6	55	7	0	6	92	6	1	17	67	10	2	344
10:45 AM	9	74	14	0	7	69	4	0	8	69	1	0	18	60	9	2	344
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	30	276	55	0	27	241	29	0	32	289	18	3	70	261	45	6	1382
APPROACH %'s :	8.31%	76.45%	15.24%	0.00%	9.09%	81.14%	9.76%	0.00%	9.36%	84.50%	5.26%	0.88%	18.32%	68.32%	11.78%	1.57%	
PEAK HR :	10:00 AM - 11:00 AM																TOTAL
PEAK HR VOL :	30	276	55	0	27	241	29	0	32	289	18	3	70	261	45	6	1382
PEAK HR FACTOR :	0.833	0.908	0.688	0.000	0.844	0.861	0.604	0.000	0.800	0.785	0.643	0.750	0.972	0.946	0.625	0.750	0.987
	0.860				0.844				0.814				0.936				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	0	0	1	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	8	109	16	0	9	120	12	0	14	155	11	0	32	95	18	0	599
4:15 PM	8	98	24	0	14	109	6	0	17	183	12	2	24	91	16	3	607
4:30 PM	6	131	20	0	11	119	5	0	13	176	13	0	33	107	15	2	651
4:45 PM	13	120	21	0	12	115	13	0	17	188	17	0	29	107	15	2	669
5:00 PM	7	132	23	0	18	123	12	0	20	162	18	0	23	100	16	3	657
5:15 PM	12	127	27	0	13	116	7	0	18	199	10	7	33	114	15	1	699
5:30 PM	10	137	17	0	13	128	8	0	12	213	15	4	34	88	10	0	689
5:45 PM	13	109	22	0	11	127	5	0	10	192	15	1	15	81	24	2	627
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	77	963	170	0	101	957	68	0	121	1468	111	14	223	783	129	13	5198
APPROACH %'s :	6.36%	79.59%	14.05%	0.00%	8.97%	84.99%	6.04%	0.00%	7.06%	85.65%	6.48%	0.82%	19.43%	68.21%	11.24%	1.13%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	42	516	88	0	56	482	40	0	67	762	60	11	119	409	56	6	2714
PEAK HR FACTOR :	0.808	0.942	0.815	0.000	0.778	0.941	0.769	0.000	0.838	0.894	0.833	0.393	0.875	0.897	0.875	0.500	0.971
	0.973				0.944				0.922				0.905				

NS/EW Streets:	Lark Ellen Ave				Lark Ellen Ave				Badillo St				Badillo St				
Evening	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
8:00 PM	4	55	2	0	3	50	9	0	4	34	4	1	7	40	9	1	223
8:15 PM	4	41	5	0	6	29	1	0	11	44	3	0	6	42	7	0	199
8:30 PM	3	50	4	0	2	41	3	0	9	34	2	0	5	38	8	0	199
8:45 PM	4	35	3	0	9	37	4	0	2	40	7	0	5	37	3	2	188
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	15	181	14	0	20	157	17	0	26	152	16	1	23	157	27	3	809
APPROACH %'s :	7.14%	86.19%	6.67%	0.00%	10.31%	80.93%	8.76%	0.00%	13.33%	77.95%	8.21%	0.51%	10.95%	74.76%	12.86%	1.43%	
PEAK HR :	08:00 PM - 09:00 PM																TOTAL
PEAK HR VOL :	15	181	14	0	20	157	17	0	26	152	16	1	23	157	27	3	809
PEAK HR FACTOR :	0.938	0.823	0.700	0.000	0.556	0.785	0.472	0.000	0.591	0.864	0.571	0.250	0.821	0.935	0.750	0.375	0.907
	0.861				0.782				0.841				0.921				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Azusa Ave & Badillo St
City: West Covina
Control: Signalized

Project ID: 21-020029-007
Date: 2/2/2021

Total

NS/EW Streets:	Azusa Ave				Azusa Ave				Badillo St				Badillo St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	3	0	0	1	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	15	77	10	1	8	105	9	1	3	28	8	0	10	56	4	0	335
7:15 AM	24	81	15	5	8	110	16	3	8	44	11	0	19	68	4	0	416
7:30 AM	34	105	17	2	10	131	16	4	7	50	24	0	27	62	7	0	496
7:45 AM	26	101	29	2	14	116	15	2	8	88	8	0	18	51	4	0	482
8:00 AM	30	103	16	4	14	113	16	5	16	62	11	0	23	46	7	0	466
8:15 AM	25	109	16	1	13	104	14	1	8	53	23	0	17	55	10	0	449
8:30 AM	23	122	19	1	13	127	10	5	4	48	24	0	16	48	4	0	464
8:45 AM	33	103	25	3	19	119	9	3	12	60	21	0	20	58	9	0	494
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	210	801	147	19	99	925	105	24	66	433	130	0	150	444	49	0	3602
APPROACH %'s :	17.84%	68.05%	12.49%	1.61%	8.59%	80.23%	9.11%	2.08%	10.49%	68.84%	20.67%	0.00%	23.33%	69.05%	7.62%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	115	418	78	9	51	464	61	12	39	253	66	0	85	214	28	0	1893
PEAK HR FACTOR :	0.846	0.959	0.672	0.563	0.911	0.885	0.953	0.600	0.609	0.719	0.688	0.000	0.787	0.863	0.700	0.000	0.954
	0.981				0.913				0.861				0.852				

Mid Morning	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	3	0	0	1	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
10:00 AM	25	158	25	4	12	140	12	6	13	60	20	0	15	57	10	0	557
10:15 AM	30	115	27	3	11	138	20	6	7	47	27	0	35	70	8	0	544
10:30 AM	25	136	18	1	25	152	12	4	6	69	21	0	30	60	10	0	569
10:45 AM	21	136	27	3	17	110	13	7	14	75	14	0	32	65	13	0	547
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	101	545	97	11	65	540	57	23	40	251	82	0	112	252	41	0	2217
APPROACH %'s :	13.40%	72.28%	12.86%	1.46%	9.49%	78.83%	8.32%	3.36%	10.72%	67.29%	21.98%	0.00%	27.65%	62.22%	10.12%	0.00%	
PEAK HR :	10:00 AM - 11:00 AM																TOTAL
PEAK HR VOL :	101	545	97	11	65	540	57	23	40	251	82	0	112	252	41	0	2217
PEAK HR FACTOR :	0.842	0.862	0.898	0.688	0.650	0.888	0.713	0.821	0.714	0.837	0.759	0.000	0.800	0.900	0.788	0.000	0.974
	0.889				0.887				0.905				0.896				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	3	0	0	1	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	27	147	25	0	16	183	22	4	25	146	42	0	42	96	11	0	786
4:15 PM	35	198	37	4	24	231	17	4	18	152	37	0	33	89	11	0	890
4:30 PM	21	176	22	6	19	198	26	3	30	159	51	0	32	119	15	0	877
4:45 PM	35	182	24	2	15	190	17	8	28	142	30	0	34	92	14	0	813
5:00 PM	28	151	18	1	22	180	26	9	30	150	37	0	52	104	17	0	825
5:15 PM	31	217	26	4	23	210	16	4	28	143	40	0	34	117	19	0	912
5:30 PM	18	171	26	5	13	200	19	6	27	189	50	0	45	91	18	0	878
5:45 PM	43	184	22	3	20	148	18	5	25	131	38	0	33	81	13	0	764
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	238	1426	200	25	152	1540	161	43	211	1212	325	0	305	789	118	0	6745
APPROACH %'s :	12.60%	75.49%	10.59%	1.32%	8.02%	81.22%	8.49%	2.27%	12.07%	69.34%	18.59%	0.00%	25.17%	65.10%	9.74%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	112	721	94	12	73	780	78	27	113	624	157	0	165	404	68	0	3428
PEAK HR FACTOR :	0.800	0.831	0.904	0.600	0.793	0.929	0.750	0.750	0.942	0.825	0.785	0.000	0.793	0.863	0.895	0.000	0.940
	0.844				0.947				0.840				0.921				

NS/EW Streets:	Azusa Ave				Azusa Ave				Badillo St				Badillo St				
Evening	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
8:00 PM	22	97	15	3	13	90	9	2	4	37	18	0	28	39	6	0	383
8:15 PM	13	93	16	4	7	87	9	1	7	34	10	0	15	45	3	0	344
8:30 PM	9	106	10	2	7	86	5	2	9	30	6	0	16	30	7	0	325
8:45 PM	14	80	6	2	11	77	8	2	6	30	15	0	16	38	8	0	313
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	58	376	47	11	38	340	31	7	26	131	49	0	75	152	24	0	1365
APPROACH %'s :	11.79%	76.42%	9.55%	2.24%	9.13%	81.73%	7.45%	1.68%	12.62%	63.59%	23.79%	0.00%	29.88%	60.56%	9.56%	0.00%	
PEAK HR :	08:00 PM - 09:00 PM																TOTAL
PEAK HR VOL :	58	376	47	11	38	340	31	7	26	131	49	0	75	152	24	0	1365
PEAK HR FACTOR :	0.659	0.887	0.734	0.688	0.731	0.944	0.861	0.875	0.722	0.885	0.681	0.000	0.670	0.844	0.750	0.000	0.891
	0.898				0.912				0.873				0.860				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Rimsdale Ave & Badillo St
City: West Covina
Control: Signalized

Project ID: 21-020048-002
Date: 2/16/2021

Total

NS/EW Streets:	Rimsdale Ave				Rimsdale Ave				Badillo St				Badillo St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	1	0	0	1	2	0	0	0	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	4	0	4	0	7	44	0	0	0	92	7	0	158
7:15 AM	0	0	0	0	5	0	5	0	9	63	0	0	0	65	2	0	149
7:30 AM	0	0	0	0	4	0	11	0	10	78	0	1	0	77	4	0	185
7:45 AM	0	0	0	0	9	0	11	0	8	98	0	1	0	94	6	0	227
8:00 AM	0	0	0	0	7	0	11	0	18	67	0	1	0	69	12	0	185
8:15 AM	0	0	0	0	8	0	7	0	13	95	0	0	0	81	9	0	213
8:30 AM	0	0	0	0	7	0	16	0	15	91	0	1	0	86	7	0	223
8:45 AM	0	0	0	0	9	0	9	1	17	85	0	0	0	87	9	0	217
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	53	0	74	1	97	621	0	4	0	651	56	0	1557
APPROACH %'s :					41.41%	0.00%	57.81%	0.78%	13.43%	86.01%	0.00%	0.55%	0.00%	92.08%	7.92%	0.00%	
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	0	0	0	0	31	0	45	0	54	351	0	3	0	330	34	0	848
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.861	0.000	0.703	0.000	0.750	0.895	0.000	0.750	0.000	0.878	0.708	0.000	0.934
					0.826				0.944				0.910				

Mid Morning	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	1	0	0	1	2	0	0	0	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
10:00 AM	0	0	0	0	10	0	6	0	23	86	0	0	0	69	9	0	203
10:15 AM	0	0	0	0	16	0	10	0	13	87	0	0	0	66	18	0	210
10:30 AM	0	0	0	0	12	0	12	0	25	80	0	2	0	88	17	0	236
10:45 AM	0	0	0	0	17	0	19	0	20	94	0	0	0	78	19	0	247
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	55	0	47	0	81	347	0	2	0	301	63	0	896
APPROACH %'s :					53.92%	0.00%	46.08%	0.00%	18.84%	80.70%	0.00%	0.47%	0.00%	82.69%	17.31%	0.00%	
PEAK HR :	10:00 AM - 11:00 AM																TOTAL
PEAK HR VOL :	0	0	0	0	55	0	47	0	81	347	0	2	0	301	63	0	896
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.809	0.000	0.618	0.000	0.810	0.923	0.000	0.250	0.000	0.855	0.829	0.000	0.907
					0.708				0.943				0.867				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	1	0	0	1	2	0	0	0	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	25	0	22	0	40	186	0	3	0	97	19	0	392
4:15 PM	0	0	0	0	22	0	19	0	22	200	0	1	0	128	19	0	411
4:30 PM	0	0	0	0	21	0	22	0	23	163	0	1	0	128	13	0	371
4:45 PM	0	0	0	0	16	0	23	0	27	175	0	1	0	134	16	0	392
5:00 PM	0	0	0	0	15	0	29	0	23	198	0	1	0	115	19	0	400
5:15 PM	0	0	0	0	10	0	13	0	18	238	0	5	0	120	20	0	424
5:30 PM	0	0	0	0	9	0	20	0	21	200	0	4	0	137	16	0	407
5:45 PM	0	0	0	0	10	0	14	0	13	170	0	5	0	110	9	0	331
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	128	0	162	0	187	1530	0	21	0	969	131	0	3128
APPROACH %'s :					44.14%	0.00%	55.86%	0.00%	10.76%	88.03%	0.00%	1.21%	0.00%	88.09%	11.91%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	0	0	0	0	50	0	85	0	89	811	0	11	0	506	71	0	1623
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.781	0.000	0.733	0.000	0.824	0.852	0.000	0.550	0.000	0.923	0.888	0.000	0.957
					0.767				0.873				0.943				

Evening	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	1	0	0	1	2	0	0	0	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
8:00 PM	0	0	0	0	4	0	3	0	4	54	0	0	0	55	3	0	123
8:15 PM	0	0	0	0	3	0	9	0	9	57	0	2	0	56	3	0	139
8:30 PM	0	0	0	0	4	0	9	0	5	46	0	3	0	49	8	0	124
8:45 PM	0	0	0	0	5	0	11	0	3	28	0	0	0	51	3	0	101
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	16	0	32	0	21	185	0	5	0	211	17	0	487
APPROACH %'s :					33.33%	0.00%	66.67%	0.00%	9.95%	87.68%	0.00%	2.37%	0.00%	92.54%	7.46%	0.00%	
PEAK HR :	08:00 PM - 09:00 PM																TOTAL
PEAK HR VOL :	0	0	0	0	16	0	32	0	21	185	0	5	0	211	17	0	487
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.800	0.000	0.727	0.000	0.583	0.811	0.000	0.417	0.000	0.942	0.531	0.000	0.876
					0.750				0.776				0.966				

Appendix B – Traffic Count Conversions

2021 Raw Traffic Data

1 Vincent Ave & San Bernardino Rd — Raw data 2/2/2021

	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU
AM Peak	40	315	33	3	38	361	45	0	24	188	43	0	74	211	24	0
10:00 AM	32	248	61	9	55	273	44	0	27	214	31	0	83	192	51	0
PM Peak	56	486	97	15	78	504	29	0	90	483	89	0	90	231	66	0
8:00 PM	19	190	31	12	32	167	29	0	25	91	23	0	34	95	25	0

2 Cutter Way & San Bernardino Rd — Raw data 2/2/2021

	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU
AM Peak	0	0	0	0	17	0	6	0	1	248	0	0	0	293	12	0
10:00 AM	0	0	0	0	10	0	9	0	5	287	0	0	0	318	20	0
PM Peak	0	0	0	0	25	0	12	0	6	666	0	1	0	349	20	2
8:00 PM	0	0	0	0	10	0	4	0	4	162	0	0	0	145	11	1

3 Lark Ellen Ave & San Bernardino Rd — Raw data 2/2/2021

	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU
AM Peak	37	278	41	0	41	262	45	0	31	214	40	0	33	214	34	0
10:00 AM	39	244	71	0	69	209	39	0	35	262	33	0	52	259	63	0
PM Peak	65	485	87	0	80	385	52	0	68	478	105	0	79	302	94	0
8:00 PM	25	176	33	0	33	138	17	0	20	107	25	0	30	129	44	0

4 Rimsdale Ave & San Bernardino Rd — Raw data 2/16/2021

	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU
AM Peak	39	21	28	0	62	24	25	0	27	244	43	0	25	211	39	0
10:00 AM	61	45	61	0	97	42	46	0	58	266	67	0	32	266	88	0
PM Peak	75	53	99	0	101	52	54	0	79	551	81	0	49	415	64	0
8:00 PM	28	5	21	0	18	4	6	0	10	173	29	0	15	180	12	0

5 Azusa Ave & San Bernardino Rd — Raw data 2/2/2021

	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU
AM Peak	69	373	54	12	40	418	60	3	86	182	69	0	79	178	36	0
10:00 AM	95	465	41	15	61	516	90	9	113	221	83	0	79	210	49	0
PM Peak	95	714	88	12	99	725	55	28	160	444	121	0	110	252	68	0
8:00 PM	64	348	23	11	52	333	53	8	48	85	44	0	41	74	23	0

6 Vincent Ave & Badillo St — Raw data 2/2/2021

	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU
AM Peak	25	396	77	3	18	439	40	5	15	228	47	7	56	236	42	4
10:00 AM	20	287	81	0	21	338	23	6	22	241	56	2	70	217	43	3
PM Peak	52	559	168	1	37	601	60	7	49	699	125	3	100	325	66	9
8:00 PM	27	225	45	2	16	211	28	6	13	135	34	4	29	142	13	0

7 Lark Ellen Ave & Badillo St — Raw data 2/2/2021

	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU
AM Peak	41	287	55	0	21	289	37	0	26	284	21	11	47	266	45	6
10:00 AM	30	276	55	0	27	241	29	0	32	289	18	3	70	261	45	6
PM Peak	42	516	88	0	56	482	40	0	67	762	60	11	119	409	56	6
8:00 PM	15	181	14	0	20	157	17	0	26	152	16	1	23	157	27	3

8 Rimsdale Ave & Badillo St — Raw data 2/16/2021

	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU
AM Peak	0	0	0	0	31	0	45	0	54	351	0	3	0	330	34	0
10:00 AM	0	0	0	0	55	0	47	0	81	347	0	2	0	301	63	0
PM Peak	0	0	0	0	50	0	85	0	89	811	0	11	0	506	71	0
8:00 PM	0	0	0	0	16	0	32	0	21	185	0	5	0	211	17	0

9 Azusa Ave & Badillo St — Raw data 2/2/2021

	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU
AM Peak	115	418	78	9	51	464	61	12	39	253	66	0	85	214	28	0
10:00 AM	101	545	97	11	65	540	57	23	40	251	82	0	112	252	41	0
PM Peak	112	721	94	12	73	780	78	27	113	624	157	0	165	404	68	0
8:00 PM	58	376	47	11	38	340	31	7	26	131	49	0	75	152	24	0

2021 Traffic Volumes

1 Vincent Ave & San Bernardino Rd — 2021

	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU
AM Peak	91	720	75	7	87	825	103	-	55	430	98	-	169	482	55	-
10:00 AM	41	315	78	11	70	347	56	-	34	272	39	-	105	244	65	-
PM Peak	71	618	123	19	99	641	37	-	114	614	113	-	114	294	84	-
8:00 PM	24	241	39	15	41	212	37	-	32	116	29	-	43	121	32	-

2 Cutter Way & San Bernardino Rd — 2021

	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU
AM Peak	-	-	-	-	39	-	14	-	2	567	-	-	-	670	27	-
10:00 AM	-	-	-	-	13	-	11	-	6	365	-	-	-	404	25	-
PM Peak	-	-	-	-	32	-	15	-	8	846	-	1	-	444	25	3
8:00 PM	-	-	-	-	13	-	5	-	5	206	-	-	-	184	14	1

3 Lark Ellen Ave & San Bernardino Rd — 2021

	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU
AM Peak	85	635	94	-	94	599	103	-	71	489	91	-	75	489	78	-
10:00 AM	50	310	90	-	88	266	50	-	44	333	42	-	66	329	80	-
PM Peak	83	616	111	-	102	489	66	-	86	607	133	-	100	384	119	-
8:00 PM	32	224	42	-	42	175	22	-	25	136	32	-	38	164	56	-

4 Rimsdale Ave & San Bernardino Rd — 2021

	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU
AM Peak	89	48	64	-	142	55	57	-	62	558	98	-	57	482	89	-
10:00 AM	78	57	78	-	123	53	58	-	74	338	85	-	41	338	112	-
PM Peak	95	67	126	-	128	66	69	-	100	700	103	-	62	527	81	-
8:00 PM	36	6	27	-	23	5	8	-	13	220	37	-	19	229	15	-

5 Azusa Ave & San Bernardino Rd — 2021

	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU
AM Peak	158	853	123	27	91	955	137	7	197	416	158	-	181	407	82	-
10:00 AM	121	591	52	19	78	656	114	11	144	281	105	-	100	267	62	-
PM Peak	121	907	112	15	126	921	70	36	203	564	154	-	140	320	86	-
8:00 PM	81	442	29	14	66	423	67	10	61	108	56	-	52	94	29	-

6 Vincent Ave & Badillo St — 2021

	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU
AM Peak	57	905	176	7	41	1,003	91	11	34	521	107	16	128	539	96	9
10:00 AM	25	365	103	-	27	430	29	8	28	306	71	3	89	276	55	4
PM Peak	66	710	214	1	47	764	76	9	62	888	159	4	127	413	84	11
8:00 PM	34	286	57	3	20	268	36	8	17	172	43	5	37	180	17	-

7 Lark Ellen Ave & Badillo St — 2021

	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU
AM Peak	94	656	126	-	48	661	85	-	59	649	48	25	107	608	103	14
10:00 AM	38	351	70	-	34	306	37	-	41	367	23	4	89	332	57	8
PM Peak	53	656	112	-	71	613	51	-	85	968	76	14	151	520	71	8
8:00 PM	19	230	18	-	25	200	22	-	33	193	20	1	29	200	34	4

8 Rimsdale Ave & Badillo St — 2021

	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU
AM Peak	-	-	-	-	71	-	103	-	123	802	-	7	-	754	78	-
10:00 AM	-	-	-	-	70	-	60	-	103	441	-	3	-	383	80	-
PM Peak	-	-	-	-	64	-	108	-	113	1,031	-	14	-	643	90	-
8:00 PM	-	-	-	-	20	-	41	-	27	235	-	6	-	268	22	-

9 Azusa Ave & Badillo St — 2021

	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU
AM Peak	263	955	178	21	117	1,061	139	27	89	578	151	-	194	489	64	-
10:00 AM	128	693	123	14	83	686	72	29	51	319	104	-	142	320	52	-
PM Peak	142	916	119	15	93	991	99	34	144	793	200	-	210	513	86	-
8:00 PM	74	478	60	14	48	432	39	9	33	166	62	-	95	193	31	-

Conversion Factors (Covid-19 and Growth)				
	2019		2021	
	AM	PM	AM	PM
Vincent Ave & San Bernardino Rd	3,047	2,925	1,399	2,314
Vincent Ave & Badillo St	3,695	3,637	1,638	2,861
Lark Ellen Ave & San Bernardino Rd	2,882	2,967	1,270	2,280
Lark Ellen Ave & Badillo St	3,067	3,040	1,436	2,714
Cutter Way & San Bernardino Rd	1,472	1,370	577	1,018
	14,163	13,939	6,320	11,187
plus 1% growth/year	14,446	14,218		
Adjustment Factors			2.29	1.27

Appendix C – Site Traffic Schedule

Trip Generation Notes

Trip Generation Schedule

The site's proposed tenant provided 24-hour trip schedules by trip or vehicle type for normal operations. The schedule follows as Table C1. Normal operations are based on the typical number of packages the delivery station is expected to deliver on a typical weekday outside of peak season which is elven months of the year.

Trip Rate Comparison

ITE does not have a use classification that reflects operations of a delivery station. The tenant recently conducted a study (see California: Delivery Station Trip Generation Study, February 2021, following table C1) to develop preliminary trip rates for delivery stations. The table below summarizes the rates from that study.

Vehicle Type	Rate per 1000 sq. ft. of Operational Area				
	Daily	AM Peak Hr.	PM Peak Hr.	AM Peak Generator	PM Peak Generator
Autos	6.78	0.30	0.42	0.55	0.44
Vans	2.71	0.00	0.13	0.65	0.36
Trucks	0.17	0.01	0.00	0.01	0.01
All Traffic	9.66	0.31	0.55	1.21	0.81
In/Out	50% / 50%	85% / 15%	48% / 52%	41% / 59%	52% / 48%

Note that the trip rates were based on the size of a delivery station minus any interior parking, van loading and van staging areas (known as operational area). In this case, only 120,400 SF of the 177,440 SF will be used to sort the packages into delivery routes and for related employee support facilities (rest rooms, offices, etc.). The remaining area will be used to stage (vans waiting for their turn to be loaded) and load the vans. Applying the rates above result in the following trips.

Vehicle Type	Operational Area = 120,400 sq. ft.				
	Daily	AM Peak Hr.	PM Peak Hr.	AM Peak Generator	PM Peak Generator
Autos	816	36	50	66	52
Vans	326	0	16	78	4
Trucks	20	2	0	2	2
Total	**1162**	**38**	**66**	**146**	**98**

When compared to the trip schedules, the above rates result in more AM peak hour of the adjacent street trips, but the number is still relative insignificant. The results of for the PM peak hour of the adjacent street are very similar. Yet the trip schedule results in notably more site traffic during the peak hours of the generator.

Trip Source	Daily	AM Peak Hr.	PM Peak Hr.	AM Peak Generator	PM Peak Generator
Trip Schedule Normal Operations	914	2	63	182	163
Trip Rate Study for Sites in California	1,162	38	66	146	98

Trip Reduction Factor

During normal operations, a minimum of 10% of employees and van drivers are expected to use transit, other ride sharing opportunities such as carpools or vanpools, or walk/bike to work. This is based on an analysis of available transit schedules and bus stop locations compared to employee and driver shifts, as well as area transit usage (pre-COVID-19). Specifically:

- The metro area's transit usage is 5.1%.

- Local Fixed-Route Bus Route stops are less than a quarter mile from the site (at the intersection of San Bernardino Road @ Lark Ellen Avenue and San Bernardino Road @ Vincent Avenue).
- Bus service is available to all employee and van driver shifts except the arrival of the overnight employee shift.
- Bus service connects to the Metrolink commuter rail at El Monte and Baldwin Park Stations.
- Sidewalk connects the site to nearest bus stop, located only 500 feet from the site.
- Bus stops are signed, have seating, and are ADA accessible.
- Regional carpool/vanpool mode share is 9.6%.

Table C1 Delivery Station in West Covina, CA - Normal Operations

	Associates			Trucks			DSP Drivers			DSP Vans			Flex			Total		
Time	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
00:00	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	1	1	2
01:00	70	0	70	0	1	1	0	0	0	0	0	0	0	0	0	70	1	71
02:00	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	1	1	2
03:00	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1	0	1
04:00	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	1
05:00	19	0	19	1	1	2	0	0	0	0	0	0	0	0	0	20	1	21
06:00	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1	0	1
07:00	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	1
08:00	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	1	1	2
09:00	0	0	0	1	0	1	54	0	54	0	0	0	0	0	0	55	0	55
10:00	0	0	0	0	1	1	73	0	73	0	108	108	0	0	0	73	109	182
11:00	4	0	4	0	0	0	0	0	0	0	34	34	0	0	0	4	34	38
12:00	0	70	70	0	0	0	0	0	0	0	0	0	0	0	0	0	70	70
13:00	36	0	36	0	0	0	0	0	0	0	0	0	0	0	0	36	0	36
14:00	0	19	19	0	0	0	0	0	0	0	0	0	0	0	0	0	19	19
15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:00	0	0	0	1	0	1	0	0	0	0	0	0	45	18	63	46	18	64
17:00	0	0	0	0	1	1	0	0	0	0	0	0	0	27	27	0	28	28
18:00	0	17	17	1	1	2	0	0	0	0	0	0	0	0	0	1	18	19
19:00	0	0	0	1	1	2	0	24	24	54	0	54	0	0	0	55	25	80
20:00	0	0	0	1	1	2	0	80	80	81	0	81	0	0	0	82	81	163
21:00	0	0	0	1	0	1	0	23	23	7	0	7	0	0	0	8	23	31
22:00	0	23	23	1	1	2	0	0	0	0	0	0	0	0	0	1	24	25
23:00	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	1	1	2
Total	**129**	**129**	**258**	**14**	**14**	**28**	**127**	**127**	**254**	**142**	**142**	**284**	**45**	**45**	**90**	**457**	**457**	**914**

1st Shift:	2:00 AM	12:30 PM	78	Assoc.	27%
2nd Shift:	6:00 AM	2:30 PM	21	Assoc.	7%
3rd Shift:	1:30 PM	10:00 PM	21	Assoc.	7%
PFSD Shift:	2:00 PM	6:00 PM	19	Assoc.	7%
RTS Shift:	12:00 PM	10:30 PM	4	Assoc.	1%
Drivers:	9:20 AM	9:10 PM	142	Drivers	50%

CALIFORNIA: DELIVERY STATION TRIP GENERATION STUDY WHITE PAPER

CONTACT: JOHN KARNOWSKI, P.E., PTOE, AICP

Executive Summary

There is a national trend towards on-line shopping and delivery of goods in North America. None of the current ITE Trip Generation land uses represent the trips of delivery stations with a 24-hour schedule. This study presents data from four California delivery stations. Rates were based on 7-day averages for daily, AM/PM of the commuter peak hour, and AM/PM of the generator peak hour trip ends. Trip generation rates were calculated trip per 1,000 square foot of operational area.

The data confirms that 24-hour Delivery Stations exhibit trip generation characteristics that are significantly different from other potentially comparable land uses included in ITE's Trip Generation Manual, specifically land use codes (LU) 150, 154, 155, and 156. The results of the study support the need for a delivery station land use category.

The evaluation of four sites across the state of California yielded operational area (excluding all interior loading, queuing, and parking areas) as a functional metric. Total daily, AM and PM peaks of the adjacent street (typical commuting hours) and AM and PM peak of the generator average trip rates and best fit equations were developed and are documented within the report. Graphs similar to those included in ITE's Trip Generation Manual are included in the Appendix. The recommended weighted average trip rates are shown below.

Land Use	Independent Variable	Daily	Peak Hour of the Adjacent Street		Peak Hour of the Generator	
			AM	PM	AM	PM
Delivery Station	1,000 SF of Operational Area	9.66	0.31	0.55	1.21	0.81

Since Delivery Stations often designate driveways for specific purposes, such as delivery vehicle exits, the typical mix of vehicle types throughout the day and during peak periods are also provided.

Vehicle	Independent Variable	Daily	Peak Hour of the Adjacent Street		Peak Hour of the Generator	
			AM	PM	AM	PM
Passenger Vehicles	1,000 SF of Operational Area	6.78	0.30	0.42	0.55	0.44
Delivery Vans		2.71	-	0.13	0.65	0.36
Line-Haul Trucks		0.17	0.01	-	0.01	0.01

Key Conclusions

- 24-Hour Delivery Stations exhibit trip generation characteristics that are significantly different from other potentially comparable land uses included in ITE's Trip Generation Manual.
- Operational Area, the minimal building size requirement to process packages and support onsite workers, provides potential trip generation rates.

CALIFORNIA: DELIVERY STATION TRIP GENERATION STUDY WHITE PAPER

CONTACT: JOHN KARNOWSKI, P.E., PTOE, AICP

There is a national trend toward on-line shopping and delivery of goods in North America. The current ITE Trip Generation Land Use Codes do not represent the trips of delivery stations operating with 24-hour schedules. This study summarizes trip characteristics of four delivery stations in California, develops trip generation rates for an independent variable with the best possible correlation among the collected data, and compares the results to the existing trip rates for specific ITE Land Use Codes.

INTRODUCTION AND BACKGROUND

ITE does not have a standard for e-commerce delivery station operations. Traffic studies for these facilities frequently use warehousing, high-cube transload warehousing, fulfillment center, high-cube parcel hub warehousing (land use codes 154-156), or possibly another land use category to estimate trips for the stations. Consultants and local traffic agencies do not universally apply the land use codes for delivery stations. The inconsistent use of trip rates can result in confusion on the part of reviewing agencies, a distrust of the numbers provided by developers, delays in preparing traffic studies, and possibly unnecessary mitigation measures.

The purpose of this paper is to present delivery station trip characteristics, evaluate trip generation rates using independent variables, and develop a standard metric for delivery stations in California.

STUDY DESIGN

This trip generation study was designed to establish a method to generate delivery station trip ends based on actual trip counts from multiple delivery stations of various sizes in California.

- Sites were selected where trips into and out of a facility could be isolated from other trip generators, provided all necessary parking onsite (no off-site parking), were located where there were minimal or no multi-modal transportation options, and had been in operation long enough to establish routine schedules (30 days minimum).
- Trip counts were collected for 24-hour periods for seven consecutive days.
- Site operators provided employee numbers (onsite workers, not including delivery drivers).
- Site operators provided site plans, including the interior layouts for buildings.

Data Collection Methodology

Trip data was collected by National Data & Surveying Services (NDS) for all sites to ensure consistency. Data for three of the sites was collected Thursday, November 5 through Wednesday, November 11, 2020. Data for the fourth site was collected Thursday January 14 through Wednesday January 20, 2021. Data was recorded by video and tabulated as entering or exiting trips for each discrete driveway by vehicle type: automobiles (cars and pickup trucks), vans (26’ cargo vans), box trucks, tractor-trailers, and others (motorcycles, garbage pickup vehicles, etc.). A 24-hour bi-directional tube count was also taken at each site on an adjacent roadway with the highest daily traffic volume to establish the adjacent street AM and PM peak hours. Raw data is provided in a separate technical appendix, available upon request.

The data was collected during the COVID-19 pandemic and may be conservatively high due to an increase in on-line shopping due to stay-at-home orders issued to reduce the spread of the virus.

Raw data was summarized combining counts from all driveways to obtain total trip volumes and total trip volumes by vehicle type for each site. The peak hours of the adjacent street were determined by the highest volumes between 7:00 – 9:00 am and 4:00 – 6:00 pm from the 24-hour tube counts. The peak hours of the generator (the delivery station's highest volume in the morning and afternoon or evening) was determined by the highest volume between midnight and noon and between noon and midnight from the total trip counts at each site.

Trip data was summarized into vehicle types for passenger vehicle, delivery van and trucks (line-haul) for this study. Other unidentified vehicle types were added to the passenger vehicle type since they would be using the same driveways and there was insufficient data to categorize them otherwise. Box trucks were manually assigned as either delivery vans or line-haul trucks depending on their individual trip characters (e.g., Entering and exiting at the same times as vans vs. arriving and departing like line-haul trucks). Depending on the site, some packages are delivered to the station with box trucks when a line-haul truck is not necessary. At other locations, box trucks are used for some special delivery routes. A separate rate for heavy vehicles was not calculated since the presence of box trucks are atypical and the raw data did not specify if any of the other vehicle types were heavy vehicles.

Site	Address	Average Daily Trips	Average Employees	Building Size (SF)	Operational Area (S.F.)
A	1757 Tapo Canyon, Simi Valley, CA 93063	385	25	204,680	96,200
B	400 Littlefield Ave S. San Francisco CA 94080	850	124	166,640	56,970
C	600 W Technology Dr Palmdale, CA 93551	1,545	134	128,192	128,192
D	Vantage Point Poway, CA 92064	1,609	220	533,950	173,170

Independent Variables

A comparison of site plans for delivery stations (not just these four sites) exposes a wide variety of layouts, including site sizes, building sizes, and numbers of parking spaces. A preliminary assessment of daily trips to employees and total building size revealed very poor correlation of data among the sites. While the poor correlation between number of employees and total trip ends could not be explained, the differences between the sites in terms of total building size and how the buildings were being used was apparent. Delivery stations frequently occupy buildings that are larger than necessary for sorting packages for delivery routes. At many sites, vans are loaded inside the building. Others also have enough interior space for the next wave of delivery vehicles to queue before moving into the loading area. Still others have enough excess interior space to park delivery vehicles overnight, and in rare cases employees and delivery drivers also park inside buildings. Other sites do not have sufficient space to accommodate all parking needs.

Each delivery station has a minimal building size requirement to process packages and support onsite workers. This is termed "operational area" and is the initial requirement for site selection for new delivery stations. Existing and proposed buildings available for lease are often larger than this

operational area but are still leased for the delivery station and excess internal space is used for other functions as mentioned above. Operational areas for the four sites were estimated from site plans and then compared to the total daily trip ends. An explanation of how to determine operational area and the operational areas of the sites included in this study are included in the Appendix.

STUDY RESULTS

Weighted average trip rates, Standard Deviations (SD), best-fit curve equations (where applicable), equation coefficients of determination (R^2) (where applicable), percentages of entering and exiting trips, and vehicle mixes were calculated for the sites for the following time periods to mirror the types of rates documented in the ITE Trip Generation Manual. Trip ends per 1,000 square feet of operational area are presented below with graphed data summary sheets in the Appendix.

1. Total Daily Trips (7-Day Average)
2. AM Peak Hour of Adjacent Street Traffic (the delivery station's volume during rush hour)
3. PM Peak Hour of Adjacent Street Traffic (the delivery station's volume during rush hour)
4. AM Peak Hour of Generator (the delivery station's highest volume in the morning)
5. PM Peak Hour of Generator (the delivery station's highest volume in the afternoon or evening)

Total Daily Trips

Total daily trips for each site were summarized for all vehicle types at all driveways and averaged for the seven-day collection period. The data reflects the range of trip generation characteristics for the selected delivery stations. As expected, daily trips are evenly split between entering and exiting.

Passenger vehicles make up an average of 70% of the daily trip ends, delivery vans account for 28%, and tractor-trailer trucks comprise 2% of the daily trip ends. Trip rates by vehicle type are summarized on page 6.

Daily Trip Rate
(7-Day Weighted Average)

Site	Trips	Operational Area (S.F.)	Rate/ 1,000 SF
A	385	96,200	4.00
B	850	56,658	15.00
C	1,545	128,192	12.05
D	1,609	173,170	9.29
Average Rate:		9.66	
SD:		4.68	
Equation:		T = 8.6894x + 110.52	
R^2:		0.54	

AM Peak Hour of Adjacent Street Traffic

The AM peak hour of the adjacent street was determined for each site based on the 24-hour tube counts for the hours between 7:00 am and 9:00 am. The majority of morning peak trips are entering (85%) versus exiting (15%). Passenger vehicles make up the bulk (97%) of AM peak hour of the adjacent street trip ends. Delivery vans, and tractor-trailer trucks account for the remaining trip ends (1% and 2% respectively).

Adjacent Street AM Peak Hour Trip Rate
(7-Day Weighted Average)

Site	Trips	Operational Area (S.F.)	Rate/ 1,000 SF
A	9	96,200	0.09
B	20	56,658	0.35
C	86	128,192	0.67
D	27	173,170	0.16
Average Rate:		0.31	
SD:		0.26	
R^2:		<0.50	

The data shows that all the delivery stations generate fewer than 90 peak hour trips with three of the sites generating fewer than 30 trips during the typical AM commuting peak hour.

California Delivery Station
Trip Generation Study
Page 5 of 8

PM Peak Hour of Adjacent Street Traffic

The PM peak hour of the adjacent street was determined for each site based on the 24-hour tube counts for the hours between 4:00 pm and 6:00 pm. Evening peak hour traffic is almost evenly split between entering (48%) and exiting (52%). The vehicle breakdown during this period is very similar to the daily mix with 76% passenger vehicles, 24% delivery vans and on average no tractor-trailer trip ends.

Adjacent Street PM Peak Hour Trip Rate (7-Day Weighted Average)			
Site	Trips	Operational Area (S.F.)	Rate/ 1,000 SF
A	36	96,200	0.37
B	30	56,658	0.53
C	119	128,192	0.93
D	66	173,170	0.38
Average Rate:		0.55	
SD:		0.26	
$R^{2:}$		<0.50	

The data shows that all the delivery stations generate fewer than 120 peak hour trips with three of the sites generating fewer than 70 trips during the typical PM commuting peak hour.

AM Peak Hour of Generator

The AM peak hour of the generator was determined for each site based on the highest hourly total driveway volumes between midnight and noon as delivery stations operate 24-hours a day and schedule employees as well as deliveries off peak to the extent feasible in any given market. For all sites, the morning peak hour of the generator occurred between 10:00 am and 11:00 am. During this hour 41% of the trips are entering and 59% are exiting. During the morning peak hour of the generator passenger vehicles account for 46% of the trip ends. Delivery vans make up another 54% and on average there are no tractor-trailer trip ends during this peak.

Delivery Station AM Peak Hour Trip Rate (7-Day Weighted Average)			
Site	Trips	Operational Area (S.F.)	Rate/ 1,000 SF
A	74	96,200	0.77
B	99	56,658	1.75
C	157	128,192	1.22
D	220	173,170	1.27
Average Rate:		1.21	
SD:		0.40	
Equation:		T = 1.1628X + 5.4573	
$R^{2:}$		0.78	

The data confirms delivery stations generate more trips during a different morning hour than the typical peak hour of the adjacent street. An examination of the PM peak hour of the generator also confirms this is the highest peak hour of the day.

PM Peak Hour of Generator

The PM Peak hour of the generator was determined for each site based on the highest hourly total driveway volumes between the hours of noon and midnight similar to the morning peak hour of the generator. The evening peak hour of the generator occurred after 6:00 pm and typically occurred between 8:00 and 9:00 pm. During this hour traffic is almost evenly split between entering (52%) and exiting (48%). The mix of vehicles during this peak PM hour of the generator are 54% passenger vehicles, 45% delivery van, and 1% tractor-trailer trucks

Delivery Station PM Peak Hour Trip Rate (7-Day Weighted Average)			
Site	Trips	Operational Area (S.F.)	Rate/ 1,000 SF
A	37	96,200	0.38
B	56	56,658	0.99
C	124	128,192	0.97
D	151	173,170	0.87
Average Rate:		0.81	
SD:		0.28	
Equation:		T = 0.9565x – 16.61	
$R^{2:}$		0.76	

The data confirms delivery stations generate more trips during a different evening hour than the typical peak hour of the adjacent street.

Trip Rates by Vehicle Type

Trip Rates by Vehicle Type (7-Day Weighted Average)			
Time of Day	Passenger Vehicles	Delivery Vans	Line-Haul Trucks
Daily	6.78	2.71	0.17
AM Peak Hour of the Adjacent Street	0.30	-	0.01
AM Peak Hour of the Generator	0.55	0.65	0.01
PM Peak Hour of the Adjacent Street	0.42	0.13	-
PM Peak Hour of the Generator	0.44	0.36	0.01

Comparison to ITE Rates

The ITE Trip Generation land use descriptions for Warehousing (LU 150), High-Cube Transload and Short-Term Storage Warehouse (LU 154), High-Cube Fulfillment Center Warehouse (LU 155 non-sort), and High-Cube Parcel Hub Warehouse (LU 156) are the most comparable to the description of a delivery station. The sort version of the High-Cube Fulfillment Center Warehouse (LU 155) is not comparable but is included in these comparisons to so demonstrate.

Comparison 1: Published Trip Rates vs. This Study

The table below summarizes trip rates for square-footage-based size for these land uses and this study. Since the studies use different size types, this comparison is of little use, other than possibly to note that the standard deviation in the rates from this study are generally within the range of the standard deviations from the studies used in the Trip Generation Manual.

Trip Generation Rate Comparison[1]										
Source	Average Day		Peak Hour of the Adjacent Street				Peak Hour of the Generator			
	Rate	SD	AM	SD	PM	SD	AM	SD	PM	SD
ITE 150 - Warehousing	1.74	1.55	0.17	0.20	0.19	0.18	0.22	0.28	0.24	0.24
ITE 154 – High-Cube Transload & Short-Term Storage Warehouse	1.40	0.86	0.08	0.05	0.10	0.06	0.12	0.06	0.16	0.06
ITE 155 – High Cube Fulfillment Center Warehouse (Non-Sort)	1.81	0.76	0.15	0.15	0.16	0.15	0.22[2]	NA	0.27[2]	NA
ITE 155 – High Cube Fulfillment Center Warehouse (Sort)	6.44[3]	****	0.87[4]	0.51	1.20[4]	0.77	NA	-	NA	-
ITE 156 – High-Cube Parcel Hub Warehouse	4.63[5]	5.06	0.70[6]	0.21	0.64[6]	0.27	0.88[3]	NA	0.71[3]	NA
This Study[7]	**9.66**	**4.68**	**0.3**	**0.26**	**0.55**	**0.26**	**1.21**	**0.40**	**0.81**	**0.28**

[1]Gross floor area/1,000 used for ITE rates. This study uses operational area/1,000
[2]Based on a single study
[3]Based on two studies
[4]Based on three studies
[5]Based on eight studies
[6]Based on four studies
[7]Per 1,000 SF of operational area. Based on four studies

Comparison 2: Studies Used in Published ITE Rates vs. This Study

A comparison using the average sizes of the buildings included in the trip generation studies for the ITE published land uses demonstrates the variability of results using these rates. The average size of the buildings included in the ITE land uses are much larger than the average operational size of the delivery stations yet depending on the type of activity the buildings house, the typical delivery station may produce much less or much more traffic than a particular comparable land use.

Trips Generated using Average Size of Sites Included in Various Studies[1]						
Trip Rate Source	Average Size or Area[1]	Trip Ends				
		Average Day	Peak Hour of the Adjacent Street		Peak Hour of the Generator	
			AM	PM	AM	PM
ITE 150 - Warehousing	285,000	496	48	54	63	68
ITE 154 – High-Cube Transload & Short-Term Storage Warehouse	798,000	1,117	64	80	96	128
ITE 155 – High Cube Fulfillment Center Warehouse (Non-Sort)	886,000	1,604	133	142	197	241
ITE 155 – High Cube Fulfillment Center Warehouse (Sort)	1,360,000	8,758	1,183	1,632	-	-
ITE 156 – High-Cube Parcel Hub Warehouse	543,000	2,516	382	350	481	388
This Study	**113,555**	**1,097**	**36**	**63**	**138**	**92**

[1]Gross floor area/1,000 used for published ITE Land Uses. This study uses operational area/1,000

Comparison 3: Published ITE Rates Applied to This Study's Average Building Size vs. This Study

An additional comparison was developed based on the average building size (258,366 SF) and the average operational area (100,110 SF) from this study. ITE land uses were applied to generate the trip ends and compared to trip ends from this study. The results using the trip rates developed in this study are quite different from the results using the ITE rates.

Trips Generated using Average Size of Sites Included in this Study[1]						
Trip Rate Source	Average Size or Area[1]	Trip Ends				
		Average Day	Peak Hour of the Adjacent Street		Peak Hour of the Generator	
			AM	PM	AM	PM
ITE 150 - Warehousing	214,456	373	36	41	47	51
ITE 154 – High-Cube Transload & Short-Term Storage Warehouse	214,456	300	17	21	26	34
ITE 155 – High Cube Fulfillment Center Warehouse (Non-Sort)	214,456	388	32	34	48	58
ITE 155 – High Cube Fulfillment Center Warehouse (Sort)	214,456	1,381	187	257	-	-
ITE 156 – High-Cube Parcel Hub Warehouse	214,456	994	151	138	190	153
This Study	**113,555**	**1,097**	**36**	**63**	**138**	**92**

[1]Gross floor area/1,000 of this study used for published ITE land uses. This study uses operational area/1,000

These comparisons confirms that delivery station trip characteristics are different from other industrial land uses currently included in the ITE Trip Generation Manual.

Special Circumstances

All four sites in this study had on-site parking only. In situations where off-site parking is required, it is typically limited to delivery vans and employee parking remains on-site. When van parking is off-site, drivers park at the off-site location and drive the vans to the site. There is no reduction in trips to the site as it is a one-for-one swap of trips.

Trips are reduced when employees or delivery drivers use transit, ride sharing, or other non-single occupant vehicle transportation options are available. Employee and delivery driver trips can be reduced, but delivery vehicle trips cannot.

Conclusions and Recommendations

The data confirms that 24-hour Delivery Station trip generation characteristics are significantly different from those documented in the ITE Trip Generation for comparable land uses (land use codes 150, 154, 155 non-sort, 155 sort, and 156).

Key Conclusions:

- 24-Hour Delivery Stations exhibit trip generation characteristics that are significantly different from other potentially comparable land uses included in ITE's Trip Generation Manual.
- Operational area, as defined by that interior area necessary to the parcel sorting and delivery preparation activities (excluding all interior loading, queuing, and parking areas), provides promising trip generation rates. While operational area is not a conventional trip rate metric, ITE does include trip rates based on atypical metrics, such as fueling spots for gasoline stations and full-time doctors for medical clinics, when such metrics provide the best relationships between trip data.

The authors note that the goal of this study is to improve the traffic engineer's ability to select the proper land use trip generation rates specific to a project when working with delivery stations that operate off-peak hour employee and delivery schedules. The results are not intended to replace current trip generation rates or their application where operational characteristics are unknown.

Appendix D – Cumulative Development

Cumulative Project List - West Covina
Rev 12/16/2020

Address	Project Description
1912 W. Merced Avenue	New 81,759 sf, 111 bed assisted living facility
1611/1623 San Bernardino Road	New 105, 645 sq ft, 24-unit industrial condominiums
1530 W. Cameron Avenue	New 56-unit residential townhome development
2505/2539 E Garvey Avenue N	New shopping center; 35,000 sf grocery store, 7,600 sf retail, 4,500 sf restaurant
1415 W. Garvey Avenue N	New 80,086 sf, 5-story assisted living facility with memory care
1650 E. Rowland Avenue (former Pioneer School)	158-unit Multi-family residential/Subdivision
1115 S. Sunset Avenue	58,858 sq. ft. Medical Office Building, Parking Structure - 398 parking spaces, 66,000 sq. ft. ICU/Emergency Dept Hospital Addition
Side of Walnut Creek Pkwy. APN 8474-009-009	30-unit Multi-family residential
1024 W. Workman Avenue (Vincent School Site)	119-unit Multi-family residential/Subdivision
147 N. Barranca Street	2,925 sq. ft. new fastfood restaurant building with drive-thru
1600/1616 W. Cameron Avenue	84-unit Multifamily residential/Subdivision

City of Covina
List of Development Projects
Revised January 14, 2021

	APPLICANT/ DEVELOPER	LOCATION	PROJECT DESCRIPTION	ZONING	Acres	STATUS
1	City Ventures (Covina 3)	Southwest Quadrant of San Bernardino Road and Citrus Avenue	TTM 72116 and SPR 12-050 for a development of 52 three-story townhouses; 12 urban lofts and 4 live-work lofts; and, 5,794 square feet of a mix of office, retail and gallery uses	Covina Town Center Specific Plan-TOD/HDR	3.4	Completed, ready to release bonds
4	Grand Covina, LLC	777 Enda Place	TTM 73588 and SPR15-036 for the development of 3 multi-tenant industrial buildings with 26 industrial units totaling 99,272 sq. ft.	M-1 Light Manufacturing	4.38	Building 2 is final, Buildings 1 and 3 are under construction
5	Hassen Development	401 N. Citrus Avenue (Site B2) 129-137 W. Orange Street (Site B1) 155 E. San Bernardino Road (Site C)	SPR 15-043-Site B-2: 2,000 square feet office/retail TTM 72660-Site B-1: 8 condo units TTM 72662-Site C: 10 condo units and 2300 square feet retail space	Covina Town Center Specific Plan-Mixed Use Zone	0.95 (3 sites)	Site B1 and B2 are under construction Site C is in plan check
6	Hassen Development	NEC of N. Citrus and W. San Bernardino Rd	TTM 73661/SPR 16-028; proposed 161 residential units (56 townhouses and 105 stacked units), 15,000 sq. ft. commercial space	Covina Town Center Specific Plan-Mixed Use Zone	5.3	City Council approved June 16, 2020.

7	MLC Holdings; Foothill Transit & City of Covina (iTEC Transit Oriented Mixed-Use project)	Generally, at the northwest quadrant of N. Citrus Avenue and E. Covina Boulevard (1162 N. Citrus)	a) 117 townhouse units on 6.12 acres by MLC; b) a transit center and park and ride facility with 2 story parking structure for about 400 vehicles and 4800 sq. ft. retail building on 2.86 acres by Foothill Transit; and c) a 25,000 sq. ft. event center and 15,000 sq. ft. office use on 1.68 acres by the City	Covina Forward Specific Plan	10.71 acres	a) 117 townhouses completed, ready to release bonds b) Foothill Transit completed c) City owned parcel, vacant
8	Masonic Homes	1650 E. Old Badillo	SPR 16-006, a 35,000 sq. ft. 2-story building for 16 beds skilled nursing facility and 16 bed memory-care facility		NA	Project approved 11-22-2016; under construction, almost complete
10	Michael Cirrito	276 W. Dexter	3 condo units		8,309 sq. ft.	Under construction
13	Oakmont Assisted living/Memory Care facility	Southeast corner of E Holt and S Park View	Proposed 94 units/rooms for assisted living/memory care facility, 3-story building, approximately 40,793 square feet		1.93 acres	In plan check
14	Kaiser Permanente, Covina MOB, applicant	1154 & 1164 S Park View Dr	Proposed 58,800 SF, 3-story medical office building, with a 5-level parking structure to accommodate 344 parking spaces on three vacant lots at end of Park View Dr		3.47 acres	Approved
15	NFW Venture Inc	1680 W San Bernardino Rd	Demo and re-build a gas station with new 2,350 square feet convenience store and 2 lube bays for auto service		0.62 acres	Approved March 2018; under construction

16	Covina Bowl - Trumark Homes	1060 W. San Bernardino Road	Proposed 132 Townhome units, restoration of an original 1955 building (Covina Bowling Alley) for office use (12,000 sq. ft.)		5.23 acres	Under Review – Draft EIR Notice of Availability (review period from December 17, 2020 to February 1, 2021)
17	Avid Hotel	578 N. Azusa Avenue	Proposed 31,500 SF 3-story hotel (Avid Hotel), a midscale brand of International Hotel Group (IHG).			Under Review – Pre-Application Phase
18	McIntyre Group	135 E Badillo	25,024 square foot 3-story, mixed-use development with a 3,821 sq. ft commercial space on ground floor and 10 units on second and third floor			Approved January 2019, under construction
19	Bradford Park Properties, L.P. / William R. Mitchell	1201 W. Badillo Street	Proposed 3-Story 28-unit Apartment		1.22	Under Review – Pre-Application Phase
20	Faith Church – Mel Gaines	529 Cutter Way	Proposed 39 units & 11 Live-work units w/subterranean parking	M-1 Light Manufacturing	2.3 acres	Under Review
22	Circle K	731 N. Grand Avenue	Proposed 4,968 SF convenience store, a 6,514 SF 10-pump fuel canopy, and a 1,269 SF automatic carwash	C-4 Highway Commercial Zone	1.72	Approved October 2019, in plan check
21	Fourth Ave townhouse	342 S Fourth Avenue	Proposed 10-unit townhouse	RD-1250	0.72	PC recommended approval 1-12-21; pending Council review

Baldwin Park CUMULATIVE PROJECTS LIST - December 2019

Project #	Address	Description of Project	PC Approved	
TTM 78214 CP-867, PR 17-41	3234 Frazier Street	10 unit condominium	6/27/2018	Under Constrcution
TTM 77130, CP 855, PR 17-20	12756, 12762, 12766 and 12770 Torch Street	24 unit condominium	11/8/2017	Under Constrcution
TTM 75031	APN 8437-013-905	23 unit condominiumn	2/28/2018	Completed
CP 843	1606 Puente Ave.	1,200 sq ft drive through car wash and 358 sq ft convenience store	11/28/2018	Pending Building Permits
TTM 74525	15000 Badillo Street	16 unit condominium	12/13/2017	Pending Building Permits
TTM 74185	3913 Stewart Avenue	4-unit condominium	6/22/2016	Pending Building Permits
TTM 73928, CP 830, PR 15-38	4923-4929 Fortin Street , 15138 Nubia Street, and APN 8413-013-025	15 single family residential subdivision	7/27/2016	Under Constrcution
TTM 73355, CP 850, PR 16-77	15110-15120 Badillo Street	12 unit condominium	5/24/2017	Completed
AGP 118, ZC 118, SP 16-01, TTM 73354	14837-14839 Pacific Avenue; Assessor's Parcel Numbers: 8438-015-037, -043, -047, -059, -065 through -103, -060, -061, -062, -105	47 single family residential subdivision	11/9/2016	Completed
TPM 1427	13853 Garvey Avenue	2,961 sq ft 7/11 gas station and convenient store	5/27/2015	completed
ZV 19-01	13018 Dalewood St	1,048 sq ft house	5/22/2019	Pending Building Permits
TPM 1440, CP 879	3100 Baldwin Park Blvd	4,018 sq ft. Drive Thru Raising Canes Restaurant	7/17/2019	Completed
TTM 82503	4232 LA Rica Avenue	5 unit condominium	7/24/2019	Pending Building Permits
TPM 1438	APN 8556-022-037, 8556-022-	10, 345 sq ft commercial warehouse building	Not yet entitled	
TPM-82921, ZV 19-02, and CP- 888	13619 Francisquito Avenue	3,079 Express Carwash	12/11/19 PC Meeting	Pending Building Permits
CP889	5060 Gayurst Avenue	3,300 Warehouse	11/13/2019	Pending Building Permits
PR 19-69	13057, 13061, 13065 Garvey Avenue	15, 635 sq ft commercial industrial warehouse	8-Apr-20	Pending Building Permits
TPM- 1438 and ZV-716	13127 Garvey Avenue	10,345- square foot commercia	11-Mar-20	Pending Building Permits
		Jack in the box		Pending Building Permits
		starbucks		Pending Building Permits
TPM- 83340 and ZV-711	14614-14622 Dalewood Street	59,766-square foot general office, retail, and medical office building including subterranean parking and surface parking.	12/9/2020	Pending Building Permits

Appendix E – Signal Warrant Analyses

Traffic Signal Warrant Analysis Workbook

3/5/2021

STUDY AND ANALYSIS INFORMATION

Municipality:	Covina/West Covina	Analysis Date:	3/5/2021
County:		Conducted By:	NV5
PennDOT Engineering District:		Agency/Company Name:	NV5

Analysis Information

Data Collection Date:	2021 Build
Day of the Week:	Typical weekday

Is the intersection in a built-up area of an isolated community of <10,000 population? No

Major Street Information

Major Street Name and Route Number:	San Bernardino Raod
Major Street Approach #1 Direction:	E-Bound
Major Street Approach #2 Direction:	W-Bound

Number of Lanes for Moving Traffic on Each Major Street Approach:	2	LANE(S)
Speed Limit or 85th Percentile Speed on the Major Street:	40	MPH

Minor Street Information

Minor Street Name and Route Number:	Cutter Way
Minor Street Approach #1 Direction:	S-Bound
Minor Street Approach #2 Direction:	N-Bound

Number of Lanes for Moving Traffic on Each Minor Street Approach:	1	LANE(S)

TRAFFIC SIGNAL WARRANT ANALYSIS FINDINGS

	Applicable?	Warrant Met?
Warrant 1, Eight-Hour Vehicular Volume	Yes	No
Warrant 2, Four-Hour Vehicular Volume	Yes	No
Warrant 3, Peak Hour	Yes	No

VOLUME DATA PER HOUR INTERVAL, PER APPROACH

Time Interval		Major Street Approach #1 (E-Bound)	Major Street Approach #2 (W-Bound)	Major Street Combined	Minor Street Approach #1 (S-Bound)	Minor Street Approach #2 (N-Bound)
Begin At	End Of	Volume	Volume	Total Volume	Volume	Volume
8:00 AM	9:00 AM	570	581	1,241	63	1
10:00 AM	11:00 AM	372	498	870	34	0
4:00 PM	5:00 PM	864	488	1,352	54	0
8:00 PM	9:00 PM	226	208	434	24	1

MUTCD WARRANT 1, EIGHT-HOUR VEHICULAR VOLUME

Number of Lanes for Moving Traffic on Each Approach	
Major Street:	2 or More Lanes
Minor Street:	1 Lane

Built-up Isolated Community With Less Than 10,000 Population or Above 40 MPH on Major Street?	No

Combination of Conditions A and B Necessary?*: No

**Only applicable for Warrant 1 if after an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems. See Section 4C.02 of the 2009 MUTCD for application.*

Condition A - Minimum Vehicular Volume

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor street approach (one direction only)			
Major Street	Minor Street	100%	80%	70%	56%	100%	80%	70%	56%
1	1	500	400	350	280	150	120	105	84
2 or More	1	600	480	420	336	150	120	105	84
2 or More	2 or More	600	480	420	336	200	160	140	112
1	2 or More	500	400	350	280	200	160	140	112

Condition B - Interruption of Continuous Traffic

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor street approach (one direction only)			
Major Street	Minor Street	100%	80%	70%	56%	100%	80%	70%	56%
1	1	750	600	525	420	75	60	53	42
2 or More	1	900	720	630	504	75	60	53	42
2 or More	2 or More	900	720	630	504	100	80	70	56
1	2 or More	750	600	525	420	100	80	70	56

Condition A Evaluation

Number of Unique Hours Met: 0 Condition A Satisfied? No

Condition B Evaluation

Number of Unique Hours Met: 0 Condition B Satisfied? No

Combination of Condition A and Condition B Evaluation

Number of Unique Hours Met for Condition A: N/A

Number of Unique Hours Met for Condition B: N/A

Combination of Condition A and Condition B Satisfied? N/A

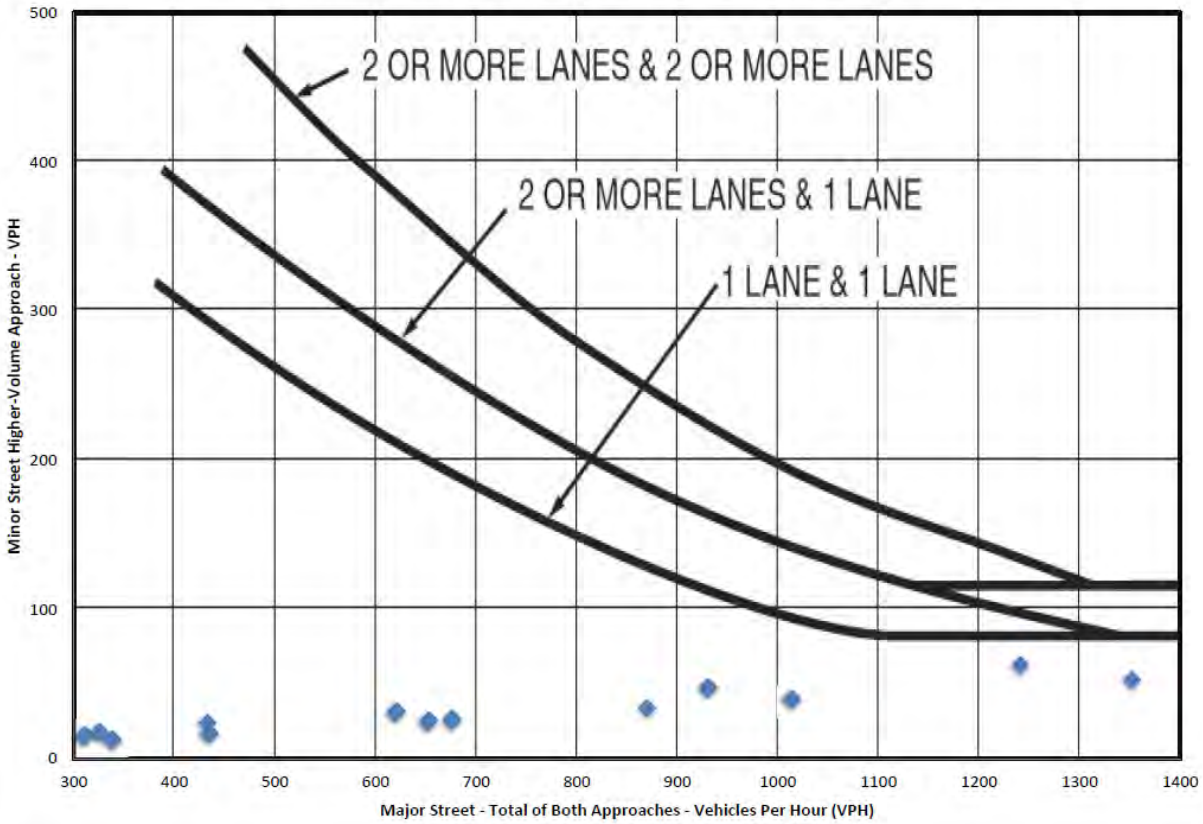
MUTCD WARRANT 2, FOUR-HOUR VEHICULAR VOLUME

Number of Lanes for Moving Traffic on Each Approach	
Major Street:	2 or More Lanes
Minor Street:	1 Lane

Total Number of Unique Hours Met On Figure 4C-1
0

Built-up Isolated Community With Less Than 10,000 Population or Above 40 MPH on Major Street?	No

MUTCD Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume

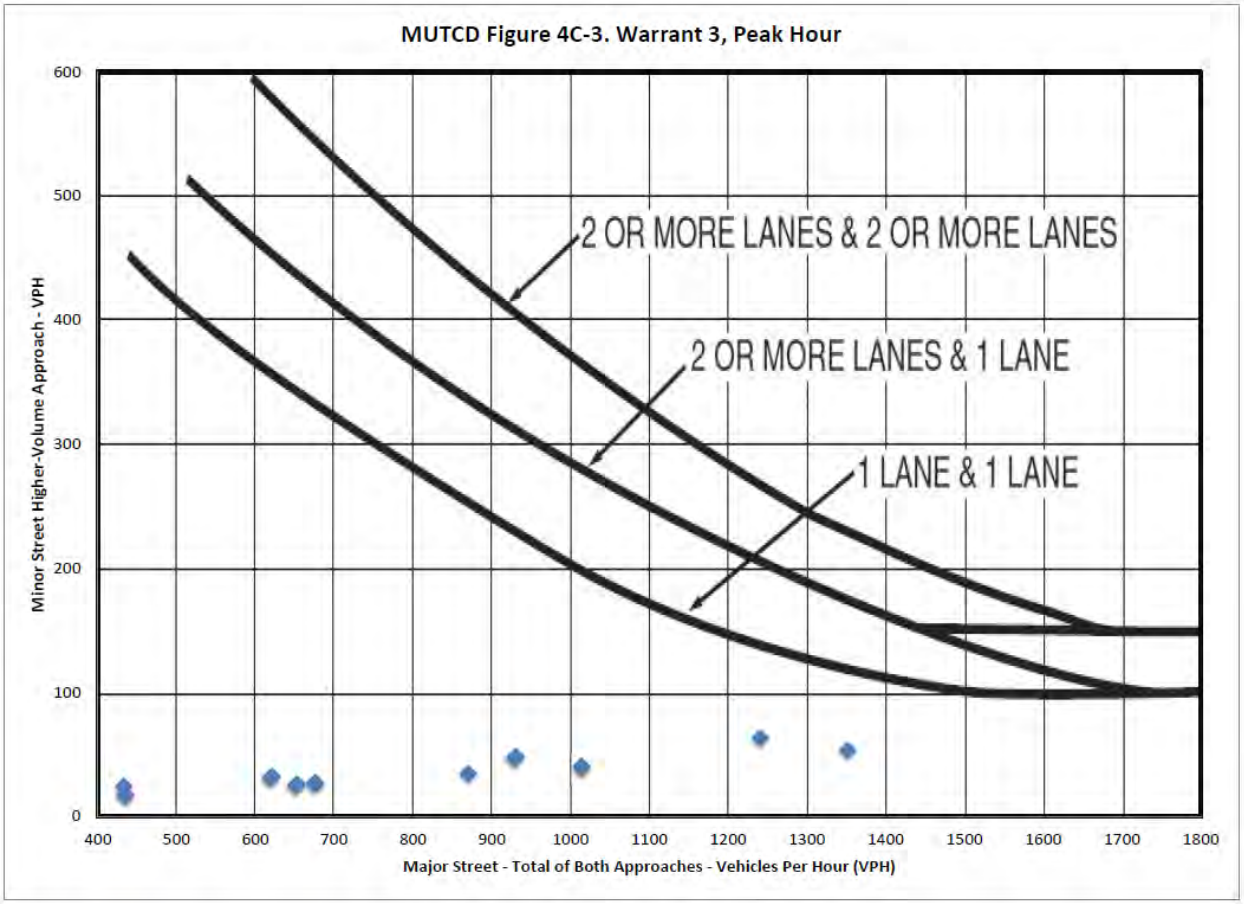


MUTCD WARRANT 3, PEAK HOUR

Number of Lanes for Moving Traffic on Each Approach	
Major Street:	2 or More Lanes
Minor Street:	1 Lane

Total Number of Unique Hours Met On Figure 4C-3
0

Built-up Isolated Community With Less Than 10,000 Population or Above 40 MPH on Major Street?	No



Traffic Signal Warrant Analysis Workbook

3/5/2021

STUDY AND ANALYSIS INFORMATION

Municipality:	Covina/West Covina	Analysis Date:	3/5/2021
County:		Conducted By:	NV5
PennDOT Engineering District:		Agency/Company Name:	NV5

Analysis Information

Data Collection Date:	2021 Build
Day of the Week:	Wednesday

Is the intersection in a built-up area of an isolated community of <10,000 population? No

Major Street Information

Major Street Name and Route Number:	San Bernardino Raod
Major Street Approach #1 Direction:	E-Bound
Major Street Approach #2 Direction:	W-Bound

Number of Lanes for Moving Traffic on Each Major Street Approach:	2	LANE(S)
Speed Limit or 85th Percentile Speed on the Major Street:	40	MPH

Minor Street Information

Minor Street Name and Route Number:	Driveway 6
Minor Street Approach #1 Direction:	S-Bound
Minor Street Approach #2 Direction:	N-Bound

Number of Lanes for Moving Traffic on Each Minor Street Approach:	1	LANE(S)

TRAFFIC SIGNAL WARRANT ANALYSIS FINDINGS

	Applicable?	Warrant Met?
Warrant 1, Eight-Hour Vehicular Volume	Yes	No
Warrant 2, Four-Hour Vehicular Volume	Yes	No
Warrant 3, Peak Hour	Yes	No

VOLUME DATA PER HOUR INTERVAL, PER APPROACH

Time Interval		Major Street Approach #1 (E-Bound)	Major Street Approach #2 (W-Bound)	Major Street Combined	Minor Street Approach #1 (S-Bound)	Minor Street Approach #2 (N-Bound)
Begin At	End Of	Volume	Volume	Total Volume	Volume	Volume
10:00 AM	11:00 AM	407	432	839		108
5:00 PM	6:00 PM	864	511	1,375		18

MUTCD WARRANT 1, EIGHT-HOUR VEHICULAR VOLUME

Number of Lanes for Moving Traffic on Each Approach	
Major Street:	2 or More Lanes
Minor Street:	1 Lane

Built-up Isolated Community With Less Than 10,000 Population or Above 40 MPH on Major Street?	No

Combination of Conditions A and B Necessary?*: No

**Only applicable for Warrant 1 if after an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems. See Section 4C.02 of the 2009 MUTCD for application.*

Condition A - Minimum Vehicular Volume

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor street approach (one direction only)			
Major Street	Minor Street	100%	80%	70%	56%	100%	80%	70%	56%
1	1	500	400	350	280	150	120	105	84
2 or More	1	600	480	420	336	150	120	105	84
2 or More	2 or More	600	480	420	336	200	160	140	112
1	2 or More	500	400	350	280	200	160	140	112

Condition B - Interruption of Continuous Traffic

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor street approach (one direction only)			
Major Street	Minor Street	100%	80%	70%	56%	100%	80%	70%	56%
1	1	750	600	525	420	75	60	53	42
2 or More	1	900	720	630	504	75	60	53	42
2 or More	2 or More	900	720	630	504	100	80	70	56
1	2 or More	750	600	525	420	100	80	70	56

Condition A Evaluation

Number of Unique Hours Met: 0 Condition A Satisfied? No

Condition B Evaluation

Number of Unique Hours Met: 0 Condition B Satisfied? No

Combination of Condition A and Condition B Evaluation

Number of Unique Hours Met for Condition A: N/A

Number of Unique Hours Met for Condition B: N/A

Combination of Condition A and Condition B Satisfied? N/A

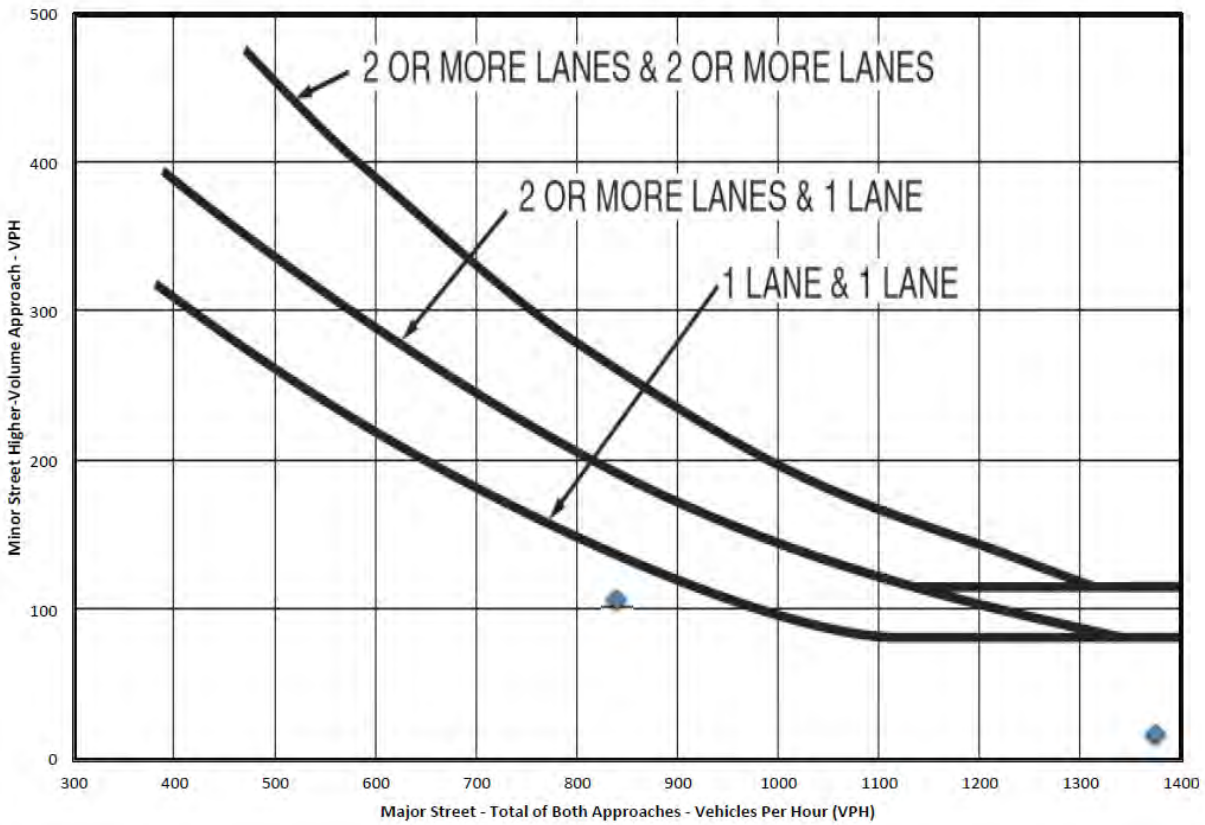
MUTCD WARRANT 2, FOUR-HOUR VEHICULAR VOLUME

Number of Lanes for Moving Traffic on Each Approach	
Major Street:	2 or More Lanes
Minor Street:	1 Lane

Total Number of Unique Hours Met On Figure 4C-1
0

Built-up Isolated Community With Less Than 10,000 Population or Above 40 MPH on Major Street?	No

MUTCD Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume

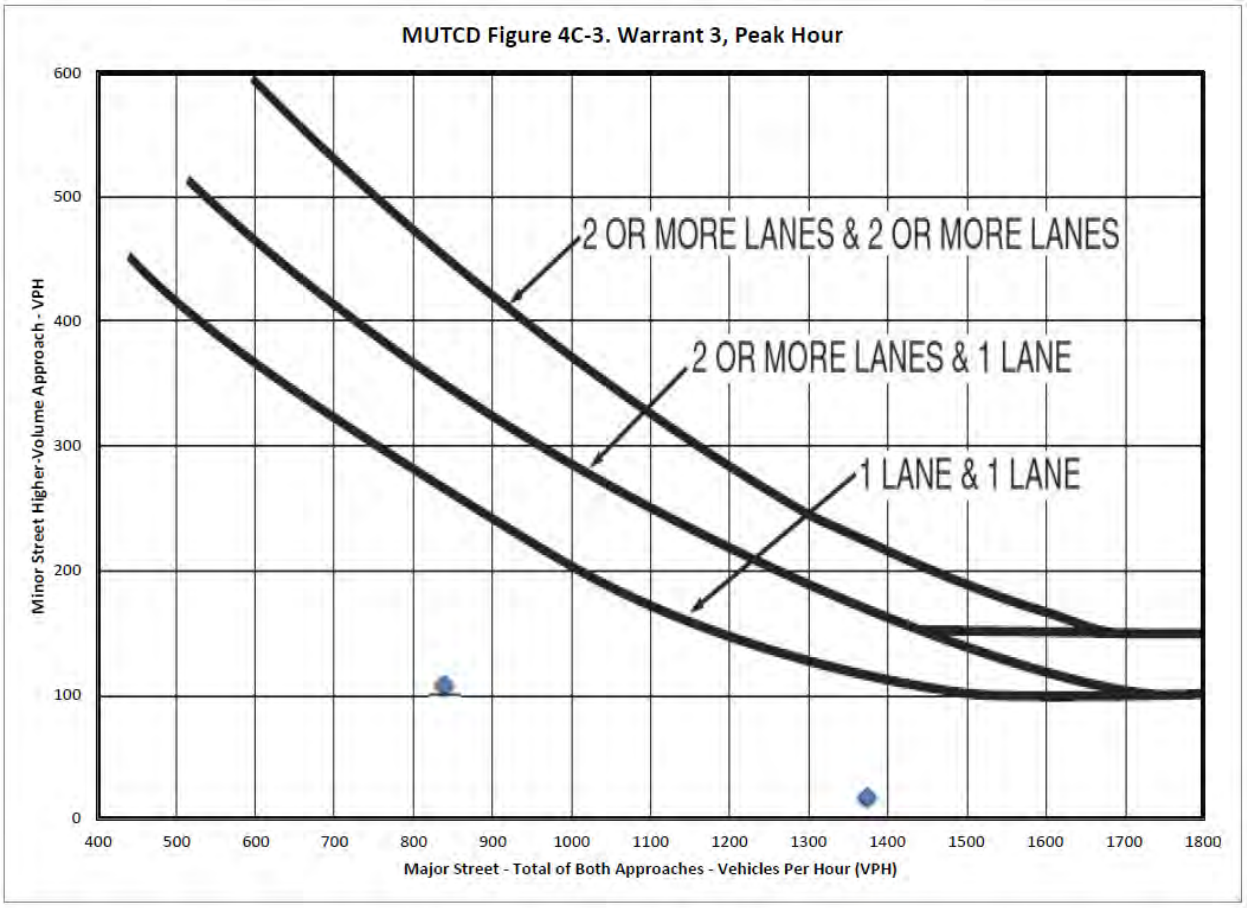


MUTCD WARRANT 3, PEAK HOUR

Number of Lanes for Moving Traffic on Each Approach	
Major Street:	2 or More Lanes
Minor Street:	1 Lane

Total Number of Unique Hours Met On Figure 4C-3
0

Built-up Isolated Community With Less Than 10,000 Population or Above 40 MPH on Major Street?	No



Appendix F – ICU Analyses

SIGNALIZED INTERSECTION CAPACITY UTILIZATION WORKSHEET

Project: DAX9 Delivery Station
N/S Street: Vincent Avenue
E/W Street: San Bernardino Road
Scenario: 2021 No Build

Jurisdiction: Covina
Single Turn Lane Capacity: 1,600
Dual Turn Lanes Capacity: 3,240
Through Lane per lane Capacity: 1,600

Traffic Movement	Number of Lanes	Capacity	Adjacent Street AM Peak Hour		Adjacent Street PM Peak Hour Street	
			Volume	V/C	Volume	V/C
NBL	1	1600	98	0.061 *	90	0.056
NBT	2	3200	720	0.249	618	0.233 *
NBR	0	0	76	0.000	127	0.000
SBL	1	1600	87	0.054	99	0.062 *
SBT	2	3200	825	0.290 *	641	0.212
SBR	0	0	103	0.000	37	0.000
EBL	1	1600	55	0.034	114	0.071
EBT	2	3200	431	0.165 *	616	0.228 *
EBR	0	0	98	0.000	113	0.000
WBL	1	1600	173	0.108 *	117	0.073 *
WBT	2	3200	484	0.168	295	0.118
WBR	0	0	55	0.000	84	0.000
Clearance Interval/Lost Time:				0.100 *		0.100 *
Total Intersection Capacity Utilization:				0.725		0.696
Level of Service:				C		B

* indicates critical movements

Traffic Movement	Number of Lanes	Capacity	Generator AM Peak Hour		Generator PM Peak Hour Street	
			Volume	V/C	Volume	V/C
NBL	1	1600	52	0.033	39	0.024
NBT	2	3200	315	0.123 *	241	0.089 *
NBR	0	0	79	0.000	43	0.000
SBL	1	1600	70	0.044 *	41	0.026 *
SBT	2	3200	347	0.126	212	0.078
SBR	0	0	56	0.000	37	0.000
EBL	1	1600	34	0.021	32	0.020
EBT	2	3200	273	0.098 *	118	0.046 *
EBR	0	0	39	0.000	29	0.000
WBL	1	1600	109	0.068 *	46	0.029 *
WBT	2	3200	246	0.097	122	0.048
WBR	0	0	65	0.000	32	0.000
Clearance Interval/Lost Time:				0.100 *		0.100 *
Total Intersection Capacity Utilization:				0.433		0.289
Level of Service:				A		A

* indicates critical movements

SIGNALIZED INTERSECTION CAPACITY UTILIZATION WORKSHEET

Project: DAX9 Delivery Station
N/S Street: Lark Ellen Avenue
E/W Street: San Bernardino Road
Scenario: 2021 No Build

Jurisdiction: Covina
Single Turn Lane Capacity: 1,600
Dual Turn Lanes Capacity: 3,240
Through Lane per lane Capacity: 1,600

Traffic Movement	Number of Lanes	Capacity	Adjacent Street AM Peak Hour		Adjacent Street PM Peak Hour Street	
			Volume	V/C	Volume	V/C
NBL	1	1600	86	0.054	86	0.054
NBT	2	3200	635	0.228 *	616	0.227 *
NBR		0	94	0.000	111	0.000
SBL	1	1600	94	0.059 *	102	0.064 *
SBT	2	3200	599	0.220	489	0.174
SBR		0	104	0.000	69	0.000
EBL	1	1600	74	0.046	88	0.055
EBT	2	3200	491	0.183 *	608	0.232 *
EBR	0	0	94	0.000	135	0.000
WBL	1	1600	75	0.047 *	100	0.063 *
WBT	2	3200	490	0.178	386	0.158
WBR	0	0	78	0.000	119	0.000
Clearance Interval/Lost Time:				0.100 *		0.100 *
Total Intersection Capacity Utilization:				0.616		0.686
Level of Service:				B		B

* indicates critical movements

Traffic Movement	Number of Lanes	Capacity	Generator AM Peak Hour		Generator PM Peak Hour Street	
			Volume	V/C	Volume	V/C
NBL	1	1600	51	0.032	35	0.022
NBT	2	3200	310	0.125 *	224	0.083 *
NBR	0	0	90	0.000	42	0.000
SBL	1	1600	88	0.055 *	42	0.026 *
SBT	2	3200	266	0.099	175	0.063
SBR	0	0	51	0.000	25	0.000
EBL	1	1600	47	0.029	27	0.017 *
EBT	2	3200	335	0.119 *	137	0.053
EBR	0	0	45	0.000	34	0.000
WBL	1	1600	66	0.041 *	38	0.024
WBT	2	3200	330	0.128	166	0.069 *
WBR	0	0	80	0.000	56	0.000
Clearance Interval/Lost Time:				0.100 *		0.100 *
Total Intersection Capacity Utilization:				0.440		0.296
Level of Service:				A		A

* indicates critical movements

SIGNALIZED INTERSECTION CAPACITY UTILIZATION WORKSHEET

Project: DAX9 Delivery Station
N/S Street: Rimsdale Avenue
E/W Street: San Bernardino Road
Scenario: 2021 No Build

Jurisdiction: Covina
Single Turn Lane Capacity: 1,600
Dual Turn Lanes Capacity: 3,240
Through Lane per lane Capacity: 1,600

Traffic Movement	Number of Lanes	Capacity	Adjacent Street AM Peak Hour		Adjacent Street PM Peak Hour Street	
			Volume	V/C	Volume	V/C
NBL		0	89	0.000	95	0.000
NBT	1	1600	48	0.126 *	67	0.180 *
NBR		0	64	0.000	126	0.000
SBL	1	1600	142	0.089 *	128	0.080 *
SBT	1	1600	55	0.070	66	0.084
SBR		0	57	0.000	69	0.000
EBL	1	1600	62	0.039	100	0.063
EBT	2	3200	560	0.206 *	701	0.251 *
EBR	0	0	98	0.000	103	0.000
WBL	1	1600	57	0.036 *	62	0.039 *
WBT	2	3200	483	0.179	529	0.191
WBR	0	0	89	0.000	81	0.000
Clearance Interval/Lost Time:				0.100 *		0.100 *
Total Intersection Capacity Utilization:				0.556		0.650
Level of Service:				A		B

* indicates critical movements

Traffic Movement	Number of Lanes	Capacity	Generator AM Peak Hour		Generator PM Peak Hour Street	
			Volume	V/C	Volume	V/C
NBL	0	0	78	0.000	36	0.000
NBT	1	1600	57	0.133 *	6	0.043 *
NBR	0	0	78	0.000	27	0.000
SBL	1	1600	123	0.077 *	23	0.014 *
SBT	1	1600	53	0.069	5	0.008
SBR	0	0	58	0.000	8	0.000
EBL	1	1600	74	0.046 *	13	0.008
EBT	2	3200	340	0.133	221	0.081 *
EBR	0	0	85	0.000	37	0.000
WBL	1	1600	41	0.026	19	0.012 *
WBT	2	3200	339	0.141 *	231	0.077
WBR	0	0	112	0.000	15	0.000
Clearance Interval/Lost Time:				0.100 *		0.100 *
Total Intersection Capacity Utilization:				0.497		0.250
Level of Service:				A		A

* indicates critical movements

SIGNALIZED INTERSECTION CAPACITY UTILIZATION WORKSHEET

Project: DAX9 Delivery Station
N/S Street: Azusa Avenue
E/W Street: San Bernardino Road
Scenario: 2021 No Build

Jurisdiction: Covina
Single Turn Lane Capacity: 1,600
Dual Turn Lanes Capacity: 3,240
Through Lane per lane Capacity: 1,600

Traffic Movement	Number of Lanes	Capacity	Adjacent Street AM Peak Hour		Adjacent Street PM Peak Hour Street	
			Volume	V/C	Volume	V/C
NBL	1	1600	185	0.116 *	136	0.085
NBT	2	3200	853	0.305	907	0.318 *
NBR		0	123	0.000	112	0.000
SBL	1	1600	98	0.061	162	0.101 *
SBT	2	3200	955	0.341 *	921	0.310
SBR		0	137	0.000	70	0.000
EBL	1	1600	197	0.123	203	0.127
EBT	2	3200	418	0.180 *	565	0.225 *
EBR		0	158	0.000	154	0.000
WBL	1	1600	181	0.113 *	140	0.088 *
WBT	2	3200	408	0.153	322	0.128
WBR		0	82	0.000	86	0.000
Clearance Interval/Lost Time:				0.100 *		0.100 *
Total Intersection Capacity Utilization:				0.850		0.832
Level of Service:				D		D

* indicates critical movements

Traffic Movement	Number of Lanes	Capacity	Generator AM Peak Hour		Generator PM Peak Hour Street	
			Volume	V/C	Volume	V/C
NBL	1	1600	140	0.088 *	95	0.059 *
NBT	2	3200	591	0.201	442	0.147
NBR	0	0	52	0.000	29	0.000
SBL	1	1600	89	0.056	76	0.048
SBT	2	3200	656	0.241 *	423	0.153 *
SBR	0	0	114	0.000	67	0.000
EBL	1	1600	144	0.090 *	6	0.004
EBT	2	3200	283	0.121	109	0.052 *
EBR	0	0	105	0.000	56	0.000
WBL	1	1600	100	0.063	52	0.033 *
WBT	2	3200	286	0.109 *	96	0.039
WBR	0	0	62	0.000	29	0.000
Clearance Interval/Lost Time:				0.100 *		0.100 *
Total Intersection Capacity Utilization:				0.627		0.397
Level of Service:				B		A

* indicates critical movements

SIGNALIZED INTERSECTION CAPACITY UTILIZATION WORKSHEET

Project: DAX9 Delivery Station
N/S Street: Vincent Avenue
E/W Street: Badillo Street
Scenario: 2021 No Build

Jurisdiction: West Covina/C West Covina
Single Turn Lane Capacity: 1,600
Dual Turn Lanes Capacity: 3,240
Through Lane per lane Capacity: 1,600

Traffic Movement	Number of Lanes	Capacity	Adjacent Street AM Peak Hour		Adjacent Street PM Peak Hour Street	
			Volume	V/C	Volume	V/C
NBL	1	1600	64	0.040 *	67	0.042 *
NBT	2	3200	906	0.283	712	0.223
NBR	1	1600	176	0.110	214	0.134
SBL	1	1600	52	0.033	56	0.035
SBT	2	3200	1005	0.314 *	766	0.239 *
SBR	1	1600	92	0.058	77	0.048
EBL	1	1600	51	0.032	67	0.042
EBT	2	3200	521	0.163 *	888	0.278 *
EBR	1	1600	107	0.067	159	0.099
WBL	1	1600	137	0.086 *	138	0.086 *
WBT	2	3200	539	0.168	413	0.129
WBR	1	1600	96	0.060	84	0.053
Clearance Interval/Lost Time:				0.100 *		0.100 *
Total Intersection Capacity Utilization:				0.703		0.745
Level of Service:				C		C

* indicates critical movements

Traffic Movement	Number of Lanes	Capacity	Generator AM Peak Hour		Generator PM Peak Hour Street	
			Volume	V/C	Volume	V/C
NBL	1	1600	25	0.016 *	37	0.023 *
NBT	2	3200	366	0.114	288	0.090
NBR	1	1600	103	0.064	57	0.036
SBL	1	1600	35	0.022	28	0.018
SBT	2	3200	432	0.135 *	270	0.084 *
SBR	1	1600	30	0.019	37	0.023
EBL	1	1600	32	0.020	23	0.014
EBT	2	3200	306	0.096 *	172	0.054 *
EBR	1	1600	71	0.044	43	0.027
WBL	1	1600	93	0.058 *	37	0.023 *
WBT	2	3200	276	0.086	180	0.056
WBR	1	1600	55	0.034	17	0.011
Clearance Interval/Lost Time:				0.100 *		0.100 *
Total Intersection Capacity Utilization:				0.404		0.284
Level of Service:				A		A

* indicates critical movements

SIGNALIZED INTERSECTION CAPACITY UTILIZATION WORKSHEET

Project: DAX9 Delivery Station
N/S Street: Lark Ellen Avenue
E/W Street: Badillo Street
Scenario: 2021 No Build

Jurisdiction: West Covina/Covina
Single Turn Lane Capacity: 1,600
Dual Turn Lanes Capacity: 3,240
Through Lane per lane Capacity: 1,600

Traffic Movement	Number of Lanes	Capacity	Adjacent Street AM Peak Hour		Adjacent Street PM Peak Hour Street	
			Volume	V/C	Volume	V/C
NBL	1	1600	94	0.059 *	53	0.033
NBT	2	3200	657	0.205	658	0.206 *
NBR	1	1600	126	0.079	112	0.070
SBL	1	1600	49	0.031	72	0.045 *
SBT	2	3200	663	0.234 *	614	0.208
SBR		0	85	0.000	51	0.000
EBL	1	1600	84	0.053	99	0.062
EBT	2	3200	649	0.203 *	968	0.303 *
EBR	1	1600	48	0.030	76	0.048
WBL	1	1600	121	0.076 *	159	0.099 *
WBT	2	3200	608	0.190	520	0.163
WBR	1	1600	103	0.064	72	0.045
Clearance Interval/Lost Time:				0.100 *		0.100 *
Total Intersection Capacity Utilization:				0.671		0.753
Level of Service:				B		C

* indicates critical movements

Traffic Movement	Number of Lanes	Capacity	Generator AM Peak Hour		Generator PM Peak Hour Street	
			Volume	V/C	Volume	V/C
NBL	1	1600	38	0.024	19	0.012
NBT	2	3200	352	0.110 *	232	0.073 *
NBR	1	1600	70	0.044	18	0.011
SBL	1	1600	35	0.022 *	26	0.016 *
SBT	2	3200	308	0.108	201	0.070
SBR	0	0	37	0.000	22	0.000
EBL	1	1600	42	0.026	34	0.021 *
EBT	2	3200	367	0.115 *	193	0.060
EBR	1	1600	23	0.014	20	0.013
WBL	1	1600	97	0.061 *	33	0.021
WBT	2	3200	332	0.104	200	0.063 *
WBR	1	1600	57	0.036	35	0.022
Clearance Interval/Lost Time:				0.100 *		0.100 *
Total Intersection Capacity Utilization:				0.407		0.273
Level of Service:				A		A

* indicates critical movements

SIGNALIZED INTERSECTION CAPACITY UTILIZATION WORKSHEET

Project: DAX9 Delivery Station
N/S Street: Rimsdale Avenue
E/W Street: Badillo Street
Scenario: 2021 No Build

Jurisdiction: Covina
Single Turn Lane Capacity: 1,600
Dual Turn Lanes Capacity: 3,240
Through Lane per lane Capacity: 1,600

Traffic Movement	Number of Lanes	Capacity	Adjacent Street AM Peak Hour		Adjacent Street PM Peak Hour Street	
			Volume	V/C	Volume	V/C
NBL		0		0.000 *		0.000 *
NBT		0		0.000		0.000
NBR		0		0.000		0.000
SBL		0	71	0.000	64	0.000
SBT	1	1600		0.109 *		0.108 *
SBR		0	103	0.000	108	0.000
EBL	1	1600	130	0.081 *	127	0.079
EBT	2	3200	803	0.251	1032	0.323 *
EBR		0		0.000		0.000
WBL		0		0.000		0.000 *
WBT	2	3200	754	0.236 *	644	0.201
WBR	1	1600	78	0.049	90	0.056
Clearance Interval/Lost Time:				0.100 *		0.100 *
Total Intersection Capacity Utilization:				0.526		0.530
Level of Service:				A		A

* indicates critical movements

Traffic Movement	Number of Lanes	Capacity	Generator AM Peak Hour		Generator PM Peak Hour Street	
			Volume	V/C	Volume	V/C
NBL	0	0		0.000 *		0.000 *
NBT	0	0		0.000		0.000
NBR	0	0		0.000		0.000
SBL	0	0	70	0.000	20	0.000
SBT	1	1600		0.081 *		0.038 *
SBR	0	0	60	0.000	41	0.000
EBL	1	1600	106	0.066 *	33	0.021 *
EBT	2	3200	442	0.138	236	0.074
EBR	0	0		0.000		0.000
WBL	0	0		0.000		0.000
WBT	2	3200	383	0.120 *	269	0.084 *
WBR	1	1600	80	0.050	22	0.014
Clearance Interval/Lost Time:				0.100 *		0.100 *
Total Intersection Capacity Utilization:				0.367		0.243
Level of Service:				A		A

* indicates critical movements

SIGNALIZED INTERSECTION CAPACITY UTILIZATION WORKSHEET

Project: DAX9 Delivery Station
N/S Street: Azusa Avenue
E/W Street: Badillo Street
Scenario: 2021 No Build

Jurisdiction: West Covina/Covina
Single Turn Lane Capacity: 1,600
Dual Turn Lanes Capacity: 3,240
Through Lane per lane Capacity: 1,600

Traffic Movement	Number of Lanes	Capacity	Adjacent Street AM Peak Hour		Adjacent Street PM Peak Hour Street	
			Volume	V/C	Volume	V/C
NBL	1	1600	284	0.178 *	157	0.098 *
NBT	2	3200	955	0.354	916	0.323
NBR		0	178	0.000	119	0.000
SBL	1	1600	144	0.090	127	0.079
SBT	2	3200	1061	0.332 *	991	0.310 *
SBR	1	1600	139	0.087	99	0.062
EBL	1	1600	89	0.056	144	0.090
EBT	2	3200	579	0.181 *	794	0.248 *
EBR	1	1600	151	0.094	200	0.125
WBL	1	1600	194	0.121 *	210	0.131 *
WBT	2	3200	489	0.153	514	0.161
WBR	1	1600	64	0.040	86	0.054
Clearance Interval/Lost Time:				0.100 *		0.100 *
Total Intersection Capacity Utilization:				0.911		0.887
Level of Service:				E		D

* indicates critical movements

Traffic Movement	Number of Lanes	Capacity	Generator AM Peak Hour		Generator PM Peak Hour Street	
			Volume	V/C	Volume	V/C
NBL	1	1600	142	0.089	88	0.055
NBT	2	3200	693	0.255 *	478	0.168 *
NBR	0	0	123	0.000	60	0.000
SBL	1	1600	112	0.070 *	57	0.036 *
SBT	2	3200	686	0.214	432	0.135
SBR	1	1600	72	0.045	39	0.024
EBL	1	1600	51	0.032	33	0.021
EBT	2	3200	320	0.100 *	167	0.052 *
EBR	1	1600	104	0.065	62	0.039
WBL	1	1600	142	0.089 *	95	0.059 *
WBT	2	3200	320	0.100	194	0.061
WBR	1	1600	52	0.033	31	0.019
Clearance Interval/Lost Time:				0.100 *		0.100 *
Total Intersection Capacity Utilization:				0.614		0.415
Level of Service:				B		A

* indicates critical movements

SIGNALIZED INTERSECTION CAPACITY UTILIZATION WORKSHEET

Project: DAX9 Delivery Station
N/S Street: Vincent Avenue
E/W Street: San Bernardino Road
Scenario: 2021 Build

Jurisdiction: West Covina
Single Turn Lane Capacity: 1,600
Dual Turn Lanes Capacity: 3,240
Through Lane per lane Capacity: 1,600

Traffic Movement	Number of Lanes	Capacity	Adjacent Street AM Peak Hour		Adjacent Street PM Peak Hour Street	
			Volume	V/C	Volume	V/C
NBL	1	1600	98	0.061 *	90	0.056
NBT	2	3200	720	0.249	618	0.233 *
NBR	0	0	76	0.000	127	0.000
SBL	1	1600	87	0.054	99	0.062 *
SBT	2	3200	825	0.290 *	641	0.212
SBR	0	0	103	0.000	37	0.000
EBL	1	1600	55	0.034	114	0.071
EBT	2	3200	431	0.165 *	623	0.230 *
EBR	0	0	98	0.000	113	0.000
WBL	1	1600	173	0.108 *	120	0.075 *
WBT	2	3200	484	0.168	303	0.121
WBR	0	0	55	0.000	84	0.000
Clearance Interval/Lost Time:				0.100 *		0.100 *
Total Intersection Capacity Utilization:				0.725		0.700
Level of Service:				C		B

* indicates critical movements

Traffic Movement	Number of Lanes	Capacity	Generator AM Peak Hour		Generator PM Peak Hour Street	
			Volume	V/C	Volume	V/C
NBL	1	1600	52	0.033	39	0.024
NBT	2	3200	315	0.123 *	245	0.090 *
NBR	0	0	79	0.000	43	0.000
SBL	1	1600	70	0.044 *	41	0.026 *
SBT	2	3200	351	0.127	212	0.078
SBR	0	0	56	0.000	37	0.000
EBL	1	1600	34	0.021	32	0.020
EBT	2	3200	273	0.098 *	130	0.050 *
EBR	0	0	39	0.000	29	0.000
WBL	1	1600	124	0.078 *	46	0.029 *
WBT	2	3200	296	0.113	122	0.048
WBR	0	0	65	0.000	32	0.000
Clearance Interval/Lost Time:				0.100 *		0.100 *
Total Intersection Capacity Utilization:				0.442		0.294
Level of Service:				A		A

* indicates critical movements

SIGNALIZED INTERSECTION CAPACITY UTILIZATION WORKSHEET

Project: DAX9 Delivery Station
N/S Street: Lark Ellen Avenue
E/W Street: San Bernardino Road
Scenario: 2021 Build

Jurisdiction: Covina
Single Turn Lane Capacity: 1,600
Dual Turn Lanes Capacity: 3,240
Through Lane per lane Capacity: 1,600

Traffic Movement	Number of Lanes	Capacity	Adjacent Street AM Peak Hour		Adjacent Street PM Peak Hour Street	
			Volume	V/C	Volume	V/C
NBL	1	1600	86	0.054	86	0.054
NBT	2	3200	635	0.228 *	616	0.227 *
NBR		0	94	0.000	111	0.000
SBL	1	1600	94	0.059 *	102	0.064 *
SBT	2	3200	599	0.220	489	0.174
SBR		0	104	0.000	69	0.000
EBL	1	1600	74	0.046	88	0.055
EBT	2	3200	492	0.183 *	615	0.234 *
EBR	0	0	94	0.000	135	0.000
WBL	1	1600	75	0.047 *	100	0.063 *
WBT	2	3200	491	0.178	387	0.158
WBR	0	0	78	0.000	119	0.000
Clearance Interval/Lost Time:				0.100 *		0.100 *
Total Intersection Capacity Utilization:				0.617		0.688
Level of Service:				B		B

* indicates critical movements

Traffic Movement	Number of Lanes	Capacity	Generator AM Peak Hour		Generator PM Peak Hour Street	
			Volume	V/C	Volume	V/C
NBL	1	1600	51	0.032	35	0.022
NBT	2	3200	310	0.125 *	241	0.088 *
NBR	0	0	90	0.000	42	0.000
SBL	1	1600	88	0.055 *	42	0.026 *
SBT	2	3200	281	0.104	175	0.063
SBR	0	0	51	0.000	25	0.000
EBL	1	1600	47	0.029	27	0.017 *
EBT	2	3200	378	0.132 *	138	0.054
EBR	0	0	45	0.000	34	0.000
WBL	1	1600	66	0.041 *	38	0.024
WBT	2	3200	331	0.128	167	0.070 *
WBR	0	0	80	0.000	56	0.000
Clearance Interval/Lost Time:				0.100 *		0.100 *
Total Intersection Capacity Utilization:				0.453		0.301
Level of Service:				A		A

* indicates critical movements

SIGNALIZED INTERSECTION CAPACITY UTILIZATION WORKSHEET

Project:	DAX9 Delivery Station	Jurisdiction:	West Covina
N/S Street:	Rimsdale Avenue	Single Turn Lane Capacity:	1,600
E/W Street:	San Bernardino Road	Dual Turn Lanes Capacity:	3,240
Scenario:	2021 Build	Through Lane per lane Capacity:	1,600

Traffic Movement	Number of Lanes	Capacity	Adjacent Street AM Peak Hour		Adjacent Street PM Peak Hour Street	
			Volume	V/C	Volume	V/C
NBL		0	89	0.000	95	0.000
NBT	1	1600	48	0.126 *	67	0.180 *
NBR		0	64	0.000	126	0.000
SBL	1	1600	142	0.089 *	128	0.080 *
SBT	1	1600	55	0.070	66	0.084
SBR		0	57	0.000	69	0.000
EBL	1	1600	62	0.039	100	0.063
EBT	2	3200	561	0.206 *	708	0.253 *
EBR	0	0	98	0.000	103	0.000
WBL	1	1600	57	0.036 *	62	0.039 *
WBT	2	3200	484	0.179	530	0.191
WBR	0	0	89	0.000	81	0.000
Clearance Interval/Lost Time:				0.100 *		0.100 *
Total Intersection Capacity Utilization:				0.556		0.652
Level of Service:				A		B

* indicates critical movements

Traffic Movement	Number of Lanes	Capacity	Generator AM Peak Hour		Generator PM Peak Hour Street	
			Volume	V/C	Volume	V/C
NBL	0	0	78	0.000	36	0.000
NBT	1	1600	57	0.133 *	6	0.043 *
NBR	0	0	78	0.000	27	0.000
SBL	1	1600	123	0.077 *	23	0.014 *
SBT	1	1600	53	0.069	5	0.008
SBR	0	0	58	0.000	8	0.000
EBL	1	1600	74	0.046 *	13	0.008
EBT	2	3200	383	0.146	222	0.081 *
EBR	0	0	85	0.000	37	0.000
WBL	1	1600	41	0.026	19	0.012 *
WBT	2	3200	340	0.141 *	232	0.077
WBR	0	0	112	0.000	15	0.000
Clearance Interval/Lost Time:				0.100 *		0.100 *
Total Intersection Capacity Utilization:				0.498		0.250
Level of Service:				A		A

* indicates critical movements

SIGNALIZED INTERSECTION CAPACITY UTILIZATION WORKSHEET

Project: DAX9 Delivery Station
N/S Street: Azusa Avenue
E/W Street: San Bernardino Road
Scenario: 2021 Build

Jurisdiction: West Covina
Single Turn Lane Capacity: 1,600
Dual Turn Lanes Capacity: 3,240
Through Lane per lane Capacity: 1,600

Traffic Movement	Number of Lanes	Capacity	Adjacent Street AM Peak Hour		Adjacent Street PM Peak Hour Street	
			Volume	V/C	Volume	V/C
NBL	1	1600	186	0.116 *	137	0.086
NBT	2	3200	853	0.305	907	0.318 *
NBR		0	123	0.000	112	0.000
SBL	1	1600	98	0.061	162	0.101 *
SBT	2	3200	955	0.341 *	930	0.313
SBR		0	137	0.000	70	0.000
EBL	1	1600	197	0.123	207	0.129
EBT	2	3200	418	0.180 *	567	0.226 *
EBR		0	159	0.000	155	0.000
WBL	1	1600	181	0.113 *	145	0.091 *
WBT	2	3200	408	0.153	322	0.128
WBR		0	82	0.000	86	0.000
Clearance Interval/Lost Time:				0.100 *		0.100 *
Total Intersection Capacity Utilization:				0.851		0.836
Level of Service:				D		D

* indicates critical movements

Traffic Movement	Number of Lanes	Capacity	Generator AM Peak Hour		Generator PM Peak Hour Street	
			Volume	V/C	Volume	V/C
NBL	1	1600	141	0.088 *	96	0.060 *
NBT	2	3200	591	0.201	442	0.147
NBR	0	0	52	0.000	29	0.000
SBL	1	1600	89	0.056	76	0.048
SBT	2	3200	656	0.241 *	440	0.158 *
SBR	0	0	114	0.000	67	0.000
EBL	1	1600	167	0.104 *	61	0.038
EBT	2	3200	295	0.128	109	0.052 *
EBR	0	0	114	0.000	57	0.000
WBL	1	1600	100	0.063	61	0.038 *
WBT	2	3200	268	0.103 *	96	0.039
WBR	0	0	62	0.000	29	0.000
Clearance Interval/Lost Time:				0.100 *		0.100 *
Total Intersection Capacity Utilization:				0.636		0.408
Level of Service:				B		A

* indicates critical movements

SIGNALIZED INTERSECTION CAPACITY UTILIZATION WORKSHEET

Project: DAX9 Delivery Station
N/S Street: Vincent Avenue
E/W Street: Badillo Street
Scenario: 2021 Build

Jurisdiction: West Covina
Single Turn Lane Capacity: 1,600
Dual Turn Lanes Capacity: 3,240
Through Lane per lane Capacity: 1,600

Traffic Movement	Number of Lanes	Capacity	Adjacent Street AM Peak Hour		Adjacent Street PM Peak Hour Street	
			Volume	V/C	Volume	V/C
NBL	1	1600	64	0.040 *	67	0.042 *
NBT	2	3200	906	0.283	712	0.223
NBR	1	1600	176	0.110	220	0.138
SBL	1	1600	52	0.033	56	0.035
SBT	2	3200	1005	0.314 *	769	0.240 *
SBR	1	1600	92	0.058	77	0.048
EBL	1	1600	51	0.032	67	0.042
EBT	2	3200	521	0.163 *	902	0.282 *
EBR	1	1600	107	0.067	159	0.099
WBL	1	1600	137	0.086 *	138	0.086 *
WBT	2	3200	539	0.168	413	0.129
WBR	1	1600	96	0.060	84	0.053
Clearance Interval/Lost Time:				0.100 *		0.100 *
Total Intersection Capacity Utilization:				0.703		0.750
Level of Service:				C		C

* indicates critical movements

Traffic Movement	Number of Lanes	Capacity	Generator AM Peak Hour		Generator PM Peak Hour Street	
			Volume	V/C	Volume	V/C
NBL	1	1600	25	0.016 *	37	0.023
NBT	2	3200	366	0.114	288	0.090
NBR	1	1600	112	0.070	68	0.043
SBL	1	1600	39	0.024	28	0.018
SBT	2	3200	447	0.140 *	270	0.084
SBR	1	1600	30	0.019	37	0.023
EBL	1	1600	32	0.020	23	0.014
EBT	2	3200	337	0.105 *	197	0.062 *
EBR	1	1600	71	0.044	43	0.027
WBL	1	1600	93	0.058 *	47	0.029 *
WBT	2	3200	276	0.086	214	0.067
WBR	1	1600	55	0.034	21	0.013
Clearance Interval/Lost Time:				0.100 *		0.100 *
Total Intersection Capacity Utilization:				0.419		0.298
Level of Service:				A		A

* indicates critical movements

SIGNALIZED INTERSECTION CAPACITY UTILIZATION WORKSHEET

Project: DAX9 Delivery Station
N/S Street: Lark Ellen Avenue
E/W Street: Badillo Street
Scenario: 2021 Build

Jurisdiction: West Covina
Single Turn Lane Capacity: 1,600
Dual Turn Lanes Capacity: 3,240
Through Lane per lane Capacity: 1,600

Traffic Movement	Number of Lanes	Capacity	Adjacent Street AM Peak Hour		Adjacent Street PM Peak Hour Street	
			Volume	V/C	Volume	V/C
NBL	1	1600	94	0.059 *	53	0.033
NBT	2	3200	657	0.205	658	0.206 *
NBR	1	1600	126	0.079	112	0.070
SBL	1	1600	49	0.031	72	0.045 *
SBT	2	3200	663	0.234 *	614	0.208
SBR		0	85	0.000	51	0.000
EBL	1	1600	84	0.053	99	0.062
EBT	2	3200	649	0.203 *	968	0.303 *
EBR	1	1600	48	0.030	76	0.048
WBL	1	1600	121	0.076 *	159	0.099 *
WBT	2	3200	608	0.190	538	0.168
WBR	1	1600	103	0.064	72	0.045
Clearance Interval/Lost Time:				0.100 *		0.100 *
Total Intersection Capacity Utilization:				0.671		0.753
Level of Service:				B		C

* indicates critical movements

Traffic Movement	Number of Lanes	Capacity	Generator AM Peak Hour		Generator PM Peak Hour Street	
			Volume	V/C	Volume	V/C
NBL	1	1600	44	0.028 *	19	0.012
NBT	2	3200	352	0.110	232	0.073 *
NBR	1	1600	70	0.044	18	0.011
SBL	1	1600	35	0.022	26	0.016 *
SBT	2	3200	308	0.113 *	201	0.070
SBR	0	0	52	0.000	22	0.000
EBL	1	1600	45	0.028	51	0.032 *
EBT	2	3200	367	0.115 *	202	0.063
EBR	1	1600	23	0.014	26	0.016
WBL	1	1600	97	0.061 *	33	0.021
WBT	2	3200	340	0.106	232	0.073 *
WBR	1	1600	57	0.036	35	0.022
Clearance Interval/Lost Time:				0.100 *		0.100 *
Total Intersection Capacity Utilization:				0.415		0.293
Level of Service:				A		A

* indicates critical movements

SIGNALIZED INTERSECTION CAPACITY UTILIZATION WORKSHEET

Project:	DAX9 Delivery Station	Jurisdiction:	West Covina
N/S Street:	Rimsdale Avenue	Single Turn Lane Capacity:	1,600
E/W Street:	Badillo Street	Dual Turn Lanes Capacity:	3,240
Scenario:	2021 Build	Through Lane per lane Capacity:	1,600

Traffic Movement	Number of Lanes	Capacity	Adjacent Street AM Peak Hour		Adjacent Street PM Peak Hour Street	
			Volume	V/C	Volume	V/C
NBL		0		0.000 *		0.000 *
NBT		0		0.000		0.000
NBR		0		0.000		0.000
SBL		0	71	0.000	64	0.000
SBT	1	1600		0.109 *		0.108 *
SBR		0	103	0.000	108	0.000
EBL	1	1600	130	0.081 *	127	0.079
EBT	2	3200	803	0.251	1032	0.323 *
EBR		0		0.000		0.000
WBL		0		0.000		0.000 *
WBT	2	3200	754	0.236 *	662	0.207
WBR	1	1600	78	0.049	90	0.056
Clearance Interval/Lost Time:				0.100 *		0.100 *
Total Intersection Capacity Utilization:				0.526		0.530
Level of Service:				A		A

* indicates critical movements

Traffic Movement	Number of Lanes	Capacity	Generator AM Peak Hour		Generator PM Peak Hour Street	
			Volume	V/C	Volume	V/C
NBL	0	0		0.000 *		0.000 *
NBT	0	0		0.000		0.000
NBR	0	0		0.000		0.000
SBL	0	0	70	0.000	20	0.000
SBT	1	1600		0.081 *		0.038 *
SBR	0	0	60	0.000	41	0.000
EBL	1	1600	106	0.066 *	33	0.021 *
EBT	2	3200	442	0.138	245	0.077
EBR	0	0		0.000		0.000
WBL	0	0		0.000		0.000
WBT	2	3200	391	0.122 *	301	0.094 *
WBR	1	1600	80	0.050	22	0.014
Clearance Interval/Lost Time:				0.100 *		0.100 *
Total Intersection Capacity Utilization:				0.370		0.253
Level of Service:				A		A

* indicates critical movements

SIGNALIZED INTERSECTION CAPACITY UTILIZATION WORKSHEET

Project: DAX9 Delivery Station
N/S Street: Azusa Avenue
E/W Street: Badillo Street
Scenario: 2021 Build

Jurisdiction: West Covina
Single Turn Lane Capacity: 1,600
Dual Turn Lanes Capacity: 3,240
Through Lane per lane Capacity: 1,600

Traffic Movement	Number of Lanes	Capacity	Adjacent Street AM Peak Hour		Adjacent Street PM Peak Hour Street	
			Volume	V/C	Volume	V/C
NBL	1	1600	284	0.178 *	161	0.101 *
NBT	2	3200	956	0.354	917	0.324
NBR		0	178	0.000	119	0.000
SBL	1	1600	144	0.090	127	0.079
SBT	2	3200	1062	0.332 *	992	0.310 *
SBR	1	1600	139	0.087	113	0.071
EBL	1	1600	89	0.056	144	0.090
EBT	2	3200	579	0.181 *	794	0.248 *
EBR	1	1600	151	0.094	200	0.125
WBL	1	1600	194	0.121 *	210	0.131 *
WBT	2	3200	489	0.153	514	0.161
WBR	1	1600	64	0.040	86	0.054
Clearance Interval/Lost Time:				0.100 *		0.100 *
Total Intersection Capacity Utilization:				0.912		0.890
Level of Service:				E		D

* indicates critical movements

Traffic Movement	Number of Lanes	Capacity	Generator AM Peak Hour		Generator PM Peak Hour Street	
			Volume	V/C	Volume	V/C
NBL	1	1600	142	0.089	94	0.059
NBT	2	3200	694	0.255 *	479	0.168 *
NBR	0	0	123	0.000	60	0.000
SBL	1	1600	112	0.070 *	57	0.036 *
SBT	2	3200	695	0.217	433	0.135
SBR	1	1600	72	0.045	65	0.041
EBL	1	1600	51	0.032	33	0.021
EBT	2	3200	320	0.100 *	176	0.055 *
EBR	1	1600	104	0.065	62	0.039
WBL	1	1600	142	0.089 *	95	0.059 *
WBT	2	3200	328	0.103	194	0.061
WBR	1	1600	52	0.033	31	0.019
Clearance Interval/Lost Time:				0.100 *		0.100 *
Total Intersection Capacity Utilization:				0.614		0.418
Level of Service:				B		A

* indicates critical movements

SIGNALIZED INTERSECTION CAPACITY UTILIZATION WORKSHEET

Project: DAX9 Delivery Station
N/S Street: Vincent Avenue
E/W Street: San Bernardino Road
Scenario: 2021 Cumulative No Build

Jurisdiction: West Covina
Single Turn Lane Capacity: 1,600
Dual Turn Lanes Capacity: 3,240
Through Lane per lane Capacity: 1,600

Traffic Movement	Number of Lanes	Capacity	Adjacent Street AM Peak Hour		Adjacent Street PM Peak Hour Street	
			Volume	V/C	Volume	V/C
NBL	1	1600	120	0.075 *	116	0.073
NBT	2	3200	750	0.258	666	0.248 *
NBR	0	0	76	0.000	127	0.000
SBL	1	1600	110	0.069	126	0.079 *
SBT	2	3200	847	0.297 *	654	0.216
SBR	0	0	103	0.000	37	0.000
EBL	1	1600	55	0.034	114	0.071
EBT	2	3200	464	0.176 *	689	0.251 *
EBR	0	0	98	0.000	113	0.000
WBL	1	1600	173	0.108 *	117	0.073 *
WBT	2	3200	534	0.184	334	0.131
WBR	0	0	55	0.000	84	0.000
Clearance Interval/Lost Time:				0.100 *		0.100 *
Total Intersection Capacity Utilization:				0.756		0.750
Level of Service:				C		C

* indicates critical movements

SIGNALIZED INTERSECTION CAPACITY UTILIZATION WORKSHEET

Project: DAX9 Delivery Station
N/S Street: Lark Ellen Avenue
E/W Street: San Bernardino Road
Scenario: 2021 Cumulative No Build

Jurisdiction: Covina
Single Turn Lane Capacity: 1,600
Dual Turn Lanes Capacity: 3,240
Through Lane per lane Capacity: 1,600

Traffic Movement	Number of Lanes	Capacity	Adjacent Street AM Peak Hour		Adjacent Street PM Peak Hour Street	
			Volume	V/C	Volume	V/C
NBL	1	1600	93	0.058	90	0.056
NBT	2	3200	635	0.232 *	619	0.231 *
NBR		0	106	0.000	121	0.000
SBL	1	1600	102	0.064 *	109	0.068 *
SBT	2	3200	599	0.220	489	0.174
SBR		0	104	0.000	69	0.000
EBL	1	1600	74	0.046	88	0.055
EBT	2	3200	523	0.193 *	680	0.255 *
EBR	0	0	94	0.000	135	0.000
WBL	1	1600	75	0.047 *	100	0.063 *
WBT	2	3200	539	0.193	428	0.171
WBR	0	0	78	0.000	119	0.000
Clearance Interval/Lost Time:				0.100 *		0.100 *
Total Intersection Capacity Utilization:				0.635		0.717
Level of Service:				B		C

* indicates critical movements

SIGNALIZED INTERSECTION CAPACITY UTILIZATION WORKSHEET

Project:	DAX9 Delivery Station	Jurisdiction:	West Covina
N/S Street:	Rimsdale Avenue	Single Turn Lane Capacity:	1,600
E/W Street:	San Bernardino Road	Dual Turn Lanes Capacity:	3,240
Scenario:	2021 Cumulative No Build	Through Lane per lane Capacity:	1,600

Traffic Movement	Number of Lanes	Capacity	Adjacent Street AM Peak Hour		Adjacent Street PM Peak Hour Street	
			Volume	V/C	Volume	V/C
NBL		0	89	0.000	95	0.000
NBT	1	1600	48	0.135 *	67	0.186 *
NBR		0	79	0.000	135	0.000
SBL	1	1600	142	0.089 *	128	0.080 *
SBT	1	1600	55	0.070	66	0.084
SBR		0	57	0.000	69	0.000
EBL	1	1600	62	0.039	100	0.063
EBT	2	3200	592	0.216 *	772	0.273 *
EBR	0	0	98	0.000	103	0.000
WBL	1	1600	69	0.043 *	72	0.045 *
WBT	2	3200	532	0.194	571	0.204
WBR	0	0	89	0.000	81	0.000
Clearance Interval/Lost Time:				0.100 *		0.100 *
Total Intersection Capacity Utilization:				0.583		0.684
Level of Service:				A		B

* indicates critical movements

SIGNALIZED INTERSECTION CAPACITY UTILIZATION WORKSHEET

Project:	DAX9 Delivery Station	Jurisdiction:	West Covina
N/S Street:	Azusa Avenue	Single Turn Lane Capacity:	1,600
E/W Street:	San Bernardino Road	Dual Turn Lanes Capacity:	3,240
Scenario:	2021 Cumulative No Build	Through Lane per lane Capacity:	1,600

Traffic Movement	Number of Lanes	Capacity	Adjacent Street AM Peak Hour		Adjacent Street PM Peak Hour Street	
			Volume	V/C	Volume	V/C
NBL	1	1600	186	0.116 *	137	0.086
NBT	2	3200	890	0.317	930	0.326 *
NBR		0	123	0.000	112	0.000
SBL	1	1600	98	0.061	153	0.096 *
SBT	2	3200	963	0.344 *	963	0.322
SBR		0	137	0.000	66	0.000
EBL	1	1600	197	0.123	205	0.128
EBT	2	3200	456	0.195 *	642	0.249 *
EBR		0	168	0.000	156	0.000
WBL	1	1600	181	0.113 *	145	0.091 *
WBT	2	3200	460	0.169	365	0.141
WBR		0	82	0.000	86	0.000
Clearance Interval/Lost Time:				0.100 *		0.100 *
Total Intersection Capacity Utilization:				0.868		0.861
Level of Service:				D		D

* indicates critical movements

SIGNALIZED INTERSECTION CAPACITY UTILIZATION WORKSHEET

Project:	DAX9 Delivery Station	Jurisdiction:	West Covina
N/S Street:	Vincent Avenue	Single Turn Lane Capacity:	1,600
E/W Street:	Badillo Street	Dual Turn Lanes Capacity:	3,240
Scenario:	2021 Cumulative No Build	Through Lane per lane Capacity:	1,600

Traffic Movement	Number of Lanes	Capacity	Adjacent Street AM Peak Hour		Adjacent Street PM Peak Hour Street	
			Volume	V/C	Volume	V/C
NBL	1	1600	64	0.040 *	67	0.042 *
NBT	2	3200	936	0.293	761	0.238
NBR	1	1600	176	0.110	214	0.134
SBL	1	1600	52	0.033	56	0.035
SBT	2	3200	1049	0.328 *	805	0.252 *
SBR	1	1600	92	0.058	77	0.048
EBL	1	1600	51	0.032	67	0.042
EBT	2	3200	536	0.168 *	904	0.283 *
EBR	1	1600	107	0.067	159	0.099
WBL	1	1600	137	0.086 *	138	0.086 *
WBT	2	3200	547	0.171	427	0.133
WBR	1	1600	96	0.060	84	0.053
Clearance Interval/Lost Time:				0.100 *		0.100 *
Total Intersection Capacity Utilization:				0.721		0.762
Level of Service:				C		C

* indicates critical movements

SIGNALIZED INTERSECTION CAPACITY UTILIZATION WORKSHEET

Project:	DAX9 Delivery Station	Jurisdiction:	West Covina
N/S Street:	Lark Ellen Avenue	Single Turn Lane Capacity:	1,600
E/W Street:	Badillo Street	Dual Turn Lanes Capacity:	3,240
Scenario:	2021 Cumulative No Build	Through Lane per lane Capacity:	1,600

Traffic Movement	Number of Lanes	Capacity	Adjacent Street AM Peak Hour		Adjacent Street PM Peak Hour Street	
			Volume	V/C	Volume	V/C
NBL	1	1600	94	0.059 *	53	0.033
NBT	2	3200	664	0.208	664	0.208 *
NBR	1	1600	126	0.079	112	0.070
SBL	1	1600	49	0.031	72	0.045 *
SBT	2	3200	663	0.234 *	614	0.208
SBR		0	85	0.000	51	0.000
EBL	1	1600	89	0.056	103	0.064
EBT	2	3200	659	0.206 *	980	0.306 *
EBR	1	1600	48	0.030	76	0.048
WBL	1	1600	130	0.081 *	165	0.103 *
WBT	2	3200	622	0.194	538	0.168
WBR	1	1600	110	0.069	76	0.048
Clearance Interval/Lost Time:				0.100 *		0.100 *
Total Intersection Capacity Utilization:				0.680		0.762
Level of Service:				B		C

* indicates critical movements

SIGNALIZED INTERSECTION CAPACITY UTILIZATION WORKSHEET

Project:	DAX9 Delivery Station	Jurisdiction:	West Covina
N/S Street:	Rimsdale Avenue	Single Turn Lane Capacity:	1,600
E/W Street:	Badillo Street	Dual Turn Lanes Capacity:	3,240
Scenario:	2021 Cumulative No Build	Through Lane per lane Capacity:	1,600

Traffic Movement	Number of Lanes	Capacity	Adjacent Street AM Peak Hour		Adjacent Street PM Peak Hour Street	
			Volume	V/C	Volume	V/C
NBL		0		0.000 *		0.000 *
NBT		0		0.000		0.000
NBR		0		0.000		0.000
SBL		0	92	0.000	78	0.000
SBT	1	1600		0.122 *		0.116 *
SBR		0	103	0.000	108	0.000
EBL	1	1600	130	0.081 *	127	0.079
EBT	2	3200	817	0.255	1041	0.325 *
EBR		0		0.000		0.000
WBL		0		0.000		0.000 *
WBT	2	3200	763	0.238 *	665	0.208
WBR	1	1600	90	0.056	100	0.063
Clearance Interval/Lost Time:				0.100 *		0.100 *
Total Intersection Capacity Utilization:				0.542		0.542
Level of Service:				A		A

* indicates critical movements

SIGNALIZED INTERSECTION CAPACITY UTILIZATION WORKSHEET

Project: DAX9 Delivery Station
N/S Street: Azusa Avenue
E/W Street: Badillo Street
Scenario: 2021 Cumulative No Build

Jurisdiction: West Covina
Single Turn Lane Capacity: 1,600
Dual Turn Lanes Capacity: 3,240
Through Lane per lane Capacity: 1,600

Traffic Movement	Number of Lanes	Capacity	Adjacent Street AM Peak Hour		Adjacent Street PM Peak Hour Street	
			Volume	V/C	Volume	V/C
NBL	1	1600	294	0.184 *	169	0.106 *
NBT	2	3200	992	0.310	939	0.293
NBR		0	178	0.000	119	0.000
SBL	1	1600	144	0.090	127	0.079
SBT	2	3200	1076	0.336 *	1024	0.320 *
SBR	1	1600	139	0.087	113	0.071
EBL	1	1600	89	0.056	144	0.090
EBT	2	3200	602	0.188 *	809	0.253 *
EBR	1	1600	163	0.102	208	0.130
WBL	1	1600	194	0.121 *	210	0.131 *
WBT	2	3200	501	0.157	537	0.168
WBR	1	1600	64	0.040	86	0.054
Clearance Interval/Lost Time:				0.100 *		0.100 *
Total Intersection Capacity Utilization:				0.929		0.910
Level of Service:				E		E

* indicates critical movements

SIGNALIZED INTERSECTION CAPACITY UTILIZATION WORKSHEET

Project: DAX9 Delivery Station
N/S Street: Vincent Avenue
E/W Street: San Bernardino Road
Scenario: 2021 Cumulative Build

Jurisdiction: West Covina
Single Turn Lane Capacity: 1,600
Dual Turn Lanes Capacity: 3,240
Through Lane per lane Capacity: 1,600

Traffic Movement	Number of Lanes	Capacity	Adjacent Street AM Peak Hour		Adjacent Street PM Peak Hour Street	
			Volume	V/C	Volume	V/C
NBL	1	1600	120	0.075 *	116	0.073
NBT	2	3200	750	0.258	666	0.248 *
NBR	0	0	76	0.000	127	0.000
SBL	1	1600	110	0.069	126	0.079 *
SBT	2	3200	847	0.297 *	654	0.216
SBR	0	0	103	0.000	37	0.000
EBL	1	1600	55	0.034	114	0.071
EBT	2	3200	464	0.176 *	696	0.253 *
EBR	0	0	98	0.000	113	0.000
WBL	1	1600	173	0.108 *	120	0.075 *
WBT	2	3200	534	0.184	342	0.133
WBR	0	0	55	0.000	84	0.000
Clearance Interval/Lost Time:				0.100 *		0.100 *
Total Intersection Capacity Utilization:				0.756		0.754
Level of Service:				C		C

* indicates critical movements

SIGNALIZED INTERSECTION CAPACITY UTILIZATION WORKSHEET

Project: DAX9 Delivery Station
N/S Street: Lark Ellen Avenue
E/W Street: San Bernardino Road
Scenario: 2021 Cumulative Build

Jurisdiction: Covina
Single Turn Lane Capacity: 1,600
Dual Turn Lanes Capacity: 3,240
Through Lane per lane Capacity: 1,600

Traffic Movement	Number of Lanes	Capacity	Adjacent Street AM Peak Hour		Adjacent Street PM Peak Hour Street	
			Volume	V/C	Volume	V/C
NBL	1	1600	93	0.058	90	0.056
NBT	2	3200	635	0.232 *	619	0.231 *
NBR		0	106	0.000	121	0.000
SBL	1	1600	102	0.064 *	109	0.068 *
SBT	2	3200	599	0.220	489	0.174
SBR		0	104	0.000	69	0.000
EBL	1	1600	74	0.046	88	0.055
EBT	2	3200	524	0.193 *	687	0.257 *
EBR	0	0	94	0.000	135	0.000
WBL	1	1600	75	0.047 *	100	0.063 *
WBT	2	3200	540	0.193	429	0.171
WBR	0	0	78	0.000	119	0.000
Clearance Interval/Lost Time:				0.100 *		0.100 *
Total Intersection Capacity Utilization:				0.635		0.719
Level of Service:				B		C

* indicates critical movements

SIGNALIZED INTERSECTION CAPACITY UTILIZATION WORKSHEET

Project:	DAX9 Delivery Station	Jurisdiction:	West Covina
N/S Street:	Rimsdale Avenue	Single Turn Lane Capacity:	1,600
E/W Street:	San Bernardino Road	Dual Turn Lanes Capacity:	3,240
Scenario:	2021 Cumulative Build	Through Lane per lane Capacity:	1,600

Traffic Movement	Number of Lanes	Capacity	Adjacent Street AM Peak Hour		Adjacent Street PM Peak Hour Street	
			Volume	V/C	Volume	V/C
NBL		0	89	0.000	95	0.000
NBT	1	1600	48	0.135 *	67	0.186 *
NBR		0	79	0.000	135	0.000
SBL	1	1600	142	0.089 *	128	0.080 *
SBT	1	1600	55	0.070	66	0.084
SBR		0	57	0.000	69	0.000
EBL	1	1600	62	0.039	100	0.063
EBT	2	3200	593	0.216 *	779	0.276 *
EBR	0	0	98	0.000	103	0.000
WBL	1	1600	69	0.043 *	72	0.045 *
WBT	2	3200	533	0.194	572	0.204
WBR	0	0	89	0.000	81	0.000
Clearance Interval/Lost Time:				0.100 *		0.100 *
Total Intersection Capacity Utilization:				0.583		0.686
Level of Service:				A		B

* indicates critical movements

SIGNALIZED INTERSECTION CAPACITY UTILIZATION WORKSHEET

Project:	DAX9 Delivery Station	Jurisdiction:	West Covina
N/S Street:	Azusa Avenue	Single Turn Lane Capacity:	1,600
E/W Street:	San Bernardino Road	Dual Turn Lanes Capacity:	3,240
Scenario:	2021 Cumulative Build	Through Lane per lane Capacity:	1,600

Traffic Movement	Number of Lanes	Capacity	Adjacent Street AM Peak Hour		Adjacent Street PM Peak Hour Street	
			Volume	V/C	Volume	V/C
NBL	1	1600	186	0.116 *	137	0.086
NBT	2	3200	890	0.317	930	0.326 *
NBR		0	123	0.000	112	0.000
SBL	1	1600	98	0.061	162	0.101 *
SBT	2	3200	963	0.344 *	963	0.323
SBR		0	137	0.000	70	0.000
EBL	1	1600	197	0.123	207	0.129
EBT	2	3200	457	0.195 *	643	0.251 *
EBR		0	168	0.000	161	0.000
WBL	1	1600	181	0.113 *	145	0.091 *
WBT	2	3200	460	0.169	365	0.141
WBR		0	82	0.000	86	0.000
Clearance Interval/Lost Time:				0.100 *		0.100 *
Total Intersection Capacity Utilization:				0.868		0.869
Level of Service:				D		D

* indicates critical movements

SIGNALIZED INTERSECTION CAPACITY UTILIZATION WORKSHEET

Project:	DAX9 Delivery Station	Jurisdiction:	West Covina
N/S Street:	Vincent Avenue	Single Turn Lane Capacity:	1,600
E/W Street:	Badillo Street	Dual Turn Lanes Capacity:	3,240
Scenario:	2021 Cumulative Build	Through Lane per lane Capacity:	1,600

Traffic Movement	Number of Lanes	Capacity	Adjacent Street AM Peak Hour		Adjacent Street PM Peak Hour Street	
			Volume	V/C	Volume	V/C
NBL	1	1600	64	0.040 *	67	0.042 *
NBT	2	3200	936	0.293	761	0.238
NBR	1	1600	176	0.110	220	0.138
SBL	1	1600	52	0.033	56	0.035
SBT	2	3200	1049	0.328 *	808	0.253 *
SBR	1	1600	92	0.058	77	0.048
EBL	1	1600	51	0.032	67	0.042
EBT	2	3200	536	0.168 *	918	0.287 *
EBR	1	1600	107	0.067	159	0.099
WBL	1	1600	137	0.086 *	138	0.086 *
WBT	2	3200	547	0.171	427	0.133
WBR	1	1600	96	0.060	84	0.053
Clearance Interval/Lost Time:				0.100 *		0.100 *
Total Intersection Capacity Utilization:				0.721		0.768
Level of Service:				C		C

* indicates critical movements

SIGNALIZED INTERSECTION CAPACITY UTILIZATION WORKSHEET

Project:	DAX9 Delivery Station	Jurisdiction:	West Covina
N/S Street:	Lark Ellen Avenue	Single Turn Lane Capacity:	1,600
E/W Street:	Badillo Street	Dual Turn Lanes Capacity:	3,240
Scenario:	2021 Cumulative Build	Through Lane per lane Capacity:	1,600

Traffic Movement	Number of Lanes	Capacity	Adjacent Street AM Peak Hour		Adjacent Street PM Peak Hour Street	
			Volume	V/C	Volume	V/C
NBL	1	1600	94	0.059 *	53	0.033
NBT	2	3200	664	0.208	664	0.208 *
NBR	1	1600	126	0.079	112	0.070
SBL	1	1600	49	0.031	72	0.045 *
SBT	2	3200	663	0.234 *	614	0.208
SBR		0	85	0.000	51	0.000
EBL	1	1600	89	0.056	103	0.064
EBT	2	3200	659	0.206 *	980	0.306 *
EBR	1	1600	48	0.030	76	0.048
WBL	1	1600	130	0.081 *	165	0.103 *
WBT	2	3200	622	0.194	556	0.174
WBR	1	1600	110	0.069	76	0.048
Clearance Interval/Lost Time:				0.100 *		0.100 *
Total Intersection Capacity Utilization:				0.680		0.762
Level of Service:				B		C

* indicates critical movements

SIGNALIZED INTERSECTION CAPACITY UTILIZATION WORKSHEET

Project:	DAX9 Delivery Station	Jurisdiction:	West Covina
N/S Street:	Rimsdale Avenue	Single Turn Lane Capacity:	1,600
E/W Street:	Badillo Street	Dual Turn Lanes Capacity:	3,240
Scenario:	2021 Cumulative Build	Through Lane per lane Capacity:	1,600

Traffic Movement	Number of Lanes	Capacity	Adjacent Street AM Peak Hour		Adjacent Street PM Peak Hour Street	
			Volume	V/C	Volume	V/C
NBL		0		0.000 *		0.000 *
NBT		0		0.000		0.000
NBR		0		0.000		0.000
SBL		0	92	0.000	78	0.000
SBT	1	1600		0.122 *		0.116 *
SBR		0	103	0.000	108	0.000
EBL	1	1600	130	0.081 *	127	0.079
EBT	2	3200	817	0.255	1041	0.325 *
EBR		0		0.000		0.000
WBL		0		0.000		0.000 *
WBT	2	3200	763	0.238 *	683	0.213
WBR	1	1600	90	0.056	100	0.063
Clearance Interval/Lost Time:				0.100 *		0.100 *
Total Intersection Capacity Utilization:				0.542		0.542
Level of Service:				A		A

* indicates critical movements

SIGNALIZED INTERSECTION CAPACITY UTILIZATION WORKSHEET

Project: DAX9 Delivery Station
N/S Street: Azusa Avenue
E/W Street: Badillo Street
Scenario: 2021 Cumulative Build

Jurisdiction: West Covina
Single Turn Lane Capacity: 1,600
Dual Turn Lanes Capacity: 3,240
Through Lane per lane Capacity: 1,600

Traffic Movement	Number of Lanes	Capacity	Adjacent Street AM Peak Hour		Adjacent Street PM Peak Hour Street	
			Volume	V/C	Volume	V/C
NBL	1	1600	294	0.184 *	169	0.106 *
NBT	2	3200	993	0.366	940	0.331
NBR		0	178	0.000	119	0.000
SBL	1	1600	144	0.090	127	0.079
SBT	2	3200	1077	0.337 *	1025	0.320 *
SBR	1	1600	139	0.087	113	0.071
EBL	1	1600	89	0.056	144	0.090
EBT	2	3200	602	0.188 *	809	0.253 *
EBR	1	1600	163	0.102	208	0.130
WBL	1	1600	194	0.121 *	210	0.131 *
WBT	2	3200	501	0.157	537	0.168
WBR	1	1600	64	0.040	86	0.054
Clearance Interval/Lost Time:				0.100 *		0.100 *
Total Intersection Capacity Utilization:				0.930		0.910
Level of Service:				E		E

* indicates critical movements

Appendix G – HCM Analyses

HCM 6th TWSC
2: Driveway 7/Cutter Way & San Bernardino Rd

2021 No Build
AM Peak Hour of the Adjacent Street

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	23	567	0	0	670	30	0	0	0	47	0	16
Future Vol, veh/h	23	567	0	0	670	30	0	0	0	47	0	16
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	225	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	24	597	0	0	705	32	0	0	0	49	0	17

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	737	0	0	597	0	0	998	1382	299	1068	1366	369
Stage 1	-	-	-	-	-	-	645	645	-	721	721	-
Stage 2	-	-	-	-	-	-	353	737	-	347	645	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	865	-	-	976	-	-	198	143	697	176	146	628
Stage 1	-	-	-	-	-	-	427	466	-	385	430	-
Stage 2	-	-	-	-	-	-	637	423	-	642	466	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	865	-	-	976	-	-	189	139	697	172	142	628
Mov Cap-2 Maneuver	-	-	-	-	-	-	189	139	-	172	142	-
Stage 1	-	-	-	-	-	-	415	453	-	374	430	-
Stage 2	-	-	-	-	-	-	620	423	-	624	453	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0	0	29.7
HCM LOS			A	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	865	-	-	976	-	-	211
HCM Lane V/C Ratio	-	0.028	-	-	-	-	-	0.314
HCM Control Delay (s)	0	9.3	-	-	0	-	-	29.7
HCM Lane LOS	A	A	-	-	A	-	-	D
HCM 95th %tile Q(veh)	-	0.1	-	-	0	-	-	1.3

HCM 6th TWSC
10: Badillo St & Driveway 1

2021 No Build
AM Peak Hour of the Adjacent Street

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↱
Traffic Vol, veh/h	0	747	775	0	0	0
Future Vol, veh/h	0	747	775	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	786	816	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	408
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	593
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	593
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

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

HCM 6th TWSC
11: Badillo St & Driveway 3

2021 No Build
AM Peak Hour of the Adjacent Street

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	747	775	0	0	0
Future Vol, veh/h	0	747	775	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	786	816	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	816	0	-	0	1209	408
Stage 1	-	-	-	-	816	-
Stage 2	-	-	-	-	393	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	807	-	-	-	175	593
Stage 1	-	-	-	-	395	-
Stage 2	-	-	-	-	651	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	807	-	-	-	175	593
Mov Cap-2 Maneuver	-	-	-	-	175	-
Stage 1	-	-	-	-	395	-
Stage 2	-	-	-	-	651	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	807	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

HCM 6th TWSC
12: Badillo St & Driveway 4

2021 No Build
AM Peak Hour of the Adjacent Street

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	747	775	0	0	0
Future Vol, veh/h	0	747	775	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	786	816	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	816	0	-	0	1209	408
Stage 1	-	-	-	-	816	-
Stage 2	-	-	-	-	393	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	807	-	-	-	175	593
Stage 1	-	-	-	-	395	-
Stage 2	-	-	-	-	651	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	807	-	-	-	175	593
Mov Cap-2 Maneuver	-	-	-	-	175	-
Stage 1	-	-	-	-	395	-
Stage 2	-	-	-	-	651	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	807	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

HCM 6th TWSC
13: Driveway 5 & San Bernardino RD

2021 No Build
AM Peak Hour of the Adjacent Street

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	637	0	0	690	0	0
Future Vol, veh/h	637	0	0	690	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	671	0	0	726	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	336
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	-	-	0	-	0	660
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	660
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	0	-	-	-
HCM Lane LOS	A	-	-	-
HCM 95th %tile Q(veh)	-	-	-	-

HCM 6th TWSC
14: Driveway 6 & San Bernardino Rd

2021 No Build
AM Peak Hour of the Adjacent Street

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	637	0	0	690	0	0
Future Vol, veh/h	637	0	0	690	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	671	0	0	726	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	-	-	1034	336
Stage 1	-	-	-	-	671	-
Stage 2	-	-	-	-	363	-
Critical Hdwy	-	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	-	0	0	-	228	660
Stage 1	-	0	0	-	470	-
Stage 2	-	0	0	-	674	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	-	-	228	660
Mov Cap-2 Maneuver	-	-	-	-	228	-
Stage 1	-	-	-	-	470	-
Stage 2	-	-	-	-	674	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	WBT
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	0	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	-	-	-

HCM 6th TWSC
2: Driveway 7/Cutter Way & San Bernardino Rd

2021 No Build
AM Peak Hour of the Generator

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	365	0	0	404	28	0	0	0	21	0	13
Future Vol, veh/h	7	365	0	0	404	28	0	0	0	21	0	13
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	225	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	384	0	0	425	29	0	0	0	22	0	14

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	454	0	0	384	0	0	611	852	192	646	838	227
Stage 1	-	-	-	-	-	-	398	398	-	440	440	-
Stage 2	-	-	-	-	-	-	213	454	-	206	398	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1103	-	-	1171	-	-	378	295	817	357	301	776
Stage 1	-	-	-	-	-	-	599	601	-	566	576	-
Stage 2	-	-	-	-	-	-	769	568	-	777	601	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1103	-	-	1171	-	-	370	293	817	355	299	776
Mov Cap-2 Maneuver	-	-	-	-	-	-	370	293	-	355	299	-
Stage 1	-	-	-	-	-	-	595	597	-	563	576	-
Stage 2	-	-	-	-	-	-	755	568	-	772	597	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0	0	13.7
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1103	-	-	1171	-	-	448
HCM Lane V/C Ratio	-	0.007	-	-	-	-	-	0.08
HCM Control Delay (s)	0	8.3	-	-	0	-	-	13.7
HCM Lane LOS	A	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	0.3

HCM 6th TWSC
10: Badillo St & Driveway 1

2021 No Build
AM Peak Hour of the Generator

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	434	414	0	0	0
Future Vol, veh/h	0	434	414	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	457	436	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	218
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	786
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	786
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

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

HCM 6th TWSC
11: Badillo St & Driveway 3

2021 No Build
AM Peak Hour of the Generator

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	434	414	0	0	0
Future Vol, veh/h	0	434	414	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	457	436	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	436	0	-	0	665	218
Stage 1	-	-	-	-	436	-
Stage 2	-	-	-	-	229	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	1120	-	-	-	393	786
Stage 1	-	-	-	-	619	-
Stage 2	-	-	-	-	787	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1120	-	-	-	393	786
Mov Cap-2 Maneuver	-	-	-	-	393	-
Stage 1	-	-	-	-	619	-
Stage 2	-	-	-	-	787	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1120	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

HCM 6th TWSC
12: Badillo St & Driveway 4

2021 No Build
AM Peak Hour of the Generator

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	434	414	0	0	0
Future Vol, veh/h	0	434	414	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	457	436	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	436	0	-	0	665	218
Stage 1	-	-	-	-	436	-
Stage 2	-	-	-	-	229	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	1120	-	-	-	393	786
Stage 1	-	-	-	-	619	-
Stage 2	-	-	-	-	787	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1120	-	-	-	393	786
Mov Cap-2 Maneuver	-	-	-	-	393	-
Stage 1	-	-	-	-	619	-
Stage 2	-	-	-	-	787	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1120	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

HCM 6th TWSC
13: Driveway 5 & San Bernardino RD

2021 No Build
AM Peak Hour of the Generator

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	407	0	0	432	0	0
Future Vol, veh/h	407	0	0	432	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	428	0	0	455	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	214
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	-	-	0	-	0	791
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	791
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	0	-	-	-
HCM Lane LOS	A	-	-	-
HCM 95th %tile Q(veh)	-	-	-	-

HCM 6th TWSC
14: Driveway 6 & San Bernardino Rd

2021 No Build
AM Peak Hour of the Generator

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	407	0	0	432	0	0
Future Vol, veh/h	407	0	0	432	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	428	0	0	455	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	-	-	656	214
Stage 1	-	-	-	-	428	-
Stage 2	-	-	-	-	228	-
Critical Hdwy	-	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	-	0	0	-	398	791
Stage 1	-	0	0	-	625	-
Stage 2	-	0	0	-	788	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	-	-	398	791
Mov Cap-2 Maneuver	-	-	-	-	398	-
Stage 1	-	-	-	-	625	-
Stage 2	-	-	-	-	788	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	WBT
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	0	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	-	-	-

HCM 6th TWSC
2: Driveway 7/Cutter Way & San Bernardino Rd

2021 No Build
PM Peak Hour of the Adjacent Street

Intersection	
Int Delay, s/veh	1

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Vol, veh/h	1	10	846	0	3	0	444	33	0	0	0	37	0	16
Future Vol, veh/h	1	10	846	0	3	0	444	33	0	0	0	37	0	16
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	-	None	-	-	-	None	-	-	None	-	-	None
Storage Length	-	225	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	-	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-	0	-	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	11	891	0	3	0	467	35	0	0	0	39	0	17

Major/Minor	Major1				Major2				Minor1			Minor2		
Conflicting Flow All	502	502	0	0	891	891	0	0	1155	1423	446	961	1406	251
Stage 1	-	-	-	-	-	-	-	-	915	915	-	491	491	-
Stage 2	-	-	-	-	-	-	-	-	240	508	-	470	915	-
Critical Hdwy	6.44	4.14	-	-	6.44	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.52	2.22	-	-	2.52	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	690	1059	-	-	390	757	-	-	152	135	560	211	138	749
Stage 1	-	-	-	-	-	-	-	-	294	350	-	528	546	-
Stage 2	-	-	-	-	-	-	-	-	742	537	-	543	350	-
Platoon blocked, %			-	-			-	-						
Mov Cap-1 Maneuver	1007	1007	-	-	390	390	-	-	146	132	560	207	135	749
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	146	132	-	207	135	-
Stage 1	-	-	-	-	-	-	-	-	290	346	-	522	540	-
Stage 2	-	-	-	-	-	-	-	-	717	531	-	537	346	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.3	0	22.2
HCM LOS			A	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1007	-	-	390	-	-	265
HCM Lane V/C Ratio	-	0.011	-	-	-	-	-	0.211
HCM Control Delay (s)	0	8.6	-	-	14.3	0.2	-	22.2
HCM Lane LOS	A	A	-	-	B	A	-	C
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	0.8

HCM 6th TWSC
10: Badillo St & Driveway 1

2021 No Build
PM Peak Hour of the Adjacent Street

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↱
Traffic Vol, veh/h	0	1139	624	0	0	0
Future Vol, veh/h	0	1139	624	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1199	657	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	329
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	667
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	667
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

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

HCM 6th TWSC
11: Badillo St & Driveway 3

2021 No Build
PM Peak Hour of the Adjacent Street

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1139	624	0	0	0
Future Vol, veh/h	0	1139	624	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1199	657	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	657	0	-	0	1257	329
Stage 1	-	-	-	-	657	-
Stage 2	-	-	-	-	600	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	926	-	-	-	163	667
Stage 1	-	-	-	-	477	-
Stage 2	-	-	-	-	511	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	926	-	-	-	163	667
Mov Cap-2 Maneuver	-	-	-	-	163	-
Stage 1	-	-	-	-	477	-
Stage 2	-	-	-	-	511	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	926	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

HCM 6th TWSC
12: Badillo St & Driveway 4

2021 No Build
PM Peak Hour of the Adjacent Street

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1139	624	0	0	0
Future Vol, veh/h	0	1139	624	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1199	657	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	657	0	-	0	1257	329
Stage 1	-	-	-	-	657	-
Stage 2	-	-	-	-	600	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	926	-	-	-	163	667
Stage 1	-	-	-	-	477	-
Stage 2	-	-	-	-	511	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	926	-	-	-	163	667
Mov Cap-2 Maneuver	-	-	-	-	163	-
Stage 1	-	-	-	-	477	-
Stage 2	-	-	-	-	511	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	926	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

HCM 6th TWSC
13: Driveway 5 & San Bernardino RD

2021 No Build
PM Peak Hour of the Adjacent Street

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	857	0	0	511	0	0
Future Vol, veh/h	857	0	0	511	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	902	0	0	538	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	451
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	-	-	0	-	0	556
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	556
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	0	-	-	-
HCM Lane LOS	A	-	-	-
HCM 95th %tile Q(veh)	-	-	-	-

HCM 6th TWSC
14: Driveway 6 & San Bernardino Rd

2021 No Build
PM Peak Hour of the Adjacent Street

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	857	0	0	511	0	0
Future Vol, veh/h	857	0	0	511	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	902	0	0	538	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	-	-	1171	451
Stage 1	-	-	-	-	902	-
Stage 2	-	-	-	-	269	-
Critical Hdwy	-	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	-	0	0	-	186	556
Stage 1	-	0	0	-	356	-
Stage 2	-	0	0	-	752	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	-	-	186	556
Mov Cap-2 Maneuver	-	-	-	-	186	-
Stage 1	-	-	-	-	356	-
Stage 2	-	-	-	-	752	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	WBT
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	0	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	-	-	-

HCM 6th TWSC
2: Driveway 7/Cutter Way & San Bernardino Rd

2021 No Build
PM Peak Hour of the Generator

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	7	206	0	1	0	184	22	0	0	0	18	0	6
Future Vol, veh/h	7	206	0	1	0	184	22	0	0	0	18	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	-	None	-	-	None	-	-	None
Storage Length	225	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	217	0	1	0	194	23	0	0	0	19	0	6

Major/Minor	Major1			Major2				Minor1			Minor2		
Conflicting Flow All	217	0	0	217	217	0	0	330	450	109	331	439	109
Stage 1	-	-	-	-	-	-	-	231	231	-	208	208	-
Stage 2	-	-	-	-	-	-	-	99	219	-	123	231	-
Critical Hdwy	4.14	-	-	6.44	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.52	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1350	-	-	1044	1350	-	-	599	503	924	599	510	924
Stage 1	-	-	-	-	-	-	-	751	712	-	775	729	-
Stage 2	-	-	-	-	-	-	-	896	721	-	868	712	-
Platoon blocked, %		-	-			-	-						
Mov Cap-1 Maneuver	1350	-	-	1044	1044	-	-	592	500	924	596	507	924
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	592	500	-	596	507	-
Stage 1	-	-	-	-	-	-	-	747	708	-	771	728	-
Stage 2	-	-	-	-	-	-	-	889	720	-	863	708	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0	0	10.7
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1350	-	-	1044	-	-	654
HCM Lane V/C Ratio	-	0.005	-	-	-	-	-	0.039
HCM Control Delay (s)	0	7.7	-	-	8.5	0	-	10.7
HCM Lane LOS	A	A	-	-	A	A	-	B
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	0.1

HCM 6th TWSC
10: Badillo St & Driveway 1

2021 No Build
PM Peak Hour of the Generator

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	248	238	0	0	0
Future Vol, veh/h	0	248	238	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	261	251	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	126
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	901
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	901
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

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

HCM 6th TWSC
11: Badillo St & Driveway 3

2021 No Build
PM Peak Hour of the Generator

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	248	238	0	0	0
Future Vol, veh/h	0	248	238	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	261	251	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	251	0	-	0	382	126
Stage 1	-	-	-	-	251	-
Stage 2	-	-	-	-	131	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	1311	-	-	-	593	901
Stage 1	-	-	-	-	768	-
Stage 2	-	-	-	-	881	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1311	-	-	-	593	901
Mov Cap-2 Maneuver	-	-	-	-	593	-
Stage 1	-	-	-	-	768	-
Stage 2	-	-	-	-	881	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1311	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

HCM 6th TWSC
12: Badillo St & Driveway 4

2021 No Build
PM Peak Hour of the Generator

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	248	238	0	0	0
Future Vol, veh/h	0	248	238	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	261	251	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	251	0	-	0	382	126
Stage 1	-	-	-	-	251	-
Stage 2	-	-	-	-	131	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	1311	-	-	-	593	901
Stage 1	-	-	-	-	768	-
Stage 2	-	-	-	-	881	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1311	-	-	-	593	901
Mov Cap-2 Maneuver	-	-	-	-	593	-
Stage 1	-	-	-	-	768	-
Stage 2	-	-	-	-	881	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1311	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

HCM 6th TWSC
13: Driveway 5 & San Bernardino RD

2021 No Build
PM Peak Hour of the Generator

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	211	0	0	217	0	0
Future Vol, veh/h	211	0	0	217	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	222	0	0	228	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	111
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	-	-	0	-	0	921
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	921
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	0	-	-	-
HCM Lane LOS	A	-	-	-
HCM 95th %tile Q(veh)	-	-	-	-

HCM 6th TWSC
14: Driveway 6 & San Bernardino Rd

2021 No Build
PM Peak Hour of the Generator

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	211	0	0	217	0	0
Future Vol, veh/h	211	0	0	217	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	222	0	0	228	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	-	-	336	111
Stage 1	-	-	-	-	222	-
Stage 2	-	-	-	-	114	-
Critical Hdwy	-	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	-	0	0	-	634	921
Stage 1	-	0	0	-	794	-
Stage 2	-	0	0	-	898	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	-	-	634	921
Mov Cap-2 Maneuver	-	-	-	-	634	-
Stage 1	-	-	-	-	794	-
Stage 2	-	-	-	-	898	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	WBT
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	0	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	-	-	-

HCM 6th TWSC
10: Badillo St & Driveway 1

2021 Build
AM Peak Hour of the Adjacent Street

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↱
Traffic Vol, veh/h	0	747	775	0	0	0
Future Vol, veh/h	0	747	775	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	786	816	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	408
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	593
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	593
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

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

HCM 6th TWSC
11: Badillo St & Driveway 3

2021 Build
AM Peak Hour of the Adjacent Street

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	747	775	0	0	0
Future Vol, veh/h	0	747	775	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	786	816	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	816	0	-	0	1209	408
Stage 1	-	-	-	-	816	-
Stage 2	-	-	-	-	393	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	807	-	-	-	175	593
Stage 1	-	-	-	-	395	-
Stage 2	-	-	-	-	651	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	807	-	-	-	175	593
Mov Cap-2 Maneuver	-	-	-	-	175	-
Stage 1	-	-	-	-	395	-
Stage 2	-	-	-	-	651	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	807	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

HCM 6th TWSC
12: Badillo St & Driveway 4

2021 Build
AM Peak Hour of the Adjacent Street

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	747	775	0	0	0
Future Vol, veh/h	0	747	775	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	786	816	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	816	0	-	0	1209	408
Stage 1	-	-	-	-	816	-
Stage 2	-	-	-	-	393	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	807	-	-	-	175	593
Stage 1	-	-	-	-	395	-
Stage 2	-	-	-	-	651	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	807	-	-	-	175	593
Mov Cap-2 Maneuver	-	-	-	-	175	-
Stage 1	-	-	-	-	395	-
Stage 2	-	-	-	-	651	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	807	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

HCM 6th TWSC
13: Driveway 5 & San Bernardino RD

2021 Build
AM Peak Hour of the Adjacent Street

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	638	0	0	691	0	0
Future Vol, veh/h	638	0	0	691	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	672	0	0	727	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	336
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	-	-	0	-	0	660
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	660
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	0	-	-	-
HCM Lane LOS	A	-	-	-
HCM 95th %tile Q(veh)	-	-	-	-

HCM 6th TWSC
14: Driveway 6 & San Bernardino Rd

2021 Build
AM Peak Hour of the Adjacent Street

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	638	0	0	691	0	0
Future Vol, veh/h	638	0	0	691	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	672	0	0	727	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	-	-	1036	336
Stage 1	-	-	-	-	672	-
Stage 2	-	-	-	-	364	-
Critical Hdwy	-	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	-	0	0	-	227	660
Stage 1	-	0	0	-	469	-
Stage 2	-	0	0	-	673	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	-	-	227	660
Mov Cap-2 Maneuver	-	-	-	-	227	-
Stage 1	-	-	-	-	469	-
Stage 2	-	-	-	-	673	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	WBT
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	0	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	-	-	-

HCM 6th TWSC
10: Badillo St & Driveway 1

2021 Build
PM Peak Hour of the Adjacent Street

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↱			↱
Traffic Vol, veh/h	0	1139	624	18	0	0
Future Vol, veh/h	0	1139	624	18	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1199	657	19	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	338
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	658
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	658
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

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

HCM 6th TWSC
11: Badillo St & Driveway 3

2021 Build
PM Peak Hour of the Adjacent Street

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1139	624	0	0	0
Future Vol, veh/h	0	1139	624	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1199	657	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	657	0	-	0	1257	329
Stage 1	-	-	-	-	657	-
Stage 2	-	-	-	-	600	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	926	-	-	-	163	667
Stage 1	-	-	-	-	477	-
Stage 2	-	-	-	-	511	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	926	-	-	-	163	667
Mov Cap-2 Maneuver	-	-	-	-	163	-
Stage 1	-	-	-	-	477	-
Stage 2	-	-	-	-	511	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	926	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

HCM 6th TWSC
12: Badillo St & Driveway 4

2021 Build
PM Peak Hour of the Adjacent Street

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	20	1139	624	0	0	0
Future Vol, veh/h	20	1139	624	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	21	1199	657	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	657	0	-	0	1299	329
Stage 1	-	-	-	-	657	-
Stage 2	-	-	-	-	642	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	926	-	-	-	153	667
Stage 1	-	-	-	-	477	-
Stage 2	-	-	-	-	486	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	926	-	-	-	149	667
Mov Cap-2 Maneuver	-	-	-	-	149	-
Stage 1	-	-	-	-	466	-
Stage 2	-	-	-	-	486	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	926	-	-	-	-
HCM Lane V/C Ratio	0.023	-	-	-	-
HCM Control Delay (s)	9	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	-

HCM 6th TWSC
13: Driveway 5 & San Bernardino RD

2021 Build
PM Peak Hour of the Adjacent Street

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	864	7	0	512	0	0
Future Vol, veh/h	864	7	0	512	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	909	7	0	539	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	458
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	-	-	0	-	0	550
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	550
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	0	-	-	-
HCM Lane LOS	A	-	-	-
HCM 95th %tile Q(veh)	-	-	-	-

HCM 6th TWSC
14: Driveway 6 & San Bernardino Rd

2021 Build
PM Peak Hour of the Adjacent Street

Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	864	0	0	512	11	7
Future Vol, veh/h	864	0	0	512	11	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	909	0	0	539	12	7

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	-	-	1179	455
Stage 1	-	-	-	-	909	-
Stage 2	-	-	-	-	270	-
Critical Hdwy	-	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	-	0	0	-	183	552
Stage 1	-	0	0	-	353	-
Stage 2	-	0	0	-	751	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	-	-	183	552
Mov Cap-2 Maneuver	-	-	-	-	183	-
Stage 1	-	-	-	-	353	-
Stage 2	-	-	-	-	751	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	20.8
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	WBT
Capacity (veh/h)	247	-	-
HCM Lane V/C Ratio	0.077	-	-
HCM Control Delay (s)	20.8	-	-
HCM Lane LOS	C	-	-
HCM 95th %tile Q(veh)	0.2	-	-

HCM 6th TWSC
10: Badillo St & Driveway 1

2021 Build
AM Peak Hour of the Generator

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↱
Traffic Vol, veh/h	0	434	443	0	0	0
Future Vol, veh/h	0	434	443	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	457	466	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	233
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	769
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	769
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

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

HCM 6th TWSC
11: Badillo St & Driveway 3

2021 Build
AM Peak Hour of the Generator

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	434	414	29	0	0
Future Vol, veh/h	0	434	414	29	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	457	436	31	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	467	0	-	0	681	234
Stage 1	-	-	-	-	452	-
Stage 2	-	-	-	-	229	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	1091	-	-	-	384	768
Stage 1	-	-	-	-	608	-
Stage 2	-	-	-	-	787	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1091	-	-	-	384	768
Mov Cap-2 Maneuver	-	-	-	-	384	-
Stage 1	-	-	-	-	608	-
Stage 2	-	-	-	-	787	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1091	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

HCM 6th TWSC
12: Badillo St & Driveway 4

2021 Build
AM Peak Hour of the Generator

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	44	434	414	0	0	0
Future Vol, veh/h	44	434	414	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	46	457	436	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	436	0	-	0	757	218
Stage 1	-	-	-	-	436	-
Stage 2	-	-	-	-	321	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	1120	-	-	-	344	786
Stage 1	-	-	-	-	619	-
Stage 2	-	-	-	-	708	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1120	-	-	-	330	786
Mov Cap-2 Maneuver	-	-	-	-	330	-
Stage 1	-	-	-	-	594	-
Stage 2	-	-	-	-	708	-

Approach	EB	WB	SB
HCM Control Delay, s	0.8	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1120	-	-	-	-
HCM Lane V/C Ratio	0.041	-	-	-	-
HCM Control Delay (s)	8.4	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	-

HCM 6th TWSC
13: Driveway 5 & San Bernardino RD

2021 Build
AM Peak Hour of the Generator

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	450	0	0	433	0	0
Future Vol, veh/h	450	0	0	433	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	474	0	0	456	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	237
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	-	-	0	-	0	764
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	764
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	0	-	-	-
HCM Lane LOS	A	-	-	-
HCM 95th %tile Q(veh)	-	-	-	-

HCM 6th TWSC
14: Driveway 6 & San Bernardino Rd

2021 Build
AM Peak Hour of the Generator

Intersection	
Int Delay, s/veh	1.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	407	0	0	433	65	43
Future Vol, veh/h	407	0	0	433	65	43
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	428	0	0	456	68	45

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	-	-	656	214
Stage 1	-	-	-	-	428	-
Stage 2	-	-	-	-	228	-
Critical Hdwy	-	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	-	0	0	-	398	791
Stage 1	-	0	0	-	625	-
Stage 2	-	0	0	-	788	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	-	-	398	791
Mov Cap-2 Maneuver	-	-	-	-	398	-
Stage 1	-	-	-	-	625	-
Stage 2	-	-	-	-	788	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	14.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	WBT
Capacity (veh/h)	496	-	-
HCM Lane V/C Ratio	0.229	-	-
HCM Control Delay (s)	14.4	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	0.9	-	-

HCM 6th TWSC
10: Badillo St & Driveway 1

2021 Build
PM Peak Hour of the Generator

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↱
Traffic Vol, veh/h	0	280	238	32	0	0
Future Vol, veh/h	0	280	238	32	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	295	251	34	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	143
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	879
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	879
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

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

HCM 6th TWSC
11: Badillo St & Driveway 3

2021 Build
PM Peak Hour of the Generator

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	248	238	0	32	0
Future Vol, veh/h	0	248	238	0	32	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	261	251	0	34	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	251	0	-	0	382	126
Stage 1	-	-	-	-	251	-
Stage 2	-	-	-	-	131	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	1311	-	-	-	593	901
Stage 1	-	-	-	-	768	-
Stage 2	-	-	-	-	881	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1311	-	-	-	593	901
Mov Cap-2 Maneuver	-	-	-	-	593	-
Stage 1	-	-	-	-	768	-
Stage 2	-	-	-	-	881	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1311	-	-	-	593
HCM Lane V/C Ratio	-	-	-	-	0.057
HCM Control Delay (s)	0	-	-	-	11.4
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2

HCM 6th TWSC
12: Badillo St & Driveway 4

2021 Build
PM Peak Hour of the Generator

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	36	248	238	0	0	48
Future Vol, veh/h	36	248	238	0	0	48
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	38	261	251	0	0	51

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	251	0	-	0	458	126
Stage 1	-	-	-	-	251	-
Stage 2	-	-	-	-	207	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	1311	-	-	-	531	901
Stage 1	-	-	-	-	768	-
Stage 2	-	-	-	-	807	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1311	-	-	-	516	901
Mov Cap-2 Maneuver	-	-	-	-	516	-
Stage 1	-	-	-	-	746	-
Stage 2	-	-	-	-	807	-

Approach	EB	WB	SB
HCM Control Delay, s	1	0	9.2
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1311	-	-	-	901
HCM Lane V/C Ratio	0.029	-	-	-	0.056
HCM Control Delay (s)	7.8	-	-	-	9.2
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2

HCM 6th TWSC
13: Driveway 5 & San Bernardino RD

2021 Build
PM Peak Hour of the Generator

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	212	12	0	218	0	0
Future Vol, veh/h	212	12	0	218	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	223	13	0	229	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	118
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	-	-	0	-	0	912
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	912
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	0	-	-	-
HCM Lane LOS	A	-	-	-
HCM 95th %tile Q(veh)	-	-	-	-

HCM 6th TWSC
14: Driveway 6 & San Bernardino Rd

2021 Build
PM Peak Hour of the Generator

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	224	0	0	218	0	0
Future Vol, veh/h	224	0	0	218	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	236	0	0	229	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	-	-	351	118
Stage 1	-	-	-	-	236	-
Stage 2	-	-	-	-	115	-
Critical Hdwy	-	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	-	0	0	-	620	912
Stage 1	-	0	0	-	781	-
Stage 2	-	0	0	-	897	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	-	-	620	912
Mov Cap-2 Maneuver	-	-	-	-	620	-
Stage 1	-	-	-	-	781	-
Stage 2	-	-	-	-	897	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	WBT
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	0	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	-	-	-

HCM 6th TWSC
10: Badillo St & Driveway 1

2021 Cumulative Build AM Street Peak
AM Peak Hour of the Adjacent Street Cumulative

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↱
Traffic Vol, veh/h	0	762	783	0	0	0
Future Vol, veh/h	0	762	783	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	802	824	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	412
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	589
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	589
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

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

HCM 6th TWSC
11: Badillo St & Driveway 3

2021 Cumulative Build AM Street Peak
AM Peak Hour of the Adjacent Street Cumulative

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	762	783	0	0	0
Future Vol, veh/h	0	762	783	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	802	824	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	824	0	-	0	1225	412
Stage 1	-	-	-	-	824	-
Stage 2	-	-	-	-	401	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	802	-	-	-	171	589
Stage 1	-	-	-	-	391	-
Stage 2	-	-	-	-	645	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	802	-	-	-	171	589
Mov Cap-2 Maneuver	-	-	-	-	171	-
Stage 1	-	-	-	-	391	-
Stage 2	-	-	-	-	645	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	802	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

HCM 6th TWSC
12: Badillo St & Driveway 4

2021 Cumulative Build AM Street Peak
AM Peak Hour of the Adjacent Street Cumulative

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	762	783	0	0	0
Future Vol, veh/h	0	762	783	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	802	824	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	824	0	-	0	1225	412
Stage 1	-	-	-	-	824	-
Stage 2	-	-	-	-	401	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	802	-	-	-	171	589
Stage 1	-	-	-	-	391	-
Stage 2	-	-	-	-	645	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	802	-	-	-	171	589
Mov Cap-2 Maneuver	-	-	-	-	171	-
Stage 1	-	-	-	-	391	-
Stage 2	-	-	-	-	645	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	802	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

HCM 6th TWSC
13: Driveway 5 & San Bernardino RD

2021 Cumulative Build AM Street Peak
AM Peak Hour of the Adjacent Street Cumulative

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	669	0	0	739	0	0
Future Vol, veh/h	669	0	0	739	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	704	0	0	778	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	352
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	-	-	0	-	0	644
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	644
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	0	-	-	-
HCM Lane LOS	A	-	-	-
HCM 95th %tile Q(veh)	-	-	-	-

HCM 6th TWSC
14: Driveway 6 & San Bernardino Rd

2021 Cumulative Build AM Street Peak
AM Peak Hour of the Adjacent Street Cumulative

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	669	0	0	739	0	0
Future Vol, veh/h	669	0	0	739	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	704	0	0	778	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	-	-	1093	352
Stage 1	-	-	-	-	704	-
Stage 2	-	-	-	-	389	-
Critical Hdwy	-	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	-	0	0	-	209	644
Stage 1	-	0	0	-	452	-
Stage 2	-	0	0	-	654	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	-	-	209	644
Mov Cap-2 Maneuver	-	-	-	-	209	-
Stage 1	-	-	-	-	452	-
Stage 2	-	-	-	-	654	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	WBT
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	0	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	-	-	-

HCM 6th TWSC
10: Badillo St & Driveway 1

2021 Cumulative Build PM Street Peak
2021 PM Peak Hour of the Adjacent Street

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↱
Traffic Vol, veh/h	0	1155	638	18	0	0
Future Vol, veh/h	0	1155	638	18	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1216	672	19	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	346
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	650
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	650
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

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

HCM 6th TWSC
11: Badillo St & Driveway 3

2021 Cumulative Build PM Street Peak
2021 PM Peak Hour of the Adjacent Street

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1155	638	0	0	0
Future Vol, veh/h	0	1155	638	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1216	672	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	672	0	-	0	1280	336
Stage 1	-	-	-	-	672	-
Stage 2	-	-	-	-	608	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	915	-	-	-	158	660
Stage 1	-	-	-	-	469	-
Stage 2	-	-	-	-	506	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	915	-	-	-	158	660
Mov Cap-2 Maneuver	-	-	-	-	158	-
Stage 1	-	-	-	-	469	-
Stage 2	-	-	-	-	506	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	915	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

HCM 6th TWSC
12: Badillo St & Driveway 4

2021 Cumulative Build PM Street Peak
2021 PM Peak Hour of the Adjacent Street

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	20	1155	638	0	0	0
Future Vol, veh/h	20	1155	638	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	21	1216	672	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	672	0	-	0	1322	336
Stage 1	-	-	-	-	672	-
Stage 2	-	-	-	-	650	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	915	-	-	-	148	660
Stage 1	-	-	-	-	469	-
Stage 2	-	-	-	-	481	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	915	-	-	-	145	660
Mov Cap-2 Maneuver	-	-	-	-	145	-
Stage 1	-	-	-	-	458	-
Stage 2	-	-	-	-	481	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	915	-	-	-	-
HCM Lane V/C Ratio	0.023	-	-	-	-
HCM Control Delay (s)	9	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	-

HCM 6th TWSC
13: Driveway 5 & San Bernardino RD

2021 Cumulative Build PM Street Peak
2021 PM Peak Hour of the Adjacent Street

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	936	7	0	554	0	0
Future Vol, veh/h	936	7	0	554	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	985	7	0	583	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	496
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	-	-	0	-	0	519
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	519
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	0	-	-	-
HCM Lane LOS	A	-	-	-
HCM 95th %tile Q(veh)	-	-	-	-

HCM 6th TWSC
14: Driveway 6 & San Bernardino Rd

2021 Cumulative Build PM Street Peak
2021 PM Peak Hour of the Adjacent Street

Intersection	
Int Delay, s/veh	0.3

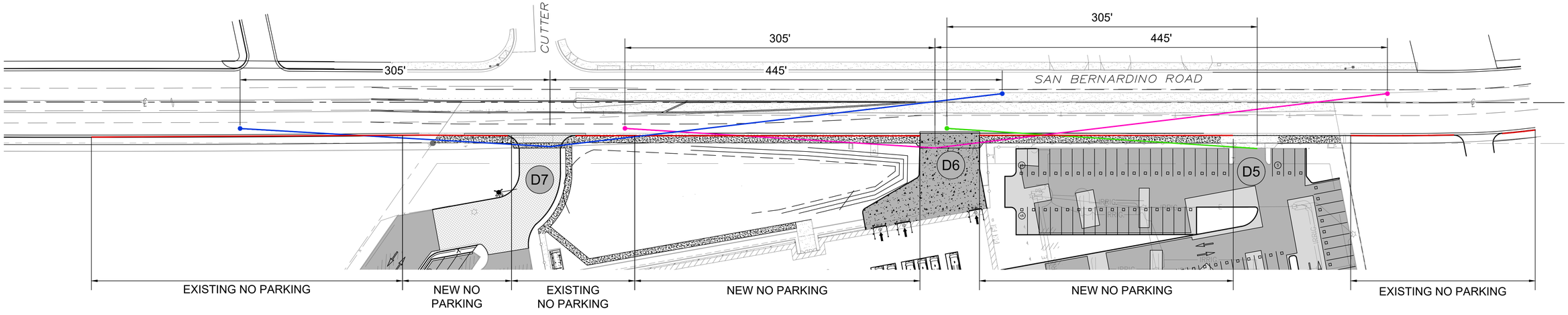
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	936	0	0	554	11	7
Future Vol, veh/h	936	0	0	554	11	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	985	0	0	583	12	7

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	-	-	1277	493
Stage 1	-	-	-	-	985	-
Stage 2	-	-	-	-	292	-
Critical Hdwy	-	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	-	0	0	-	158	522
Stage 1	-	0	0	-	322	-
Stage 2	-	0	0	-	732	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	-	-	158	522
Mov Cap-2 Maneuver	-	-	-	-	158	-
Stage 1	-	-	-	-	322	-
Stage 2	-	-	-	-	732	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	23.2
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	WBT
Capacity (veh/h)	217	-	-
HCM Lane V/C Ratio	0.087	-	-
HCM Control Delay (s)	23.2	-	-
HCM Lane LOS	C	-	-
HCM 95th %tile Q(veh)	0.3	-	-

Appendix H – Sight Triangle Drawings and Restriping Plan



Speed (MPH)*	Stopping Sight Distance (ft.)	Design Intersection Sight Distance (ft.)
25	155	280
30	200	335
35	250	390
40	305	445
45	360	500
50	425	555
55	495	610
60	570	665
65	645	720

Source: *A Policy on Geometric Design of Highway and Streets,* 5th Edition, American Association of State Highway and Trasportation Officials (AASHTO), 2004.

GRAPHIC SCALE

50 0 25 50 100

(IN FEET)
1 inch = 50 ft.

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NV5 ENGINEERS & CONSULTANTS, INC.
0750 TRYON ROAD
CARY, NC 27518
P: 919.851.1912 www.NV5.com
NC License # P-1333

DATE: 5-3-21
DRAWN BY: AK

SCALE: 1" = 50'
PROJECT NO.: 2020044.07

REVISIONS

NO	DATE	REMARKS
1		
2		
3		
4		
5		
6		

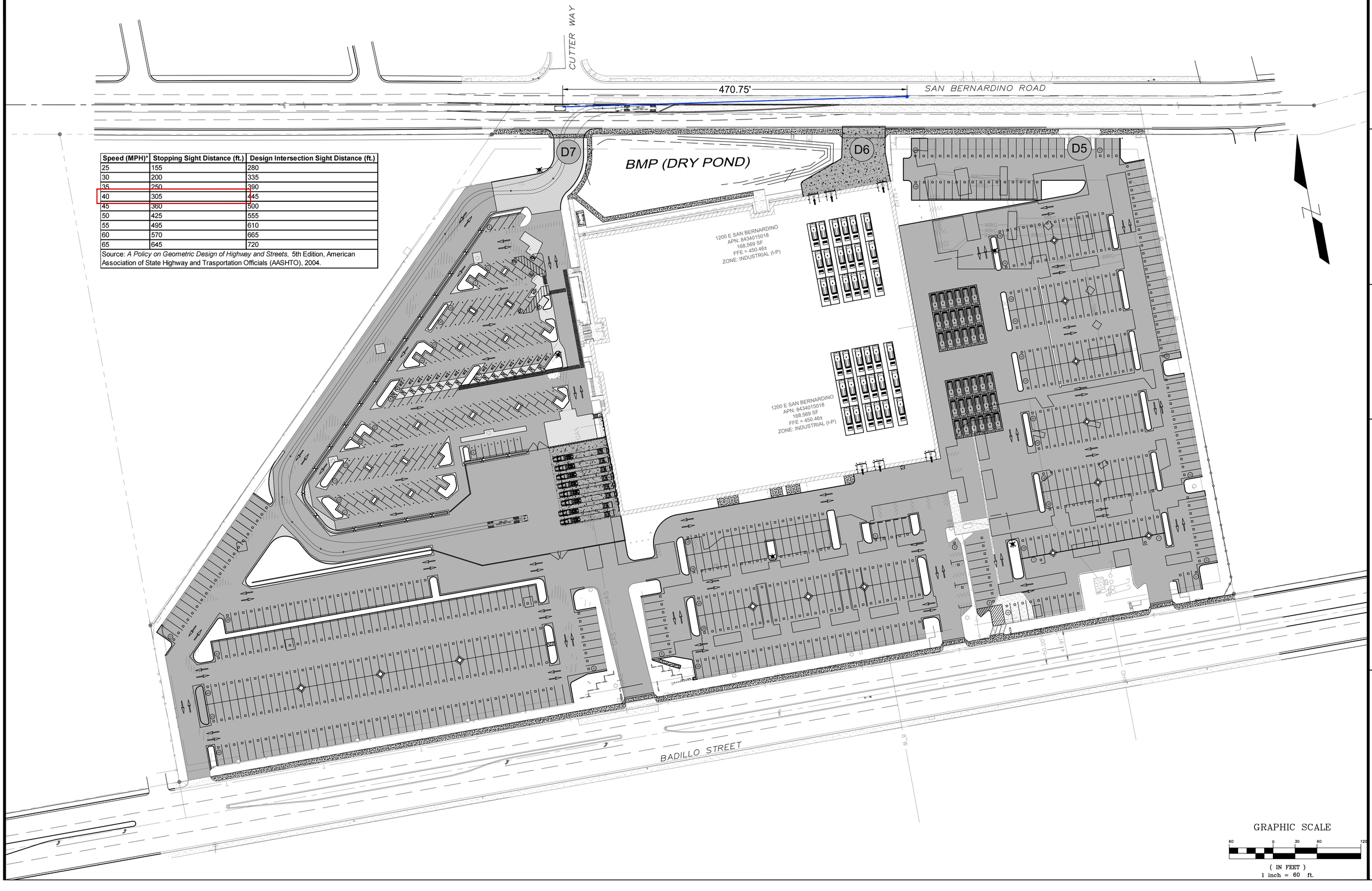
DAX9

WEST COVINA, CALIFORNIA

SIGHT DISTANCE
SAN BERNARDINO ROAD

Speed (MPH)*	Stopping Sight Distance (ft.)	Design Intersection Sight Distance (ft.)
25	155	280
30	200	335
35	250	390
40	305	445
45	360	500
50	425	555
55	495	610
60	570	665
65	645	720

Source: *A Policy on Geometric Design of Highway and Streets,* 5th Edition, American Association of State Highway and Trasportation Officials (AASHTO), 2004.



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NC License # P-1333

DATE: 4-30-21
DRAWN BY:
DWG. CHECKED BY:
DESIGNED BY:
DGN. CHECKED BY:
SCALE: 1" = 50'
PROJECT NO.

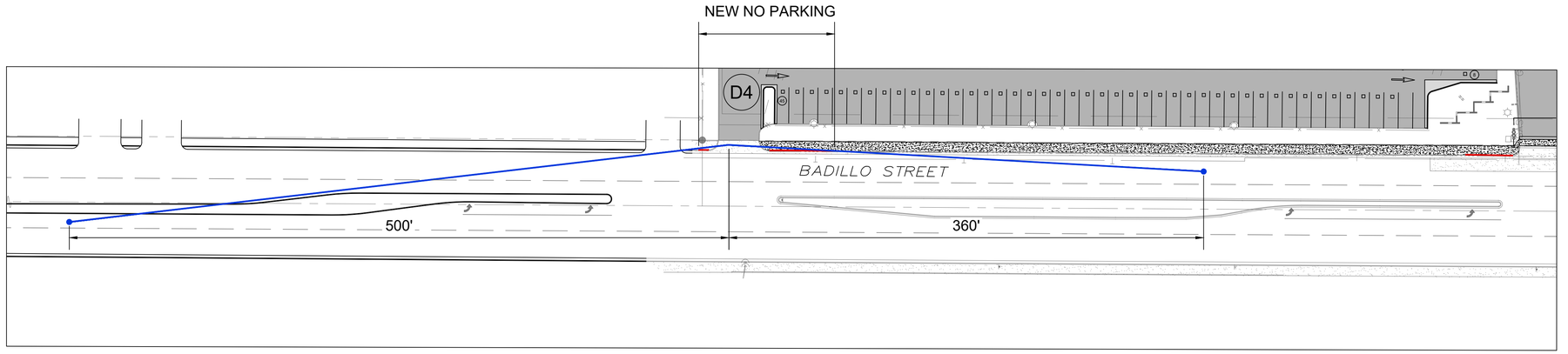
REVISIONS

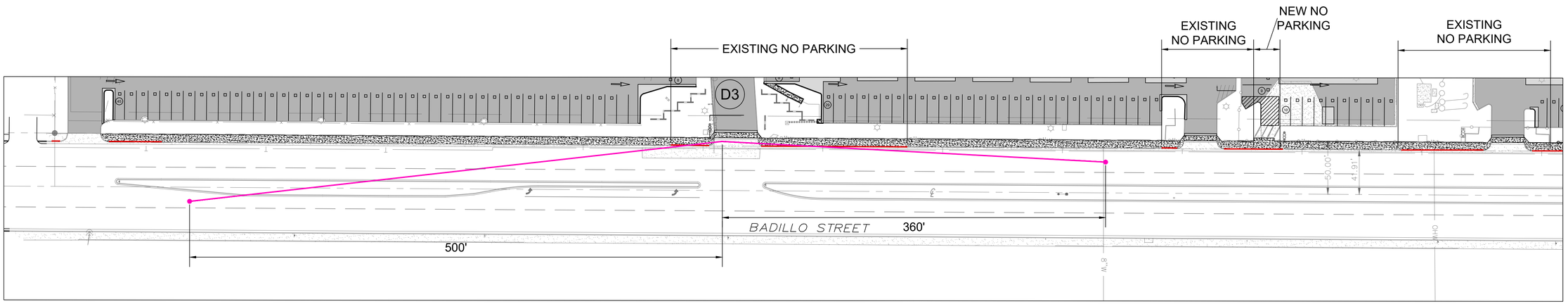
NO	DATE	REMARKS
1		
2		
3		
4		
5		
6		

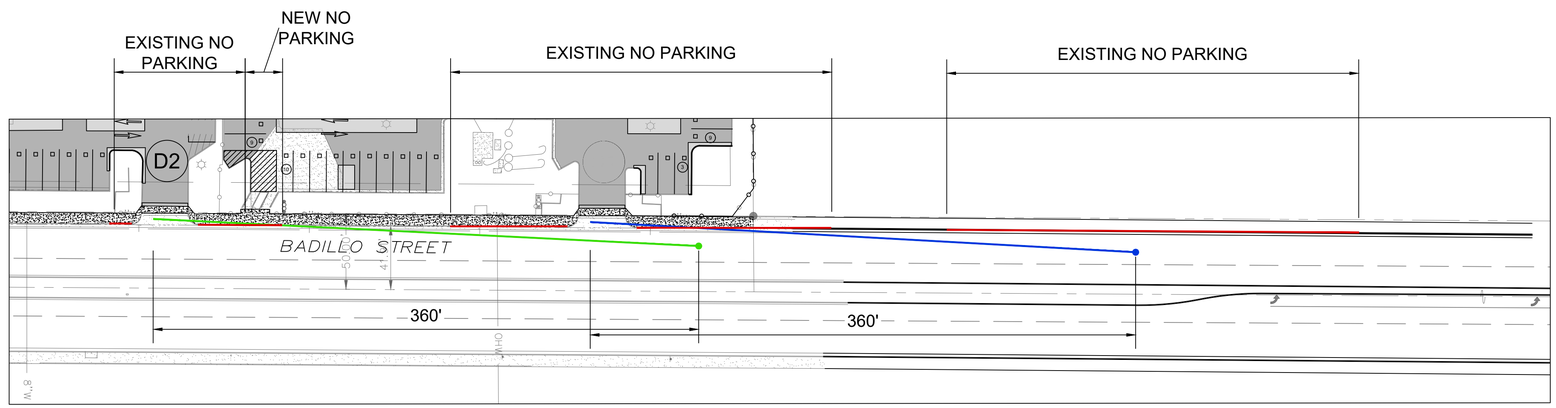
DAX9

WEST COVINA, CALIFORNIA

SIGHT DISTRANCE (TRUCK TURNING)
SAN BERNARDINO ROAD







Speed (MPH)*	Stopping Sight Distance (ft.)	Design Intersection Sight Distance (ft.)
25	155	280
30	200	335
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45	360	500
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Source: *A Policy on Geometric Design of Highway and Streets,* 5th Edition, American Association of State Highway and Trasportation Officials (AASHTO), 2004.

GRAPHIC SCALE

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(IN FEET)
1 inch = 50 ft.

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SCALE: 1" = 50'
PROJECT NO.: 2020044.07

REVISIONS

NO	DATE	REMARKS
1		
2		
3		
4		
5		
6		

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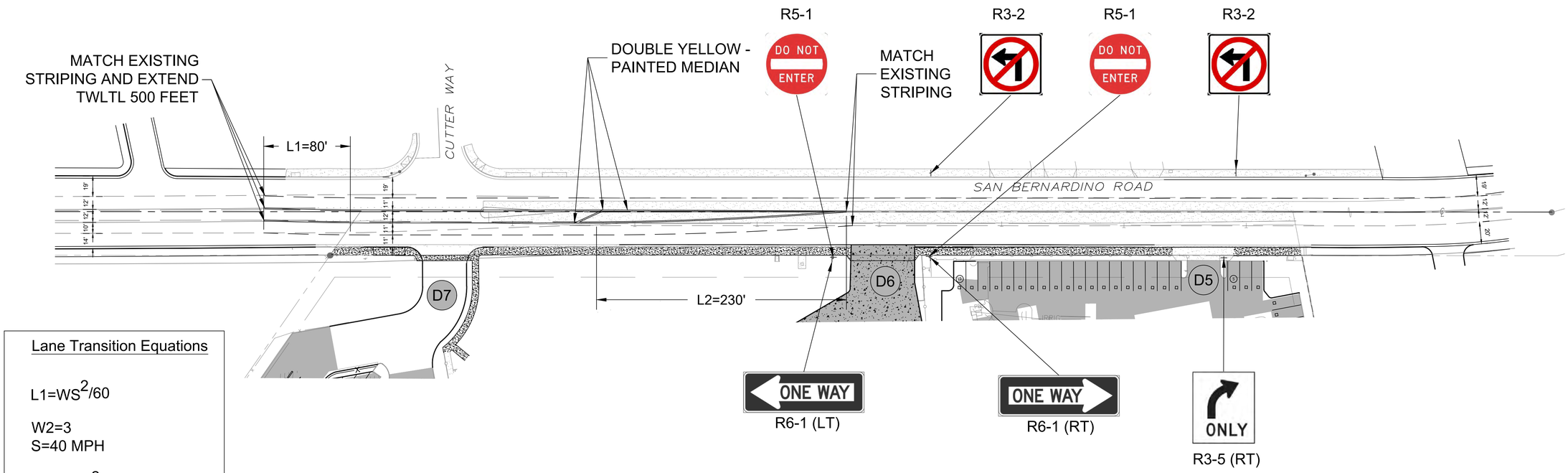
WEST COVINA, CALIFORNIA

SIGHT DISTANCE BADILLO STREET



Lane Transition Equations

$L1=WS^2/60$

W2=3
S=40 MPH

$L1=3(40)^2/60$

L1=80'

$L2=WS2/60$

W2=8.5
S=40 MPH

$L2=8.5(40)^2/60$

L2=226', use 230'

GRAPHIC SCALE

50 0 25 50 100

(IN FEET)
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WEST COVINA, CALIFORNIA

SAN BERNARDINO ROAD STRIPING EXHIBIT

Appendix I – VMT Evaluation

Vehicle Miles Traveled (VMT) Analysis

An e-commerce company proposes to lease the property spanning the block from W San Bernardino Road to Badillo Street, midway between N Vincent and N Lake Ellen Avenues in the City of West Covina, California. The site is currently occupied by Faith Church and, until recently, its associated private school. Modifications would be made to the existing 177,440 square-foot building, existing parking areas would be restriped, and barriers erected to separate line-haul truck traffic from the southern portion of the site.

As of July 1,2020, Senate Bill 743 (2013) updates the way transportation impacts are evaluated for CEQA purposes for new development projects in California. The legislation considers vehicle miles traveled to be an appropriate metric for measuring environmental impacts, moving away from level of service analysis.

The City of West Covina is included in the San Gabriel Valley Council of Governments' (SGVCOG) travel demand model and is included in SGVCOG's Vehicle Miles Traveled Evaluation Tool. The City has adopted a 15% below baseline VMT per Service Population for all land uses. That baseline is 35.02 and the threshold is 29.77. The evaluation tool indicates the site would have a VMT/Service Population of 31.82 without the project (see following pages).

The proposed tenant offers pre-tax Alternative Transportation Benefits to their employees. These benefits, included in the SGVCOG Elevation Tool as a Tier 4 Transportation Demand Management Program alternative (TP11 Alternative Transportation Benefits) are expected to reduce the VMT per service population to 29.72, below the significance threshold. These benefits are applicable to:

- Transit Fees
- Parking Fees at Park & Ride Lots and Transit Stations
- Vanpool and Qualified Ridesharing (such as Uberpool & Lyft Shared) Fees

A VMT/service population below the significance threshold can be achieved with 15% of employees eligible for these benefits. The SGVCOG Elevation Tool bases the reduction in VMT on the following formula:

%VMT Reduction = 44% reduction in commute VMT x % of employees eligible for benefits

From: VTPI, Todd Litman, Transportation Elasticities, http://www.vtpi.org/elasticities/pdf

SGVCOG VMT Evaluation Tool Report

Project Details

Timestamp of Analysis: May 26, 2021, 07:55:52 AM

Project Name: West Covina E-Commerce Delivery Station

Project Description: Conversion of an existing 177,440 SF building currently occupied by Faith Church to a last-mile e-commence delivery station.

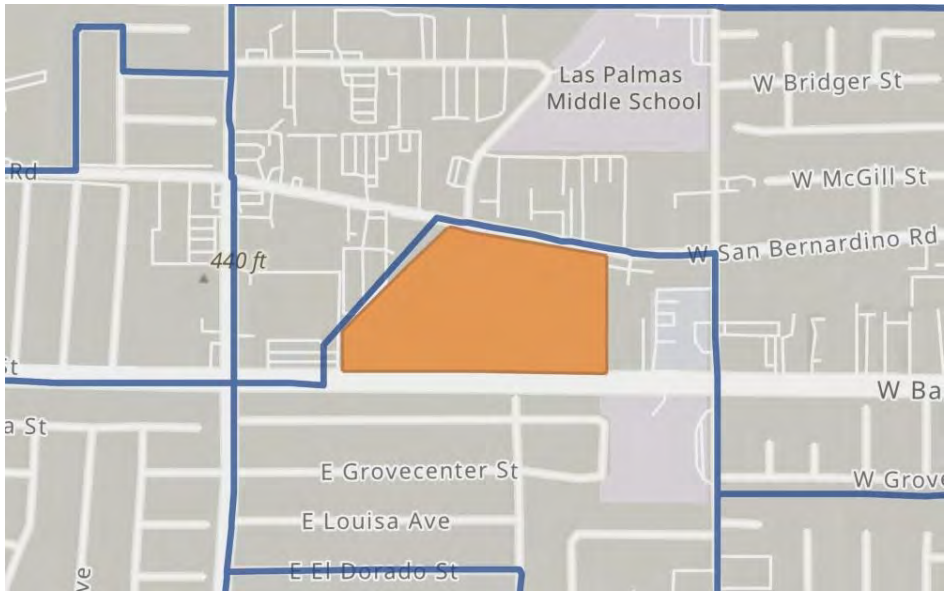
Project Location

Jurisdiction: West Covina

APN	TAZ
8434-015-018	22326400

Inside a TPA?

No (Fail)



Analysis Details

Data Version: SCAG Regional Travel Demand Model 2016 RTP Base Year 2012

Analysis Methodology: TAZ

Baseline Year: 2021

Project Land Use

Residential:

Single Family DU:

Multifamily DU:

Total DUs: 0

Non-Residential:

Office KSF:

Local Serving Retail KSF:

Industrial KSF: 177

Residential Affordability (percent of all units):

Extremely Low Income: 0 %

Very Low Income: 0 %

Low Income: 0 %

Parking:

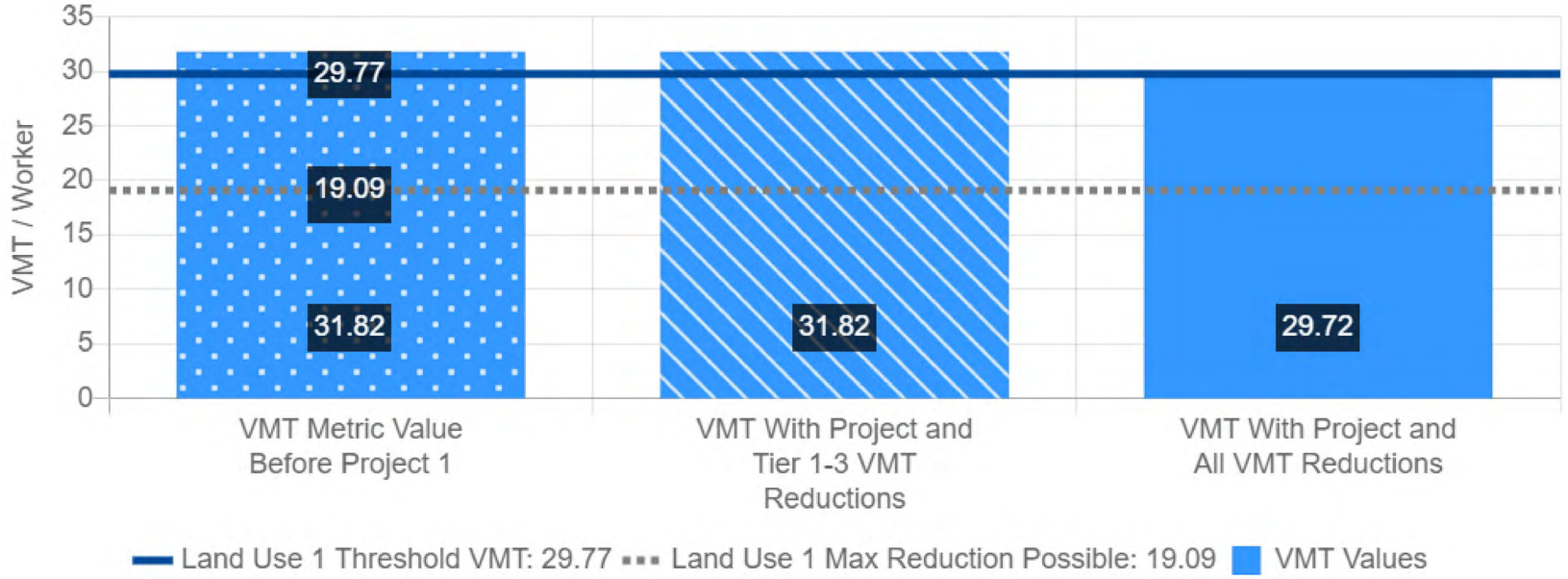
Motor Vehicle Parking: 811

Bicycle Parking: 0

Industrial Vehicle Miles Traveled (VMT) Screening Results

Land Use Type 1:	Industrial
VMT Without Project 1:	Total VMT per Service Population
VMT Baseline Description 1:	SGVCOG Average
VMT Baseline Value 1:	35.02
VMT Threshold Description 1:	-15%
Land Use 1 has been Pre-Screened by the Local Jurisdiction:	N/A

	Without Project	With Project & Tier 1-3 VMT Reductions	With Project & All VMT Reductions
Project Generated Vehicle Miles Traveled (VMT) Rate	31.82	31.82	29.72
Low VMT Screening Analysis	No (Fail)	No (Fail)	Yes (Pass)



Tier 4 TDM Programs

TP11 Alternative Transportation Benefits

Percent of Employees Eligible for Alternative Transportation Benefits:	15 %