

CHINO DISTRIBUTION CENTER (PL24-0008-SA)

TRAFFIC ANALYSIS

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LIST OF ABBREVIATED TERMS

(1)	Reference
ADA	Americans with Disabilities Act
ADT	Average Daily Traffic
CA MUTCD	California Manual on Uniform Traffic Control Devices
Caltrans	California Department of Transportation
CMP	Congestion Management Program
DIF	Development Impact Fee
E+P	Existing Plus Project
HCM	Highway Capacity Manual
ITE	Institute of Transportation Engineers
LOS	Level of Service
PCE	Passenger Car Equivalent
PHF	Peak Hour Factor
Project	Chino Distribution Center
SBCTA	San Bernardino County Transportation Authority
TA	Traffic Analysis
v/c	Volume to Capacity
vphgpl	Vehicles per Hour Green per Lane

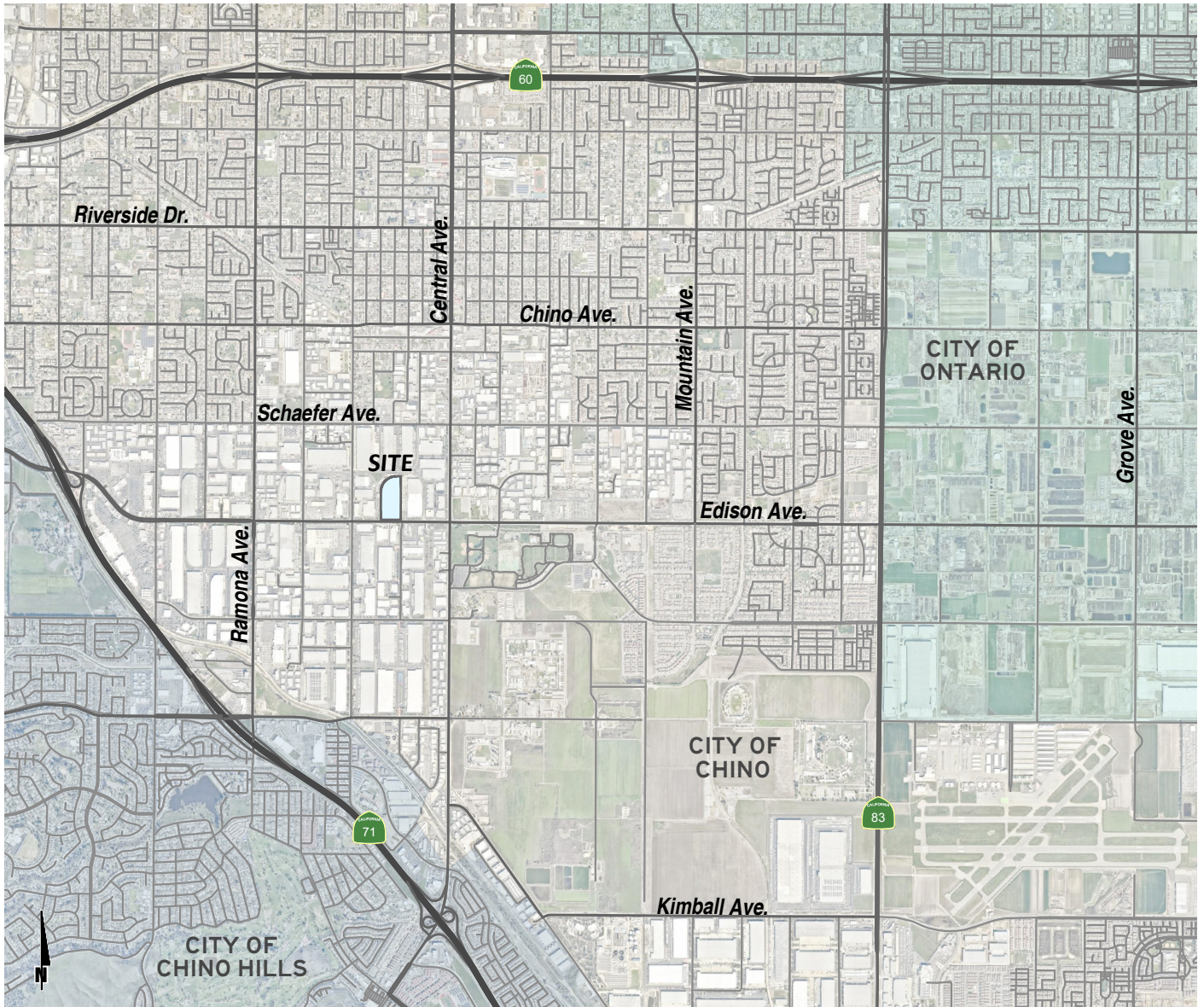
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1 SUMMARY OF FINDINGS

This report presents the results of the Traffic Analysis (TA) for the Chino Distribution Center (**Project**), which is located at 5088 Edison Avenue in the City of Chino, as shown on Exhibit 1-1.

The purpose of this TA is to evaluate the potential circulation system deficiencies that may result from the development of the proposed Project and, where necessary, recommend improvements to achieve acceptable operations consistent with General Plan level of service goals and policies. This TA has been prepared in accordance with the City of Chino's Traffic Impact Analysis Guidelines (City Guidelines), the San Bernardino County Congestion Management Program (**CMP**) Guidelines for CMP Traffic Impact Analysis Reports, and consultation with City staff during the traffic study scoping process. (1) (2) The approved Project Traffic Study Scoping Agreement is provided in Appendix 1.1 of this TA.

EXHIBIT 1-1 : LOCATION MAP



1.1 PROJECT OVERVIEW

1.1.1 LAND USE

The site is currently occupied by a wood manufacturing facility (RedBuilt) and a storage container/mobile office rental facility (United Rentals). The Project consists of the development of a single 390,778-square-foot warehouse building. For the purposes of the TA, the Project has evaluated 98,808 square feet of high-cube cold storage warehouse use and 296,422 square feet of warehousing use (25% and 75% of 395,230 square feet, respectively). It should be noted that the latest site plan reflects a slightly reduced total area of 390,778 square feet compared to the area analyzed. However, this adjustment does not affect the findings of this TA. The site is currently occupied by an operational manufacturing facility. A preliminary site plan for the Project is shown in Exhibit 1-2. Vehicular access will be provided via two driveways on Edison Avenue. Both driveways are proposed to allow for full access (e.g., no turn restrictions) and will serve passenger cars and trucks. Regional access to the Project site is accommodated from the SR-71 Freeway via Edison Avenue, and the SR-60 Freeway via Central Avenue or Ramona Avenue. The Project is anticipated to have an Opening Year of 2027.

The Project is proposing an addendum to the City's current General Plan Environmental Impact Report (EIR). The General Plan identifies a proposed land use designation of General Industrial which allows up to 0.6 floor area ratio (FAR) of development on the site. The Project site is 18.11 acres which equates to approximately 473,323 square feet of General Industrial development.

1.1.2 TRIP GENERATION

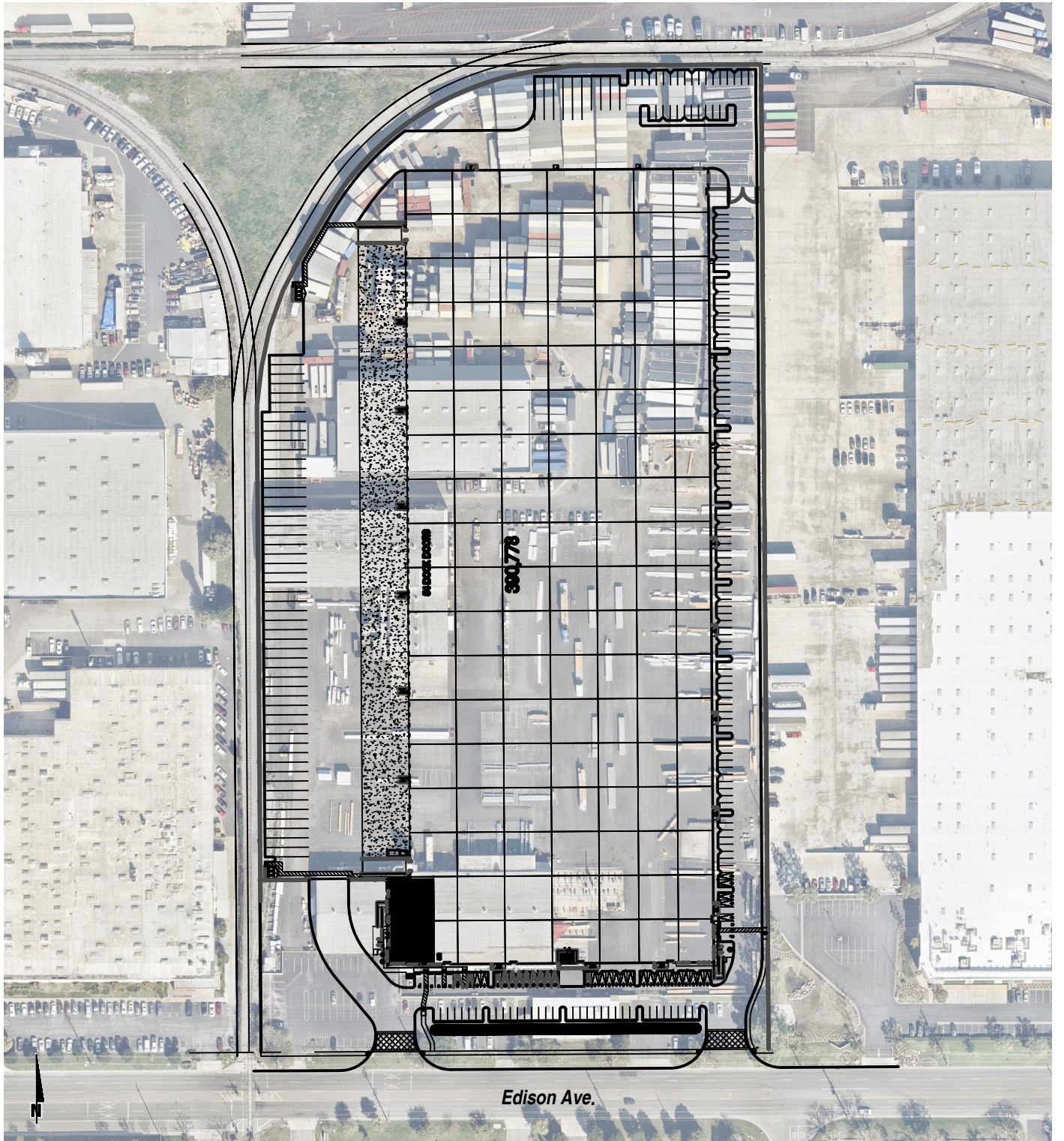
The existing uses take access off of Edison Avenue and currently generate an average of 226 two-way trips per day, with 14 trips during the AM peak hour and 14 trips during the PM peak hour (actual vehicles). The existing site currently generates an average of 280 two-way Passenger Car Equivalent (PCE) trips per day, with 20 PCE AM peak hour and 14 PCE PM peak hour trips.

In order to develop the traffic characteristics of the Project, trip-generation statistics published in the Institute of Transportation Engineers (ITE) Trip Generation Manual (11th Edition, 2021) were utilized to represent the following land uses:

- ITE Land Use Code 150 (Warehousing)
- ITE Land Use Code 157 (High-Cube Cold Storage Warehouse)

The Project is anticipated to generate 720 two-way trips per day with 62 AM peak hour trips and 66 PM peak hour trips (actual vehicles). In terms of PCE, the Project is anticipated to generate 1,098 two-way PCE trips per day with 73 PCE AM peak hour trips and 82 PCE PM peak hour trips. This results in an anticipated net increase of 818 PCE two-way trips per day with 53 net new PCE AM peak hour trips and 68 net new PCE PM peak hour trips, compared to the existing site. Additionally, the Project is anticipated to generate a net reduction of 162 PCE two-way trips per day with 24 net new PCE AM peak hour trips and 24 net new PCE PM peak hour trips compared to the currently-adopted General Plan land use. The assumptions and methods used to estimate the Project's trip generation characteristics are discussed in greater detail in Section 4.1 *Project Trip Generation* of this report.

EXHIBIT 1-2 : PRELIMINARY SITE PLAN



1.2 ANALYSIS SCENARIOS

For the purposes of this TA, potential deficiencies to intersection level of service (LOS) have been assessed for each of the following conditions:

- Existing (2024) Conditions
- Existing plus Project (E+P) Conditions
- Opening Year Cumulative (2027) Without Project Conditions
- Opening Year Cumulative (2027) With Project Conditions

1.2.1 EXISTING (2024) CONDITIONS

Information for Existing (2024) conditions is disclosed to represent the baseline traffic conditions as they existed at the time this report was prepared. Local schools were in session and operating on normal bell schedules at the time traffic counts were collected. Traffic counts were conducted in April 2024 with vehicle classifications which were converted to PCE. Per the City's Guidelines, use of PCE in the operations analysis accounts for the effects of large trucks present within the existing study area. By their size alone, these vehicles occupy the same space as two or more passenger cars. In addition, the time it takes for them to accelerate and slow down is also much longer than for passenger cars and varies depending on the type of vehicle and number of axles. The volumes shown within the TA are represented in actual vehicles, however, consistent with the City's Guidelines, the peak hour intersection operations analyses have been conducted using PCE volumes.

1.2.2 E+P CONDITIONS

The E+P conditions analysis determines the potential circulation system deficiencies based on a comparison of the E+P traffic conditions to Existing conditions. The roadway network is similar to Existing conditions except for new connections to be constructed by the Project. Cumulative development projects and ambient growth are not included for E+P traffic conditions.

1.2.3 OPENING YEAR CUMULATIVE (2027) CONDITIONS

The Opening Year Cumulative (2027) traffic conditions analysis determines the potential near-term cumulative circulation system deficiencies. The roadway network is similar to Existing conditions except for new connections to be constructed by the Project. To account for background traffic growth, an ambient growth factor from Existing (2024) conditions of 6.12% (2% per year, compounded annually, over 3 years) is included for Opening Year Cumulative (2027) traffic conditions. Conservatively, this TA estimates the area ambient traffic growth and then adds traffic generated by other known or probable related projects. These related projects are at least in part already accounted for in the assumed ambient growth rates; and some of these related projects may not be implemented and operational within the 2027 Opening Year time frame assumed for the Project. The resulting traffic growth utilized in the TA (ambient growth factor plus traffic generated by related projects) would therefore tend to overstate rather than understate background cumulative traffic deficiencies under 2027 traffic conditions.

1.3 STUDY AREA

For the purposes of this TA, a total of 2 study area roadway segments and 5 study area intersections were selected for evaluation based on City Guidelines and consultation with City staff. (1) Table 1-1 provides a list of study area roadway segment analysis locations. The 5 study area intersections shown on Exhibit 1-3 and listed in Table 1-2 have been selected for assessment based on the City’s analysis criteria of 50 or more peak hour trips. The study area intersections will be evaluated using the Highway Capacity Manual (HCM) 7th Edition methodology.

TABLE 1-1: STUDY AREA ROADWAY SEGMENT ANALYSIS LOCATIONS

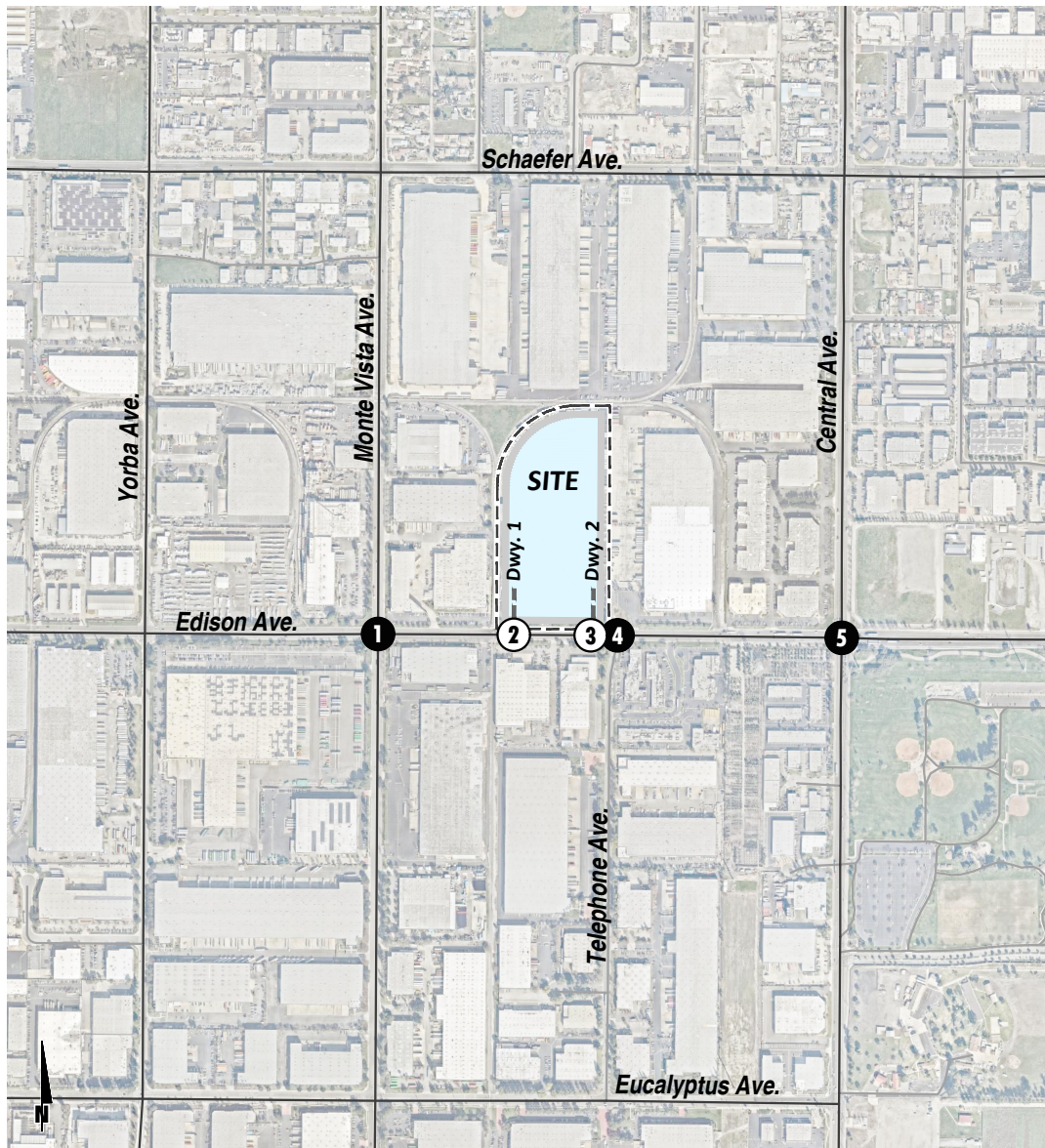
#	Roadway	Segment Limits
1	Edison Avenue	Monte Vista Avenue to Telephone Avenue
2	Edison Avenue	Telephone Avenue to Central Avenue

TABLE 1-2: INTERSECTION ANALYSIS LOCATIONS

#	Intersection	Jurisdiction	CMP?
1	Monte Vista Av. & Edison Av.	City of Chino	No
2	Driveway 1 & Edison Av.	City of Chino	No
3	Driveway 2 & Edison Av.	City of Chino	No
4	Telephone Av. & Edison Av.	City of Chino	No
5	Central Av. & Edison Av.	City of Chino	No

The intent of a CMP is to link land use, transportation, and air quality, thereby prompting reasonable growth management programs that will effectively utilize new transportation funds, alleviate traffic congestion and related deficiencies, and improve air quality. The County of San Bernardino CMP became effective with the passage of Proposition 111 in 1990 with a 2021 Update to the Nexus Study. (2) There are no study area intersections identified as a San Bernardino County CMP intersection.

EXHIBIT 1-3 : STUDY AREA



LEGEND:

- ①** = Existing Intersection Analysis Location
- ②** = Future Intersection Analysis Location

1.4 GENERAL PLAN CONSISTENCY REQUIREMENTS FOR INTERSECTIONS

This section provides a brief overview of the intersection LOS deficiencies identified in this report. The LOS standards used for this assessment are consistent with those identified in the City of Chino General Plan. Section 2 *Methodologies* provides a detailed explanation on the methodologies used for this assessment, while Section 3 *Area Conditions*, Section 5 *E+P Traffic Conditions*, and Section 6 *Opening Year Cumulative (2027) Traffic Conditions* include the operations analysis results for each analysis scenario. Additionally, a summary of the peak hour LOS analysis results is presented in Table 1-3.

1.4.1 EXISTING (2024) CONDITIONS

The assessment of Existing (2024) traffic conditions is performed to establish a baseline of current LOS operations from which the effects of the Project’s future contribution of traffic can be measured. The study area intersections were found to currently operate at an acceptable LOS (i.e., at or above the City of Chino’s adopted General Plan thresholds) during the peak hours.

1.4.2 EXISTING PLUS PROJECT (E+P) CONDITIONS

The assessment of E+P traffic conditions is performed to identify whether the Project’s contribution of traffic has the potential to cause intersection LOS to fall below the City’s adopted thresholds.

1.4.3 OPENING YEAR CUMULATIVE (2027) CONDITIONS

An assessment of Opening Year Cumulative traffic conditions is performed to identify whether the traffic contribution associated with both the proposed Project and that of other reasonably foreseeable future development projects in the area have the potential to cause intersection LOS to fall below the City’s adopted thresholds. The Project’s contribution to these forecasted LOS deficiencies is typically addressed through fee payments to an established fee program (both local and regional).

The results of the LOS assessments for cumulative traffic conditions are also summarized in Table 1-3, while Section 6 *Opening Year Cumulative (2027) Traffic Conditions* of the report provide a more detailed list of the forecast LOS deficiencies.

TABLE 1-3: SUMMARY OF LOS

	Existing (2024)	E+P	2027 Without Project	2027 With Project
1 Monte Vista Av. & Edison Av.	●	●	●	●
2 Driveway 1 & Edison Av.	N/A	●	N/A	●
3 Driveway 2 & Edison Av.	N/A	●	N/A	●
4 Telephone Av. & Edison Av.	●	●	●	●
5 Central Av. & Edison Av.	●	●	●	●

LEGEND:

- ◀ = AM Peak Hour
- ▶ = PM Peak Hour
- = A-D
- = E
- = F

1.5 RECOMMENDATIONS

1.5.1 INTERSECTION IMPROVEMENT RECOMMENDATIONS NECESSARY TO MAINTAIN GENERAL PLAN CONSISTENCY

Based on the results of this TA, there are no intersection improvement recommendations necessary to maintain the City of Chino General Plan LOS standards.

1.5.2 ON-SITE CIRCULATION RECOMMENDATIONS

The following recommendations, based on the improvements needed to accommodate site access and maintain acceptable peak hour LOS at site access and on-site intersections, are described below and shown on Exhibit 1-4. The site adjacent queuing analysis worksheets are provided in Appendix 1.2 for Opening Year Cumulative (2027) With Project traffic conditions. No site adjacent queues are anticipated with the proposed improvements.

Recommendation 1 – Driveway 1 & Edison Avenue (#2) – The following improvements are necessary to accommodate site access:

- Project to install a stop control on the southbound approach and construct a shared left-right turn lane (Project driveway).
- Project to construct an eastbound left turn lane with a minimum turn pocket length of 100 feet, which can be accommodated within the existing painted median.

Recommendation 2 – Driveway 2 & Edison Avenue (#3) – The following improvements are necessary to accommodate site access:

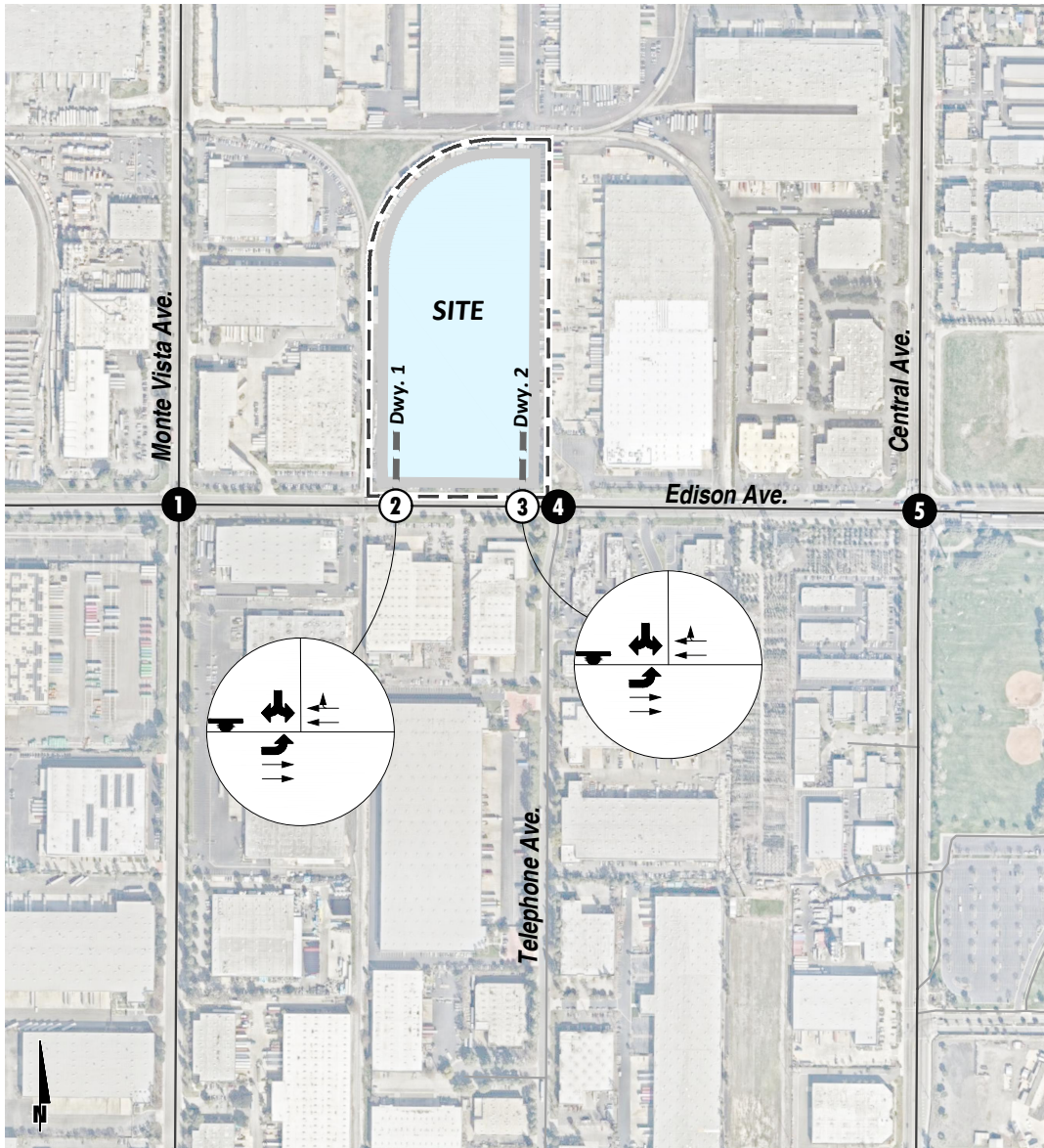
- Project to install a stop control on the southbound approach and construct a shared left-right turn lane (Project driveway).
- Project to construct an eastbound left turn lane with a minimum turn pocket length of 100 feet, which can be accommodated within the existing painted median.

Recommendation 3 – Edison Avenue is an east-west oriented roadway located on the Project's southern boundary. Edison Avenue appears to be built to its ultimate curb-to-curb width adjacent to the Project. However, the Project should improve the curb-and-gutter, sidewalks, and landscape along the frontage in addition to accommodating improvements to facilitate site access at the driveways.

On-site traffic signing and striping should be implemented agreeable with the provisions of the California Manual on Uniform Traffic Control Devices (CA MUTCD) and in conjunction with detailed construction plans for the Project site.

Sight distance at each Project access point should be reviewed with respect to standard California Department of Transportation (Caltrans) and City of Chino sight distance standards at the time of preparation of final grading, landscape, and street improvement plans.

EXHIBIT 1-4 : SITE ACCESS RECOMMENDATIONS



LEGEND:

- 0** = Existing Intersection Analysis Location
- = Future Intersection Analysis Location
- = Stop Sign Improvement
- = Existing Lane
- = Proposed Lane

1.6 ON-SITE QUEUING ANALYSIS

The traffic modeling and signal timing optimization software package SimTraffic has been utilized to assess the queues, for on-site roadways (Project design features) queues. SimTraffic is designed to model networks of signalized and unsignalized intersections, with the primary purpose of checking and fine-tuning signal operations. SimTraffic uses the input parameters from Synchro to generate random simulations. These random simulations generated by SimTraffic have been utilized to determine the 95th percentile queue lengths observed for each applicable turn lane. A SimTraffic simulation has been recorded up to 5 times, during the weekday AM and weekday PM peak hours, and has been seeded for 30-minute periods with 60-minute recording intervals.

The analysis was conducted for the weekday AM and weekday PM peak hours for Opening Year Cumulative (2027) With Project traffic conditions and have been used to verify the recommended pocket lengths and to determine if right turn pockets are needed at each of the Project driveways anticipated to be completed as part of the Project, as discussed in Section 1.5 *Recommendations*. The results of the queuing analysis worksheets are provided in Appendix 1.2 and a summary of the queuing analysis results is shown in Table 1-4. As shown in Table 1-4, no queuing issues are anticipated, and no right turn pockets are necessary at the Project access points. Exhibit 1-4 provides the necessary turn pocket lengths, based on the results of the on-site queuing analysis.

TABLE 1-4: PEAK HOUR QUEUING ANALYSIS FOR SITE ADJACENT INTERSECTIONS

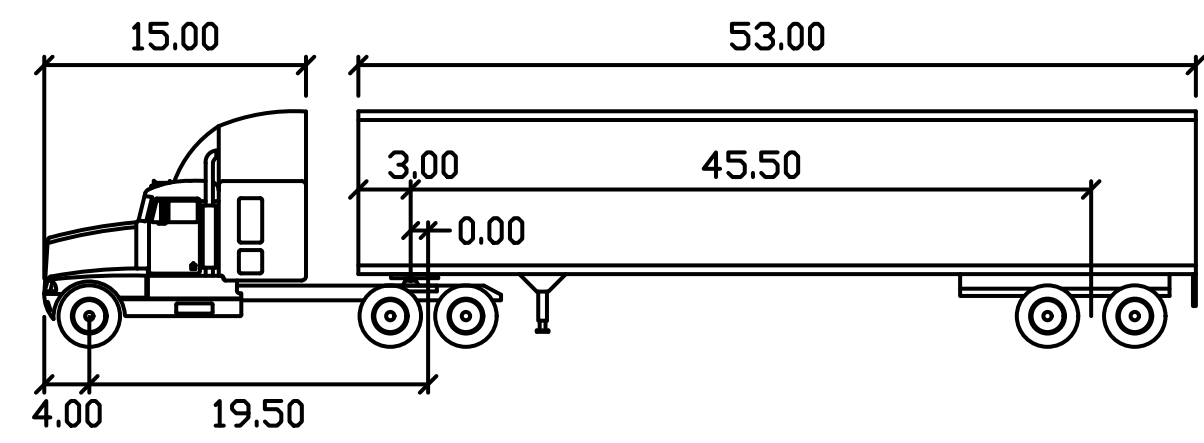
Intersection	Movement	Available Stacking Distance (Feet)	95th Percentile Queue (Feet)		Acceptable? ¹	
			AM Peak Hour	PM Peak Hour	AM	PM
Driveway 1 & Edison Av.	EBL	100	30	27	Yes	Yes
	WBT/R	279	0	3	Yes	Yes
Driveway 2 & Edison Av.	EBL	100	20	12	Yes	Yes
	WBT/R	105	0	0	Yes	Yes

¹ Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 25 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown on this table, where applicable.

1.7 TRUCK ACCESS AND CIRCULATION

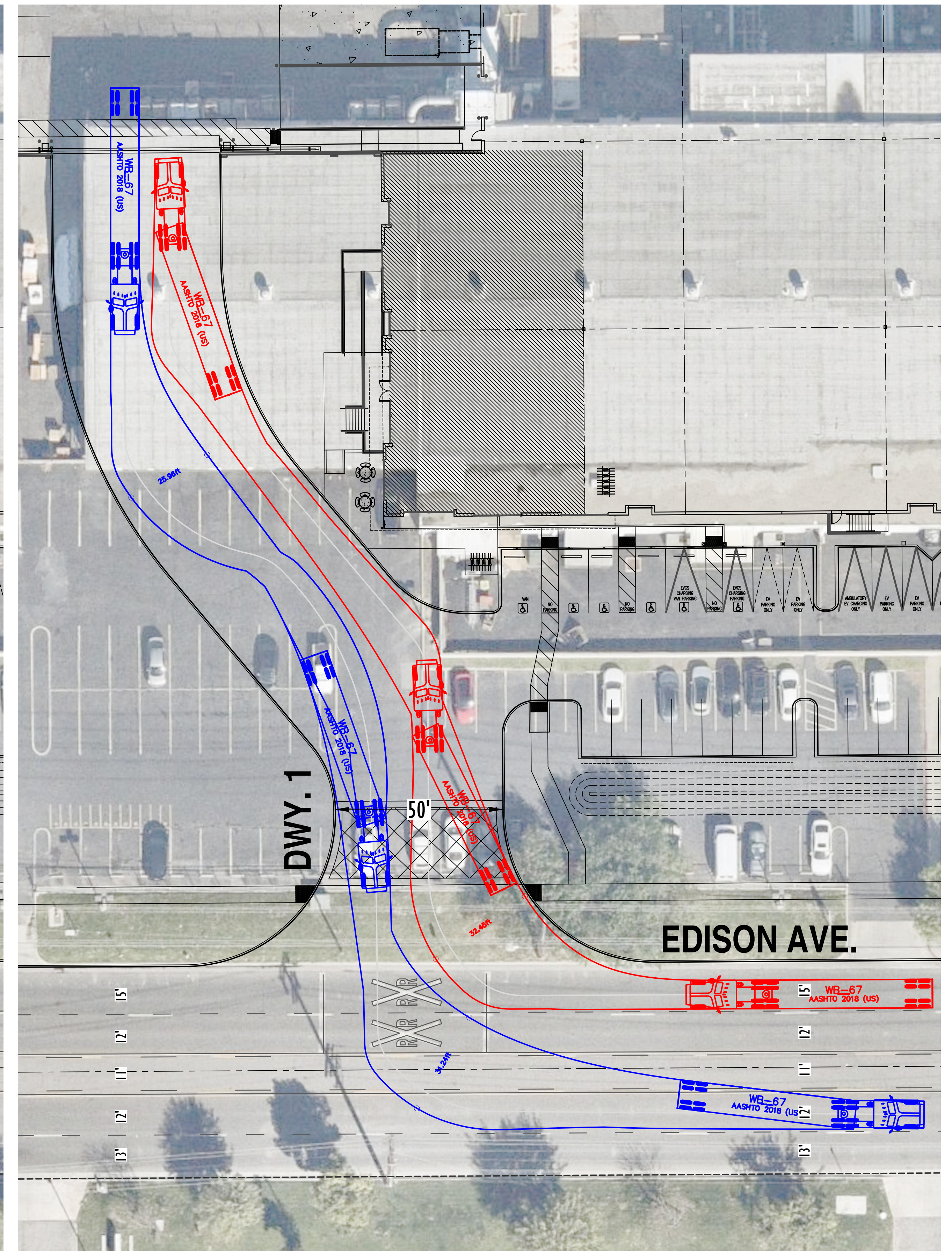
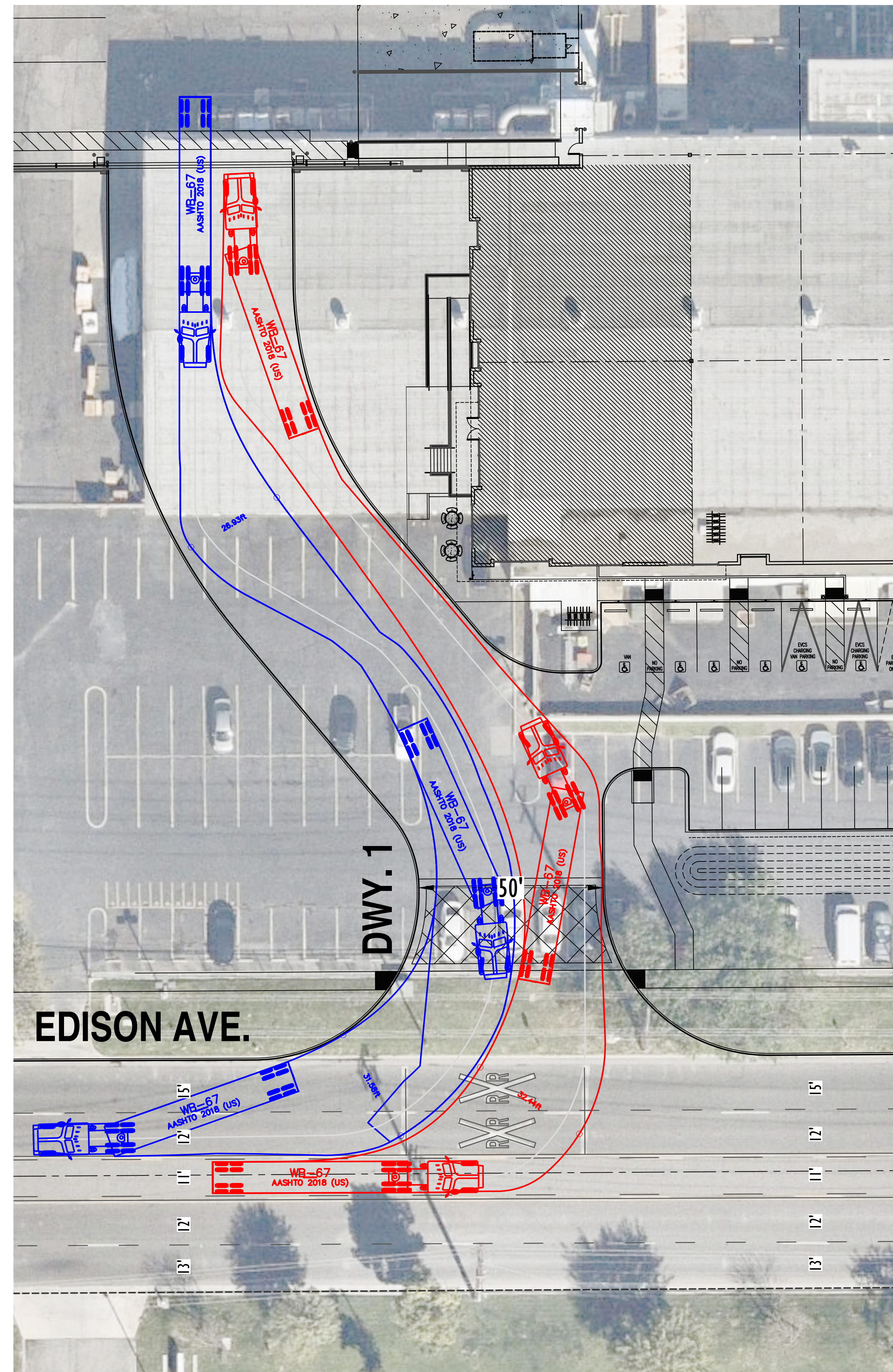
Due to the typical wide turning radius of large trucks, a truck turning template has been overlaid on the site plan at the Project driveways anticipated to be utilized by heavy trucks in order to determine appropriate curb radii and to verify that trucks will have sufficient space to execute turning maneuvers (see Exhibit 1-5). As shown on Exhibit 1-5, Driveway 1 and Driveway 2 are anticipated to accommodate the wide turning radius of heavy trucks as currently designed.

EXHIBIT 1-5 : TRUCK ACCESS (SHEET 1 OF 2)



WB-67

feet			
Tractor Width	: 8.00	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 28.4
Tractor Track	: 8.00	Articulating Angle	: 75.0
Trailer Track	: 8.50		



SCALE: 1" = 20" (ON 24" x 36" SHEET)

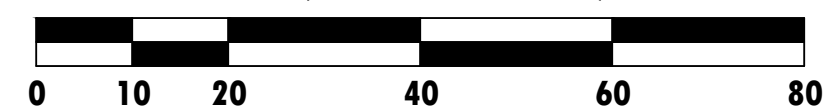
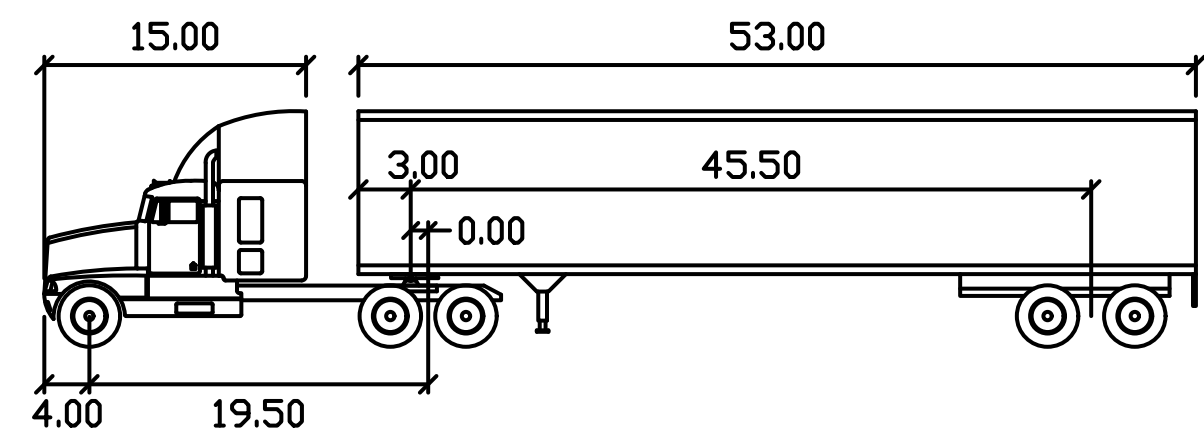
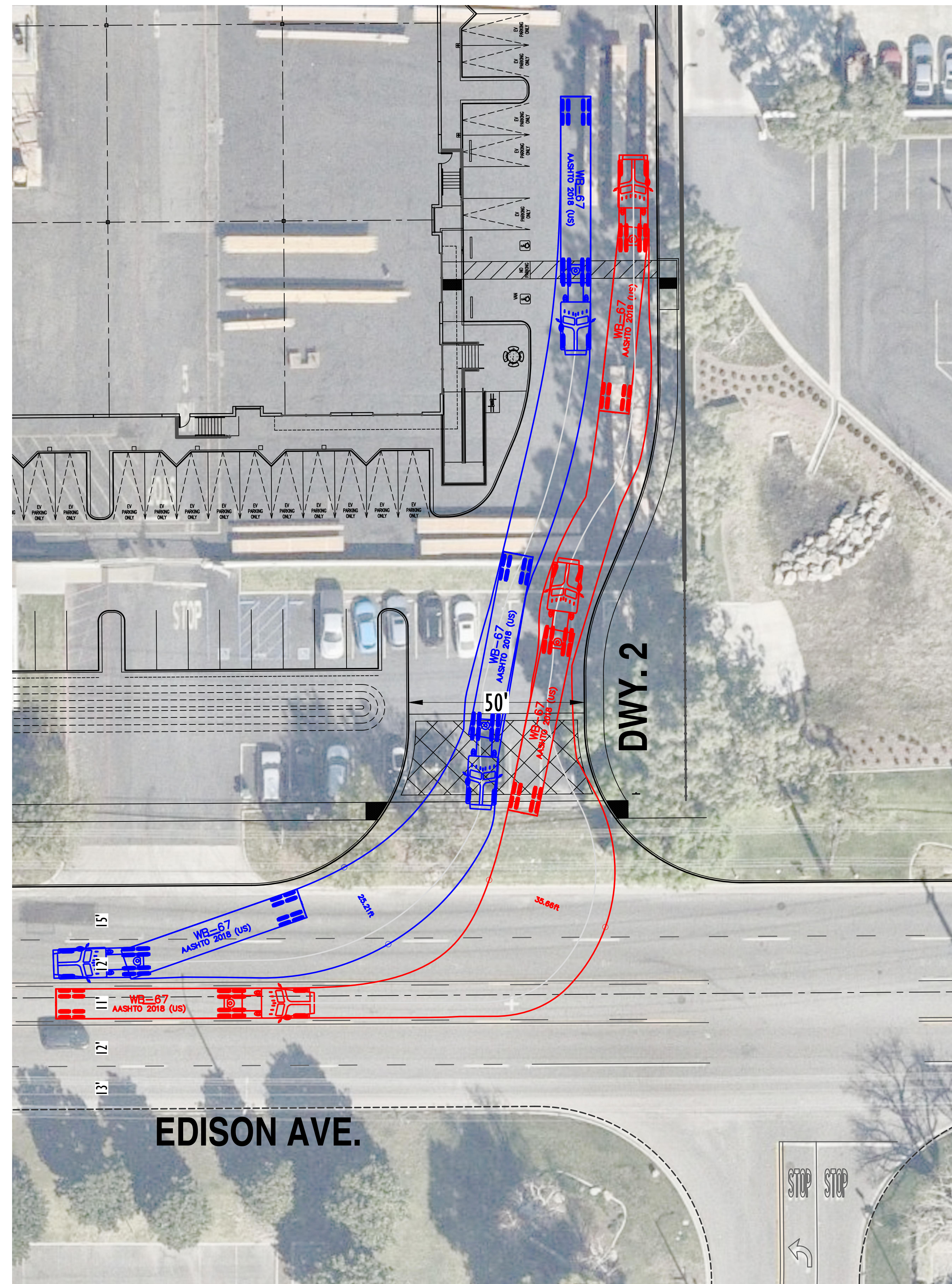


EXHIBIT 1-5 : TRUCK ACCESS (SHEET 2 OF 2)

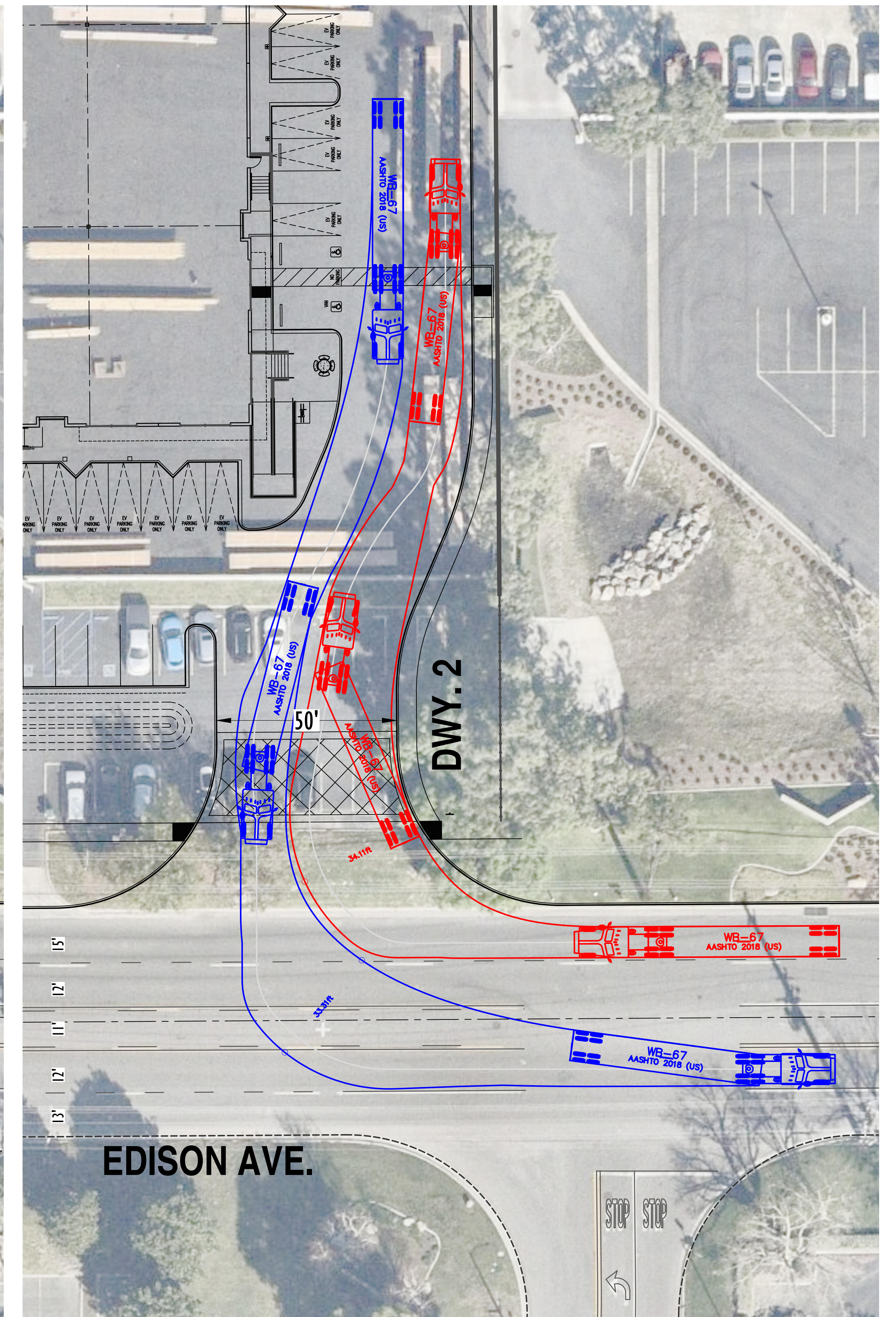


WB-67

feet	
Tractor Width	: 8.00
Trailer Width	: 8.50
Tractor Track	: 8.00
Trailer Track	: 8.50
Lock to Lock Time	: 6.0
Steering Angle	: 28.4
Articulating Angle	: 75.0



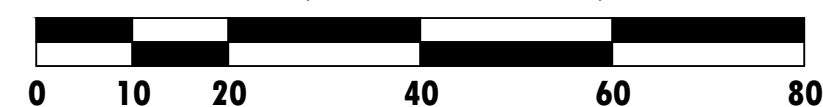
TELEPHONE AVE.



TELEPHONE AVE.



SCALE: 1" = 20" (ON 24" x 36" SHEET)



1.8 BICYCLE & PEDESTRIAN CIRCULATION

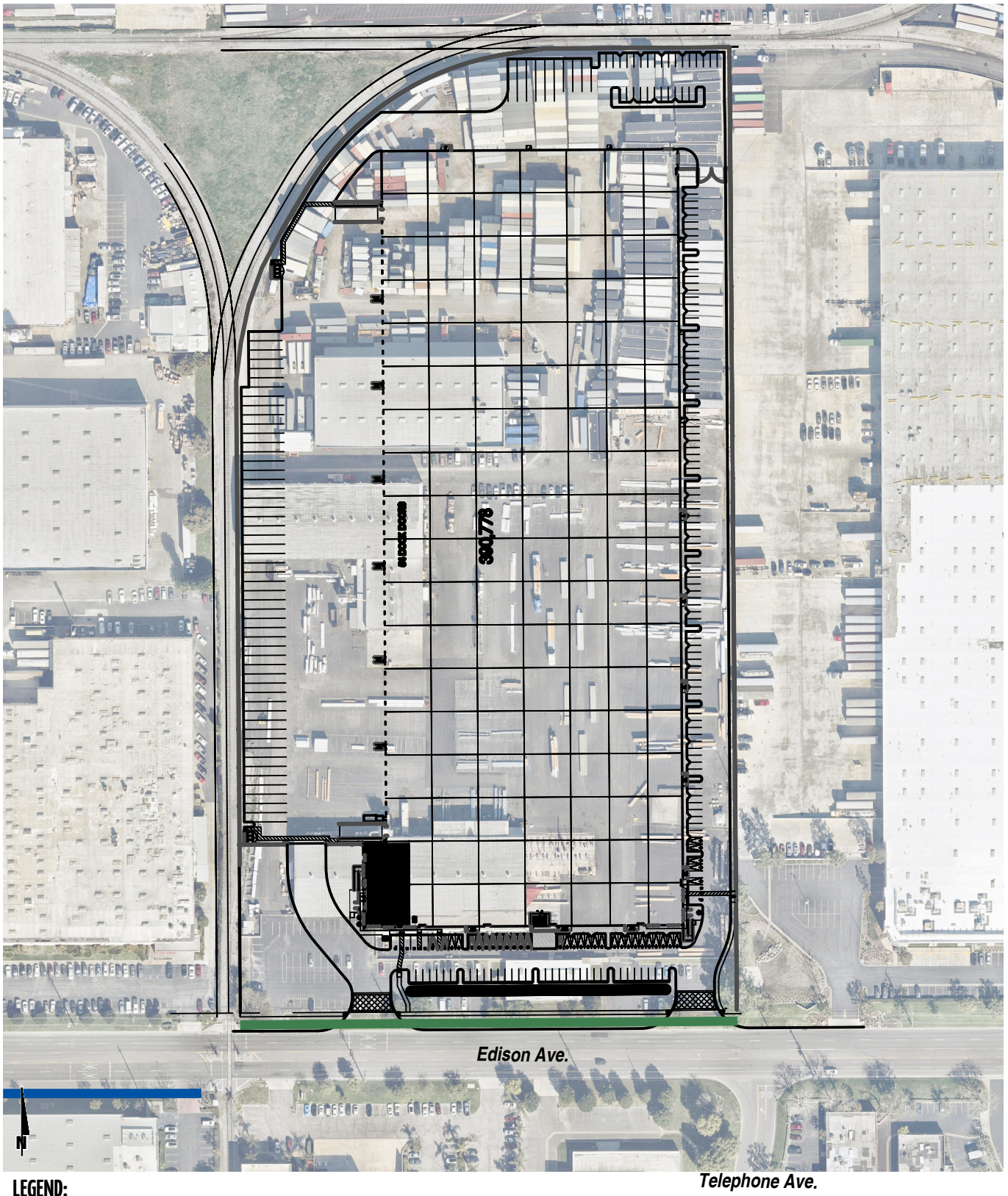
Per the request of the City of Chino, bicycle and pedestrian access has been evaluated for the proposed Project. As discussed previously in Section 1.5.2 *On-Site Circulation Recommendations*, the Project will construct sidewalk improvements on Edison along the Project's frontage. There are currently limited pedestrian facilities in the vicinity of the Project. However, under the assumption that pedestrian facilities will continue to be constructed as the study area further develops, the Project will be part of a safe and efficient pedestrian network. The pedestrian circulation is shown on Exhibit 1-6.

The proposed roadway improvements along the Project's frontage will also include a Class III on-street bicycle path along Edison Avenue. The Project is to include signage or on-street striping indicating the Class III on-street bicycle path. The bike lanes will be striped in compliance with the Americans with Disabilities Act (ADA) and Chino's Policy on Accessible Pedestrian Facilities.

1.9 TRUCK ROUTING MANAGEMENT PLAN

The truck route management plan will include the installation of signage at all site access driveways to show the designated truck routes as illustrated on Exhibit 1-7. The sign shall be 24" x 24" and shall be mounted at a height that is readily visible to truck drivers. The proposed sign letter sizes shall conform to the requirements of the current CA MUTCD. Implementation of the truck management plan would require coordination between the tenant and its drivers via signage or handouts with information about the interim truck routes. In conjunction with the signage/handouts showing the interim truck route plan, it is recommended that the Project tenant implement an ongoing driver education program where the dispatchers inform the truck drivers about the approved truck route and reinforce that use of Chino Avenue by truck traffic is prohibited. The truck routes are provided in Section 4.2 *Project Trip Distribution*.

EXHIBIT 1-6 : PROPOSED PROJECT PEDESTRIAN CIRCULATION



LEGEND:



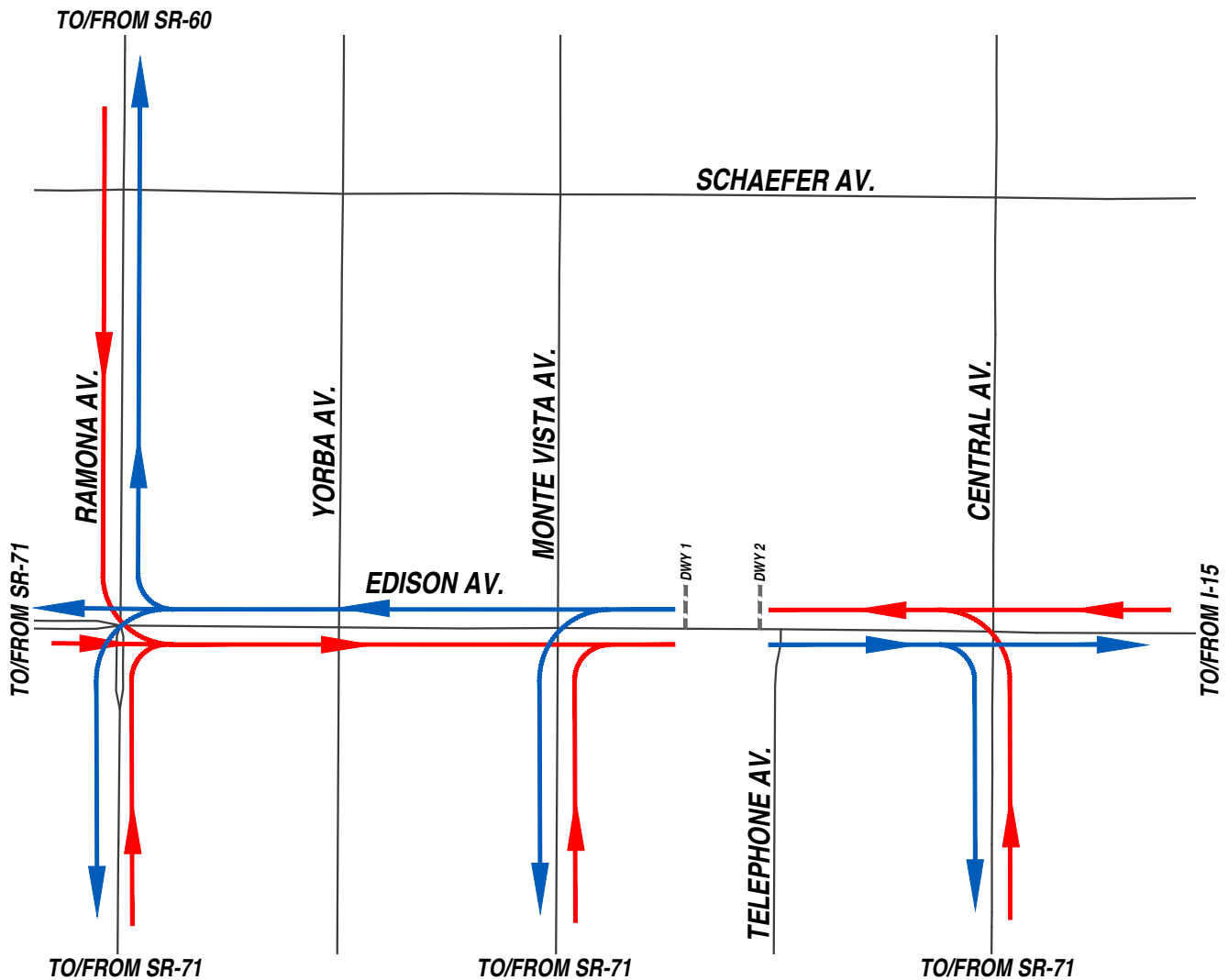
-  = Existing Sidewalks
-  = Proposed Improvements

EXHIBIT 1-7 : TRUCK ROUTE SIGN

ATTENTION!

REQUIRED TRUCK ROUTE



LEGEND:

- = REQUIRED TRUCK ROUTE PER TRUCK TRAFFIC MANAGEMENT PLAN REQUIREMENTS
- = OTHER REQUIREMENTS

2 METHODOLOGIES

This section of the report presents the methodologies used to perform the traffic analyses summarized in this report. The methodologies described are consistent with City of Chino's Traffic Study Guidelines.

2.1 LEVEL OF SERVICE

Traffic operations of roadway facilities are described using the term "Level of Service" (LOS). LOS is a qualitative description of traffic flow based on several factors, such as speed, travel time, delay, and freedom to maneuver. Six levels are typically defined ranging from LOS A, representing completely free-flow conditions, to LOS F, representing a breakdown in flow resulting in stop-and-go conditions. LOS E represents operations at or near capacity, an unstable level where vehicles are operating with the minimum spacing for maintaining uniform flow.

2.2 INTERSECTION CAPACITY ANALYSIS

The definitions of LOS for interrupted traffic flow (flow restrained by the existence of traffic signals and other traffic control devices) differ slightly depending on the type of traffic control. The LOS is typically dependent on the quality of traffic flow at the intersections along a roadway. The 7th Edition Highway Capacity Manual (HCM) methodology expresses the LOS at an intersection in terms of delay time for the various intersection approaches. (3) The HCM uses different procedures depending on the type of intersection control.

2.2.1 SIGNALIZED INTERSECTIONS

The City of Chino requires signalized intersection operations analysis based on the methodology described in the HCM. (3) Intersection LOS operations are based on an intersection's average control delay. Control delays include initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. For signalized intersections, LOS is related to the average control delay per vehicle and is correlated to a LOS designation as described in Table 2-1.

Consistent with Appendix B of the San Bernardino County CMP, the following saturation flow rates, in vehicles per hour green per lane (vphgpl), will be utilized in the traffic analysis for signalized intersections:

Existing, E+P, and Opening Year Cumulative (2027) Traffic Conditions:

- Exclusive through: 1800 vphgpl
- Exclusive left: 1700 vphgpl
- Exclusive right: 1800 vphgpl
- Exclusive dual left: 1600 vphgpl
- Exclusive triple left: 1500 vphgpl

TABLE 2-1: SIGNALIZED INTERSECTION LOS THRESHOLDS

Description	Average Control Delay (Seconds), $V/C \leq 1.0$	Level of Service, $V/C \leq 1.0^1$
Operations with very low delay occurring with favorable progression and/or short cycle length.	0 to 10.00	A
Operations with low delay occurring with good progression and/or short cycle lengths.	10.01 to 20.00	B
Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	20.01 to 35.00	C
Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.	35.01 to 55.00	D
Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences. This is considered to be the limit of acceptable delay.	55.01 to 80.00	E
Operations with delays unacceptable to most drivers occurring due to over saturation, poor progression, or very long cycle lengths.	80.01 and up	F

Source: HCM, 7th Edition

¹ If V/C is greater than 1.0, then LOS is F per HCM.

The traffic modeling and signal timing optimization software package Synchro (Version 12) has been utilized to analyze signalized intersections. Synchro is a macroscopic traffic software program that is based on the signalized intersection capacity analysis as specified in the HCM. Macroscopic level models represent traffic in terms of aggregate measures for each movement at the study intersections. Equations are used to determine measures of effectiveness such as delay and queue length. The level of service and capacity analysis performed by Synchro takes into consideration optimization and coordination of signalized intersections within a network.

The peak hour traffic volumes have been adjusted using a peak hour factor (PHF) to reflect peak 15-minute volumes. Customary practice for LOS analysis is to use a peak 15-minute rate of flow. However, flow rates are typically expressed in vehicles per hour. The PHF is the relationship between the peak 15-minute flow rate and the full hourly volume (e.g., $PHF = [Hourly Volume] / [4 \times Peak 15\text{-minute Flow Rate}]$). The use of a 15-minute PHF produces a more detailed analysis as compared to analyzing vehicles per hour. Existing PHFs have been used for all analysis scenarios. Per the HCM, PHF values over 0.95 often are indicative of high traffic volumes with capacity constraints on peak hour flows while lower PHF values are indicative of greater variability of flow during the peak hour. (3)

2.2.2 UNSIGNALIZED INTERSECTIONS

The City of Chino requires the operations of unsignalized intersections to be evaluated using the methodology described in the HCM. (3) The LOS rating is based on the weighted average control delay expressed in seconds per vehicle (see Table 2-2). At two-way or side-street stop-controlled intersections, LOS is calculated for each controlled movement and for the left turn movement from the major street, as well as for the intersection as a whole. For approaches composed of a single lane, the delay is computed as the average of all movements in that lane. Delay for the intersection is reported for the worst individual movement at a two-way stop-controlled intersection. For all-way stop controlled intersections, LOS is computed for the intersection as a whole (average delay).

TABLE 2-2: UNSIGNALIZED INTERSECTION LOS THRESHOLDS

Description	Average Control Delay (Seconds), $V/C \leq 1.0$	Level of Service, $V/C \leq 1.0$ ¹
Little or no delays.	0 to 10.00	A
Short traffic delays.	10.01 to 15.00	B
Average traffic delays.	15.01 to 25.00	C
Long traffic delays.	25.01 to 35.00	D
Very long traffic delays.	35.01 to 50.00	E
Extreme traffic delays with intersection capacity exceeded.	> 50.00	F

Source: HCM, 7th Edition

¹ If V/C is greater than 1.0, then LOS is F per HCM.

2.3 TRAFFIC SIGNAL WARRANT ANALYSIS METHODOLOGY

The term “signal warrants” refers to the list of established criteria used by Caltrans and other public agencies to quantitatively justify or determine the potential need for installation of a traffic signal at an otherwise unsignalized intersection. This TA uses the signal warrant criteria presented in the latest edition of the Caltrans California Manual on Uniform Traffic Control Devices (CA MUTCD). (4)

The signal warrant criteria for Existing study area intersections are based upon several factors, including volume of vehicular and pedestrian traffic, frequency of accidents, and location of school areas. The CA MUTCD indicates that the installation of a traffic signal should be considered if one or more of the signal warrants are met. (4) Specifically, this TA utilizes the Peak Hour Volume-based Warrant 3 as the appropriate representative traffic signal warrant analysis for existing traffic conditions and for all future analysis scenarios for existing unsignalized intersections. Warrant 3 is appropriate to use for this TA because it provides specialized warrant criteria for intersections with rural characteristics. For the purposes of this study, the speed limit was the basis for determining whether Urban or Rural warrants were used for a given intersection. Urban warrants have been used on the major roadways with existing unsignalized intersections with posted speed limits of 40 miles per hour or below, and rural warrants are used for unsignalized intersections along roadways with speed limits in excess of 40 miles per hour.

Future intersections that do not currently exist have been assessed regarding the potential need for new traffic signals based on future average daily traffic (ADT) volumes, using the Caltrans planning level ADT-based signal warrant analysis worksheets. Similarly, the speed limit has been used as the basis for determining the use of Urban and Rural warrants. Traffic signal warrant analyses were performed for the following study area intersection shown in Table 2-3.

TABLE 2-3: TRAFFIC SIGNAL WARRANT ANALYSIS LOCATIONS

#	Intersection
2	Driveway 1 & Edison Av.
3	Driveway 2 & Edison Av.
4	Telephone Av. & Edison Av.

The Existing conditions traffic signal warrant analysis is presented in the subsequent section, Section 3 *Area Conditions* of this report. The traffic signal warrant analyses for future conditions are presented in Section 5 *E+P Traffic Conditions* and Section 6 *Opening Year Cumulative (2027) Traffic Conditions* of this report. It is important to note that a signal warrant defines the minimum condition under which the installation of a traffic signal might be warranted. Meeting this threshold condition does not require that a traffic control signal be installed at a particular location, but rather, that other traffic factors and conditions be evaluated in order to determine whether the signal is truly justified. It should also be noted that signal warrants do not necessarily correlate with LOS. An intersection may satisfy a signal warrant condition and operate at or above acceptable LOS or operate below acceptable LOS and not meet a signal warrant.

2.4 ROADWAY SEGMENT CAPACITY ANALYSIS

Roadway segment operations have been evaluated using the City of Chino Roadway Capacity Thresholds provided in the City’s General Plan. (5) These roadway capacities are “rule of thumb” estimates for planning purposes and are affected by such factors as intersections (spacing, configuration and control features), degree of access control, roadway grades, design geometrics (horizontal and vertical alignment standards), sight distance, vehicle mix (truck and bus traffic) and pedestrian bicycle traffic. In other words, while using ADT for planning purposes is suitable with regards to evaluating potential volume to capacity with future forecasts, it is not suitable for operational analysis because it does not account for the factors listed previously. As such, where the ADT based roadway segment analysis indicates a deficiency (unacceptable LOS), a review of the more detailed peak hour intersection analysis and progression analysis are undertaken. The more detailed peak hour intersection analysis explicitly accounts for factors that affect roadway capacity.

2.5 MINIMUM ACCEPTABLE LEVELS OF SERVICE (LOS)

According to the City of Chino’s General Plan Objective TRA-1.2/Policy P1, LOS D is the minimum acceptable condition that should be maintained during the peak commute hours, where feasible. (5)

2.6 DEFICIENCY CRITERIA

To determine whether the addition of Project traffic at a study intersection would result in a traffic deficiency, the following will be utilized:

- When the Without Project condition is at or better than LOS D (or LOS E for CMP intersections) (i.e., acceptable LOS), and project-generated traffic causes deterioration below LOS D/LOS E (i.e., unacceptable LOS), a deficiency is deemed to occur.

When the Without Project condition is already below LOS D (i.e., unacceptable LOS), the Project will be responsible for improving its deficiency to acceptable levels of service. Thus, for intersections operating at unacceptable LOS during either the AM and/or PM peak hour, improvements have been identified to improve the deficiencies of the Project to an intersection LOS that is equal to or better than Without Project conditions. The Project's contribution to a deficiency can be reduced if the Project is required to implement or fund its fair share of improvements designed to alleviate its contribution to the deficient condition.

In the event that an intersection is operating at or is forecast to operate at a deficient LOS, the CMP guidelines have defined a series of steps to be completed to determine the Project's contribution to the deficiency of intersections, which has been applied to both CMP and non-CMP study area intersections. The steps are as follows:

- Determine the improvements necessary to achieve an acceptable service level;
- Calculate the Project's share in the future traffic volume projections for the peak hours;
- Estimate the cost to implement recommended improvements; and
- Calculate the Project's fair-share contribution to improve the Project's traffic deficiencies.

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3 AREA CONDITIONS

This section provides a summary of the existing circulation network, the City of Chino General Plan Circulation Network, and a review of existing peak hour intersection operations and traffic signal warrant analyses.

3.1 EXISTING CIRCULATION NETWORK

Pursuant to the agreement with City of Chino staff (Appendix 1.1), the study area includes a total of 5 existing and future intersections as shown previously on Exhibit 1-3. Exhibit 3-1 illustrates the study area intersections located near the proposed Project and identifies the number of through traffic lanes for existing roadways and intersection traffic controls.

3.2 CITY OF CHINO GENERAL PLAN CIRCULATION ELEMENT

As noted previously, the Project site is located within the City of Chino. The roadway classifications and planned (ultimate) roadway cross-sections of the major roadways within the study area, as identified on the City of Chino General Plan Circulation Element, are described subsequently. Exhibit 3-2 shows the City of Chino General Plan Circulation Element and Exhibit 3-3 illustrates the City of Chino General Plan roadway cross-sections. Table 3-1 provides the City of Chino's ultimate buildout for General Plan roadway cross-sections. The City of Chino General Plan does not include Yorba Avenue in the General Plan roadway cross-section descriptions.

A Major Arterial is identified as having a 120-foot to 134-foot right-of-way and 100-foot to 114-foot curb-to-curb measurement. Major Arterials include three to four lanes of travel in each direction and a 14-foot curbed and/or landscaped median. The following study area roadways within the City of Chino are classified as a Major Arterial:

- Edison Avenue
- Central Avenue

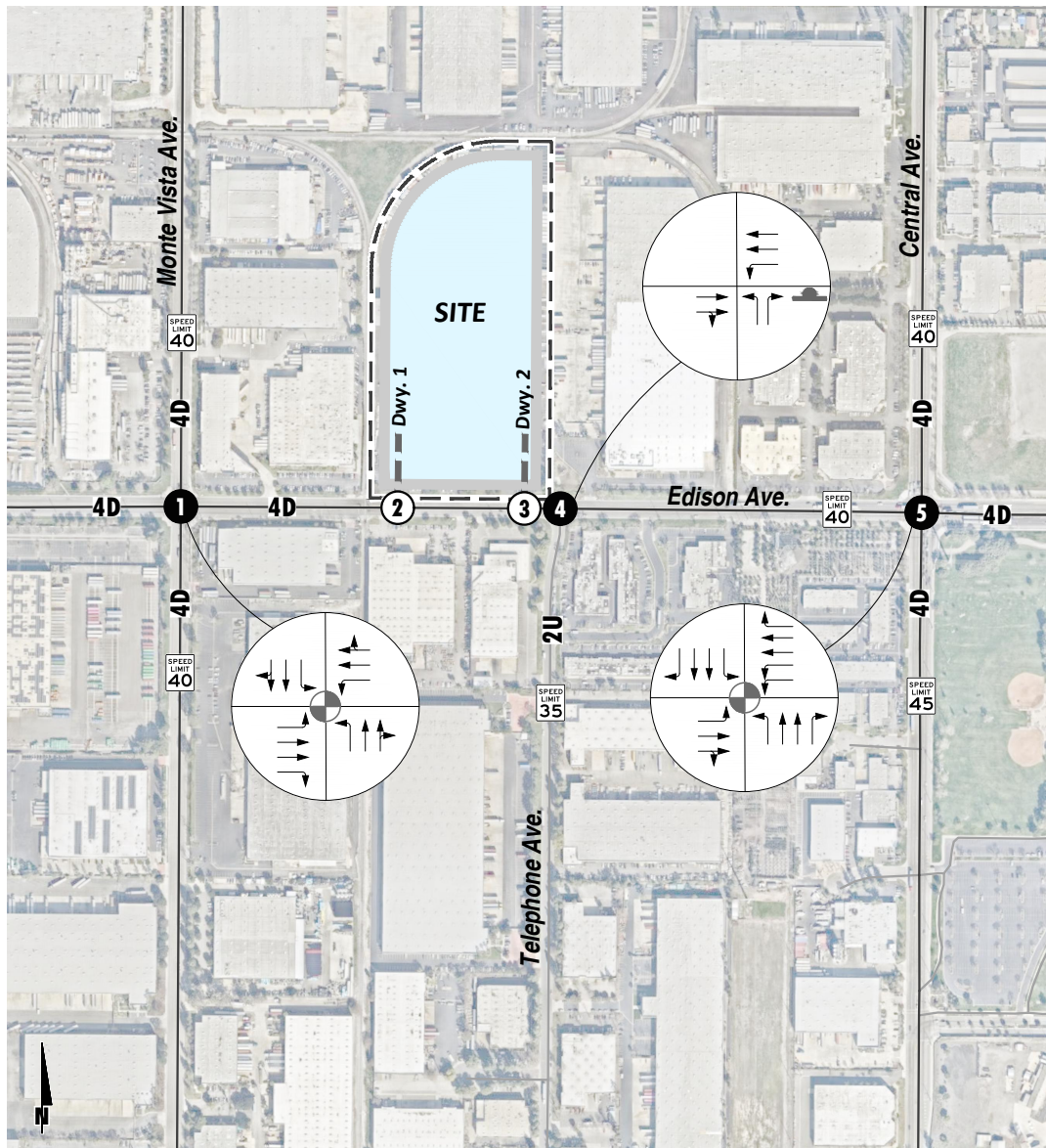
A Secondary Arterial is identified as having an 88-foot right-of-way and 64-foot curb-to-curb measurement. Secondary Arterials include four lanes of travel. The following study area roadway within the City of Chino is classified as a Secondary Arterial:

- Monte Vista Avenue

An Urban Industrial Collector is identified as having a 66-foot right-of-way and 44-foot curb-to-curb measurement. Urban Industrial Collectors include two lanes of travel. The following study area roadway within the City of Chino is classified as an Urban Industrial Collector:

- Telephone Avenue

EXHIBIT 3-1 : EXISTING NUMBER OF THROUGH LANES AND INTERSECTION CONTROLS



LEGEND:

- ①** = Existing Intersection Analysis Location
- ②** = Future Intersection Analysis Location
- = Existing Traffic Signal
- = Existing Stop Sign
- = Existing Lane
- 4** = Number of Lanes
- D** = Divided / Undivided

EXHIBIT 3-2 : CITY OF CHINO GENERAL PLAN CIRCULATION ELEMENT

CITY OF CHINO
GENERAL PLAN
TRANSPORTATION ELEMENT

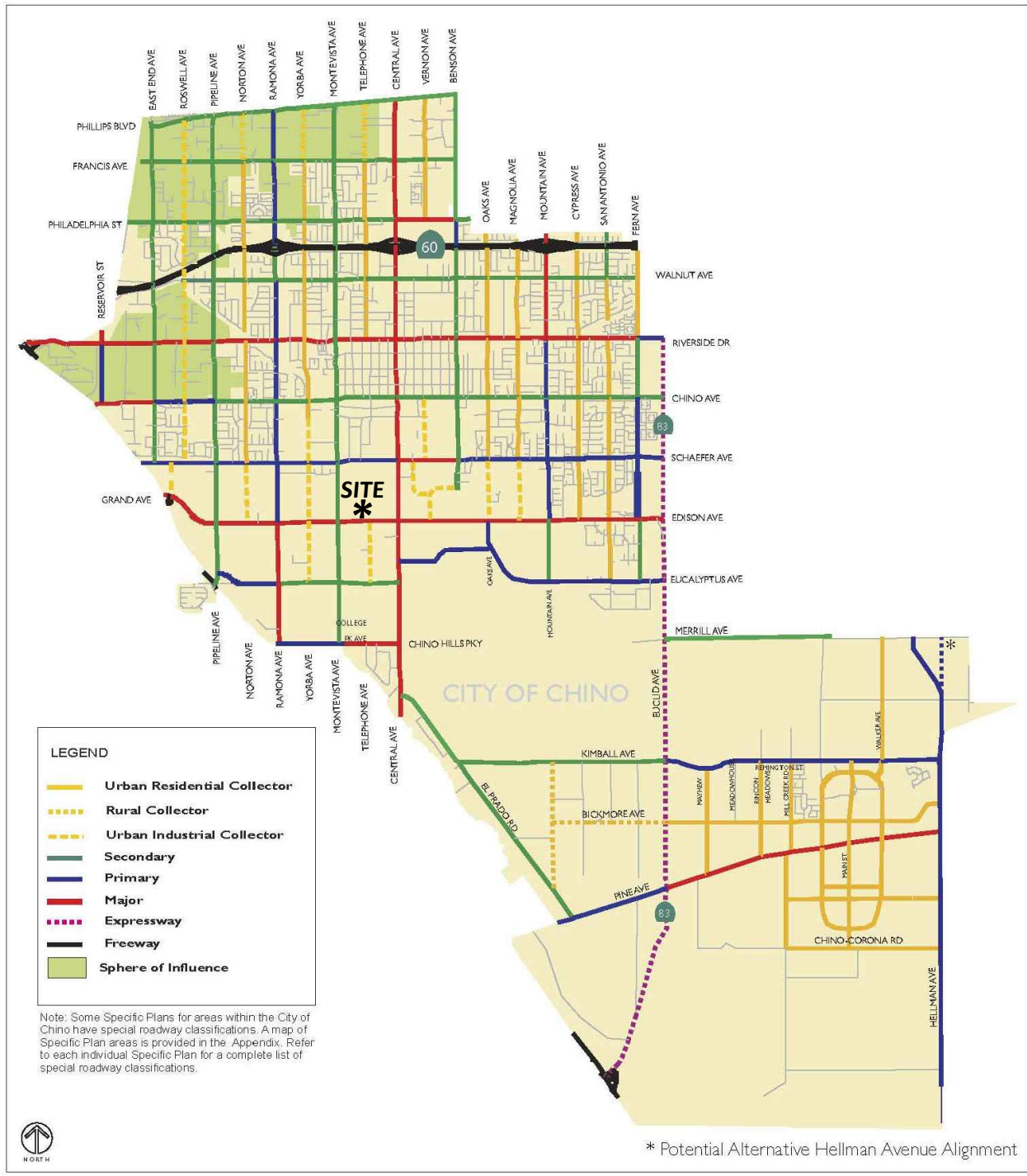
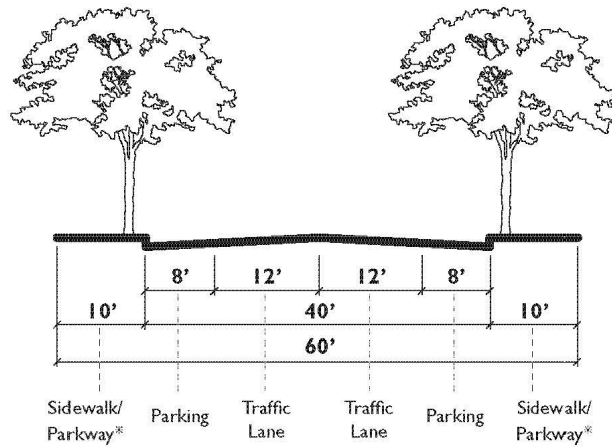


FIGURE TRA-6
ROADWAY CLASSIFICATION

EXHIBIT 3-3 : CITY OF CHINO GENERAL PLAN ROADWAY CROSS-SECTIONS (SHEET 1 OF 3)

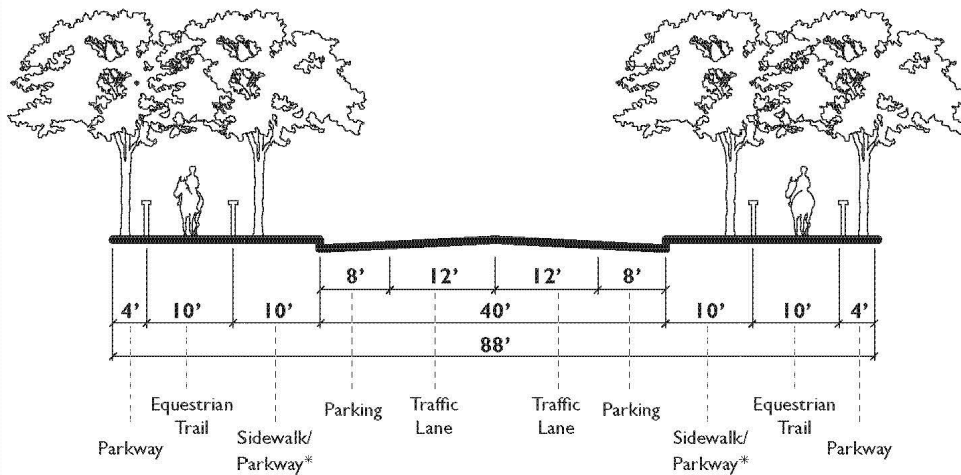
Urban Residential/Rural Collector

Provides 2 traffic lanes with parking and shared bicycle access



Urban Residential/Rural Collector with Equestrian Trails

Provides 2 traffic lanes and 2 equestrian trails with parking and shared bicycle access



Urban Industrial Collector

Provides 2 traffic lanes

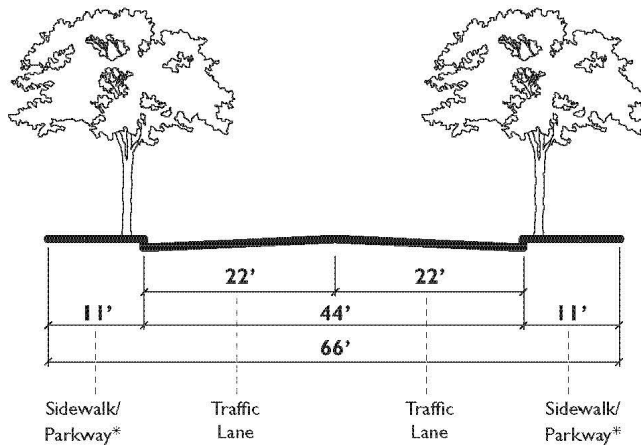
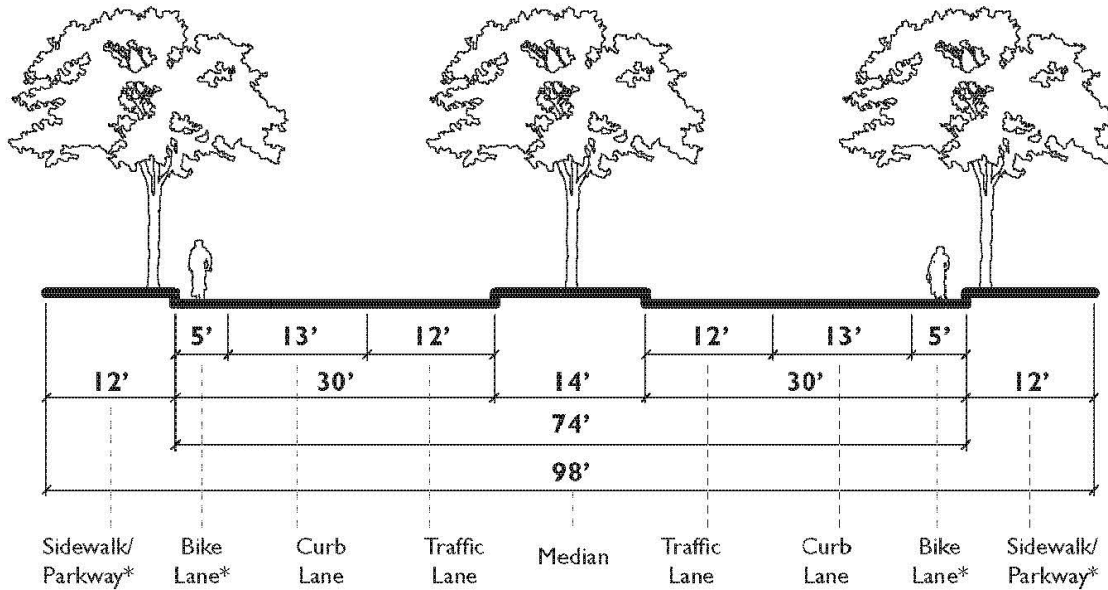


EXHIBIT 3-3 : CITY OF CHINO GENERAL PLAN ROADWAY CROSS-SECTIONS (SHEET 2 OF 3)

Primary Arterial: Typical 4 Lane

Provides 4 traffic lanes and 2 bicycle lanes separated by a median without parking



Secondary Arterial

Provides 4 traffic lanes with parking

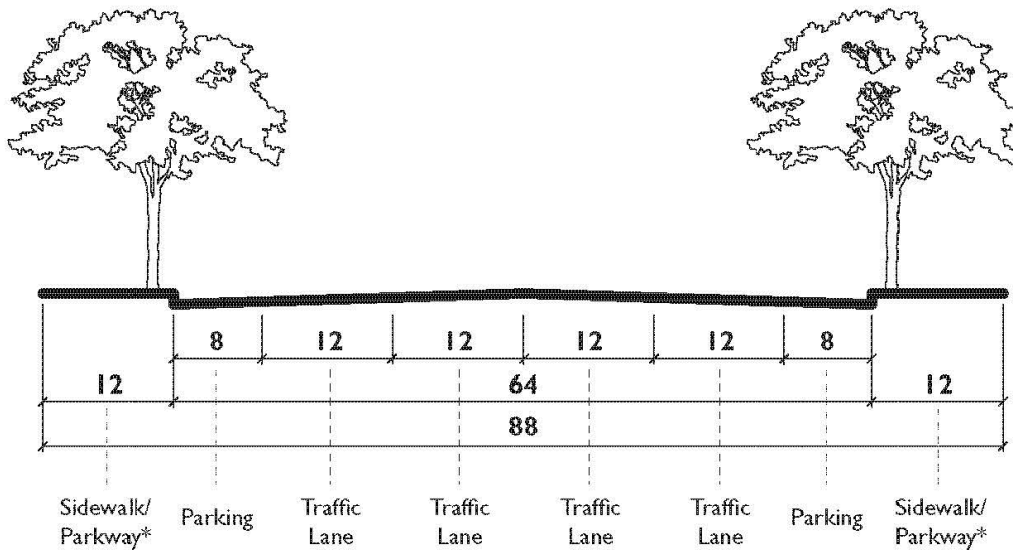
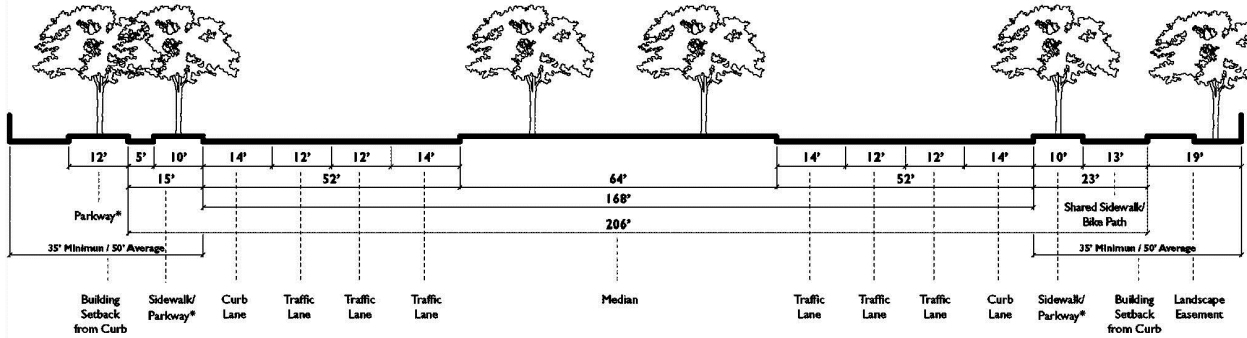


EXHIBIT 3-3 : CITY OF CHINO GENERAL PLAN ROADWAY CROSS-SECTIONS (SHEET 3 OF 3)

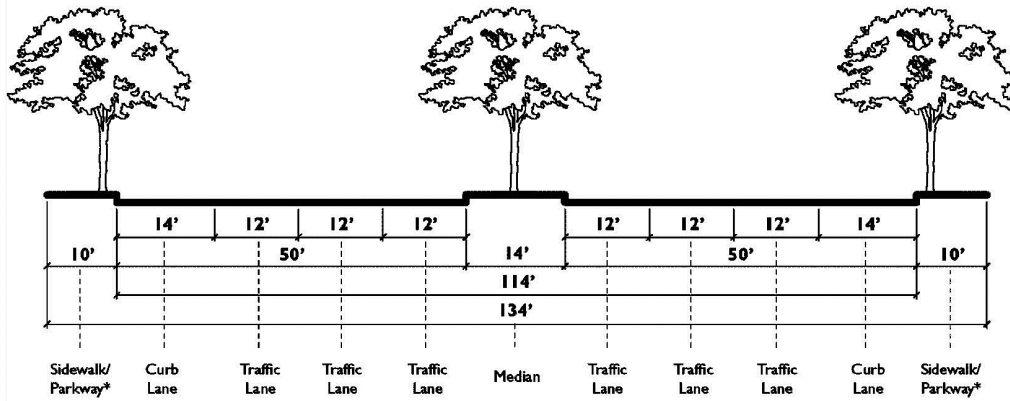
Major Arterial (Expressway): Typical 8 Lane

Provides 8 traffic lanes and a wide median without parking



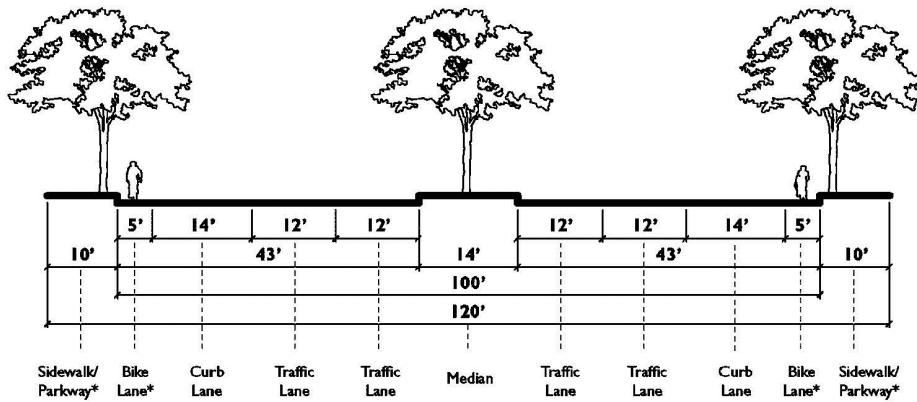
Major Arterial: Minimum 8 Lane

Provides 8 traffic lanes and 2 bicycle lanes separated by a median without parking



Major Arterial: Minimum 6 Lane

Provides 6 traffic lanes and 2 bicycle lanes separated by a median without parking



Roadway Segment	No. of Lanes	Total R-O-W*	Curb-to-Curb*	Street Classification	Notes (see Legend)
Ramona Avenue					
Phillips Blvd to Francis Ave	4	100	74	PA	PM
Francis Ave to Philadelphia St	4	100	74	PA	PM
Philadelphia St to State Route 60	4	100	74	PA	PM
State Route 60 to Walnut Ave	4	88	64	SA	PM
Walnut Ave to Riverside Dr	4	88	64	PA	PM
Riverside Dr to Chino Ave	4	100	74	PA	PM
Chino Ave to Schaefer Ave	4	100	74	PA	PM
Schaefer Ave to Edison Ave	4	100	74	PA	PM
Edison/Grand Ave to Eucalyptus Ave	6	108	84	MA	LM ^b
Eucalyptus Ave to Corporate Center Ave	6	108	84	MA	LM
Corporate Center Ave to Chino Hills Pkwy	6	108	84	MA	LM
Monte Vista Avenue					
Phillips Blvd to Francis Ave	2	88	64	SA	B
Francis Ave to Philadelphia St	2	88	64	SA	B
Philadelphia Ave to Walnut Ave	2	88	64	SA	B
Walnut Ave to Riverside Dr	2	88	64	SA	B
Riverside Dr to Chino Ave	2	88	64	SA	B
Chino Ave to Schaefer Ave	2	88	64	SA	B
Schaefer Ave to Edison Ave	4	88	64	SA	B
Edison Ave to Eucalyptus Ave	4	88	64	SA	B
Eucalyptus Ave to Chino Hills Pkwy	4	88	64	SA	B
Central Avenue					
Phillips Blvd to Francis Ave	6	110	90	MA	LM
Francis Ave to Philadelphia St	8	129	112	MA	LM
Philadelphia St to State Route 60	8	132	112	MA	LM

Roadway Segment	No. of Lanes	Total R-O-W*	Curb-to-Curb*	Street Classification	Notes (see Legend)
State Route 60 to Walnut Ave	8	132	112	MA	LM
Walnut Ave to Riverside Dr	8	132	112	MA	LM
Riverside Dr to Chino Ave	6	110	90	MA	LM
Chino Ave to Schaefer Ave	6	110	90	MA	
Schaefer Ave to Edison Ave	6	110	90	MA	
Edison Ave to Eucalyptus Ave	6	110	90	MA	B
Eucalyptus Ave to Chino Hills Pkwy	6	110	90	MA	B
Chino Hills Parkway to South City Limits	6	110	90	MA	B
Benson Avenue					
Phillips Blvd to Francis Ave	4	88	64	SA	B
Francis Ave to Philadelphia St	4	88	64	SA	B
Philadelphia St to State Route 60	4	100	74	PA	B
State Route 60 to Walnut Ave	4	88	64	SA	B
Walnut Ave to Riverside Dr	4	88	64	SA	B
Riverside Dr to Chino Ave	4	88	64	SA	B
Chino Ave to Schaefer Ave	4	88	64	SA	B
Schaefer Ave to Edison Ave	4	88	64	SA	B
Mountain Avenue					
Philadelphia St to Walnut Ave	6	110	90	MA	
Walnut Ave to Riverside Dr	6	110	90	MA	
Riverside Dr to Chino Ave	4	100	74	PA	
Chino Ave to Schaefer Ave	4	100	74	PA	
Schaefer Ave to Edison Ave	4	100	74	PA	
San Antonio Avenue					
Philadelphia St to State Route 60	4	88	64	SA	
State Route 60 to Walnut Ave	4	88	64	SA	

Roadway Segment	No. of Lanes	Total R-O-W*	Curb-to-Curb*	Street Classification	Notes (See Legend)
Mountain Ave to San Antonio Ave	4	100	64	PA	B
San Antonio Ave to Fern Ave	4	100	64	PA	B
Fern Ave to Euclid Ave	4	106	72	PA	B, LM
Edison Avenue /Grand Avenue§					
State Route 71 to Pipeline Ave	8	132	112	MA	LM
Pipeline Ave to Norton Ave	6	108	84	MA	LM
Norton Ave to Ramona Ave	6	108	84	MA	LM
Ramona Ave to Yorba Ave	6	108	84	MA	LM
Yorba Ave to Monte Vista Ave	6	108	84	MA	LM
Monte Vista to Central Ave	6	110 ^d	90	MA	LM
Central Ave to Twelfth St	6	110	90	MA	LM
Twelfth St to Benson Ave	6	110	90	MA	LM
Benson Ave to Mountain Ave	6	110 ^c	84	MA	LM, B
Mountain Ave to Cypress Ave	6	110 ^{a,c}	84	MA	LM, B, E
Cypress Ave to San Antonio Ave	6	110	84	MA	LM
San Antonio Ave to Euclid Ave (SR-83)	6	110	84	MA	LM
Eucalyptus Avenue					
Pipeline Ave to Ramona Avenue	4	96	84	PA	B
Ramona Ave to Yorba Ave	4	88	64	SA	B
Yorba Ave to Monte Vista Ave	4	88	64	SA	B
Monte Vista Avenue to Central Ave	4	88	64	PA	B
Mountain Ave to Euclid Ave	4	88	64	PA	B
Chino Hills Pkwy§					
State Route 71 to Ramona Ave	8	132	108	MA	PM
Ramona Ave to 600 feet e/o Ramona Ave	6	108	84	MA	PM
600 feet e/o Ramona Ave to Monte Vista Ave	4	318-98 ^f	74-84	PA	EBSP, PM
Monte Vista to Telephone Ave	6	88-98 ^f	74-84	MA	EBSP, PM, B

3.3 BICYCLE & PEDESTRIAN FACILITIES

Exhibit 3-4 illustrates the City of Chino future planned bicycle facilities per the City's Bicycle and Pedestrian Master Plan (2016). There is an existing Class II (striped) bike lane along Monte Vista Avenue and Central Avenue, south of Edison Avenue, and a Class I off-street bicycle path along Edison Avenue, east of Central Avenue with the only unfinished portion located along the Project's frontage. (6) Existing pedestrian facilities within the study area are shown on Exhibit 3-5. As shown on Exhibit 3-5, pedestrian facilities are built out along portions of Yorba Avenue, Monte Vista Avenue, Central Avenue, Schaefer Avenue, Edison Avenue, and Eucalyptus Avenue. Field observations and traffic counts conducted in April 2024 indicate nominal pedestrian and bicycle activity within the study area. It should be noted, the Project is proposed to complete the Class II bike lanes along Schaefer Avenue, in both directions, to connect the existing Class II bike lanes, located at the Project's western boundary and approximately east of the Project's eastern boundary. The bike lanes will be constructed in compliance with ADA and Chino's Policy on Accessible Pedestrian Facilities. Additionally, all pedestrian facilities impacted by the proposed Project will be constructed in compliance with ADA and Chino's Policy on Accessible Pedestrian Facilities.

3.4 TRANSIT SERVICE

The study area within the City of Chino is currently served by Omnitrans, a public transit agency serving various jurisdictions within San Bernardino County. Based on a review of the existing transit routes within the vicinity of the proposed Project, Route 83 currently runs along Central Avenue. There is also an existing bus stop for Route 83 located at the intersection of Central Avenue and Edison Avenue. Based on the latest January 2024 schedules, bus services along this route operate at a frequency of 60 minutes Monday through Sunday. Route 83 runs between Chino, Ontario, and Upland from the Chino Transit Center to the intersection of Euclid Avenue and Foothill Boulevard, and connects with Metrolink. Transit service is reviewed and updated by Omnitrans periodically to address ridership, budget, and community demand needs. Changes in land use can affect these periodic adjustments which may lead to either enhanced or reduced service where appropriate. Existing transit routes in the vicinity of the study area are illustrated on Exhibit 3-6.

3.5 TRUCK ROUTES

The City of Chino's truck routes are shown on Exhibit 3-7. Trucks from the Project are to utilize Edison Avenue, Ramona Avenue, Monte Vista Avenue, and Central Avenue. Trucks are prohibited on certain City roadways through the Municipal Code through weight restrictions. Truck routes for the proposed Project have been determined based on discussions with City staff. These truck routes serve both the proposed Project and future cumulative development projects throughout the study area. Sensitive land uses have also been taken into consideration as part of determining the best routes for future trucks.

EXHIBIT 3-4 : CITY OF CHINO FUTURE BICYCLE FACILITIES

CITY OF CHINO
GENERAL PLAN
TRANSPORTATION ELEMENT

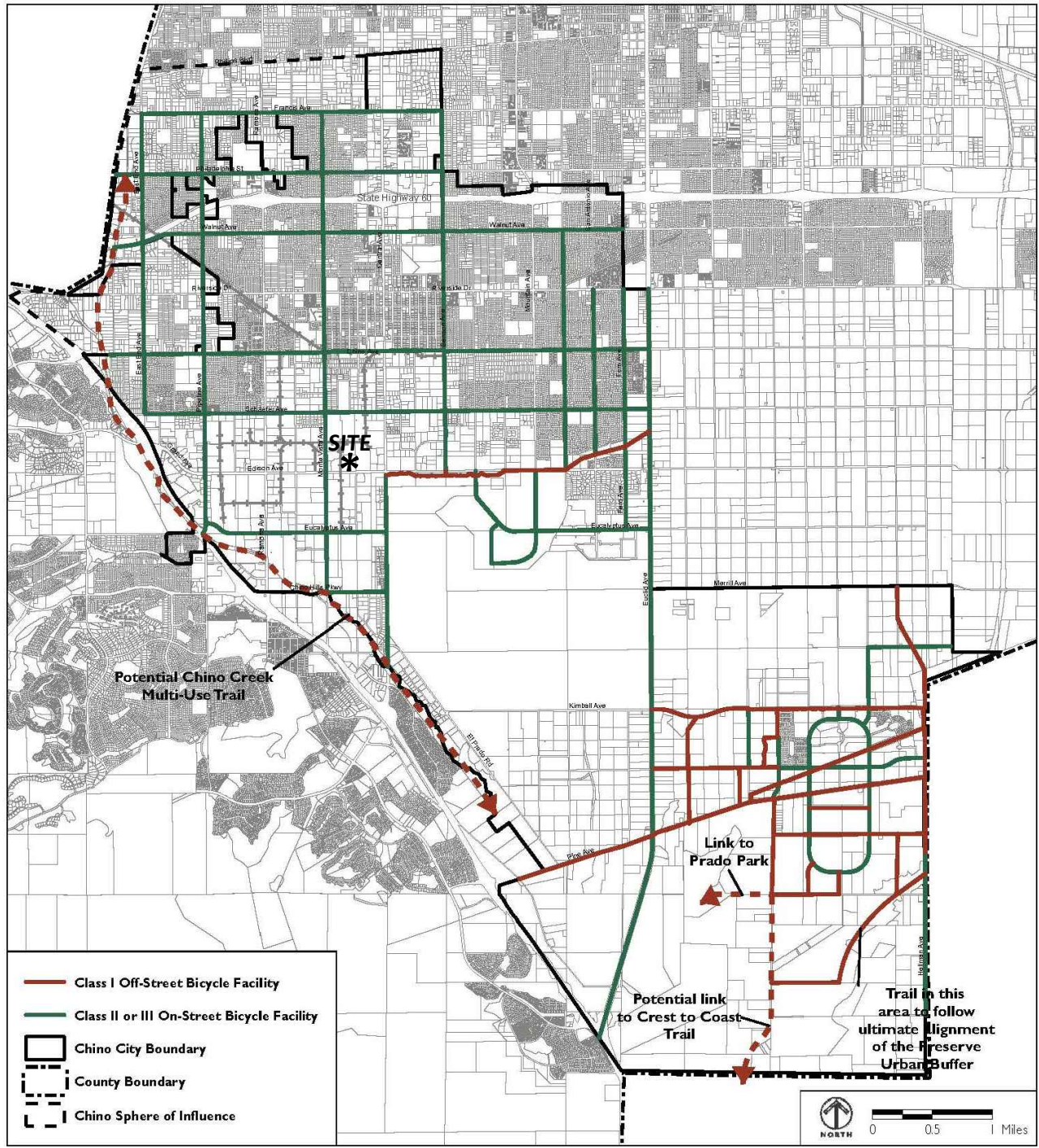
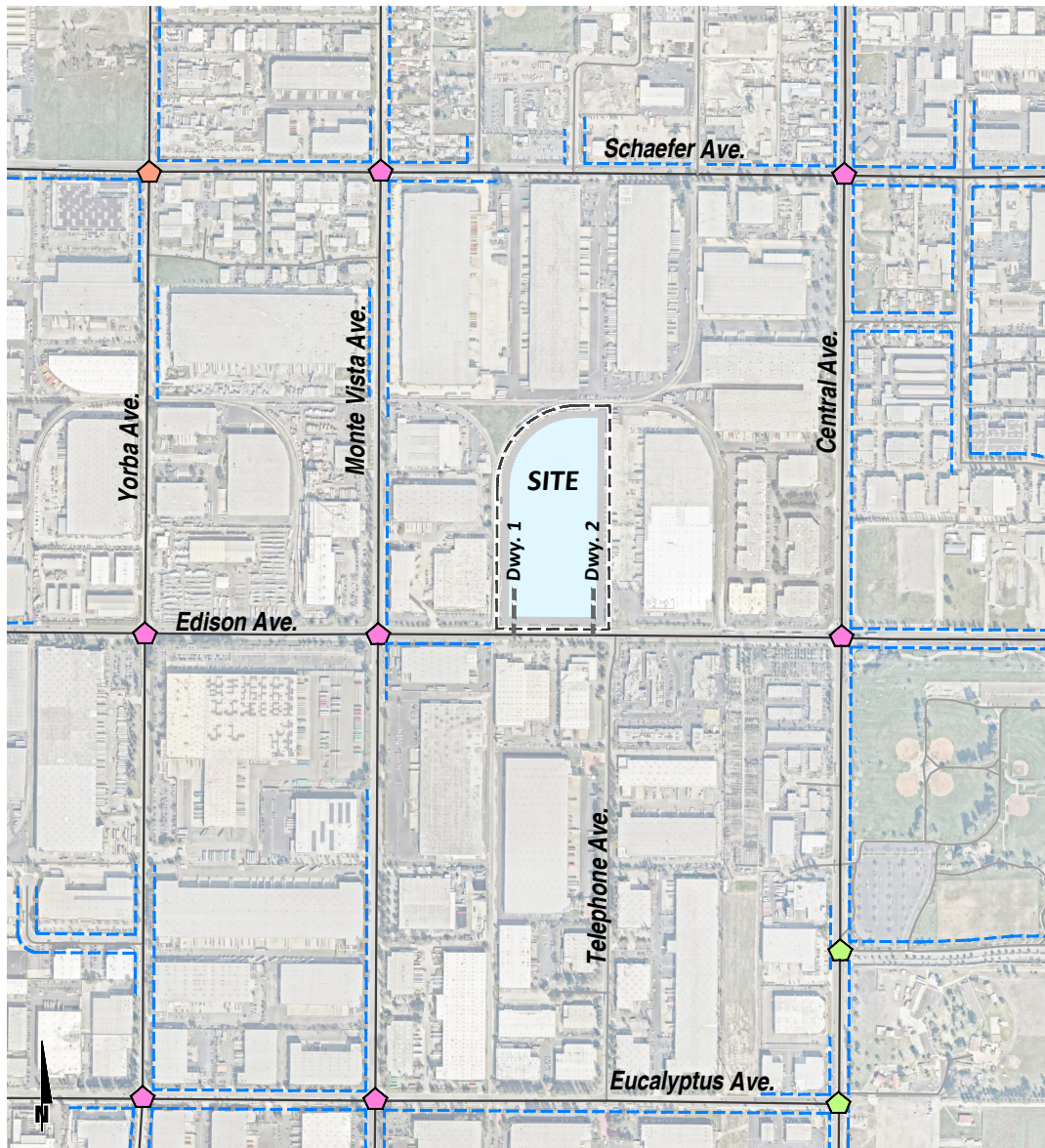


FIGURE TRA-2
FUTURE BICYCLE FACILITIES

EXHIBIT 3-5 : EXISTING PEDESTRIAN FACILITIES



LEGEND:





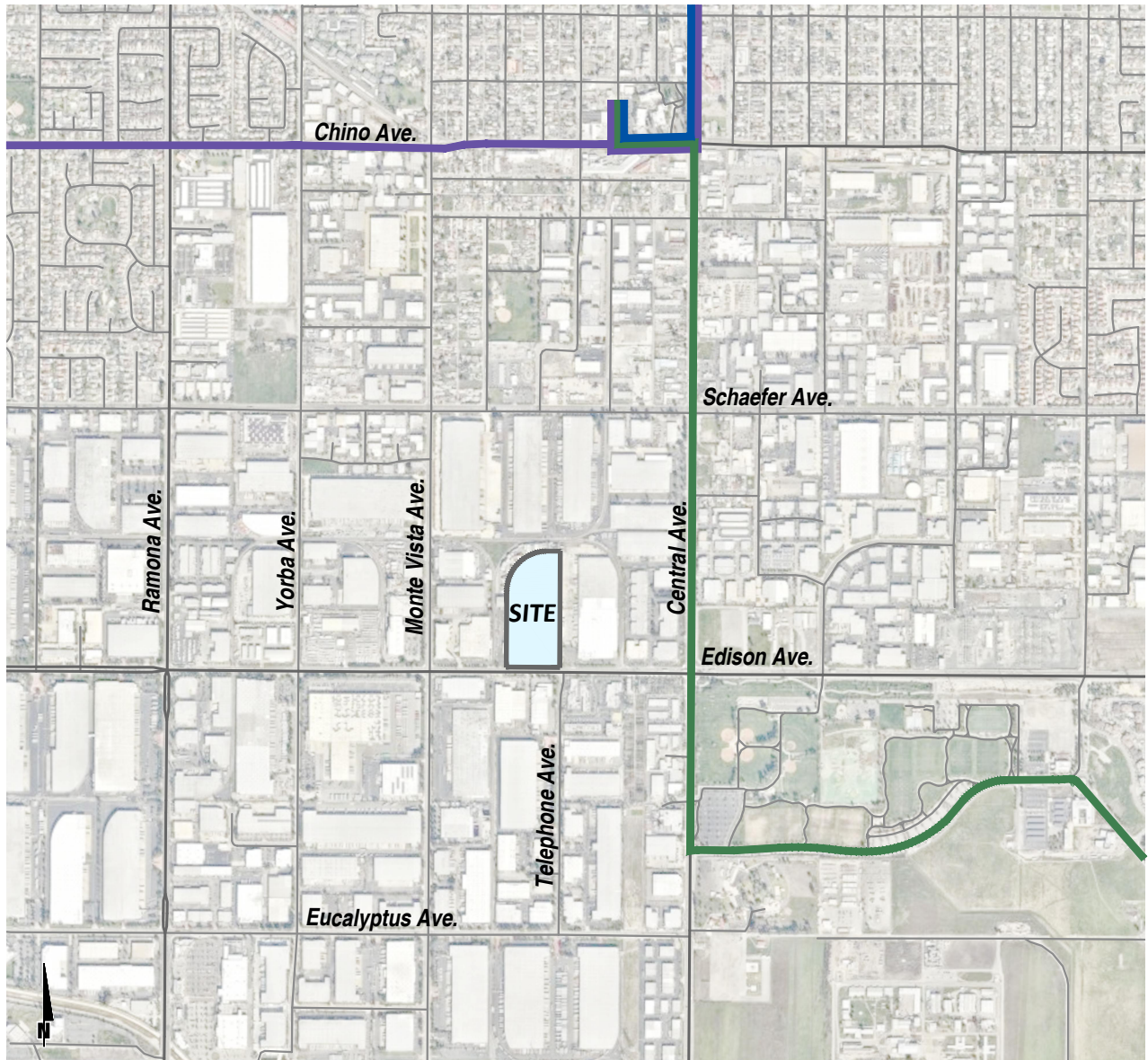
-  = 2 Approaches
-  = 3 Approaches
-  = All Approaches
-  = Sidewalks

EXHIBIT 3-6 : CITY OF CHINO TRANSIT ROUTES



LEGEND:

-  = OmniTrans Route 83
-  = OmniTrans Route 84/85
-  = OmniTrans Route 88

EXHIBIT 3-7 : CITY OF CHINO TRUCK ROUTES

CITY OF CHINO
GENERAL PLAN
TRANSPORTATION ELEMENT

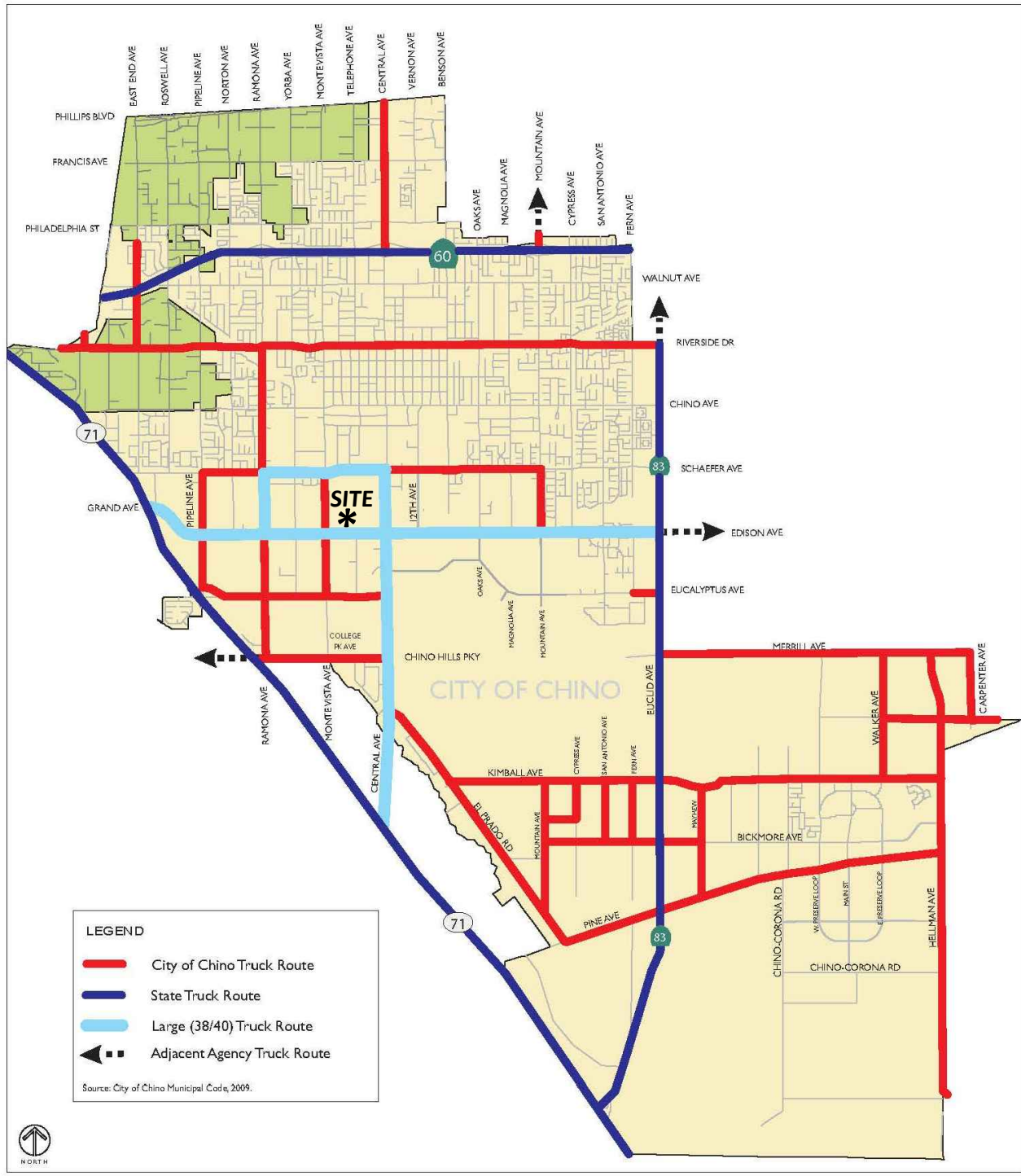


FIGURE TRA-5
TRUCK ROUTE MAP

3.6 EXISTING (2024) TRAFFIC COUNTS

The Existing intersection LOS analysis is based on the traffic volumes observed during the peak hour conditions using traffic count data collected in April 2024. The following peak hours were selected for analysis:

- Weekday AM Peak Hour (peak hour between 6:00 AM and 9:00 AM)
- Weekday PM Peak Hour (peak hour between 4:00 PM and 7:00 PM)

The 2024 weekday AM and weekday PM peak hour count data is representative of typical weekday peak hour traffic conditions in the study area. There were no observations made in the field that would indicate atypical traffic conditions on the count dates, such as construction activity or detour routes and near-by schools were in session and operating on normal schedules. The raw manual peak hour turning movement traffic count data sheets are included in Appendix 3.1.

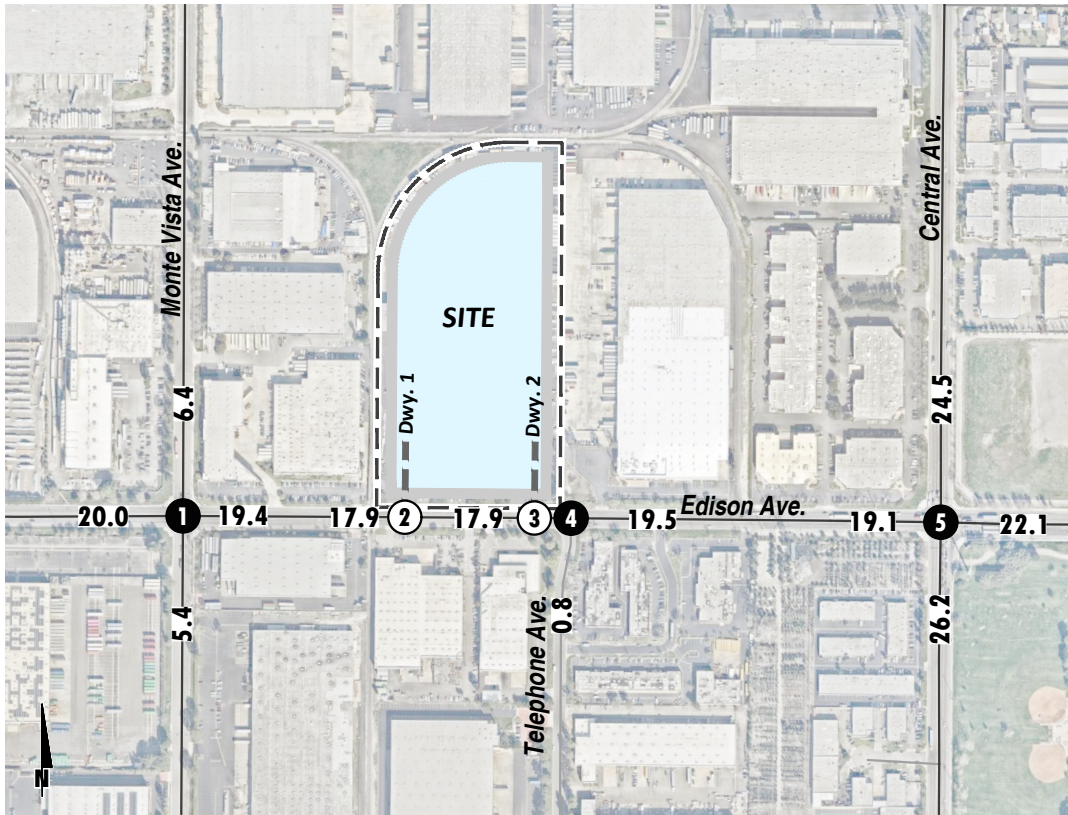
The traffic counts collected in April 2024 include the following vehicle classifications: Passenger Cars, 2-Axle Trucks, 3-Axle Trucks, and 4 or More Axle Trucks. To represent the effects large trucks, buses and recreational vehicles have on traffic flow, all trucks were converted into PCE. By their size alone, these vehicles occupy the same space as two or more passenger cars. In addition, the time it takes for them to accelerate and slow-down is much longer than for passenger cars and varies depending on the type of vehicle and number of axles. For the purpose of this analysis, a PCE factor of 1.5 has been applied to 2-axle trucks, 2.0 for 3-axle trucks, and 3.0 for 4+-axle trucks to estimate each turning movement. These factors are consistent with the values recommended for use in the CMP.

Existing weekday ADT volumes, in actual vehicles, are shown on Exhibit 3-8. Where actual 24-hour tube count data was not available, Existing ADT volumes were based upon factored intersection peak hour counts collected by Urban Crossroads, Inc. using the following formula for each intersection leg:

$$\text{Weekday PM Peak Hour (Approach Volume + Exit Volume)} \times 11.53 = \text{Leg Volume}$$

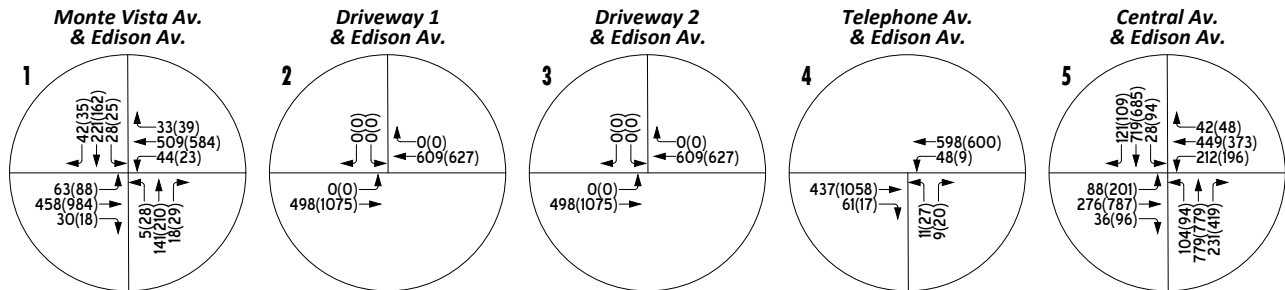
A comparison of the PM peak hour and daily traffic volumes of various roadway segments within the study area indicated that the peak-to-daily relationship is approximately 8.67 percent. As such, the above equation utilizing a factor of 11.53 estimates the ADT volumes on the study area roadway segments assuming a peak-to-daily relationship of approximately 8.67 percent (i.e., $1/0.0867 = 11.53$) and was assumed to sufficiently estimate ADT volumes for planning-level analyses. Existing weekday AM and weekday PM peak hour intersection volumes, in actual vehicles, are also shown on Exhibit 3-8.

EXHIBIT 3-8 : EXISTING (2024) TRAFFIC VOLUMES (ACTUAL VEHICLES)



LEGEND:

- 1** = Existing Intersection Analysis Location
- 2** = Future Intersection Analysis Location
- 00** = Average Daily Traffic (ADT) in Thousands



3.7 INTERSECTION OPERATIONS ANALYSIS

Existing peak hour traffic operations have been evaluated for the study area intersections based on the analysis methodologies presented in Section 2.2 *Intersection Capacity Analysis* of this report. The intersection operations analysis results are summarized in Table 3-2, which indicates that all existing study area intersections are currently operating at acceptable LOS during the peak hours. The intersection operations analysis worksheets are included in Appendix 3.2 of this TA.

Although not deficient, the intersections of Monte Vista Avenue at Edison Avenue (#1) and Central Avenue at Edison Avenue (#5) currently experience periodic queuing issues with queues spilling out of the turn pockets. These queuing issues were observed at Monte Vista Avenue at Edison Avenue (#1) for the southbound, eastbound, and westbound approach during the morning commute hours, and at all approaches during the afternoon commute hours. Central Avenue at Edison Avenue (#5) experiences these queuing issues for the northbound, southbound, and eastbound approach during the afternoon commute hours only.

Peak hour intersection operations reported in Table 3-2 at both locations discussed above are based on a calculation of peak hour volume over available capacity (V/C) for the most impacted turning movements. In other words, there may be specific turning movements that experience congestion/queuing at each location, but when looking at the overall available capacity at an intersection relative to the overall volumes for the applicable turning movements, it does not result in a deficiency for the intersection as a whole.

TABLE 3-2: INTERSECTION ANALYSIS FOR EXISTING (2024) CONDITIONS

# Intersection	Traffic Control ²	Delay ¹ (secs.)		Level of Service	
		AM	PM	AM	PM
1 Monte Vista Av. & Edison Av.	TS	17.1	18.7	B	B
2 Driveway 1 & Edison Av.		Future Intersection			
3 Driveway 2 & Edison Av.		Future Intersection			
4 Telephone Av. & Edison Av.	CSS	14.8	26.6	B	D
5 Central Av. & Edison Av.	TS	26.6	42.6	C	D

¹ Per the Highway Capacity Manual (7th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown. HCM delay reported in seconds.

² TS = Traffic Signal; CSS = Cross-street Stop

3.8 TRAFFIC SIGNAL WARRANTS ANALYSIS

Traffic signal warrants for Existing traffic conditions are based on existing peak hour intersection turning volumes. There are currently no study area intersections that meet a traffic signal warrant. Existing conditions traffic signal warrant analysis worksheets are provided in Appendix 3.3.

3.9 ROADWAY SEGMENT ANALYSIS

The roadway capacities utilized for the study area roadway segment analysis are obtained from the City's General Plan. These roadway segment capacities are approximate figures only and are used at the General Plan level to assist in determining the roadway functional classification (number of through lanes) needed to meet traffic demand. Table 3-3 provides a summary of the Existing (2024) traffic conditions roadway segment capacity analysis. As shown in Table 3-3, all study area roadway segments are currently operating at an acceptable LOS based on the daily roadway capacity thresholds and minimum LOS criteria.

TABLE 3-3: ROADWAY SEGMENT CAPACITY ANALYSIS FOR EXISTING (2024) CONDITIONS

#	Roadway	Segment Limits	Roadway Section	LOS Capacity ¹	Existing (2024)		
					Vol	V/C ²	LOS ³
1	Edison Avenue	Monte Vista Avenue to Telephone Avenue	4D	35,900	19,420	0.541	A
2	Edison Avenue	Telephone Avenue to Central Avenue	4D	35,900	19,454	0.542	A

¹ These maximum roadway capacities are based on the City's General Plan.

² V/C = Volume to Capacity Ratio

³ LOS = Level of Service

3.10 NEAR-TERM DEFICIENCIES AND IMPROVEMENTS

All study area intersections and roadway segments currently operate at an acceptable LOS during the AM and PM peak hours under Existing (2024) traffic conditions. As such, no improvements have been identified for Existing (2024) traffic conditions.

4 PROJECTED FUTURE TRAFFIC

The site is currently occupied by a wood manufacturing facility (RedBuilt) and a storage container/mobile office rental facility (United Rentals). The Project consists of the development of a single 390,778-square-foot warehouse building. Vehicular access will be provided via two driveways on Edison Avenue. Both driveways are proposed to allow for full access (e.g., no turn restrictions) and will serve passenger cars and trucks. Regional access to the Project site is accommodated from the SR-71 Freeway via Edison Avenue, and the SR-60 Freeway via Central Avenue or Ramona Avenue. The Project is anticipated to have an Opening Year of 2027.

4.1 PROJECT TRIP GENERATION

Trip generation represents the amount of traffic which is both attracted to, and produced by, a development. Determining traffic generation for a specific project is therefore based upon forecasting the amount of traffic that is expected to be both attracted to, and produced by, the specific land uses being proposed for a given development. In order to develop the traffic characteristics of the proposed Project, trip-generation statistics published in the ITE Trip Generation Manual (11th Edition, 2021) have been utilized. (7)

4.1.1 EXISTING TRAFFIC

The existing uses take access off of Edison Avenue. In an effort to understand the existing traffic associated with the current uses, traffic counts were collected at the existing driveways on February 13 through February 15, 2024 (Tuesday through Thursday). A summary of the count data collected and a detailed summary of the counts collected at all driveway locations, by day, is shown in Attachment B of the Scoping Agreement (see Appendix 1.1).

Table 4-1 below summarizes the average existing trip generation based on the count data collected over three consecutive days. The existing uses on the site currently generate an average of 226 two-way trips per day, with 14 trips during the AM peak hour and 14 trips during the PM peak hour. Trip generation for the existing use has been reflected in both actual vehicles and PCE in Table 4-1.

PCE factors were applied to the trip generation rates for heavy trucks (large 2-axles, 3-axles, 4+-axles). PCEs allow the typical "real-world" mix of vehicle types to be represented as a single, standardized unit, such as the passenger car, to be used for the purposes of capacity and level of service analyses. The PCE factors are consistent with the recommended PCE factors in the City's Guidelines and with those used for other projects within the City. The existing site currently generates an average of 280 two-way PCE trips per day, with 20 PCE AM peak hour and 14 PCE PM peak hour trips (see Table 4-1).

TABLE 4-1: EXISTING TRIP GENERATION SUMMARY

Land Use	AM Peak Hour			PM Peak Hour			Daily
	In	Out	Total	In	Out	Total	
Actual Vehicles:							
Existing Use							
Passenger Cars:	8	1	9	1	13	14	178
2-axle Trucks:	1	1	2	0	0	0	20
3-axle Trucks:	1	1	2	0	0	0	12
4+-axle Trucks:	1	0	1	0	0	0	16
Total Trucks:	3	2	5	0	0	0	48
Total Trips (Actual Vehicles)¹	11	3	14	1	13	14	226
Passenger Car Equivalent (PCE):							
Existing Use							
Passenger Cars:	8	1	9	1	13	14	178
2-axle Trucks (PCE = 1.5):	2	2	4	0	0	0	30
3-axle Trucks (PCE = 2.0):	2	2	4	0	0	0	24
4+-axle Trucks (PCE = 3.0):	3	0	3	0	0	0	48
Total Trucks (PCE):	7	4	11	0	0	0	102
Total Trips (PCE)¹	15	5	20	1	13	14	280

¹ Total Trips = Passenger Cars + Truck Trips.

4.1.2 PROPOSED PROJECT

The Project consists of a single warehouse building that is up to 390,778 square feet. However, the Project has evaluated 395,230 square feet. As previously stated, the latest site plan reflects a slightly reduced total area of 390,778 square feet compared to the area analyzed. This adjustment does not affect the findings of this TA. In order to develop the traffic characteristics of the Project, trip-generation statistics published in the ITE Trip Generation Manual (11th Edition, 2021) were used. The Project has been evaluated assuming a mix of general warehousing and high-cube cold storage warehousing use for the purpose of calculating a conservative trip generation for the proposed building. Table 4-2 summarizes the trip generation rates. For purposes of this assessment, the following land uses, and vehicle mixes have been utilized:

- ITE Land Use Code 150 (Warehousing) has been used to derive site-specific trip generation estimates for up to 296,422 square feet of the proposed Project (or 75% of the square footage). A warehouse is primarily devoted to the storage of materials but may also include office and maintenance areas. The vehicle mix has been obtained from the ITE’s Trip Generation Manual. The truck percentages were further broken down by axle type per the following South Coast Air Quality Management District (SCAQMD) recommended truck mix: 2-Axle = 16.7%; 3-Axle = 20.7%; 4+-Axle = 62.6%.
- ITE Land Use Code 157 (High-Cube Cold Storage Warehouse) has been used to derive site-specific trip generation estimates for up to 98,808 square feet (or the remaining 25% of the square footage). High-cube cold storage warehouses include warehouses characterized by the storage and/or consolidation of manufactured goods (and to a lesser extent, raw materials) prior to their distribution to retail locations or other warehouses. High-cube cold storage warehouses are facilities typified by temperature-controlled environments for frozen food or other perishable products. The High-Cube Cold Storage Warehouse vehicle mix (passenger cars versus trucks) has been obtained from the ITE’s Trip Generation Manual. The truck percentages were further broken down by axle type per the following SCAQMD recommended truck mix: 2-Axle = 34.7%; 3-Axle = 11.0%; 4+-Axle = 54.3%.

TABLE 4-2: PROJECT TRIP GENERATION RATES

Land Use ¹	Units ²	ITE LU Code	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Actual Vehicles:									
Warehousing ³	TSF	150	0.131	0.039	0.170	0.050	0.130	0.180	1.710
Passenger Cars (AM=88.2%, PM=83.3%, Daily=64.9%)			0.120	0.030	0.150	0.034	0.116	0.150	1.110
2-Axle Trucks (AM=1.97%, PM=2.79%, Daily=5.86%)			0.002	0.001	0.003	0.003	0.002	0.005	0.100
3-Axle Trucks (AM=2.44%, PM=3.46%, Daily=7.27%)			0.002	0.002	0.004	0.003	0.003	0.006	0.124
4+-Axle Trucks (AM=7.39%, PM=10.45%, Daily=21.97%)			0.007	0.006	0.013	0.010	0.009	0.019	0.376
High-Cube Cold Storage Warehouse ³	TSF	157	0.085	0.025	0.110	0.034	0.086	0.120	2.120
Passenger Cars (AM=72.7%, PM=75.0%, Daily=64.6%)			0.076	0.004	0.080	0.019	0.071	0.090	1.370
2-Axle Trucks (AM=9.5%, PM=8.7%, Daily=12.3%)			0.003	0.007	0.010	0.005	0.005	0.010	0.260
3-Axle Trucks (AM=3.0%, PM=2.8%, Daily=3.9%)			0.001	0.002	0.003	0.002	0.001	0.003	0.083
4+-Axle Trucks (AM=14.8%, PM=13.6%, Daily=19.2%)			0.005	0.011	0.016	0.008	0.008	0.016	0.407

¹ Trip Generation & Vehicle Mix Source: Institute of Transportation Engineers (ITE), Trip Generation Manual, Eleventh Edition (2021).

² TSF = thousand square feet

³ Truck Mix: South Coast Air Quality Management District's (SCAQMD) recommended truck mix, by axle type.

 Normalized % - Without Cold Storage: 16.7% 2-Axle trucks, 20.7% 3-Axle trucks, 62.6% 4-Axle trucks.

 Normalized % - With Cold Storage: 34.7% 2-Axle trucks, 11.0% 3-Axle trucks, 54.3% 4-Axle trucks.

The trip generation summary illustrating daily and peak hour trip generation estimates for the Project are summarized in Table 4-3 in actual vehicles. The proposed Project is anticipated to generate 720 two-way trips per day with 62 AM peak hour trips and 66 PM peak hour trips (actual vehicles). Intersection operations analysis for a truck-intensive project would be required to utilize the PCE trip generation consistent with the City's Guidelines. As such, the Project's trip generation in PCE has been provided in Table 4-4. The Project is anticipated to generate 1,098 two-way PCE trips per day with 73 PCE AM peak hour trips and 82 PCE PM peak hour trips.

TABLE 4-3: PROJECT TRIP GENERATION SUMMARY (ACTUAL VEHICLES)

Land Use	Quantity Units ¹	AM Peak Hour			PM Peak Hour			Daily
		In	Out	Total	In	Out	Total	
Actual Vehicles:								
Warehousing (75%)	296.422 TSF							
Passenger Cars:		36	9	45	10	34	44	330
2-axle Trucks:		1	0	1	1	1	2	30
3-axle Trucks:		1	1	2	1	1	2	38
4+-axle Trucks:		2	2	4	3	3	6	112
Total Truck Trips (Actual Vehicles):		4	3	7	5	5	10	180
Total Trips (Actual Vehicles) ²		40	12	52	15	39	54	510
High-Cube Cold Storage Warehouse (25%)	98.808 TSF							
Passenger Cars:		8	0	8	2	7	9	136
2-axle Trucks:		0	1	1	0	1	1	26
3-axle Trucks:		0	0	0	0	0	0	8
4+-axle Trucks:		0	1	1	1	1	2	40
Total Truck Trips (Actual Vehicles):		0	2	2	1	2	3	74
Total Trips (Actual Vehicles) ²		8	2	10	3	9	12	210
Passenger Cars		44	9	53	12	41	53	466
Trucks		4	5	9	6	7	13	254
Total Trips (Actual Vehicles)²		48	14	62	18	48	66	720

¹ TSF = thousand square feet

² Total Trips = Passenger Cars + Truck Trips.

TABLE 4-4: PROJECT TRIP GENERATION SUMMARY (PCE)

Land Use	Quantity Units ¹	AM Peak Hour			PM Peak Hour			Daily
		In	Out	Total	In	Out	Total	
Passenger Car Equivalent (PCE):								
Warehousing (75%)	296.422 TSF							
Passenger Cars:		36	9	45	10	34	44	330
2-axle Trucks:		1	1	2	1	1	2	46
3-axle Trucks:		1	1	2	2	2	4	74
4+-axle Trucks:		6	5	11	9	8	17	334
Total Truck Trips (PCE):		8	7	15	12	11	23	454
Total Trips (PCE) ²		44	16	60	22	45	67	784
High-Cube Cold Storage Warehouse (25%)	98.808 TSF							
Passenger Cars:		8	0	8	2	7	9	136
2-axle Trucks:		0	1	1	1	1	2	40
3-axle Trucks:		0	0	0	0	0	0	16
4+-axle Trucks:		1	3	4	2	2	4	122
Total Truck Trips (PCE):		1	4	5	3	3	6	178
Total Trips (PCE) ²		9	4	13	5	10	15	314
Passenger Cars		44	9	53	12	41	53	466
Trucks		9	11	20	15	14	29	632
Total Trips (PCE)²		53	20	73	27	55	82	1,098

¹ TSF = thousand square feet

² Total Trips = Passenger Cars + Truck Trips.

4.1.3 TRIP GENERATION COMPARISON

Table 4-5 shows the trip generation comparison between the existing uses and the proposed Project. As shown, the Project is anticipated to generate a net increase of 818 PCE two-way trips per day with 53 net new PCE AM peak hour trips and 68 net new PCE PM peak hour trips. The TA utilizes the net change in trips identified in Table 4-5 for the off-site peak hour intersection operations analyses intersections, however, the full Project trip generation shown in Table 4-4 will be evaluated at the Project driveways on Edison Avenue.

TABLE 4-5: TRIP GENERATION COMPARISON TO EXISTING USE

	AM Peak Hour			PM Peak Hour			Daily
	In	Out	Total	In	Out	Total	
Actual Vehicles:							
Existing Use							
Passenger Cars:	8	1	9	1	13	14	178
Trucks:	3	2	5	0	0	0	48
Total Existing Trips (Actual Vehicles)	11	3	14	1	13	14	226
Proposed Project							
Passenger Cars:	44	9	53	12	41	53	466
Trucks:	4	5	9	6	7	13	254
Total Project Trips (Actual Vehicles)	48	14	62	18	48	66	720
Net New Trips							
Passenger Cars:	36	8	44	11	28	39	288
Trucks:	1	3	4	6	7	13	206
Net Change in Trips (Actual Vehicles)	37	11	48	17	35	52	494
Passenger Car Equivalent (PCE):							
Existing Use							
Passenger Cars:	8	1	9	1	13	14	178
Trucks:	7	4	11	0	0	0	102
Total Existing Trips (PCE)	15	5	20	1	13	14	280
Proposed Project							
Passenger Cars:	44	9	53	12	41	53	466
Trucks:	9	11	20	15	14	29	632
Total Project Trips (PCE)	53	20	73	27	55	82	1,098
Net New Trips							
Passenger Cars:	36	8	44	11	28	39	288
Trucks:	2	7	9	15	14	29	530
Net Change in Trips (PCE)	38	15	53	26	42	68	818

Note: Positive value represents a net increase in traffic in comparison to the Existing use.

4.1.4 GENERAL PLAN ADDENDUM

The Project is proposing an addendum to the City's current General Plan Environmental Impact Report (EIR). The General Plan identifies a land use designation of General Industrial which allows up to 0.6 floor area ratio (FAR) of development on the site. The Project site is 18.11 acres which equates to 473,323 square feet of General Industrial uses comprised of 236,662 square feet of General Light Industrial use and 236,661 square feet of Warehousing use that could be allowed under the current General Plan. Table 4-6 summarizes the trip generation associated with 473,323 square feet of General Industrial uses comprised of 236,662 square feet of General Light Industrial use and 236,661 square feet of Warehousing use as allowed under the current General Plan (refer to Table 4-2 for the Warehousing trip generation rates).

Table 4-7 shows the trip generation comparison between the 473,323 square feet of General Industrial (236,662 square feet of General Light Industrial use + 236,661 square feet of Warehousing) as allowed under the current General Plan to the proposed Project's 390,778 square-foot warehouse building (comprising of 98,808 square feet of high-cube cold storage warehouse use and 296,442 square feet of warehousing use). As shown, the Project is anticipated to generate a net reduction of 786 PCE two-way trips per day, with 155 fewer net PCE AM peak hour trips and 127 fewer net PCE PM peak hour trips than what could occur with the allowable use under the current General Plan. The General Plan land use assumption has conservatively assumed a lower generating land use category. In other words, if the General Plan land use is more intense than that presented in Table 4-6 via a more intense land use category such as all General Light Industrial or Manufacturing or the square footage is increased, then the net change in trips shown in Table 4-7 would be a higher negative value (resulting in a greater net reduction from the proposed Project).

TABLE 4-6: TRIP GENERATION SUMMARY FOR THE GENERAL PLAN LAND USE

Land Use ¹	Units ²	ITE LU Code	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Actual Vehicles:									
General Light Industrial ³	TSF	110	0.651	0.089	0.740	0.091	0.559	0.650	4.870
Passenger Cars (AM=98.6%, PM=98.5%, Daily=94.9%)			0.645	0.085	0.730	0.086	0.554	0.640	4.620
2-Axle Trucks (AM=0.23%, PM=0.25%, Daily=0.85%)			0.001	0.001	0.002	0.001	0.001	0.002	0.042
3-Axle Trucks (AM=0.29%, PM=0.31%, Daily=1.05%)			0.001	0.001	0.002	0.001	0.001	0.002	0.052
4+-Axle Trucks (AM=0.88%, PM=0.94%, Daily=3.20%)			0.004	0.002	0.006	0.003	0.003	0.006	0.157

¹ Trip Generation & Vehicle Mix Source: Institute of Transportation Engineers (ITE), Trip Generation Manual, Eleventh Edition (2021).

² TSF = thousand square feet

³ Truck Mix: South Coast Air Quality Management District's (SCAQMD) recommended truck mix, by axle type.

Normalized % - Without Cold Storage: 16.7% 2-Axle trucks, 20.7% 3-Axle trucks, 62.6% 4-Axle trucks.

Land Use	Quantity	Units ¹	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Actual Vehicles:									
General Plan - General Light Industrial (50%)	236.662	TSF							
Passenger Cars:			153	20	173	20	131	151	1,094
2-axle Trucks:			0	0	0	0	0	0	10
3-axle Trucks:			0	0	0	0	0	0	12
4+-axle Trucks:			1	1	2	1	1	2	38
Total Truck Trips (Actual Vehicles):			1	1	2	1	1	2	60
General Plan - Warehousing (50%)	236.661	TSF							
Passenger Cars:			28	7	35	8	27	35	264
2-axle Trucks:			0	0	0	1	0	1	24
3-axle Trucks:			0	1	1	1	1	2	30
4+-axle Trucks:			2	1	3	2	2	4	90
Total Truck Trips (Actual Vehicles):			2	2	4	4	3	7	144
Total Trips (Actual Vehicles)²			184	30	214	33	162	195	1,562
Passenger Car Equivalent (PCE)									
General Plan - General Light Industrial (50%)	236.662	TSF							
Passenger Cars:			153	20	173	20	131	151	1,094
2-axle Trucks:			0	0	0	0	0	0	16
3-axle Trucks:			0	1	1	0	1	1	24
4+-axle Trucks:			3	2	5	2	2	4	112
Total Truck Trips (PCE):			3	3	6	2	3	5	152
General Plan - Warehousing (50%)	236.661	TSF							
Passenger Cars:			28	7	35	8	27	35	264
2-axle Trucks:			1	0	1	1	1	2	36
3-axle Trucks:			1	1	2	1	2	3	60
4+-axle Trucks:			5	4	9	7	6	13	268
Total Truck Trips (PCE):			7	5	12	9	9	18	364
Total Trips (PCE)²			191	35	226	39	170	209	1,874

¹ TSF = thousand square feet

² Total Trips = Passenger Cars + Truck Trips.

TABLE 4-7: TRIP GENERATION COMPARISON TO GENERAL PLAN LAND USE

	AM Peak Hour			PM Peak Hour			Daily
	In	Out	Total	In	Out	Total	
Actual Vehicles:							
General Plan Land Use: Light Industrial/Warehousing							
Passenger Cars:	181	27	208	28	158	186	1,358
Trucks:	3	3	6	5	4	9	204
Total General Plan Trips (Actual Vehicles)	184	30	214	33	162	195	1,562
Proposed Project							
Passenger Cars:	42	9	51	12	41	53	464
Trucks:	4	5	9	6	7	13	254
Total Project Trips (Actual Vehicles)	46	14	60	18	48	66	718
Net New Trips							
Passenger Cars:	-139	-18	-157	-16	-117	-133	-894
Trucks:	1	2	3	1	3	4	50
Net Change in Trips (Actual Vehicles)	-138	-16	-154	-15	-114	-129	-844
Passenger Car Equivalent (PCE):							
General Plan Land Use: Light Industrial/Warehousing							
Passenger Cars:	181	27	208	28	158	186	1,358
Trucks:	10	8	18	11	12	23	516
Total General Plan Trips (PCE)	191	35	226	39	170	209	1,874
Proposed Project							
Passenger Cars:	42	9	51	12	41	53	464
Trucks:	9	11	20	15	14	29	624
Total Project Trips (PCE)	51	20	71	27	55	82	1,088
Net New Trips							
Passenger Cars:	-139	-18	-157	-16	-117	-133	-894
Trucks:	-1	3	2	4	2	6	108
Net Change in Trips (PCE)	-140	-15	-155	-12	-115	-127	-786

Note: Negative value represents a net reduction in traffic in comparison to the approved General Plan land use.

4.2 PROJECT TRIP DISTRIBUTION

Vehicular access will be provided via two driveways on Edison Avenue and both driveways are proposed to allow for full access (e.g., no turn restrictions). Regional access to the Project site is accommodated from the SR-71 Freeway via Edison Avenue, and the SR-60 Freeway via Central Avenue or Ramona Avenue.

The Project trip distribution represents the directional orientation of traffic to, and from, the Project site. Trip distribution is the process of identifying the probable destinations, directions, or traffic routes that will be utilized by Project traffic. The potential interaction between the planned land uses and surrounding regional access routes are considered, to identify the route where the Project traffic would distribute. Exhibits 4-1 and 4-2 show the Project truck and passenger car trip distribution patterns, respectively. Truck distribution patterns are based on truck routes, the site's proximity to the regional freeway system and likely distribution of traffic if a future tenant is known. The truck trip distribution patterns utilize the surrounding City truck routes: Monte Vista Avenue, Edison Avenue, and Central Avenue. Passenger car distribution patterns are based on existing and planned land uses in the area along with the planned circulation system. Each of these distribution patterns is part of the TA scoping process (see Appendix 1.1).

4.3 MODAL SPLIT

The potential for Project trips (non-truck) to be reduced by the use of public transit, walking, or bicycling have not been included as part of the Project's estimated trip generation. Essentially, the Project's traffic projections are "conservative" in that these alternative travel modes would reduce the forecasted traffic volumes.

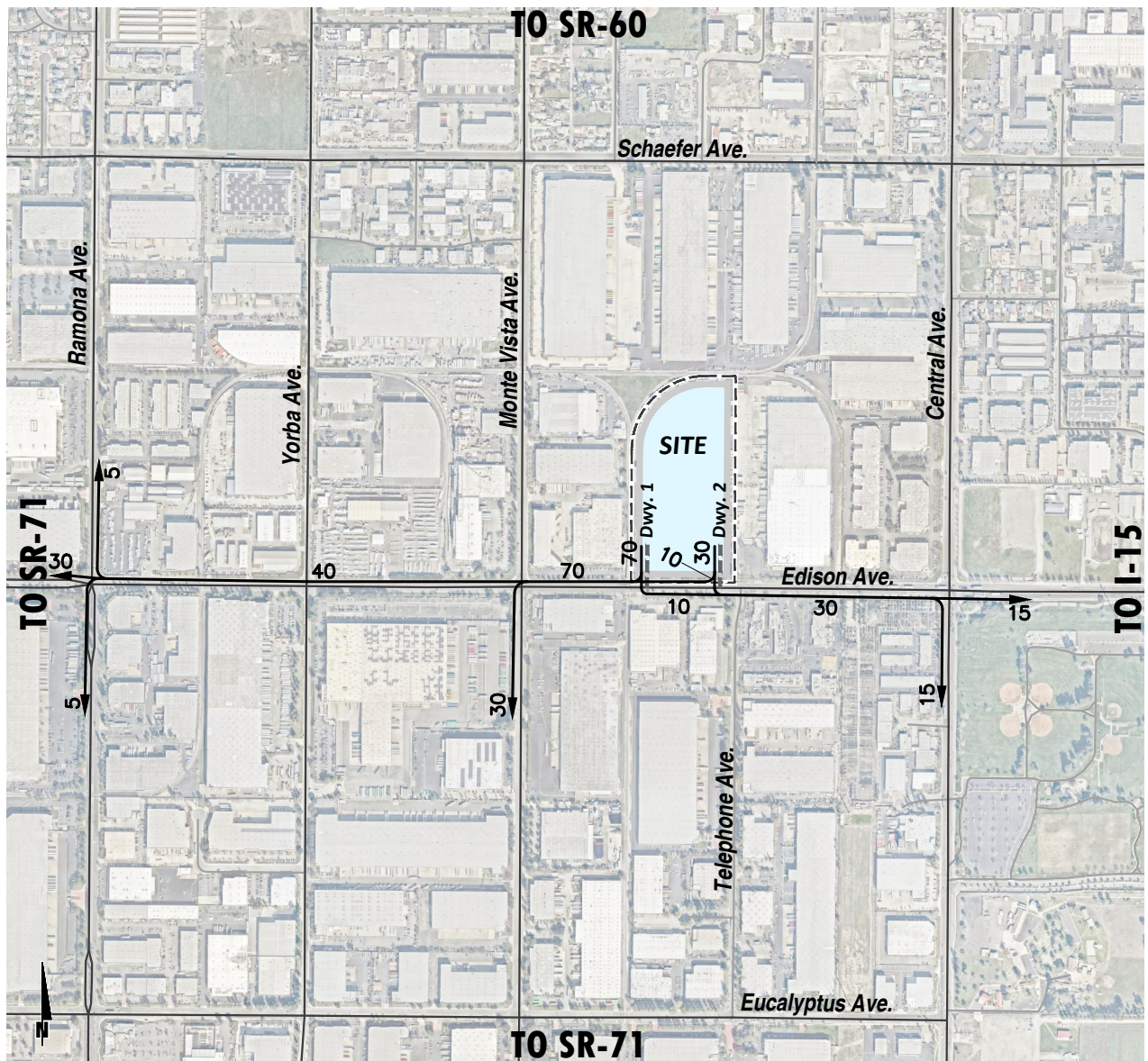
4.4 PROJECT TRIP ASSIGNMENT

The assignment of traffic from the Project area to the adjoining roadway system is based upon the Project trip generation, trip distribution, and the arterial highway and local street system improvements that would be in place by the time of initial occupancy of the Project. Based on the updated Project traffic generation and trip distribution patterns, Project weekday ADT and weekday peak hour intersection turning movement volumes, in actual vehicles and PCE, are shown on Exhibits 4-3 and 4-4, respectively. Based on the identified trip generation comparison and trip distribution patterns, the Project weekday ADT and weekday peak hour intersection turning movement volumes, in actual vehicles and PCE, are shown on Exhibit 4-5 and 4-6, respectively.

4.5 BACKGROUND TRAFFIC

Traffic generated by the development of future projects that have been approved but not yet built and/or for which development applications have been filed and are under consideration by governing agencies have been added to daily and peak hour traffic volumes on surrounding roadways. Opening Year Cumulative (2027) traffic volumes are provided in Section 6 of this TA. The traffic generated by the proposed Project was then manually added to the base volume to determine Opening Year Cumulative "With Project" forecasts.

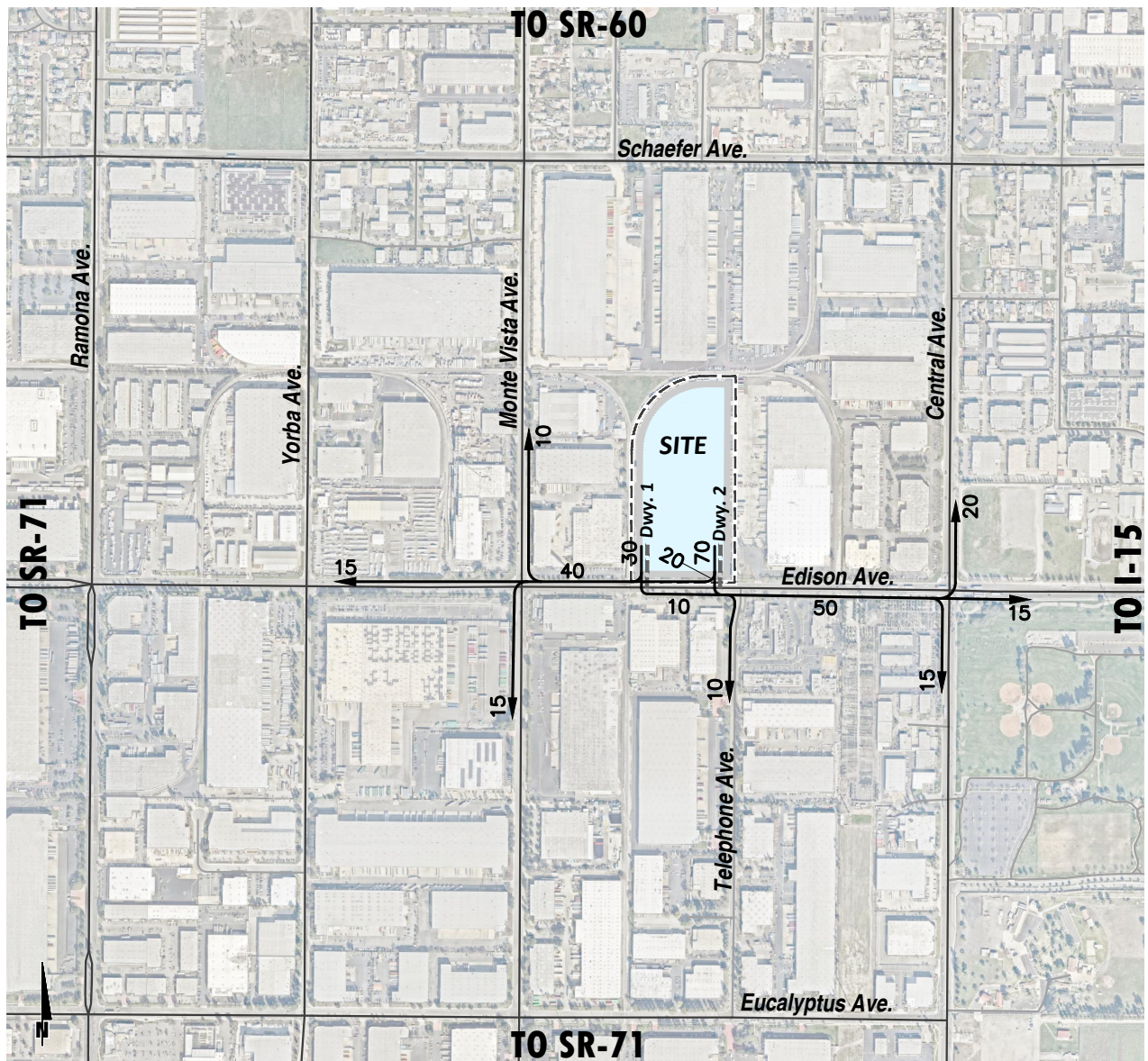
EXHIBIT 4-1 : PROJECT (TRUCK) TRIP DISTRIBUTION



LEGEND:

- 10 = Truck Percent To/From Project
- = Trip Distribution

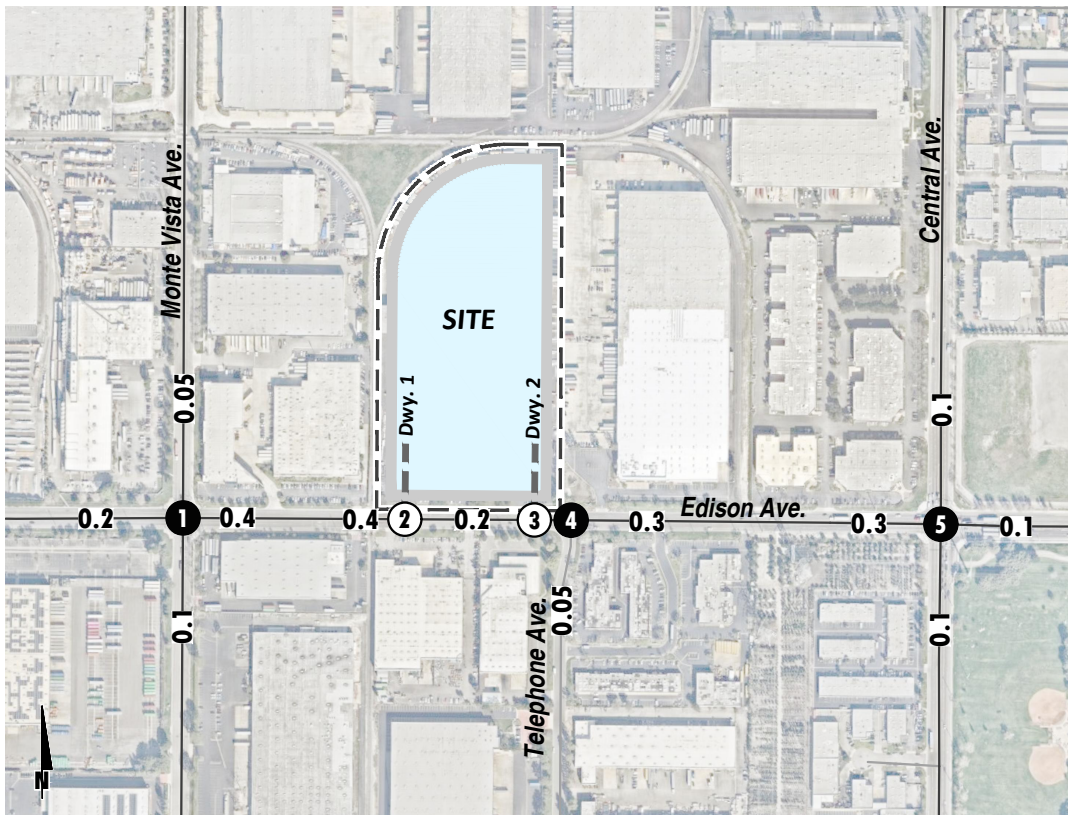
EXHIBIT 4-2 : PROJECT (PASSENGER CAR) TRIP DISTRIBUTION



LEGEND:

- 10 = Car Percent To/From Project
- ➔ = Trip Distribution

EXHIBIT 4-3 : PROJECT ONLY TRAFFIC VOLUMES (ACTUAL VEHICLES)



LEGEND:

- ①** = Existing Intersection Analysis Location
- ②** = Future Intersection Analysis Location
- 00** = Average Daily Traffic (ADT) in Thousands

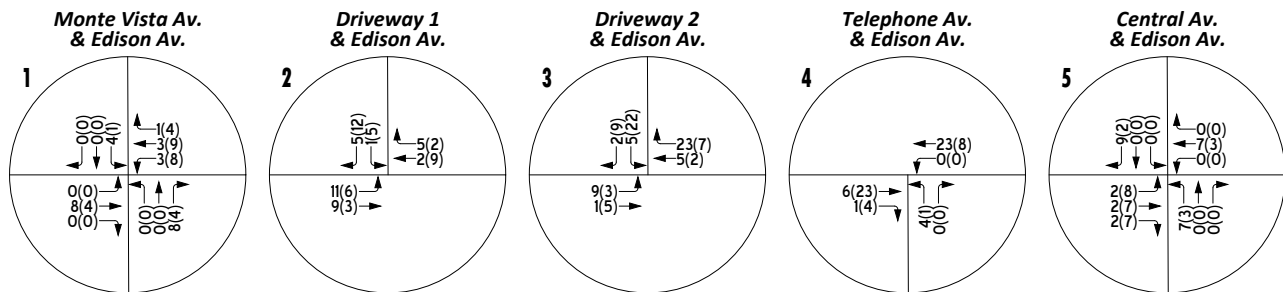
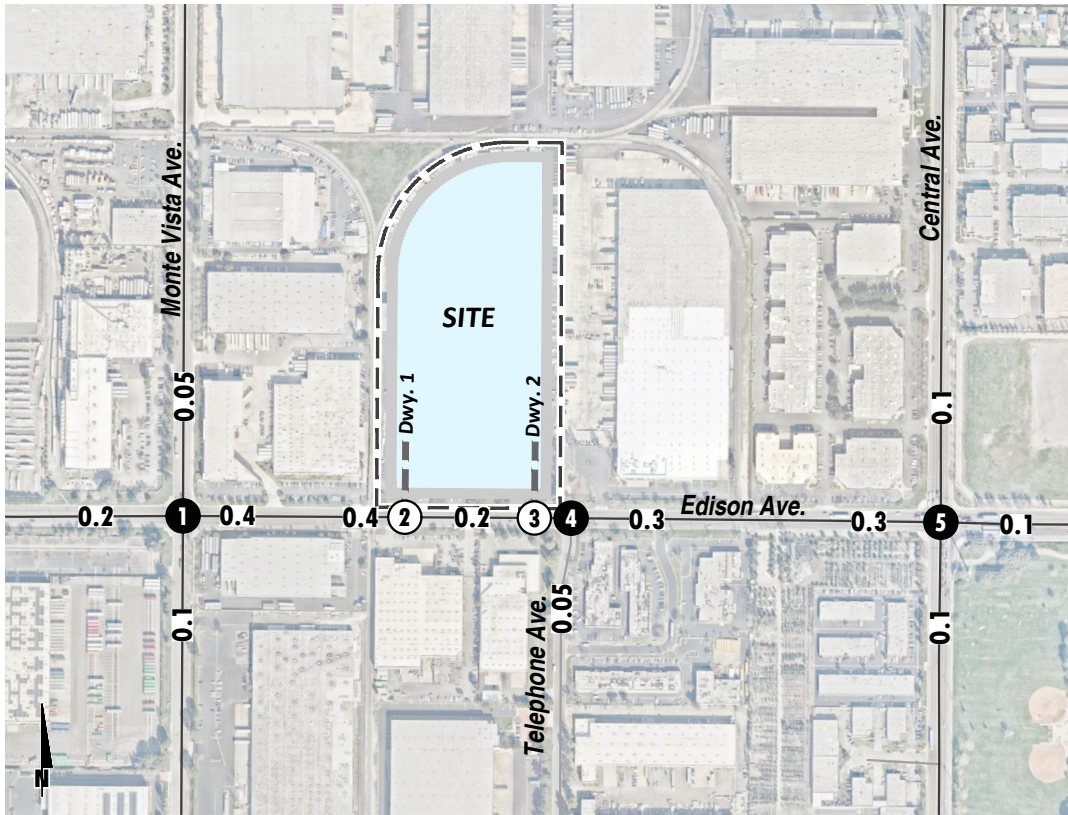


EXHIBIT 4-4 : PROJECT ONLY TRAFFIC VOLUMES (PCE)



LEGEND:

- 0** = Existing Intersection Analysis Location
- = Future Intersection Analysis Location
- 00** = Average Daily Traffic (ADT) in Thousands

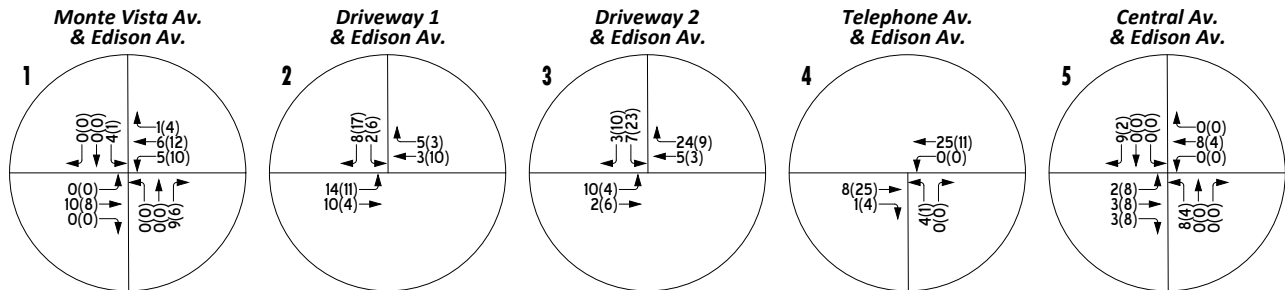
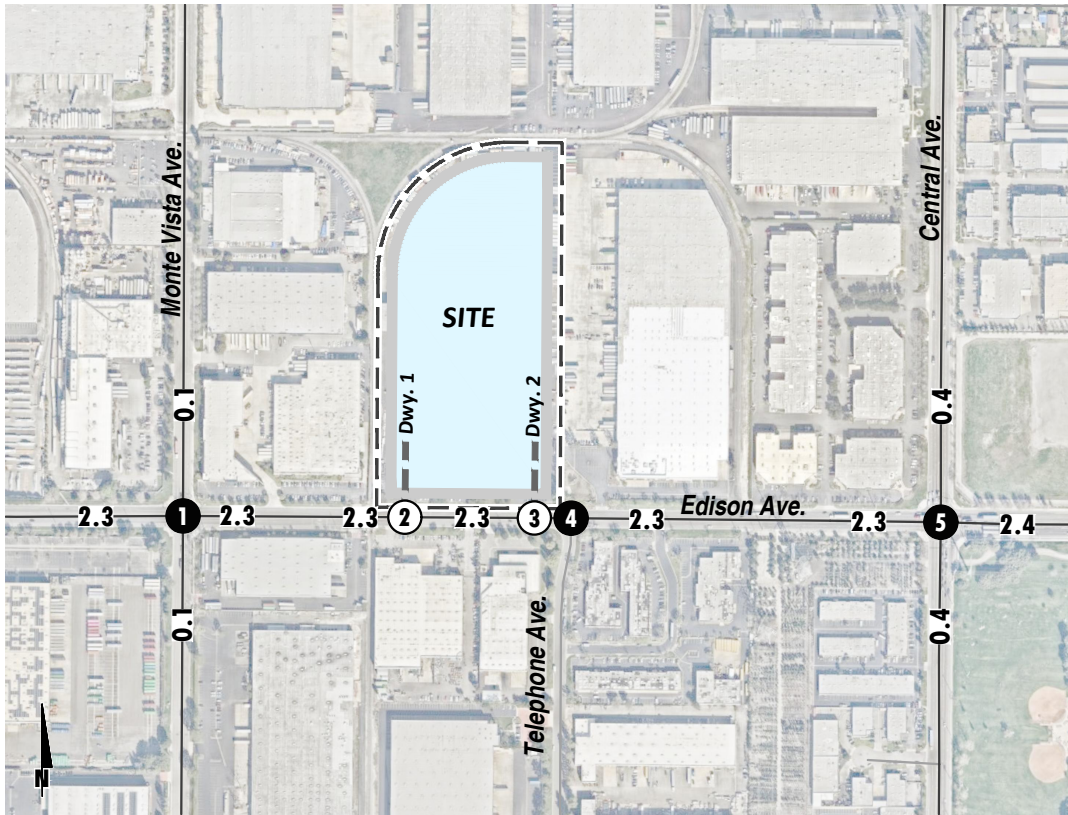


EXHIBIT 4-5 : PROJECT (NET DIFFERENCE) TRAFFIC VOLUMES (ACTUAL VEHICLES)



LEGEND:

- ①** = Existing Intersection Analysis Location
- ②** = Future Intersection Analysis Location
- 00** = Average Daily Traffic (ADT) in Thousands

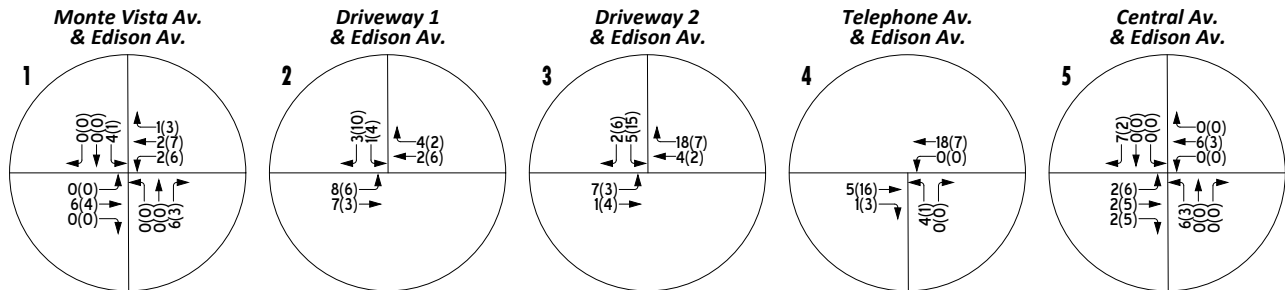
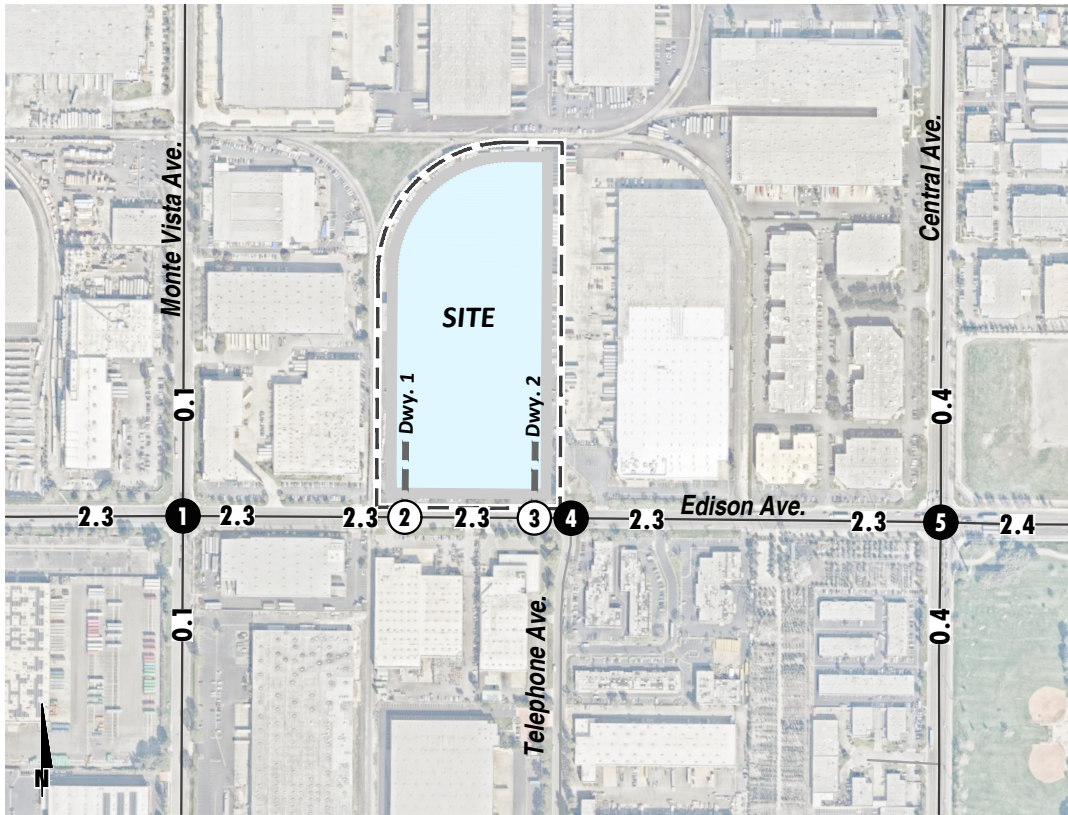
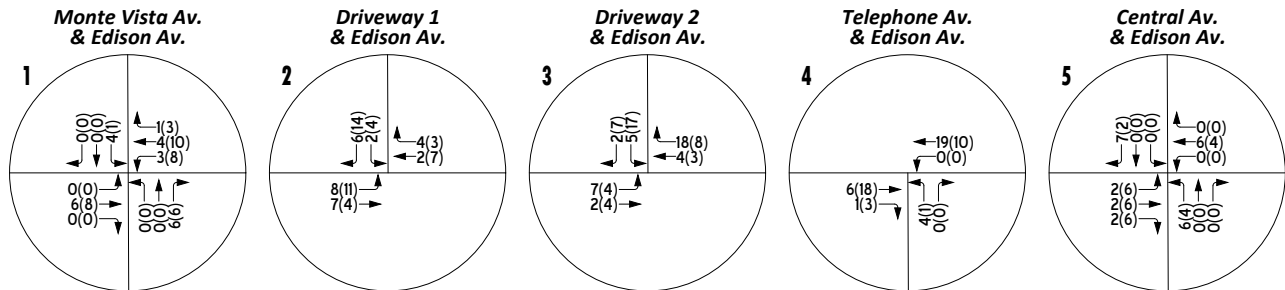


EXHIBIT 4-6 : PROJECT (NET DIFFERENCE) TRAFFIC VOLUMES (PCE)



LEGEND:

- ①** = Existing Intersection Analysis Location
- ②** = Future Intersection Analysis Location
- 00** = Average Daily Traffic (ADT) in Thousands



4.6 CUMULATIVE DEVELOPMENT TRAFFIC

A cumulative project list was developed for the purposes of this analysis through consultation with planning and engineering staff from the City of Chino. The cumulative projects listed are those that would generate traffic and contribute traffic to study area intersections. Exhibit 4-7 illustrates the cumulative development location map. A summary of cumulative development projects and their proposed land uses are shown in Table 4-8. If applicable, the traffic generated by individual cumulative projects was manually added to the Opening Year Cumulative forecasts to ensure that traffic generated by the listed cumulative development projects in Table 4-8 is reflected as part of the background traffic. In an effort to conduct a conservative analysis, the cumulative projects are added in conjunction with the ambient growth identified in Section 4.5 *Background Traffic*. Cumulative ADT and peak hour intersection turning movement volumes, in actual vehicles, are shown on Exhibit 4-8.

TABLE 4-8: CUMULATIVE DEVELOPMENT LAND USE SUMMARY (1 OF 2)

#	Project/Location	Land Use	Quantity Units ¹
City of Chino			
C1	4416 Riverside Drive	Fast-Food Restaurant with Drive-Thru	4.925 TSF
C2	PL18-0057	Assisted Living Facility	110.02 TSF
C3	NWC Eucalyptus Avenue and Central Avenue	General Light Industrial	49.592 TSF
C4	15022 La Palma	General Light Industrial	15.460 TSF
C5	East End and County Industrial	High-Cube Fulfillment Center Warehouse	212.251 TSF
		Industrial Park	55.534 TSF
C6	13404 Yorba Avenue	General Light Industrial	325.300 TSF
	13461 Ramona Avenue	Office Building	59.798 TSF
C7	5319 Anderson Street	Office Building	16.000 TSF
C8	6132 Riverside Drive	Retail Building	6.435 TSF
		Drive-Thru Car Wash	3.605 TSF
		Drive-Thru Restaurant	2.312 TSF
C9	The Campus at College Park	Church	27.000 TSF
		General Office	16.969 TSF
		Commercial Retail	17.785 TSF
C10	13610 Yorba Avenue	High Turnover (Sit-Down) Restaurant	15.876 TSF
		Warehousing	284.73 TSF
C11	13925 Benson Avenue	Warehousing	145.500 TSF
C12	Eden Mixed-Use	Self-Storage Facility	145.000 TSF
		Multifamily (Mid-Rise) Residential	282 DU
		Retail Shops	3.100 TSF
		Fast-Food Restaurant without Drive-Thru	9.400 TSF
		Fast-Food Restaurant with Drive-Thru	7.000 TSF
C13	The Center at Pipeline	Commercial Retail	23.850 TSF
C14	Chino Creek Apartments	Apartments	298.000 DU
C15	PL18-0047 & PL18-0048	Gas Station	4.120 TSF
		Convenience Store	3.200 TSF
		Quick Service Restaurant	1.800 TSF
		Express Car Wash	1.540 TSF
C16	PL23-0059	Industrial	93.720 TSF
C17	Apartments	Apartments	95 DU

TABLE 4-8: CUMULATIVE DEVELOPMENT LAND USE SUMMARY (2 OF 2)

#	Project/Location	Land Use	Quantity Units ¹
City of Ontario			
		Truck/Trailer Parking Lot	12.2 AC
		Warehousing	972.817 TSF
		Business Park	191.378 TSF
01	Euclid Mixed-Use Specific Plan	Multifamily Housing	466 DU
		Fast-Food Restaurant without Drive-Thru	10.000 TSF
		Fast-Food Restaurant with Drive-Thru	10.000 TSF
		Shopping Center	10.225 TSF
02	Ontario Ranch Business Park	High-Cube Fulfillment Warehouse	1019.317 TSF
		High-Cube Cold Storage Warehouse	200.000 TSF
		Warehouse	357.836 TSF
		Business Park	327.874 TSF
03	South Ontario Logistics Center	Business Park	601.128 TSF
		Fulfillment Center Warehouse	1671.574 TSF
		High-Cube Cold Storage Warehouse	334.315 TSF
		Warehouse	565.763 TSF
City of Chino Hills			
CH1	The Common at Chino Hills - Farou Foods Restaurant	Restaurant	6.000 TSF
CH2	GoStoreIt Self-Storage	Self-Storage	106.315 TSF
CH3	Rancho Cielito	Multifamily Housing (Low-Rise)	166 DU
		Multifamily Housing (Mid-Rise)	188 DU
CH4	Reserve at Chino Hills Apartment Complex	Apartments	42 DU

¹ TSF = Thousand Square Feet; DU = Dwelling Unit; AC = Acres

EXHIBIT 4-7 : CUMULATIVE DEVELOPMENT LOCATION MAP

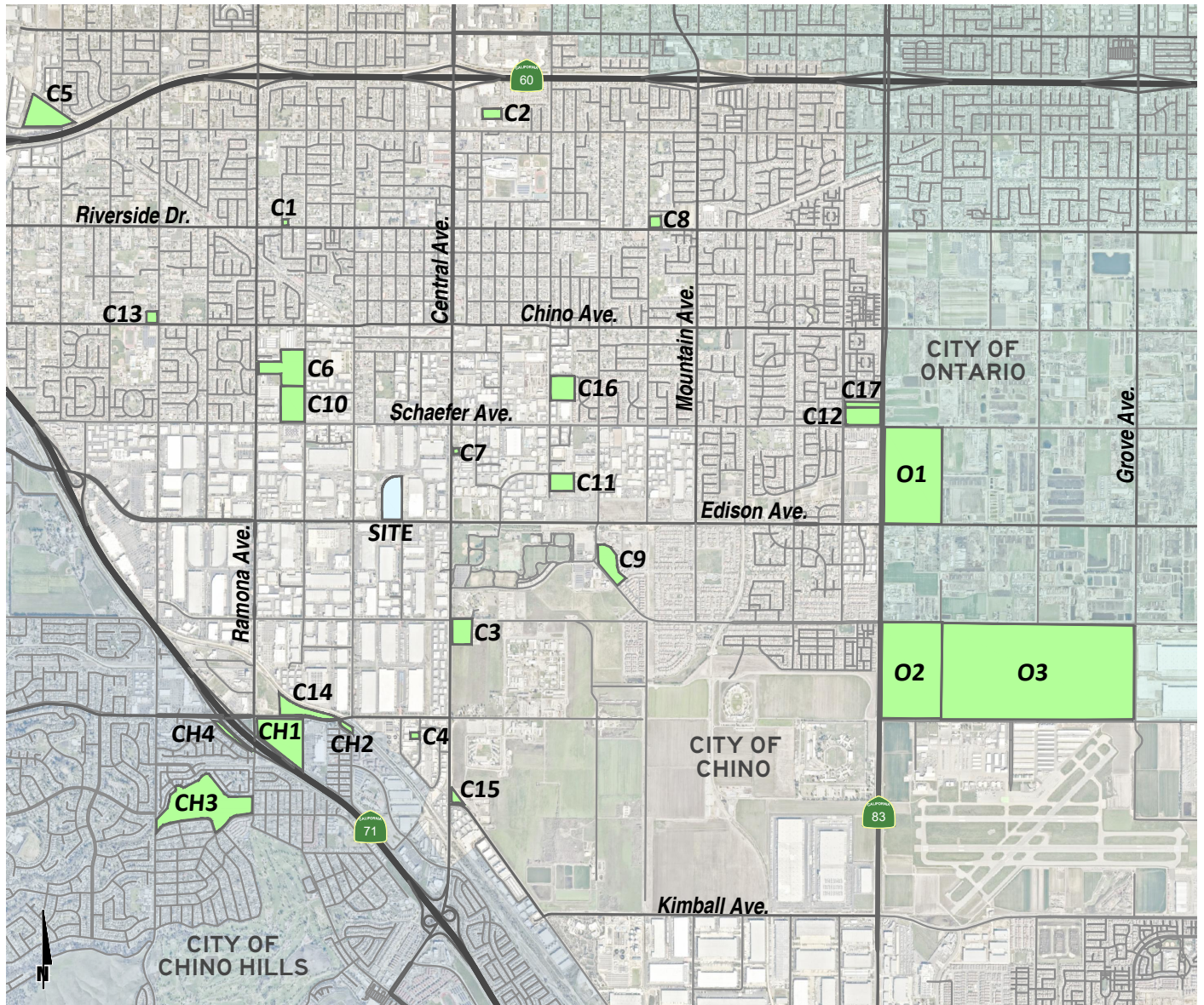
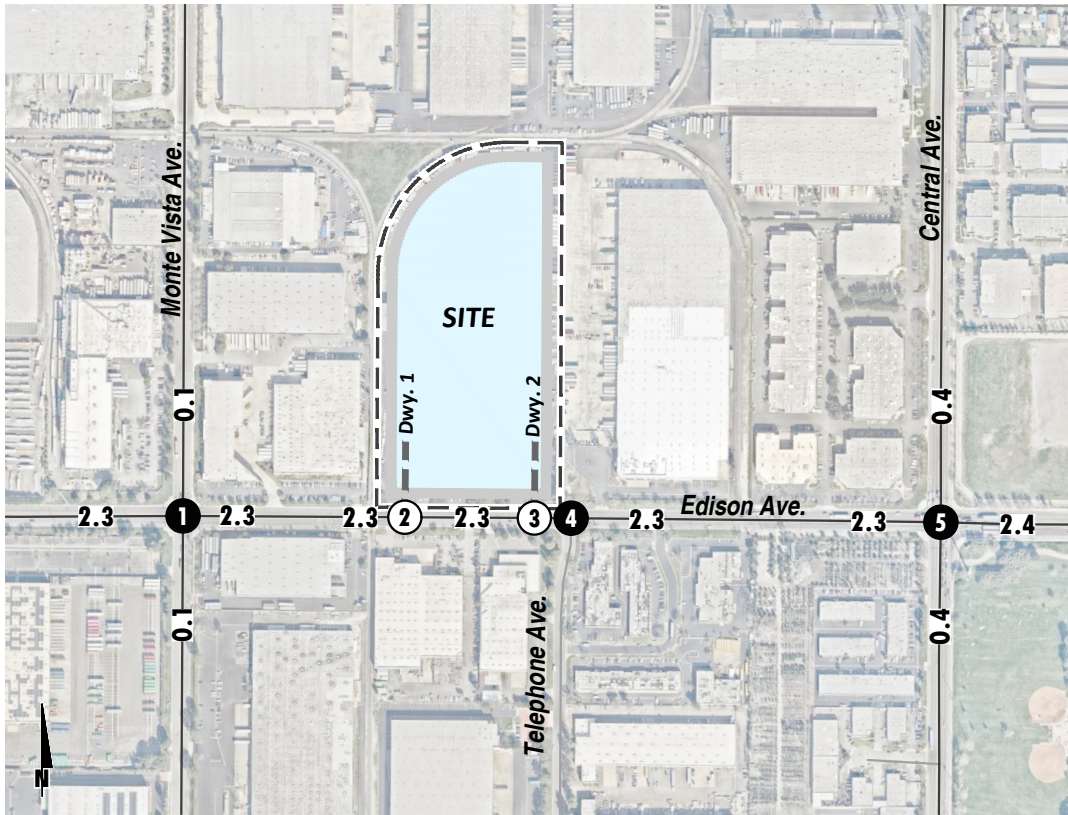
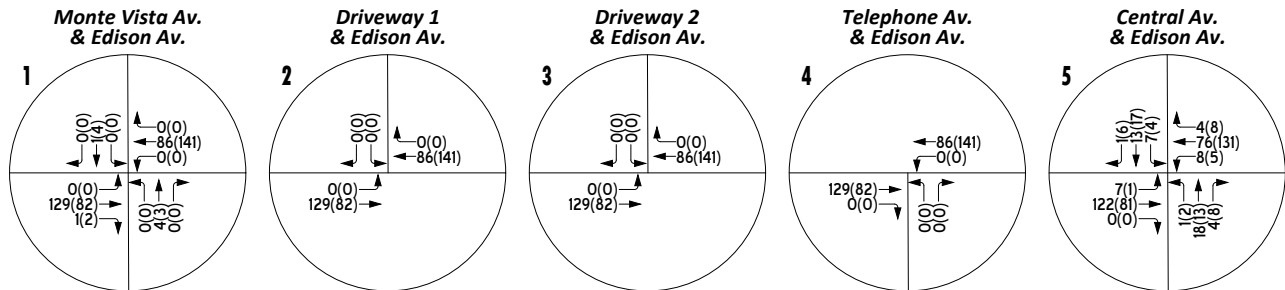


EXHIBIT 4-8 : CUMULATIVE ONLY TRAFFIC VOLUMES (ACTUAL VEHICLES)



LEGEND:

- = Existing Intersection Analysis Location
- = Future Intersection Analysis Location
- 00** = Average Daily Traffic (ADT) in Thousands



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5 E+P TRAFFIC CONDITIONS

This section discusses the traffic forecasts for E+P conditions and the resulting intersection operations and traffic signal warrant analyses.

5.1 ROADWAY IMPROVEMENTS

The lane configurations and traffic controls assumed to be in place for E+P conditions are consistent with those shown previously on Exhibit 3-1, with the exception of the following:

- Project driveways and those facilities assumed to be constructed by the Project to provide site access are also assumed to be in place for E+P conditions only (e.g., intersection and roadway improvements at the Project’s frontage and driveways).

5.2 E+P TRAFFIC VOLUME FORECASTS

This scenario includes Existing traffic volumes plus Project traffic. The weekday ADT and weekday peak hour intersection turning movement volumes which can be expected for E+P traffic conditions are shown on Exhibit 5-1.

5.3 INTERSECTION OPERATIONS ANALYSIS

E+P peak hour traffic operations have been evaluated for the study area intersections based on the analysis methodologies presented in Section 2 *Methodologies* of this TA. The intersection analysis results are summarized in Table 5-1 for E+P traffic conditions, which indicate that all of the study area intersections are anticipated to continue to operate at an acceptable LOS under E+P traffic conditions, consistent with Existing (2024) traffic conditions. The intersection operations analysis worksheets for E+P traffic conditions are included in Appendix 5.1 of this TA.

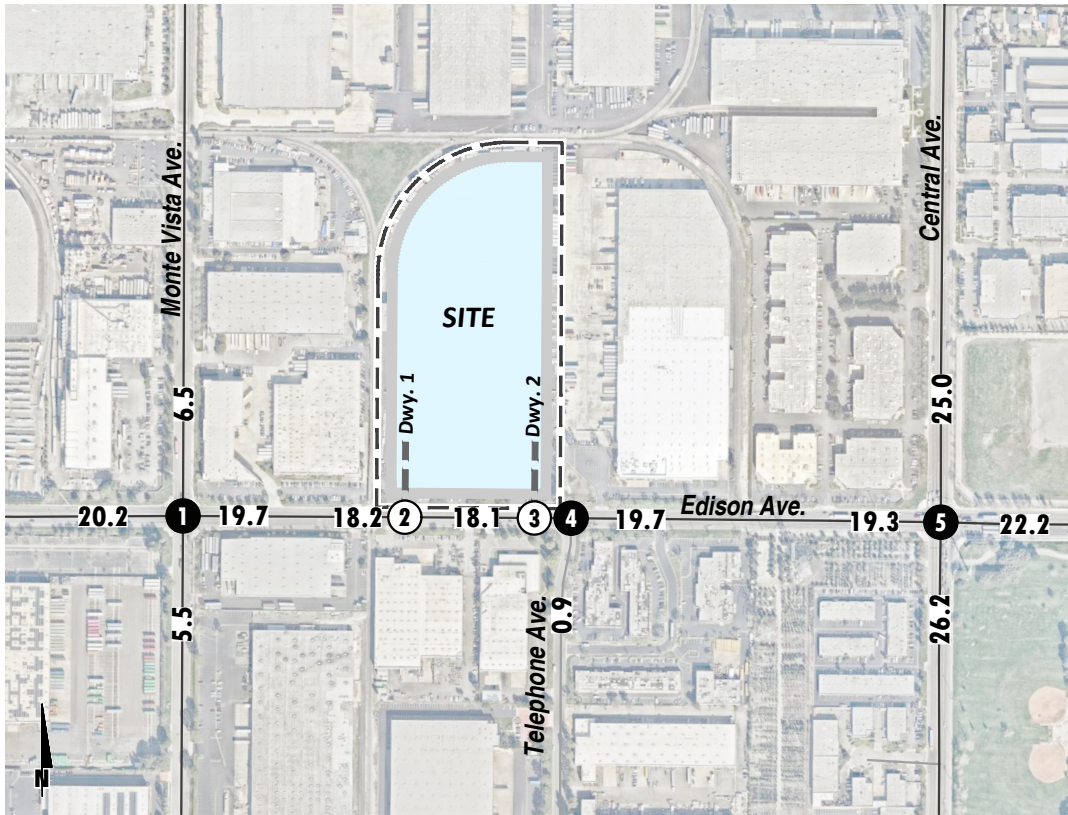
TABLE 5-1: INTERSECTION ANALYSIS FOR E+P CONDITIONS

#	Intersection	Traffic Control ²	Existing (2024)				E+P			
			Delay ¹ (secs.)		Level of Service		Delay ¹ (secs.)		Level of Service	
			AM	PM	AM	PM	AM	PM	AM	PM
1	Monte Vista Av. & Edison Av.	TS	17.1	18.7	B	B	17.3	19.1	B	B
2	Driveway 1 & Edison Av.	<u>CSS</u>	Future Intersection				12.2	13.2	B	B
3	Driveway 2 & Edison Av.	<u>CSS</u>	Future Intersection				15.2	17.4	C	C
4	Telephone Av. & Edison Av.	CSS	14.8	26.6	B	D	15.0	27.4	C	D
5	Central Av. & Edison Av.	TS	26.6	42.6	C	D	27.1	43.4	C	D

Per the Highway Capacity Manual (7th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown. HCM delay reported in seconds.

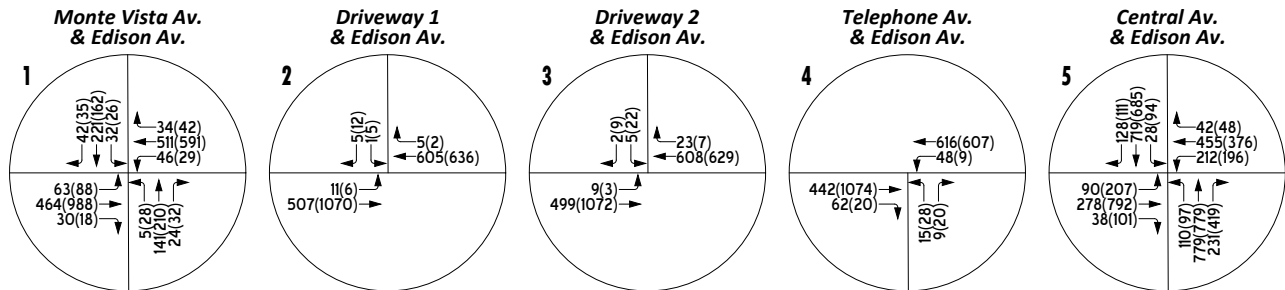
² TS = Traffic Signal; CSS = Cross-street Stop; CSS = Improvement

EXHIBIT 5-1 : E+P TRAFFIC VOLUMES (ACTUAL VEHICLES)



LEGEND:

- = Existing Intersection Analysis Location
- = Future Intersection Analysis Location
- 00** = Average Daily Traffic (ADT) in Thousands



5.4 TRAFFIC SIGNAL WARRANTS ANALYSIS

The traffic signal warrant analysis for E+P traffic conditions is based on the peak hour volumes or planning level ADT volume-based traffic signal warrants. No study area intersections are anticipated to meet either peak hour volume or ADT volume-based warrants with the addition of Project traffic (see Appendix 5.2).

5.5 ROADWAY SEGMENT ANALYSIS

The roadway capacities utilized for the study area roadway segment analysis are obtained from the City’s General Plan. These roadway segment capacities are approximate figures only and are used at the General Plan level to assist in determining the roadway functional classification (number of through lanes) needed to meet traffic demand.

Table 5-2 provides a summary of the E+P traffic conditions roadway segment capacity analysis. As shown in Table 5-2, all study area roadway segments are anticipated to continue to operate at an acceptable LOS based on the daily roadway capacity thresholds and minimum LOS criteria.

TABLE 5-2: ROADWAY SEGMENT CAPACITY ANALYSIS FOR E+P CONDITIONS

#	Roadway	Segment Limits	Roadway Section	LOS Capacity ¹	Existing (2024)			E+P		
					Vol	V/C ²	LOS ³	Vol	V/C ²	LOS ³
1	Edison Avenue	Monte Vista Avenue to Telephone Avenue	4D	35,900	19,420	0.541	A	19,680	0.548	A
2	Edison Avenue	Telephone Avenue to Central Avenue	4D	35,900	19,454	0.542	A	19,660	0.548	A

¹ These maximum roadway capacities are based on the City’s General Plan.

² V/C = Volume to Capacity Ratio

³ LOS = Level of Service

5.6 NEAR-TERM DEFICIENCIES AND IMPROVEMENTS

All study area intersections and roadway segments are anticipated to continue to operate at an acceptable LOS during the AM and PM peak hours under E+P traffic conditions. As such, no improvements, aside from those that are needed to facilitate site access, have been identified for E+P traffic conditions.

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6 OPENING YEAR CUMULATIVE (2027) TRAFFIC CONDITIONS

This section discusses the methods used to develop Opening Year Cumulative (2027) Without and With Project traffic forecasts, and the resulting intersection operations and traffic signal warrant analyses.

6.1 ROADWAY IMPROVEMENTS

The lane configurations and traffic controls assumed to be in place for Opening Year Cumulative (2027) conditions are consistent with those shown previously on Exhibit 3-1, with the exception of the following:

- Project driveways and those facilities assumed to be constructed by the Project to provide site access are also assumed to be in place for Opening Year Cumulative conditions only (e.g., intersection and roadway improvements along the Project's frontage and driveways).
- If applicable, driveways and those facilities assumed to be constructed by cumulative developments to provide site access are also assumed to be in place for Opening Year Cumulative conditions only.

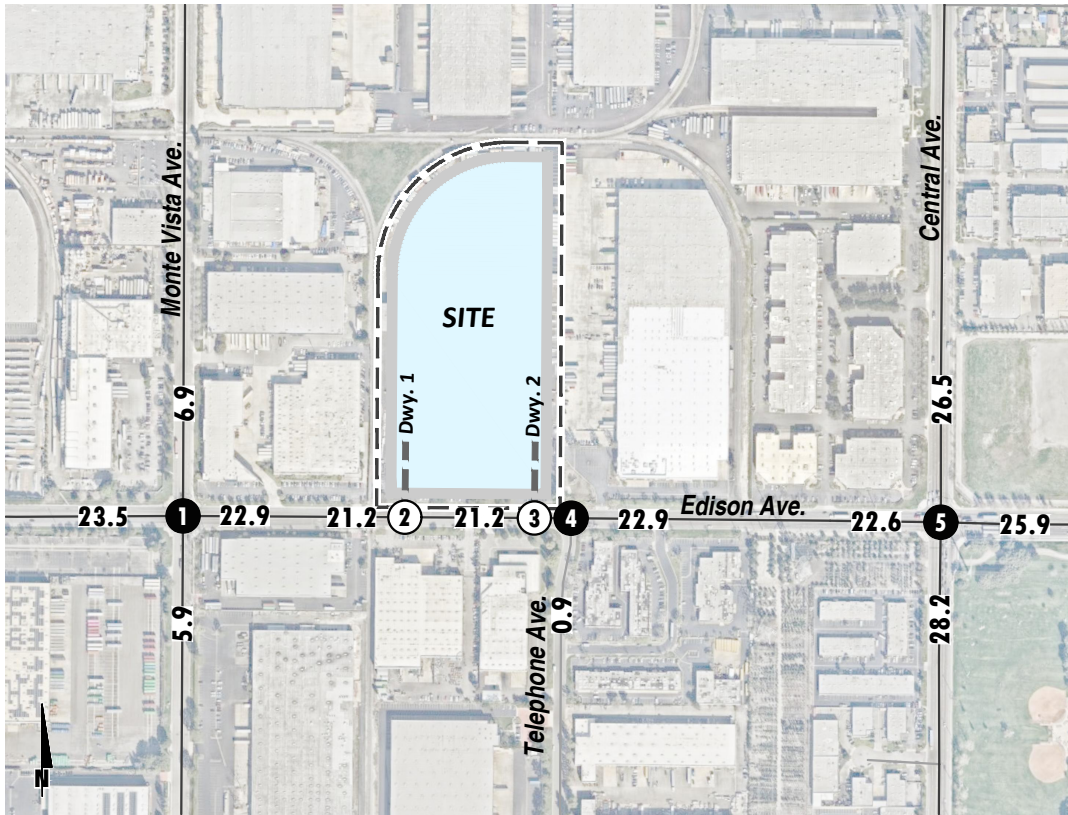
6.2 WITHOUT PROJECT TRAFFIC VOLUME FORECASTS

This scenario includes Existing traffic volumes, plus an ambient growth rate of 6.12%, plus traffic from pending and approved but not yet constructed known development projects in the area. The weekday ADT and weekday AM and PM peak hour volumes which can be expected for Opening Year Cumulative (2027) Without Project traffic conditions are shown on Exhibit 6-1.

6.3 WITH PROJECT TRAFFIC VOLUME FORECASTS

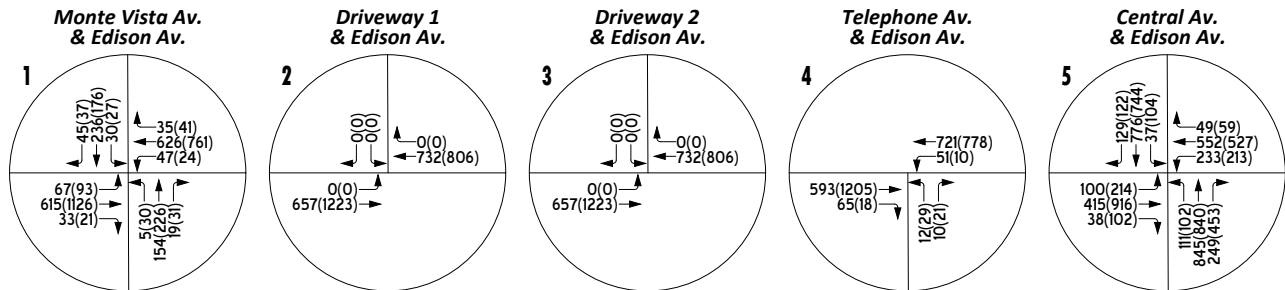
This scenario includes Opening Year Cumulative (2027) Without Project traffic in conjunction with the addition of Project traffic. The weekday ADT and weekday AM and PM peak hour volumes which can be expected for Opening Year Cumulative (2027) With Project traffic conditions are shown on Exhibit 6-2.

**EXHIBIT 6-1 : OPENING YEAR CUMULATIVE (2027)
WITHOUT PROJECT TRAFFIC VOLUMES (ACTUAL VEHICLES)**

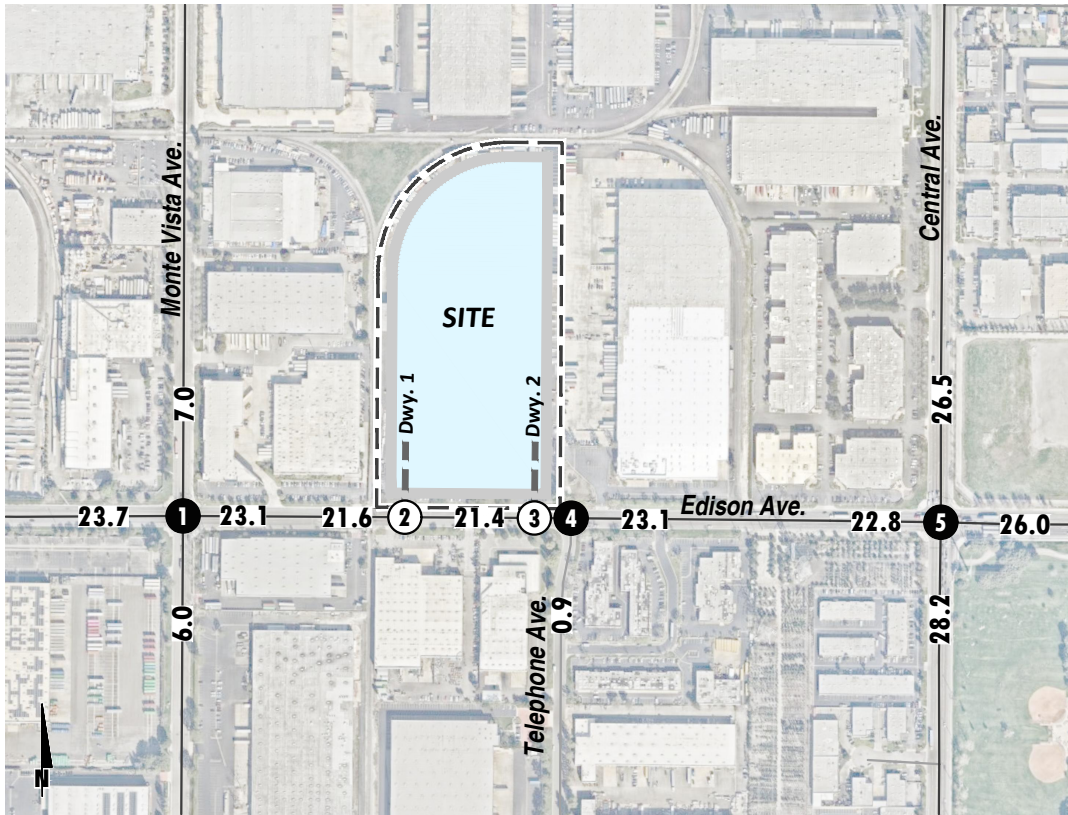


LEGEND:

- = Existing Intersection Analysis Location
- = Future Intersection Analysis Location
- 00** = Average Daily Traffic (ADT) in Thousands

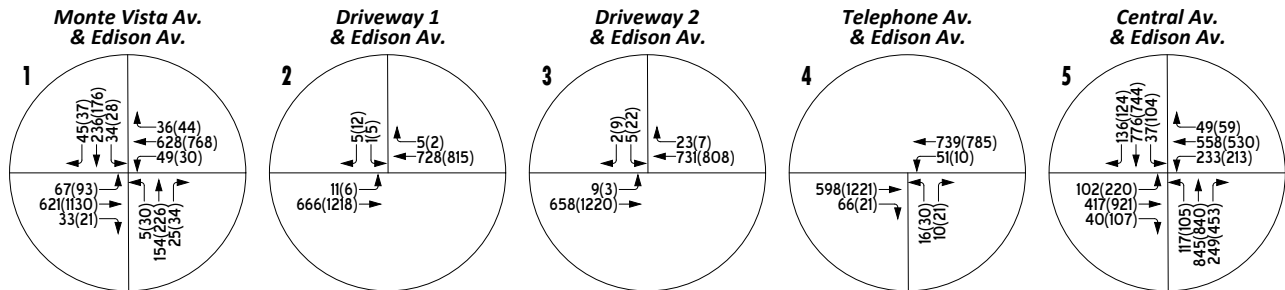


**EXHIBIT 6-2 : OPENING YEAR CUMULATIVE (2027)
WITH PROJECT TRAFFIC VOLUMES (ACTUAL VEHICLES)**



LEGEND:

- ①** = Existing Intersection Analysis Location
- ②** = Future Intersection Analysis Location
- 00** = Average Daily Traffic (ADT) in Thousands



6.4 INTERSECTION OPERATIONS ANALYSIS

6.4.1 OPENING YEAR CUMULATIVE (2027) WITHOUT PROJECT TRAFFIC CONDITIONS

LOS calculations were conducted for the study intersections to evaluate their operations under Opening Year Cumulative (2027) Without Project conditions with roadway and intersection geometrics consistent with Section 6.1 *Roadway Improvements*. The intersection analysis results are summarized in Table 6-1, which indicate that all of the study area intersections are anticipated to operate at an acceptable LOS under Opening Year Cumulative (2027) Without Project traffic conditions. The intersection operations analysis worksheets for Opening Year Cumulative (2027) Without Project traffic conditions are included in Appendix 6.1 of this TA.

TABLE 6-1: INTERSECTION ANALYSIS FOR OPENING YEAR CUMULATIVE (2027) CONDITIONS

#	Intersection	Traffic Control ²	2027 Without Project				2027 With Project			
			Delay ¹ (secs.)		Level of Service		Delay ¹ (secs.)		Level of Service	
			AM	PM	AM	PM	AM	PM	AM	PM
1	Monte Vista Av. & Edison Av.	TS	17.9	20.0	B	B	18.0	20.5	B	C
2	Driveway 1 & Edison Av.	<u>CSS</u>	Future Intersection				13.3	15.1	B	C
3	Driveway 2 & Edison Av.	<u>CSS</u>	Future Intersection				17.4	21.0	C	C
4	Telephone Av. & Edison Av.	CSS	17.1	33.5	C	D	17.5	34.7	C	D
5	Central Av. & Edison Av.	TS	32.4	54.4	C	D	33.3	55.0	C	D

¹ Per the Highway Capacity Manual (7th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown. HCM delay reported in seconds.

² TS = Traffic Signal; CSS = Cross-street Stop; CSS = Improvement

6.4.2 OPENING YEAR CUMULATIVE (2027) WITH PROJECT TRAFFIC CONDITIONS

As shown in Table 6-1, with the addition of Project traffic, there are no study area intersections anticipated to operate at a deficient LOS for Opening Year Cumulative (2027) With Project traffic conditions. The intersection operations analysis worksheets for Opening Year Cumulative (2027) With Project traffic conditions are included in Appendix 6.2 of this TA.

6.5 TRAFFIC SIGNAL WARRANTS ANALYSIS

The traffic signal warrant analysis for Opening Year Cumulative (2027) traffic conditions are based on the peak hour volumes or planning level ADT volume-based traffic signal warrants. No study area intersections are anticipated to meet either peak hour volume or ADT volume-based warrants for Opening Year Cumulative (2027) Without and With Project traffic conditions (see Appendix 6.3 and Appendix 6.4).

6.6 ROADWAY SEGMENT ANALYSIS

The roadway capacities utilized for the study area roadway segment analysis are obtained from the City's General Plan. These roadway segment capacities are approximate figures only and are used at the General Plan level to assist in determining the roadway functional classification (number of through lanes) needed to meet traffic demand.

Table 6-2 provides a summary of the Opening Year Cumulative (2027) traffic conditions roadway segment capacity analysis. As shown in Table 6-2, all study area roadway segments are anticipated to continue to operate at an acceptable LOS based on the daily roadway capacity thresholds and minimum LOS criteria.

TABLE 6-2: ROADWAY SEGMENT CAPACITY ANALYSIS FOR OPENING YEAR CUMULATIVE (2027) CONDITIONS

#	Roadway	Segment Limits	Roadway Section	LOS Capacity ¹	2027 Without Project			2027 With Project		
					Vol	V/C ²	LOS ³	Vol	V/C ²	LOS ³
1	Edison Avenue	Monte Vista Avenue to Telephone Avenue	4D	35,900	22,871	0.637	B	23,131	0.644	B
2	Edison Avenue	Telephone Avenue to Central Avenue	4D	35,900	22,908	0.638	B	23,114	0.644	B

¹ These maximum roadway capacities are based on the City's General Plan.

² V/C = Volume to Capacity Ratio

³ LOS = Level of Service

6.7 NEAR-TERM DEFICIENCIES AND IMPROVEMENTS

The study area intersections and roadway segments are anticipated to operate at an acceptable LOS for Opening Year Cumulative (2027) Without and With Project traffic conditions. As such, no improvements aside from those that are needed to facilitate site access have been identified.

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7 LOCAL AND REGIONAL FUNDING MECHANISMS

Transportation improvements within the City of Chino are funded through a combination of project mitigation, development impact fee programs or fair share contributions, such as the City of Chino Development Impact Fee (DIF) program. Identification and timing of needed improvements is generally determined through local jurisdictions based upon a variety of factors.

7.1 CITY OF CHINO DEVELOPMENT IMPACT FEE PROGRAM

The City of Chino has created its own local DIF program to impose and collect fees from new residential, commercial, and industrial development for the purpose of funding roadways and intersections necessary to accommodate City growth as identified in the City's General Plan Circulation Element. The City's DIF includes regional improvements to comply with Measure "I". The fee schedule was adopted in February 2022. The fee schedule and project transportation impacts fees are shown in Table 7-1. Under the City's DIF program, the City may grant developers a credit against specific components of fees when those developers construct certain facilities and landscaped medians identified in the list of improvements funded by the DIF program.

TABLE 7-1: CURRENT DEVELOPMENT IMPACT FEES

Fee Reference	Cost
Circulation (Streets, Signals, and Bridges) System:	
Industrial Uses	2.31/SF

The timing to use the DIF is established through periodic capital improvement programs which are overseen by the City's Public Works Department. Periodic traffic counts, review of traffic accidents, and a review of traffic trends throughout the City are also periodically performed by City staff and consultants. The City uses this data to determine the timing of implementing the improvements listed in its facilities list. The City also uses this data to ensure that the improvements listed on the facilities list are constructed before the LOS falls below the LOS performance standards adopted by the City. In this way, the improvements are constructed before the LOS falls below the City's LOS performance thresholds.

The Project Applicant will be subject to the City's DIF program and will pay the requisite City DIF at the rates in effect at the time the vesting map is deemed complete. The Project Applicant's payment of the requisite DIF at the rates, pursuant to the City DIF Program, would satisfy the Project's proportional mitigation requirements at potentially affected DIF-funded facilities.

7.2 MEASURE "I" FUNDS

In 2004, the voters of San Bernardino County approved the 30-year extension of Measure "I", a one-half of one percent sales tax on retail transactions, through the year 2045, for transportation projects including, but not limited to, infrastructure improvements, commuter rail, public transit, and other identified improvements. The Measure "I" extension requires that a regional traffic impact fee be created to ensure development is paying its fair share. A regional Nexus study was prepared by San Bernardino County Transportation Authority (SBCTA) and concluded that each jurisdiction should include a regional fee component in their local programs in order to meet the Measure "I" requirement. The regional component assigns specific facilities and cost sharing formulas to each jurisdiction and was most recently updated in March 2021. Revenues collected through these programs are used in tandem with Measure "I" funds to deliver projects identified in the Nexus Study. While Measure "I" is a self-executing sales tax administered by SBCTA, it bears discussion here because the funds raised through Measure "I" have funded in the past and will continue to fund new transportation facilities in San Bernardino County.

8 REFERENCES

1. **City of Chino.** *Traffic Impact Analysis Guidelines*. Chino : s.n., December 2020.
2. **San Bernardino Associated Governments.** *County of San Bernardino Congestion Management Program*. County of San Bernardino : s.n., June 2016, 2021 Update.
3. **Transportation Research Board.** *Highway Capacity Manual (HCM)*. 7th Edition. s.l. : National Academy of Sciences, 2022.
4. **California Department of Transportation.** California Manual on Uniform Traffic Control Devices (CA MUTCD). [book auth.] California Department of Transportation. *California Manual on Uniform Traffic Control Devices (CA MUTCD)*. 2014, Updated March 30, 2021 (Revision 6).
5. **City of Chino.** *Envision Chino: General Plan 2025*. Chino : Design, Community & Environment, July 2010.
6. —. *Bicycle and Pedestrian Master Plan*. Chino : s.n., Final Report 2016 (Adopted January 2016).
7. **Institute of Transportation Engineers.** *Trip Generation Manual*. 11th Edition. 2021.

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APPENDIX 1.1: APPROVED TRAFFIC STUDY SCOPING AGREEMENT

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DATE: April 3, 2024
TO: Dennis Ralls, City of Chino
FROM: Charlene So, Urban Crossroads
JOB NO: 14835-02 TA Scope

CHINO DISTRIBUTION CENTER TRAFFIC STUDY SCOPING AGREEMENT

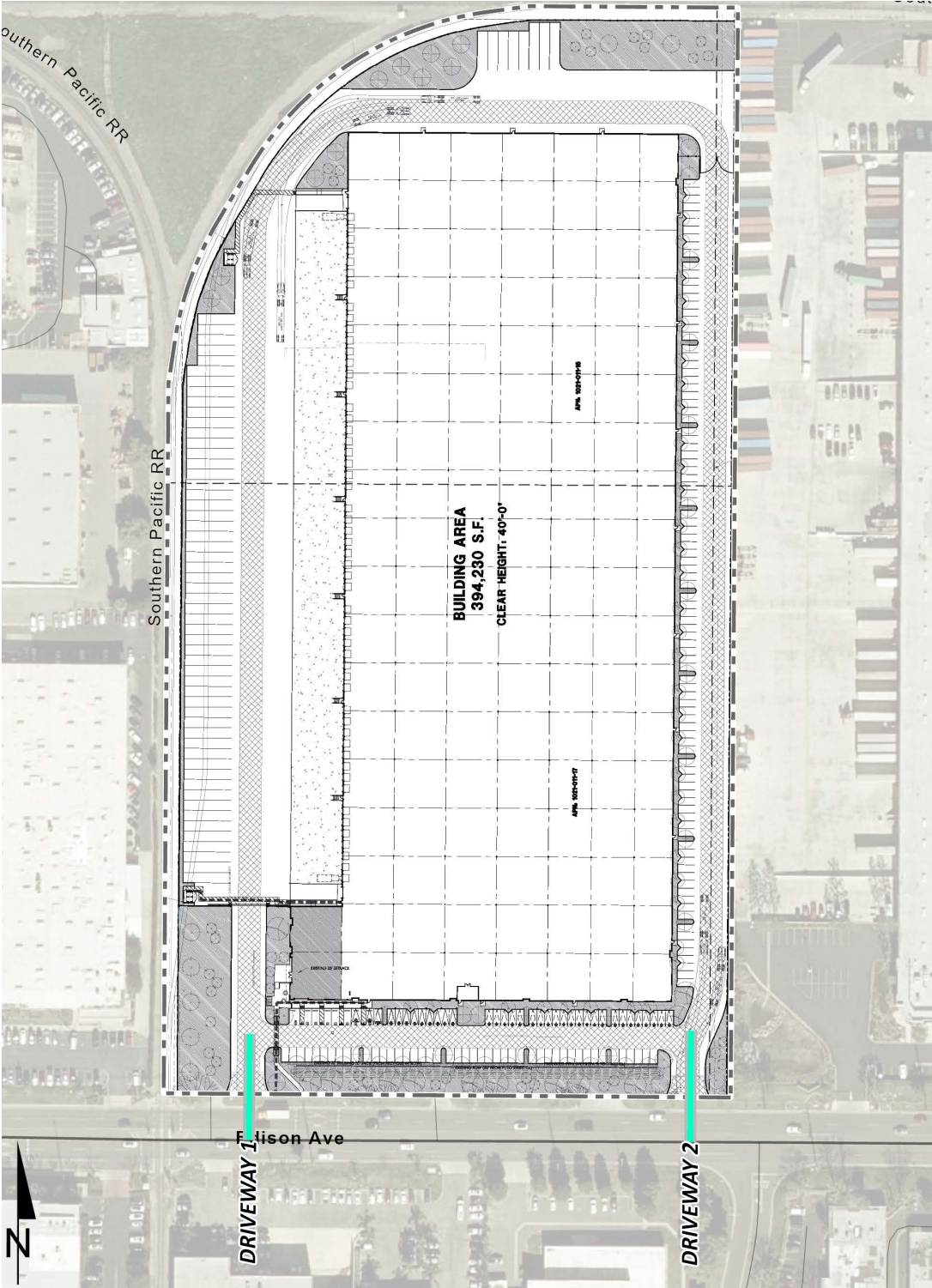
Urban Crossroads, Inc. is pleased to submit the following Traffic Study Scoping Agreement for the proposed Chino Distribution Center development (**Project**), which is located at 5088 Edison Avenue in the City of Chino. This letter describes the proposed Project trip generation, trip distribution, and analysis methodology, which have been used to establish the draft proposed Project study area and analysis locations. The following scope of work is based on the City of Chino’s Traffic Impact Analysis Guidelines (dated December 2020) (**City Guidelines**).

PROPOSED PROJECT

The proposed Project consists of the development of a single 394,230-square-foot warehouse building. A preliminary site plan for the proposed Project is shown in Exhibit 1. For the purposes of the Traffic Study, the Project will evaluate 98,558 square feet of high-cube cold storage warehouse use and 295,672 square feet of warehousing use (25% and 75% of the overall square footage, respectively, for a total of 394,230 square feet). The site is currently occupied by an operational manufacturing facility.

Vehicular access will be provided via two driveways on Edison Avenue. Both driveways are proposed to allow for full access (e.g., no turn restrictions) and will serve passenger cars and trucks. Regional access to the Project site is accommodated from the SR-71 Freeway via Edison Avenue, and the SR-60 Freeway via Central Avenue or Ramona Avenue.

EXHIBIT 1: PRELIMINARY SITE PLAN



TRIP GENERATION

EXISTING TRAFFIC

The site is currently occupied by a wood manufacturing facility (RedBuilt) and a storage container/mobile office rental facility (United Rentals). The existing uses take access off of Edison Avenue. In an effort to understand the existing traffic associated with the current uses, traffic counts were collected at the existing driveways on February 13 through February 15, 2024 (Tuesday through Thursday). A summary of the count data collected is shown in Table B-1 of Attachment B. Table B-1 provides a detailed summary of the counts collected at all driveway locations, by day. See Attachment B for driveway count data worksheets.

Table 1 below summarizes the average existing trip generation based on the count data collected over three consecutive days. The existing uses on the site currently generate an average of 226 two-way trips per day, with 14 trips during the AM peak hour and 14 trips during the PM peak hour. Trip generation for the existing use has been reflected in both actual vehicles and passenger car equivalent (PCE) in Table 1.

PCE factors were applied to the trip generation rates for heavy trucks (large 2-axles, 3-axles, 4+ axles). PCEs allow the typical “real-world” mix of vehicle types to be represented as a single, standardized unit, such as the passenger car, to be used for the purposes of capacity and level of service analyses. The PCE factors are consistent with the recommended PCE factors in the City’s Guidelines and with those used for other projects within the City. The existing site currently generates an average of 280 two-way PCE trips per day, with 20 PCE AM peak hour and 14 PCE PM peak hour trips (see Table 1).

TABLE 1: EXISTING TRIP GENERATION

Land Use	AM Peak Hour			PM Peak Hour			Daily
	In	Out	Total	In	Out	Total	
Actual Vehicles:							
Existing Use							
Passenger Cars:	8	1	9	1	13	14	178
2-axle Trucks:	1	1	2	0	0	0	20
3-axle Trucks:	1	1	2	0	0	0	12
4+-axle Trucks:	1	0	1	0	0	0	16
Total Trucks:	3	2	5	0	0	0	48
Total Trips (Actual Vehicles)¹	11	3	14	1	13	14	226
Passenger Car Equivalent (PCE):							
Existing Use							
Passenger Cars:	8	1	9	1	13	14	178
2-axle Trucks (PCE = 1.5):	2	2	4	0	0	0	30
3-axle Trucks (PCE = 2.0):	2	2	4	0	0	0	24
4+-axle Trucks (PCE = 3.0):	3	0	3	0	0	0	48
Total Trucks (PCE):	7	4	11	0	0	0	102
Total Trips (PCE)¹	15	5	20	1	13	14	280

¹ Total Trips = Passenger Cars + Truck Trips.

PROPOSED PROJECT

The proposed Project consists of a single warehouse building that is up to 394,230 square feet. In order to develop the traffic characteristics of the proposed Project, trip-generation statistics published in the Institute of Transportation Engineers (ITE) Trip Generation Manual (11th Edition, 2021) were used for the proposed Project. The Project has been evaluated assuming a mix of general warehousing and high-cube cold storage warehousing use for the purpose of calculating a conservative trip generation for the proposed building. Table 2 summarizes the trip generation rates. For purposes of this assessment, the following land uses, and vehicle mixes have been utilized:

- ITE Land Use Code 150 (Warehousing) has been used to derive site-specific trip generation estimates for up to 295,672 square feet of the proposed Project (or 75% of the total building square footage). A warehouse is primarily devoted to the storage of materials but may also include office and maintenance areas. The vehicle mix has been obtained from the ITE’s Trip Generation Manual. The truck percentages were further broken down by axle type per the following South Coast Air Quality Management District (SCAQMD) recommended truck mix: 2-Axle = 16.7%; 3-Axle = 20.7%; 4+-Axle = 62.6%.
- ITE Land Use Code 157 (High-Cube Cold Storage Warehouse) has been used to derive site-specific trip generation estimates for up to 98,558 square feet (or the remaining 25% of the total building square footage). High-cube cold storage warehouses include

warehouses characterized by the storage and/or consolidation of manufactured goods (and to a lesser extent, raw materials) prior to their distribution to retail locations or other warehouses. High-cube cold storage warehouses are facilities typified by temperature-controlled environments for frozen food or other perishable products. The High-Cube Cold Storage Warehouse vehicle mix (passenger cars versus trucks) has been obtained from the ITE’s Trip Generation Manual. The truck percentages were further broken down by axle type per the following SCAQMD recommended truck mix: 2-Axle = 34.7%; 3-Axle = 11.0%; 4+-Axle = 54.3%.

TABLE 2: TRIP GENERATION RATES

Land Use ¹	Units ²	ITE LU Code	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Actual Vehicles:									
Warehousing ³	TSF	150	0.131	0.039	0.170	0.050	0.130	0.180	1.710
Passenger Cars (AM=88.2%, PM=83.3%, Daily=64.9%)			0.120	0.030	0.150	0.034	0.116	0.150	1.110
2-Axle Trucks (AM=1.97%, PM=2.79%, Daily=5.86%)			0.002	0.001	0.003	0.003	0.002	0.005	0.100
3-Axle Trucks (AM=2.44%, PM=3.46%, Daily=7.27%)			0.002	0.002	0.004	0.003	0.003	0.006	0.124
4+-Axle Trucks (AM=7.39%, PM=10.45%, Daily=21.97%)			0.007	0.006	0.013	0.010	0.009	0.019	0.376
High-Cube Cold Storage Warehouse ³	TSF	157	0.085	0.025	0.110	0.034	0.086	0.120	2.120
Passenger Cars (AM=72.7%, PM=75.0%, Daily=64.6%)			0.076	0.004	0.080	0.019	0.071	0.090	1.370
2-Axle Trucks (AM=9.5%, PM=8.7%, Daily=12.3%)			0.003	0.007	0.010	0.005	0.005	0.010	0.260
3-Axle Trucks (AM=3.0%, PM=2.8%, Daily=3.9%)			0.001	0.002	0.003	0.002	0.001	0.003	0.083
4+-Axle Trucks (AM=14.8%, PM=13.6%, Daily=19.2%)			0.005	0.011	0.016	0.008	0.008	0.016	0.407

¹ Trip Generation & Vehicle Mix Source: Institute of Transportation Engineers (ITE), Trip Generation Manual, Eleventh Edition (2021).

² TSF = thousand square feet

³ Truck Mix: South Coast Air Quality Management District’s (SCAQMD) recommended truck mix, by axle type.

Normalized % - Without Cold Storage: 16.7% 2-Axle trucks, 20.7% 3-Axle trucks, 62.6% 4-Axle trucks.

Normalized % - With Cold Storage: 34.7% 2-Axle trucks, 11.0% 3-Axle trucks, 54.3% 4-Axle trucks.

The trip generation summary illustrating daily, and peak hour trip generation estimates for the proposed Project are summarized in Table 3 in actual vehicles. The proposed Project is anticipated to generate 720 two-way trips per day with 62 AM peak hour trips and 66 PM peak hour trips (actual vehicles). Intersection operations analysis for a truck-intensive project would be required to utilize the PCE trip generation consistent with the City’s Guidelines. As such, the Project’s trip generation in PCE has been provided in Table 4. The Project is anticipated to generate 1,098 two-way PCE trips per day with 73 PCE AM peak hour trips and 82 PCE PM peak hour trips.

TABLE 3: PROJECT TRIP GENERATION SUMMARY (ACTUAL VEHICLES)

Land Use	Quantity Units ¹	AM Peak Hour			PM Peak Hour			Daily
		In	Out	Total	In	Out	Total	
Actual Vehicles:								
Warehousing (75%)	296.422 TSF							
Passenger Cars:		36	9	45	10	34	44	330
2-axle Trucks:		1	0	1	1	1	2	30
3-axle Trucks:		1	1	2	1	1	2	38
4+-axle Trucks:		2	2	4	3	3	6	112
Total Truck Trips (Actual Vehicles):		4	3	7	5	5	10	180
Total Trips (Actual Vehicles) ²		40	12	52	15	39	54	510
High-Cube Cold Storage Warehouse (25%)	98.808 TSF							
Passenger Cars:		8	0	8	2	7	9	136
2-axle Trucks:		0	1	1	0	1	1	26
3-axle Trucks:		0	0	0	0	0	0	8
4+-axle Trucks:		0	1	1	1	1	2	40
Total Truck Trips (Actual Vehicles):		0	2	2	1	2	3	74
Total Trips (Actual Vehicles) ²		8	2	10	3	9	12	210
Passenger Cars		44	9	53	12	41	53	466
Trucks		4	5	9	6	7	13	254
Total Trips (Actual Vehicles)²		48	14	62	18	48	66	720

¹ TSF = thousand square feet

² Total Trips = Passenger Cars + Truck Trips.

TABLE 4: PROJECT TRIP GENERATION SUMMARY (PCE)

Land Use	Quantity Units ¹	AM Peak Hour			PM Peak Hour			Daily
		In	Out	Total	In	Out	Total	
Passenger Car Equivalent (PCE):								
Warehousing (75%)	296.422 TSF							
Passenger Cars:		36	9	45	10	34	44	330
2-axle Trucks:		1	1	2	1	1	2	46
3-axle Trucks:		1	1	2	2	2	4	74
4+-axle Trucks:		6	5	11	9	8	17	334
Total Truck Trips (PCE):		8	7	15	12	11	23	454
Total Trips (PCE) ²		44	16	60	22	45	67	784
High-Cube Cold Storage Warehouse (25%)								
Passenger Cars:	98.808 TSF	8	0	8	2	7	9	136
2-axle Trucks:		0	1	1	1	1	2	40
3-axle Trucks:		0	0	0	0	0	0	16
4+-axle Trucks:		1	3	4	2	2	4	122
Total Truck Trips (PCE):		1	4	5	3	3	6	178
Total Trips (PCE) ²		9	4	13	5	10	15	314
Passenger Cars		44	9	53	12	41	53	466
Trucks		9	11	20	15	14	29	632
Total Trips (PCE)²		53	20	73	27	55	82	1,098

¹ TSF = thousand square feet

² Total Trips = Passenger Cars + Truck Trips.

TRIP GENERATION COMPARISON

Table 5 shows the trip generation comparison between the existing uses and the proposed Project. As shown, the Project is anticipated to generate a net increase of 818 PCE two-way trips per day with 53 net new PCE AM peak hour trips and 68 net new PCE PM peak hour trips. The Traffic Study will utilize the net change in trips identified in Table 5 for the off-site peak hour intersection operations analyses intersections, however, the full Project trip generation shown in Table 4 will be evaluated at the Project driveways on Edison Avenue.

TABLE 5: TRIP GENERATION COMPARISON TO EXISTING USE

	AM Peak Hour			PM Peak Hour			Daily
	In	Out	Total	In	Out	Total	
Actual Vehicles:							
Existing Use							
Passenger Cars:	8	1	9	1	13	14	178
Trucks:	3	2	5	0	0	0	48
Total Existing Trips (Actual Vehicles)	11	3	14	1	13	14	226
Proposed Project							
Passenger Cars:	44	9	53	12	41	53	466
Trucks:	4	5	9	6	7	13	254
Total Project Trips (Actual Vehicles)	48	14	62	18	48	66	720
Net New Trips							
Passenger Cars:	36	8	44	11	28	39	288
Trucks:	1	3	4	6	7	13	206
Net Change in Trips (Actual Vehicles)	37	11	48	17	35	52	494
Passenger Car Equivalent (PCE):							
Existing Use							
Passenger Cars:	8	1	9	1	13	14	178
Trucks:	7	4	11	0	0	0	102
Total Existing Trips (PCE)	15	5	20	1	13	14	280
Proposed Project							
Passenger Cars:	44	9	53	12	41	53	466
Trucks:	9	11	20	15	14	29	632
Total Project Trips (PCE)	53	20	73	27	55	82	1,098
Net New Trips							
Passenger Cars:	36	8	44	11	28	39	288
Trucks:	2	7	9	15	14	29	530
Net Change in Trips (PCE)	38	15	53	26	42	68	818

Note: Positive value represents a net increase in traffic in comparison to the Existing use.

GENERAL PLAN ADDENDUM

The Project is proposing an addendum to the City's current General Plan Environmental Impact Report (EIR). The General Plan identifies a proposed land use designation of General Industrial which allows up to 0.6 floor-to-area-ratio (FAR) of development on the site. The Project site is 18.11 acres which equates to approximately 473,323 square feet of General Industrial development. Table 6 shows the trip generation comparison between the currently adopted General Plan land use and the proposed Project. As shown, the Project is anticipated to generate a net reduction of 162 PCE two-way trips per day with 24 net new PCE AM peak hour trips and 24 net new PCE PM peak hour trips.

TABLE 6: TRIP GENERATION COMPARISON TO GENERAL PLAN LAND USE

	AM Peak Hour			PM Peak Hour			Daily
	In	Out	Total	In	Out	Total	
Actual Vehicles:							
General Plan Land Use							
Passenger Cars:	57	14	71	16	55	71	526
Trucks:	5	5	10	7	7	14	286
Total General Plan Trips (Actual Vehicles)	62	19	81	23	62	85	812
Proposed Project							
Passenger Cars:	42	9	51	12	41	53	464
Trucks:	4	5	9	6	7	13	254
Total Project Trips (Actual Vehicles)	46	14	60	18	48	66	718
Net New Trips							
Passenger Cars:	-15	-5	-20	-4	-14	-18	-62
Trucks:	-1	0	-1	-1	0	-1	-32
Net Change in Trips (Actual Vehicles)	-16	-5	-21	-5	-14	-19	-94
Passenger Car Equivalent (PCE):							
General Plan Land Use							
Passenger Cars:	57	14	71	16	55	71	526
Trucks:	13	11	24	19	16	35	724
Total General Plan Trips (PCE)	70	25	95	35	71	106	1,250
Proposed Project							
Passenger Cars:	42	9	51	12	41	53	464
Trucks:	9	11	20	15	14	29	624
Total Project Trips (PCE)	51	20	71	27	55	82	1,088
Net New Trips							
Passenger Cars:	-15	-5	-20	-4	-14	-18	-62
Trucks:	-4	0	-4	-4	-2	-6	-100
Net Change in Trips (PCE)	-19	-5	-24	-8	-16	-24	-162

Note: Negative value represents a net reduction in traffic in comparison to the approved General Plan land use.

TRIP DISTRIBUTION

The Project trip distribution represents the directional orientation of traffic to, and from, the Project site. Trip distribution is the process of identifying the probable destinations, directions, or traffic routes that will be utilized by Project traffic. The potential interaction between the planned land uses and surrounding regional access routes are considered, to identify the route where the Project traffic would distribute. Exhibits 2 and 3 show the Project truck and passenger car trip distribution patterns, respectively. The truck trip distribution patterns utilize the surrounding City truck routes: Monte Vista Avenue, Edison Avenue, and Central Avenue.

EXHIBIT 2: PROJECT (TRUCK) TRIP DISTRIBUTION

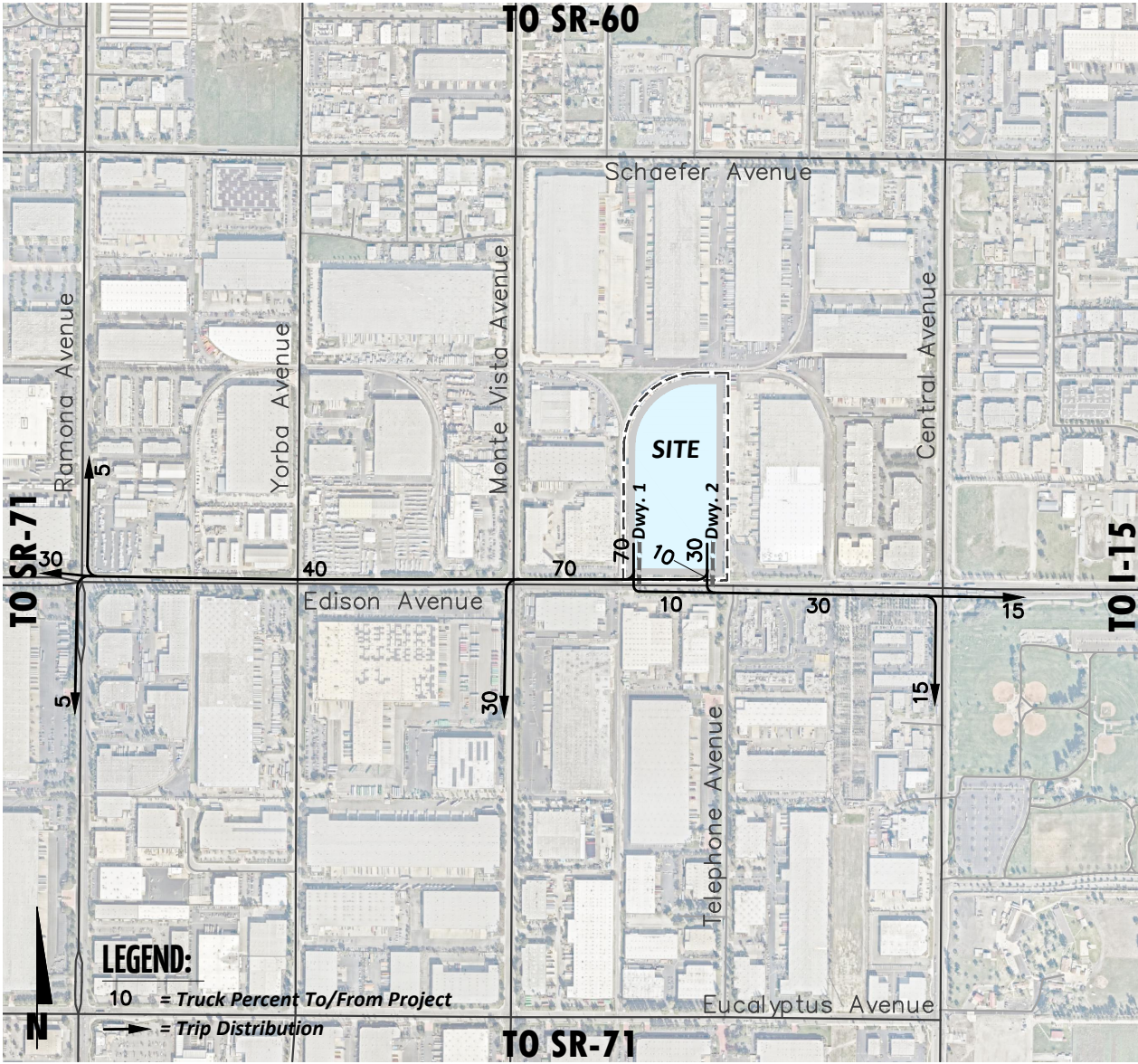
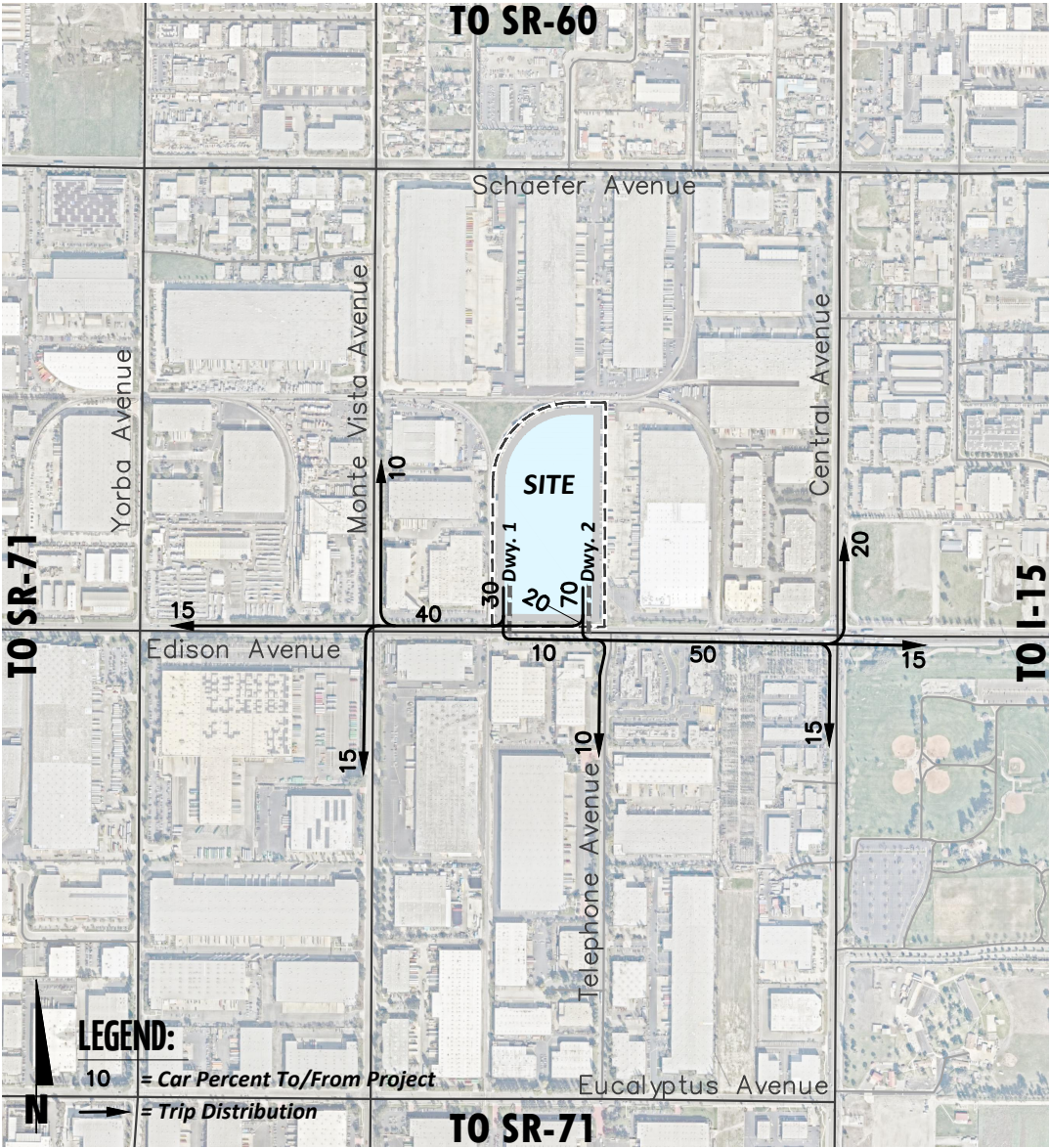


EXHIBIT 3: PROJECT (PASSENGER CAR) TRIP DISTRIBUTION



ANALYSIS SCENARIOS

Consistent with the City's Guidelines, intersection analysis will be provided for the following analysis scenarios:

- Existing (2024) Conditions
- Existing plus Project Conditions
- Opening Year Cumulative (2027) Without Project Conditions
- Opening Year Cumulative (2027) With Project Conditions

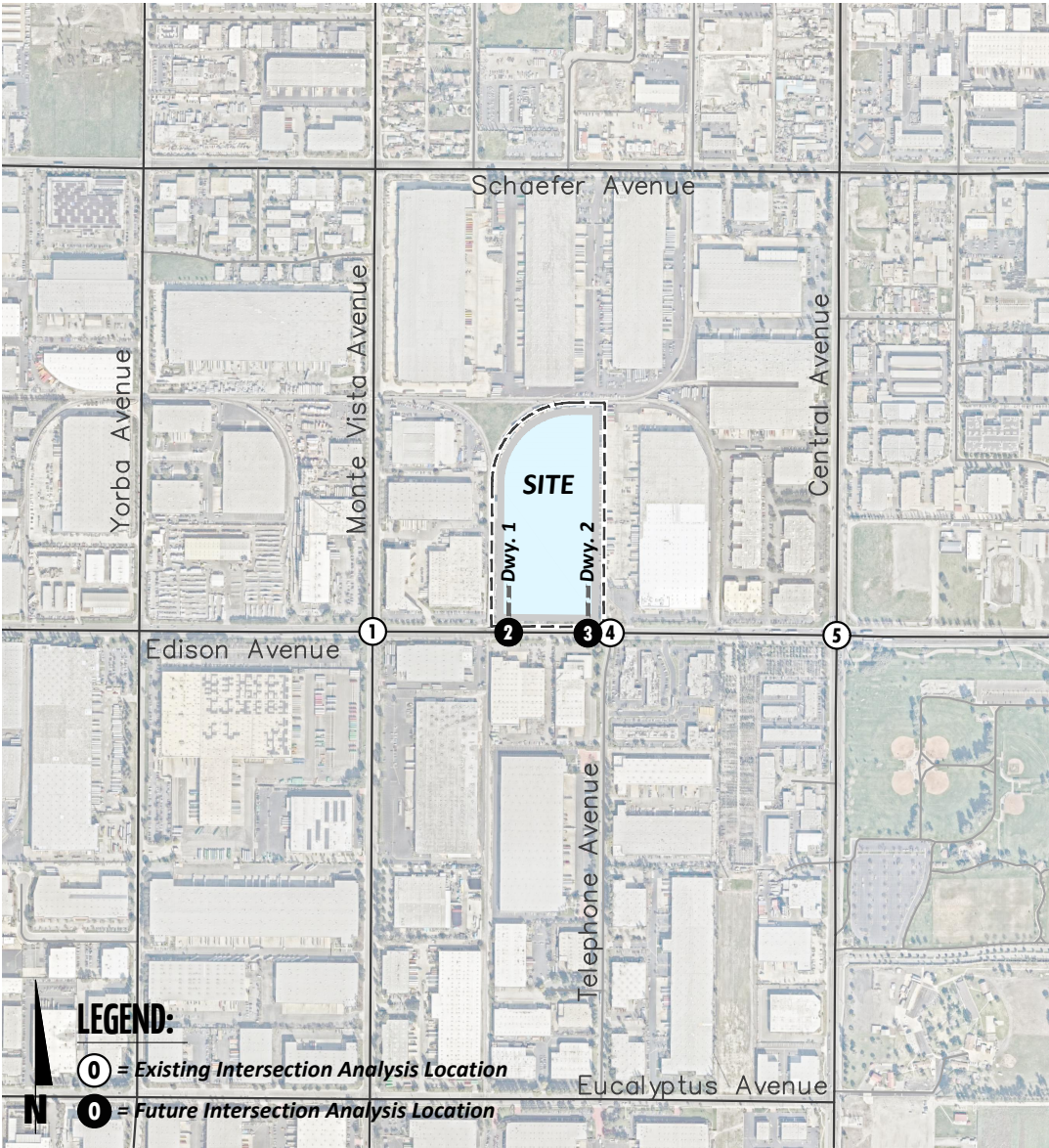
All study area intersections will be evaluated using the Highway Capacity Manual (HCM) 7th Edition analysis methodology. The proposed study area to be evaluated is shown in Exhibit 4.

#	Intersection
1	Monte Vista Av. & Edison Av.
2	Driveway 1 & Edison Av.
3	Driveway 2 & Edison Av.
4	Telephone Av. & Edison Av.
5	Central Av. & Edison Av.

Roadway segment analysis will also be evaluated for the following locations:

- Edison Avenue, Monte Vista Avenue to Telephone Avenue
- Edison Avenue, Telephone Avenue to Central Avenue

EXHIBIT 4: STUDY AREA



AMBIENT GROWTH

Pursuant to discussion with City staff and consistent with other studies performed in the area, an ambient growth rate of 2% per year is proposed for the study area intersections to approximate background growth not identified by nearby cumulative development projects. As such, a total of 6.12% will be applied to the baseline (2% per year compounded annually over 3 years).

EXISTING COUNT DATA

As local schools are back in session (with in-person instruction), we are proposing to conduct new traffic counts on a typical weekday when local schools are open and operating on normal bell schedules. No additional adjustments are proposed for the purpose of establishing the existing baseline conditions (except for adjustments needed for volume balancing). The traffic counts will be collected once the scoping agreement has been approved by City staff and will be collected for the following peak hours:

- Weekday AM Peak Hour (6-9 AM)
- Weekday PM Peak Hour (4-7 PM)

CUMULATIVE PROJECTS

It is requested that the City provide a list of cumulative projects in the immediate vicinity with applicable land use and intensity information for inclusion in our traffic study. A preliminary list of cumulative projects is provided in Table 7 and their locations are graphically depicted on Exhibit 5.

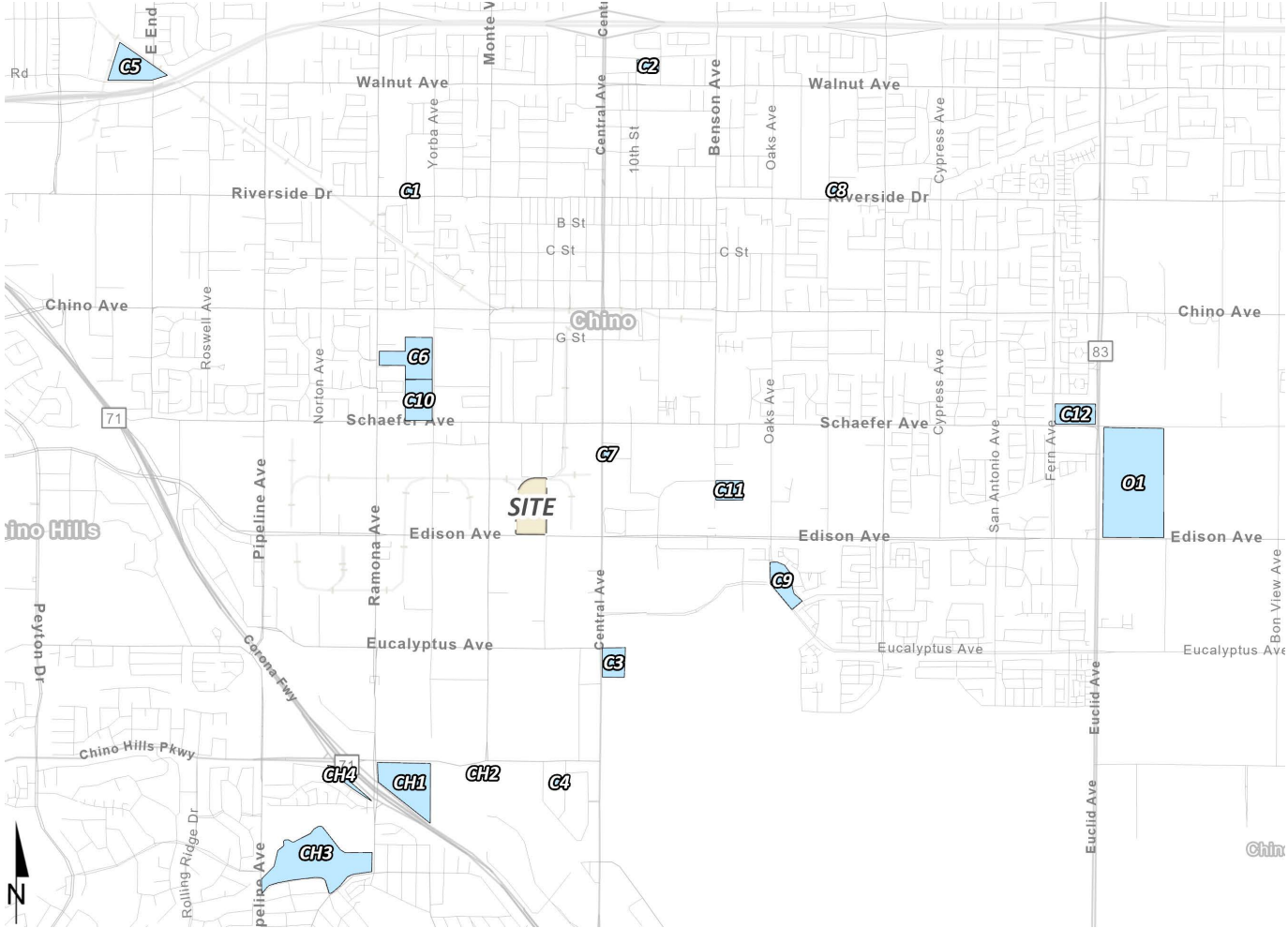
**CUMULATIVE PROJECTS TO BE
UPDATED WITH 1ST DRAFT OF
TIA PER EMAIL FROM U.C.**

TABLE 7: SUMMARY OF CUMULATIVE DEVELOPMENT PROJECTS

#	Project/Location	Land Use	Quantity Units ¹
City of Chino			
C1	4416 Riverside Drive	Fast-Food Restaurant with Drive-Thru	4.925 TSF
C2	PL18-0057	Assisted Living Facility	110.02 TSF
C3	NWC Eucalyptus Avenue and Central Avenue	General Light Industrial	49.592 TSF
C4	15022 La Palma	General Light Industrial	15.460 TSF
C5	East End and County Industrial	High-Cube Fulfillment Center Warehouse	212.251 TSF
		Industrial Park	55.534 TSF
C6	13404 Yorba Avenue	General Light Industrial	325.300 TSF
	13461 Ramona Avenue	Office Building	59.798 TSF
C7	5319 Anderson Street	Office Building	16.000 TSF
		Retail Building	6.435 TSF
C8	6132 Riverside Drive	Drive-Thru Car Wash	3.605 TSF
		Drive-Thru Restaurant	2.312 TSF
C9	The Campus at College Park	Church	27.000 TSF
		General Office	16.969 TSF
		Commercial Retail	17.785 TSF
		High Turnover (Sit-Down) Restaurant	15.876 TSF
C10	13610 Yorba Avenue	Warehousing	284.73 TSF
C11	13925 Benson Avenue	Warehousing	145.500 TSF
		Self-Storage Facility	145.000 TSF
C12	Eden Mixed-Use	Multifamily (Mid-Rise) Residential	282 DU
		Retail Shops	3.100 TSF
		Fast-Food Restaurant without Drive-Thru	9.400 TSF
		Fast-Food Restaurant with Drive-Thru	7.000 TSF
City of Ontario			
		Truck/Trailer Parking Lot	12.2 AC
		Warehousing	972.817 TSF
		Business Park	191.378 TSF
O1	Euclid Mixed-Use Specific Plan	Multifamily Housing	466 DU
		Fast-Food Restaurant without Drive-Thru	10.000 TSF
		Fast-Food Restaurant with Drive-Thru	10.000 TSF
		Shopping Center	10.225 TSF
City of Chino Hills			
CH1	The Common at Chino Hills - Farou Foods Restaurant	Restaurant	6.000 TSF
CH2	GoStoreIt Self-Storage	Self-Storage	106.315 TSF
CH3	Rancho Cielito	Multifamily Housing (Low-Rise)	166 DU
		Multifamily Housing (Mid-Rise)	188 DU
CH4	Reserve at Chino Hills Apartment Complex	Apartments	42 DU

¹ TSF = Thousand Square Feet; DU = Dwelling Unit; AC = Acres

EXHIBIT 5: CUMULATIVE DEVELOPMENT LOCATION MAP



SPECIAL ISSUES

The following special issues will also be addressed:

- Traffic Signal Warrant Analysis: Traffic signal warrant analysis will be performed for all full-access unsignalized study area intersections utilizing the California MUTCD peak-hour warrants for existing intersections, and the Caltrans daily (Planning level) warrant for new intersections.
- Site Access Evaluation: The turn pocket lengths will be determined through peak hour traffic simulations developed using Synchro and SimTraffic software in an effort to identify the required storage capacity for turn lanes at each Project driveway.
- Right Turn Pockets: Determine if right turn pockets are needed at Project driveways.
- Non-Vehicular Circulation: Include a discussion of bicycle and pedestrian connectivity and what improvements (?) will be implemented with the development of the Project.
- Truck Turn Movements: Truck turning movements at applicable Project driveways that will be utilized by heavy trucks will be included in the Traffic Study.
- Truck Route Management: Discuss how the Project will inform truck drivers traveling to, and from, the Project of official truck routes to reduce impacts to surrounding sensitive land uses.

If you have any questions or comments, I can be reached at cs@urbanxroads.com.

ATTACHMENT A: CITY SCOPING FORM



EXHIBIT A – SCOPING AGREEMENT



SCOPING AGREEMENT FOR CHINO’S TRAFFIC IMPACT ANALYSIS

Project Name: Chino Distribution Center
 Address / Location: 5088 Edison Avenue
 Project Description: 395,230 SF of warehousing use (split 25% cold storage, 75% warehouse)
 Chino Project No.: _____ Specific Plan: _____

	<u>Consultant</u>	<u>Developer</u>
Name:	<u>Urban Crossroads - Charlene So</u>	<u>Prologis</u>
Address:	<u>1133 Camelback St. #8329, Newport Beach</u>	<u>3546 Concourse Street, Suite 100, Ontario, CA 91765</u>
Telephone:	<u>949-861-0177</u>	<u>909-673-8721</u>
E-mail:	<u>cso@urbanxroads.com</u>	

A. Trip Generation

Source: ITE 10th Edition Other: ITE Trip Generation Manual (11th Edition, 2021)

Current Land Use: GI Proposed Land Use: GI
 Current Zoning: M2 Proposed Zoning: M2

<u>One-Way Trip Ends in PCE</u>	<u>IN</u>	<u>OUT</u>	<u>TOTAL</u>
Total Project Trips:			1,098
AM Peak Hour (-):	53	20	73
PM Peak Hour (-):	27	55	82
Other (-):			
Internal Capture:	Yes / <input checked="" type="checkbox"/> No	Percentage:	%
Pass-By Trips:	Yes / <input checked="" type="checkbox"/> No	Percentage:	%

B. Trip Geographic Distribution

Attach exhibit showing detailed distribution

See attached memo



C. Traffic Projections

Existing: <u>2024</u>	Count Year: <u>2024</u>
Project Opening Year: <u>2027</u>	Growth Rate: <u>6.12%</u>
General Plan Horizon Year: _____	Growth Rate: _____
Other: _____	Growth Rate: _____

D. Study Intersections

1. Monte Vista Av. & Edison Av.	4. Telephone Av. & Edison Av.
2. Driveway 1 & Edison Av.	5. Central Av. & Edison Av.
3. Driveway 2 & Edison Av.	6. _____

E. Study Area Roadway Segments

- Edison Av., Monte Vista to Telephone
- Edison Av., Telephone to Central

F. Other Jurisdictional Impacts

Is this project within a one-mile radius of the Sphere of Influence of another City or County boundary? Yes / No If so, name of Jurisdiction(s): _____

G. Site Plan

Attach reduced site plan. See attached memo

H. SB-743: Vehicles per Mile Traveled

VMT analysis based on Chino's draft threshold and methodology. Not Applicable

I. Specific Issues to be addressed

- Traffic signal warrant analysis for unsignalized intersections
- Site access queuing analysis
- Truck turns at applicable Project driveways

Approved by:

City of Chino, Transportation Manager: _____

Date: _____

ATTACHMENT B: DRIVEWAY COUNTS

TABLE B-1: EXISTING DRIVEWAY COUNT SUMMARY

Land Use	AM Peak Hour			PM Peak Hour			Daily
	In	Out	Total	In	Out	Total	
Day 1: February 13, 2024 (Tuesday)							
Passenger Cars:	8	0	8	2	14	16	174
2-axle Trucks:	1	0	1	0	0	0	19
3-axle Trucks:	0	0	0	0	0	0	7
4+-axle Trucks:	0	0	0	0	0	0	13
Total Truck Trips:	1	0	1	0	0	0	39
Total Trips ¹	9	0	9	2	14	16	213
Day 2: February 14, 2024 (Wednesday)							
Passenger Cars:	11	3	14	1	11	12	188
2-axle Trucks:	1	1	2	1	1	2	24
3-axle Trucks:	0	1	1	0	0	0	16
4+-axle Trucks:	2	0	2	0	0	0	16
Total Truck Trips:	3	2	5	1	1	2	56
Total Trips ¹	14	5	19	2	12	14	244
Day 3: February 15, 2024 (Thursday)							
Passenger Cars:	5	1	6	1	14	15	172
2-axle Trucks:	1	1	2	0	0	0	16
3-axle Trucks:	2	2	4	1	0	1	10
4+-axle Trucks:	2	0	2	0	0	0	15
Total Truck Trips:	5	3	8	1	0	1	41
Total Trips ¹	10	4	14	2	14	16	213

* Note: data collected on February 13-February 15, 2024.

¹ Total Trips = Passenger Cars + Total Truck Trips.



City: Chino
 Location: 5088 Edison Ave/ Totals Driveway
 Date: Tuesday, February 13, 2024
 Count Type: Driveway Classification

	Entering				
	Pass Veh	Large 2 Axle	3 Axle	4+ Axle	Total
0:00	0	0	0	0	0
0:15	0	0	0	0	0
0:30	0	0	0	0	0
0:45	0	0	0	0	0
1:00	0	0	0	0	0
1:15	0	0	0	0	0
1:30	0	0	0	0	0
1:45	0	0	0	0	0
2:00	0	0	0	0	0
2:15	0	0	0	0	0
2:30	0	0	0	0	0
2:45	0	0	0	0	0
3:00	0	0	0	0	0
3:15	0	0	0	0	0
3:30	0	0	0	0	0
3:45	0	0	0	0	0
4:00	0	0	0	0	0
4:15	4	0	0	0	4
4:30	5	0	0	1	6
4:45	16	0	0	0	16
5:00	6	0	0	0	6
5:15	3	0	0	0	3
5:30	4	0	0	0	4
5:45	4	0	0	0	4
6:00	1	0	0	0	1
6:15	0	0	0	0	0
6:30	1	0	0	0	1
6:45	5	0	0	0	5
7:00	3	0	0	0	3
7:15	3	0	0	0	3
7:30	2	0	0	0	2
7:45	0	1	0	0	1
8:00	0	0	0	0	0
8:15	0	0	0	0	0
8:30	3	0	0	0	3
8:45	2	0	0	0	2
9:00	3	0	0	0	3
9:15	1	0	0	1	2
9:30	0	1	1	0	2
9:45	0	0	0	0	0
10:00	0	0	0	0	0
10:15	0	0	0	0	0
10:30	1	1	0	0	2
10:45	0	0	0	0	0
11:00	1	2	0	0	3
11:15	2	0	0	0	2
11:30	3	2	0	0	5
11:45	0	0	1	1	2

	Exiting				
	Pass Veh	Large 2 Axle	3 Axle	4+ Axle	Total
0:00	0	0	0	0	0
0:15	0	0	0	0	0
0:30	0	0	0	0	0
0:45	0	0	0	0	0
1:00	0	0	0	0	0
1:15	0	0	0	0	0
1:30	0	0	0	0	0
1:45	0	0	0	0	0
2:00	0	0	0	0	0
2:15	0	0	0	0	0
2:30	0	0	0	0	0
2:45	0	0	0	0	0
3:00	0	0	0	0	0
3:15	0	0	0	0	0
3:30	0	0	0	0	0
3:45	0	0	0	0	0
4:00	0	0	0	0	0
4:15	0	0	0	0	0
4:30	0	0	0	0	0
4:45	0	0	0	0	0
5:00	0	0	0	0	0
5:15	1	0	0	1	2
5:30	0	1	0	0	1
5:45	0	1	1	0	2
6:00	0	0	0	0	0
6:15	2	0	0	0	2
6:30	0	0	0	0	0
6:45	0	0	0	0	0
7:00	0	0	0	0	0
7:15	0	0	0	0	0
7:30	0	0	0	0	0
7:45	0	0	0	0	0
8:00	0	0	0	0	0
8:15	0	0	0	0	0
8:30	0	1	0	0	1
8:45	1	0	0	0	1
9:00	2	0	0	0	2
9:15	0	0	0	0	0
9:30	0	1	0	0	1
9:45	0	0	0	0	0
10:00	0	0	0	1	1
10:15	0	0	0	0	0
10:30	1	1	0	0	2
10:45	0	0	0	1	1
11:00	2	0	0	0	2
11:15	3	0	0	0	3
11:30	0	2	0	0	2
11:45	1	1	0	0	2



City: Chino
 Location: 5088 Edison Ave/ Totals Driveway
 Date: Tuesday, February 13, 2024
 Count Type: Driveway Classification

	Entering				
	Pass Veh	Large 2 Axle	3 Axle	4+ Axle	Total
12:00	3	0	1	1	5
12:15	1	0	0	0	1
12:30	1	0	0	0	1
12:45	2	0	0	0	2
13:00	0	1	0	0	1
13:15	2	0	0	0	2
13:30	0	0	0	0	0
13:45	1	0	0	1	2
14:00	1	0	0	1	2
14:15	1	0	0	0	1
14:30	0	0	0	0	0
14:45	0	1	0	0	1
15:00	0	0	0	0	0
15:15	0	0	0	0	0
15:30	0	1	0	0	1
15:45	0	0	0	1	1
16:00	0	0	0	0	0
16:15	0	0	0	0	0
16:30	1	0	0	0	1
16:45	1	0	0	0	1
17:00	0	0	0	0	0
17:15	0	0	0	0	0
17:30	0	0	0	0	0
17:45	0	0	0	0	0
18:00	0	0	0	0	0
18:15	0	0	0	0	0
18:30	0	0	0	0	0
18:45	0	0	0	0	0
19:00	0	0	0	0	0
19:15	0	0	0	0	0
19:30	0	0	0	0	0
19:45	0	0	0	0	0
20:00	0	0	0	0	0
20:15	0	0	0	0	0
20:30	0	0	0	0	0
20:45	0	0	0	0	0
21:00	0	0	0	0	0
21:15	0	0	0	0	0
21:30	0	0	0	0	0
21:45	0	0	0	0	0
22:00	0	0	0	0	0
22:15	0	0	0	0	0
22:30	0	0	0	0	0
22:45	0	0	0	0	0
23:00	0	0	0	0	0
23:15	0	0	0	0	0
23:30	0	0	0	0	0
23:45	0	0	0	0	0
TOTAL	87	10	3	7	107

	Exiting				
	Pass Veh	Large 2 Axle	3 Axle	4+ Axle	Total
12:00	4	0	2	0	6
12:15	0	0	0	0	0
12:30	2	0	0	0	2
12:45	5	0	0	1	6
13:00	1	0	0	0	1
13:15	0	0	0	0	0
13:30	19	0	0	0	19
13:45	6	0	0	1	7
14:00	2	0	1	0	3
14:15	3	0	0	0	3
14:30	2	0	0	0	2
14:45	3	1	0	1	5
15:00	2	0	0	0	2
15:15	0	0	0	0	0
15:30	2	0	0	0	2
15:45	3	0	0	0	3
16:00	5	0	0	0	5
16:15	2	0	0	0	2
16:30	3	0	0	0	3
16:45	4	0	0	0	4
17:00	2	0	0	0	2
17:15	3	0	0	0	3
17:30	0	0	0	0	0
17:45	0	0	0	0	0
18:00	0	0	0	0	0
18:15	0	0	0	0	0
18:30	0	0	0	0	0
18:45	0	0	0	0	0
19:00	0	0	0	0	0
19:15	0	0	0	0	0
19:30	1	0	0	0	1
19:45	0	0	0	0	0
20:00	0	0	0	0	0
20:15	0	0	0	0	0
20:30	0	0	0	0	0
20:45	0	0	0	0	0
21:00	0	0	0	0	0
21:15	0	0	0	0	0
21:30	0	0	0	0	0
21:45	0	0	0	0	0
22:00	0	0	0	0	0
22:15	0	0	0	0	0
22:30	0	0	0	0	0
22:45	0	0	0	0	0
23:00	0	0	0	0	0
23:15	0	0	0	0	0
23:30	0	0	0	0	0
23:45	0	0	0	0	0
TOTAL	87	9	4	6	106



City: Chino
 Location: 5088 Edison Ave/ Totals Driveway
 Date: Wednesday, February 14, 2024
 Count Type: Driveway Classification

	Entering				
	Pass Veh	Large 2 Axle	3 Axle	4+ Axle	Total
0:00	0	0	0	0	0
0:15	0	0	0	0	0
0:30	0	0	0	0	0
0:45	0	0	0	0	0
1:00	0	0	0	0	0
1:15	0	0	0	0	0
1:30	0	0	0	0	0
1:45	0	0	0	0	0
2:00	0	0	0	0	0
2:15	0	0	0	0	0
2:30	0	0	0	0	0
2:45	0	0	0	0	0
3:00	0	0	0	0	0
3:15	0	0	0	0	0
3:30	0	0	0	0	0
3:45	0	0	0	0	0
4:00	2	0	0	0	2
4:15	1	0	0	0	1
4:30	3	0	1	0	4
4:45	19	0	0	0	19
5:00	9	0	0	0	9
5:15	4	0	0	0	4
5:30	1	0	0	0	1
5:45	4	0	0	0	4
6:00	1	0	0	0	1
6:15	1	0	0	0	1
6:30	3	0	1	1	5
6:45	3	0	0	0	3
7:00	3	0	0	0	3
7:15	1	0	0	0	1
7:30	3	0	0	0	3
7:45	1	0	0	0	1
8:00	1	0	0	1	2
8:15	4	0	0	0	4
8:30	3	1	0	1	5
8:45	3	0	0	0	3
9:00	3	0	0	0	3
9:15	3	2	1	1	7
9:30	0	0	0	2	2
9:45	0	0	0	0	0
10:00	1	0	0	0	1
10:15	1	1	1	0	3
10:30	0	0	0	1	1
10:45	0	0	0	0	0
11:00	1	0	0	0	1
11:15	1	0	1	1	3
11:30	1	0	0	2	3
11:45	2	0	0	0	2

	Exiting				
	Pass Veh	Large 2 Axle	3 Axle	4+ Axle	Total
0:00	0	0	0	0	0
0:15	0	0	0	0	0
0:30	0	0	0	0	0
0:45	0	0	0	0	0
1:00	0	0	0	0	0
1:15	0	0	0	0	0
1:30	0	0	0	0	0
1:45	0	0	0	0	0
2:00	0	0	0	0	0
2:15	0	0	0	0	0
2:30	0	0	0	0	0
2:45	0	0	0	0	0
3:00	0	0	0	0	0
3:15	0	0	0	0	0
3:30	0	0	0	0	0
3:45	0	0	0	0	0
4:00	1	0	0	0	1
4:15	0	0	0	0	0
4:30	0	0	0	0	0
4:45	0	0	0	0	0
5:00	0	0	0	0	0
5:15	0	1	0	1	2
5:30	0	1	2	0	3
5:45	0	0	0	0	0
6:00	0	0	0	0	0
6:15	0	0	0	0	0
6:30	2	0	0	0	2
6:45	2	0	1	0	3
7:00	0	0	0	0	0
7:15	0	0	0	1	1
7:30	1	1	0	0	2
7:45	0	0	0	0	0
8:00	0	0	0	0	0
8:15	1	0	1	0	2
8:30	2	0	0	0	2
8:45	0	1	0	0	1
9:00	2	0	0	0	2
9:15	1	2	0	0	3
9:30	0	0	1	0	1
9:45	3	1	0	0	4
10:00	1	0	0	0	1
10:15	0	1	0	0	1
10:30	0	0	1	1	2
10:45	1	0	0	0	1
11:00	0	0	0	0	0
11:15	0	0	0	0	0
11:30	4	0	0	0	4
11:45	4	0	0	0	4



City: Chino
 Location: 5088 Edison Ave/ Totals Driveway
 Date: Wednesday, February 14, 2024
 Count Type: Driveway Classification

	Entering				
	Pass Veh	Large 2 Axle	3 Axle	4+ Axle	Total
12:00	2	0	0	0	2
12:15	1	0	0	0	1
12:30	1	1	1	1	4
12:45	1	0	0	0	1
13:00	4	0	0	0	4
13:15	1	0	0	0	1
13:30	1	1	0	0	2
13:45	0	0	0	0	0
14:00	0	2	0	0	2
14:15	0	0	0	1	1
14:30	0	0	0	0	0
14:45	0	1	0	0	1
15:00	0	0	0	0	0
15:15	0	0	0	0	0
15:30	0	0	0	0	0
15:45	0	0	0	0	0
16:00	0	0	0	0	0
16:15	0	1	0	0	1
16:30	0	0	0	0	0
16:45	1	0	0	0	1
17:00	0	0	0	0	0
17:15	1	0	0	0	1
17:30	0	0	0	0	0
17:45	0	0	0	0	0
18:00	0	0	0	0	0
18:15	0	0	0	0	0
18:30	0	0	0	0	0
18:45	0	0	0	0	0
19:00	0	0	0	0	0
19:15	0	0	0	0	0
19:30	0	0	0	0	0
19:45	0	0	0	0	0
20:00	0	0	0	0	0
20:15	0	0	0	0	0
20:30	0	0	0	0	0
20:45	0	0	0	0	0
21:00	0	0	0	0	0
21:15	0	0	0	0	0
21:30	0	0	0	0	0
21:45	0	0	0	0	0
22:00	0	0	0	0	0
22:15	0	0	0	0	0
22:30	0	0	0	0	0
22:45	0	0	0	0	0
23:00	0	0	0	0	0
23:15	0	0	0	0	0
23:30	0	0	0	0	0
23:45	0	0	0	0	0
TOTAL	96	10	6	12	124

	Exiting				
	Pass Veh	Large 2 Axle	3 Axle	4+ Axle	Total
12:00	2	0	1	0	3
12:15	2	0	1	0	3
12:30	0	0	0	0	0
12:45	2	0	1	0	3
13:00	1	1	1	1	4
13:15	0	1	0	0	1
13:30	14	1	0	0	15
13:45	7	0	0	0	7
14:00	2	0	0	0	2
14:15	0	0	0	0	0
14:30	7	1	0	0	8
14:45	3	0	0	0	3
15:00	2	1	0	0	3
15:15	3	0	0	0	3
15:30	4	0	0	0	4
15:45	3	0	0	0	3
16:00	1	0	0	0	1
16:15	3	1	0	0	4
16:30	3	0	0	0	3
16:45	3	0	0	0	3
17:00	2	0	0	0	2
17:15	1	0	0	0	1
17:30	0	0	0	0	0
17:45	0	0	0	0	0
18:00	0	0	0	0	0
18:15	1	0	0	0	1
18:30	0	0	0	0	0
18:45	0	0	0	0	0
19:00	0	0	0	0	0
19:15	0	0	0	0	0
19:30	1	0	0	0	1
19:45	0	0	0	0	0
20:00	0	0	0	0	0
20:15	0	0	0	0	0
20:30	0	0	0	0	0
20:45	0	0	0	0	0
21:00	0	0	0	0	0
21:15	0	0	0	0	0
21:30	0	0	0	0	0
21:45	0	0	0	0	0
22:00	0	0	0	0	0
22:15	0	0	0	0	0
22:30	0	0	0	0	0
22:45	0	0	0	0	0
23:00	0	0	0	0	0
23:15	0	0	0	0	0
23:30	0	0	0	0	0
23:45	0	0	0	0	0
	92	14	10	4	120



City: Chino
 Location: 5088 Edison Ave/ Totals Driveway
 Date: Thursday, February 15, 2024
 Count Type: Driveway Classification

	Entering				
	Pass Veh	Large 2 Axle	3 Axle	4+ Axle	Total
0:00	0	0	0	0	0
0:15	0	0	0	0	0
0:30	0	0	0	0	0
0:45	0	0	0	0	0
1:00	0	0	0	0	0
1:15	0	0	0	0	0
1:30	0	0	0	0	0
1:45	0	0	0	0	0
2:00	0	0	0	0	0
2:15	0	0	0	0	0
2:30	0	0	0	0	0
2:45	0	0	0	0	0
3:00	0	0	0	0	0
3:15	0	0	0	0	0
3:30	0	0	0	0	0
3:45	0	0	0	0	0
4:00	0	0	0	0	0
4:15	3	0	0	0	3
4:30	4	0	0	0	4
4:45	20	0	0	0	20
5:00	4	0	0	0	4
5:15	4	0	0	0	4
5:30	2	0	0	0	2
5:45	4	0	0	0	4
6:00	2	0	0	0	2
6:15	2	0	0	0	2
6:30	0	0	0	0	0
6:45	3	0	0	0	3
7:00	1	0	0	0	1
7:15	3	0	0	0	3
7:30	1	0	0	0	1
7:45	0	0	0	0	0
8:00	0	0	2	0	2
8:15	0	0	0	0	0
8:30	1	1	0	0	2
8:45	4	0	0	2	6
9:00	8	1	0	1	10
9:15	0	0	1	0	1
9:30	1	1	0	0	2
9:45	0	0	0	0	0
10:00	0	0	1	0	1
10:15	0	2	0	1	3
10:30	0	0	0	1	1
10:45	0	0	0	0	0
11:00	1	0	0	0	1
11:15	1	0	0	0	1
11:30	1	0	0	1	2
11:45	1	1	0	0	2

	Exiting				
	Pass Veh	Large 2 Axle	3 Axle	4+ Axle	Total
0:00	0	0	0	0	0
0:15	0	0	0	0	0
0:30	0	0	0	0	0
0:45	0	0	0	0	0
1:00	0	0	0	0	0
1:15	0	0	0	0	0
1:30	0	0	0	0	0
1:45	0	0	0	0	0
2:00	0	0	0	0	0
2:15	0	0	0	0	0
2:30	0	0	0	0	0
2:45	0	0	0	0	0
3:00	0	0	0	0	0
3:15	0	0	0	0	0
3:30	0	0	0	0	0
3:45	0	0	0	0	0
4:00	0	0	0	0	0
4:15	0	0	0	0	0
4:30	0	0	0	0	0
4:45	0	0	0	0	0
5:00	1	0	0	1	2
5:15	0	0	0	0	0
5:30	0	2	0	0	2
5:45	1	0	0	0	1
6:00	0	0	0	0	0
6:15	0	0	0	0	0
6:30	0	0	0	0	0
6:45	0	0	0	0	0
7:00	0	0	0	0	0
7:15	0	0	0	0	0
7:30	0	0	0	0	0
7:45	0	0	0	0	0
8:00	0	0	1	0	1
8:15	0	0	0	0	0
8:30	1	0	1	0	2
8:45	0	1	0	0	1
9:00	6	1	0	0	7
9:15	0	0	0	2	2
9:30	0	0	0	1	1
9:45	0	0	0	0	0
10:00	0	0	1	0	1
10:15	0	0	1	0	1
10:30	0	1	0	0	1
10:45	0	0	0	1	1
11:00	3	0	0	0	3
11:15	1	0	0	1	2
11:30	0	1	0	1	2
11:45	2	1	0	0	3



City: Chino
 Location: 5088 Edison Ave/ Totals Driveway
 Date: Thursday, February 15, 2024
 Count Type: Driveway Classification

	Entering				
	Pass Veh	Large 2 Axle	3 Axle	4+ Axle	Total
12:00	1	0	0	0	1
12:15	3	0	0	0	3
12:30	4	0	0	0	4
12:45	1	0	0	0	1
13:00	0	0	0	1	1
13:15	2	0	0	0	2
13:30	0	0	0	0	0
13:45	1	0	0	0	1
14:00	0	0	0	0	0
14:15	0	1	0	0	1
14:30	0	0	0	0	0
14:45	0	0	0	0	0
15:00	0	0	0	0	0
15:15	0	1	0	0	1
15:30	1	0	0	0	1
15:45	0	0	0	0	0
16:00	0	0	0	0	0
16:15	0	0	1	0	1
16:30	1	0	0	0	1
16:45	0	0	0	0	0
17:00	0	0	0	0	0
17:15	0	0	0	0	0
17:30	0	0	0	0	0
17:45	0	0	0	0	0
18:00	0	0	0	0	0
18:15	0	0	0	0	0
18:30	0	0	0	0	0
18:45	0	0	0	0	0
19:00	0	0	0	0	0
19:15	0	0	0	0	0
19:30	0	0	0	0	0
19:45	0	0	0	0	0
20:00	0	0	0	0	0
20:15	0	0	0	0	0
20:30	0	0	0	0	0
20:45	0	0	0	0	0
21:00	0	0	0	0	0
21:15	0	0	0	0	0
21:30	0	0	0	0	0
21:45	0	0	0	0	0
22:00	0	0	0	0	0
22:15	0	0	0	0	0
22:30	0	0	0	0	0
22:45	0	0	0	0	0
23:00	0	0	0	0	0
23:15	0	0	0	0	0
23:30	0	0	0	0	0
23:45	0	0	0	0	0
TOTAL	85	8	5	7	105

	Exiting				
	Pass Veh	Large 2 Axle	3 Axle	4+ Axle	Total
12:00	2	0	1	0	3
12:15	1	0	0	1	2
12:30	4	0	0	0	4
12:45	1	0	0	0	1
13:00	1	0	0	0	1
13:15	2	0	0	0	2
13:30	20	0	0	0	20
13:45	7	0	0	0	7
14:00	1	0	0	0	1
14:15	0	0	0	0	0
14:30	5	0	0	0	5
14:45	0	0	0	0	0
15:00	4	0	0	0	4
15:15	0	1	0	0	1
15:30	5	0	0	0	5
15:45	1	0	0	0	1
16:00	1	0	0	0	1
16:15	3	0	0	0	3
16:30	2	0	0	0	2
16:45	3	0	0	0	3
17:00	6	0	0	0	6
17:15	1	0	0	0	1
17:30	1	0	0	0	1
17:45	0	0	0	0	0
18:00	0	0	0	0	0
18:15	0	0	0	0	0
18:30	0	0	0	0	0
18:45	0	0	0	0	0
19:00	0	0	0	0	0
19:15	0	0	0	0	0
19:30	1	0	0	0	1
19:45	0	0	0	0	0
20:00	0	0	0	0	0
20:15	0	0	0	0	0
20:30	0	0	0	0	0
20:45	0	0	0	0	0
21:00	0	0	0	0	0
21:15	0	0	0	0	0
21:30	0	0	0	0	0
21:45	0	0	0	0	0
22:00	0	0	0	0	0
22:15	0	0	0	0	0
22:30	0	0	0	0	0
22:45	0	0	0	0	0
23:00	0	0	0	0	0
23:15	0	0	0	0	0
23:30	0	0	0	0	0
23:45	0	0	0	0	0
TOTAL	87	8	5	8	108

APPENDIX 1.2: SITE ADJACENT QUEUES

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Intersection: 2: Edison Av. & Driveway 1

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	39	29
Average Queue (ft)	8	8
95th Queue (ft)	30	28
Link Distance (ft)	822	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	100	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Edison Av. & Driveway 2

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	35	29
Average Queue (ft)	4	7
95th Queue (ft)	20	27
Link Distance (ft)	1039	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	100	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 0

Intersection: 2: Edison Av. & Driveway 1

Movement	EB	WB	SB
Directions Served	L	TR	LR
Maximum Queue (ft)	31	4	44
Average Queue (ft)	7	0	15
95th Queue (ft)	27	3	40
Link Distance (ft)		428	822
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	100		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Edison Av. & Driveway 2

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	24	60
Average Queue (ft)	2	24
95th Queue (ft)	12	51
Link Distance (ft)		1039
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	100	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 0

APPENDIX 3.1: TRAFFIC COUNTS – APRIL 2024

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INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC, tel: 714 253 7888 cs@aimtd.com

DATE:
Thu, Apr 4, 24

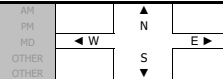
LOCATION:
NORTH & SOUTH:
EAST & WEST:

Chino
Monte Vista Ave
Edison Ave

PROJECT #:
LOCATION #:
CONTROL:

SC4543
Monte Vista Ave
SIGNAL

NOTES:



LANES:	NORTHBOUND Monte Vista Ave			SOUTHBOUND Monte Vista Ave			EASTBOUND Edison Ave			WESTBOUND Edison Ave			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
6:00 AM	0	11	3	6	32	7	2	35	3	5	76	2	182
6:15 AM	0	7	0	3	35	7	3	36	4	7	78	3	183
6:30 AM	1	10	3	5	36	6	9	37	5	9	88	6	215
6:45 AM	0	21	6	1	61	8	15	52	9	14	83	8	278
7:00 AM	4	19	5	6	42	3	3	49	6	8	102	6	253
7:15 AM	1	24	3	4	41	17	10	63	6	17	98	8	292
7:30 AM	2	33	5	2	53	7	19	78	3	8	123	6	339
7:45 AM	0	32	3	6	68	17	19	99	3	11	144	11	413
8:00 AM	1	42	7	12	57	11	14	103	7	12	134	7	407
8:15 AM	2	28	6	4	50	9	11	152	17	14	129	6	428
8:30 AM	2	39	2	6	46	5	19	104	3	7	102	9	344
8:45 AM	1	30	4	6	52	9	14	93	3	4	136	11	362
VOLUMES	14	296	47	61	573	106	138	901	68	116	1,293	83	3,696
APPROACH %	4%	83%	13%	8%	77%	14%	12%	81%	6%	8%	87%	6%	
APP/DEPART	357	/	517	740	/	757	1,107	/	1,009	1,492	/	1,413	0
BEGIN PEAK HR	7:45 AM												
VOLUMES	5	141	18	28	221	42	63	458	30	44	509	33	1,592
APPROACH %	3%	86%	11%	10%	76%	14%	11%	83%	5%	8%	87%	6%	
PEAK HR FACTOR	0.820			0.799			0.765			0.883			0.930
APP/DEPART	164	/	237	291	/	295	551	/	504	586	/	556	0
4:00 PM	11	54	6	3	40	9	18	240	1	10	139	8	539
4:15 PM	5	55	9	4	36	6	17	252	5	6	118	10	523
4:30 PM	6	56	5	9	46	12	30	216	4	7	146	6	543
4:45 PM	6	51	4	6	44	8	16	223	3	4	147	12	524
5:00 PM	11	48	11	6	36	9	25	293	6	6	173	11	635
5:15 PM	5	31	12	4	35	18	22	257	4	8	114	7	517
5:30 PM	0	51	6	5	40	14	22	214	2	4	137	9	504
5:45 PM	2	40	4	6	44	11	17	262	7	6	120	8	527
6:00 PM	1	40	2	4	53	13	24	212	1	7	99	11	467
6:15 PM	1	32	3	6	29	18	16	234	0	5	102	8	454
6:30 PM	0	33	3	7	29	4	11	176	1	3	89	6	362
6:45 PM	2	22	2	9	26	7	17	177	1	3	90	6	362
VOLUMES	50	513	67	69	458	129	235	2,756	35	69	1,474	102	5,957
APPROACH %	8%	81%	11%	11%	70%	20%	8%	91%	1%	4%	90%	6%	
APP/DEPART	630	/	850	656	/	562	3,026	/	2,892	1,645	/	1,653	0
BEGIN PEAK HR	4:15 PM												
VOLUMES	28	210	29	25	162	35	88	984	18	23	584	39	2,225
APPROACH %	10%	79%	11%	11%	73%	16%	8%	90%	2%	4%	90%	6%	
PEAK HR FACTOR	0.954			0.828			0.841			0.850			0.876
APP/DEPART	267	/	337	222	/	203	1,090	/	1,038	646	/	647	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR

NRR	SRR	ERR	WRR
0	0	0	0
0	3	0	0
3	3	1	0
4	5	0	1
3	1	0	1
2	7	4	0
3	0	0	1
1	4	0	2
1	2	4	0
3	2	3	0
0	0	0	1
1	1	1	0
21	29	13	6

0	0	0	0
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5	8	7	3
---	---	---	---

0 0 0 0

NB	SB	EB	WB	TTL
1	2	0	0	3
1	1	0	2	4
1	4	1	0	6
1	2	1	1	5
5	3	2	1	11
2	12	0	0	14
1	4	0	0	5
1	4	1	1	7
1	4	1	2	8
1	7	0	1	9
0	2	0	1	3
1	3	0	0	4
16	48	6	9	79

1	2	0	0
1	1	0	2
1	4	1	0
1	2	1	1
5	3	2	1
2	12	0	0
1	4	0	0
1	4	1	1
1	4	1	2
1	7	0	1
0	2	0	1
1	3	0	0
16	48	6	9

0	0	0	0
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8	10	4	4
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AM

Time	E LEG	W LEG	S LEG	N LEG	TOTAL
6:00 AM	0	0	0	0	0
6:15 AM	0	0	0	0	0
6:30 AM	0	1	0	0	1
6:45 AM	0	1	0	1	2
7:00 AM	0	0	0	0	0
7:15 AM	0	0	1	0	1
7:30 AM	3	1	1	3	8
7:45 AM	1	0	0	0	1
8:00 AM	1	2	0	0	3
8:15 AM	0	0	0	0	0
8:30 AM	1	2	0	0	3
8:45 AM	0	0	0	0	0
TOTAL	6	7	2	4	19

ALL PED + BIKE & SCOOTER

Time	E LEG	W LEG	S LEG	N LEG	TOTAL
6:00 AM	0	0	0	0	0
6:15 AM	0	0	0	0	0
6:30 AM	0	1	0	0	1
6:45 AM	0	1	0	1	2
7:00 AM	0	0	0	0	0
7:15 AM	0	0	1	0	1
7:30 AM	3	1	1	3	8
7:45 AM	1	0	0	0	1
8:00 AM	1	2	0	0	3
8:15 AM	0	0	0	0	0
8:30 AM	1	2	0	0	3
8:45 AM	0	0	0	0	0
TOTAL	7	7	3	4	21

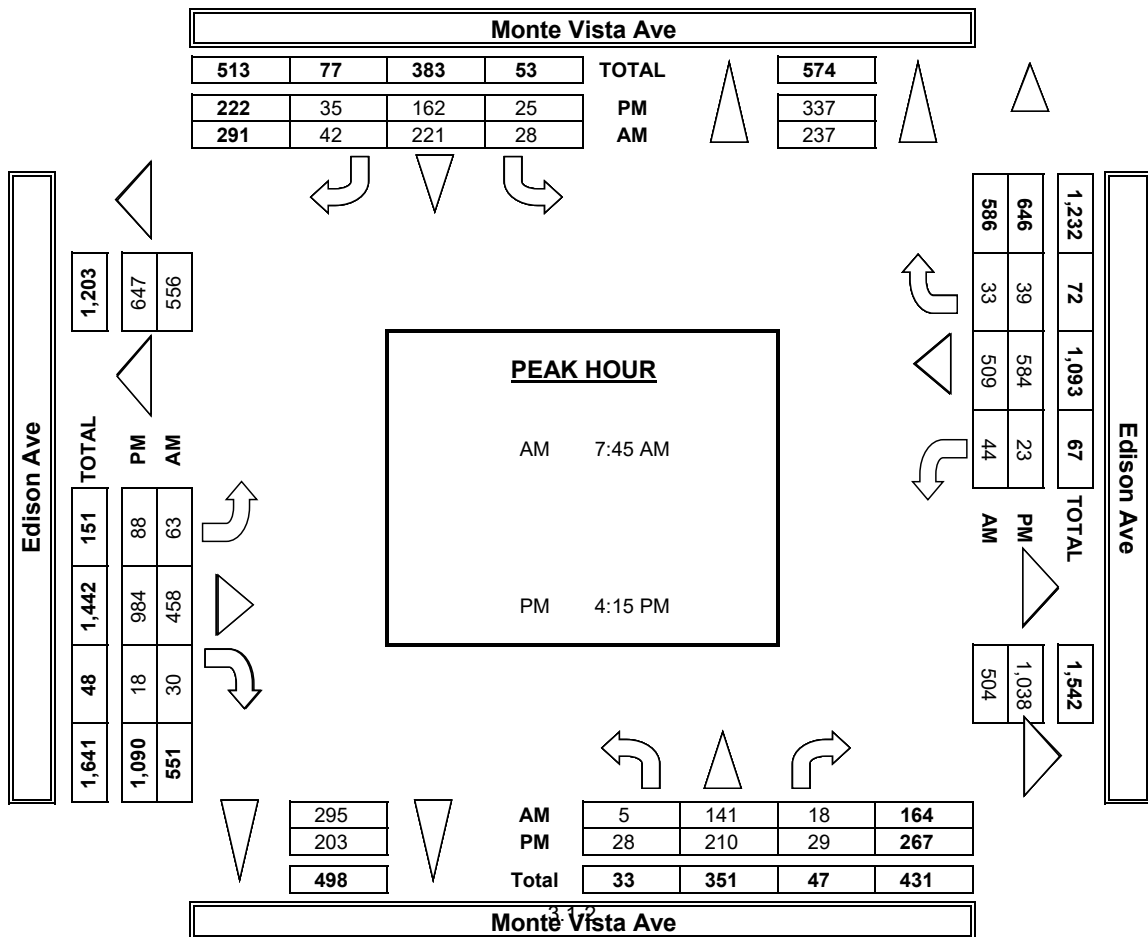
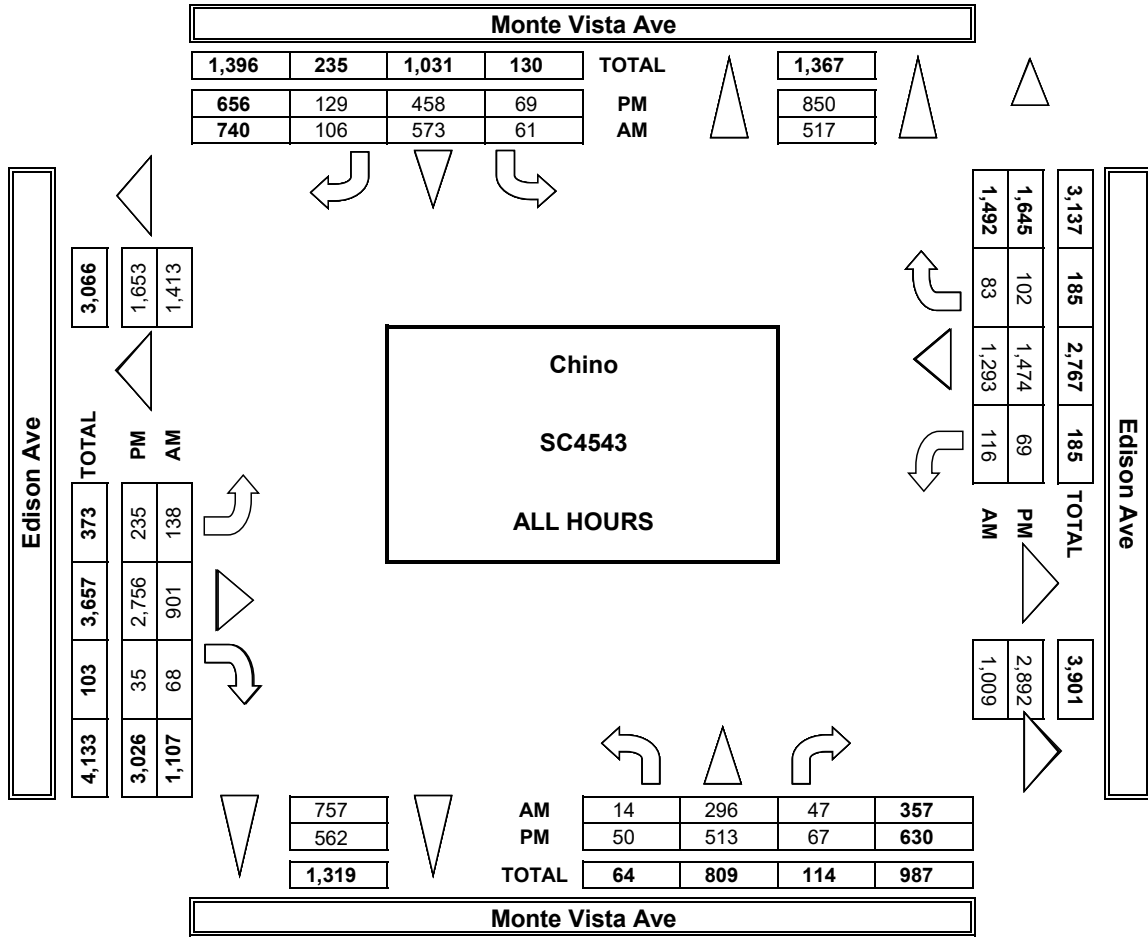
PEDESTRIAN CROSSINGS

Time	E LEG	W LEG	S LEG	N LEG	TOTAL
6:00 AM	0	0	0	0	0
6:15 AM	0	0	0	0	0
6:30 AM	0	0	0	0	0
6:45 AM	0	0	0	1	1
7:00 AM	0	0	0	0	0
7:15 AM	0	0	1	0	1
7:30 AM	1	1	1	3	6
7:45 AM	1	0	0	0	1
8:00 AM	1	0	0	0	1
8:15 AM	0	0	0	0	0
8:30 AM	1	0	0	0	1
8:45 AM	0	0	0	0	0
TOTAL	4	1	2	4	11

BIicycle & SCOOTER CROSSINGS

Time	EL	WL	SL	NL	TOTAL
6:00 AM	0	0	0	0	0
6:15 AM	0	0	0	0	0
6:30 AM	0	1	0	0	1
6:45 AM	0	1	0	0	1
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	2	0	0	0	2
7:45 AM	0	0	0	0	0
8:00 AM	0	2	0	0	2
8:15 AM	0	0	0	0	0
8:30 AM	0	2	0	0	2
8:45 AM	0	0	0	0	0
TOTAL	2	6	0	0	8

AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: 4/4/24 THURSDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Chino Monte Vista Ave Edison Ave	PROJECT #: SC4543 LOCATION #: 1 CONTROL: SIGNAL
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LANES:	NORTHBOUND Monte Vista Ave			SOUTHBOUND Monte Vista Ave			EASTBOUND Edison Ave			WESTBOUND Edison Ave			TOTAL	U-TURNS				
	NL 1	NT 2	NR 0	SL 1	ST 2	SR 0	EL 1	ET 2	ER 1	WL 1	WT 2	WR 0		NB	SB	EB	WB	TTL

AM	Hourly Counts												TOTAL
	6:00 AM	6:15 AM	6:30 AM	6:45 AM	7:00 AM	7:15 AM	7:30 AM	7:45 AM	8:00 AM	8:15 AM	8:30 AM	8:45 AM	
	0	12	5	7	33	12	4	47	3	11	100	4	236
	0	7	0	3	36	7	5	43	6	9	101	3	220
	1	10	3	7	38	6	11	43	7	12	106	7	250
	0	22	11	1	63	14	16	67	9	18	101	11	332
	4	19	9	7	45	3	4	60	8	9	124	6	295
	3	27	6	5	45	20	12	78	6	28	114	12	355
	4	35	5	2	57	7	24	89	5	10	154	8	400
	0	34	7	6	71	19	20	114	3	13	167	14	465
	2	44	16	18	62	15	19	126	11	16	157	9	492
	5	28	11	4	54	11	16	178	20	15	155	8	502
	2	40	4	6	50	10	21	124	5	7	124	11	403
	1	30	6	8	54	12	16	109	2	5	169	14	423
VOLUMES	21	306	82	71	606	135	165	1,076	84	152	1,569	105	4,371
APPROACH %	5%	75%	20%	9%	75%	17%	12%	81%	6%	8%	86%	6%	
APP/DEPART	409	/	576	812	/	842	1,325	/	1,228	1,826	/	1,725	0
BEGIN PEAK HR VOLUMES	8	145	37	34	236	55	75	542	39	51	602	41	1,862
APPROACH %	4%	76%	19%	10%	73%	17%	11%	83%	6%	7%	87%	6%	
PEAK HR FACTOR		0.785			0.847			0.768			0.901		0.927
APP/DEPART	190	/	261	324	/	325	655	/	612	694	/	665	0

PM	Hourly Counts												TOTAL
	04:00 PM	4:15 PM	4:30 PM	4:45 PM	5:00 PM	5:15 PM	5:30 PM	5:45 PM	6:00 PM	6:15 PM	6:30 PM	6:45 PM	
	16	59	7	3	42	10	26	274	1	15	152	11	614
	6	58	12	5	37	8	19	284	12	9	129	14	592
	7	58	8	13	48	13	33	236	7	12	153	7	591
	7	54	5	8	46	8	17	248	6	5	161	12	574
	11	48	13	8	36	9	29	328	7	6	187	11	692
	5	34	20	4	35	18	28	290	7	14	116	7	577
	0	52	8	5	40	14	22	241	2	6	143	9	542
	2	40	5	6	44	11	17	276	10	6	123	8	548
	1	41	4	4	55	15	25	225	1	10	103	11	494
	1	33	7	9	29	18	16	248	0	6	112	8	486
	0	33	5	7	29	4	11	195	1	3	97	6	391
	4	22	6	9	26	8	19	194	1	3	97	8	397
VOLUMES	59	529	100	81	466	136	260	3,037	54	94	1,571	112	6,496
APPROACH %	9%	77%	14%	12%	68%	20%	8%	91%	2%	5%	88%	6%	
APP/DEPART	688	/	901	682	/	613	3,351	/	3,217	1,776	/	1,766	0
BEGIN PEAK HR VOLUMES	30	217	38	34	166	38	97	1,095	31	31	629	44	2,449
APPROACH %	11%	76%	13%	14%	70%	16%	8%	90%	3%	4%	89%	6%	
PEAK HR FACTOR		0.936			0.810			0.842			0.862		0.885
APP/DEPART	285	/	358	238	/	228	1,223	/	1,167	703	/	697	0



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: 4/4/24 THURSDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Chino Monte Vista Ave Edison Ave	PROJECT #: LOCATION #: CONTROL:	SC4543 1 SIGNAL
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CLASS 1: PASSENGER VEHICLES	NOTES:	AM	▲
		PM	N
		MD	◀ W E ▶
		OTHER	S
		OTHER	▼

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	Monte Vista Ave	Monte Vista Ave	Monte Vista Ave	Edison Ave	Edison Ave	Edison Ave	Edison Ave	Edison Ave	Edison Ave	Edison Ave	Edison Ave		
	NL 1	NT 2	NR 0	SL 1	ST 2	SR 0	EL 1	ET 2	ER 1	WL 1	WT 2	WR 0	

U-TURNS				
NB	SB	EB	WB	TTL

RTOR			
NRR	SRR	ERR	WRR

6:00 AM	0	10	2	5	30	4	1	26	3	1	59	1	142
6:15 AM	0	7	0	3	34	7	2	28	3	6	61	3	154
6:30 AM	1	10	3	2	32	6	8	30	4	7	74	5	182
6:45 AM	0	20	2	1	58	5	14	40	9	12	67	6	234
7:00 AM	4	19	3	5	38	3	2	38	4	6	84	6	212
7:15 AM	0	19	1	3	36	14	7	53	6	11	82	6	238
7:30 AM	1	29	5	2	51	7	16	72	2	7	101	5	298
7:45 AM	0	29	1	6	64	16	18	89	3	8	130	9	373
8:00 AM	0	40	2	8	49	9	11	82	5	10	117	6	339
8:15 AM	0	28	2	4	47	6	8	133	15	13	112	4	372
8:30 AM	2	37	0	6	39	2	18	89	2	7	87	8	297
8:45 AM	1	30	3	3	48	7	12	79	2	3	113	9	310
VOLUMES	9	278	24	48	526	86	117	759	58	91	1,087	68	3,151
APPROACH %	3%	89%	8%	7%	80%	13%	13%	81%	6%	7%	87%	5%	
APP/DEPART	311	/	463	660	/	675	934	/	831	1,246	/	1,182	0
BEGIN PEAK HR	7:45 AM												
VOLUMES	2	134	5	24	199	33	55	393	25	38	446	27	1,381
APPROACH %	1%	95%	4%	9%	78%	13%	12%	83%	5%	7%	87%	5%	
PEAK HR FACTOR	0.839			0.744			0.758			0.869			0.926
APP/DEPART	141	/	216	256	/	262	473	/	422	511	/	481	0
04:00 PM	8	50	5	3	37	8	13	216	1	7	129	5	482
4:15 PM	3	52	7	2	35	5	16	225	1	4	109	7	466
4:30 PM	5	54	3	7	43	11	28	200	2	4	140	5	502
4:45 PM	5	47	3	5	41	8	15	206	1	3	134	12	480
5:00 PM	11	48	10	5	36	9	23	269	5	6	163	11	596
5:15 PM	5	29	8	4	35	18	19	234	2	5	112	7	478
5:30 PM	0	50	5	5	40	14	22	197	2	2	129	9	475
5:45 PM	2	40	3	6	44	11	17	253	5	6	117	8	512
6:00 PM	1	39	1	4	52	12	23	203	1	5	95	11	447
6:15 PM	1	31	1	4	29	18	16	221	0	4	93	8	426
6:30 PM	0	33	2	7	29	4	11	163	1	3	81	6	340
6:45 PM	1	22	0	9	26	6	16	166	1	3	84	4	338
VOLUMES	42	495	48	61	447	124	219	2,553	22	52	1,386	93	5,542
APPROACH %	7%	85%	8%	10%	71%	20%	8%	91%	1%	3%	91%	6%	
APP/DEPART	585	/	807	632	/	521	2,794	/	2,662	1,531	/	1,552	0
BEGIN PEAK HR	4:15 PM												
VOLUMES	24	201	23	19	155	33	82	900	9	17	546	35	2,044
APPROACH %	10%	81%	9%	9%	75%	16%	8%	91%	1%	3%	91%	6%	
PEAK HR FACTOR	0.899			0.848			0.834			0.831			0.857
APP/DEPART	248	/	318	207	/	181	991	/	942	598	/	603	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0
0	3	0	0
3	3	1	0
1	4	0	1
2	1	0	1
1	4	4	0
3	0	0	1
0	4	0	2
0	2	3	0
1	1	3	0
0	0	0	0
1	1	1	0
12	23	12	5

0	0	0	0
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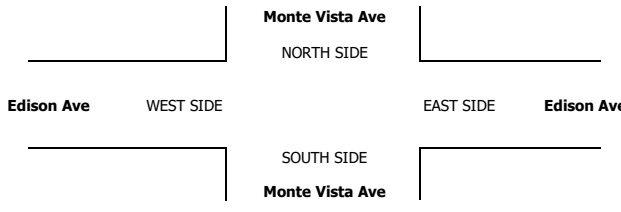
1	7	6	2
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0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

1	1	0	0
0	0	0	2
1	3	1	0
1	2	0	1
4	3	2	1
1	12	0	0
1	4	0	0
1	4	1	1
1	4	1	2
1	7	0	1
0	2	0	1
0	2	0	0
12	44	5	9

0	0	0	0
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6	8	3	4
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INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: 4/4/24 THURSDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Chino Monte Vista Ave Edison Ave	PROJECT #: SC4543	LOCATION #: 1	CONTROL: SIGNAL
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CLASS 2: 2-AXLE WORK VEHICLES/ TRUCKS	NOTES:	AM PM MD OTHER OTHER	◀ W N E ▶ S ▼
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	NORTHBOUND Monte Vista Ave			SOUTHBOUND Monte Vista Ave			EASTBOUND Edison Ave			WESTBOUND Edison Ave			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
LANES:	1	2	0	1	2	0	1	2	1	1	2	0	
6:00 AM	0	1	0	1	2	0	0	2	0	1	7	0	14
6:15 AM	0	0	0	0	1	0	0	4	0	0	6	0	11
6:30 AM	0	0	0	3	4	0	0	4	0	0	5	1	17
6:45 AM	0	1	2	0	2	0	1	5	0	0	6	0	17
7:00 AM	0	0	0	1	3	0	1	7	1	2	7	0	22
7:15 AM	0	4	1	1	4	2	2	2	0	0	8	0	24
7:30 AM	0	4	0	0	0	0	0	1	0	0	4	0	9
7:45 AM	0	3	0	0	3	0	1	3	0	3	3	1	17
8:00 AM	1	1	1	1	7	0	1	10	0	0	4	0	26
8:15 AM	1	0	2	0	1	2	1	6	1	0	5	1	20
8:30 AM	0	2	1	0	6	1	0	6	0	0	4	0	20
8:45 AM	0	0	0	3	4	1	1	7	0	0	7	1	24
VOLUMES	2	16	7	10	37	6	8	57	2	6	66	4	221
APPROACH %	8%	64%	28%	19%	70%	11%	12%	85%	3%	8%	87%	5%	
APP/DEPART	25	/	28	53	/	45	67	/	74	76	/	74	0
BEGIN PEAK HR VOLUMES	2	6	4	1	17	3	3	25	1	3	16	2	83
APPROACH %	17%	50%	33%	5%	81%	14%	10%	86%	3%	14%	76%	10%	
PEAK HR FACTOR		1.000			0.656			0.659			0.750		0.798
APP/DEPART	12	/	11	21	/	21	29	/	30	21	/	21	0

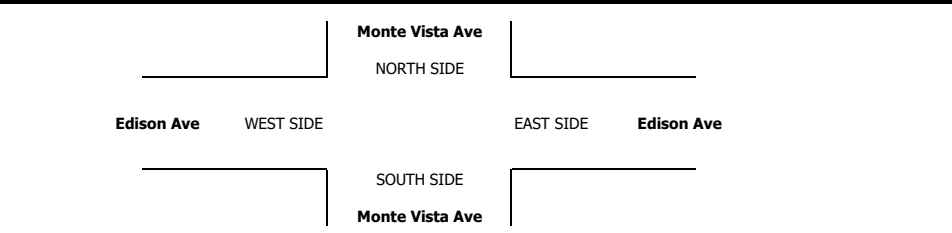
U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR			
NRR	SRR	ERR	WRR
0	0	0	0
0	0	0	0
0	0	0	0
1	0	0	0
0	0	0	0
0	2	0	0
0	0	0	0
0	0	0	0
0	0	0	0
1	1	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
2	3	0	0

7:45 AM	2	16	7	10	37	6	8	57	2	6	66	4	221
APPROACH %	8%	64%	28%	19%	70%	11%	12%	85%	3%	8%	87%	5%	
APP/DEPART	25	/	28	53	/	45	67	/	74	76	/	74	0
BEGIN PEAK HR VOLUMES	2	6	4	1	17	3	3	25	1	3	16	2	83
APPROACH %	17%	50%	33%	5%	81%	14%	10%	86%	3%	14%	76%	10%	
PEAK HR FACTOR		1.000			0.656			0.659			0.750		0.798
APP/DEPART	12	/	11	21	/	21	29	/	30	21	/	21	0
04:00 PM	0	1	0	0	3	0	1	8	0	1	4	2	20
4:15 PM	2	2	0	2	0	0	0	12	0	1	3	0	22
4:30 PM	1	1	1	0	3	0	1	8	0	1	3	1	20
4:45 PM	1	3	0	0	3	0	1	5	1	0	7	0	21
5:00 PM	0	0	0	0	0	0	0	7	1	0	4	0	12
5:15 PM	0	1	0	0	0	0	0	8	1	0	1	0	11
5:30 PM	0	1	0	0	0	0	0	4	0	0	6	0	11
5:45 PM	0	0	0	0	0	0	0	2	0	0	2	0	4
6:00 PM	0	0	0	0	0	0	1	1	0	0	2	0	4
6:15 PM	0	1	0	1	0	0	0	6	0	0	2	0	10
6:30 PM	0	0	0	0	0	0	0	5	0	0	4	0	9
6:45 PM	0	0	0	0	0	0	0	2	0	0	3	0	5
VOLUMES	4	10	1	3	9	0	4	68	3	3	41	3	149
APPROACH %	27%	67%	7%	25%	75%	0%	5%	91%	4%	6%	87%	6%	
APP/DEPART	15	/	17	12	/	15	75	/	72	47	/	45	0
BEGIN PEAK HR VOLUMES	4	6	1	2	6	0	2	32	2	2	17	1	75
APPROACH %	36%	55%	9%	25%	75%	0%	6%	89%	6%	10%	85%	5%	
PEAK HR FACTOR		0.688			0.667			0.750			0.714		0.852
APP/DEPART	11	/	9	8	/	10	36	/	35	20	/	21	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
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0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

1	1	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	1	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
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0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	1	0



0	0	0	0
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0	0	1	0
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INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: 4/4/24 THURSDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Chino Monte Vista Ave Edison Ave	PROJECT #: SC4543	LOCATION #: 1	CONTROL: SIGNAL
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CLASS 3: 3-AXLE TRUCKS	NOTES:	AM		▲	
		PM			
		MD	◀ W		E ▶
		OTHER		S	
		OTHER		▼	

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	Monte Vista Ave			Monte Vista Ave			Edison Ave			Edison Ave			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	1	2	0	1	2	0	1	2	1	1	2	0	

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0

RTOR			
NRR	SRR	ERR	WRR
0	0	0	0

AM	6:00 AM	0	0	0	0	0	1	0	3	0	1	0	0	5
	6:15 AM	0	0	0	0	0	0	0	3	0	0	2	0	5
	6:30 AM	0	0	0	0	0	0	0	2	0	1	3	0	6
	6:45 AM	0	0	0	0	1	0	0	2	0	0	5	1	9
	7:00 AM	0	0	0	0	0	0	0	1	1	0	4	0	6
	7:15 AM	0	0	0	0	0	0	1	2	0	1	3	0	7
	7:30 AM	0	0	0	0	0	0	1	0	0	0	6	0	7
	7:45 AM	0	0	0	0	0	0	0	1	0	0	1	0	2
	8:00 AM	0	0	0	1	0	0	0	4	0	0	5	0	10
	8:15 AM	0	0	0	0	0	1	0	3	0	1	1	1	7
8:30 AM	0	0	1	0	1	0	0	1	0	0	2	0	5	
8:45 AM	0	0	0	0	0	0	1	2	0	1	3	0	7	

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
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0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

VOLUMES	0	0	1	1	2	2	3	24	1	5	35	2	76
APPROACH %	0%	0%	100%	20%	40%	40%	11%	86%	4%	12%	83%	5%	
APP/DEPART	1	/	5	5	/	8	28	/	26	42	/	37	0
BEGIN PEAK HR	7:45 AM												
VOLUMES	0	0	1	1	1	1	0	9	0	1	9	1	24
APPROACH %	0%	0%	100%	33%	33%	33%	0%	100%	0%	9%	82%	9%	
PEAK HR FACTOR	0.250			0.750			0.563			0.550			0.600
APP/DEPART	1	/	1	3	/	2	9	/	11	11	/	10	0

0	0	0	0
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0	0	0	0
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PM	04:00 PM	1	1	1	0	0	1	1	2	0	0	1	0	8
	4:15 PM	0	0	1	0	1	0	0	4	1	0	3	2	12
	4:30 PM	0	1	0	0	0	1	0	0	1	0	1	0	4
	4:45 PM	0	1	1	0	0	0	0	2	0	1	2	0	7
	5:00 PM	0	0	0	0	0	0	0	3	0	0	0	0	3
	5:15 PM	0	0	0	0	0	0	0	1	0	0	1	0	2
	5:30 PM	0	0	0	0	0	0	0	1	0	2	1	0	4
	5:45 PM	0	0	1	0	0	0	0	1	1	0	0	0	3
	6:00 PM	0	0	0	0	0	0	0	4	0	1	1	0	6
	6:15 PM	0	0	0	0	0	0	0	2	0	1	5	0	8
6:30 PM	0	0	0	0	0	0	0	0	0	0	2	0	2	
6:45 PM	0	0	0	0	0	1	0	2	0	0	1	2	6	

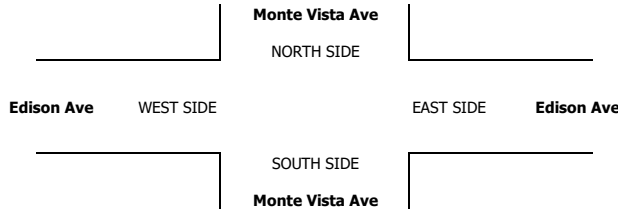
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0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
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0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	1	0	0
0	0	0	0
0	1	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	3	0	0

VOLUMES	1	3	4	0	1	3	1	22	3	5	18	4	65
APPROACH %	13%	38%	50%	0%	25%	75%	4%	85%	12%	19%	67%	15%	
APP/DEPART	8	/	8	4	/	9	26	/	26	27	/	22	0
BEGIN PEAK HR	4:15 PM												
VOLUMES	0	2	2	0	1	1	0	9	2	1	6	2	26
APPROACH %	0%	50%	50%	0%	50%	50%	0%	82%	18%	11%	67%	22%	
PEAK HR FACTOR	0.500			0.500			0.550			0.450			0.542
APP/DEPART	4	/	4	2	/	4	11	/	11	9	/	7	0

0	0	0	0
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0	1	0	0
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INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: 4/4/24 THURSDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Chino Monte Vista Ave Edison Ave	PROJECT #: LOCATION #: CONTROL:	SC4543 1 SIGNAL
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CLASS 4: 4 OR MORE AXLE TRUCKS	NOTES:	AM		▲	
		PM	◀ W	N	▶ E
		MD	S	▼	
		OTHER			

LANES:	NORTHBOUND Monte Vista Ave			SOUTHBOUND Monte Vista Ave			EASTBOUND Edison Ave			WESTBOUND Edison Ave			TOTAL
	NL 1	NT 2	NR 0	SL 1	ST 2	SR 0	EL 1	ET 2	ER 1	WL 1	WT 2	WR 0	

U-TURNS				
NB	SB	EB	WB	TTL

RTOR			
NRR	SRR	ERR	WRR

6:00 AM	0	0	1	0	0	2	1	4	0	2	10	1	21
6:15 AM	0	0	0	0	0	0	1	1	1	1	9	0	13
6:30 AM	0	0	0	0	0	0	1	1	1	1	6	0	10
6:45 AM	0	0	2	0	0	3	0	5	0	2	5	1	18
7:00 AM	0	0	2	0	0	0	0	3	0	0	7	0	12
7:15 AM	1	0	1	0	1	1	0	6	0	5	4	2	21
7:30 AM	1	0	0	0	2	0	2	5	1	1	11	1	24
7:45 AM	0	0	2	0	0	1	0	6	0	0	10	1	20
8:00 AM	0	0	4	2	0	2	2	7	2	2	8	1	30
8:15 AM	1	0	2	0	1	0	2	10	1	0	11	0	28
8:30 AM	0	0	0	0	0	2	1	8	1	0	9	1	22
8:45 AM	0	0	1	0	0	1	0	5	0	0	13	1	21

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
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0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0
0	0	0	0
0	0	0	0
2	1	0	0
1	0	0	0
1	1	0	0
0	0	0	0
0	0	0	0
1	0	0	0
1	0	1	0
1	0	0	0
0	0	0	1
0	0	0	0
0	0	0	0
7	3	1	1

VOLUMES	3	0	15	2	4	12	10	61	7	14	103	9	240
APPROACH %	17%	0%	83%	11%	22%	67%	13%	78%	9%	11%	82%	7%	
APP/DEPART	18	/	19	18	/	25	78	/	78	126	/	118	0
BEGIN PEAK HR VOLUMES	1	0	8	2	1	5	5	31	4	2	38	3	100
APPROACH %	11%	0%	89%	25%	13%	63%	13%	78%	10%	5%	88%	7%	
PEAK HR FACTOR		0.563			0.500			0.769			0.977		0.833
APP/DEPART	9	/	8	8	/	7	40	/	41	43	/	44	0

0	0	0	0
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3	0	1	1
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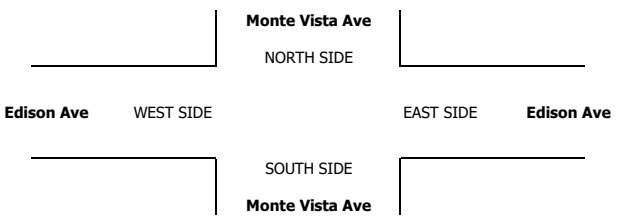
04:00 PM	2	1	0	0	0	0	3	14	0	2	5	1	28
4:15 PM	0	1	1	0	0	1	1	11	3	1	3	1	23
4:30 PM	0	0	1	2	0	0	1	8	1	2	2	0	17
4:45 PM	0	0	0	1	0	0	0	10	1	0	4	0	16
5:00 PM	0	0	1	1	0	0	2	14	0	0	6	0	24
5:15 PM	0	1	4	0	0	0	3	14	1	3	0	0	26
5:30 PM	0	0	1	0	0	0	0	12	0	0	1	0	14
5:45 PM	0	0	0	0	0	0	0	6	1	0	1	0	8
6:00 PM	0	0	1	0	1	1	0	4	0	1	1	0	9
6:15 PM	0	0	2	1	0	0	0	4	0	0	2	0	9
6:30 PM	0	0	1	0	0	0	0	8	0	0	2	0	11
6:45 PM	1	0	2	0	0	0	1	7	0	0	2	0	13
VOLUMES	3	3	14	5	1	2	11	112	7	9	29	2	198
APPROACH %	15%	15%	70%	63%	13%	25%	8%	86%	5%	23%	73%	5%	
APP/DEPART	20	/	16	8	/	17	130	/	131	40	/	34	0
BEGIN PEAK HR VOLUMES	0	1	3	4	0	1	4	43	5	3	15	1	80
APPROACH %	0%	25%	75%	80%	0%	20%	8%	83%	10%	16%	79%	5%	
PEAK HR FACTOR		0.500			0.625			0.813			0.792		0.833
APP/DEPART	4	/	6	5	/	8	52	/	50	19	/	16	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
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0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0
1	1	0	0
0	0	0	0
0	0	0	0
1	0	0	0
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0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
4	1	0	0

0	0	0	0
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2	1	0	0
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INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: 4/4/24 THURSDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Chino Monte Vista Ave Edison Ave	PROJECT #: SC4543	LOCATION #: 1	CONTROL: SIGNAL
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CLASS 5: RV	NOTES:	AM		▲	
		PM		N	
		MD	◀ W		E ▶
		OTHER:		S	

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	Monte Vista Ave			Monte Vista Ave			Edison Ave			Edison Ave			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
1	2	0	1	2	0	1	2	1	1	2	0		

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0

RTOR			
NRR	SRR	ERR	WRR
0	0	0	0

6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
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0	0	0	0

VOLUMES	0			0			0			0			0
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
APP/DEPART	/			/			/			/			/
BEGIN PEAK HR	7:45 AM												

0	0	0	0	0
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0	0	0	0
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04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	0	1	0	0	0	1
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0

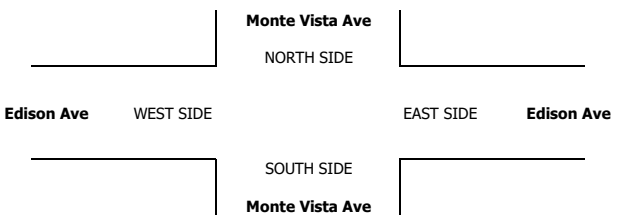
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0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

VOLUMES	0			0			1			0			1
APPROACH %	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	
APP/DEPART	/			/			/			/			/
BEGIN PEAK HR	4:15 PM												

0	0	0	0	0
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0	0	0	0
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INTERSECTION TURNING MOVEMENT COUNTS
PREPARED BY: AimTD LLC, tel: 714 253 7888 cs@aimtd.com

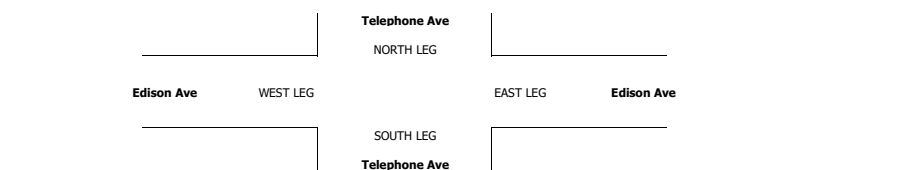
DATE: Thu, Apr 4, 24
LOCATION: NORTH & SOUTH: Edison Ave
EAST & WEST: Chino Telephone Ave
PROJECT #: SC4543
LOCATION #: 2
CONTROL: STOP N



Main data table with columns for Northbound, Southbound, Eastbound, Westbound, and Total counts across various time intervals (6:00 AM to 6:45 PM).

U-TURNS table with columns NB, SB, EB, WB, TTL.

RTOR table with columns NRR, SRR, ERR, WRR.



U-TURNS table with columns NB, SB, EB, WB, TTL.

RTOR table with columns NRR, SRR, ERR, WRR.

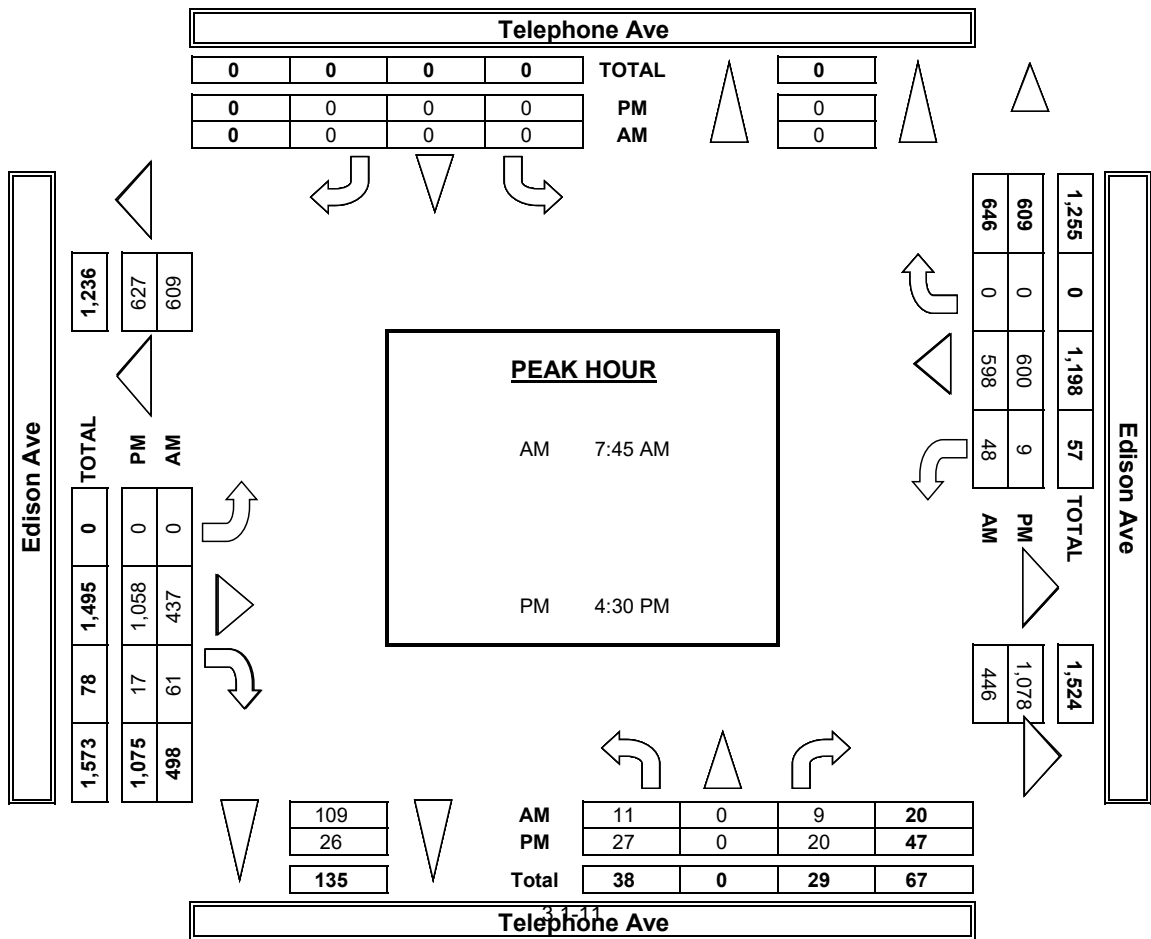
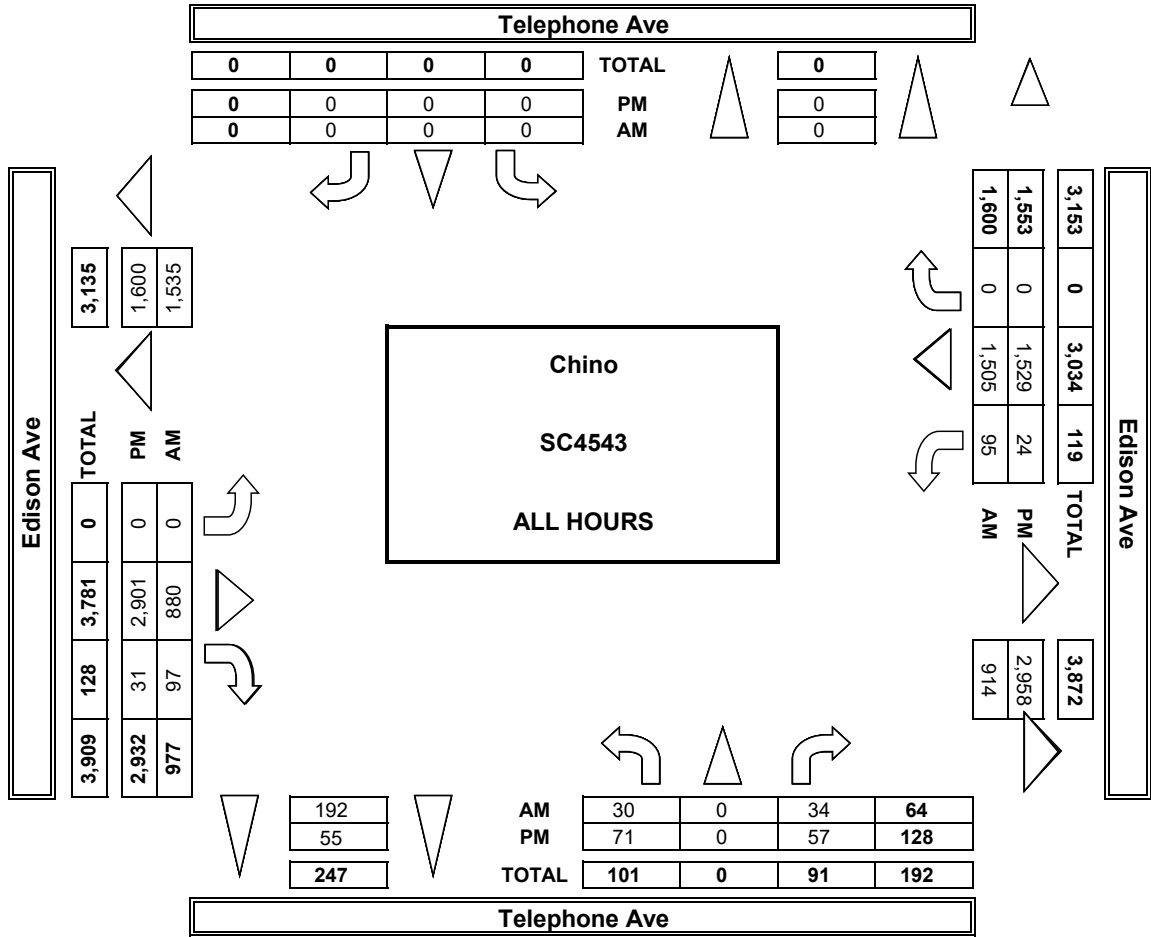
Table with time intervals (6:00 AM to 6:45 PM) for pedestrian and scooter counts.

Table with columns E LEG, W LEG, S LEG, N LEG, TOTAL for pedestrian and scooter counts.

Table with columns E LEG, W LEG, S LEG, N LEG, TOTAL for pedestrian crossings.

Table with columns EL, WL, SL, NL, TOTAL for bicycle and scooter crossings.

AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS
 PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:
4/4/24
THURSDAY

LOCATION:
NORTH & SOUTH:
EAST & WEST:

Chino
Telephone Ave
Edison Ave

PROJECT #:
SC4543
LOCATION #:
2
CONTROL:
STOP N

PCE Adjusted	NOTES:						AM PM MD OTHER OTHER	▲ N ← W → E ▼ S
	Class	1	2	3	4	5		
	Factor	1	1.5	2	3	2	2	

LANES:	NORTHBOUND Telephone Ave			SOUTHBOUND Telephone Ave			EASTBOUND Edison Ave			WESTBOUND Edison Ave			TOTAL	U-TURNS				
	NL 1	NT X	NR 0	SL X	ST X	SR X	EL X	ET 2	ER 0	WL 1	WT 2	WR X		NB	SB	EB	WB	TTL

AM	6:00 AM	1	0	1	0	0	0	0	47	8	4	119	0	179						0
	6:15 AM	5	0	3	0	0	0	0	40	1	7	119	0	174						0
	6:30 AM	1	0	11	0	0	0	0	46	1	7	122	0	187						0
	6:45 AM	6	0	4	0	0	0	0	69	4	8	134	0	224						0
	7:00 AM	1	0	0	0	0	0	0	74	3	3	139	0	220						0
	7:15 AM	2	0	3	0	0	0	0	69	11	6	155	0	245						0
	7:30 AM	2	0	10	0	0	0	0	89	5	7	170	0	282						0
	7:45 AM	4	0	5	0	0	0	0	111	13	16	195	0	342						0
	8:00 AM	1	0	2	0	0	0	0	125	36	23	203	0	389						0
	8:15 AM	5	0	4	0	0	0	0	176	12	8	152	0	355						0
	8:30 AM	7	0	5	0	0	0	0	121	9	8	162	0	311						0
	8:45 AM	6	0	8	0	0	0	0	117	7	13	162	0	312						0
	VOLUMES	39	0	53	0	0	0	0	1,082	108	108	1,829	0	3,218						0
APPROACH %	42%	0%	58%	0%	0%	0%	0%	91%	9%	6%	94%	0%							0	
APP/DEPART	92	/	0	0	/	216	1,190	/	1,135	1,937	/	1,868	0						0	
BEGIN PEAK HR	7:45 AM																			
VOLUMES	16	0	15	0	0	0	0	533	69	54	711	0	1,397						0	
APPROACH %	52%	0%	48%	0%	0%	0%	0%	89%	11%	7%	93%	0%							0	
PEAK HR FACTOR	0.693																			
APP/DEPART	31	/	0	0	/	123	602	/	548	765	/	727	0						0	
PM	04:00 PM	13	0	15	0	0	0	0	283	6	4	146	0	466						0
	4:15 PM	4	0	4	0	0	0	0	303	6	4	140	0	461						0
	4:30 PM	7	0	7	0	0	0	0	252	6	4	157	0	432						0
	4:45 PM	5	0	6	0	0	0	0	269	5	1	175	0	460						0
	5:00 PM	13	0	9	0	0	0	0	324	3	5	178	0	531						0
	5:15 PM	4	0	3	0	0	0	0	343	7	4	136	0	496						0
	5:30 PM	10	0	3	0	0	0	0	245	1	0	144	0	402						0
	5:45 PM	11	0	4	0	0	0	0	302	0	6	125	0	447						0
	6:00 PM	2	0	2	0	0	0	0	229	0	0	127	0	360						0
	6:15 PM	3	0	3	0	0	0	0	266	1	1	119	0	393						0
	6:30 PM	2	0	5	0	0	0	0	211	0	3	95	0	316						0
	6:45 PM	1	0	5	0	0	0	0	204	2	3	111	0	325						0
	VOLUMES	74	0	65	0	0	0	0	3,228	36	34	1,651	0	5,087						0
APPROACH %	53%	0%	47%	0%	0%	0%	0%	99%	1%	2%	98%	0%							0	
APP/DEPART	139	/	0	0	/	70	3,264	/	3,293	1,685	/	1,724	0						0	
BEGIN PEAK HR	4:30 PM																			
VOLUMES	28	0	25	0	0	0	0	1,187	21	14	645	0	1,918						0	
APPROACH %	53%	0%	47%	0%	0%	0%	0%	98%	2%	2%	98%	0%							0	
PEAK HR FACTOR	0.610																			
APP/DEPART	53	/	0	0	/	34	1,207	/	1,211	659	/	673	0						0	



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

Table with project details: DATE (4/4/24 THURSDAY), LOCATION (Chino Telephone Ave), PROJECT # (SC4543), NORTH & SOUTH, EAST & WEST, LOCATION # (2), CONTROL (STOP N).

CLASS 4: 4 OR MORE AXLE TRUCKS. NOTES: [Blank]. Diagram showing lane directions: W, E, N, S.

Summary table for Northbound, Southbound, Eastbound, and Westbound lanes. Includes counts for NL, NT, NR, SL, ST, SR, EL, ET, ER, WL, WT, WR, and TOTAL.

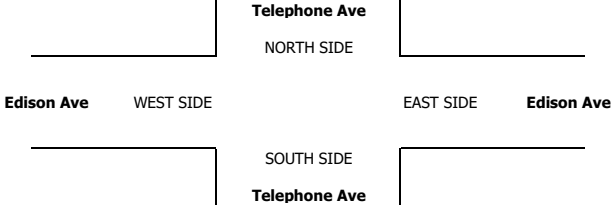
U-TURNS table showing counts for NB, SB, EB, WB, and TTL.

RTOR table showing counts for NRR, SRR, ERR, and WRR.

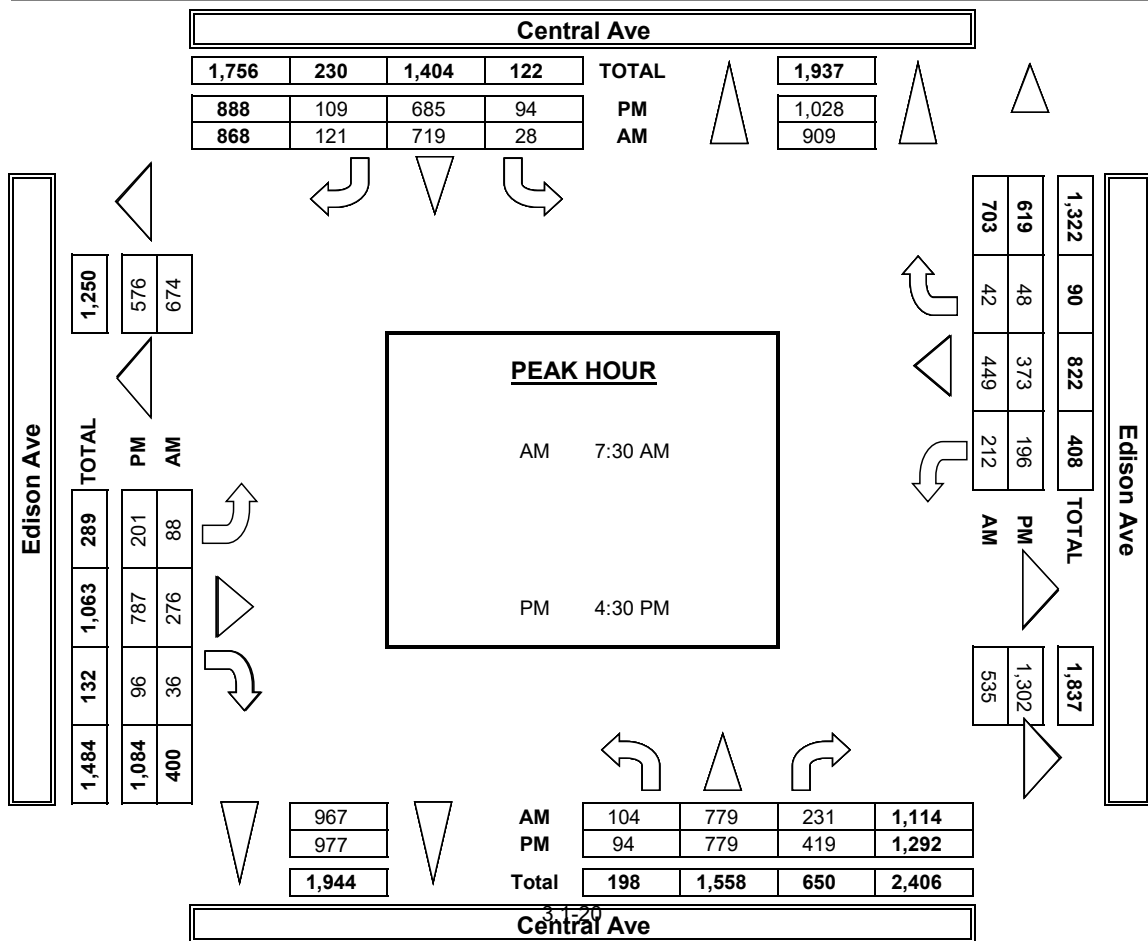
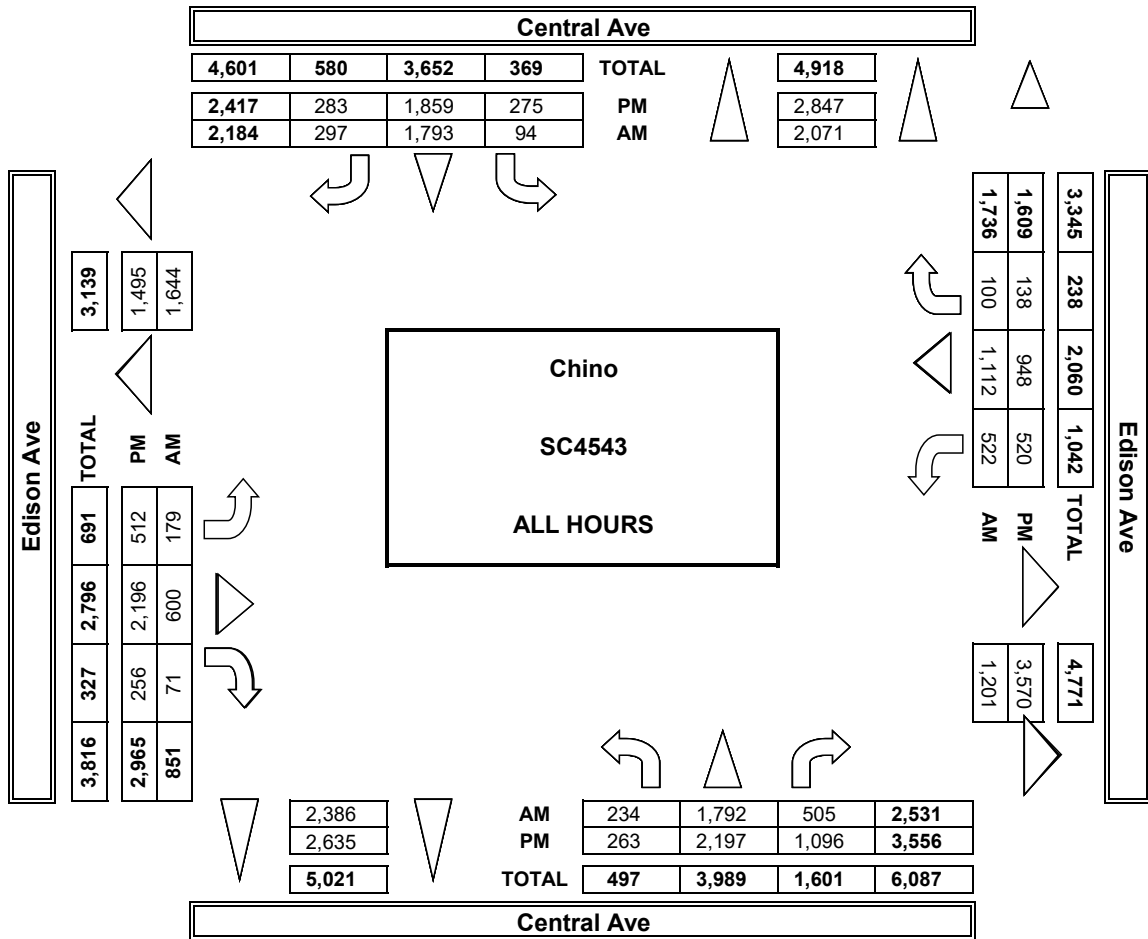
Main data table with time intervals (6:00 AM to 6:45 PM) for AM and PM. Rows include VOLUMES, APPROACH %, APP/DEPART, and BEGIN PEAK HR VOLUMES/FACTORS for Northbound, Southbound, Eastbound, and Westbound.

U-TURNS summary table for AM and PM periods.

RTOR summary table for AM and PM periods.



AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:
4/4/24
THURSDAY

LOCATION:
NORTH & SOUTH:
EAST & WEST:

Chino
Central Ave
Edison Ave

PROJECT #:
SC4543
LOCATION #:
3
CONTROL:
SIGNAL

PCE Adjusted	NOTES:										AM PM MD OTHER OTHER	▲ N E ▶ S ▼
	Class	1	2	3	4	5	6					
	Factor	1	1.5	2	3	2	2					

LANES:	NORTHBOUND Central Ave			SOUTHBOUND Central Ave			EASTBOUND Edison Ave			WESTBOUND Edison Ave			TOTAL	U-TURNS				
	NL 1	NT 2	NR 0	SL 1	ST 2	SR 1	EL 1	ET 2	ER 0	WL 2	WT 2	WR 1		NB	SB	EB	WB	TTL

AM	6:00 AM	7	65	27	1	103	17	12	31	5	25	101	11	403							
	6:15 AM	8	86	22	8	129	26	9	33	5	39	93	6	461							
	6:30 AM	9	97	27	7	156	20	6	44	4	51	102	3	525							
	6:45 AM	12	131	40	15	196	31	10	55	2	46	120	8	662							
	7:00 AM	17	159	38	15	134	21	13	43	8	29	97	16	588							
	7:15 AM	21	164	40	8	156	20	19	49	1	59	127	5	668							
	7:30 AM	22	198	61	6	219	25	18	65	5	47	122	6	792							
	7:45 AM	31	220	63	8	186	49	28	78	11	83	155	17	926							
	8:00 AM	33	215	69	11	206	34	22	82	7	46	147	11	881							
	8:15 AM	22	210	73	9	162	21	39	119	18	68	122	22	883							
	8:30 AM	30	189	74	19	160	38	23	96	5	47	93	16	787							
	8:45 AM	36	196	53	15	138	31	23	83	12	54	103	8	750							
	VOLUMES	248	1,928	584	120	1,943	331	220	775	81	590	1,380	126	8,322							
	APPROACH %	9%	70%	21%	5%	81%	14%	20%	72%	8%	28%	66%	6%								
APP/DEPART	2,760	/	2,274	2,393	/	2,613	1,075	/	1,478	2,095	/	1,958	0								
BEGIN PEAK HR	7:30 AM																				
VOLUMES	108	842	265	33	773	128	106	343	40	243	545	55	3,480								
APPROACH %	9%	69%	22%	4%	83%	14%	22%	70%	8%	29%	65%	7%									
PEAK HR FACTOR	0.958			0.930			0.697			0.831			0.940								
APP/DEPART	1,215	/	1,003	934	/	1,055	489	/	641	843	/	781	0								
PM	04:00 PM	16	224	123	26	140	34	76	254	20	43	95	13	1,061							
	4:15 PM	26	253	155	33	153	21	45	208	13	50	85	27	1,067							
	4:30 PM	34	207	111	19	160	27	50	226	19	54	104	14	1,022							
	4:45 PM	31	184	101	26	180	33	42	223	28	51	101	10	1,008							
	5:00 PM	18	217	120	25	163	37	69	230	27	55	120	15	1,094							
	5:15 PM	16	209	115	28	203	16	56	220	29	52	91	18	1,051							
	5:30 PM	24	195	98	36	141	27	41	225	23	46	101	18	972							
	5:45 PM	28	202	76	33	174	22	38	234	16	60	62	11	954							
	6:00 PM	24	166	86	33	165	17	33	195	24	46	91	11	889							
	6:15 PM	21	157	70	19	174	13	36	180	22	26	77	15	807							
	6:30 PM	15	147	60	10	131	23	28	175	27	59	68	12	753							
	6:45 PM	22	144	64	17	121	22	41	124	18	33	71	12	687							
	VOLUMES	272	2,304	1,176	304	1,902	291	553	2,491	265	571	1,063	175	11,363							
	APPROACH %	7%	61%	31%	12%	76%	12%	17%	75%	8%	32%	59%	10%								
APP/DEPART	3,752	/	3,031	2,496	/	2,737	3,308	/	3,971	1,808	/	1,625	0								
BEGIN PEAK HR	4:30 PM																				
VOLUMES	98	816	446	98	705	113	216	899	103	210	416	57	4,175								
APPROACH %	7%	60%	33%	11%	77%	12%	18%	74%	8%	31%	61%	8%									
PEAK HR FACTOR	0.960			0.927			0.936			0.900			0.954								
APP/DEPART	1,360	/	1,088	916	/	1,018	1,217	/	1,443	683	/	627	0								



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: 4/4/24 THURSDAY
 LOCATION: NORTH & SOUTH: CHINO
 EAST & WEST: Central Ave
 Edison Ave
 PROJECT #: SC4543
 LOCATION #: 3
 CONTROL: SIGNAL

CLASS 6:	NOTES:	AM	▲	N
BUSES		PM	←	W
		MD	→	E
		OTHER	▼	S
		OTHER		

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	

U-TURNS				
NB	SB	EB	WB	TTL

RTOR			
NRR	SRR	ERR	WRR

AM	6:00 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
	6:15 AM	0	0	0	1	3	0	0	0	0	0	0	0	4
	6:30 AM	0	1	0	0	3	0	0	0	0	0	0	0	4
	6:45 AM	0	0	0	2	6	0	0	0	0	0	0	0	8
	7:00 AM	0	2	0	0	6	0	0	0	0	0	0	0	8
	7:15 AM	1	1	1	0	1	0	0	0	0	0	0	0	4
	7:30 AM	1	2	0	0	2	0	0	0	0	0	0	0	5
	7:45 AM	0	0	0	0	0	0	0	0	0	1	0	0	1
	8:00 AM	0	3	0	0	2	0	0	0	0	0	0	0	5
	8:15 AM	0	8	0	0	1	0	0	0	0	0	0	0	9
8:30 AM	0	6	1	0	1	0	0	0	0	0	0	0	8	
8:45 AM	0	4	0	0	0	0	0	0	0	0	0	0	4	
VOLUMES	2	27	2	3	26	0	0	0	0	1	0	0	61	
APPROACH %	6%	87%	6%	10%	90%	0%	0%	0%	0%	100%	0%	0%		
APP/DEPART	31	/	27	29	/	27	0	/	5	1	/	2	0	
BEGIN PEAK HR	7:30 AM													
VOLUMES	1	13	0	0	5	0	0	0	0	100%	0	0	20	
APPROACH %	7%	93%	0%	0%	100%	0%	0%	0%	0%	100%	0%	0%		
PEAK HR FACTOR	0.438			0.625			0.000			0.250			0.556	
APP/DEPART	14	/	13	5	/	6	0	/	0	1	/	1	0	
PM	04:00 PM	0	6	0	0	0	0	0	0	0	0	0	0	6
	4:15 PM	0	6	0	0	1	0	0	0	0	0	0	0	7
	4:30 PM	0	3	0	0	1	0	0	0	0	0	0	0	4
	4:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
	5:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
	5:15 PM	0	1	0	0	1	0	0	0	0	0	0	0	2
	5:30 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
	5:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
	6:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
	6:15 PM	0	0	1	0	1	0	0	0	0	0	0	0	2
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	1	
VOLUMES	0	21	1	0	5	0	0	0	0	0	0	0	27	
APPROACH %	0%	95%	5%	0%	100%	0%	0%	0%	0%	0%	0%	0%		
APP/DEPART	22	/	21	5	/	5	0	/	1	0	/	0	0	
BEGIN PEAK HR	4:30 PM													
VOLUMES	0	6	0	0	2	0	0	0	0	0	0	0	8	
APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%		
PEAK HR FACTOR	0.500			0.500			0.000			0.000			0.500	
APP/DEPART	6	/	6	2	/	2	0	/	0	0	/	0	0	

0	0	0	0
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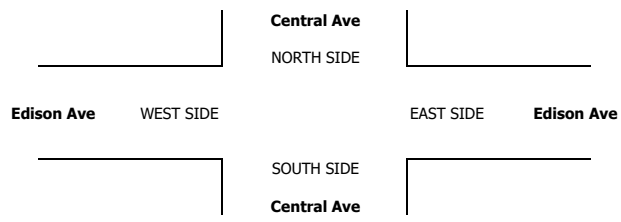
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0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

0	0	0	0
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0	0	0	0
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24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)

Prepared by AimTD LLC tel. 714 253 7888 cs@aimtd.com

DATE: Thursday, April 04, 2024
JOB #: SC4543

CITY: Chino
LOCATION: CLASS1 Edison Ave west of Telephone Ave

AM TIME	EB						TOTAL	PM Time	EB						TOTAL
	1	2	3	4	5	6			1	2	3	4	5	6	
0:00	20	1	1	0	0	0	22	12:00	112	12	4	18	0	0	146
0:15	15	0	0	1	0	0	16	12:15	99	8	6	15	0	0	128
0:30	10	0	0	0	0	0	10	12:30	80	8	3	12	0	0	103
0:45	11	0	1	0	0	0	12	12:45	119	14	7	15	0	0	155
1:00	8	1	0	0	0	0	9	13:00	117	11	5	11	0	0	144
1:15	8	0	0	1	0	0	9	13:15	131	8	2	11	0	0	152
1:30	3	0	1	0	0	0	4	13:30	148	9	1	8	0	0	166
1:45	5	0	0	2	0	0	7	13:45	139	5	3	8	0	0	155
2:00	4	0	0	1	0	0	5	14:00	117	10	5	9	0	1	142
2:15	3	0	1	0	0	0	4	14:15	147	8	3	18	0	1	177
2:30	2	0	0	0	0	0	2	14:30	194	10	7	11	0	1	223
2:45	2	0	0	3	0	0	5	14:45	179	11	6	14	0	1	211
3:00	2	0	0	2	0	0	4	15:00	180	12	5	9	0	0	206
3:15	1	0	0	1	0	0	2	15:15	190	12	5	25	0	0	232
3:30	6	0	0	1	0	0	7	15:30	238	12	4	18	0	1	273
3:45	5	0	0	5	0	0	10	15:45	257	11	2	22	1	0	293
4:00	4	1	0	0	0	0	5	16:00	216	9	4	17	0	0	246
4:15	1	0	0	4	0	0	5	16:15	245	12	5	12	0	0	274
4:30	7	2	1	4	0	0	14	16:30	214	9	0	10	0	0	233
4:45	13	0	1	3	0	0	17	16:45	231	2	3	11	0	0	247
5:00	11	0	0	6	0	0	17	17:00	265	7	3	15	0	0	290
5:15	10	0	0	3	0	0	13	17:15	276	8	1	20	0	0	305
5:30	23	2	1	3	0	0	29	17:30	200	3	1	13	0	0	217
5:45	56	4	0	3	0	0	63	17:45	272	3	2	7	0	0	284
6:00	32	4	2	4	0	0	42	18:00	207	0	5	4	0	0	216
6:15	23	4	3	2	0	0	32	18:15	228	8	2	7	1	0	246
6:30	35	3	2	1	0	0	41	18:30	175	4	0	10	0	0	189
6:45	37	9	2	6	0	0	54	18:45	173	1	2	9	0	0	185
7:00	46	5	1	7	0	0	59	19:00	147	4	0	3	0	0	154
7:15	53	1	2	7	0	0	63	19:15	134	1	3	6	0	0	144
7:30	76	2	0	5	0	0	83	19:30	113	1	1	4	0	0	119
7:45	96	3	1	7	0	0	107	19:45	113	0	1	2	0	0	116
8:00	94	12	5	13	0	0	124	20:00	110	0	1	8	0	0	119
8:15	137	5	2	13	0	0	157	20:15	97	0	0	2	0	0	99
8:30	96	4	2	8	0	0	110	20:30	94	0	2	3	0	0	99
8:45	88	9	2	6	0	0	105	20:45	90	0	0	2	0	0	92
9:00	75	8	3	7	0	0	93	21:00	87	0	3	4	0	0	94
9:15	64	12	3	9	0	0	88	21:15	73	0	2	5	0	0	80
9:30	72	7	4	15	0	0	98	21:30	66	0	0	2	0	0	68
9:45	63	8	4	14	0	0	89	21:45	52	0	4	1	0	0	57
10:00	64	11	6	9	0	0	90	22:00	45	0	0	2	0	0	47
10:15	74	9	2	11	0	0	96	22:15	36	0	4	0	0	0	40
10:30	86	4	3	9	0	0	102	22:30	33	0	1	1	0	0	35
10:45	74	8	1	13	0	0	96	22:45	30	1	0	1	0	0	32
11:00	82	4	6	12	0	0	104	23:00	29	1	0	0	0	0	30
11:15	87	9	1	17	0	0	114	23:15	26	0	0	2	0	0	28
11:30	107	9	0	12	0	1	129	23:30	27	0	3	2	0	0	32
11:45	74	9	5	15	0	0	103	23:45	6	0	1	2	0	0	9
TOTAL	1,965	170	69	265	0	1	2,470	TOTAL	6,557	235	122	411	2	5	7,332

AM PEAK HOUR 7:45 AM
AM PEAK VOLUME 498

AM PEAK HOUR 5:00 PM
AM PEAK VOLUME 1,096

CLASS	DESCRIPTION	TOTAL: AM+PM	8,522	405	191	676	2	6	9,802
CLASS 1	PASSENGER VEHICLES								
CLASS 2	2-AXLE TRUCKS	% OF TOTAL	86.9%	4.1%	1.9%	6.9%	0.0%	0.1%	100.0%
CLASS 3	3-AXLE TRUCKS								
CLASS 4	4 OR MORE AXLE TRUCKS								
CLASS 5	RV	TOTAL: ALL	15,387	793	360	1,310	4	10	17,864
CLASS 6	Buses	% OF TOTAL	86.1%	4.4%	2.0%	7.3%	0.0%	0.1%	100.0%

24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)

Prepared by AimTD LLC tel. 714 253 7888 cs@aimtd.com

DATE: Thursday, April 04, 2024
JOB #: SC4543

CITY: Chino
LOCATION: CLASS1 Edison Ave west of Telephone Ave

AM TIME	WB							TOTAL	PM Time	WB							TOTAL
	1	2	3	4	5	6	1			2	3	4	5	6			
0:00	9	0	0	1	0	0	10	10	108	10	3	13	0	0	134		
0:15	9	0	0	2	0	0	11	11	101	6	4	14	0	0	125		
0:30	4	0	0	2	0	0	6	6	94	6	2	10	0	0	112		
0:45	4	0	1	2	0	0	7	7	76	9	4	7	0	0	96		
1:00	4	1	0	1	0	0	6	6	86	11	3	12	0	0	112		
1:15	2	0	0	2	0	0	4	4	80	6	2	12	0	0	100		
1:30	8	0	1	0	0	0	9	9	95	2	0	10	0	0	107		
1:45	4	0	0	1	0	0	5	5	96	11	4	16	0	0	127		
2:00	2	0	0	0	0	0	2	2	80	10	1	17	0	0	108		
2:15	4	1	0	2	0	0	7	7	117	14	3	13	0	0	147		
2:30	7	0	4	1	0	0	12	12	112	9	2	15	0	0	138		
2:45	5	0	0	1	0	0	6	6	141	9	3	15	0	0	168		
3:00	8	1	5	1	0	0	15	15	130	4	2	6	0	1	143		
3:15	15	0	1	5	0	0	21	21	143	5	2	12	0	0	162		
3:30	18	0	2	2	0	0	22	22	128	5	2	3	0	0	138		
3:45	23	0	4	1	0	0	28	28	118	4	0	7	0	0	129		
4:00	15	4	2	3	0	0	24	24	125	7	1	7	0	0	140		
4:15	19	1	1	2	0	0	23	23	116	2	5	5	0	0	128		
4:30	47	2	0	3	0	0	52	52	143	4	1	4	0	0	152		
4:45	59	1	1	4	0	0	65	65	151	7	3	4	0	0	165		
5:00	37	2	2	7	0	0	48	48	170	4	0	5	0	0	179		
5:15	56	3	3	7	0	0	69	69	124	3	1	3	0	0	131		
5:30	92	3	3	17	0	0	115	115	139	5	2	1	0	0	147		
5:45	99	3	1	10	0	0	113	113	128	3	0	1	0	0	132		
6:00	70	8	1	12	0	0	91	91	116	2	2	2	0	0	122		
6:15	72	6	3	12	0	0	93	93	95	2	6	4	0	0	107		
6:30	87	5	5	6	0	0	103	103	87	5	1	0	0	0	93		
6:45	97	7	4	8	0	0	116	116	97	2	3	2	0	0	104		
7:00	96	10	4	7	0	0	117	117	106	0	1	2	0	0	109		
7:15	106	7	4	10	0	1	128	128	104	0	0	0	0	0	104		
7:30	115	3	7	12	0	1	138	138	64	0	0	4	0	0	68		
7:45	156	5	1	11	0	0	173	173	51	1	0	4	0	0	56		
8:00	153	5	5	11	0	0	174	174	65	0	0	3	0	0	68		
8:15	112	5	2	11	0	0	130	130	45	1	0	2	0	0	48		
8:30	109	5	2	16	0	0	132	132	56	0	0	3	0	0	59		
8:45	116	11	4	9	0	0	140	140	43	0	1	5	0	0	49		
9:00	68	10	3	9	0	0	90	90	48	0	1	7	1	0	57		
9:15	73	13	2	16	0	0	104	104	21	0	0	1	0	0	22		
9:30	91	15	1	16	0	0	123	123	42	0	1	5	0	0	48		
9:45	87	13	2	13	0	0	115	115	28	1	0	5	0	0	34		
10:00	81	10	3	13	0	0	107	107	13	0	0	4	0	0	17		
10:15	89	5	3	10	0	1	108	108	23	0	0	4	0	0	27		
10:30	74	5	4	11	1	0	95	95	13	1	0	6	0	0	20		
10:45	106	15	3	12	0	0	136	136	22	1	0	0	0	0	23		
11:00	103	5	1	9	0	0	118	118	22	0	0	2	0	0	24		
11:15	84	6	5	14	0	0	109	109	9	0	0	2	0	0	11		
11:30	81	6	2	18	0	0	107	107	12	0	0	0	0	0	12		
11:45	99	14	1	8	0	0	122	122	7	0	0	4	0	0	11		
TOTAL	2,875	216	103	351	1	3	3,549	3,549	TOTAL	3,990	172	66	283	1	1	4,513	

AM PEAK HOUR 7:30 AM
AM PEAK VOLUME 615

AM PEAK HOUR 4:30 PM
AM PEAK VOLUME 627

CLASS 1	PASSENGER VEHICLES
CLASS 2	2-AXLE TRUCKS
CLASS 3	3-AXLE TRUCKS
CLASS 4	4 OR MORE AXLE TRUCKS
CLASS 5	RV
CLASS 6	BUS

TOTAL: AM+PM	6,865	388	169	634	2	4	8,062
% OF TOTAL	85.2%	4.8%	2.1%	7.9%	0.0%	0.0%	100.0%

24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)

Prepared by AimTD LLC tel. 714 253 7888 cs@aimtd.com

DATE: Thursday, April 04, 2024

CITY: Chino

JOB #: SC4543

LOCATION: CLASS1 Edison Ave west of Telephone Ave

AM TIME	COMBINED						TOTAL	PM Time	COMBINED						TOTAL
	1	2	3	4	5	6			1	2	3	4	5	6	
0:00	29	1	1	1	0	0	32	12:00	220	22	7	31	0	0	280
0:15	24	0	0	3	0	0	27	12:15	200	14	10	29	0	0	253
0:30	14	0	0	2	0	0	16	12:30	174	14	5	22	0	0	215
0:45	15	0	2	2	0	0	19	12:45	195	23	11	22	0	0	251
1:00	12	2	0	1	0	0	15	13:00	203	22	8	23	0	0	256
1:15	10	0	0	3	0	0	13	13:15	211	14	4	23	0	0	252
1:30	11	0	2	0	0	0	13	13:30	243	11	1	18	0	0	273
1:45	9	0	0	3	0	0	12	13:45	235	16	7	24	0	0	282
2:00	6	0	0	1	0	0	7	14:00	197	20	6	26	0	1	250
2:15	7	1	1	2	0	0	11	14:15	264	22	6	31	0	1	324
2:30	9	0	4	1	0	0	14	14:30	306	19	9	26	0	1	361
2:45	7	0	0	4	0	0	11	14:45	320	20	9	29	0	1	379
3:00	10	1	5	3	0	0	19	15:00	310	16	7	15	0	1	349
3:15	16	0	1	6	0	0	23	15:15	333	17	7	37	0	0	394
3:30	24	0	2	3	0	0	29	15:30	366	17	6	21	0	1	411
3:45	28	0	4	6	0	0	38	15:45	375	15	2	29	1	0	422
4:00	19	5	2	3	0	0	29	16:00	341	16	5	24	0	0	386
4:15	20	1	1	6	0	0	28	16:15	361	14	10	17	0	0	402
4:30	54	4	1	7	0	0	66	16:30	357	13	1	14	0	0	385
4:45	72	1	2	7	0	0	82	16:45	382	9	6	15	0	0	412
5:00	48	2	2	13	0	0	65	17:00	435	11	3	20	0	0	469
5:15	66	3	3	10	0	0	82	17:15	400	11	2	23	0	0	436
5:30	115	5	4	20	0	0	144	17:30	339	8	3	14	0	0	364
5:45	155	7	1	13	0	0	176	17:45	400	6	2	8	0	0	416
6:00	102	12	3	16	0	0	133	18:00	323	2	7	6	0	0	338
6:15	95	10	6	14	0	0	125	18:15	323	10	8	11	1	0	353
6:30	122	8	7	7	0	0	144	18:30	262	9	1	10	0	0	282
6:45	134	16	6	14	0	0	170	18:45	270	3	5	11	0	0	289
7:00	142	15	5	14	0	0	176	19:00	253	4	1	5	0	0	263
7:15	159	8	6	17	0	1	191	19:15	238	1	3	6	0	0	248
7:30	191	5	7	17	0	1	221	19:30	177	1	1	8	0	0	187
7:45	252	8	2	18	0	0	280	19:45	164	1	1	6	0	0	172
8:00	247	17	10	24	0	0	298	20:00	175	0	1	11	0	0	187
8:15	249	10	4	24	0	0	287	20:15	142	1	0	4	0	0	147
8:30	205	9	4	24	0	0	242	20:30	150	0	2	6	0	0	158
8:45	204	20	6	15	0	0	245	20:45	133	0	1	7	0	0	141
9:00	143	18	6	16	0	0	183	21:00	135	0	4	11	1	0	151
9:15	137	25	5	25	0	0	192	21:15	94	0	2	6	0	0	102
9:30	163	22	5	31	0	0	221	21:30	108	0	1	7	0	0	116
9:45	150	21	6	27	0	0	204	21:45	80	1	4	6	0	0	91
10:00	145	21	9	22	0	0	197	22:00	58	0	0	6	0	0	64
10:15	163	14	5	21	0	1	204	22:15	59	0	4	4	0	0	67
10:30	160	9	7	20	1	0	197	22:30	46	1	1	7	0	0	55
10:45	180	23	4	25	0	0	232	22:45	52	2	0	1	0	0	55
11:00	185	9	7	21	0	0	222	23:00	51	1	0	2	0	0	54
11:15	171	15	6	31	0	0	223	23:15	35	0	0	4	0	0	39
11:30	188	15	2	30	0	1	236	23:30	39	0	3	2	0	0	44
11:45	173	23	6	23	0	0	225	23:45	13	0	1	6	0	0	20
TOTAL	4,840	386	172	616	1	4	6,019	TOTAL	10,547	407	188	694	3	6	11,845

AM PEAK HOUR 7:45 AM
AM PEAK VOLUME 1,107

AM PEAK HOUR 4:30 PM
AM PEAK VOLUME 1,702

CLASS 1	PASSENGER VEHICLES	TOTAL: AM+PM	15,387	793	360	1,310	4	10	17,864
CLASS 2	2-AXLE TRUCKS	% OF TOTAL	86.1%	4.4%	2.0%	7.3%	0.0%	0.1%	100.0%
CLASS 3	3-AXLE TRUCKS								
CLASS 4	4 OR MORE AXLE TRUCKS								
CLASS 5	RV								
CLASS 6	Buses								

24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)

Prepared by AimTD LLC tel. 714 253 7888 cs@aimtd.com

DATE: Thursday, April 04, 2024
JOB #: SC4543

CITY: Chino
LOCATION: CLASS2 Central Ave north of Edison Ave

AM TIME	NB							TOTAL	PM Time	NB							TOTAL
	1	2	3	4	5	6	1			2	3	4	5	6			
0:00	36	1	0	0	0	0	37	12:00	162	15	7	7	0	5	196		
0:15	23	1	0	1	0	0	25	12:15	150	11	2	11	0	1	175		
0:30	14	1	0	0	0	0	15	12:30	158	22	3	10	0	2	195		
0:45	11	0	0	2	0	0	13	12:45	163	20	2	12	0	0	197		
1:00	11	1	0	2	0	0	14	13:00	151	17	3	12	0	1	184		
1:15	11	0	0	2	0	0	13	13:15	175	18	2	6	0	1	202		
1:30	9	0	1	0	0	0	10	13:30	184	18	1	7	0	1	211		
1:45	11	1	0	0	0	0	12	13:45	214	15	2	6	0	2	239		
2:00	15	0	0	0	0	0	15	14:00	181	17	1	5	0	1	205		
2:15	10	1	1	0	0	0	12	14:15	193	16	2	7	0	1	219		
2:30	6	0	0	1	0	0	7	14:30	200	18	0	1	0	2	221		
2:45	10	2	0	0	0	0	12	14:45	205	21	2	2	0	1	231		
3:00	13	0	0	0	0	0	13	15:00	204	21	0	1	0	2	228		
3:15	10	2	0	1	0	0	13	15:15	207	16	2	7	0	0	232		
3:30	15	0	0	0	0	0	15	15:30	246	18	1	5	0	0	270		
3:45	19	2	0	1	0	0	22	15:45	267	17	2	4	0	1	291		
4:00	22	2	0	0	0	0	24	16:00	249	17	4	6	0	6	282		
4:15	27	3	0	2	0	0	32	16:15	272	20	1	3	0	6	302		
4:30	36	5	0	1	0	0	42	16:30	230	14	2	3	0	3	252		
4:45	39	4	0	0	0	0	43	16:45	209	9	1	3	0	1	223		
5:00	32	2	1	1	0	0	36	17:00	265	12	3	3	0	1	284		
5:15	34	3	0	1	0	0	38	17:15	254	9	2	3	0	1	269		
5:30	50	3	1	0	0	0	54	17:30	226	5	3	4	1	0	239		
5:45	100	7	0	0	0	0	107	17:45	216	9	2	5	0	1	233		
6:00	68	7	3	1	0	0	79	18:00	193	6	3	0	0	1	203		
6:15	76	11	2	1	0	0	90	18:15	182	5	3	4	0	0	194		
6:30	93	4	1	1	0	1	100	18:30	177	0	2	2	0	0	181		
6:45	123	11	4	0	0	0	138	18:45	173	6	2	3	0	1	185		
7:00	153	10	2	4	0	2	171	19:00	158	4	0	1	0	0	163		
7:15	155	8	2	5	0	1	171	19:15	130	3	0	3	0	0	136		
7:30	189	7	3	4	0	2	205	19:30	124	3	0	1	0	1	129		
7:45	223	13	3	5	0	0	244	19:45	94	6	0	1	0	0	101		
8:00	199	18	0	5	0	3	225	20:00	103	1	0	0	0	0	104		
8:15	199	16	4	8	0	8	235	20:15	104	2	0	4	0	1	111		
8:30	182	10	3	4	0	6	205	20:30	88	1	0	1	0	0	90		
8:45	186	12	3	3	0	4	208	20:45	103	0	0	0	0	0	103		
9:00	147	20	1	3	0	1	172	21:00	100	1	1	1	0	0	103		
9:15	125	16	1	5	0	0	147	21:15	73	1	1	1	0	0	76		
9:30	150	18	3	3	0	1	175	21:30	87	0	0	0	0	0	87		
9:45	181	20	2	5	0	2	210	21:45	78	2	0	0	0	0	80		
10:00	150	14	1	9	0	0	174	22:00	70	2	0	0	0	0	72		
10:15	134	15	1	4	0	2	156	22:15	45	0	0	1	0	0	46		
10:30	142	13	2	5	0	0	162	22:30	43	0	0	0	0	0	43		
10:45	143	13	4	11	0	1	172	22:45	43	2	1	0	0	0	46		
11:00	140	29	0	7	0	1	177	23:00	31	3	0	0	0	0	34		
11:15	128	13	1	12	0	2	156	23:15	41	0	1	2	0	0	44		
11:30	148	20	0	5	0	2	175	23:30	32	1	0	0	0	0	33		
11:45	170	17	3	9	0	1	200	23:45	21	2	0	0	0	0	23		
TOTAL	4,168	376	53	134	0	40	4,771	TOTAL	7,274	426	64	158	1	44	7,967		

AM PEAK HOUR 7:45 AM
AM PEAK VOLUME 909

AM PEAK HOUR 3:30 PM
AM PEAK VOLUME 1,145

CLASS	DESCRIPTION	TOTAL: AM+PM	11,442	802	117	292	1	84	12,738
CLASS 1	PASSENGER VEHICLES								
CLASS 2	2-AXLE TRUCKS	% OF TOTAL	89.8%	6.3%	0.9%	2.3%	0.0%	0.7%	100.0%
CLASS 3	3-AXLE TRUCKS								
CLASS 4	4 OR MORE AXLE TRUCKS								
CLASS 5	RV	TOTAL: ALL	22,102	1,507	213	531	2	160	24,515
CLASS 6	Buses	% OF TOTAL	90.2%	6.1%	0.9%	2.2%	0.0%	0.7%	100.0%

24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)

Prepared by AimTD LLC tel. 714 253 7888 cs@aimtd.com

DATE: Thursday, April 04, 2024
JOB #: SC4543

CITY: Chino
LOCATION: CLASS2 Central Ave north of Edison Ave

AM TIME	SB							TOTAL	PM Time	SB							TOTAL
	1	2	3	4	5	6	1			2	3	4	5	6			
0:00	11	0	0	0	0	0	0	11	12:00	139	28	1	5	0	1	174	
0:15	21	1	0	0	0	0	0	22	12:15	148	14	0	3	0	2	167	
0:30	19	0	0	0	0	0	0	19	12:30	137	17	0	6	0	0	160	
0:45	13	0	0	0	0	0	0	13	12:45	139	15	1	5	0	1	161	
1:00	8	0	0	1	0	0	0	9	13:00	149	12	0	5	0	1	167	
1:15	11	0	1	1	0	0	0	13	13:15	153	19	0	7	0	3	182	
1:30	17	1	0	1	0	0	0	19	13:30	145	11	1	4	0	1	162	
1:45	12	1	0	2	0	0	0	15	13:45	174	19	0	10	0	0	203	
2:00	14	0	0	0	0	0	0	14	14:00	129	10	5	11	0	5	160	
2:15	8	0	0	0	0	0	0	8	14:15	128	16	1	3	0	2	150	
2:30	10	0	0	0	0	0	0	10	14:30	118	9	2	6	0	4	139	
2:45	14	0	0	1	0	0	0	15	14:45	180	15	0	3	0	2	200	
3:00	16	2	1	0	0	0	0	19	15:00	161	11	0	7	0	3	182	
3:15	23	0	0	0	0	0	0	23	15:15	167	13	1	2	0	2	185	
3:30	45	0	0	0	0	0	0	45	15:30	133	14	1	3	0	1	152	
3:45	84	0	0	0	0	0	0	84	15:45	190	9	0	1	0	0	200	
4:00	34	1	0	1	0	0	0	36	16:00	188	5	0	1	0	0	194	
4:15	51	2	1	0	0	0	0	54	16:15	178	8	0	5	0	1	192	
4:30	96	2	0	1	0	0	0	99	16:30	196	5	0	0	0	1	202	
4:45	131	4	1	2	0	0	0	138	16:45	226	3	1	2	0	0	232	
5:00	57	2	0	2	0	0	0	61	17:00	210	2	0	4	0	0	216	
5:15	92	11	1	1	0	0	0	105	17:15	230	4	0	3	0	1	238	
5:30	145	5	1	4	0	0	0	155	17:30	186	2	0	4	0	1	193	
5:45	173	8	0	0	0	0	0	181	17:45	221	3	0	1	0	0	225	
6:00	96	13	0	1	0	1	0	111	18:00	209	1	2	0	0	0	212	
6:15	105	13	6	6	0	4	0	134	18:15	188	5	1	2	0	1	197	
6:30	142	15	3	2	0	3	0	165	18:30	156	2	1	1	0	0	160	
6:45	182	16	5	3	0	8	0	214	18:45	153	2	0	1	0	0	156	
7:00	127	10	6	1	0	6	0	150	19:00	157	1	0	1	1	1	161	
7:15	157	11	1	2	0	1	0	172	19:15	94	2	0	0	0	0	96	
7:30	195	26	1	3	0	2	0	227	19:30	81	2	0	1	0	0	84	
7:45	196	21	6	1	0	0	0	224	19:45	101	1	0	1	0	0	103	
8:00	216	14	2	2	0	2	0	236	20:00	110	1	0	1	0	0	112	
8:15	166	12	1	1	0	1	0	181	20:15	62	2	0	1	0	1	66	
8:30	189	7	0	5	0	1	0	202	20:30	91	2	0	1	0	0	94	
8:45	151	9	5	3	0	0	0	168	20:45	98	2	1	1	0	0	102	
9:00	107	20	2	9	0	1	0	139	21:00	67	1	1	2	0	0	71	
9:15	130	15	4	7	0	0	0	156	21:15	83	1	0	1	0	0	85	
9:30	133	16	6	8	0	1	0	164	21:30	72	1	0	1	0	0	74	
9:45	137	14	4	5	0	0	0	160	21:45	48	1	1	1	0	0	51	
10:00	133	14	1	3	0	1	0	152	22:00	53	1	0	0	0	0	54	
10:15	138	20	3	9	0	1	0	171	22:15	43	1	1	0	0	0	45	
10:30	140	14	2	4	0	6	0	166	22:30	39	0	0	0	0	0	39	
10:45	144	21	0	8	0	1	0	174	22:45	25	1	0	1	0	0	27	
11:00	119	15	5	3	0	1	0	143	23:00	22	4	2	0	0	0	28	
11:15	126	14	2	8	0	0	0	150	23:15	33	3	0	1	0	0	37	
11:30	131	9	1	5	0	0	0	146	23:30	21	0	0	0	0	0	21	
11:45	142	24	0	4	0	0	0	170	23:45	22	1	0	0	0	0	23	
TOTAL	4,607	403	72	120	0	41	0	5,243	TOTAL	6,053	302	24	119	1	35	6,534	

AM PEAK HOUR 7:30 AM
AM PEAK VOLUME 868

AM PEAK HOUR 4:30 PM
AM PEAK VOLUME 888

CLASS 1	PASSENGER VEHICLES	TOTAL: AM+PM	10,660	705	96	239	1	76	11,777
CLASS 2	2-AXLE TRUCKS	% OF TOTAL	90.5%	6.0%	0.8%	2.0%	0.0%	0.6%	100.0%
CLASS 3	3-AXLE TRUCKS								
CLASS 4	4 OR MORE AXLE TRUCKS								
CLASS 5	RV								
CLASS 6	BUS								

24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)

Prepared by AimTD LLC tel. 714 253 7888 cs@aimtd.com

DATE: Thursday, April 04, 2024

CITY: Chino

JOB #: SC4543

LOCATION: CLASS2 Central Ave north of Edison Ave

AM TIME	COMBINED							TOTAL	PM Time	COMBINED							TOTAL
	1	2	3	4	5	6	1			2	3	4	5	6			
0:00	47	1	0	0	0	0	0	48	12:00	301	43	8	12	0	6	370	
0:15	44	2	0	1	0	0	0	47	12:15	298	25	2	14	0	3	342	
0:30	33	1	0	0	0	0	0	34	12:30	295	39	3	16	0	2	355	
0:45	24	0	0	2	0	0	0	26	12:45	302	35	3	17	0	1	358	
1:00	19	1	0	3	0	0	0	23	13:00	300	29	3	17	0	2	351	
1:15	22	0	1	3	0	0	0	26	13:15	328	37	2	13	0	4	384	
1:30	26	1	1	1	0	0	0	29	13:30	329	29	2	11	0	2	373	
1:45	23	2	0	2	0	0	0	27	13:45	388	34	2	16	0	2	442	
2:00	29	0	0	0	0	0	0	29	14:00	310	27	6	16	0	6	365	
2:15	18	1	1	0	0	0	0	20	14:15	321	32	3	10	0	3	369	
2:30	16	0	0	1	0	0	0	17	14:30	318	27	2	7	0	6	360	
2:45	24	2	0	1	0	0	0	27	14:45	385	36	2	5	0	3	431	
3:00	29	2	1	0	0	0	0	32	15:00	365	32	0	8	0	5	410	
3:15	33	2	0	1	0	0	0	36	15:15	374	29	3	9	0	2	417	
3:30	60	0	0	0	0	0	0	60	15:30	379	32	2	8	0	1	422	
3:45	103	2	0	1	0	0	0	106	15:45	457	26	2	5	0	1	491	
4:00	56	3	0	1	0	0	0	60	16:00	437	22	4	7	0	6	476	
4:15	78	5	1	2	0	0	0	86	16:15	450	28	1	8	0	7	494	
4:30	132	7	0	2	0	0	0	141	16:30	426	19	2	3	0	4	454	
4:45	170	8	1	2	0	0	0	181	16:45	435	12	2	5	0	1	455	
5:00	89	4	1	3	0	0	0	97	17:00	475	14	3	7	0	1	500	
5:15	126	14	1	2	0	0	0	143	17:15	484	13	2	6	0	2	507	
5:30	195	8	2	4	0	0	0	209	17:30	412	7	3	8	1	1	432	
5:45	273	15	0	0	0	0	0	288	17:45	437	12	2	6	0	1	458	
6:00	164	20	3	2	0	1	0	190	18:00	402	7	5	0	0	1	415	
6:15	181	24	8	7	0	4	0	224	18:15	370	10	4	6	0	1	391	
6:30	235	19	4	3	0	4	0	265	18:30	333	2	3	3	0	0	341	
6:45	305	27	9	3	0	8	0	352	18:45	326	8	2	4	0	1	341	
7:00	280	20	8	5	0	8	0	321	19:00	315	5	0	2	1	1	324	
7:15	312	19	3	7	0	2	0	343	19:15	224	5	0	3	0	0	232	
7:30	384	33	4	7	0	4	0	432	19:30	205	5	0	2	0	1	213	
7:45	419	34	9	6	0	0	0	468	19:45	195	7	0	2	0	0	204	
8:00	415	32	2	7	0	5	0	461	20:00	213	2	0	1	0	0	216	
8:15	365	28	5	9	0	9	0	416	20:15	166	4	0	5	0	2	177	
8:30	371	17	3	9	0	7	0	407	20:30	179	3	0	2	0	0	184	
8:45	337	21	8	6	0	4	0	376	20:45	201	2	1	1	0	0	205	
9:00	254	40	3	12	0	2	0	311	21:00	167	2	2	3	0	0	174	
9:15	255	31	5	12	0	0	0	303	21:15	156	2	1	2	0	0	161	
9:30	283	34	9	11	0	2	0	339	21:30	159	1	0	1	0	0	161	
9:45	318	34	6	10	0	2	0	370	21:45	126	3	1	1	0	0	131	
10:00	283	28	2	12	0	1	0	326	22:00	123	3	0	0	0	0	126	
10:15	272	35	4	13	0	3	0	327	22:15	88	1	1	1	0	0	91	
10:30	282	27	4	9	0	6	0	328	22:30	82	0	0	0	0	0	82	
10:45	287	34	4	19	0	2	0	346	22:45	68	3	1	1	0	0	73	
11:00	259	44	5	10	0	2	0	320	23:00	53	7	2	0	0	0	62	
11:15	254	27	3	20	0	2	0	306	23:15	74	3	1	3	0	0	81	
11:30	279	29	1	10	0	2	0	321	23:30	53	1	0	0	0	0	54	
11:45	312	41	3	13	0	1	0	370	23:45	43	3	0	0	0	0	46	
TOTAL	8,775	779	125	254	0	81	0	10,014	TOTAL	13,327	728	88	277	2	79	14,501	

AM PEAK HOUR 7:30 AM
AM PEAK VOLUME 1,777

AM PEAK HOUR 4:30 PM
AM PEAK VOLUME 1,916

CLASS 1	PASSENGER VEHICLES	TOTAL: AM+PM	22,102	1,507	213	531	2	160	24,515
CLASS 2	2-AXLE TRUCKS	% OF TOTAL	90.2%	6.1%	0.9%	2.2%	0.0%	0.7%	100.0%
CLASS 3	3-AXLE TRUCKS								
CLASS 4	4 OR MORE AXLE TRUCKS								
CLASS 5	RV								
CLASS 6	Buses								

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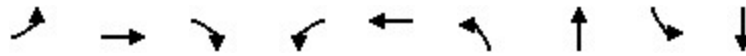
**APPENDIX 3.2: EXISTING (2024) CONDITIONS INTERSECTION
OPERATIONS ANALYSIS WORKSHEETS**

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Timings

1: Monte Vista Av. & Edison Av.

06/20/2024

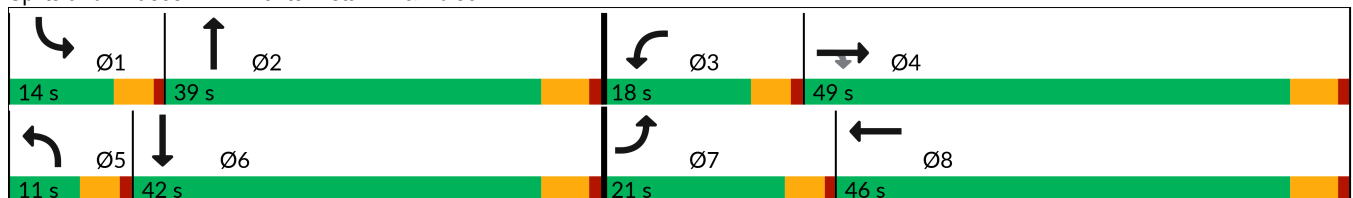


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↶	↶↶	↶	↶	↶↶	↶	↶↶	↶	↶↶
Traffic Volume (vph)	75	542	39	51	602	8	144	34	233
Future Volume (vph)	75	542	39	51	602	8	144	34	233
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4		3	8	5	2	1	6
Permitted Phases			4						
Detector Phase	7	4	4	3	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	29.8	29.8	9.6	29.8	9.6	32.1	9.6	32.1
Total Split (s)	21.0	49.0	49.0	18.0	46.0	11.0	39.0	14.0	42.0
Total Split (%)	17.5%	40.8%	40.8%	15.0%	38.3%	9.2%	32.5%	11.7%	35.0%
Yellow Time (s)	3.6	4.4	4.4	3.6	4.4	3.6	4.4	3.6	4.4
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.4	5.4	4.6	5.4	4.6	5.4	4.6	5.4
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	8.7	23.5	23.5	7.7	19.8	6.0	13.5	7.0	18.0
Actuated g/C Ratio	0.14	0.38	0.38	0.12	0.32	0.10	0.22	0.11	0.29
v/c Ratio	0.36	0.44	0.06	0.27	0.63	0.05	0.26	0.20	0.31
Control Delay (s/veh)	35.8	18.4	0.2	36.2	22.9	37.8	23.2	36.7	19.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	35.8	18.4	0.2	36.2	22.9	37.8	23.2	36.7	19.5
LOS	D	B	A	D	C	D	C	D	B
Approach Delay (s/veh)		19.4			23.9		23.9		21.4
Approach LOS		B			C		C		C

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 62	
Natural Cycle: 85	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.64	
Intersection Signal Delay (s/veh): 21.9	Intersection LOS: C
Intersection Capacity Utilization 53.9%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 1: Monte Vista Av. & Edison Av.



HCM 7th Signalized Intersection Summary
 1: Monte Vista Av. & Edison Av.

Chino Distribution Center (JN 14835)

06/20/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	75	542	39	51	602	41	8	144	37	34	233	55
Future Volume (veh/h)	75	542	39	51	602	41	8	144	37	34	233	55
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	81	583	34	55	647	41	9	155	35	37	251	50
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	110	1069	477	87	975	62	19	536	118	65	628	123
Arrive On Green	0.07	0.31	0.31	0.05	0.30	0.30	0.01	0.19	0.19	0.04	0.22	0.22
Sat Flow, veh/h	1619	3420	1525	1619	3266	207	1619	2784	613	1619	2843	556
Grp Volume(v), veh/h	81	583	34	55	338	350	9	94	96	37	149	152
Grp Sat Flow(s),veh/h/ln	1619	1710	1525	1619	1710	1763	1619	1710	1686	1619	1710	1689
Q Serve(g_s), s	2.4	7.0	0.8	1.7	8.6	8.6	0.3	2.3	2.4	1.1	3.7	3.8
Cycle Q Clear(g_c), s	2.4	7.0	0.8	1.7	8.6	8.6	0.3	2.3	2.4	1.1	3.7	3.8
Prop In Lane	1.00		1.00	1.00		0.12	1.00		0.36	1.00		0.33
Lane Grp Cap(c), veh/h	110	1069	477	87	510	526	19	329	324	65	378	373
V/C Ratio(X)	0.74	0.55	0.07	0.64	0.66	0.66	0.47	0.28	0.30	0.57	0.40	0.41
Avail Cap(c_a), veh/h	533	2992	1334	435	1393	1436	208	1153	1137	305	1256	1240
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.8	14.2	12.0	23.1	15.3	15.3	24.5	17.2	17.2	23.5	16.6	16.6
Incr Delay (d2), s/veh	3.6	0.4	0.1	2.9	1.5	1.4	6.6	0.5	0.5	2.9	0.7	0.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	2.2	0.2	0.6	2.9	3.0	0.1	0.8	0.8	0.4	1.3	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	26.4	14.6	12.1	26.0	16.8	16.7	31.1	17.7	17.7	26.4	17.2	17.3
LnGrp LOS	C	B	B	C	B	B	C	B	B	C	B	B
Approach Vol, veh/h		698			743			199			338	
Approach Delay, s/veh		15.9			17.4			18.3			18.3	
Approach LOS		B			B			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.6	15.0	7.3	21.0	5.2	16.4	8.0	20.3				
Change Period (Y+Rc), s	4.6	5.4	4.6	5.4	4.6	5.4	4.6	5.4				
Max Green Setting (Gmax), s	9.4	33.6	13.4	43.6	6.4	36.6	16.4	40.6				
Max Q Clear Time (g_c+I1), s	3.1	4.4	3.7	9.0	2.3	5.8	4.4	10.6				
Green Ext Time (p_c), s	0.0	1.0	0.0	4.1	0.0	1.7	0.1	4.2				
Intersection Summary												
HCM 7th Control Delay, s/veh				17.1								
HCM 7th LOS				B								

Intersection						
Int Delay, s/veh	0.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↑	↑↑	↑	↑
Traffic Vol, veh/h	533	69	54	711	16	15
Future Vol, veh/h	533	69	54	711	16	15
Conflicting Peds, #/hr	0	2	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	60	-	-	45
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	586	76	59	781	18	16

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	664	0	1135 333
Stage 1	-	-	-	-	626 -
Stage 2	-	-	-	-	509 -
Critical Hdwy	-	-	4.1	-	6.8 6.9
Critical Hdwy Stg 1	-	-	-	-	5.8 -
Critical Hdwy Stg 2	-	-	-	-	5.8 -
Follow-up Hdwy	-	-	2.2	-	3.5 3.3
Pot Cap-1 Maneuver	-	-	935	-	199 669
Stage 1	-	-	-	-	501 -
Stage 2	-	-	-	-	574 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	933	-	186 668
Mov Cap-2 Maneuver	-	-	-	-	386 -
Stage 1	-	-	-	-	500 -
Stage 2	-	-	-	-	538 -

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0.64	12.71
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	386	668	-	-	933	-
HCM Lane V/C Ratio	0.046	0.025	-	-	0.064	-
HCM Control Delay (s/veh)	14.8	10.5	-	-	9.1	-
HCM Lane LOS	B	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0.2	-

Timings
5: Central Av. & Edison Av.



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	106	343	242	545	55	107	829	265	33	768	128
Future Volume (vph)	106	343	242	545	55	107	829	265	33	768	128
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	3	8		5	2		1	6	
Permitted Phases					8			2			6
Detector Phase	7	4	3	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	33.4	9.6	33.4	33.4	9.6	33.8	33.8	9.6	33.8	33.8
Total Split (s)	20.0	33.4	21.0	34.4	34.4	20.0	53.8	53.8	11.8	45.6	45.6
Total Split (%)	16.7%	27.8%	17.5%	28.7%	28.7%	16.7%	44.8%	44.8%	9.8%	38.0%	38.0%
Yellow Time (s)	3.6	4.4	3.6	4.4	4.4	3.6	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.4	4.6	5.4	5.4	4.6	5.8	5.8	4.6	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	12.1	21.5	13.8	23.2	23.2	12.2	42.2	42.2	6.9	31.5	31.5
Actuated g/C Ratio	0.12	0.21	0.14	0.23	0.23	0.12	0.42	0.42	0.07	0.31	0.31
v/c Ratio	0.58	0.57	0.64	0.74	0.12	0.59	0.62	0.38	0.32	0.77	0.24
Control Delay (s/veh)	58.8	39.1	51.9	43.9	0.5	58.9	27.1	9.6	59.6	37.8	5.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	58.8	39.1	51.9	43.9	0.5	58.9	27.1	9.6	59.6	37.8	5.2
LOS	E	D	D	D	A	E	C	A	E	D	A
Approach Delay (s/veh)		43.4		43.4			26.1			34.1	
Approach LOS		D		D			C			C	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 100.2
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.78
 Intersection Signal Delay (s/veh): 34.9
 Intersection LOS: C
 Intersection Capacity Utilization 68.8%
 ICU Level of Service C
 Analysis Period (min) 15
























Splits and Phases: 5: Central Av. & Edison Av.



HCM 7th Signalized Intersection Summary
5: Central Av. & Edison Av.

Chino Distribution Center (JN 14835)

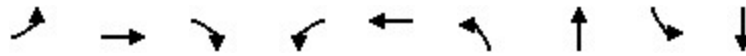
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	106	343	40	242	545	55	107	829	265	33	768	128
Future Volume (veh/h)	106	343	40	242	545	55	107	829	265	33	768	128
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1600	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	115	373	40	263	592	40	116	901	152	36	835	76
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	144	631	67	351	794	354	146	1289	575	57	1101	483
Arrive On Green	0.09	0.20	0.20	0.12	0.23	0.23	0.09	0.38	0.38	0.03	0.32	0.32
Sat Flow, veh/h	1619	3113	332	2956	3420	1523	1619	3420	1525	1619	3420	1500
Grp Volume(v), veh/h	115	204	209	263	592	40	116	901	152	36	835	76
Grp Sat Flow(s),veh/h/ln	1619	1710	1735	1478	1710	1523	1619	1710	1525	1619	1710	1500
Q Serve(g_s), s	5.3	8.2	8.4	6.6	12.3	1.6	5.4	17.0	5.3	1.7	16.7	2.8
Cycle Q Clear(g_c), s	5.3	8.2	8.4	6.6	12.3	1.6	5.4	17.0	5.3	1.7	16.7	2.8
Prop In Lane	1.00		0.19	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	144	347	352	351	794	354	146	1289	575	57	1101	483
V/C Ratio(X)	0.80	0.59	0.59	0.75	0.75	0.11	0.80	0.70	0.26	0.64	0.76	0.16
Avail Cap(c_a), veh/h	326	626	636	634	1298	578	326	2148	958	153	1781	781
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.1	27.6	27.6	32.6	27.2	23.1	34.1	20.2	16.5	36.4	23.3	18.5
Incr Delay (d2), s/veh	9.5	1.6	1.6	3.2	1.4	0.1	9.5	0.7	0.2	11.2	1.1	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	3.3	3.4	2.4	4.8	0.5	2.3	6.0	1.7	0.8	6.3	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	43.7	29.2	29.2	35.8	28.7	23.3	43.6	20.9	16.7	47.6	24.4	18.7
LnGrp LOS	D	C	C	D	C	C	D	C	B	D	C	B
Approach Vol, veh/h		528			895			1169			947	
Approach Delay, s/veh		32.3			30.5			22.6			24.8	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.3	34.6	13.7	20.9	11.5	30.4	11.4	23.1				
Change Period (Y+Rc), s	4.6	5.8	4.6	5.4	4.6	5.8	4.6	5.4				
Max Green Setting (Gmax), s	7.2	48.0	16.4	28.0	15.4	39.8	15.4	29.0				
Max Q Clear Time (g_c+I1), s	3.7	19.0	8.6	10.4	7.4	18.7	7.3	14.3				
Green Ext Time (p_c), s	0.0	7.0	0.5	2.1	0.1	5.8	0.1	3.3				
Intersection Summary												
HCM 7th Control Delay, s/veh			26.6									
HCM 7th LOS			C									

Timings

1: Monte Vista Av. & Edison Av.

06/20/2024

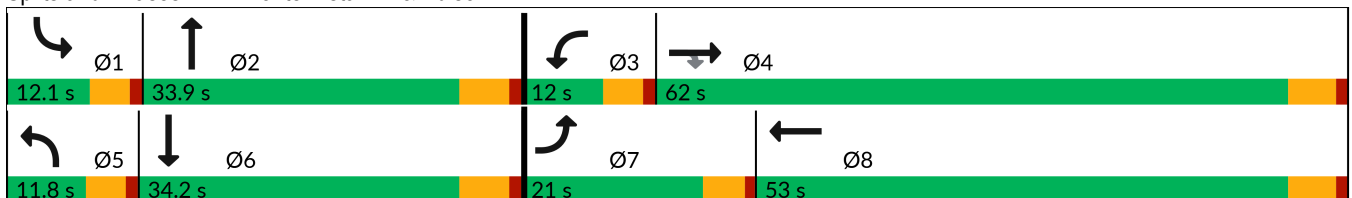


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↶	↗↗	↶	↶	↗↗	↶	↗↗	↶	↗↗
Traffic Volume (vph)	97	1095	31	31	629	30	217	34	166
Future Volume (vph)	97	1095	31	31	629	30	217	34	166
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4		3	8	5	2	1	6
Permitted Phases			4						
Detector Phase	7	4	4	3	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	29.8	29.8	9.6	29.8	9.6	32.1	9.6	32.1
Total Split (s)	21.0	62.0	62.0	12.0	53.0	11.8	33.9	12.1	34.2
Total Split (%)	17.5%	51.7%	51.7%	10.0%	44.2%	9.8%	28.3%	10.1%	28.5%
Yellow Time (s)	3.6	4.4	4.4	3.6	4.4	3.6	4.4	3.6	4.4
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.4	5.4	4.6	5.4	4.6	5.4	4.6	5.4
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	10.9	38.5	38.5	7.0	31.8	6.9	15.2	7.1	15.3
Actuated g/C Ratio	0.14	0.50	0.50	0.09	0.41	0.09	0.20	0.09	0.20
v/c Ratio	0.48	0.73	0.04	0.24	0.55	0.23	0.43	0.26	0.34
Control Delay (s/veh)	46.5	20.5	0.0	49.3	20.9	49.4	33.5	49.5	31.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	46.5	20.5	0.0	49.3	20.9	49.4	33.5	49.5	31.4
LOS	D	C	A	D	C	D	C	D	C
Approach Delay (s/veh)		22.1			22.2		35.2		34.0
Approach LOS		C			C		D		C

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 77.6	
Natural Cycle: 85	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.73	
Intersection Signal Delay (s/veh): 24.8	Intersection LOS: C
Intersection Capacity Utilization 65.3%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 1: Monte Vista Av. & Edison Av.



HCM 7th Signalized Intersection Summary

Chino Distribution Center (JN 14835)

1: Monte Vista Av. & Edison Av.

06/20/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗		↖	↗		↖	↗	
Traffic Volume (veh/h)	97	1095	31	31	629	44	30	217	38	34	166	38
Future Volume (veh/h)	97	1095	31	31	629	44	30	217	38	34	166	38
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	110	1244	30	35	715	45	34	247	34	39	189	32
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	138	1661	731	58	1425	90	56	441	60	62	439	73
Arrive On Green	0.09	0.49	0.49	0.04	0.44	0.44	0.03	0.15	0.15	0.04	0.15	0.15
Sat Flow, veh/h	1619	3420	1505	1619	3267	206	1619	3018	410	1619	2928	487
Grp Volume(v), veh/h	110	1244	30	35	374	386	34	139	142	39	109	112
Grp Sat Flow(s),veh/h/ln	1619	1710	1505	1619	1710	1763	1619	1710	1718	1619	1710	1705
Q Serve(g_s), s	4.5	20.0	0.7	1.4	10.7	10.7	1.4	5.1	5.3	1.6	3.9	4.1
Cycle Q Clear(g_c), s	4.5	20.0	0.7	1.4	10.7	10.7	1.4	5.1	5.3	1.6	3.9	4.1
Prop In Lane	1.00		1.00	1.00		0.12	1.00		0.24	1.00		0.29
Lane Grp Cap(c), veh/h	138	1661	731	58	746	769	56	250	251	62	256	255
V/C Ratio(X)	0.80	0.75	0.04	0.61	0.50	0.50	0.60	0.55	0.57	0.63	0.43	0.44
Avail Cap(c_a), veh/h	390	2846	1253	176	1197	1234	171	716	720	179	724	722
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.5	14.1	9.2	32.3	13.8	13.8	32.4	27.0	27.0	32.2	26.3	26.3
Incr Delay (d2), s/veh	4.0	0.7	0.0	3.8	0.5	0.5	3.8	1.9	2.0	3.8	1.1	1.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	6.4	0.2	0.6	3.6	3.7	0.6	2.1	2.1	0.7	1.6	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	34.5	14.8	9.2	36.1	14.4	14.3	36.2	28.9	29.0	36.1	27.4	27.5
LnGrp LOS	C	B	A	D	B	B	D	C	C	D	C	C
Approach Vol, veh/h		1384			795			315			260	
Approach Delay, s/veh		16.3			15.3			29.7			28.7	
Approach LOS		B			B			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.2	15.4	7.0	38.4	7.0	15.6	10.4	35.1				
Change Period (Y+Rc), s	4.6	5.4	4.6	5.4	4.6	5.4	4.6	5.4				
Max Green Setting (Gmax), s	7.5	28.5	7.4	56.6	7.2	28.8	16.4	47.6				
Max Q Clear Time (g_c+I1), s	3.6	7.3	3.4	22.0	3.4	6.1	6.5	12.7				
Green Ext Time (p_c), s	0.0	1.4	0.0	11.0	0.0	1.1	0.1	4.9				
Intersection Summary												
HCM 7th Control Delay, s/veh				18.7								
HCM 7th LOS				B								

Intersection						
Int Delay, s/veh	0.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	↘
Traffic Vol, veh/h	1187	21	14	645	28	25
Future Vol, veh/h	1187	21	14	645	28	25
Conflicting Peds, #/hr	0	1	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	60	-	-	45
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1319	23	16	717	31	28

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	1343	0	1721 672
Stage 1	-	-	-	-	1332 -
Stage 2	-	-	-	-	389 -
Critical Hdwy	-	-	4.1	-	6.8 6.9
Critical Hdwy Stg 1	-	-	-	-	5.8 -
Critical Hdwy Stg 2	-	-	-	-	5.8 -
Follow-up Hdwy	-	-	2.2	-	3.5 3.3
Pot Cap-1 Maneuver	-	-	520	-	82 403
Stage 1	-	-	-	-	215 -
Stage 2	-	-	-	-	660 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	519	-	80 403
Mov Cap-2 Maneuver	-	-	-	-	198 -
Stage 1	-	-	-	-	214 -
Stage 2	-	-	-	-	640 -

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0.26	20.92
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	198	403	-	-	519	-
HCM Lane V/C Ratio	0.157	0.069	-	-	0.03	-
HCM Control Delay (s/veh)	26.6	14.6	-	-	12.1	-
HCM Lane LOS	D	B	-	-	B	-
HCM 95th %tile Q(veh)	0.5	0.2	-	-	0.1	-

Timings
5: Central Av. & Edison Av.



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	216	899	209	416	57	98	810	446	98	703	113
Future Volume (vph)	216	899	209	416	57	98	810	446	98	703	113
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	3	8		5	2		1	6	
Permitted Phases					8			2			6
Detector Phase	7	4	3	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	33.4	9.6	33.4	33.4	9.6	33.8	33.8	9.6	33.8	33.8
Total Split (s)	26.3	47.2	16.6	37.5	37.5	15.6	40.6	40.6	15.6	40.6	40.6
Total Split (%)	21.9%	39.3%	13.8%	31.3%	31.3%	13.0%	33.8%	33.8%	13.0%	33.8%	33.8%
Yellow Time (s)	3.6	4.4	3.6	4.4	4.4	3.6	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.4	4.6	5.4	5.4	4.6	5.8	5.8	4.6	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	19.6	39.7	11.5	31.6	31.6	10.3	33.2	33.2	10.3	33.2	33.2
Actuated g/C Ratio	0.17	0.34	0.10	0.27	0.27	0.09	0.29	0.29	0.09	0.29	0.29
v/c Ratio	0.82	0.90	0.74	0.46	0.11	0.71	0.86	0.74	0.71	0.75	0.22
Control Delay (s/veh)	71.7	48.0	67.8	37.5	0.4	78.8	49.9	22.7	78.8	43.3	3.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	71.7	48.0	67.8	37.5	0.4	78.8	49.9	22.7	78.8	43.3	3.7
LOS	E	D	E	D	A	E	D	C	E	D	A
Approach Delay (s/veh)		52.2		43.7			43.1			42.3	
Approach LOS		D		D			D			D	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 115.3	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.91	
Intersection Signal Delay (s/veh): 45.7	Intersection LOS: D
Intersection Capacity Utilization 83.5%	ICU Level of Service E
Analysis Period (min) 15	
























Splits and Phases: 5: Central Av. & Edison Av.



HCM 7th Signalized Intersection Summary
5: Central Av. & Edison Av.

Chino Distribution Center (JN 14835)

06/20/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	216	899	103	209	416	57	98	810	446	98	703	113
Future Volume (veh/h)	216	899	103	209	416	57	98	810	446	98	703	113
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1600	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	227	946	93	220	438	33	103	853	292	103	740	61
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	257	1080	106	276	953	425	126	996	437	126	997	444
Arrive On Green	0.16	0.34	0.34	0.09	0.28	0.28	0.08	0.29	0.29	0.08	0.29	0.29
Sat Flow, veh/h	1619	3141	309	2956	3420	1525	1619	3420	1501	1619	3420	1524
Grp Volume(v), veh/h	227	515	524	220	438	33	103	853	292	103	740	61
Grp Sat Flow(s),veh/h/ln	1619	1710	1740	1478	1710	1525	1619	1710	1501	1619	1710	1524
Q Serve(g_s), s	14.5	29.8	29.8	7.7	11.2	1.7	6.6	24.8	18.0	6.6	20.6	3.1
Cycle Q Clear(g_c), s	14.5	29.8	29.8	7.7	11.2	1.7	6.6	24.8	18.0	6.6	20.6	3.1
Prop In Lane	1.00		0.18	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	257	588	598	276	953	425	126	996	437	126	997	444
V/C Ratio(X)	0.88	0.88	0.88	0.80	0.46	0.08	0.82	0.86	0.67	0.82	0.74	0.14
Avail Cap(c_a), veh/h	333	678	690	336	1041	464	169	1128	495	169	1128	503
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.4	32.5	32.5	46.8	31.5	28.1	47.9	35.3	32.9	47.9	33.8	27.6
Incr Delay (d2), s/veh	19.5	11.2	11.0	10.6	0.3	0.1	19.8	6.1	2.9	19.8	2.4	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.0	13.5	13.7	3.2	4.5	0.6	3.3	10.6	6.7	3.3	8.6	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	62.9	43.7	43.5	57.4	31.8	28.1	67.6	41.3	35.8	67.6	36.1	27.7
LnGrp LOS	E	D	D	E	C	C	E	D	D	E	D	C
Approach Vol, veh/h		1266			691			1248			904	
Approach Delay, s/veh		47.0			39.8			42.2			39.2	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.8	36.5	14.4	41.7	12.8	36.5	21.3	34.8				
Change Period (Y+Rc), s	4.6	5.8	4.6	5.4	4.6	5.8	4.6	5.4				
Max Green Setting (Gmax), s	11.0	34.8	12.0	41.8	11.0	34.8	21.7	32.1				
Max Q Clear Time (g_c+I1), s	8.6	26.8	9.7	31.8	8.6	22.6	16.5	13.2				
Green Ext Time (p_c), s	0.0	3.9	0.2	4.5	0.0	3.9	0.3	2.6				
Intersection Summary												
HCM 7th Control Delay, s/veh			42.6									
HCM 7th LOS			D									

**APPENDIX 3.3: EXISTING (2024) CONDITIONS TRAFFIC SIGNAL
WARRANT ANALYSIS WORKSHEETS**

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Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = Existing (2024) Conditions - Weekday PM Peak Hour

Major Street Name = Telephone Avenue

Total of Both Approaches (VPH) = 1866

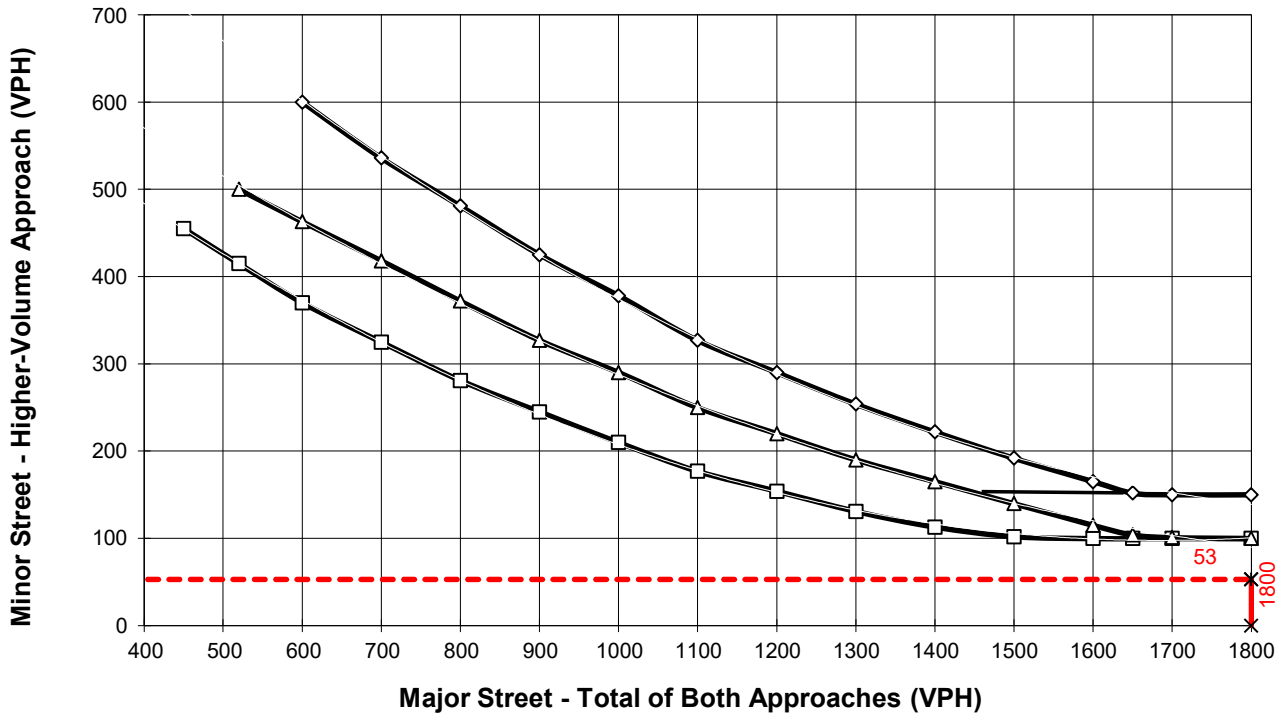
Number of Approach Lanes on Major Street = 2

Minor Street Name = Edison Avenue

High Volume Approach (VPH) = 53

Number of Approach Lanes On Minor Street = 1

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane



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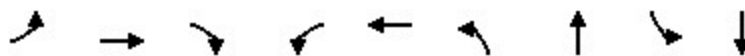
APPENDIX 5.1: E+P CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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Timings

1: Monte Vista Av. & Edison Av.

06/20/2024



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↘	↑↑	↗	↘	↑↑	↘	↑↑	↘	↑↑
Traffic Volume (vph)	75	548	39	54	606	8	144	38	233
Future Volume (vph)	75	548	39	54	606	8	144	38	233
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4		3	8	5	2	1	6
Permitted Phases			4						
Detector Phase	7	4	4	3	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	29.8	29.8	9.6	29.8	9.6	32.1	9.6	32.1
Total Split (s)	21.0	49.0	49.0	18.0	46.0	11.0	39.0	14.0	42.0
Total Split (%)	17.5%	40.8%	40.8%	15.0%	38.3%	9.2%	32.5%	11.7%	35.0%
Yellow Time (s)	3.6	4.4	4.4	3.6	4.4	3.6	4.4	3.6	4.4
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.4	5.4	4.6	5.4	4.6	5.4	4.6	5.4
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	8.8	24.2	24.2	7.9	20.6	6.1	13.5	7.2	18.2
Actuated g/C Ratio	0.14	0.38	0.38	0.13	0.33	0.10	0.21	0.11	0.29
v/c Ratio	0.36	0.44	0.06	0.28	0.62	0.05	0.27	0.22	0.31
Control Delay (s/veh)	36.2	18.5	0.1	36.7	22.7	38.2	23.1	37.2	19.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	36.2	18.5	0.1	36.7	22.7	38.2	23.1	37.2	19.9
LOS	D	B	A	D	C	D	C	D	B
Approach Delay (s/veh)		19.5			23.8		23.8		22.0
Approach LOS		B			C		C		C

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 63
 Natural Cycle: 85
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.63
 Intersection Signal Delay (s/veh): 22.0
 Intersection LOS: C
 Intersection Capacity Utilization 54.0%
 ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 1: Monte Vista Av. & Edison Av.



HCM 7th Signalized Intersection Summary

Chino Distribution Center (JN 14835)

1: Monte Vista Av. & Edison Av.

06/20/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	75	548	39	54	606	42	8	144	43	38	233	55
Future Volume (veh/h)	75	548	39	54	606	42	8	144	43	38	233	55
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	81	589	34	58	652	42	9	155	41	41	251	50
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	109	1067	476	89	978	63	19	517	133	70	636	124
Arrive On Green	0.07	0.31	0.31	0.06	0.30	0.30	0.01	0.19	0.19	0.04	0.22	0.22
Sat Flow, veh/h	1619	3420	1525	1619	3262	210	1619	2691	691	1619	2843	556
Grp Volume(v), veh/h	81	589	34	58	341	353	9	97	99	41	149	152
Grp Sat Flow(s),veh/h/ln	1619	1710	1525	1619	1710	1762	1619	1710	1672	1619	1710	1689
Q Serve(g_s), s	2.5	7.2	0.8	1.8	8.8	8.8	0.3	2.4	2.6	1.3	3.7	3.9
Cycle Q Clear(g_c), s	2.5	7.2	0.8	1.8	8.8	8.8	0.3	2.4	2.6	1.3	3.7	3.9
Prop In Lane	1.00		1.00	1.00		0.12	1.00		0.41	1.00		0.33
Lane Grp Cap(c), veh/h	109	1067	476	89	513	528	19	328	321	70	382	378
V/C Ratio(X)	0.74	0.55	0.07	0.65	0.67	0.67	0.47	0.29	0.31	0.58	0.39	0.40
Avail Cap(c_a), veh/h	528	2964	1322	431	1380	1422	206	1142	1116	302	1244	1229
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.0	14.4	12.2	23.3	15.4	15.4	24.7	17.4	17.5	23.6	16.6	16.7
Incr Delay (d2), s/veh	3.7	0.4	0.1	2.9	1.5	1.5	6.6	0.5	0.5	2.8	0.6	0.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	2.3	0.2	0.7	3.0	3.1	0.1	0.9	0.9	0.5	1.3	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	26.7	14.8	12.2	26.2	16.9	16.9	31.3	17.9	18.0	26.5	17.3	17.3
LnGrp LOS	C	B	B	C	B	B	C	B	B	C	B	B
Approach Vol, veh/h		704			752			205			342	
Approach Delay, s/veh		16.1			17.6			18.5			18.4	
Approach LOS		B			B			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.8	15.1	7.4	21.1	5.2	16.7	8.0	20.5				
Change Period (Y+Rc), s	4.6	5.4	4.6	5.4	4.6	5.4	4.6	5.4				
Max Green Setting (Gmax), s	9.4	33.6	13.4	43.6	6.4	36.6	16.4	40.6				
Max Q Clear Time (g_c+I1), s	3.3	4.6	3.8	9.2	2.3	5.9	4.5	10.8				
Green Ext Time (p_c), s	0.0	1.0	0.0	4.2	0.0	1.7	0.1	4.3				
Intersection Summary												
HCM 7th Control Delay, s/veh											17.3	
HCM 7th LOS											B	

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	14	610	723	5	2	8
Future Vol, veh/h	14	610	723	5	2	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	-	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	15	663	786	5	2	9

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	791	0	-	0	1151 396
Stage 1	-	-	-	-	789 -
Stage 2	-	-	-	-	362 -
Critical Hdwy	4.1	-	-	-	6.8 6.9
Critical Hdwy Stg 1	-	-	-	-	5.8 -
Critical Hdwy Stg 2	-	-	-	-	5.8 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	838	-	-	-	194 609
Stage 1	-	-	-	-	413 -
Stage 2	-	-	-	-	681 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	838	-	-	-	191 609
Mov Cap-2 Maneuver	-	-	-	-	311 -
Stage 1	-	-	-	-	406 -
Stage 2	-	-	-	-	681 -

Approach	EB	WB	SB
HCM Control Delay, s/v	0.21	0	12.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	838	-	-	-	511
HCM Lane V/C Ratio	0.018	-	-	-	0.021
HCM Control Delay (s/veh)	9.4	-	-	-	12.2
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	10	602	725	24	7	3
Future Vol, veh/h	10	602	725	24	7	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	-	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	11	654	788	26	8	3

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	814	0	-	0	1150 407
Stage 1	-	-	-	-	801 -
Stage 2	-	-	-	-	349 -
Critical Hdwy	4.1	-	-	-	6.8 6.9
Critical Hdwy Stg 1	-	-	-	-	5.8 -
Critical Hdwy Stg 2	-	-	-	-	5.8 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	822	-	-	-	195 599
Stage 1	-	-	-	-	407 -
Stage 2	-	-	-	-	691 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	822	-	-	-	192 599
Mov Cap-2 Maneuver	-	-	-	-	310 -
Stage 1	-	-	-	-	402 -
Stage 2	-	-	-	-	691 -

Approach	EB	WB	SB
HCM Control Delay, s/v	0.15	0	15.23
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	822	-	-	-	363
HCM Lane V/C Ratio	0.013	-	-	-	0.03
HCM Control Delay (s/veh)	9.4	-	-	-	15.2
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection						
Int Delay, s/veh	0.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↖	↑↑	↖	↖
Traffic Vol, veh/h	539	70	54	730	20	15
Future Vol, veh/h	539	70	54	730	20	15
Conflicting Peds, #/hr	0	2	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	60	-	-	45
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	592	77	59	802	22	16

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	671	0	1153 337
Stage 1	-	-	-	-	633 -
Stage 2	-	-	-	-	520 -
Critical Hdwy	-	-	4.1	-	6.8 6.9
Critical Hdwy Stg 1	-	-	-	-	5.8 -
Critical Hdwy Stg 2	-	-	-	-	5.8 -
Follow-up Hdwy	-	-	2.2	-	3.5 3.3
Pot Cap-1 Maneuver	-	-	929	-	194 665
Stage 1	-	-	-	-	497 -
Stage 2	-	-	-	-	567 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	927	-	181 664
Mov Cap-2 Maneuver	-	-	-	-	381 -
Stage 1	-	-	-	-	496 -
Stage 2	-	-	-	-	531 -

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0.63	13.11
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	381	664	-	-	927	-
HCM Lane V/C Ratio	0.058	0.025	-	-	0.064	-
HCM Control Delay (s/veh)	15	10.6	-	-	9.1	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0.2	-

Timings
5: Central Av. & Edison Av.



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	108	345	242	551	55	113	829	265	33	768	135
Future Volume (vph)	108	345	242	551	55	113	829	265	33	768	135
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	3	8		5	2		1	6	
Permitted Phases					8			2			6
Detector Phase	7	4	3	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	33.4	9.6	33.4	33.4	9.6	33.8	33.8	9.6	33.8	33.8
Total Split (s)	20.0	33.4	21.0	34.4	34.4	20.0	53.8	53.8	11.8	45.6	45.6
Total Split (%)	16.7%	27.8%	17.5%	28.7%	28.7%	16.7%	44.8%	44.8%	9.8%	38.0%	38.0%
Yellow Time (s)	3.6	4.4	3.6	4.4	4.4	3.6	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.4	4.6	5.4	5.4	4.6	5.8	5.8	4.6	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	12.2	21.8	13.8	23.4	23.4	12.4	42.6	42.6	6.9	31.6	31.6
Actuated g/C Ratio	0.12	0.22	0.14	0.23	0.23	0.12	0.42	0.42	0.07	0.31	0.31
v/c Ratio	0.60	0.57	0.65	0.75	0.12	0.62	0.62	0.38	0.32	0.77	0.25
Control Delay (s/veh)	59.5	39.3	52.3	44.3	0.5	60.3	27.1	9.6	60.0	38.1	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	59.5	39.3	52.3	44.3	0.5	60.3	27.1	9.6	60.0	38.1	5.9
LOS	E	D	D	D	A	E	C	A	E	D	A
Approach Delay (s/veh)		43.7		43.8			26.4			34.3	
Approach LOS		D		D			C			C	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 100.9
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.78
 Intersection Signal Delay (s/veh): 35.2
 Intersection LOS: D
 Intersection Capacity Utilization 69.4%
 ICU Level of Service C
 Analysis Period (min) 15

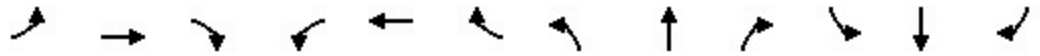
Splits and Phases: 5: Central Av. & Edison Av.



HCM 7th Signalized Intersection Summary
5: Central Av. & Edison Av.

Chino Distribution Center (JN 14835)

06/20/2024

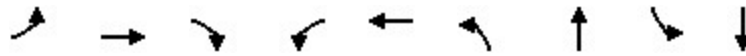


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	108	345	42	242	551	55	113	829	265	33	768	135
Future Volume (veh/h)	108	345	42	242	551	55	113	829	265	33	768	135
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1600	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	117	375	43	263	599	40	123	901	152	36	835	84
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	147	635	72	349	796	355	154	1301	580	56	1095	480
Arrive On Green	0.09	0.21	0.21	0.12	0.23	0.23	0.09	0.38	0.38	0.03	0.32	0.32
Sat Flow, veh/h	1619	3089	352	2956	3420	1523	1619	3420	1525	1619	3420	1500
Grp Volume(v), veh/h	117	206	212	263	599	40	123	901	152	36	835	84
Grp Sat Flow(s),veh/h/ln	1619	1710	1731	1478	1710	1523	1619	1710	1525	1619	1710	1500
Q Serve(g_s), s	5.5	8.5	8.6	6.7	12.7	1.6	5.8	17.3	5.3	1.7	17.1	3.1
Cycle Q Clear(g_c), s	5.5	8.5	8.6	6.7	12.7	1.6	5.8	17.3	5.3	1.7	17.1	3.1
Prop In Lane	1.00		0.20	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	147	351	356	349	796	355	154	1301	580	56	1095	480
V/C Ratio(X)	0.80	0.59	0.60	0.75	0.75	0.11	0.80	0.69	0.26	0.64	0.76	0.17
Avail Cap(c_a), veh/h	320	614	621	622	1272	566	320	2105	939	149	1745	766
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.8	28.0	28.1	33.3	27.8	23.6	34.6	20.3	16.6	37.2	23.8	19.1
Incr Delay (d2), s/veh	9.5	1.6	1.6	3.3	1.5	0.1	9.2	0.7	0.2	11.5	1.1	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	3.4	3.5	2.4	5.0	0.6	2.5	6.2	1.7	0.8	6.5	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	44.2	29.6	29.6	36.6	29.3	23.7	43.8	21.0	16.9	48.7	25.0	19.3
LnGrp LOS	D	C	C	D	C	C	D	C	B	D	C	B
Approach Vol, veh/h		535			902			1176			955	
Approach Delay, s/veh		32.8			31.2			22.9			25.4	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.3	35.5	13.8	21.4	12.0	30.8	11.7	23.6				
Change Period (Y+Rc), s	4.6	5.8	4.6	5.4	4.6	5.8	4.6	5.4				
Max Green Setting (Gmax), s	7.2	48.0	16.4	28.0	15.4	39.8	15.4	29.0				
Max Q Clear Time (g_c+I1), s	3.7	19.3	8.7	10.6	7.8	19.1	7.5	14.7				
Green Ext Time (p_c), s	0.0	7.0	0.5	2.1	0.2	5.8	0.1	3.3				
Intersection Summary												
HCM 7th Control Delay, s/veh				27.1								
HCM 7th LOS				C								

Timings

1: Monte Vista Av. & Edison Av.

06/20/2024

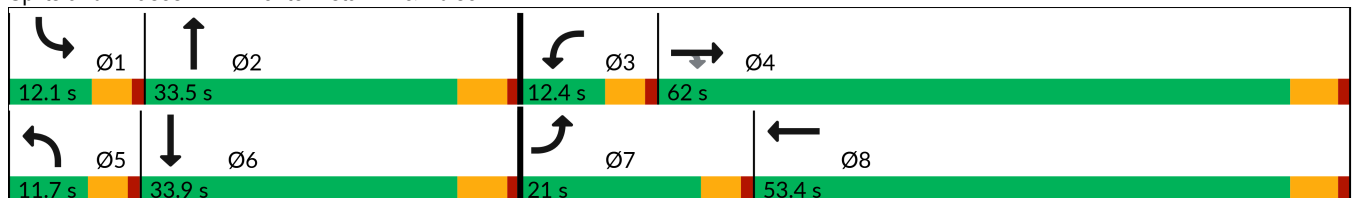


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↶	↗↗	↶	↶	↗↗	↶	↗↗	↶	↗↗
Traffic Volume (vph)	97	1103	31	39	639	30	217	35	166
Future Volume (vph)	97	1103	31	39	639	30	217	35	166
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4		3	8	5	2	1	6
Permitted Phases			4						
Detector Phase	7	4	4	3	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	29.8	29.8	9.6	29.8	9.6	32.1	9.6	32.1
Total Split (s)	21.0	62.0	62.0	12.4	53.4	11.7	33.5	12.1	33.9
Total Split (%)	17.5%	51.7%	51.7%	10.3%	44.5%	9.8%	27.9%	10.1%	28.3%
Yellow Time (s)	3.6	4.4	4.4	3.6	4.4	3.6	4.4	3.6	4.4
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.4	5.4	4.6	5.4	4.6	5.4	4.6	5.4
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	11.1	39.1	39.1	7.3	32.4	6.9	15.5	7.1	15.6
Actuated g/C Ratio	0.14	0.50	0.50	0.09	0.41	0.09	0.20	0.09	0.20
v/c Ratio	0.48	0.73	0.04	0.29	0.55	0.24	0.44	0.27	0.34
Control Delay (s/veh)	46.8	20.9	0.0	50.0	21.1	50.1	33.7	50.1	31.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	46.8	20.9	0.0	50.0	21.1	50.1	33.7	50.1	31.7
LOS	D	C	A	D	C	D	C	D	C
Approach Delay (s/veh)		22.5			22.7		35.5		34.4
Approach LOS		C			C		D		C

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 78.7	
Natural Cycle: 85	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.74	
Intersection Signal Delay (s/veh): 25.2	Intersection LOS: C
Intersection Capacity Utilization 65.5%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 1: Monte Vista Av. & Edison Av.



HCM 7th Signalized Intersection Summary

Chino Distribution Center (JN 14835)

1: Monte Vista Av. & Edison Av.

06/20/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↑↑	↗	↙	↑↑		↙	↑↑		↙	↑↑	
Traffic Volume (veh/h)	97	1103	31	39	639	47	30	217	44	35	166	38
Future Volume (veh/h)	97	1103	31	39	639	47	30	217	44	35	166	38
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	110	1253	30	44	726	48	34	247	41	40	189	32
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	138	1664	733	67	1442	95	56	423	69	63	434	72
Arrive On Green	0.09	0.49	0.49	0.04	0.44	0.44	0.03	0.14	0.14	0.04	0.15	0.15
Sat Flow, veh/h	1619	3420	1506	1619	3256	215	1619	2935	480	1619	2928	487
Grp Volume(v), veh/h	110	1253	30	44	381	393	34	142	146	40	109	112
Grp Sat Flow(s),veh/h/ln	1619	1710	1506	1619	1710	1761	1619	1710	1704	1619	1710	1705
Q Serve(g_s), s	4.6	20.5	0.7	1.9	11.0	11.1	1.4	5.4	5.5	1.7	4.0	4.1
Cycle Q Clear(g_c), s	4.6	20.5	0.7	1.9	11.0	11.1	1.4	5.4	5.5	1.7	4.0	4.1
Prop In Lane	1.00		1.00	1.00		0.12	1.00		0.28	1.00		0.29
Lane Grp Cap(c), veh/h	138	1664	733	67	757	780	56	246	246	63	253	253
V/C Ratio(X)	0.80	0.75	0.04	0.66	0.50	0.50	0.61	0.58	0.59	0.64	0.43	0.44
Avail Cap(c_a), veh/h	384	2800	1233	183	1187	1223	166	695	693	176	705	703
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.0	14.4	9.3	32.7	13.8	13.8	32.9	27.6	27.7	32.7	26.8	26.8
Incr Delay (d2), s/veh	4.0	0.7	0.0	4.1	0.5	0.5	3.9	2.1	2.3	3.9	1.2	1.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	6.6	0.2	0.8	3.7	3.8	0.6	2.2	2.2	0.7	1.6	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	35.0	15.1	9.3	36.7	14.3	14.3	36.8	29.8	30.0	36.7	27.9	28.1
LnGrp LOS	D	B	A	D	B	B	D	C	C	D	C	C
Approach Vol, veh/h	1393				818				322			
Approach Delay, s/veh	16.5				15.5				30.6			
Approach LOS	B				B				C			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.3	15.4	7.5	39.0	7.0	15.6	10.5	36.0				
Change Period (Y+Rc), s	4.6	5.4	4.6	5.4	4.6	5.4	4.6	5.4				
Max Green Setting (Gmax), s	7.5	28.1	7.8	56.6	7.1	28.5	16.4	48.0				
Max Q Clear Time (g_c+I1), s	3.7	7.5	3.9	22.5	3.4	6.1	6.6	13.1				
Green Ext Time (p_c), s	0.0	1.4	0.0	11.1	0.0	1.1	0.1	5.0				
Intersection Summary												
HCM 7th Control Delay, s/veh			19.1									
HCM 7th LOS			B									

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑↑	↑↑		↘	
Traffic Vol, veh/h	11	1203	682	3	6	17
Future Vol, veh/h	11	1203	682	3	6	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	-	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	12	1308	741	3	7	18

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	745	0	-	0	1421 372
Stage 1	-	-	-	-	743 -
Stage 2	-	-	-	-	678 -
Critical Hdwy	4.1	-	-	-	6.8 6.9
Critical Hdwy Stg 1	-	-	-	-	5.8 -
Critical Hdwy Stg 2	-	-	-	-	5.8 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	872	-	-	-	130 631
Stage 1	-	-	-	-	436 -
Stage 2	-	-	-	-	471 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	872	-	-	-	128 631
Mov Cap-2 Maneuver	-	-	-	-	264 -
Stage 1	-	-	-	-	430 -
Stage 2	-	-	-	-	471 -

Approach	EB	WB	SB
HCM Control Delay, s/v	0.08	0	13.23
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	872	-	-	-	463
HCM Lane V/C Ratio	0.014	-	-	-	0.054
HCM Control Delay (s/veh)	9.2	-	-	-	13.2
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑↑	↑↑		↘	
Traffic Vol, veh/h	4	1205	675	9	23	10
Future Vol, veh/h	4	1205	675	9	23	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	-	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	4	1310	734	10	25	11

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	743	0	-	0	1402 372
Stage 1	-	-	-	-	739 -
Stage 2	-	-	-	-	664 -
Critical Hdwy	4.1	-	-	-	6.8 6.9
Critical Hdwy Stg 1	-	-	-	-	5.8 -
Critical Hdwy Stg 2	-	-	-	-	5.8 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	873	-	-	-	133 631
Stage 1	-	-	-	-	439 -
Stage 2	-	-	-	-	479 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	873	-	-	-	133 631
Mov Cap-2 Maneuver	-	-	-	-	269 -
Stage 1	-	-	-	-	436 -
Stage 2	-	-	-	-	479 -

Approach	EB	WB	SB
HCM Control Delay, s/v	0.03	0	17.43
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	873	-	-	-	325
HCM Lane V/C Ratio	0.005	-	-	-	0.11
HCM Control Delay (s/veh)	9.1	-	-	-	17.4
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.4

Intersection						
Int Delay, s/veh	0.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↑	↑↑	↑	↑
Traffic Vol, veh/h	1205	24	14	655	29	25
Future Vol, veh/h	1205	24	14	655	29	25
Conflicting Peds, #/hr	0	1	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	60	-	-	45
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1339	27	16	728	32	28

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	1367	0	1748
Stage 1	-	-	-	-	1353
Stage 2	-	-	-	-	395
Critical Hdwy	-	-	4.1	-	6.8
Critical Hdwy Stg 1	-	-	-	-	5.8
Critical Hdwy Stg 2	-	-	-	-	5.8
Follow-up Hdwy	-	-	2.2	-	3.5
Pot Cap-1 Maneuver	-	-	509	-	79
Stage 1	-	-	-	-	209
Stage 2	-	-	-	-	656
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	509	-	76
Mov Cap-2 Maneuver	-	-	-	-	193
Stage 1	-	-	-	-	209
Stage 2	-	-	-	-	635

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0.26	21.56
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	193	396	-	-	509	-
HCM Lane V/C Ratio	0.167	0.07	-	-	0.031	-
HCM Control Delay (s/veh)	27.4	14.8	-	-	12.3	-
HCM Lane LOS	D	B	-	-	B	-
HCM 95th %tile Q(veh)	0.6	0.2	-	-	0.1	-

Timings
5: Central Av. & Edison Av.

Chino Distribution Center (JN 14835)

06/20/2024



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	222	905	209	420	57	102	810	446	98	703	115
Future Volume (vph)	222	905	209	420	57	102	810	446	98	703	115
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	3	8		5	2		1	6	
Permitted Phases					8			2			6
Detector Phase	7	4	3	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	33.4	9.6	33.4	33.4	9.6	33.8	33.8	9.6	33.8	33.8
Total Split (s)	26.8	47.2	16.4	36.8	36.8	16.2	41.0	41.0	15.4	40.2	40.2
Total Split (%)	22.3%	39.3%	13.7%	30.7%	30.7%	13.5%	34.2%	34.2%	12.8%	33.5%	33.5%
Yellow Time (s)	3.6	4.4	3.6	4.4	4.4	3.6	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.4	4.6	5.4	5.4	4.6	5.8	5.8	4.6	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	20.0	39.8	11.4	31.2	31.2	10.8	33.5	33.5	10.2	32.9	32.9
Actuated g/C Ratio	0.17	0.34	0.10	0.27	0.27	0.09	0.29	0.29	0.09	0.28	0.28
v/c Ratio	0.83	0.91	0.75	0.47	0.11	0.70	0.85	0.74	0.72	0.75	0.22
Control Delay (s/veh)	72.1	49.0	69.0	38.2	0.4	77.4	49.1	23.0	80.6	44.0	4.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	72.1	49.0	69.0	38.2	0.4	77.4	49.1	23.0	80.6	44.0	4.0
LOS	E	D	E	D	A	E	D	C	F	D	A
Approach Delay (s/veh)		53.2		44.5			42.7			42.9	
Approach LOS		D		D			D			D	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 115.5
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.92
 Intersection Signal Delay (s/veh): 46.1
 Intersection LOS: D
 Intersection Capacity Utilization 83.9%
 ICU Level of Service E
 Analysis Period (min) 15

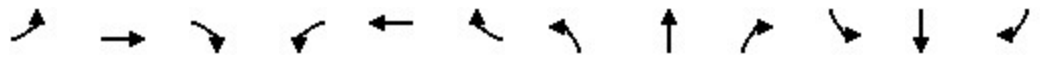
Splits and Phases: 5: Central Av. & Edison Av.



HCM 7th Signalized Intersection Summary
5: Central Av. & Edison Av.

Chino Distribution Center (JN 14835)

06/20/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	222	905	109	209	420	57	102	810	446	98	703	115
Future Volume (veh/h)	222	905	109	209	420	57	102	810	446	98	703	115
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1600	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	234	953	98	220	442	33	107	853	292	103	740	63
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	264	1082	111	275	944	421	131	997	438	126	987	440
Arrive On Green	0.16	0.35	0.35	0.09	0.28	0.28	0.08	0.29	0.29	0.08	0.29	0.29
Sat Flow, veh/h	1619	3126	321	2956	3420	1525	1619	3420	1501	1619	3420	1524
Grp Volume(v), veh/h	234	521	530	220	442	33	107	853	292	103	740	63
Grp Sat Flow(s),veh/h/ln	1619	1710	1737	1478	1710	1525	1619	1710	1501	1619	1710	1524
Q Serve(g_s), s	15.1	30.5	30.5	7.8	11.4	1.7	6.9	25.1	18.2	6.7	20.9	3.3
Cycle Q Clear(g_c), s	15.1	30.5	30.5	7.8	11.4	1.7	6.9	25.1	18.2	6.7	20.9	3.3
Prop In Lane	1.00		0.19	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	264	592	601	275	944	421	131	997	438	126	987	440
V/C Ratio(X)	0.89	0.88	0.88	0.80	0.47	0.08	0.82	0.86	0.67	0.82	0.75	0.14
Avail Cap(c_a), veh/h	338	672	682	328	1009	450	176	1131	497	164	1106	493
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.6	32.7	32.7	47.3	32.0	28.5	48.1	35.6	33.2	48.3	34.4	28.1
Incr Delay (d2), s/veh	20.0	11.9	11.8	11.3	0.4	0.1	19.2	6.0	2.9	21.0	2.6	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.3	13.9	14.1	3.2	4.6	0.6	3.4	10.7	6.7	3.4	8.7	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	63.6	44.7	44.5	58.6	32.4	28.6	67.4	41.6	36.0	69.3	36.9	28.2
LnGrp LOS	E	D	D	E	C	C	E	D	D	E	D	C
Approach Vol, veh/h		1285			695			1252			906	
Approach Delay, s/veh		48.1			40.5			42.5			40.0	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.9	36.8	14.5	42.2	13.2	36.5	21.9	34.8				
Change Period (Y+Rc), s	4.6	5.8	4.6	5.4	4.6	5.8	4.6	5.4				
Max Green Setting (Gmax), s	10.8	35.2	11.8	41.8	11.6	34.4	22.2	31.4				
Max Q Clear Time (g_c+I1), s	8.7	27.1	9.8	32.5	8.9	22.9	17.1	13.4				
Green Ext Time (p_c), s	0.0	4.0	0.1	4.3	0.1	3.8	0.3	2.6				
Intersection Summary												
HCM 7th Control Delay, s/veh			43.4									
HCM 7th LOS			D									

**APPENDIX 5.2: E+P CONDITIONS TRAFFIC SIGNAL WARRANT
ANALYSIS WORKSHEETS**

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Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	TRAFFIC CONDITIONS	<u>E+P</u>
Jurisdiction: <u>City of Chino</u>				CALC <u>JB</u>	DATE <u>06/24/24</u>
Major Street: <u>Edison Avenue</u>				CHK <u>JB</u>	DATE <u>06/24/24</u>
Minor Street: <u>Driveway 1</u>				Critical Approach Speed (Major)	<u>40</u> mph
				Critical Approach Speed (Minor)	<u>25</u> mph
Major Street Approach Lanes =		<u>2</u>	lane	Minor Street Approach Lanes	<u>1</u> lane
Major Street Future ADT =		<u>18,141</u>	vpd	Minor Street Future ADT =	<u>159</u> vpd
Speed limit or critical speed on major street traffic > 64 km/h (40 mph);					<input type="checkbox"/>
					or
In built up area of isolated community of < 10,000 population					<input type="checkbox"/>

RURAL (R)

(Based on Estimated Average Daily Traffic - See Note)

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements EADT			
XX					
CONDITION A - Minimum Vehicular Volume		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
XX					
Not Satisfied		XX			
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>				
<u>1</u>	<u>1</u>	8,000	5,600	2,400	1,680
<u>2 + 18,141</u>	<u>1 159</u>	9,600 *	6,720	2,400	1,680
<u>2 +</u>	<u>2 +</u>	9,600	6,720	3,200	2,240
<u>1</u>	<u>2 +</u>	8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic					
<u>Satisfied</u>	<u>Not Satisfied</u>	Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
XX		<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>				
<u>1</u>	<u>1</u>	12,000	8,400	1,200	850
<u>2 + 18,141</u>	<u>1 159</u>	14,400 *	10,080	1,200	850
<u>2 +</u>	<u>2 +</u>	14,400	10,080	1,600	1,120
<u>1</u>	<u>2 +</u>	12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B					
<u>Satisfied</u>	<u>Not Satisfied</u>	2 CONDITIONS 80%		2 CONDITIONS 80%	
No one condition satisfied, but following conditions fulfilled 80% of more					
	XX				
	<u>A</u>				
	<u>7%</u>				
	<u>B</u>				
	<u>13%</u>				

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.



Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	TRAFFIC CONDITIONS	<u>E+P</u>
Jurisdiction: <u>City of Chino</u>				CALC <u>JB</u>	DATE <u>06/24/24</u>
Major Street: <u>Edison Avenue</u>				CHK <u>JB</u>	DATE <u>06/24/24</u>
Minor Street: <u>Driveway 2</u>				Critical Approach Speed (Major)	<u>40</u> mph
				Critical Approach Speed (Minor)	<u>25</u> mph
Major Street Approach Lanes =		<u>2</u>	lane	Minor Street Approach Lanes	<u>1</u> lane
Major Street Future ADT =		<u>18,077</u>	vpd	Minor Street Future ADT =	<u>201</u> vpd
Speed limit or critical speed on major street traffic > 64 km/h (40 mph);					<input type="checkbox"/>
					or
In built up area of isolated community of < 10,000 population					<input type="checkbox"/>

RURAL (R)

(Based on Estimated Average Daily Traffic - See Note)

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements			
XX		EADT			
CONDITION A - Minimum Vehicular Volume		Vehicles Per Day on Major Street		Vehicles Per Day on Higher-Volume Minor Street Approach	
<u>Satisfied</u>		(Total of Both Approaches)		(One Direction Only)	
<u>Not Satisfied</u>		<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>				
<u>1</u>	<u>1</u>	8,000	5,600	2,400	1,680
<u>2 + 18,077</u>	<u>1 201</u>	9,600 *	6,720	2,400	1,680
<u>2 +</u>	<u>2 +</u>	9,600	6,720	3,200	2,240
<u>1</u>	<u>2 +</u>	8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic		Vehicles Per Day on Major Street		Vehicles Per Day on Higher-Volume Minor Street Approach	
<u>Satisfied</u>		(Total of Both Approaches)		(One Direction Only)	
<u>Not Satisfied</u>		<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
XX					
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>				
<u>1</u>	<u>1</u>	12,000	8,400	1,200	850
<u>2 + 18,077</u>	<u>1 201</u>	14,400 *	10,080	1,200	850
<u>2 +</u>	<u>2 +</u>	14,400	10,080	1,600	1,120
<u>1</u>	<u>2 +</u>	12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B		2 CONDITIONS		2 CONDITIONS	
<u>Satisfied</u>		80%		80%	
<u>Not Satisfied</u>					
XX					
No one condition satisfied, but following conditions fulfilled 80% of more					
	<u>A</u>				
	8%				
	<u>B</u>				
	17%				

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.



Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **E+P Conditions - Weekday PM Peak Hour**

Major Street Name = **Telephone Avenue**

Total of Both Approaches (VPH) = **1897**

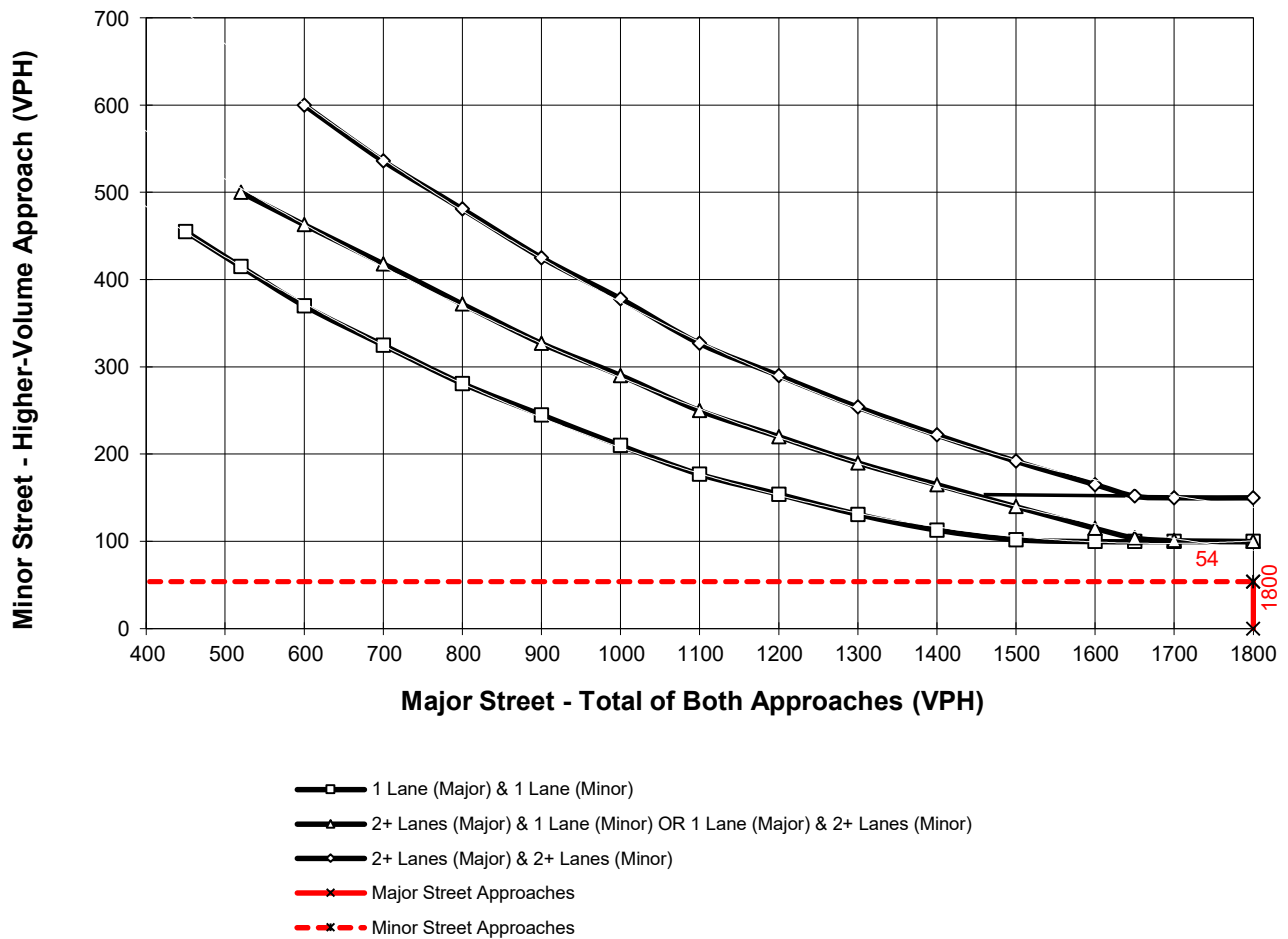
Number of Approach Lanes on Major Street = **2**

Minor Street Name = **Edison Avenue**

High Volume Approach (VPH) = **54**

Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

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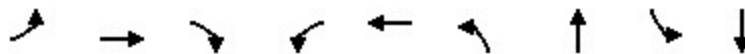
**APPENDIX 6.1: OPENING YEAR CUMULATIVE (2027) WITHOUT
PROJECT CONDITIONS INTERSECTION OPERATIONS ANALYSIS
WORKSHEETS**

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Timings

1: Monte Vista Av. & Edison Av.

06/20/2024



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↶	↶↶	↶	↶	↶↶	↶	↶↶	↶	↶↶
Traffic Volume (vph)	79	704	42	54	726	8	159	36	249
Future Volume (vph)	79	704	42	54	726	8	159	36	249
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4		3	8	5	2	1	6
Permitted Phases			4						
Detector Phase	7	4	4	3	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	29.8	29.8	9.6	29.8	9.6	32.1	9.6	32.1
Total Split (s)	20.0	53.0	53.0	17.0	50.0	10.0	37.0	13.0	40.0
Total Split (%)	16.7%	44.2%	44.2%	14.2%	41.7%	8.3%	30.8%	10.8%	33.3%
Yellow Time (s)	3.6	4.4	4.4	3.6	4.4	3.6	4.4	3.6	4.4
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.4	5.4	4.6	5.4	4.6	5.4	4.6	5.4
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	9.1	28.4	28.4	8.0	24.5	6.0	13.8	7.1	18.4
Actuated g/C Ratio	0.14	0.42	0.42	0.12	0.36	0.09	0.20	0.11	0.27
v/c Ratio	0.38	0.52	0.06	0.30	0.67	0.06	0.30	0.23	0.35
Control Delay (s/veh)	39.4	18.5	0.1	39.9	22.8	42.1	26.6	41.1	22.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	39.4	18.5	0.1	39.9	22.8	42.1	26.6	41.1	22.7
LOS	D	B	A	D	C	D	C	D	C
Approach Delay (s/veh)		19.6			24.0		27.3		24.7
Approach LOS		B			C		C		C

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 67.4
 Natural Cycle: 85
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.67
 Intersection Signal Delay (s/veh): 22.8
 Intersection LOS: C
 Intersection Capacity Utilization 57.8%
 ICU Level of Service B
 Analysis Period (min) 15

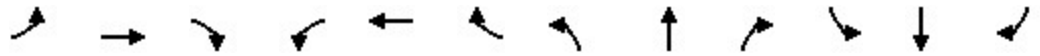
Splits and Phases: 1: Monte Vista Av. & Edison Av.



HCM 7th Signalized Intersection Summary
 1: Monte Vista Av. & Edison Av.

Chino Distribution Center (JN 14835)

06/20/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↑↑	↗	↙	↑↑		↙	↑↑		↙	↑↑	
Traffic Volume (veh/h)	79	704	42	54	726	44	8	159	39	36	249	58
Future Volume (veh/h)	79	704	42	54	726	44	8	159	39	36	249	58
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	85	757	37	58	781	44	9	171	37	39	268	53
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	108	1210	540	87	1122	63	19	512	108	66	603	117
Arrive On Green	0.07	0.35	0.35	0.05	0.34	0.34	0.01	0.18	0.18	0.04	0.21	0.21
Sat Flow, veh/h	1619	3420	1525	1619	3291	185	1619	2807	593	1619	2846	554
Grp Volume(v), veh/h	85	757	37	58	406	419	9	103	105	39	159	162
Grp Sat Flow(s),veh/h/ln	1619	1710	1525	1619	1710	1767	1619	1710	1690	1619	1710	1690
Q Serve(g_s), s	2.8	10.0	0.9	1.9	11.1	11.1	0.3	2.8	2.9	1.3	4.4	4.5
Cycle Q Clear(g_c), s	2.8	10.0	0.9	1.9	11.1	11.1	0.3	2.8	2.9	1.3	4.4	4.5
Prop In Lane	1.00		1.00	1.00		0.10	1.00		0.35	1.00		0.33
Lane Grp Cap(c), veh/h	108	1210	540	87	583	602	19	312	308	66	362	358
V/C Ratio(X)	0.79	0.63	0.07	0.67	0.70	0.70	0.48	0.33	0.34	0.59	0.44	0.45
Avail Cap(c_a), veh/h	460	3004	1340	370	1407	1454	161	997	985	251	1092	1079
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.9	14.5	11.6	25.2	15.4	15.4	26.6	19.3	19.3	25.5	18.6	18.6
Incr Delay (d2), s/veh	4.8	0.5	0.1	3.3	1.5	1.5	6.7	0.6	0.7	3.1	0.8	0.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	3.2	0.2	0.7	3.8	3.9	0.1	1.0	1.1	0.5	1.6	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	29.7	15.1	11.7	28.4	16.9	16.9	33.3	19.9	20.0	28.6	19.4	19.5
LnGrp LOS	C	B	B	C	B	B	C	B	B	C	B	B
Approach Vol, veh/h		879			883			217			360	
Approach Delay, s/veh		16.3			17.7			20.5			20.4	
Approach LOS		B			B			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.8	15.3	7.5	24.6	5.2	16.9	8.2	23.9				
Change Period (Y+Rc), s	4.6	5.4	4.6	5.4	4.6	5.4	4.6	5.4				
Max Green Setting (Gmax), s	8.4	31.6	12.4	47.6	5.4	34.6	15.4	44.6				
Max Q Clear Time (g_c+I1), s	3.3	4.9	3.9	12.0	2.3	6.5	4.8	13.1				
Green Ext Time (p_c), s	0.0	1.1	0.0	5.7	0.0	1.8	0.1	5.4				
Intersection Summary												
HCM 7th Control Delay, s/veh				17.9								
HCM 7th LOS				B								

Intersection						
Int Delay, s/veh	0.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↖	↑↑	↖	↖
Traffic Vol, veh/h	695	73	57	842	17	15
Future Vol, veh/h	695	73	57	842	17	15
Conflicting Peds, #/hr	0	2	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	60	-	-	45
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	764	80	63	925	19	16

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	846	0	1394 424
Stage 1	-	-	-	-	806 -
Stage 2	-	-	-	-	588 -
Critical Hdwy	-	-	4.1	-	6.8 6.9
Critical Hdwy Stg 1	-	-	-	-	5.8 -
Critical Hdwy Stg 2	-	-	-	-	5.8 -
Follow-up Hdwy	-	-	2.2	-	3.5 3.3
Pot Cap-1 Maneuver	-	-	800	-	135 584
Stage 1	-	-	-	-	405 -
Stage 2	-	-	-	-	524 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	798	-	124 583
Mov Cap-2 Maneuver	-	-	-	-	316 -
Stage 1	-	-	-	-	404 -
Stage 2	-	-	-	-	483 -

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0.63	14.41
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	316	583	-	-	798	-
HCM Lane V/C Ratio	0.059	0.028	-	-	0.078	-
HCM Control Delay (s/veh)	17.1	11.4	-	-	9.9	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0.3	-

Timings
5: Central Av. & Edison Av.



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	119	486	264	655	62	115	898	285	42	827	137
Future Volume (vph)	119	486	264	655	62	115	898	285	42	827	137
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	3	8		5	2		1	6	
Permitted Phases					8			2			6
Detector Phase	7	4	3	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	33.4	9.6	33.4	33.4	9.6	33.8	33.8	9.6	33.8	33.8
Total Split (s)	19.0	34.0	21.0	36.0	36.0	19.0	53.0	53.0	12.0	46.0	46.0
Total Split (%)	15.8%	28.3%	17.5%	30.0%	30.0%	15.8%	44.2%	44.2%	10.0%	38.3%	38.3%
Yellow Time (s)	3.6	4.4	3.6	4.4	4.4	3.6	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.4	4.6	5.4	5.4	4.6	5.8	5.8	4.6	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	12.6	25.2	14.6	27.2	27.2	12.5	42.9	42.9	7.0	34.7	34.7
Actuated g/C Ratio	0.12	0.23	0.14	0.25	0.25	0.12	0.40	0.40	0.06	0.32	0.32
v/c Ratio	0.68	0.72	0.71	0.82	0.13	0.67	0.71	0.42	0.44	0.81	0.25
Control Delay (s/veh)	67.8	44.7	57.7	48.4	0.5	67.0	32.3	11.8	66.9	41.3	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	67.8	44.7	57.7	48.4	0.5	67.0	32.3	11.8	66.9	41.3	5.9
LOS	E	D	E	D	A	E	C	B	E	D	A
Approach Delay (s/veh)		49.0		48.0			30.9			37.6	
Approach LOS		D		D			C			D	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 107.9
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.83
 Intersection Signal Delay (s/veh): 39.9
 Intersection LOS: D
 Intersection Capacity Utilization 74.9%
 ICU Level of Service D
 Analysis Period (min) 15

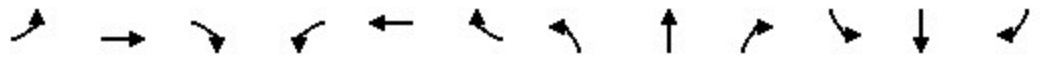
Splits and Phases: 5: Central Av. & Edison Av.



HCM 7th Signalized Intersection Summary
5: Central Av. & Edison Av.

Chino Distribution Center (JN 14835)

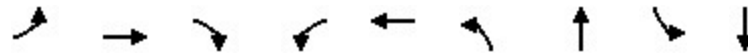
06/20/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	119	486	42	264	655	62	115	898	285	42	827	137
Future Volume (veh/h)	119	486	42	264	655	62	115	898	285	42	827	137
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1600	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	129	528	43	287	712	47	125	976	174	46	899	86
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	158	745	60	360	878	391	154	1309	584	61	1114	489
Arrive On Green	0.10	0.23	0.23	0.12	0.26	0.26	0.09	0.38	0.38	0.04	0.33	0.33
Sat Flow, veh/h	1619	3199	260	2956	3420	1524	1619	3420	1525	1619	3420	1501
Grp Volume(v), veh/h	129	282	289	287	712	47	125	976	174	46	899	86
Grp Sat Flow(s),veh/h/ln	1619	1710	1749	1478	1710	1524	1619	1710	1525	1619	1710	1501
Q Serve(g_s), s	7.1	13.7	13.8	8.6	17.7	2.1	6.9	22.4	7.2	2.6	21.8	3.7
Cycle Q Clear(g_c), s	7.1	13.7	13.8	8.6	17.7	2.1	6.9	22.4	7.2	2.6	21.8	3.7
Prop In Lane	1.00		0.15	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	158	398	407	360	878	391	154	1309	584	61	1114	489
V/C Ratio(X)	0.82	0.71	0.71	0.80	0.81	0.12	0.81	0.75	0.30	0.75	0.81	0.18
Avail Cap(c_a), veh/h	257	539	552	535	1154	514	257	1780	794	132	1516	665
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.1	32.0	32.0	38.7	31.6	25.8	40.3	24.2	19.5	43.2	28.0	21.9
Incr Delay (d2), s/veh	9.9	2.7	2.7	5.1	3.4	0.1	9.9	1.2	0.3	16.7	2.4	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	5.7	5.9	3.2	7.3	0.8	3.0	8.4	2.4	1.3	8.7	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	50.0	34.6	34.7	43.8	35.0	26.0	50.2	25.3	19.8	59.9	30.4	22.0
LnGrp LOS	D	C	C	D	C	C	D	C	B	E	C	C
Approach Vol, veh/h		700			1046			1275			1031	
Approach Delay, s/veh		37.5			37.0			27.0			31.0	
Approach LOS		D			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.0	40.5	15.6	26.5	13.2	35.3	13.5	28.7				
Change Period (Y+Rc), s	4.6	5.8	4.6	5.4	4.6	5.8	4.6	5.4				
Max Green Setting (Gmax), s	7.4	47.2	16.4	28.6	14.4	40.2	14.4	30.6				
Max Q Clear Time (g_c+I1), s	4.6	24.4	10.6	15.8	8.9	23.8	9.1	19.7				
Green Ext Time (p_c), s	0.0	7.3	0.5	2.6	0.1	5.7	0.1	3.5				
Intersection Summary												
HCM 7th Control Delay, s/veh				32.4								
HCM 7th LOS				C								

Timings

1: Monte Vista Av. & Edison Av.

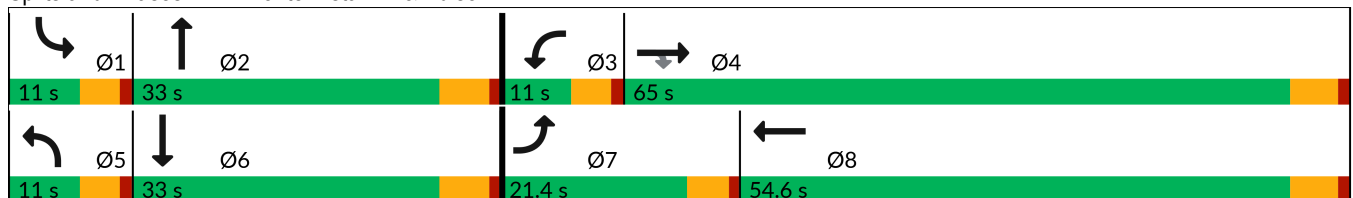


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↶	↗↗	↶	↶	↗↗	↶	↗↗	↶	↗↗
Traffic Volume (vph)	103	1247	35	33	811	32	234	36	182
Future Volume (vph)	103	1247	35	33	811	32	234	36	182
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4		3	8	5	2	1	6
Permitted Phases			4						
Detector Phase	7	4	4	3	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	29.8	29.8	9.6	29.8	9.6	32.1	9.6	32.1
Total Split (s)	21.4	65.0	65.0	11.0	54.6	11.0	33.0	11.0	33.0
Total Split (%)	17.8%	54.2%	54.2%	9.2%	45.5%	9.2%	27.5%	9.2%	27.5%
Yellow Time (s)	3.6	4.4	4.4	3.6	4.4	3.6	4.4	3.6	4.4
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.4	5.4	4.6	5.4	4.6	5.4	4.6	5.4
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	11.6	46.2	46.2	6.5	38.8	6.5	15.7	6.6	15.7
Actuated g/C Ratio	0.14	0.54	0.54	0.08	0.46	0.08	0.18	0.08	0.18
v/c Ratio	0.53	0.76	0.04	0.30	0.62	0.29	0.49	0.32	0.39
Control Delay (s/veh)	50.8	20.5	0.1	54.8	21.9	54.4	37.0	55.5	34.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	50.8	20.5	0.1	54.8	21.9	54.4	37.0	55.5	34.8
LOS	D	C	A	D	C	D	D	E	C
Approach Delay (s/veh)		22.3			23.2		38.8		37.7
Approach LOS		C			C		D		D

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 84.9
 Natural Cycle: 95
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.76
 Intersection Signal Delay (s/veh): 25.8
 Intersection LOS: C
 Intersection Capacity Utilization 69.7%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 1: Monte Vista Av. & Edison Av.

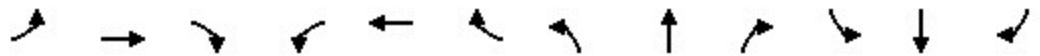


HCM 7th Signalized Intersection Summary

Chino Distribution Center (JN 14835)

1: Monte Vista Av. & Edison Av.

06/20/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	103	1247	35	33	811	46	32	234	40	36	182	40
Future Volume (veh/h)	103	1247	35	33	811	46	32	234	40	36	182	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	117	1417	35	38	922	47	36	266	36	41	207	34
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	146	1815	799	59	1579	81	57	398	53	62	396	64
Arrive On Green	0.09	0.53	0.53	0.04	0.48	0.48	0.04	0.13	0.13	0.04	0.13	0.13
Sat Flow, veh/h	1619	3420	1506	1619	3311	169	1619	3025	404	1619	2942	475
Grp Volume(v), veh/h	117	1417	35	38	476	493	36	149	153	41	119	122
Grp Sat Flow(s),veh/h/ln	1619	1710	1506	1619	1710	1770	1619	1710	1719	1619	1710	1707
Q Serve(g_s), s	5.4	25.2	0.8	1.8	15.3	15.3	1.7	6.3	6.4	1.9	4.9	5.1
Cycle Q Clear(g_c), s	5.4	25.2	0.8	1.8	15.3	15.3	1.7	6.3	6.4	1.9	4.9	5.1
Prop In Lane	1.00		1.00	1.00		0.10	1.00		0.24	1.00		0.28
Lane Grp Cap(c), veh/h	146	1815	799	59	816	844	57	225	226	62	230	230
V/C Ratio(X)	0.80	0.78	0.04	0.65	0.58	0.58	0.63	0.66	0.68	0.66	0.52	0.53
Avail Cap(c_a), veh/h	358	2685	1182	136	1108	1147	136	622	625	136	622	620
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.9	14.3	8.6	36.1	14.4	14.4	36.2	31.4	31.4	36.0	30.6	30.6
Incr Delay (d2), s/veh	3.9	0.9	0.0	4.4	0.7	0.6	4.3	3.3	3.5	4.5	1.8	1.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	8.2	0.2	0.7	5.2	5.4	0.7	2.6	2.7	0.8	2.0	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	37.8	15.2	8.6	40.5	15.1	15.0	40.5	34.7	35.0	40.5	32.3	32.5
LnGrp LOS	D	B	A	D	B	B	D	C	C	D	C	C
Approach Vol, veh/h		1569			1007			338			282	
Approach Delay, s/veh		16.7			16.0			35.4			33.6	
Approach LOS		B			B			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.5	15.4	7.4	45.7	7.3	15.6	11.4	41.6				
Change Period (Y+Rc), s	4.6	5.4	4.6	5.4	4.6	5.4	4.6	5.4				
Max Green Setting (Gmax), s	6.4	27.6	6.4	59.6	6.4	27.6	16.8	49.2				
Max Q Clear Time (g_c+I1), s	3.9	8.4	3.8	27.2	3.7	7.1	7.4	17.3				
Green Ext Time (p_c), s	0.0	1.5	0.0	13.1	0.0	1.2	0.1	6.7				
Intersection Summary												
HCM 7th Control Delay, s/veh				20.0								
HCM 7th LOS				B								

Intersection						
Int Delay, s/veh	0.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↑	↑↑	↑	↑
Traffic Vol, veh/h	1344	22	14	828	30	26
Future Vol, veh/h	1344	22	14	828	30	26
Conflicting Peds, #/hr	0	1	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	60	-	-	45
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1493	24	16	920	33	29

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	1519	0	1998
Stage 1	-	-	-	-	1507
Stage 2	-	-	-	-	491
Critical Hdwy	-	-	4.1	-	6.8
Critical Hdwy Stg 1	-	-	-	-	5.8
Critical Hdwy Stg 2	-	-	-	-	5.8
Follow-up Hdwy	-	-	2.2	-	3.5
Pot Cap-1 Maneuver	-	-	445	-	54
Stage 1	-	-	-	-	173
Stage 2	-	-	-	-	586
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	445	-	52
Mov Cap-2 Maneuver	-	-	-	-	159
Stage 1	-	-	-	-	173
Stage 2	-	-	-	-	566

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0.22	25.45
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	159	353	-	-	445	-
HCM Lane V/C Ratio	0.21	0.082	-	-	0.035	-
HCM Control Delay (s/veh)	33.5	16.1	-	-	13.4	-
HCM Lane LOS	D	C	-	-	B	-
HCM 95th %tile Q(veh)	0.8	0.3	-	-	0.1	-

Timings
5: Central Av. & Edison Av.



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	230	1037	227	575	68	105	873	481	108	764	126
Future Volume (vph)	230	1037	227	575	68	105	873	481	108	764	126
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	3	8		5	2		1	6	
Permitted Phases					8			2			6
Detector Phase	7	4	3	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	33.4	9.6	33.4	33.4	9.6	33.8	33.8	9.6	33.8	33.8
Total Split (s)	27.3	48.6	15.6	36.9	36.9	14.0	41.4	41.4	14.4	41.8	41.8
Total Split (%)	22.8%	40.5%	13.0%	30.8%	30.8%	11.7%	34.5%	34.5%	12.0%	34.8%	34.8%
Yellow Time (s)	3.6	4.4	3.6	4.4	4.4	3.6	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.4	4.6	5.4	5.4	4.6	5.8	5.8	4.6	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	20.9	43.2	11.0	33.3	33.3	9.4	35.0	35.0	9.8	35.4	35.4
Actuated g/C Ratio	0.18	0.36	0.09	0.28	0.28	0.08	0.29	0.29	0.08	0.30	0.30
v/c Ratio	0.85	0.98	0.88	0.63	0.13	0.87	0.91	0.82	0.86	0.79	0.24
Control Delay (s/veh)	75.3	60.5	85.0	41.8	0.5	107.3	55.4	32.8	103.5	45.3	5.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	75.3	60.5	85.0	41.8	0.5	107.3	55.4	32.8	103.5	45.3	5.0
LOS	E	E	F	D	A	F	E	C	F	D	A
Approach Delay (s/veh)		63.0		49.9			51.8			46.6	
Approach LOS		E		D			D			D	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 119.4	
Natural Cycle: 100	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.99	
Intersection Signal Delay (s/veh): 53.6	Intersection LOS: D
Intersection Capacity Utilization 90.8%	ICU Level of Service E
Analysis Period (min) 15	

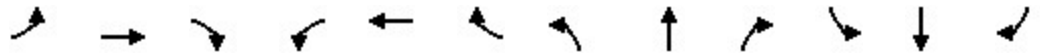
Splits and Phases: 5: Central Av. & Edison Av.



HCM 7th Signalized Intersection Summary
5: Central Av. & Edison Av.

Chino Distribution Center (JN 14835)

06/20/2024

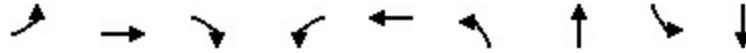


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	230	1037	109	227	575	68	105	873	481	108	764	126
Future Volume (veh/h)	230	1037	109	227	575	68	105	873	481	108	764	126
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1600	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	242	1092	89	239	605	45	111	919	329	114	804	75
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	268	1151	94	275	983	438	129	999	439	134	1011	450
Arrive On Green	0.17	0.36	0.36	0.09	0.29	0.29	0.08	0.29	0.29	0.08	0.30	0.30
Sat Flow, veh/h	1619	3199	261	2956	3420	1525	1619	3420	1501	1619	3420	1524
Grp Volume(v), veh/h	242	583	598	239	605	45	111	919	329	114	804	75
Grp Sat Flow(s),veh/h/ln	1619	1710	1749	1478	1710	1525	1619	1710	1501	1619	1710	1524
Q Serve(g_s), s	17.4	39.2	39.3	9.4	18.1	2.6	8.0	30.8	23.5	8.2	25.6	4.3
Cycle Q Clear(g_c), s	17.4	39.2	39.3	9.4	18.1	2.6	8.0	30.8	23.5	8.2	25.6	4.3
Prop In Lane	1.00		0.15	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	268	615	629	275	983	438	129	999	439	134	1011	450
V/C Ratio(X)	0.90	0.95	0.95	0.87	0.62	0.10	0.86	0.92	0.75	0.85	0.80	0.17
Avail Cap(c_a), veh/h	311	624	638	275	983	438	129	1029	452	134	1040	463
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.5	36.8	36.8	53.0	36.5	31.0	53.8	40.5	38.0	53.6	38.4	30.9
Incr Delay (d2), s/veh	25.9	23.8	23.7	24.6	1.2	0.1	41.5	12.7	6.7	37.5	4.3	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.8	19.8	20.2	4.4	7.5	0.9	4.7	14.1	9.2	4.7	11.0	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	74.4	60.6	60.6	77.5	37.7	31.1	95.3	53.3	44.7	91.1	42.7	31.1
LnGrp LOS	E	E	E	E	D	C	F	D	D	F	D	C
Approach Vol, veh/h		1423			889			1359			993	
Approach Delay, s/veh		62.9			48.1			54.6			47.3	
Approach LOS		E			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.4	40.4	15.6	48.0	14.0	40.8	24.2	39.4				
Change Period (Y+Rc), s	4.6	5.8	4.6	5.4	4.6	5.8	4.6	5.4				
Max Green Setting (Gmax), s	9.8	35.6	11.0	43.2	9.4	36.0	22.7	31.5				
Max Q Clear Time (g_c+I1), s	10.2	32.8	11.4	41.3	10.0	27.6	19.4	20.1				
Green Ext Time (p_c), s	0.0	1.8	0.0	1.3	0.0	3.4	0.2	3.0				
Intersection Summary												
HCM 7th Control Delay, s/veh			54.4									
HCM 7th LOS			D									

Timings

1: Monte Vista Av. & Edison Av.

06/20/2024

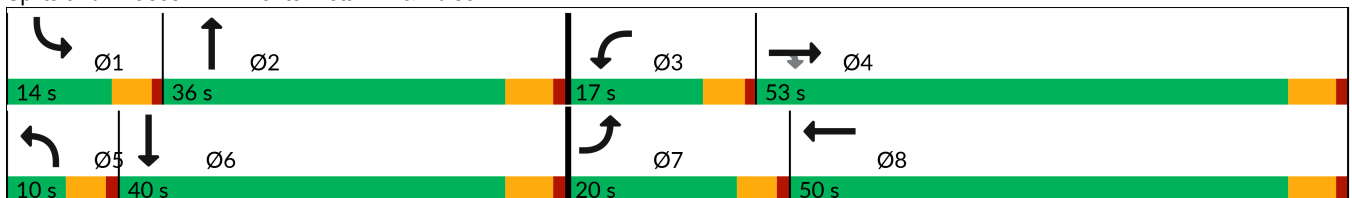


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↙	↑↑	↗	↙	↑↑	↙	↑↑	↙	↑↑
Traffic Volume (vph)	79	710	42	57	730	8	159	40	249
Future Volume (vph)	79	710	42	57	730	8	159	40	249
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4		3	8	5	2	1	6
Permitted Phases			4						
Detector Phase	7	4	4	3	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	29.8	29.8	9.6	29.8	9.6	32.1	9.6	32.1
Total Split (s)	20.0	53.0	53.0	17.0	50.0	10.0	36.0	14.0	40.0
Total Split (%)	16.7%	44.2%	44.2%	14.2%	41.7%	8.3%	30.0%	11.7%	33.3%
Yellow Time (s)	3.6	4.4	4.4	3.6	4.4	3.6	4.4	3.6	4.4
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.4	5.4	4.6	5.4	4.6	5.4	4.6	5.4
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	9.3	26.3	26.3	8.3	25.3	6.0	13.9	7.3	18.7
Actuated g/C Ratio	0.14	0.38	0.38	0.12	0.37	0.09	0.20	0.11	0.27
v/c Ratio	0.38	0.58	0.06	0.31	0.66	0.06	0.31	0.25	0.35
Control Delay (s/veh)	40.0	20.5	0.2	40.3	22.9	42.7	26.7	41.4	22.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	40.0	20.5	0.2	40.3	22.9	42.7	26.7	41.4	22.9
LOS	D	C	A	D	C	D	C	D	C
Approach Delay (s/veh)		21.4			24.1		27.4		25.1
Approach LOS		C			C		C		C

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 68.6	
Natural Cycle: 85	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.67	
Intersection Signal Delay (s/veh): 23.6	Intersection LOS: C
Intersection Capacity Utilization 58.0%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 1: Monte Vista Av. & Edison Av.



HCM 7th Signalized Intersection Summary
 1: Monte Vista Av. & Edison Av.

Chino Distribution Center (JN 14835)

06/20/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗		↖	↗		↖	↗	
Traffic Volume (veh/h)	79	710	42	57	730	45	8	159	45	40	249	58
Future Volume (veh/h)	79	710	42	57	730	45	8	159	45	40	249	58
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	85	763	37	61	785	45	9	171	43	43	268	53
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	107	1207	538	89	1124	64	19	495	121	71	609	119
Arrive On Green	0.07	0.35	0.35	0.06	0.34	0.34	0.01	0.18	0.18	0.04	0.21	0.21
Sat Flow, veh/h	1619	3420	1525	1619	3288	188	1619	2720	666	1619	2846	554
Grp Volume(v), veh/h	85	763	37	61	408	422	9	106	108	43	159	162
Grp Sat Flow(s),veh/h/ln	1619	1710	1525	1619	1710	1766	1619	1710	1676	1619	1710	1690
Q Serve(g_s), s	2.8	10.2	0.9	2.0	11.3	11.3	0.3	2.9	3.1	1.4	4.4	4.5
Cycle Q Clear(g_c), s	2.8	10.2	0.9	2.0	11.3	11.3	0.3	2.9	3.1	1.4	4.4	4.5
Prop In Lane	1.00		1.00	1.00		0.11	1.00		0.40	1.00		0.33
Lane Grp Cap(c), veh/h	107	1207	538	89	585	604	19	311	305	71	366	362
V/C Ratio(X)	0.79	0.63	0.07	0.68	0.70	0.70	0.48	0.34	0.35	0.61	0.43	0.45
Avail Cap(c_a), veh/h	456	2979	1329	367	1396	1441	160	958	939	279	1083	1070
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.1	14.7	11.7	25.3	15.5	15.5	26.8	19.5	19.5	25.7	18.6	18.7
Incr Delay (d2), s/veh	4.9	0.6	0.1	3.4	1.5	1.5	6.7	0.6	0.7	3.1	0.8	0.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	3.3	0.3	0.8	3.8	3.9	0.1	1.1	1.1	0.6	1.6	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	30.0	15.3	11.8	28.7	17.1	17.0	33.6	20.1	20.2	28.7	19.4	19.5
LnGrp LOS	C	B	B	C	B	B	C	C	C	C	B	B
Approach Vol, veh/h		885			891			223			364	
Approach Delay, s/veh		16.5			17.8			20.7			20.6	
Approach LOS		B			B			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.0	15.3	7.6	24.7	5.2	17.1	8.2	24.1				
Change Period (Y+Rc), s	4.6	5.4	4.6	5.4	4.6	5.4	4.6	5.4				
Max Green Setting (Gmax), s	9.4	30.6	12.4	47.6	5.4	34.6	15.4	44.6				
Max Q Clear Time (g_c+I1), s	3.4	5.1	4.0	12.2	2.3	6.5	4.8	13.3				
Green Ext Time (p_c), s	0.0	1.1	0.0	5.8	0.0	1.8	0.1	5.4				
Intersection Summary												
HCM 7th Control Delay, s/veh			18.0									
HCM 7th LOS			B									

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑↑	↑↑		↘	
Traffic Vol, veh/h	14	776	854	5	2	8
Future Vol, veh/h	14	776	854	5	2	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	-	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	15	843	928	5	2	9

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	934	0	-	0	1383 467
Stage 1	-	-	-	-	931 -
Stage 2	-	-	-	-	452 -
Critical Hdwy	4.1	-	-	-	6.8 6.9
Critical Hdwy Stg 1	-	-	-	-	5.8 -
Critical Hdwy Stg 2	-	-	-	-	5.8 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	741	-	-	-	137 548
Stage 1	-	-	-	-	349 -
Stage 2	-	-	-	-	614 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	741	-	-	-	134 548
Mov Cap-2 Maneuver	-	-	-	-	255 -
Stage 1	-	-	-	-	342 -
Stage 2	-	-	-	-	614 -

Approach	EB	WB	SB
HCM Control Delay, s/v	0.18	0	13.28
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	741	-	-	-	445
HCM Lane V/C Ratio	0.021	-	-	-	0.024
HCM Control Delay (s/veh)	10	-	-	-	13.3
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑↑	↑↑		↘	
Traffic Vol, veh/h	10	768	856	24	7	3
Future Vol, veh/h	10	768	856	24	7	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	-	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	11	835	930	26	8	3

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	957	0	-	0	1383 478
Stage 1	-	-	-	-	943 -
Stage 2	-	-	-	-	439 -
Critical Hdwy	4.1	-	-	-	6.8 6.9
Critical Hdwy Stg 1	-	-	-	-	5.8 -
Critical Hdwy Stg 2	-	-	-	-	5.8 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	727	-	-	-	137 539
Stage 1	-	-	-	-	344 -
Stage 2	-	-	-	-	623 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	727	-	-	-	135 539
Mov Cap-2 Maneuver	-	-	-	-	254 -
Stage 1	-	-	-	-	339 -
Stage 2	-	-	-	-	623 -

Approach	EB	WB	SB
HCM Control Delay, s/v	0.13	0	17.35
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	727	-	-	-	302
HCM Lane V/C Ratio	0.015	-	-	-	0.036
HCM Control Delay (s/veh)	10	-	-	-	17.4
HCM Lane LOS	B	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection						
Int Delay, s/veh	0.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↖	↑↑	↖	↖
Traffic Vol, veh/h	701	74	57	861	21	15
Future Vol, veh/h	701	74	57	861	21	15
Conflicting Peds, #/hr	0	2	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	60	-	-	45
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	770	81	63	946	23	16

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	854	0	1411 428
Stage 1	-	-	-	-	813 -
Stage 2	-	-	-	-	598 -
Critical Hdwy	-	-	4.1	-	6.8 6.9
Critical Hdwy Stg 1	-	-	-	-	5.8 -
Critical Hdwy Stg 2	-	-	-	-	5.8 -
Follow-up Hdwy	-	-	2.2	-	3.5 3.3
Pot Cap-1 Maneuver	-	-	794	-	131 581
Stage 1	-	-	-	-	402 -
Stage 2	-	-	-	-	517 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	793	-	121 580
Mov Cap-2 Maneuver	-	-	-	-	312 -
Stage 1	-	-	-	-	401 -
Stage 2	-	-	-	-	476 -

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0.62	14.93
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	312	580	-	-	793	-
HCM Lane V/C Ratio	0.074	0.028	-	-	0.079	-
HCM Control Delay (s/veh)	17.5	11.4	-	-	9.9	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0.3	-

Timings
5: Central Av. & Edison Av.

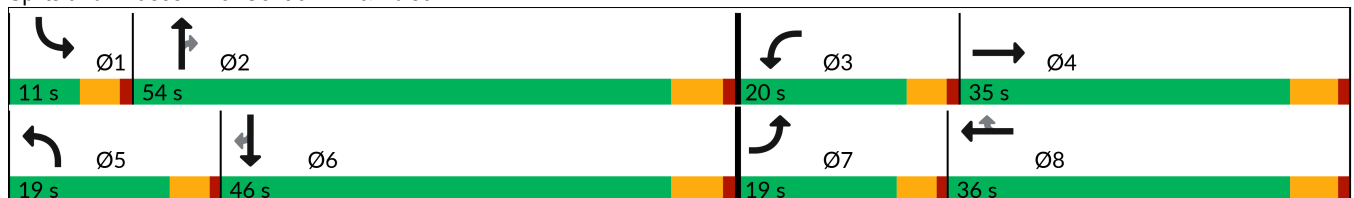


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	121	488	264	661	62	121	898	285	42	827	144
Future Volume (vph)	121	488	264	661	62	121	898	285	42	827	144
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	3	8		5	2		1	6	
Permitted Phases					8			2			6
Detector Phase	7	4	3	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	33.4	9.6	33.4	33.4	9.6	33.8	33.8	9.6	33.8	33.8
Total Split (s)	19.0	35.0	20.0	36.0	36.0	19.0	54.0	54.0	11.0	46.0	46.0
Total Split (%)	15.8%	29.2%	16.7%	30.0%	30.0%	15.8%	45.0%	45.0%	9.2%	38.3%	38.3%
Yellow Time (s)	3.6	4.4	3.6	4.4	4.4	3.6	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.4	4.6	5.4	5.4	4.6	5.8	5.8	4.6	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	12.7	25.9	14.3	27.4	27.4	12.7	44.0	44.0	6.3	34.9	34.9
Actuated g/C Ratio	0.12	0.24	0.13	0.25	0.25	0.12	0.41	0.41	0.06	0.32	0.32
v/c Ratio	0.69	0.71	0.74	0.83	0.13	0.69	0.70	0.42	0.48	0.81	0.26
Control Delay (s/veh)	68.9	44.0	60.0	49.0	0.5	68.9	31.4	11.2	72.1	41.6	6.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	68.9	44.0	60.0	49.0	0.5	68.9	31.4	11.2	72.1	41.6	6.8
LOS	E	D	E	D	A	E	C	B	E	D	A
Approach Delay (s/veh)		48.6		48.9			30.5			37.9	
Approach LOS		D		D			C			D	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 108.6
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.83
 Intersection Signal Delay (s/veh): 40.0
 Intersection LOS: D
 Intersection Capacity Utilization 75.5%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 5: Central Av. & Edison Av.



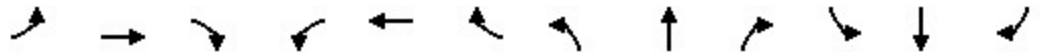
**APPENDIX 6.2: OPENING YEAR CUMULATIVE (2027) WITH PROJECT
CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS**

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HCM 7th Signalized Intersection Summary
5: Central Av. & Edison Av.

Chino Distribution Center (JN 14835)

06/20/2024

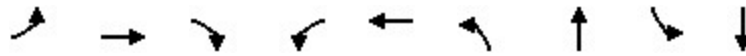


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	121	488	44	264	661	62	121	898	285	42	827	144
Future Volume (veh/h)	121	488	44	264	661	62	121	898	285	42	827	144
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1600	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	132	530	45	287	718	47	132	976	174	46	899	94
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	161	751	64	356	878	391	161	1320	589	61	1108	486
Arrive On Green	0.10	0.24	0.24	0.12	0.26	0.26	0.10	0.39	0.39	0.04	0.32	0.32
Sat Flow, veh/h	1619	3187	270	2956	3420	1524	1619	3420	1525	1619	3420	1501
Grp Volume(v), veh/h	132	284	291	287	718	47	132	976	174	46	899	94
Grp Sat Flow(s),veh/h/ln	1619	1710	1747	1478	1710	1524	1619	1710	1525	1619	1710	1501
Q Serve(g_s), s	7.4	14.1	14.2	8.8	18.3	2.2	7.4	22.7	7.3	2.6	22.3	4.2
Cycle Q Clear(g_c), s	7.4	14.1	14.2	8.8	18.3	2.2	7.4	22.7	7.3	2.6	22.3	4.2
Prop In Lane	1.00		0.15	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	161	403	412	356	878	391	161	1320	589	61	1108	486
V/C Ratio(X)	0.82	0.70	0.71	0.81	0.82	0.12	0.82	0.74	0.30	0.76	0.81	0.19
Avail Cap(c_a), veh/h	252	547	559	492	1131	504	252	1781	794	112	1485	652
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.9	32.4	32.4	39.6	32.4	26.4	40.9	24.4	19.7	44.1	28.7	22.6
Incr Delay (d2), s/veh	11.3	2.6	2.6	6.7	3.8	0.1	11.3	1.1	0.3	17.4	2.6	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	5.8	6.0	3.4	7.6	0.8	3.3	8.6	2.5	1.3	9.0	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	52.2	35.0	35.0	46.4	36.1	26.5	52.2	25.5	20.0	61.5	31.3	22.8
LnGrp LOS	D	C	D	D	D	C	D	C	B	E	C	C
Approach Vol, veh/h		707			1052			1282			1039	
Approach Delay, s/veh		38.2			38.5			27.5			31.8	
Approach LOS		D			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.1	41.5	15.8	27.2	13.8	35.8	13.8	29.2				
Change Period (Y+Rc), s	4.6	5.8	4.6	5.4	4.6	5.8	4.6	5.4				
Max Green Setting (Gmax), s	6.4	48.2	15.4	29.6	14.4	40.2	14.4	30.6				
Max Q Clear Time (g_c+I1), s	4.6	24.7	10.8	16.2	9.4	24.3	9.4	20.3				
Green Ext Time (p_c), s	0.0	7.4	0.4	2.7	0.1	5.7	0.1	3.4				
Intersection Summary												
HCM 7th Control Delay, s/veh			33.3									
HCM 7th LOS			C									

Timings

1: Monte Vista Av. & Edison Av.

06/20/2024

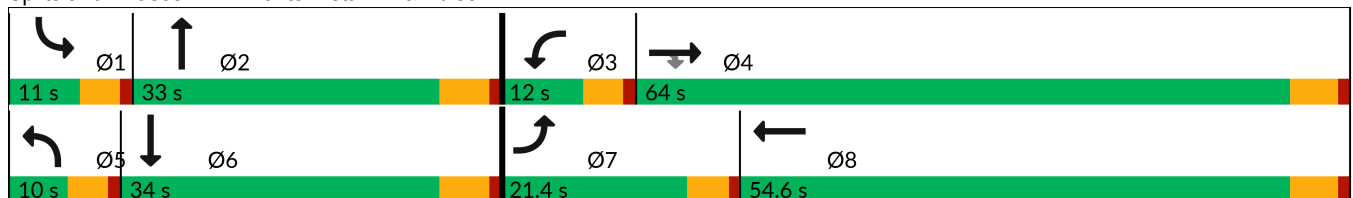


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↘	↑↑	↗	↘	↑↑	↘	↑↑	↘	↑↑
Traffic Volume (vph)	103	1255	35	41	821	32	234	37	182
Future Volume (vph)	103	1255	35	41	821	32	234	37	182
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4		3	8	5	2	1	6
Permitted Phases			4						
Detector Phase	7	4	4	3	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	29.8	29.8	9.6	29.8	9.6	32.1	9.6	32.1
Total Split (s)	21.4	64.0	64.0	12.0	54.6	10.0	33.0	11.0	34.0
Total Split (%)	17.8%	53.3%	53.3%	10.0%	45.5%	8.3%	27.5%	9.2%	28.3%
Yellow Time (s)	3.6	4.4	4.4	3.6	4.4	3.6	4.4	3.6	4.4
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.4	5.4	4.6	5.4	4.6	5.4	4.6	5.4
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	11.7	46.9	46.9	7.1	42.7	6.0	16.1	6.6	16.5
Actuated g/C Ratio	0.13	0.53	0.53	0.08	0.48	0.07	0.18	0.07	0.19
v/c Ratio	0.55	0.79	0.04	0.36	0.60	0.33	0.51	0.35	0.39
Control Delay (s/veh)	53.5	22.7	0.1	56.6	21.4	58.8	38.6	57.6	35.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	53.5	22.7	0.1	56.6	21.4	58.8	38.6	57.6	35.6
LOS	D	C	A	E	C	E	D	E	D
Approach Delay (s/veh)		24.5			23.0		40.7		38.8
Approach LOS		C			C		D		D

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 89.1
 Natural Cycle: 95
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.79
 Intersection Signal Delay (s/veh): 27.1
 Intersection LOS: C
 Intersection Capacity Utilization 70.0%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 1: Monte Vista Av. & Edison Av.



HCM 7th Signalized Intersection Summary

Chino Distribution Center (JN 14835)

1: Monte Vista Av. & Edison Av.

06/20/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗		↖	↗		↖	↗	
Traffic Volume (veh/h)	103	1255	35	41	821	49	32	234	46	37	182	40
Future Volume (veh/h)	103	1255	35	41	821	49	32	234	46	37	182	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	117	1426	35	47	933	51	36	266	43	42	207	34
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	146	1810	797	67	1584	87	56	391	62	62	401	65
Arrive On Green	0.09	0.53	0.53	0.04	0.48	0.48	0.03	0.13	0.13	0.04	0.14	0.14
Sat Flow, veh/h	1619	3420	1506	1619	3297	180	1619	2946	470	1619	2942	475
Grp Volume(v), veh/h	117	1426	35	47	484	500	36	153	156	42	119	122
Grp Sat Flow(s),veh/h/ln	1619	1710	1506	1619	1710	1768	1619	1710	1706	1619	1710	1707
Q Serve(g_s), s	5.5	26.0	0.9	2.2	15.9	15.9	1.7	6.6	6.8	2.0	5.0	5.2
Cycle Q Clear(g_c), s	5.5	26.0	0.9	2.2	15.9	15.9	1.7	6.6	6.8	2.0	5.0	5.2
Prop In Lane	1.00		1.00	1.00		0.10	1.00		0.28	1.00		0.28
Lane Grp Cap(c), veh/h	146	1810	797	67	822	849	56	227	226	62	233	233
V/C Ratio(X)	0.80	0.79	0.04	0.71	0.59	0.59	0.64	0.67	0.69	0.68	0.51	0.53
Avail Cap(c_a), veh/h	352	2591	1141	155	1088	1124	113	610	609	134	632	631
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.5	14.7	8.8	36.6	14.6	14.6	36.8	31.9	32.0	36.7	31.0	31.1
Incr Delay (d2), s/veh	3.9	1.1	0.0	5.0	0.7	0.7	4.4	3.5	3.7	4.7	1.7	1.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	8.6	0.2	0.9	5.4	5.6	0.7	2.8	2.9	0.8	2.1	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	38.4	15.8	8.8	41.7	15.2	15.2	41.3	35.4	35.8	41.4	32.7	32.9
LnGrp LOS	D	B	A	D	B	B	D	D	D	D	C	C
Approach Vol, veh/h		1578			1031			345			283	
Approach Delay, s/veh		17.3			16.4			36.2			34.1	
Approach LOS		B			B			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.6	15.7	7.8	46.3	7.3	15.9	11.6	42.6				
Change Period (Y+Rc), s	4.6	5.4	4.6	5.4	4.6	5.4	4.6	5.4				
Max Green Setting (Gmax), s	6.4	27.6	7.4	58.6	5.4	28.6	16.8	49.2				
Max Q Clear Time (g_c+I1), s	4.0	8.8	4.2	28.0	3.7	7.2	7.5	17.9				
Green Ext Time (p_c), s	0.0	1.5	0.0	12.9	0.0	1.2	0.1	6.8				
Intersection Summary												
HCM 7th Control Delay, s/veh				20.5								
HCM 7th LOS				C								

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↗	↗		↖	
Traffic Vol, veh/h	11	1362	867	3	6	17
Future Vol, veh/h	11	1362	867	3	6	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	-	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	12	1480	942	3	7	18

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	946	0	-	0	1708 473
Stage 1	-	-	-	-	944 -
Stage 2	-	-	-	-	764 -
Critical Hdwy	4.1	-	-	-	6.8 6.9
Critical Hdwy Stg 1	-	-	-	-	5.8 -
Critical Hdwy Stg 2	-	-	-	-	5.8 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	734	-	-	-	84 543
Stage 1	-	-	-	-	343 -
Stage 2	-	-	-	-	426 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	734	-	-	-	82 543
Mov Cap-2 Maneuver	-	-	-	-	209 -
Stage 1	-	-	-	-	338 -
Stage 2	-	-	-	-	426 -

Approach	EB	WB	SB
HCM Control Delay, s/v	0.08	0	15.05
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	734	-	-	-	383
HCM Lane V/C Ratio	0.016	-	-	-	0.065
HCM Control Delay (s/veh)	10	-	-	-	15.1
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↗	↗		↖	
Traffic Vol, veh/h	4	1364	860	9	23	10
Future Vol, veh/h	4	1364	860	9	23	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	-	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	4	1483	935	10	25	11

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	945	0	-	0	1690 472
Stage 1	-	-	-	-	940 -
Stage 2	-	-	-	-	750 -
Critical Hdwy	4.1	-	-	-	6.8 6.9
Critical Hdwy Stg 1	-	-	-	-	5.8 -
Critical Hdwy Stg 2	-	-	-	-	5.8 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	735	-	-	-	86 544
Stage 1	-	-	-	-	345 -
Stage 2	-	-	-	-	433 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	735	-	-	-	86 544
Mov Cap-2 Maneuver	-	-	-	-	213 -
Stage 1	-	-	-	-	343 -
Stage 2	-	-	-	-	433 -

Approach	EB	WB	SB
HCM Control Delay, s/v	0.03	0	20.96
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	735	-	-	-	261
HCM Lane V/C Ratio	0.006	-	-	-	0.137
HCM Control Delay (s/veh)	9.9	-	-	-	21
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.5

Intersection						
Int Delay, s/veh	0.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	↘
Traffic Vol, veh/h	1362	25	14	838	31	26
Future Vol, veh/h	1362	25	14	838	31	26
Conflicting Peds, #/hr	0	1	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	60	-	-	45
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1513	28	16	931	34	29

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	1542	0	2025
Stage 1	-	-	-	-	1528
Stage 2	-	-	-	-	497
Critical Hdwy	-	-	4.1	-	6.8
Critical Hdwy Stg 1	-	-	-	-	5.8
Critical Hdwy Stg 2	-	-	-	-	5.8
Follow-up Hdwy	-	-	2.2	-	3.5
Pot Cap-1 Maneuver	-	-	436	-	51
Stage 1	-	-	-	-	168
Stage 2	-	-	-	-	583
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	436	-	49
Mov Cap-2 Maneuver	-	-	-	-	155
Stage 1	-	-	-	-	168
Stage 2	-	-	-	-	562

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0.22	26.35
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	155	346	-	-	436	-
HCM Lane V/C Ratio	0.222	0.083	-	-	0.036	-
HCM Control Delay (s/veh)	34.7	16.3	-	-	13.6	-
HCM Lane LOS	D	C	-	-	B	-
HCM 95th %tile Q(veh)	0.8	0.3	-	-	0.1	-

Timings
5: Central Av. & Edison Av.

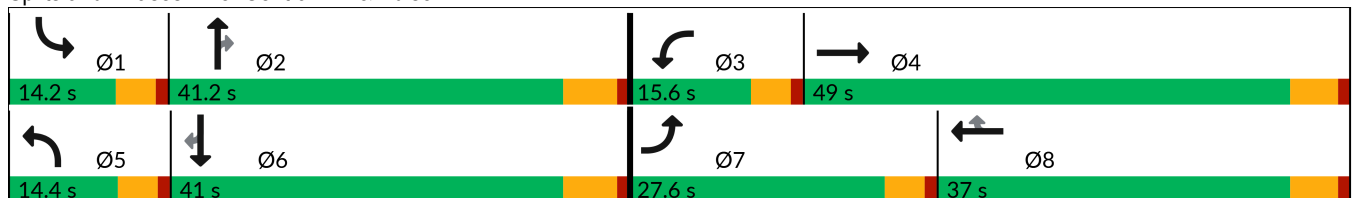


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	236	1043	227	579	68	109	873	481	108	764	128
Future Volume (vph)	236	1043	227	579	68	109	873	481	108	764	128
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	3	8		5	2		1	6	
Permitted Phases					8			2			6
Detector Phase	7	4	3	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	33.4	9.6	33.4	33.4	9.6	33.8	33.8	9.6	33.8	33.8
Total Split (s)	27.6	49.0	15.6	37.0	37.0	14.4	41.2	41.2	14.2	41.0	41.0
Total Split (%)	23.0%	40.8%	13.0%	30.8%	30.8%	12.0%	34.3%	34.3%	11.8%	34.2%	34.2%
Yellow Time (s)	3.6	4.4	3.6	4.4	4.4	3.6	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.4	4.6	5.4	5.4	4.6	5.8	5.8	4.6	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	21.2	43.6	11.0	33.4	33.4	9.8	34.9	34.9	9.6	34.7	34.7
Actuated g/C Ratio	0.18	0.36	0.09	0.28	0.28	0.08	0.29	0.29	0.08	0.29	0.29
v/c Ratio	0.86	0.98	0.88	0.63	0.13	0.87	0.92	0.83	0.88	0.80	0.24
Control Delay (s/veh)	75.8	60.5	85.2	41.9	0.5	105.2	56.1	33.3	107.3	46.8	5.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	75.8	60.5	85.2	41.9	0.5	105.2	56.1	33.3	107.3	46.8	5.3
LOS	E	E	F	D	A	F	E	C	F	D	A
Approach Delay (s/veh)		63.2		50.0			52.3			48.1	
Approach LOS		E		D			D			D	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 119.5	
Natural Cycle: 110	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.99	
Intersection Signal Delay (s/veh): 54.2	Intersection LOS: D
Intersection Capacity Utilization 91.1%	ICU Level of Service F
Analysis Period (min) 15	

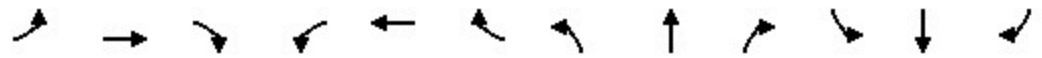
Splits and Phases: 5: Central Av. & Edison Av.



HCM 7th Signalized Intersection Summary
5: Central Av. & Edison Av.

Chino Distribution Center (JN 14835)

06/20/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	236	1043	115	227	579	68	109	873	481	108	764	128
Future Volume (veh/h)	236	1043	115	227	579	68	109	873	481	108	764	128
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1600	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	248	1098	95	239	609	45	115	919	329	114	804	77
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	274	1155	100	274	981	438	134	995	437	131	990	441
Arrive On Green	0.17	0.36	0.36	0.09	0.29	0.29	0.08	0.29	0.29	0.08	0.29	0.29
Sat Flow, veh/h	1619	3181	275	2956	3420	1525	1619	3420	1501	1619	3420	1524
Grp Volume(v), veh/h	248	590	603	239	609	45	115	919	329	114	804	77
Grp Sat Flow(s),veh/h/ln	1619	1710	1746	1478	1710	1525	1619	1710	1501	1619	1710	1524
Q Serve(g_s), s	17.8	39.8	39.8	9.5	18.3	2.6	8.3	30.9	23.6	8.3	25.9	4.5
Cycle Q Clear(g_c), s	17.8	39.8	39.8	9.5	18.3	2.6	8.3	30.9	23.6	8.3	25.9	4.5
Prop In Lane	1.00		0.16	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	274	621	634	274	981	438	134	995	437	131	990	441
V/C Ratio(X)	0.91	0.95	0.95	0.87	0.62	0.10	0.86	0.92	0.75	0.87	0.81	0.17
Avail Cap(c_a), veh/h	314	629	642	274	981	438	134	1021	448	131	1016	453
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.3	36.7	36.7	53.1	36.7	31.1	53.7	40.7	38.1	53.8	39.1	31.5
Incr Delay (d2), s/veh	26.3	24.0	24.0	24.8	1.2	0.1	39.4	13.2	6.9	42.3	5.0	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.0	20.0	20.5	4.4	7.6	0.9	4.8	14.3	9.3	4.8	11.2	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	74.6	60.7	60.7	77.9	37.9	31.2	93.1	54.0	45.0	96.1	44.1	31.7
LnGrp LOS	E	E	E	E	D	C	F	D	D	F	D	C
Approach Vol, veh/h		1441			893			1363			995	
Approach Delay, s/veh		63.1			48.2			55.1			49.1	
Approach LOS		E			D			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.2	40.3	15.6	48.4	14.4	40.1	24.6	39.4				
Change Period (Y+Rc), s	4.6	5.8	4.6	5.4	4.6	5.8	4.6	5.4				
Max Green Setting (Gmax), s	9.6	35.4	11.0	43.6	9.8	35.2	23.0	31.6				
Max Q Clear Time (g_c+I1), s	10.3	32.9	11.5	41.8	10.3	27.9	19.8	20.3				
Green Ext Time (p_c), s	0.0	1.6	0.0	1.2	0.0	3.1	0.2	3.0				
Intersection Summary												
HCM 7th Control Delay, s/veh			55.0									
HCM 7th LOS			D									

**APPENDIX 6.3: OPENING YEAR CUMULATIVE (2027) WITHOUT
PROJECT CONDITIONS TRAFFIC SIGNAL WARRANT ANALYSIS
WORKSHEETS**

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Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **Opening Year Cumulative (2027) Without Project - Weekday PM Peak Hour**

Major Street Name = **Telephone Avenue**

Total of Both Approaches (VPH) = **2209**

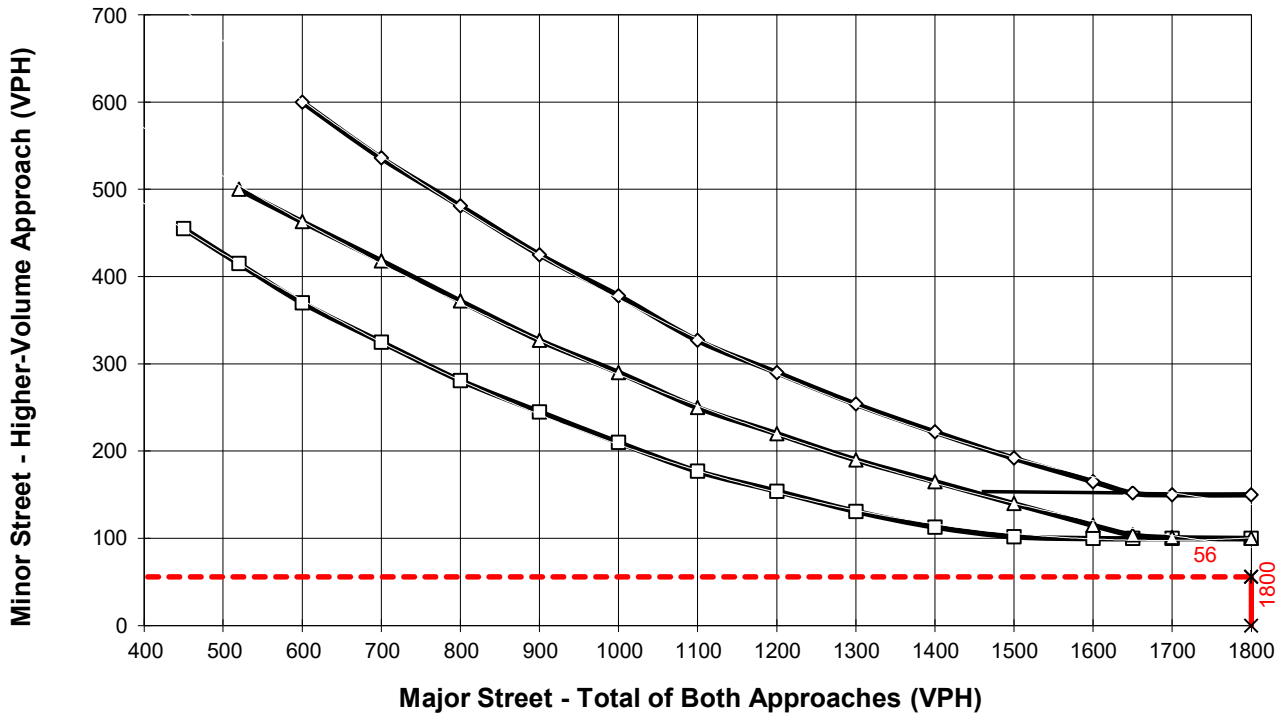
Number of Approach Lanes on Major Street = **2**

Minor Street Name = **Edison Avenue**

High Volume Approach (VPH) = **56**

Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



- 1 Lane (Major) & 1 Lane (Minor)
- △— 2+ Lanes (Major) & 1 Lane (Minor) OR 1 Lane (Major) & 2+ Lanes (Minor)
- ◇— 2+ Lanes (Major) & 2+ Lanes (Minor)
- x— Major Street Approaches
- x— Minor Street Approaches

*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane



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**APPENDIX 6.4: OPENING YEAR CUMULATIVE (2027) WITH PROJECT
CONDITIONS TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS**

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Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	TRAFFIC CONDITIONS	2027 With Project
Jurisdiction: <u>City of Chino</u>				CALC <u>JB</u>	DATE <u>06/24/24</u>
Major Street: <u>Edison Avenue</u>				CHK <u>JB</u>	DATE <u>06/24/24</u>
Minor Street: <u>Driveway 1</u>				Critical Approach Speed (Major)	<u>40</u> mph
				Critical Approach Speed (Minor)	<u>25</u> mph
Major Street Approach Lanes =	<u>2</u>	lane	Minor Street Approach Lanes =	<u>1</u>	lane
Major Street Future ADT =	<u>21,497</u>	vpd	Minor Street Future ADT =	<u>159</u>	vpd
Speed limit or critical speed on major street traffic > 64 km/h (40 mph);	<input type="checkbox"/>		or	<input type="checkbox"/>	
In built up area of isolated community of < 10,000 population	<input type="checkbox"/>			RURAL (R)	

(Based on Estimated Average Daily Traffic - See Note)

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements EADT			
XX					
CONDITION A - Minimum Vehicular Volume		Vehicles Per Day on Major Street		Vehicles Per Day on Higher-Volume Minor Street Approach	
<u>Satisfied</u>	<u>Not Satisfied</u>	(Total of Both Approaches)		(One Direction Only)	
	XX	Urban	Rural	Urban	Rural
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>				
1	1	8,000	5,600	2,400	1,680
2 + 21,497	1 159	9,600 *	6,720	2,400	1,680
2 +	2 +	9,600	6,720	3,200	2,240
1	2 +	8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic		Vehicles Per Day on Major Street		Vehicles Per Day on Higher-Volume Minor Street Approach	
<u>Satisfied</u>	<u>Not Satisfied</u>	(Total of Both Approaches)		(One Direction Only)	
	XX	Urban	Rural	Urban	Rural
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>				
1	1	12,000	8,400	1,200	850
2 + 21,497	1 159	14,400 *	10,080	1,200	850
2 +	2 +	14,400	10,080	1,600	1,120
1	2 +	12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B		2 CONDITIONS		2 CONDITIONS	
<u>Satisfied</u>	<u>Not Satisfied</u>	80%		80%	
No one condition satisfied, but following conditions fulfilled 80% of more	XX				
	A				
	7%				
	B				
	13%				

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.



Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	TRAFFIC CONDITIONS	2027 With Project
Jurisdiction: <u>City of Chino</u>				CALC <u>JB</u>	DATE <u>06/24/24</u>
Major Street: <u>Edison Avenue</u>				CHK <u>JB</u>	DATE <u>06/24/24</u>
Minor Street: <u>Driveway 2</u>				Critical Approach Speed (Major) <u>40</u> mph	
				Critical Approach Speed (Minor) <u>25</u> mph	
Major Street Approach Lanes = <u>2</u>	lane	Minor Street Approach Lanes = <u>1</u>	lane		
Major Street Future ADT = <u>21,433</u>	vpd	Minor Street Future ADT = <u>201</u>	vpd		
Speed limit or critical speed on major street traffic > 64 km/h (40 mph);				<input type="checkbox"/>	
				or	RURAL (R)
In built up area of isolated community of < 10,000 population				<input type="checkbox"/>	

(Based on Estimated Average Daily Traffic - See Note)

<u>URBAN</u>		<u>RURAL</u>		Minimum Requirements EADT			
XX							
CONDITION A - Minimum Vehicular Volume							
<u>Satisfied</u>		<u>Not Satisfied</u>		Vehicles Per Day on Major Street		Vehicles Per Day on Higher-Volume Minor Street Approach	
		XX		(Total of Both Approaches)		(One Direction Only)	
<u>Major Street</u>		<u>Minor Street</u>		<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
1		1		8,000	5,600	2,400	1,680
2 + 21,433		1 201		9,600 *	6,720	2,400	1,680
2 +		2 +		9,600	6,720	3,200	2,240
1		2 +		8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic							
<u>Satisfied</u>		<u>Not Satisfied</u>		Vehicles Per Day on Major Street		Vehicles Per Day on Higher-Volume Minor Street Approach	
		XX		(Total of Both Approaches)		(One Direction Only)	
<u>Major Street</u>		<u>Minor Street</u>		<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
1		1		12,000	8,400	1,200	850
2 + 21,433		1 201		14,400 *	10,080	1,200	850
2 +		2 +		14,400	10,080	1,600	1,120
1		2 +		12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B							
<u>Satisfied</u>		<u>Not Satisfied</u>		2 CONDITIONS		2 CONDITIONS	
		XX		80%		80%	
No one condition satisfied, but following conditions fulfilled 80% of more		<u>A</u>	<u>B</u>				
		8%	17%				

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.



Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **Opening Year Cumulative (2027) With Project - Weekday PM Peak Hour**

Major Street Name = **Telephone Avenue**

Total of Both Approaches (VPH) = **2240**

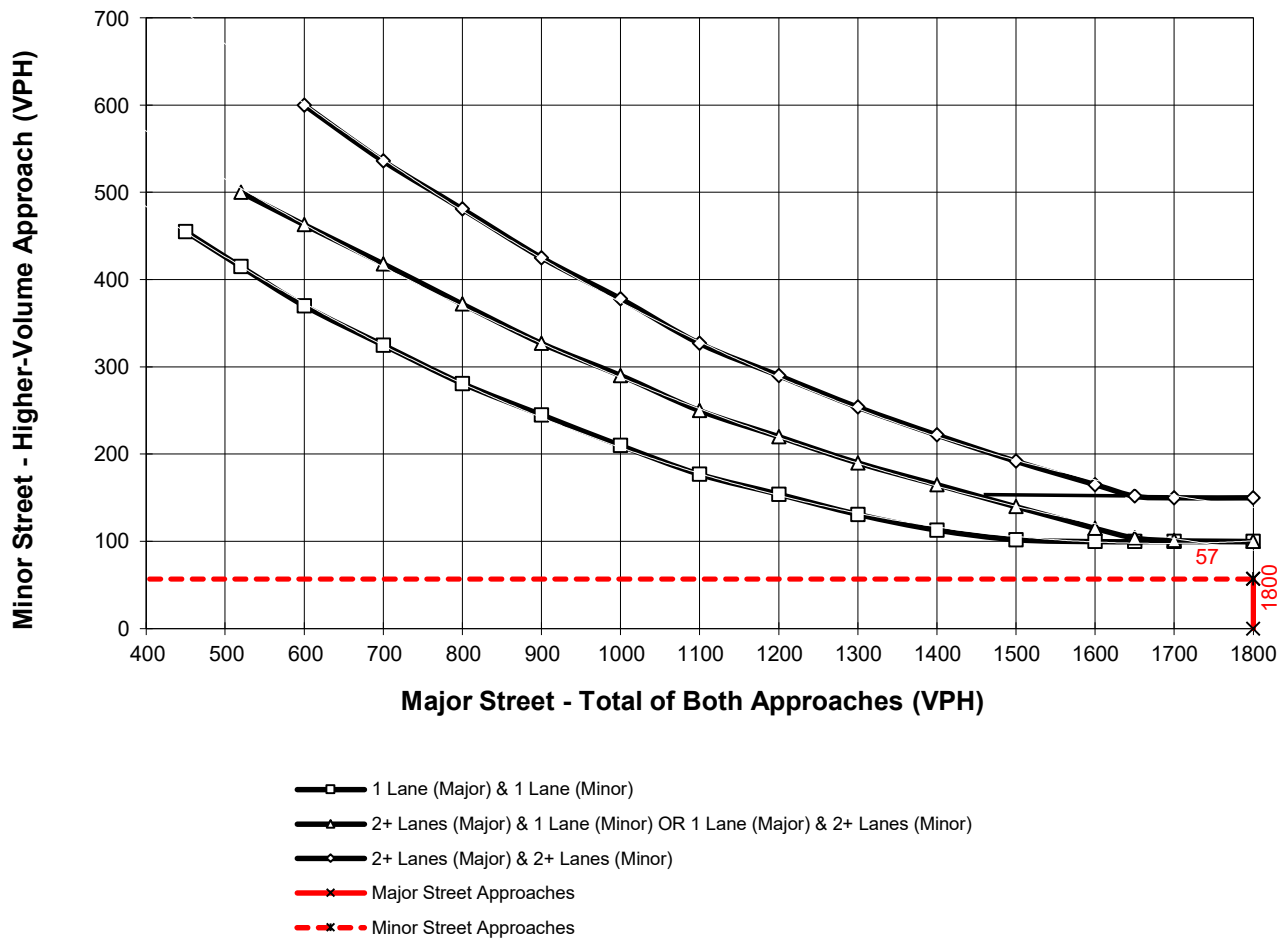
Number of Approach Lanes on Major Street = **2**

Minor Street Name = **Edison Avenue**

High Volume Approach (VPH) = **57**

Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

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