

ARMTEC MASTER PLAN

TRAFFIC ANALYSIS

PREPARED BY: Janette Cachola | jcachola@urbanxroads.com
 Marlie Whiteman, P.E. | mwhiteman@urbanxroads.com
 John Kain, AICP | jkain@urbanxroads.com

Reference Number	Agency	Date
15967-04 TA Report.docx	City of Coachella	July 3, 2024

TABLE OF CONTENTS

Table of Contents	ii
Appendices.....	iv
List of Exhibits.....	v
List of Tables	vi
List of Abbreviated Terms	vii
1 Introduction.....	1
1.1 Project Overview	1
1.2 Analysis Scenarios	1
1.3 Study Area.....	3
1.4 Analysis Findings	3
2 Methodologies	7
2.1 Level of Service	7
2.2 Intersection Capacity Analysis	7
2.3 Traffic Signal Warrant Analysis Methodology.....	9
2.4 Minimum Acceptable Levels of Service (LOS).....	10
3 Area Conditions	11
3.1 Existing Circulation Network.....	11
3.2 City of Coachella General Plan Circulation Element	11
3.3 Transit Service.....	11
3.4 Pedestrian and Bicycle Facilities	11
3.5 Existing (2024) Traffic Counts	16
3.6 Intersection Operations Analysis	16
3.7 Traffic Signal Warrants Analysis.....	19
4 Projected Future Traffic.....	21
4.1 Project Trip Generation.....	22
4.2 Project Trip Distribution.....	22
4.3 Modal Split	22
4.4 Project Trip Assignment	24
4.5 Background Traffic	24
5 EAP (2026) Traffic Conditions.....	29
5.1 EAP Traffic Volume Forecasts	29
5.2 Intersection Operations Analysis	29

5.3	Traffic Signal Warrants Analysis.....	29
6	EAPC (2026) Traffic Conditions	33
6.1	EAPC (2026) Traffic Volume Forecasts.....	33
6.2	Intersection Operations Analysis	33
6.3	Traffic Signal Warrants Analysis.....	33
6.4	Cumulative Improvements.....	36
7	Cumulative and Site Access Improvements and VMT	37
7.1	Recommended Cumulative Improvement.....	37
7.2	Site-Adjacent Improvements	37
7.3	Vehicle Miles Traveled (VMT) Screening	38
8	References.....	39

APPENDICES

Appendix 1.1: Traffic Study Scope

Appendix 3.1: Traffic Counts –2024

Appendix 3.2: Existing (2024) Conditions Intersection Operations Analysis Worksheets

Appendix 3.3: Traffic Signal Warrant Analysis Worksheets

Appendix 5.1: EAP (2026) Conditions Intersection Operations Analysis Worksheets

Appendix 6.1: EAPC (2026) Conditions Intersection Operations Analysis Worksheets

Appendix 7.1: Vehicle Miles Traveled (VMT) Screening

LIST OF EXHIBITS

Exhibit 1-1: Armtec Master Plan	2
Exhibit 1-2: Study Area.....	4
Exhibit 3-1: Existing Number of Through Lanes and Intersection Controls	12
Exhibit 3-2: City of Coachella General Plan Circulation Element	13
Exhibit 3-3: City of Coachella General Plan Roadway Cross-Sections	14
Exhibit 3-4: Existing Pedestrian and Bike Facilities	15
Exhibit 3-5: Existing (2024) Traffic Volumes	17
Exhibit 4-1: Project Trip Distribution.....	25
Exhibit 4-2: Project Only Traffic volumes	26
Exhibit 4-3: Cumulative Development Location Map	27
Exhibit 5-1: EAP (2026) Traffic Volumes.....	30
Exhibit 6-1: EAPC (2026) Traffic Volumes	34

LIST OF TABLES

Table 1-1: Intersection Analysis Locations	3
Table 1-2: Level of Service Summary	5
Table 2-1: Signalized Intersection LOS Thresholds	8
Table 2-2: Unsignalized Intersection LOS Thresholds	9
Table 2-3: Traffic Signal Warrant Analysis Locations	10
Table 3-1: Intersection Analysis for Existing (2024) Conditions	18
Table 4-1: Project Trip Generation Summary	23
Table 4-2: Cumulative Development Land Use Summary	28
Table 5-1: Intersection Analysis for EAP (2026) Conditions	31
Table 6-1: Intersection Analysis for EAPC (2026) Conditions	35
Table 7-1: Existing Plus Ambient Plus Project Plus Cumulative (EAPC) Fair Share Calculations	37

LIST OF ABBREVIATED TERMS

(1)	Reference
ADT	Average Daily Traffic
CAMUTCD	California Manual on Uniform Traffic Control Devices
Caltrans	California Department of Transportation
EAP	Existing Plus Ambient Plus Project
EAPC	Existing Plus Ambient Plus Project Plus Cumulative
HCM	Highway Capacity Manual
ITE	Institute of Transportation Engineers
LOS	Level of Service
PHF	Peak Hour Factor
Project	Armtec Master Plan
sf	Square Feet
TA	Traffic Analysis

This page intentionally left blank

1 INTRODUCTION

This report presents the results of the traffic analysis (TA) for Armtec Master Plan (“Project”), located at the southwest corner of Tyler Street and Avenue 53 in the City of Coachella, 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 recommend improvements to achieve acceptable circulation system operational conditions. This TA has been prepared based in accordance with the County of Riverside’s Transportation Analysis Guidelines for Level of Service & Vehicle Miles Traveled (December 2020), as the City of Coachella utilizes the County guidelines. (1) Urban Crossroads, Inc. prepared a traffic study scoping package for review by City staff prior to the preparation of this report. The Scope (included in Appendix 1.1) provides an outline of the Project study area, trip generation, trip distribution, and analysis methodology.

1.1 PROJECT OVERVIEW

The Project is proposed to consist of the expansion of an existing defense technologies facility. It is anticipated that the Project would be operational by year 2026. A preliminary master plan of the proposed Project is shown in Exhibit 1-1. Access to the Project will be provided via the Armtec Entrance, which is an existing full access driveway to Tyler Street (located south of Avenue 53).

The Project total addition to the existing site includes:

- 15,000 SF of Production Facility (Manufacturing)
- 37,800 SF Storage Facilities (Warehousing)
- 3,000 SF of Research & Development

In order to develop the traffic characteristics of the proposed Project, trip-generation rates provided in the *Institute of Transportation Engineers (ITE) Trip Generation* (11th Edition, 2021) are utilized.

The Project is anticipated to generate a total of 169 trip-ends per day with 21 AM peak hour trips and 20 PM peak hour trips. 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.

1.2 ANALYSIS SCENARIOS

For the purposes of this traffic study, potential deficiencies to traffic and circulation have been assessed for each of the following conditions:

- Existing (2024) Conditions
- Existing plus Ambient plus Project (EAP) (2026) Conditions
- Existing plus Ambient plus Project plus Cumulative (EAPC) (2026) Conditions

EXHIBIT 1-1: ARMTEC MASTER PLAN



For the existing study area intersections, traffic count data has been collected in January and June, 2024 during the AM peak period of 7:00 AM to 9:00 AM and PM peak period of 4:00 PM to 6:00 PM.

The Existing plus Ambient plus Project (EAP) conditions analysis determines the potential near-term cumulative circulation system deficiencies with the Project but without known cumulative projects. To account for background traffic growth, an ambient growth factor from Existing conditions of 4.04% (2% per year, compounded annually over 2 years) is included for EAP (2026) traffic conditions. The ambient growth is consistent with the growth used by other projects within the City of Coachella.

The Existing plus Ambient plus Project plus Cumulative (EAPC) (2026) traffic conditions analysis determines the potential cumulative circulation system deficiencies, including the Project and other known cumulative projects. The cumulative project list was compiled from information provided by the City of Coachella.

1.3 STUDY AREA

The Project study area was defined in coordination with the City of Coachella. Exhibit 1-2 presents the study area and intersection analysis locations. The intersections listed in Table 1-1 were selected for this TA with City of Coachella technical staff concurrence.

TABLE 1-1: INTERSECTION ANALYSIS LOCATIONS

#	Intersection	#	Intersection
1	Grapefruit Bl. (Hwy. 111) / Tyler St.	4	Grapefruit Bl. (Hwy. 111) / Palm St.
2	Tyler St. / Avenue 53	5	Palm St. / Airport Bl.
3	Tyler St. / Armtec Entrance		

1.4 ANALYSIS FINDINGS

This section provides a summary of the analysis results for Existing (2024), EAP (2026), and EAPC (2026) conditions. Table 1-2 presents a summary of study area LOS conditions for each analysis scenario.

1.4.1 EXISTING (2024) CONDITIONS

For Existing (2024) traffic conditions, study area intersections operate at an acceptable LOS during AM and PM peak hours.

The unsignalized study area intersection of Tyler Street at Grapefruit Boulevard / Highway 111 (#1) meets traffic volume warrants for installation of a traffic signal based upon existing traffic counts.

EXHIBIT 1-2: TRAFFIC ANALYSIS STUDY AREA

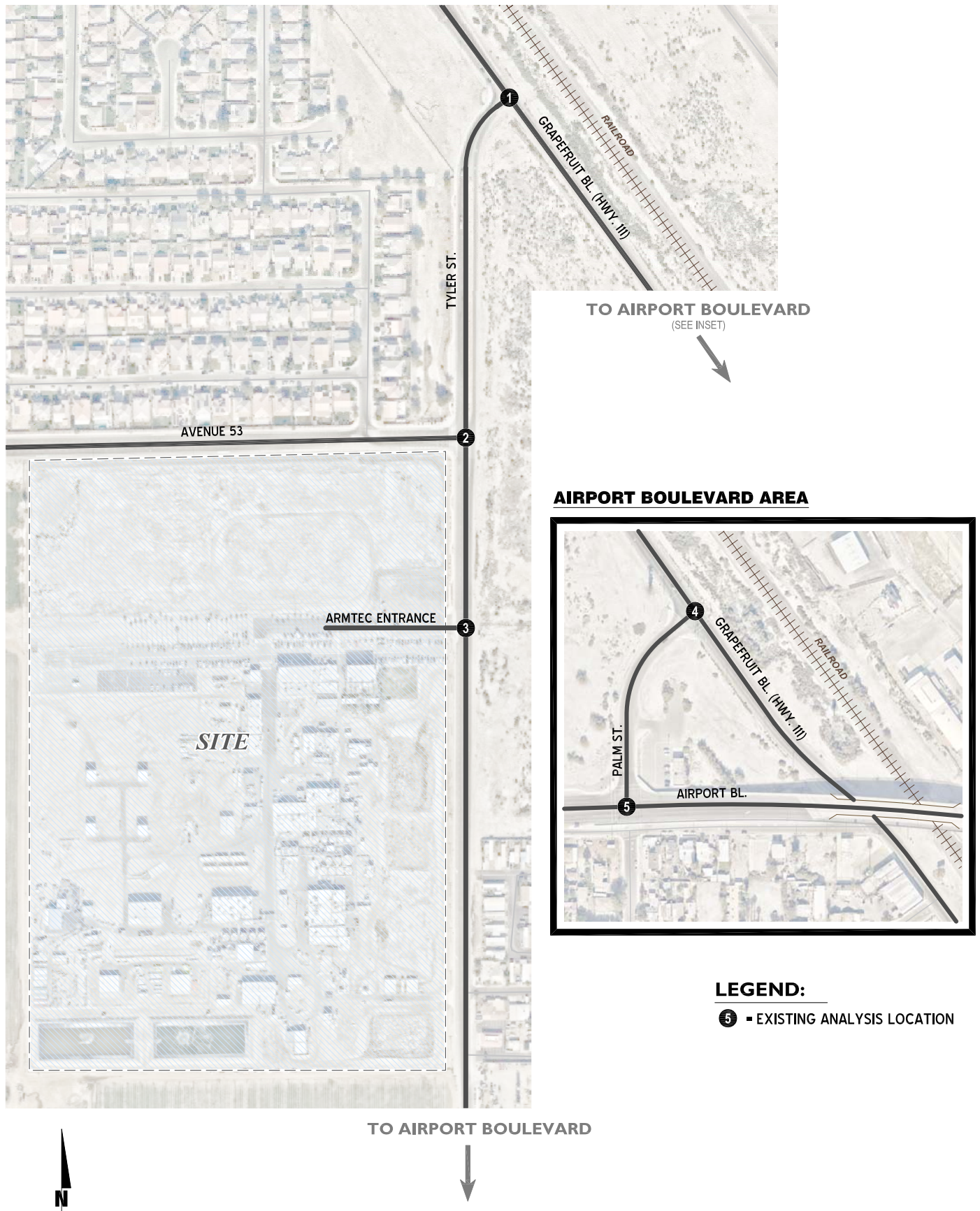


TABLE 1-2: LEVEL OF SERVICE (LOS) SUMMARY

# Intersection	Existing (2024)		EAP (2026)		EAPC (2026)	
	AM	PM	AM	PM	AM	PM
1 Grapefruit Bl. (Hwy. 111) / Tyler St.	●	●	●	●	●	●
- With Improvements	N/A	N/A	N/A	N/A	●	●
2 Tyler St. / Avenue 53	●	●	●	●	●	●
3 Tyler St. / Armtec Entrance	●	●	●	●	●	●
4 Grapefruit Bl. (Hwy. 111) / Palm St.	●	●	●	●	●	●
5 Palm St. / Airport Bl.	●	●	●	●	●	●

Legend:

● = A - D
 ● = E
 ● = F

F:\UXRjobs\15600_16000\15900\15967\02_LOS\Excel\15967 - Report.xlsx1-2 - LOS Summary

1.4.2 EXISTING PLUS AMBIENT PLUS PROJECT (EAP) (2026) CONDITIONS

For EAP (2026) traffic conditions, study area intersections continue to operate at an acceptable LOS during peak hours. For EAP conditions, no additional study area intersections meet the volume warrants for installation of a traffic signal (beyond the Tyler Street at Grapefruit Boulevard / Highway 111 intersection, which meets volume warrants for a signal based upon existing counts).

1.4.3 EXISTING PLUS AMBIENT PLUS PROJECT PLUS CUMULATIVE (EAPC) (2026) CONDITIONS

For EAPC (2026) traffic conditions, the study area intersection of Tyler Street at Grapefruit Boulevard / Highway 111 (#1) is found to operate at an unacceptable LOS (i.e., LOS "E" or worse) during peak hours, without installation of the traffic signal that is currently warranted for existing conditions. For EAPC conditions, no additional study area intersections meet the volume warrants for installation of a traffic signal (beyond the Tyler Street at Grapefruit Boulevard / Highway 111 intersection, which meets volume warrants for a signal based upon existing counts).

The traffic signal improvement discussed in Section 7.1 for the off-site intersection of Tyler Street at Grapefruit Boulevard / Highway 111 (#1) addresses intersection operational deficiencies for EAPC (2026) conditions.

Detailed Project fair share calculations, for each peak hour, are provided in Table 7-1 for this intersection.

Site-adjacent improvements included in the Project description are also listed Section 7.2.

1.4.4 VEHICLE MILES TRAVELED (VMT) SCREENING

A VMT screening assessment of Armtec Master Plan is documented in Section 7.3. The small project screening criteria is met, so a full analysis of VMT associated with site employment is not required. The Project is presumed to have a less than significant impact on VMT.

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 the County of Riverside TIA Guidelines. (1)

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 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. (2) The HCM uses different procedures depending on the type of intersection control.

2.2.1 SIGNALIZED INTERSECTIONS

The City of Coachella requires signalized intersection operations analysis based on the methodology described in the HCM. (2) Intersection LOS operations are based on an intersection’s average control delay. Control delay includes 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 on Table 2-1.

The traffic modeling and signal timing optimization software package Synchro (Version 11) 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 are adjusted using a peak hour factor (PHF) to reflect peak 15-minute volumes. Common 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. $PHF = \text{Hourly Volume} / [4 \times \text{Peak 15-minute Flow Rate}]$). 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. (2)

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
Operation 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

2.2.2 UNSIGNALIZED INTERSECTIONS

The City of Coachella requires the operations of unsignalized intersections be evaluated using the methodology described in the HCM. (2) 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.

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 intersections 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). (3)

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. (3) 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 as posted speed limits on the major roadways with unsignalized intersections are 40 miles per hour or below and rural warrants have been used on roadways with speeds greater than 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 unsignalized study area intersections shown in Table 2-3:

TABLE 2-3: TRAFFIC SIGNAL WARRANT ANALYSIS LOCATIONS

#	Intersection	#	Intersection
1	Grapefruit Bl. (Hwy. 111) / Tyler St.	3	Tyler St. / Armtec Entrance
2	Tyler St. / Avenue 53		

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 *EAP (2026) Traffic Conditions* and Section 6 *EAPC (2026) 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 MINIMUM ACCEPTABLE LEVELS OF SERVICE (LOS)

For the purposes of this analysis, the following thresholds of significance have been applied to study area intersections located within the City of Coachella to identify significant impacts through a comparison of Existing and EAP traffic conditions:

- If an intersection is projected to operate at an acceptable level of service (i.e., LOS D or better) under Existing traffic conditions and the addition of project traffic is expected to cause the intersection to operate at an unacceptable level of service (LOS E or F), the impact is considered significant;
- If an intersection is projected to operate at LOS E or LOS F under Existing, and the addition of project traffic, the impact is considered significant.

Cumulative traffic impacts are deficiencies that are not directly caused by the Project, but occur as a result of regional growth combined with that or other nearby cumulative development projects. The Project's contribution to a particular cumulative transportation deficiency is deemed cumulatively considerable if the Project adds significant traffic to the forecasted deficiency. A Project's contribution to a cumulatively considerable impact can be reduced to less than significant if the Project is required to implement or fund its fair share of improvements designed to alleviate the potential cumulative impact. If full funding of future cumulative improvements is not reasonably assured, a temporary unmitigated cumulative impact may occur until the needed improvement is fully funded and constructed.

3 AREA CONDITIONS

This section provides a summary of the existing circulation network, the City of Coachella 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 Project scope (Appendix 1.1), the study area includes 5 existing intersections as shown previously on Exhibit 1-2, which have been agreed upon with City staff. Exhibit 3-1 illustrates the number of through traffic lanes for existing roadways and traffic controls for study area intersections.

3.2 CITY OF COACHELLA GENERAL PLAN CIRCULATION ELEMENT

As noted previously, the Project site is located at the southwest corner of Tyler Street and Avenue 53 in the City of Coachella. Exhibit 3-2 shows the City of Coachella General Plan Circulation Element, with planned roadway classifications. Exhibit 3-3 illustrates the City of Coachella General Plan roadway cross-sections.

Tyler Street is classified as a Primary Arterial with Bicycle Facility in the study area.

Grapefruit Boulevard is classified as a Major Arterial with Bicycle Facility in the study area.

Avenue 53 is classified as a Collector with Bicycle Facility in the study area.

Airport Boulevard is classified as a Major Arterial with Bicycle Facility in the study area.

3.3 TRANSIT SERVICE

The City of Coachella is currently served by the SunLine Transit Agency; currently, Route 8 is located along Airport Boulevard in the study area. Transit service is reviewed and updated by Sunline 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.

3.4 PEDESTRIAN AND BICYCLE FACILITIES

The existing pedestrian facilities within the study area are shown on Exhibit 3-4. As shown on Exhibit 3-4, existing on-street bike lanes are located along the west side of Tyler Street from Grapefruit Boulevard to Avenue 53. Sidewalks exist along the west side of Tyler Street from Grapefruit Boulevard to Armtec Entrance, the southwest side of Grapefruit Boulevard north of Tyler Street, and on Airport Boulevard from west of Palm Street to east of Grapefruit Boulevard. A bike lane is currently existing along the west side of Tyler Street from Grapefruit Boulevard to Avenue 53, the southwest side of Grapefruit Boulevard north of Tyler Street, and both sides on Avenue 53 east of Tyler Street.

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

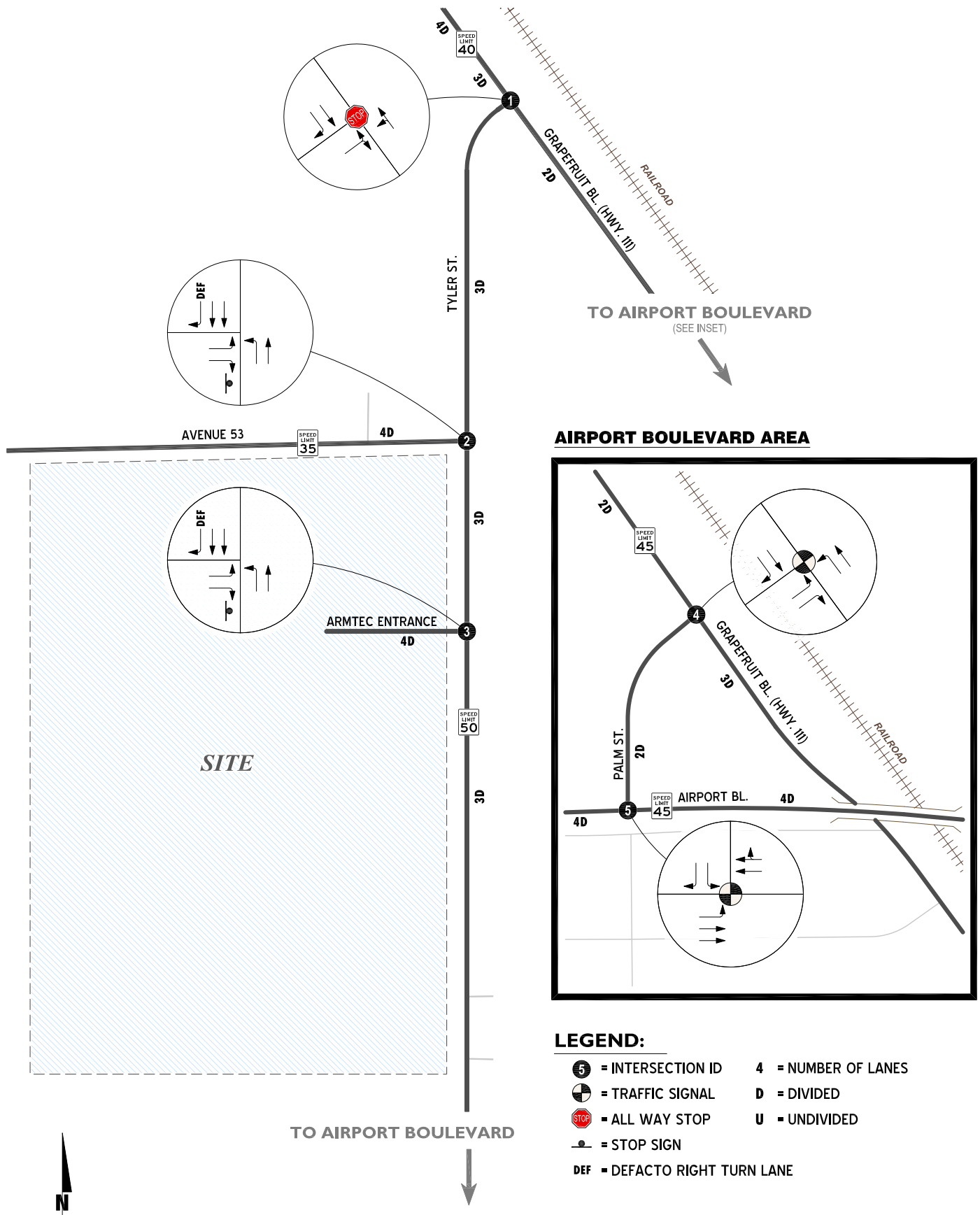


EXHIBIT 3-2: CITY OF COACHELLA GENERAL PLAN CIRCULATION ELEMENT



- | | | |
|---|--|---------------------|
| Class I Bicycle Facility/Multi-Use Trail | Major Arterial With Bicycle Facility | Freeway Interchange |
| Major Arterial Without Bicycle Facility | Primary Arterial With Bicycle Facility | Grade Separation |
| Primary Arterial Without Bicycle Facility | Collector With Bicycle Facility | |
| Collector Without Bicycle Facility | | |

SOURCE: CITY OF COACHELLA

LEGEND:

③ = EXISTING ANALYSIS LOCATION



EXHIBIT 3-3: CITY OF COACHELLA GENERAL PLAN ROADWAY CROSS-SECTIONS

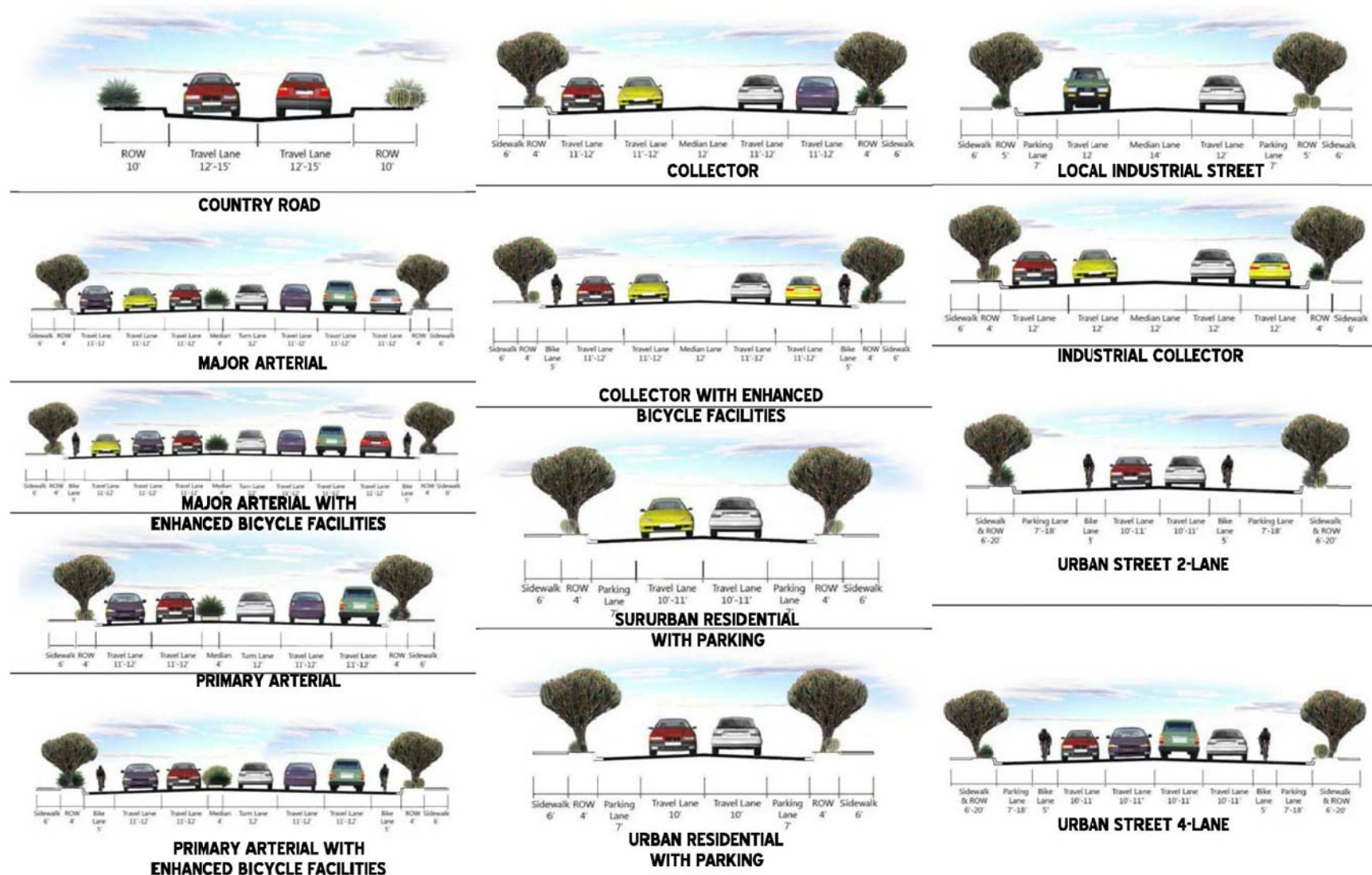
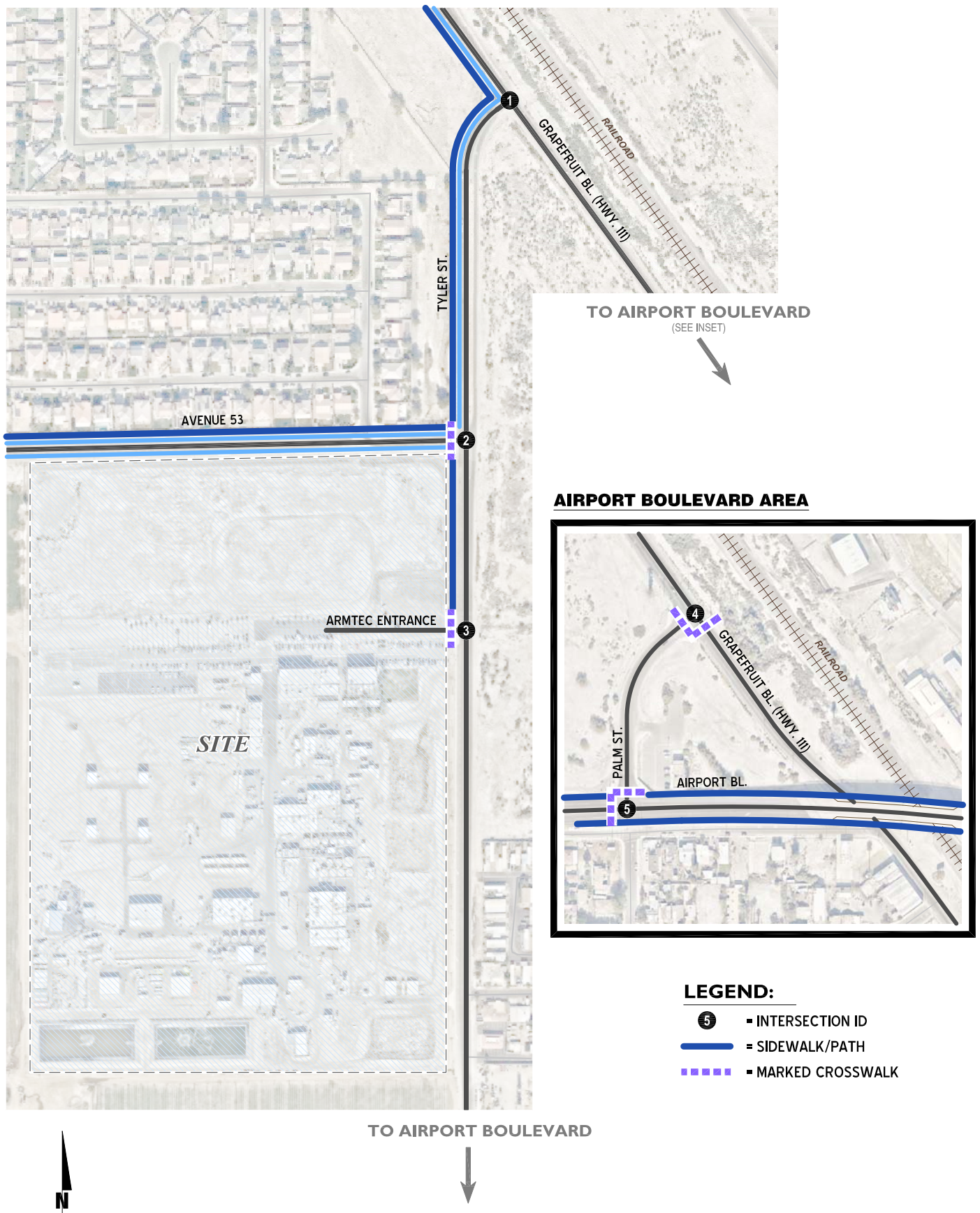


EXHIBIT 3-4: EXISTING PEDESTRIAN AND BIKE FACILITIES



3.5 EXISTING (2024) TRAFFIC COUNTS

The intersection LOS analysis is based on the traffic volumes observed during the peak hour conditions using traffic count data collected in January and June, 2024. The City of Coachella experiences seasonal population variations over the course of the year, with relatively higher populations during the winter months from January to the end of March. To compensate for the discrepancy, counts not taken during this peak winter period (January 2 to March 31) require seasonal adjustments. A 15% increase is applied to counts taken in June to estimate peak season. This factor is consistent with other nearby jurisdictions within the Coachella Valley area.

The following peak hours were selected for analysis:

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

The raw manual peak hour turning movement traffic count data sheets are included in Appendix 3.1.

The weekday AM and PM peak hour count data are representative of typical 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 that would prevent or limit roadway access and detour routes. These raw turning volumes have been flow conserved between intersections with limited access, no access and where there are currently no uses generating traffic. Existing weekday peak hour intersection volumes are shown on Exhibit 3-5.

Existing weekday ADT volumes are also shown on Exhibit 3-5. 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:

$$\text{Weekday PM Peak Hour (Approach Volume + Exit Volume)} \times 11.905 = \text{Leg Volume}$$

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 8.40 percent. As such, the above equation utilizing a factor of 11.905 estimates the ADT volumes on the study area roadway segments assuming a peak-to-daily relationship of approximately 8.40 percent (i.e., $1/0.0840 = 11.905$) and was assumed to sufficiently estimate average daily traffic (ADT) volumes for planning-level analyses.

3.6 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 on Table 3-1, which indicates that no study area intersections operate at unacceptable LOS (LOS "E" or worse). The intersection operations analysis worksheets are included in Appendix 3.2 of this TA.

EXHIBIT 3-5: EXISTING (2024) TRAFFIC VOLUMES

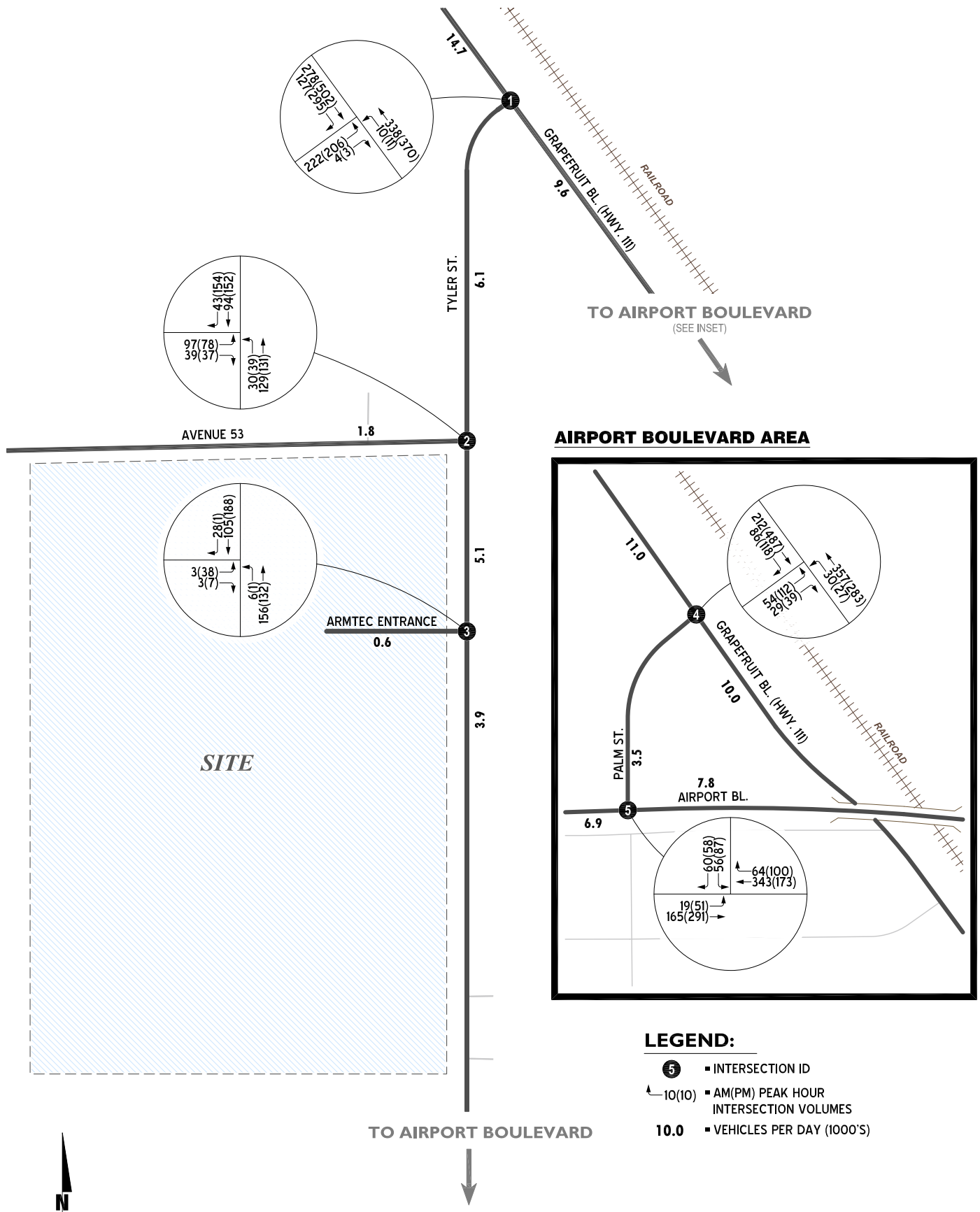


TABLE 3-1: INTERSECTION ANALYSIS FOR EXISTING (2024) CONDITIONS

# Intersection	Traffic Control ¹	Intersection Approach Lanes ²												Delay ³ (secs.)		Level of Service	
		Northbound			Southbound			Eastbound			Westbound			AM	PM	AM	PM
		L	T	R	L	T	R	L	T	R	L	T	R				
1 Grapefruit Bl. (Hwy. 111) / Tyler St.	AWS	0.5	0.5	0	0	1	1	0	1!	0	0	0	0	15.7	27.9	C	D
2 Tyler St. / Avenue 53	CSS	1	1	0	0	2	d	1	0	1	0	0	0	11.9	13.7	B	B
3 Tyler St. / Armtec Entrance	CSS	1	1	0	0	2	d	1	0	1	0	0	0	10.5	11.4	B	B
4 Grapefruit Bl. (Hwy. 111) / Palm St.	TS	1	1	0	0	1	1	1	0	1	0	0	0	7.1	9.1	A	A
5 Palm St. / Airport Bl.	TS	0	0	0	1	0	1	1	2	0	0	2	0	11.8	12.4	B	B

¹ TS = Traffic Signal; CSS = Cross-street Stop; AWS = All-way-stop

² When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.

L = Left; T = Through; R = Right; d = Defacto Right Turn Lane; 0.5 = Shared Lane; 1! = Shared Left/Through/Right lane

³ 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. Delay and level of service is calculated using Synchro 12 analysis software.

F:\UXR\jobs\15600_16000\15900\15967\02_LOS\Excel\15967 - Report.xlsx3-1

3.7 TRAFFIC SIGNAL WARRANTS ANALYSIS

Traffic signal warrants for Existing traffic conditions are based on 2024 peak hour intersection turning volumes (see Appendix 3.3). For Existing (2024) traffic conditions, the unsignalized study area intersection of Grapefruit Boulevard at Highway 111 currently meets traffic volume warrants for installation of a traffic signal.

This page intentionally left blank

4 PROJECTED FUTURE TRAFFIC

This section presents the traffic volumes estimated to be generated by the Project, as well as the Project's trip assignment onto the study area roadway network. The Project is proposed to consist of the expansion of an existing defense technologies facility.

The project includes the construction of new and expanded buildings within the existing footprint of the Armtec facility, which occupies the southwest corner of the intersection of Tyler Street at Avenue 53. The facility consists of two parcels totaling approximately 52.65 acres in size, identified by assessor's parcel numbers (APNs) 778-420-013 (14.96 acres) and 778- 390-008 (37.69 acres) located at 85091 Avenue 53.

Pursuant to the City's 2035 General Plan, the land use designation of the northern parcel (APN: 778- 420-013) is "Industrial District," while the southern parcel (APN: 778-390-008) is "Public Facilities". The underlying zoning for the north parcel is Urban Employment (U-E), whereas the south parcel is zoned as Heavy Industrial (M-H).

On the northern parcel (APN: 778-420-013), north of the Armtec entry at Tyler Street, a new 15,000 SF warehouse will be constructed for storage purposes, adjacent to a truck staging area. This facility will remain unoccupied except when goods are moved in and out.

Armtec's existing operations, utilized for industrial and manufacturing purposes, are located on the southern parcel (APN: 778-390-008). South of the Armtec entry at Tyler Street, the Project will include the construction of:

- A 3,000 SF facility, focusing on research and development activities;
- A 15,000 SF production/manufacturing facility
- Storage facilities (warehousing):
 - o A new 15,000 SF warehouse
 - o Two new storage buildings of 900 SF each
 - o A 6,000 SF warehouse expansion.

The Project total addition to the existing site includes:

- 15,000 SF of Production Facility (Manufacturing)
- 37,800 SF Storage Facilities (Warehousing)
- 3,000 SF of Research & Development

The project description incorporates the following adjacent improvements:

- Expansion of vehicle lanes on the east side of Tyler Street between the Armtec north boundary and south boundary within the City's right-of-way.
- Installation of concrete curbing on the east side of Tyler Street between the Armtec north boundary and south boundary within the City's right-of-way.
- Installation of a 5-foot sidewalk on the east side of Tyler Street between the Armtec north boundary and south boundary within the City's right-of-way.
- Installation of a 5-foot sidewalk along a separate parcel owned by Armtec (APN: 778-420- 014) that is west of the northern parcel, currently not a part of the Armtec campus and is leased to the City for its use as a soccer park.

It is anticipated that the Project will be operational by year 2026. Access to the Project will be provided via the Armtec Entrance, which is an existing full access driveway to Tyler Street (located south of Avenue 53).

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, the trip generation rates provided in the *Institute of Transportation Engineers (ITE) Trip Generation* (11th Edition, 2021) have been utilized (4).

Table 4-1 shows the vehicle trip generation rates for the Project, as well as the vehicle trip generation summary with daily and peak hour trip generation estimates. As shown on Table 4-1, the Project is anticipated to generate a total of 169 trip-ends per day with 21 AM peak hour trips and 20 PM peak hour trips.

4.2 PROJECT TRIP DISTRIBUTION

The Project trip distribution and assignment process represents the directional orientation of traffic to and from the Project site. The trip distribution pattern is heavily influenced by the geographical location of the site, the location of surrounding uses, and proximity to the surrounding highway network. Trip distribution patterns proposed for the Project are illustrated on Exhibit 4-1.

4.3 MODAL SPLIT

The potential for Project trips 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.

TABLE 4-1: PROJECT TRIP GENERATION SUMMARY

Trip Generation Rates ¹									
Land Use	ITE LU Code	Quantity ²		AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Daily
Warehousing	150	37.8	TSF	0.13	0.04	0.17	0.05	0.13	1.71
Manufacturing	140	15	TSF	0.52	0.16	0.68	0.23	0.51	4.75
Research and Development Center	760	3	TSF	0.84	0.19	1.03	0.16	0.82	11.08

Trip Generation Results									
Land Use	ITE LU Code	Quantity ²		AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Daily
Warehousing	150	37.8	TSF	5	2	7	2	5	65
Manufacturing	140	15	TSF	8	2	10	3	8	71
Research and Development Center	760	3	TSF	3	1	4	0	2	33
TOTAL				16	5	21	5	15	169

¹ Trip Generation Source: Institute of Transportation Engineers (ITE), Trip Generation Manual, 11th Edition (2021).

² TSF = Thousand Square Feet

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 identified Project traffic generation and trip distribution patterns, Project weekday ADT and weekday peak hour intersection turning movement volumes are shown on Exhibit 4-2.

4.5 BACKGROUND TRAFFIC

Future year traffic forecasts have been based upon background (ambient) growth at 2% per year for 2026 traffic conditions. The total ambient growth is 4.04% for 2026 traffic conditions. This ambient growth rate is added to existing traffic volumes to account for area-wide growth not reflected by cumulative development projects. Ambient growth has been added to daily and peak hour traffic volumes on surrounding roadways, in conjunction with 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.

Exhibit 4-3 illustrates the cumulative development location map. The cumulative projects listed are those that would generate traffic and would contribute traffic to study area intersections. A summary of cumulative development projects and their proposed land uses are shown on Table 4-2. If applicable, the traffic generated by individual cumulative projects was manually added to the EAP forecasts to ensure that traffic generated by the listed cumulative development projects on Table 4-2 are reflected as part of the background traffic.

The near-term traffic analysis includes the following traffic conditions, with the various traffic components:

- EAP (2026)
 - o Existing (2024) volumes
 - o Ambient growth traffic (4.04% over 2 years)
 - o Project traffic
- EAPC (2026)
 - o Existing (2024) volumes
 - o Ambient growth traffic (4.04% over 2 years)
 - o Project traffic
 - o Cumulative development traffic

EXHIBIT 4-1: PROJECT TRIP DISTRIBUTION

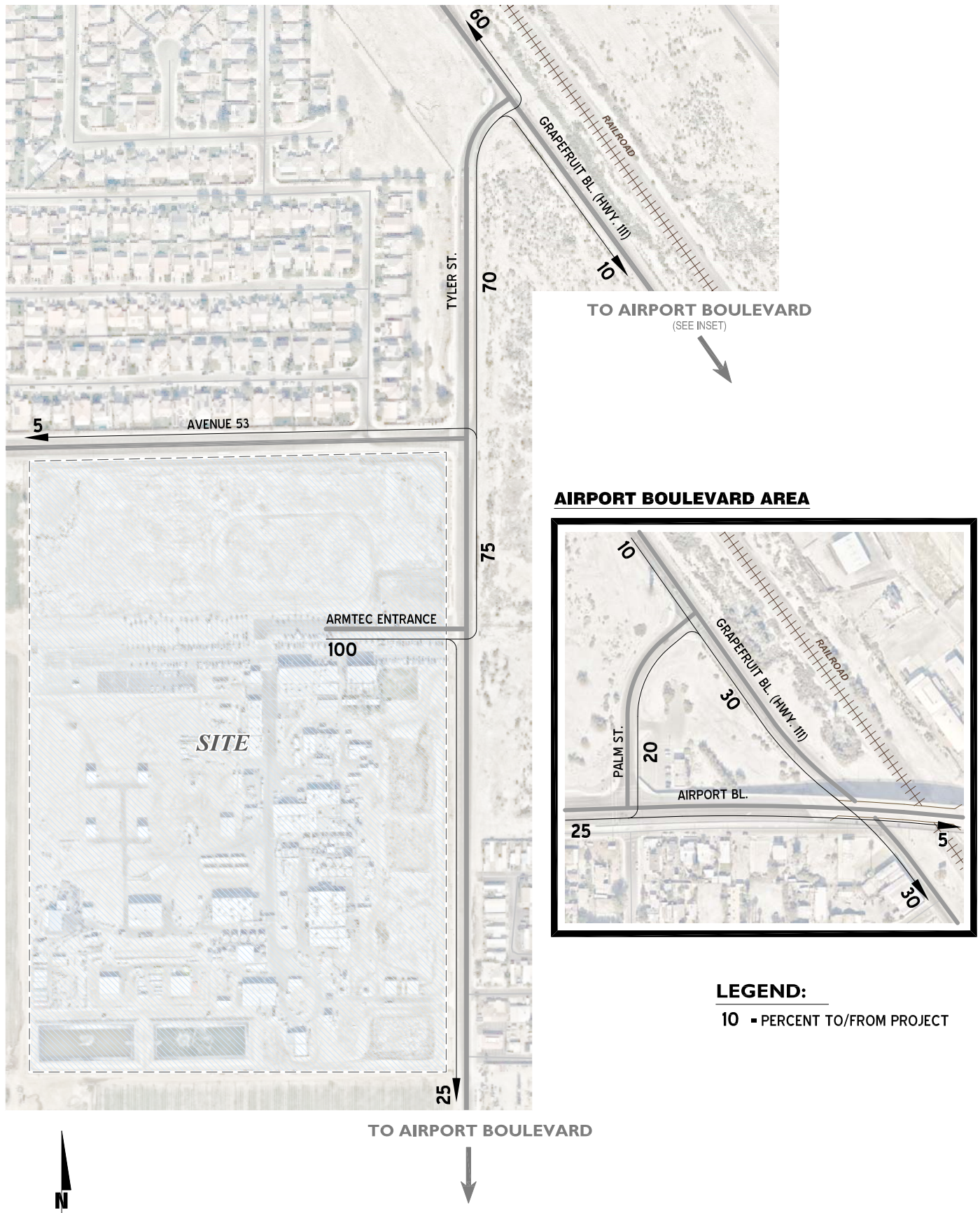


EXHIBIT 4-2: PROJECT ONLY TRAFFIC VOLUMES

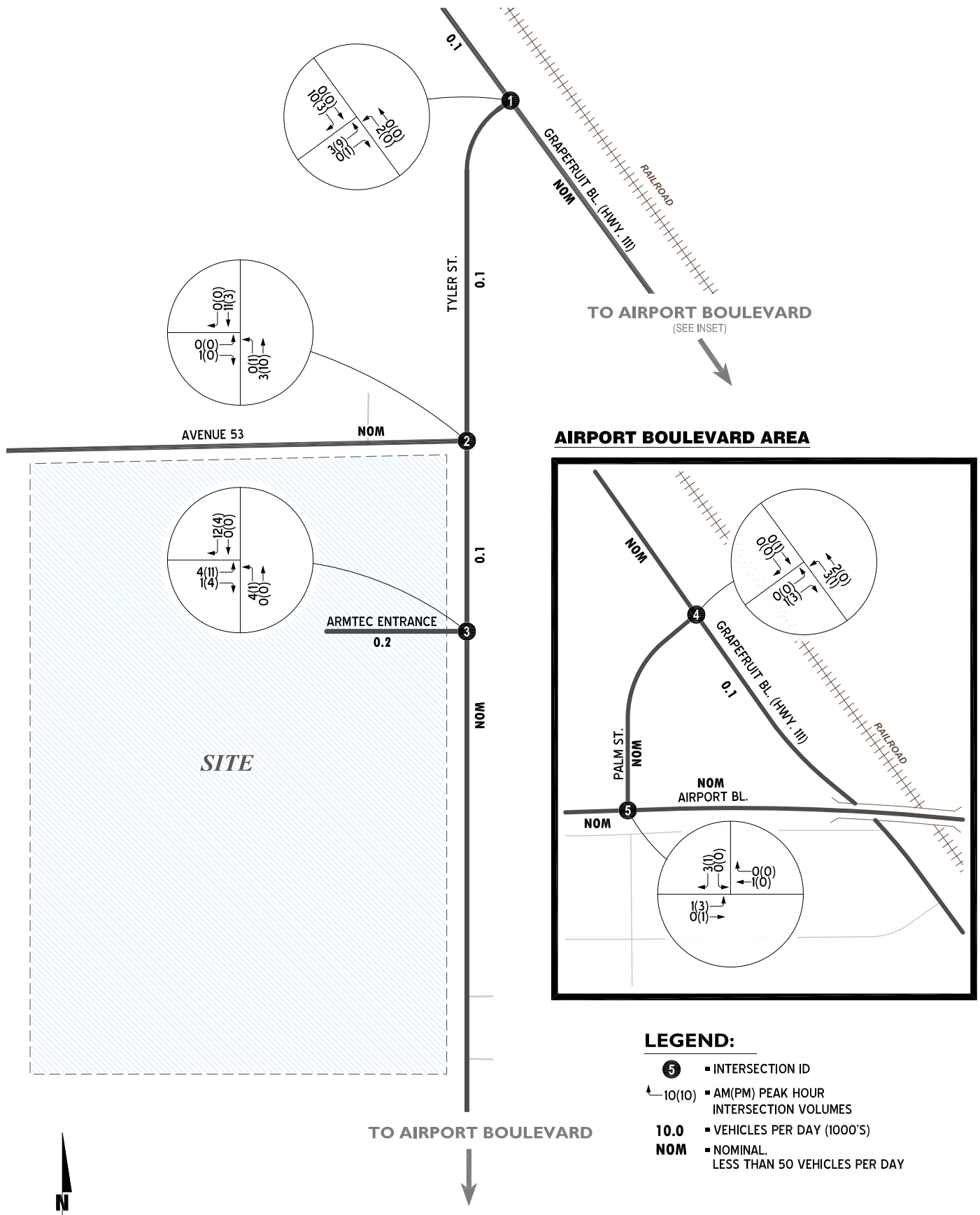


EXHIBIT 4-3: CUMULATIVE DEVELOPMENT LOCATION MAP



LEGEND:

= CUMULATIVE DEVELOPMENT ID
(SEE TABLE 2 FOR REFERENCE)



TABLE 4-2: CUMULATIVE DEVELOPMENT LAND USE SUMMARY

TAZ	Project	Land Use	Quantity	Units ¹
1	Coachella Residences	Single Family Residential	188	DU
2	JJWR Industrial	Industrial Building (Warehouse, office, and RV Storage)	51.50	TSF
3	HOTN/Sinsemilla Dispensary & Pub	Retail Cannabis	1.839	TSF
		Bar/Pub	1.432	TSF
4	Fountainhead Plaza (NEC 1st St. & Cesar Chavez St.)	Supermarket	20.422	TSF
		Fast-Food Restaurant	2.6	TSF
		Coffee Shop w/ Restaurant	2.1	TSF
5	Placita Dolores Huerta	Multifamily Residential	110	DU
6	Glenroy Hotel Project	Resort casitas/bungalows	620	RM
		Hotel	130	RM
		Restaurant	3.6	TSF
		Retail Cannabis	3.12	TSF
		General Store	2.5	TSF
		Coffee shop with drive thru	2.5	TSF
7	Rancho Flores 2	Single Family Residential	124	DU
8	Mariposa Pointe	Single Family Residential	155	DU
9	Polo Community	Senior & Single Family Residential	560	DU
10	Bellissima (Tract 31978)	Single Family Residential	111	DU
11	Coachella Airport Business Park ²	2027 (Phase I) Land Uses:		
		Industrial Park	204.8	TSF
		Self Storage	63.7	TSF
		Fast Food Restaurant w/ DT	4.65	TSF
		Service Station with Convenience Store	10	VFP
		2045 (Phase I to III) Land Uses:		
		Industrial Park	486.9	TSF
		Self Storage	128.6	TSF
		Fast Food Restaurant w/ DT	4.65	TSF
		Service Station with Convenience Store	10	VFP

¹ DU = Dwelling Units; TSF = Thousand Square Feet; RM = Rooms; VFP = Vehicle Fueling Position

² For purposes of 2026 analysis conditions, the 2027 (Phase I) land uses of the Coachella Airport Business Park are utilized.

5 EAP (2026) TRAFFIC CONDITIONS

This section discusses the traffic forecasts for Existing plus Ambient plus Project (EAP) conditions and the resulting intersection operations and traffic signal warrant analyses.

The lane configurations and traffic controls assumed to be in place for EAP (2026) conditions are consistent with those shown previously on Exhibit 3-1, with the exception driveways and those facilities assumed to be constructed by the project to provide site access are assumed to be in place for EAP (2026) conditions (e.g., intersection and roadway improvements at the projects' frontage and driveways).

5.1 EAP TRAFFIC VOLUME FORECASTS

This scenario includes Existing traffic volumes plus an ambient growth factor of 4.04% and the addition of project traffic.

The weekday ADT and weekday peak hour intersection turning movement volumes which can be expected for EAP (2026) traffic conditions are shown on Exhibit 5-1.

5.2 INTERSECTION OPERATIONS ANALYSIS

EAP 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 summarized in Table 5-1, indicate that study area intersections continue to operate at an acceptable LOS during peak hours under EAP conditions without improvements.

The intersection operations analysis worksheets for EAP traffic conditions are included in Appendix 5.1 of this TA.

5.3 TRAFFIC SIGNAL WARRANTS ANALYSIS

The traffic signal warrant analysis for EAP (2026) traffic conditions provided in Appendix 3.3. For EAP conditions, no additional study area intersections meet the volume warrants for installation of a traffic signal (beyond the Tyler Street at Grapefruit Boulevard / Highway 111 intersection, which meets volume warrants for a signal based upon existing counts) (see Appendix 3.3).

EXHIBIT 5-1: EXISTING PLUS AMBIENT PLUS PROJECT (2024) TRAFFIC VOLUMES

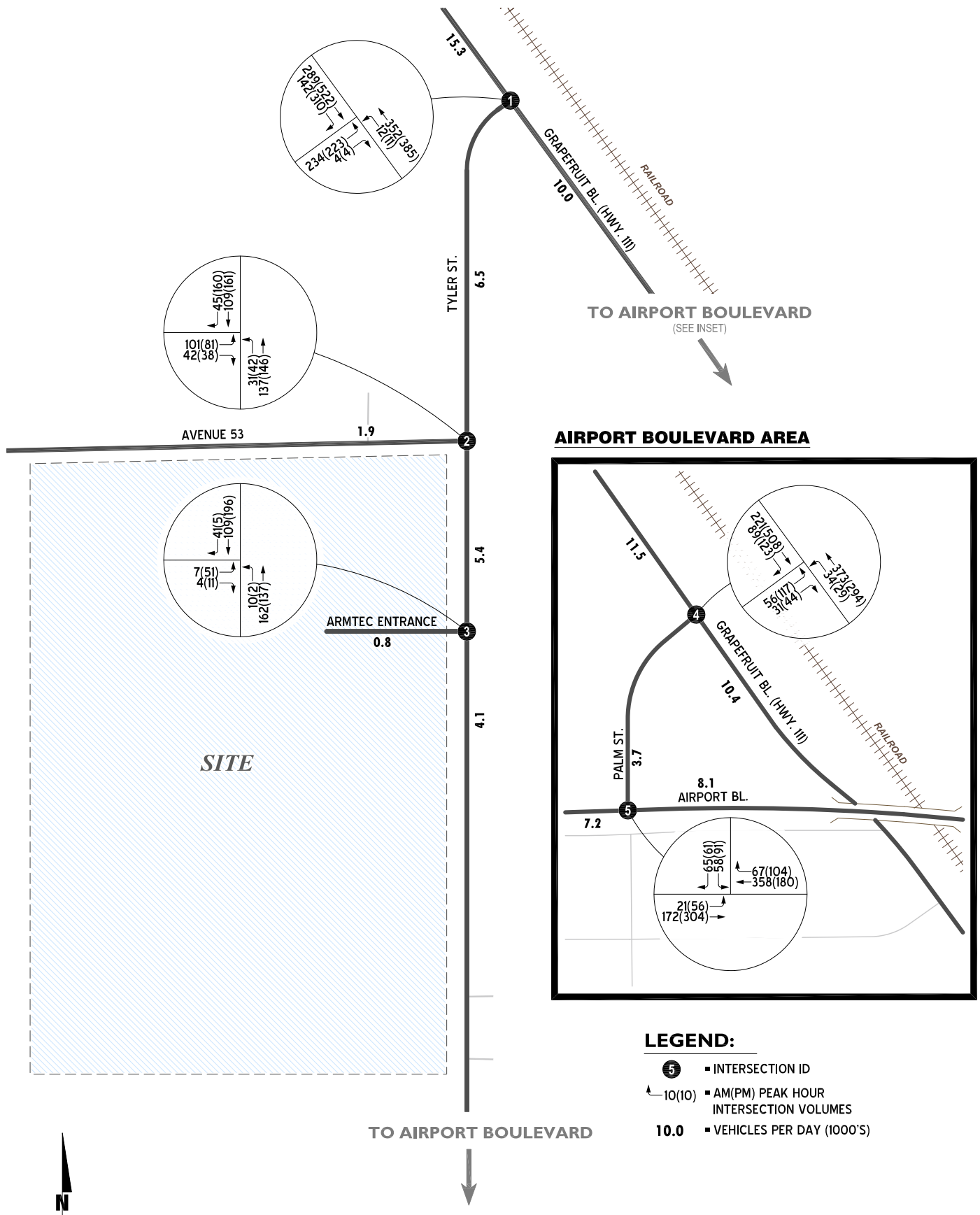


TABLE 5-1: INTERSECTION ANALYSIS FOR EAP (2026) CONDITIONS

# Intersection	Traffic Control ¹	Intersection Approach Lanes ²												Delay ³ (secs.)		Level of Service	
		Northbound			Southbound			Eastbound			Westbound			AM	PM	AM	PM
		L	T	R	L	T	R	L	T	R	L	T	R				
1 Grapefruit Bl. (Hwy. 111) / Tyler St.	AWS	0.5	0.5	0	0	1	1	0	1!	0	0	0	0	17.1	34.0	C	D
2 Tyler St. / Avenue 53	CSS	1	1	0	0	2	d	1	0	1	0	0	0	12.3	14.5	B	B
3 Tyler St. / Armtec Entrance	CSS	1	1	0	0	2	d	1	0	1	0	0	0	10.7	11.7	B	B
4 Grapefruit Bl. (Hwy. 111) / Palm St.	TS	1	1	0	0	1	1	1	0	1	0	0	0	7.4	9.4	A	A
5 Palm St. / Airport Bl.	TS	0	0	0	1	0	1	1	2	0	0	2	0	12.0	12.6	B	B

¹ TS = Traffic Signal; CSS = Cross-street Stop; AWS = All-way-stop

² When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.

L = Left; T = Through; R = Right; d = Defacto Right Turn Lane; 0.5 = Shared Lane; 1! = Shared Left/Through/Right lane; 1 = Improvement

³ 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. Delay and level of service is calculated using Synchro 12 analysis software.

F:\UXR\jobs\15600_16000\15900\15967\02_LOS\Excel\15967 - Report.xlsx]5-1

This page intentionally left blank

6 EAPC (2026) TRAFFIC CONDITIONS

This section discusses the methods used to develop Existing plus Ambient plus Project plus Cumulative (EAPC) (2026) traffic forecasts, and the resulting intersection operations and traffic signal warrant analyses.

The lane configurations and traffic controls assumed to be in place for EAPC (2026) 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 EAPC conditions (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 EAPC conditions (e.g., intersection and roadway improvements along the cumulative development's frontages and driveways).

6.1 EAPC (2026) TRAFFIC VOLUME FORECASTS

This scenario consists of existing traffic volumes plus an ambient growth factor of 4.04% plus traffic from pending and approved but not yet constructed known development projects in the area plus the Project.

The weekday ADT and weekday peak hour volumes which can be expected for EAPC (2026) traffic conditions are shown on Exhibit 6-1.

6.2 INTERSECTION OPERATIONS ANALYSIS

The intersection analysis results for EAPC conditions are summarized in Table 6-1, which indicates that the study area intersection of Tyler Street at Grapefruit Boulevard / Highway 111 (#1) is found to operate at an unacceptable LOS (i.e., LOS "E" or worse) during peak hours, without installation of the traffic signal that is currently warranted for existing conditions.

The intersection operations analysis worksheets for EAPC traffic conditions are included in Appendix 6.1 of this TA.

6.3 TRAFFIC SIGNAL WARRANTS ANALYSIS

The traffic signal warrant analysis worksheets for EAPC (2026) traffic conditions are provided in Appendix 3.3. For EAPC conditions, no additional study area intersections meet the volume warrants for installation of a traffic signal (beyond the Tyler Street at Grapefruit Boulevard / Highway 111 intersection, which meets volume warrants for a signal based upon existing counts) (see Appendix 3.3).

**EXHIBIT 6-1: EXISTING PLUS AMBIENT PLUS PROJECT PLUS CUMULATIVES (2024)
TRAFFIC VOLUMES**

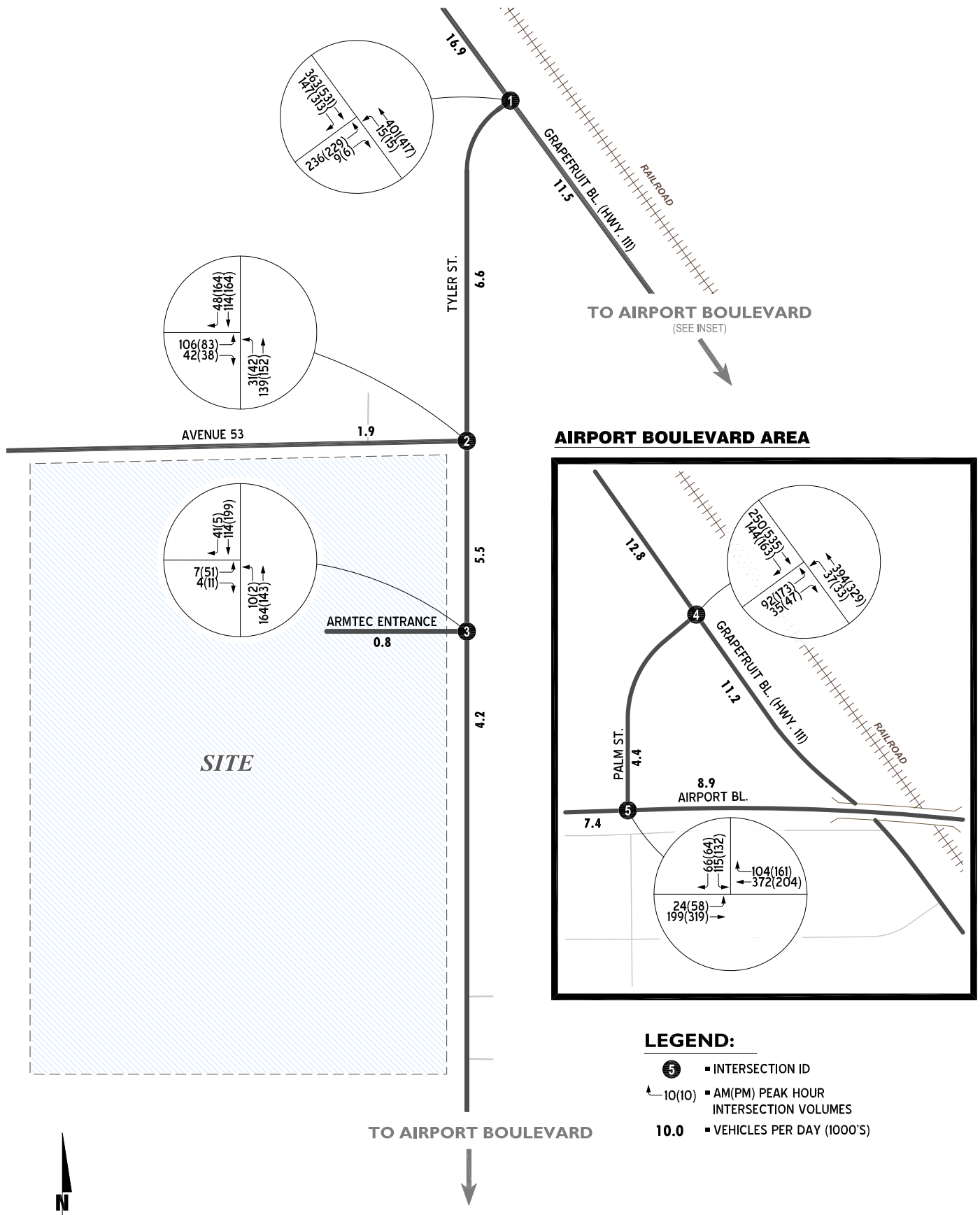


TABLE 6-1: INTERSECTION ANALYSIS FOR EAPC (2026) CONDITIONS

# Intersection	Traffic Control ¹	Intersection Approach Lanes ²												Delay ³ (secs.)		Level of Service	
		Northbound			Southbound			Eastbound			Westbound			AM	PM	AM	PM
		L	T	R	L	T	R	L	T	R	L	T	R				
1 Grapefruit Bl. (Hwy. 111) / Tyler St. - With Improvements	AWS TS	0.5	0.5	0	0	1	1	0	1!	0	0	0	0	23.9	39.9	C	E
2 Tyler St. / Avenue 53	CSS	1	1	0	0	2	d	1	0	1	0	0	0	12.5	14.7	B	B
3 Tyler St. / Armtec Entrance	CSS	1	1	0	0	2	d	1	0	1	0	0	0	10.8	11.8	B	B
4 Grapefruit Bl. (Hwy. 111) / Palm St.	TS	1	1	0	0	1	1	1	0	1	0	0	0	8.6	11.0	A	B
5 Palm St. / Airport Bl.	TS	0	0	0	1	0	1	1	2	0	0	2	0	13.0	13.2	B	B

¹ TS = Traffic Signal; CSS = Cross-street Stop; AWS = All-way-stop

² When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.

L = Left; T = Through; R = Right; d = Defacto Right Turn Lane; 0.5 = Shared Lane; 1! = Shared Left/Through/Right lane; **1** = Improvement

³ 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. Delay and level of service is calculated using Synchro 12 analysis software.

F:\UXR\jobs\15600_16000\15900\15967\02_LOS\Excel\15967 - Report.xlsx\6-1

6.4 CUMULATIVE IMPROVEMENTS

The provision of traffic signal control addresses the off-site intersection operational deficiency for EAPC (2026) conditions at the intersection of Tyler Street at Grapefruit Boulevard / Highway 111 (#1). The effectiveness of this recommended signal improvement at the intersection of Tyler Street at Grapefruit Boulevard / Highway 111 (#1) is presented in Table 6-1 for EAPC (2026) traffic conditions.

The intersection operations analysis worksheets for EAPC (2026) traffic conditions, with this traffic signal improvement, are included in Appendix 6.1 of this TA.

7 CUMULATIVE AND SITE ACCESS IMPROVEMENTS AND VMT

7.1 RECOMMENDED CUMULATIVE IMPROVEMENT

A traffic signal improvement at the off-site intersection of Tyler Street at Grapefruit Boulevard / Highway 111 (#1) address intersection operational deficiencies for EAPC (2026) conditions.

The provision of traffic signal control addresses the off-site intersection operational deficiency for EAPC (2026) conditions at the intersection of Tyler Street at Grapefruit Boulevard / Highway 111 (#1). The effectiveness of this recommended signal improvement at the intersection of Tyler Street at Grapefruit Boulevard / Highway 111 (#1) is presented in Table 6-1 for EAPC (2026) traffic conditions.

Detailed fair share calculations, for each peak hour, are provided in Table 7-1 for this intersection. For the intersection of Tyler Street at Grapefruit Boulevard / Highway 111 (#1), the Project Fair Share is 10.5%.

TABLE 7-1: EXISTING PLUS AMBIENT PLUS PROJECT PLUS CUMULATIVE (EAPC) FAIR SHARE CALCULATIONS

#	Intersection	Existing (2024) Traffic	EAPC (2026) Traffic ³	Project Only Traffic	Total New Traffic ¹	Project Fair Share (%) ²
1	Grapefruit Bl. (Hwy. 111) / Tyler St.					
	• AM Peak Hour	979	1,171	15	192	7.8%
	• PM Peak Hour	1,387	1,511	13	124	10.5%

¹ Total New Traffic = (EAPC 2026 - Existing Traffic)

² Project Fair Share % = (Project Only Traffic / Total New Traffic)

³ Existing Plus Ambient Plus Project Plus Cumulative (2026) Conditions

F:\UXRjobs\15600_16000\15900\15967\02_LOS\Excel\15967 - Report.xlsx\FairShare

7.2 SITE-ADJACENT IMPROVEMENTS

The project description incorporates the following adjacent improvements:

- Expansion of vehicle lanes on the east side of Tyler Street between the Armtec north boundary and south boundary within the City's right-of-way.
- Installation of concrete curbing on the east side of Tyler Street between the Armtec north boundary and south boundary within the City's right-of-way.
- Installation of a 5-foot sidewalk on the east side of Tyler Street between the Armtec north boundary and south boundary within the City's right-of-way.
- Installation of a 5-foot sidewalk along a separate parcel owned by Armtec (APN: 778-420- 014) that is west of the northern parcel, currently not a part of the Armtec campus and is leased to the City for its use as a soccer park.

Access to the Project is provided via the existing full access intersection at Tyler Street / Armtec Entrance. At this intersection, the existing striping and signage for stop sign control on the west leg should be upgraded.

7.3 VEHICLE MILES TRAVELED (VMT) SCREENING

A VMT screening assessment of Armtec Master Plan has been prepared in accordance with SB743 and consistent with the methodology and thresholds outlined in the County of Riverside Transportation Analysis Guidelines for Level of Service Vehicle Miles Traveled (December of 2020). Attachment 7.1 contains the VMT screening assessment that has been reviewed & accepted by the City of Coachella.

The small project screening criteria is met, so a full analysis of VMT associated with site employment is not required. The Project is presumed to have a less than significant impact on VMT.

8 REFERENCES

1. **Riverside County.** *Transportation Analysis Guidelines for Level of Service & Vehicle Miles Traveled.* Riverside County : s.n., December 2020.
2. **Transportation Research Board.** *Highway Capacity Manual (HCM), 7th Edition.* s.l. : National Academy of Sciences, 2022.
3. **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).
4. **Institute of Transportation Engineers.** Trip Generation Manual. 11th Edition, 2021.

This page intentionally left blank

APPENDIX 1.1: TRAFFIC STUDY SCOPE

This Page Intentionally Left Blank

DATE: June 24, 2024
TO: Mr. Andrew Simmons, P.E., City of Coachella
FROM: John Kain and Marlie Whiteman, Urban Crossroads, Inc.
JOB NO: 15926-02 VMT TG SA.docx

ARMTEC MASTER PLAN – LEVEL OF SERVICE (LOS) ANALYSIS SCOPE

Urban Crossroads, Inc. is pleased to submit the following LOS traffic study scope for the proposed Armtec Master Plan development (**Project**). The Project is located at the southwest corner of Tyler Street and Avenue 53 in the City of Coachella. The following evaluation is based on the County of Riverside's Transportation Analysis Guidelines for Level of Service & Vehicle Miles Traveled (December 2020), as the City of Coachella utilizes the County guidelines.

PROJECT DESCRIPTION

It is our understanding that the Project is to consist of the expansion of an existing defense technologies facility. A preliminary master plan for the proposed Project is shown on Exhibit 1.

Access to the Project is provided via the Armtec Entrance, which is a full access driveway to Tyler Street (located south of Avenue 53).

The facility consists of two parcels totaling approximately 52.65 acres in size, identified by assessor's parcel numbers (APNs) 778-420-013 (14.96 acres) and 778- 390-008 (37.69 acres).

On the northern parcel (APN: 778-420-013), north of the Armtec entry at Tyler Street, a new 15,000 SF warehouse will be constructed for storage purposes, adjacent to a truck staging area. This facility will remain unoccupied except when goods are moved in and out.

Armtec's existing operations, utilized for industrial and manufacturing purposes, are located on the southern parcel (APN: 778-390-008). South of the Armtec entry at Tyler Street, the Project will include the construction of:

- A 3,000 SF facility, focusing on research and development activities;
- A 15,000 SF production/manufacturing facility
- Storage facilities (warehousing):
 - o A new 15,000 SF warehouse
 - o Two new storage buildings of 900 SF each
 - o A 6,000 SF warehouse expansion.

EXHIBIT 1: ARMTEC MASTER PLAN



The Project total addition to the existing site includes:

- 15,000 SF of Production Facility (Manufacturing)
- 37,800 SF Storage Facilities (Warehousing)
- 3,000 SF of Research & Development

STUDY AREA

Exhibit 2 presents the study area intersection analysis locations. Study area intersections will be evaluated using the HCM 7 methodology. Count data will be collected during the AM and PM peak hours on a typical weekday.

ANALYSIS SCENARIOS

The analysis of peak hour operations at study area intersections will be provided for the following analysis scenarios:

- Existing (2024)
- Existing Plus Ambient Growth Plus Project (2026) Conditions (EAP)
- Existing Plus Ambient Growth Plus Project Plus Cumulative (2026) Conditions (EAPC)

EAP traffic conditions will be utilized to determine direct Project traffic impacts, while the EAPC (2026) analysis will be utilized to determine the Project's cumulatively considerable impacts (subject to payment of fees/fair share).

AMBIENT GROWTH ASSUMPTIONS

An ambient growth rate of 2.0 percent per year is proposed for the study area intersections which will be compounded for each year to the Project's Opening Year of 2026 (in addition to cumulative development traffic overlays). The growth rate is consistent with the growth rate utilized by the County of Riverside.

TRIP GENERATION

Trip generation represents the amount of traffic that is attracted and produced by a development, and is based upon the specific land uses planned for a given project. Table 1 presents the trip generation rates and the resulting trip generation summary for the proposed Project. The trip generation rates used for this analysis are based upon information collected by the Institute of Transportation Engineers (ITE) as provided in their Trip Generation manual, 11th Edition, 2021. As shown in Table 1, the Project is anticipated to generate a total of 169 trip-ends per day with 21 AM peak hour trips and 20 PM peak hour trips.

EXHIBIT 2: TRAFFIC ANALYSIS STUDY AREA

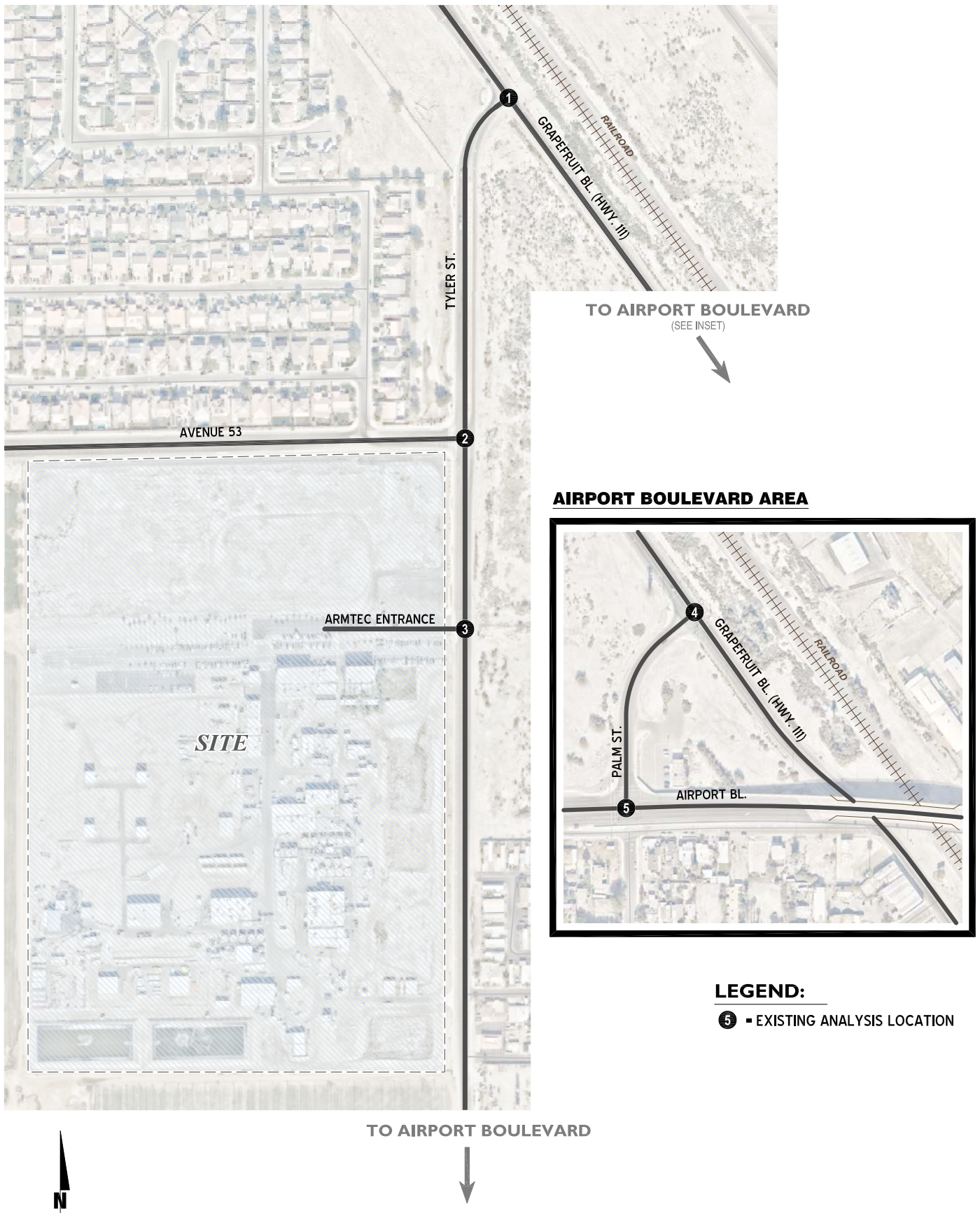


TABLE 1: PROJECT TRIP GENERATION SUMMARY

Trip Generation Rates ¹										
Land Use	ITE LU Code	Quantity ²		AM Peak Hour			PM Peak Hour			Daily
				In	Out	Total	In	Out	Total	
Warehousing	150	37.8	TSF	0.13	0.04	0.17	0.05	0.13	0.18	1.71
Manufacturing	140	15	TSF	0.52	0.16	0.68	0.23	0.51	0.74	4.75
Research and Development Center	760	3	TSF	0.84	0.19	1.03	0.16	0.82	0.98	11.08

Trip Generation Results										
Land Use	ITE LU Code	Quantity ²		AM Peak Hour			PM Peak Hour			Daily
				In	Out	Total	In	Out	Total	
Warehousing	150	37.8	TSF	5	2	7	2	5	7	65
Manufacturing	140	15	TSF	8	2	10	3	8	11	71
Research and Development Center	760	3	TSF	3	1	4	0	2	2	33
TOTAL				16	5	21	5	15	20	169

¹ Trip Generation Source: Institute of Transportation Engineers (ITE), Trip Generation Manual, 11th Edition (2021).

² TSF = Thousand Square Feet

TRIP DISTRIBUTION

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 use and surrounding regional access routes are considered, to identify the route where the Project traffic would distribute. The trip distribution pattern is heavily influenced by the geographical location of the site, the location of surrounding uses, and the proximity to the regional freeway system. Exhibit 3 illustrates the trip distribution pattern for the Project.

PROJECT TRAFFIC VOLUMES

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 street system improvements that would be in place by the time of initial occupancy of the Project. Based on the identified Project traffic generation and trip distribution patterns, Project Only Average Daily Traffic (ADT) volumes and AM and PM peak hour intersection turning movement volumes are shown on Exhibit 4.

LEVEL OF SERVICE (LOS) CRITERIA AND THRESHOLDS OF SIGNIFICANCE

The City of Coachella's current General Plan applies LOS D as a performance threshold for roadway segments and intersections.

The following thresholds of significance will be applied to study area intersections to identify significant impacts through a comparison of Existing and EAP traffic conditions:

- If an intersection is projected to operate at an acceptable level of service (i.e., LOS D or better) under Existing traffic conditions and the addition of project traffic is expected to cause the intersection to operate at an unacceptable level of service (i.e., LOS E or F), the impact is considered significant;
- If an intersection is projected to operate at LOS E or LOS F under Existing, with the addition of project traffic, the impact is considered significant.

EXISTING COUNT DATA

Intersection turning movement counts will be conducted at the study area intersection locations for weekday AM (7-9AM) and weekday PM (4-6PM). Daily (24-hour) counts will also be conducted on Tyler Street north of the project entry, and on Avenue 53 west of Tyler Street.

The traffic counts are anticipated to occur on June 5th, 2024. A seasonal adjustment factor of 10% is proposed to be applied if counts are taken during this first week of June.

CITY GENERAL PLAN CIRCULATION ELEMENT

The adopted City of Coachella General Plan Circulation Element is shown on Exhibit 5. Exhibit 6 shows the City of Coachella General Plan roadway cross-sections.

EXHIBIT 3: PROJECT TRIP DISTRIBUTION

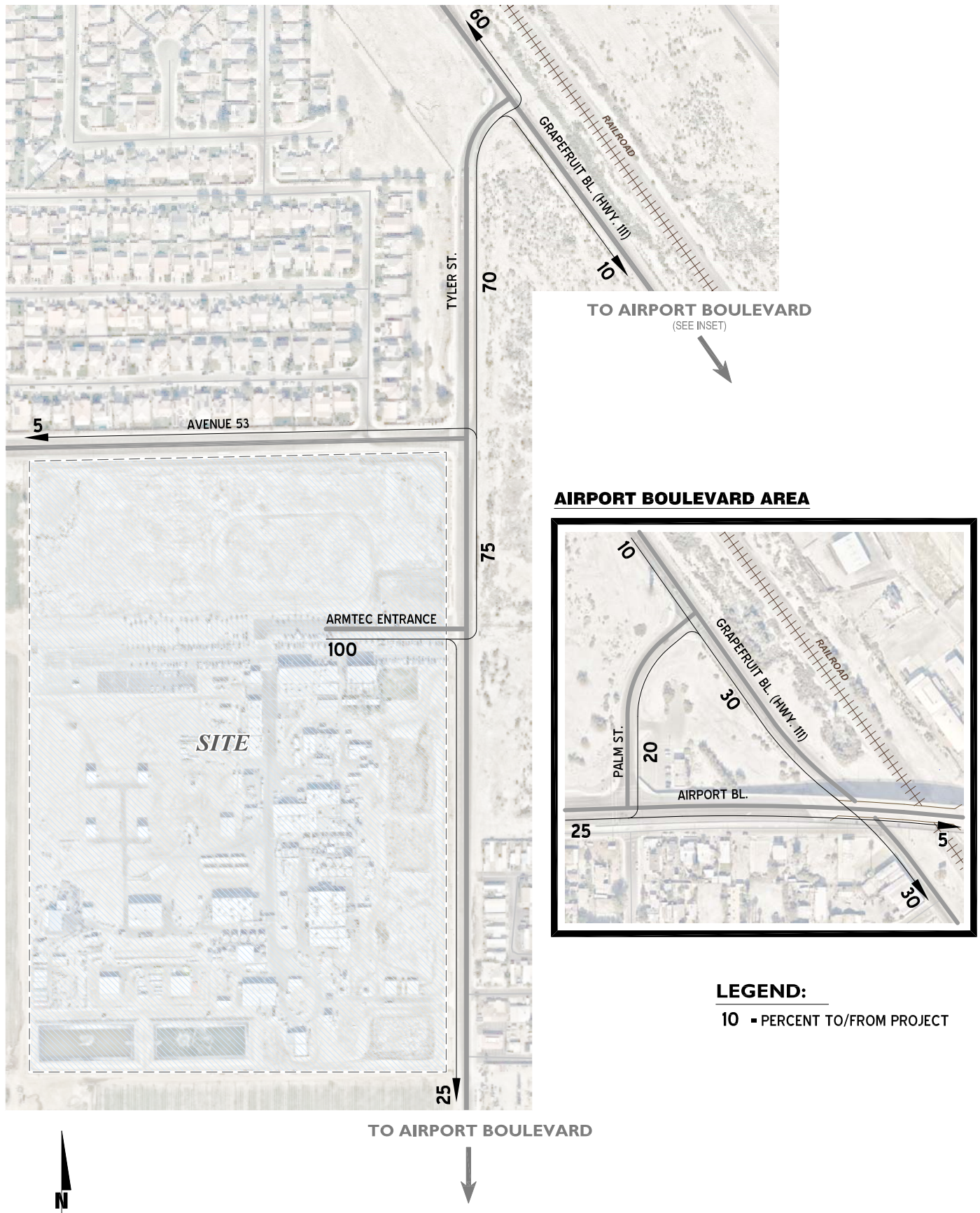


EXHIBIT 4: PROJECT ONLY TRAFFIC VOLUMES

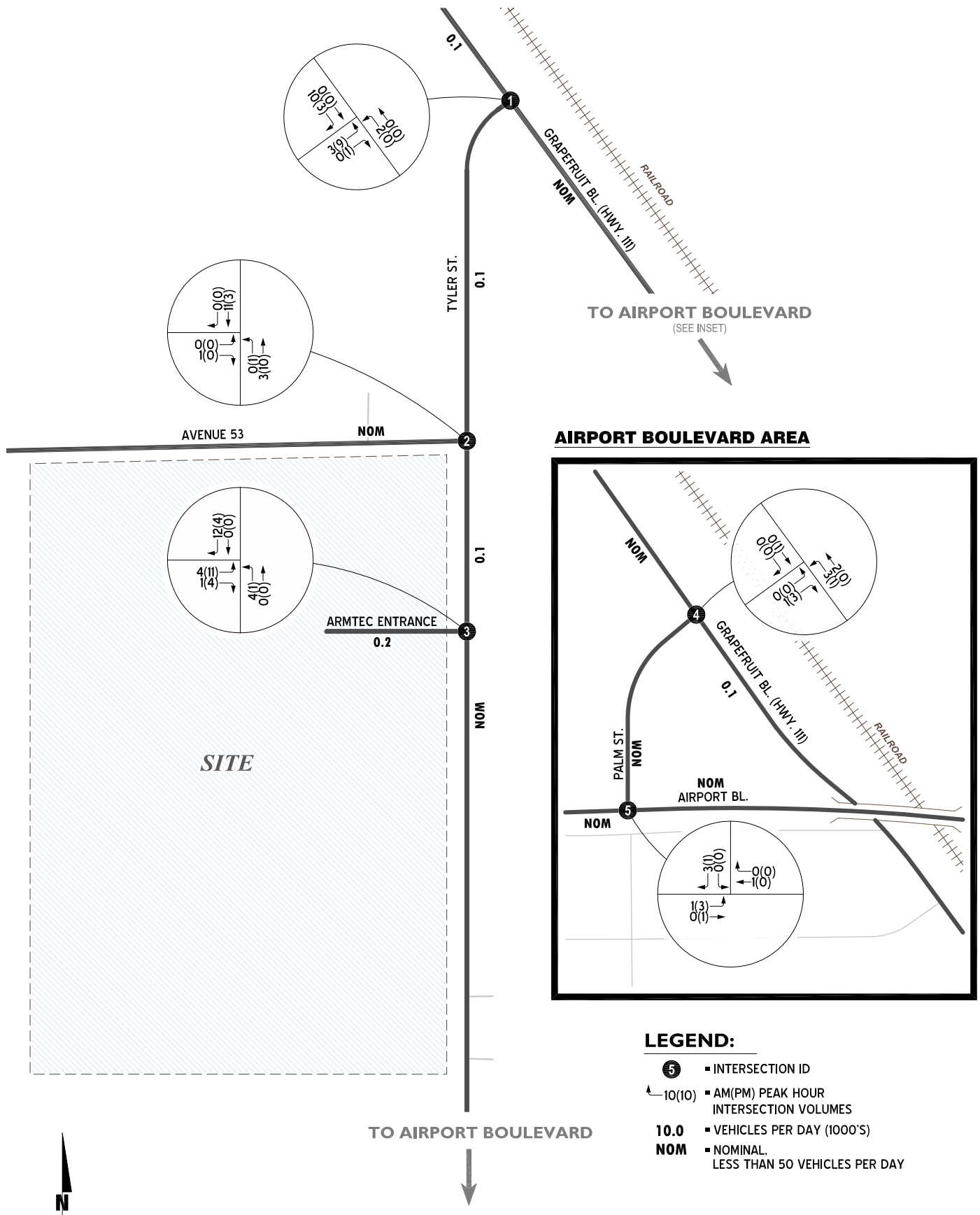


EXHIBIT 5: CITY OF COACHELLA GENERAL PLAN CIRCULATION ELEMENT



- | | | |
|---|--|---------------------|
| Class I Bicycle Facility/Multi-Use Trail | Major Arterial With Bicycle Facility | Freeway Interchange |
| Major Arterial Without Bicycle Facility | Primary Arterial With Bicycle Facility | Grade Separation |
| Primary Arterial Without Bicycle Facility | Collector With Bicycle Facility | |
| Collector Without Bicycle Facility | | |

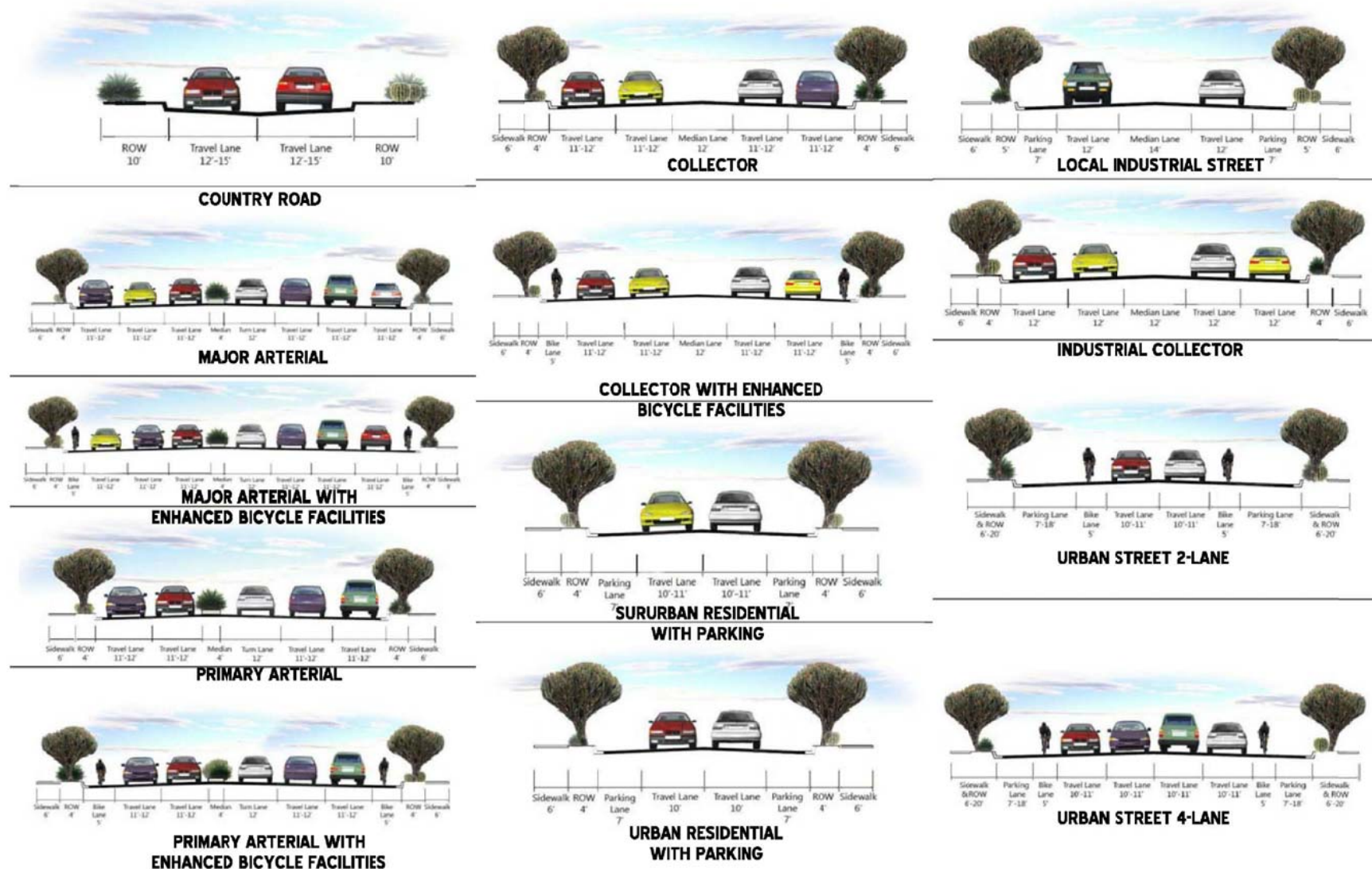
SOURCE: CITY OF COACHELLA

LEGEND:

③ = EXISTING ANALYSIS LOCATION



EXHIBIT 6: CITY OF COACHELLA GENERAL PLAN ROADWAY CROSS-SECTIONS



SPECIAL ISSUES

The following issues will also be addressed as part of the traffic study:

Traffic Signal Warrant Analysis: Signal warrant analysis will be prepared for all unsignalized study area intersections that allow for full access (no traffic signal warrants to be performed for restricted access locations due to infeasibility of installing a signal at these types of locations).

Improvements: Based on the traffic analysis (TA) results, the TA will indicate new improvement requirements and fair share contribution for the proposed Project. Fair share tables will be included

CUMULATIVE DEVELOPMENT

It is requested that City staff review the list of cumulative development projects (shown on Exhibit 7 and listed on Table 2) and any additional information for projects that should be included in this traffic study that may not be reflected Exhibit 7.

Information pertaining to project location, land use, and intensity are necessary for consideration and to estimate trip generation.

If you have any questions, please contact us directly at jkain@urbanxroads.com for John or mwhiteman@urbanxroads.com for Marlie.

EXHIBIT 7: CUMULATIVE DEVELOPMENT LOCATION MAP



LEGEND:

= CUMULATIVE DEVELOPMENT ID
(SEE TABLE 2 FOR REFERENCE)



TABLE 2: CUMULATIVE DEVELOPMENT LAND USE SUMMARY

TAZ	Project	Land Use	Quantity	Units ¹
1	Coachella Residences	Single Family Residential	188	DU
2	JJWR Industrial	Industrial Building (Warehouse, office, and RV Storage)	51.50	TSF
3	HOTN/Sinsemilla Dispensary & Pub	Retail Cannabis	1.839	TSF
		Bar/Pub	1.432	TSF
4	Fountainhead Plaza (NEC 1st St. & Cesar Chavez St.)	Supermarket	20.422	TSF
		Fast-Food Restaurant	2.6	TSF
		Coffee Shop w/ Restaurant	2.1	TSF
5	Placita Dolores Huerta	Multifamily Residential	110	DU
6	Glenroy Hotel Project	Resort casitas/bungalows	620	RM
		Hotel	130	RM
		Restaurant	3.6	TSF
		Retail Cannabis	3.12	TSF
		General Store	2.5	TSF
		Coffee shop with drive thru	2.5	TSF
7	Rancho Flores 2	Single Family Residential	124	DU
8	Mariposa Pointe	Single Family Residential	155	DU
9	Polo Community	Senior & Single Family Residential	560	DU
10	Bellissima (Tract 31978)	Single Family Residential	111	DU
11	Coachella Airport Business Park ²	<u>2027 (Phase I) Land Uses:</u>		
		Industrial Park	204.8	TSF
		Self Storage	63.7	TSF
		Fast Food Restaurant w/ DT	4.65	TSF
		Service Station with Convenience Store	10	VFP
		<u>2045 (Phase I to III) Land Uses:</u>		
		Industrial Park	486.9	TSF
		Self Storage	128.6	TSF
		Fast Food Restaurant w/ DT	4.65	TSF
		Service Station with Convenience Store	10	VFP

¹ DU = Dwelling Units; TSF = Thousand Square Feet; RM = Rooms; VFP = Vehicle Fueling Position

² For purposes of 2026 analysis conditions, the 2027 (Phase I) land uses of the Coachella Airport Business Park will be utilized.

This Page Intentionally Left Blank

APPENDIX 3.1: TRAFFIC COUNTS –2024

This Page Intentionally Left Blank

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

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

T101823

DATE: Thu, Jan 18, 24	LOCATION: NORTH & SOUTH: EAST & WEST:	Coachella Grapefruit Blvd Tyler St	PROJECT #: LOCATION #: CONTROL:	SC4392 8 STOP ALL
--------------------------	---	--	---------------------------------------	-------------------------

NOTES:	AM		▲	
	PM		N	
	MD	◀ W		E ▶
	OTHER		S	
	OTHER		▼	

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	Grapefruit Blvd			Grapefruit Blvd			Tyler St			Tyler St			
LANES:	NL 0	NT 1	NR X	SL X	ST 1	SR 1	EL 0	ET X	ER 0	WL X	WT X	WR X	TOTAL

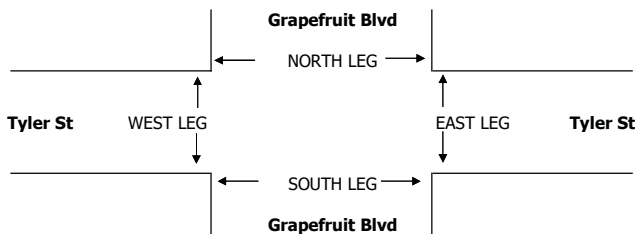
U-TURNS				
NB 0	SB 0	EB 0	WB 0	TTL

7:00 AM	2	57	0	0	39	44	60	0	1	0	0	0	203
7:15 AM	1	65	0	0	39	28	58	0	4	0	0	0	195
7:30 AM	3	77	0	0	51	23	70	0	0	0	0	0	224
7:45 AM	4	91	0	0	89	33	69	0	2	0	0	0	288
8:00 AM	2	78	0	0	81	35	35	0	1	0	0	0	232
8:15 AM	1	92	0	0	57	36	35	0	1	0	0	0	222
8:30 AM	1	77	0	0	54	30	43	0	0	0	0	0	205
8:45 AM	0	66	0	0	48	25	31	0	1	0	0	0	171
VOLUMES	14	603	0	0	458	254	401	0	10	0	0	0	1,740
APPROACH %	2%	98%	0%	0%	64%	36%	98%	0%	2%	0%	0%	0%	
APP/DEPART	617	/	1,004	712	/	468	411	/	0	0	/	268	0

[illegible]

BEGIN PEAK HR	7:30 AM												
VOLUMES	10	338	0	0	278	127	209	0	4	0	0	0	966
APPROACH %	3%	97%	0%	0%	69%	31%	98%	0%	2%	0%	0%	0%	
PEAK HR FACTOR	0.916			0.830			0.750			0.000			0.839
APP/DEPART	348	/	547	405	/	282	213	/	0	0	/	137	0

4:00 PM	4	103	0	0	128	90	61	0	2	0	0	0	388
4:15 PM	1	95	0	0	125	75	45	0	0	0	0	0	341
4:30 PM	4	90	0	0	138	76	56	0	0	0	0	0	364
4:45 PM	2	82	0	0	111	54	44	0	1	0	0	0	294
5:00 PM	3	95	0	0	124	60	46	0	1	0	0	0	329
5:15 PM	1	97	0	0	100	68	46	0	3	0	0	0	315
5:30 PM	2	77	0	0	111	63	59	0	0	0	0	0	312
5:45 PM	1	76	0	0	107	69	46	0	0	0	0	0	299
VOLUMES	18	715	0	0	944	555	403	0	7	0	0	0	2,642
APPROACH %	2%	98%	0%	0%	63%	37%	98%	0%	2%	0%	0%	0%	
APP/DEPART	733	/	1,118	1,499	/	951	410	/	0	0	/	573	0
BEGIN PEAK HR	4:00 PM			0	502	295	206	0	3	0	0	0	1,387
VOLUMES	11	370	0	0	502	295	206	0	3	0	0	0	
APPROACH %	3%	97%	0%	0%	63%	37%	99%	0%	1%	0%	0%	0%	
PEAK HR FACTOR	0.890			0.914			0.829			0.000			0.894
APP/DEPART	381	/	576	797	/	505	209	/	0	0	/	306	0

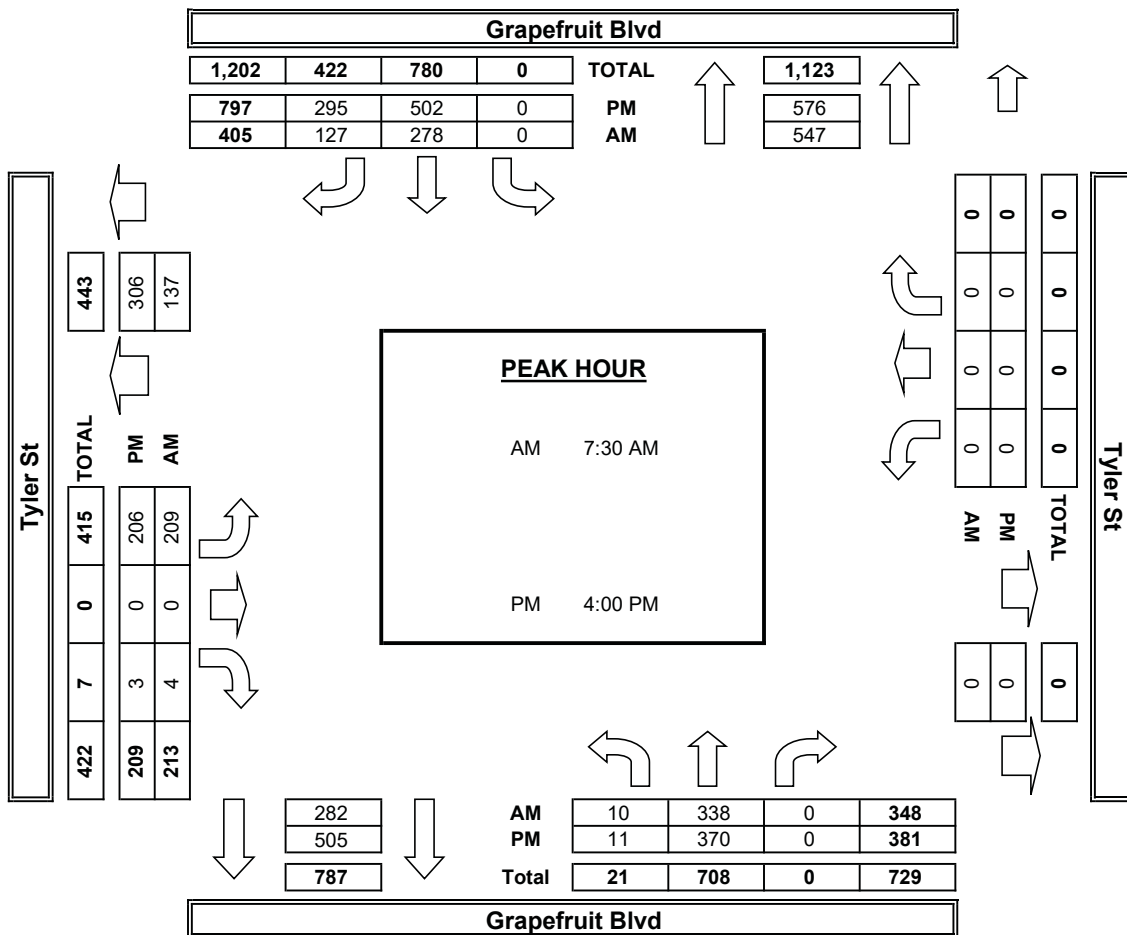
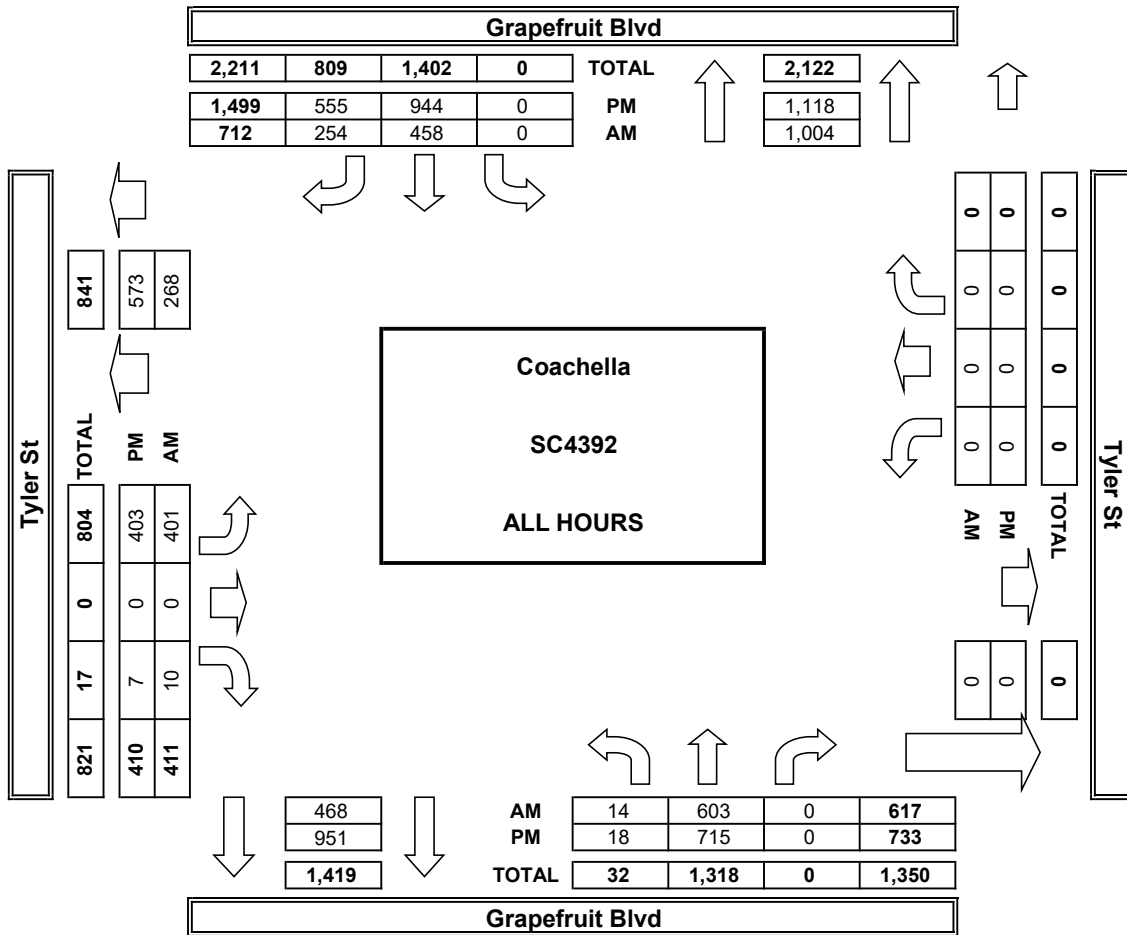
[illegible]

	7:00 AM
	7:15 AM
	7:30 AM
	7:45 AM
	8:00 AM
	8:15 AM
	8:30 AM
	8:45 AM
	TOTAL
BEGIN PEAK HR	
	4:00 PM
	4:15 PM
	4:30 PM
	4:45 PM
	5:00 PM
	5:15 PM
	5:30 PM
	5:45 PM
	TOTAL
BEGIN PEAK HR	

ALL PED + BIKE & SCOOTER				
N LEG	S LEG	E LEG	W LEG	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
7:30 AM				
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	0	0	0	1
0	0	0	0	0
0	0	0	0	0
1	0	0	0	1
4:00 PM				

[illegible][illegible]

AimTD LLC
TURNING MOVEMENT COUNTS



City of Coachella
N/S: Tyler Street
E/W: Avenue 53
Weather: Clear

File Name : 02_COA_Tyler_A53 AM
Site Code : 05124576
Start Date : 6/12/2024
Page No : 1

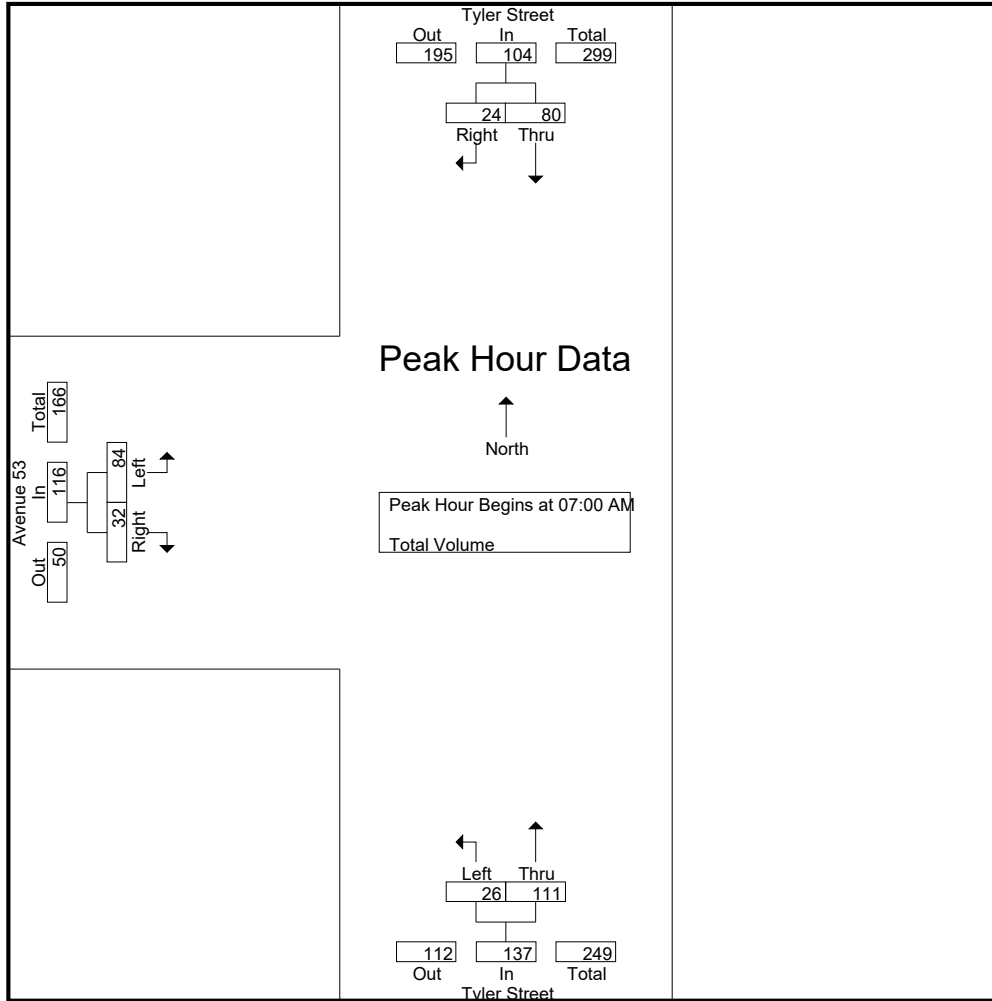
Groups Printed- Total Volume

	Tyler Street Southbound			Tyler Street Northbound			Avenue 53 Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
07:00 AM	35	6	41	3	33	36	13	10	23	100
07:15 AM	12	7	19	4	31	35	22	8	30	84
07:30 AM	21	6	27	10	24	34	23	5	28	89
07:45 AM	12	5	17	9	23	32	26	9	35	84
Total	80	24	104	26	111	137	84	32	116	357
08:00 AM	20	5	25	4	23	27	15	10	25	77
08:15 AM	8	15	23	5	15	20	8	8	16	59
08:30 AM	8	6	14	4	13	17	16	5	21	52
08:45 AM	16	10	26	6	18	24	18	3	21	71
Total	52	36	88	19	69	88	57	26	83	259
Grand Total	132	60	192	45	180	225	141	58	199	616
Apprch %	68.8	31.2		20	80		70.9	29.1		
Total %	21.4	9.7	31.2	7.3	29.2	36.5	22.9	9.4	32.3	

	Tyler Street Southbound			Tyler Street Northbound			Avenue 53 Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	35	6	41	3	33	36	13	10	23	100
07:15 AM	12	7	19	4	31	35	22	8	30	84
07:30 AM	21	6	27	10	24	34	23	5	28	89
07:45 AM	12	5	17	9	23	32	26	9	35	84
Total Volume	80	24	104	26	111	137	84	32	116	357
% App. Total	76.9	23.1		19	81		72.4	27.6		
PHF	.571	.857	.634	.650	.841	.951	.808	.800	.829	.893

City of Coachella
N/S: Tyler Street
E/W: Avenue 53
Weather: Clear

File Name : 02_COA_Tyler_A53 AM
Site Code : 05124576
Start Date : 6/12/2024
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:15 AM		
+0 mins.	35	6	41	3	33	36	22	8	30
+15 mins.	12	7	19	4	31	35	23	5	28
+30 mins.	21	6	27	10	24	34	26	9	35
+45 mins.	12	5	17	9	23	32	15	10	25
Total Volume	80	24	104	26	111	137	86	32	118
% App. Total	76.9	23.1		19	81		72.9	27.1	
PHF	.571	.857	.634	.650	.841	.951	.827	.800	.843

City of Coachella
N/S: Tyler Street
E/W: Avenue 53
Weather: Clear

File Name : 02_COA_Tyler_A53 PM
Site Code : 05124576
Start Date : 6/12/2024
Page No : 1

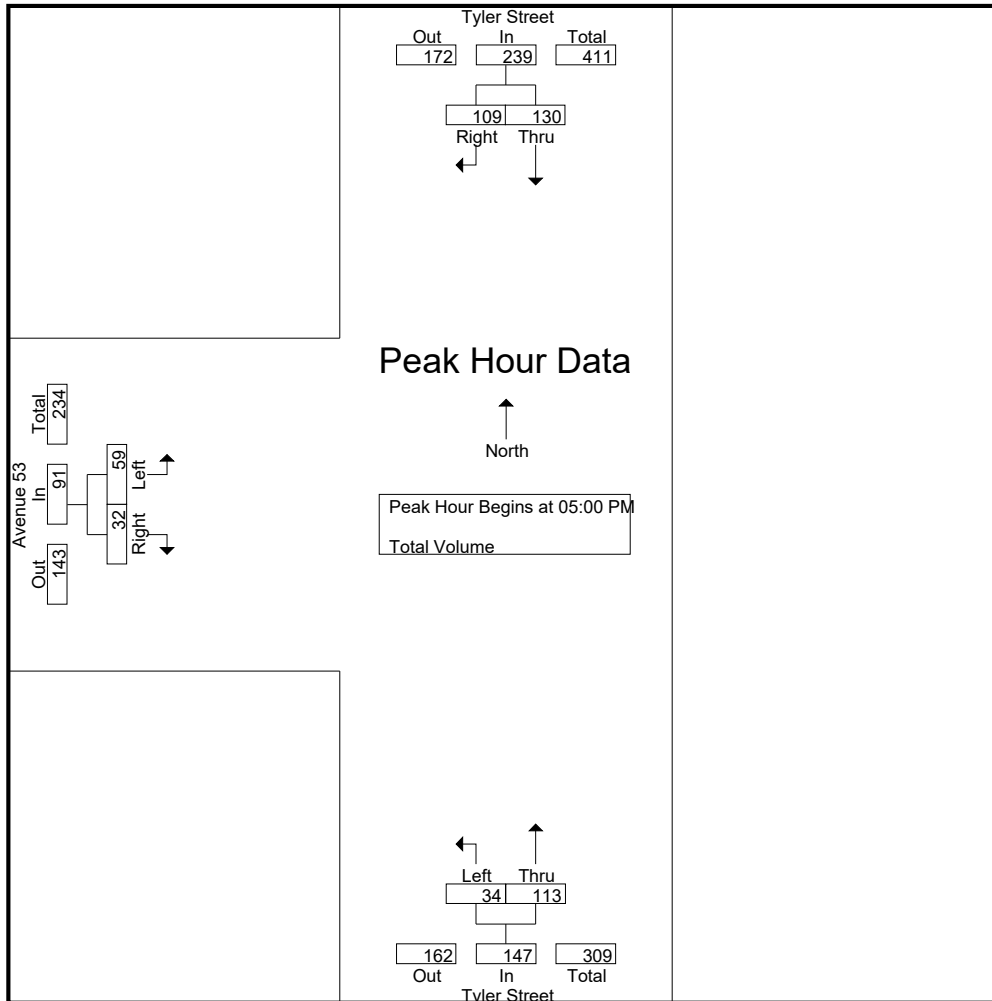
Groups Printed- Total Volume

	Tyler Street Southbound			Tyler Street Northbound			Avenue 53 Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
04:00 PM	22	32	54	7	33	40	12	7	19	113
04:15 PM	24	19	43	13	19	32	7	10	17	92
04:30 PM	27	21	48	15	21	36	10	11	21	105
04:45 PM	27	20	47	13	27	40	9	9	18	105
Total	100	92	192	48	100	148	38	37	75	415
05:00 PM	30	24	54	3	22	25	17	8	25	104
05:15 PM	31	34	65	10	13	23	15	5	20	108
05:30 PM	43	35	78	9	43	52	12	10	22	152
05:45 PM	26	16	42	12	35	47	15	9	24	113
Total	130	109	239	34	113	147	59	32	91	477
Grand Total	230	201	431	82	213	295	97	69	166	892
Apprch %	53.4	46.6		27.8	72.2		58.4	41.6		
Total %	25.8	22.5	48.3	9.2	23.9	33.1	10.9	7.7	18.6	

	Tyler Street Southbound			Tyler Street Northbound			Avenue 53 Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	30	24	54	3	22	25	17	8	25	104
05:15 PM	31	34	65	10	13	23	15	5	20	108
05:30 PM	43	35	78	9	43	52	12	10	22	152
05:45 PM	26	16	42	12	35	47	15	9	24	113
Total Volume	130	109	239	34	113	147	59	32	91	477
% App. Total	54.4	45.6		23.1	76.9		64.8	35.2		
PHF	.756	.779	.766	.708	.657	.707	.868	.800	.910	.785

City of Coachella
N/S: Tyler Street
E/W: Avenue 53
Weather: Clear

File Name : 02_COA_Tyler_A53 PM
Site Code : 05124576
Start Date : 6/12/2024
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:45 PM			04:00 PM			05:00 PM		
+0 mins.	27	20	47	7	33	40	17	8	25
+15 mins.	30	24	54	13	19	32	15	5	20
+30 mins.	31	34	65	15	21	36	12	10	22
+45 mins.	43	35	78	13	27	40	15	9	24
Total Volume	131	113	244	48	100	148	59	32	91
% App. Total	53.7	46.3		32.4	67.6		64.8	35.2	
PHF	.762	.807	.782	.800	.758	.925	.868	.800	.910

City of Coachella
N/S: Tyler Street
E/W: Armtec Entrance
Weather: Clear

File Name : 03_COA_Tyler_Arm AM
Site Code : 05124576
Start Date : 6/12/2024
Page No : 1

Groups Printed- Total Volume

	Tyler Street Southbound			Tyler Street Northbound			Armtec Entrance Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
07:00 AM	30	16	46	3	35	38	1	2	3	87
07:15 AM	16	4	20	0	35	35	0	0	0	55
07:30 AM	23	4	27	1	32	33	2	0	2	62
07:45 AM	22	0	22	1	33	34	0	1	1	57
Total	91	24	115	5	135	140	3	3	6	261
08:00 AM	27	1	28	0	25	25	0	0	0	53
08:15 AM	14	1	15	0	20	20	0	0	0	35
08:30 AM	10	1	11	1	14	15	1	0	1	27
08:45 AM	19	1	20	1	26	27	1	0	1	48
Total	70	4	74	2	85	87	2	0	2	163
Grand Total	161	28	189	7	220	227	5	3	8	424
Apprch %	85.2	14.8		3.1	96.9		62.5	37.5		
Total %	38	6.6	44.6	1.7	51.9	53.5	1.2	0.7	1.9	

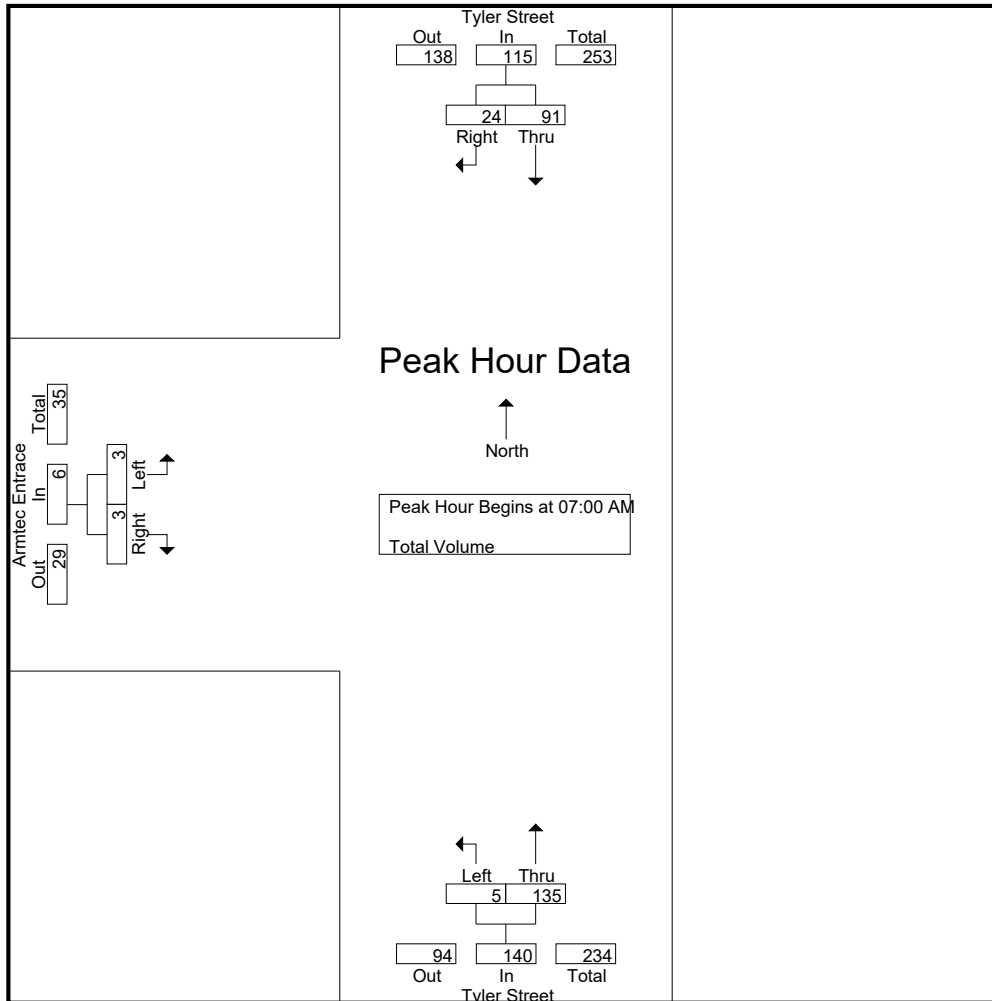
	Tyler Street Southbound			Tyler Street Northbound			Armtec Entrance Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
07:00 AM	30	16	46	3	35	38	1	2	3	87
07:15 AM	16	4	20	0	35	35	0	0	0	55
07:30 AM	23	4	27	1	32	33	2	0	2	62
07:45 AM	22	0	22	1	33	34	0	1	1	57
Total Volume	91	24	115	5	135	140	3	3	6	261
% App. Total	79.1	20.9		3.6	96.4		50	50		
PHF	.758	.375	.625	.417	.964	.921	.375	.375	.500	.750

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 07:00 AM

City of Coachella
N/S: Tyler Street
E/W: Armtec Entrance
Weather: Clear

File Name : 03_COA_Tyler_Arm AM
Site Code : 05124576
Start Date : 6/12/2024
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	30	16	46	3	35	38	1	2	3
+15 mins.	16	4	20	0	35	35	0	0	0
+30 mins.	23	4	27	1	32	33	2	0	2
+45 mins.	22	0	22	1	33	34	0	1	1
Total Volume	91	24	115	5	135	140	3	3	6
% App. Total	79.1	20.9		3.6	96.4		50	50	
PHF	.758	.375	.625	.417	.964	.921	.375	.375	.500

City of Coachella
N/S: Tyler Street
E/W: Armtec Entrance
Weather: Clear

File Name : 03_COA_Tyler_Arm PM
Site Code : 05124576
Start Date : 6/12/2024
Page No : 1

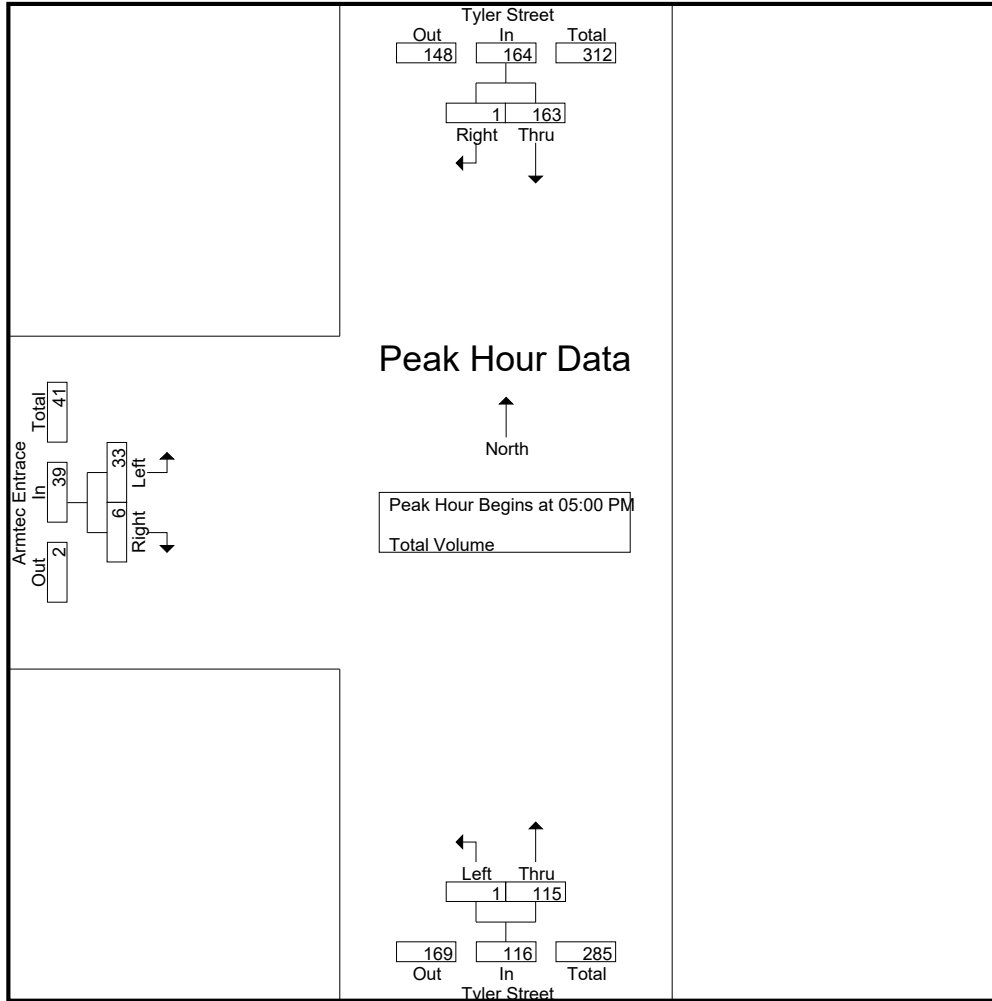
Groups Printed- Total Volume

	Tyler Street Southbound			Tyler Street Northbound			Armtec Entrance Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
04:00 PM	27	1	28	0	32	32	8	2	10	70
04:15 PM	33	1	34	0	29	29	5	1	6	69
04:30 PM	39	0	39	0	34	34	3	0	3	76
04:45 PM	35	1	36	0	39	39	4	0	4	79
Total	134	3	137	0	134	134	20	3	23	294
05:00 PM	39	0	39	0	18	18	4	1	5	62
05:15 PM	36	0	36	1	27	28	1	0	1	65
05:30 PM	52	1	53	0	26	26	23	5	28	107
05:45 PM	36	0	36	0	44	44	5	0	5	85
Total	163	1	164	1	115	116	33	6	39	319
Grand Total	297	4	301	1	249	250	53	9	62	613
Apprch %	98.7	1.3		0.4	99.6		85.5	14.5		
Total %	48.5	0.7	49.1	0.2	40.6	40.8	8.6	1.5	10.1	

	Tyler Street Southbound			Tyler Street Northbound			Armtec Entrance Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	39	0	39	0	18	18	4	1	5	62
05:15 PM	36	0	36	1	27	28	1	0	1	65
05:30 PM	52	1	53	0	26	26	23	5	28	107
05:45 PM	36	0	36	0	44	44	5	0	5	85
Total Volume	163	1	164	1	115	116	33	6	39	319
% App. Total	99.4	0.6		0.9	99.1		84.6	15.4		
PHF	.784	.250	.774	.250	.653	.659	.359	.300	.348	.745

City of Coachella
N/S: Tyler Street
E/W: Armtec Entrance
Weather: Clear

File Name : 03_COA_Tyler_Arm PM
Site Code : 05124576
Start Date : 6/12/2024
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:45 PM			04:00 PM			05:00 PM		
+0 mins.	35	1	36	0	32	32	4	1	5
+15 mins.	39	0	39	0	29	29	1	0	1
+30 mins.	36	0	36	0	34	34	23	5	28
+45 mins.	52	1	53	0	39	39	5	0	5
Total Volume	162	2	164	0	134	134	33	6	39
% App. Total	98.8	1.2		0	100		84.6	15.4	
PHF	.779	.500	.774	.000	.859	.859	.359	.300	.348

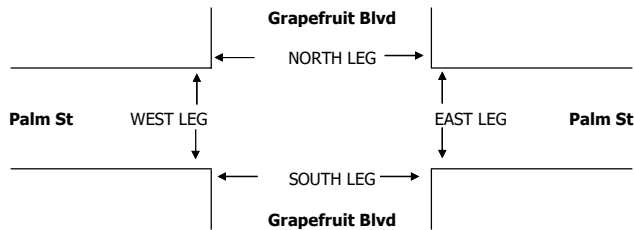
PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Thu, Jan 18, 24		LOCATION: NORTH & SOUTH: EAST & WEST:		Coachella Grapefruit Blvd Palm St		PROJECT #: LOCATION #: CONTROL:		SC4392 6 SIGNAL			
NOTES:						AM PM MD OTHER OTHER		◀ W S ▶ E		▲ N ▼	

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	Grapefruit Blvd			Grapefruit Blvd			Palm St			Palm St			
LANES:	NL 1	NT 1	NR X	SL X	ST 1	SR 1	EL 1	ET X	ER 1	WL X	WT X	WR X	TOTAL

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

AM	7:00 AM	9	58	0	0	38	10	16	0	9	0	0	0	140
	7:15 AM	7	68	0	0	32	8	10	0	3	0	0	0	128
	7:30 AM	5	95	0	0	31	16	13	0	4	0	0	0	164
	7:45 AM	7	82	0	0	62	33	15	0	6	0	0	0	205
	8:00 AM	9	95	0	0	73	19	15	0	10	0	0	0	221
	8:15 AM	9	85	0	0	46	18	11	0	9	0	0	0	178
	8:30 AM	5	73	0	0	36	12	13	0	3	0	0	0	142
	8:45 AM	8	51	0	0	40	14	15	0	4	0	0	0	132
	VOLUMES	59	607	0	0	358	130	108	0	48	0	0	0	1,310
	APPROACH %	9%	91%	0%	0%	73%	27%	69%	0%	31%	0%	0%	0%	
APP/DEPART	666	/	715	488	/	406	156	/	0	0	/	189	0	
BEGIN PEAK HR	7:30 AM													
VOLUMES	30	357	0	0	212	86	54	0	29	0	0	0	768	
APPROACH %	8%	92%	0%	0%	71%	29%	65%	0%	35%	0%	0%	0%		
PEAK HR FACTOR	0.930				0.784		0.830		0.000				0.869	
APP/DEPART	387	/	411	298	/	241	83	/	0	0	/	116	0	
PM	4:00 PM	7	79	0	0	135	27	30	0	5	0	0	0	283
	4:15 PM	4	64	0	0	114	40	21	0	10	0	0	0	253
	4:30 PM	11	75	0	0	132	27	33	0	8	0	0	0	286
	4:45 PM	5	65	0	0	106	24	28	0	16	0	0	0	244
	5:00 PM	11	81	0	0	127	20	25	0	7	0	0	0	271
	5:15 PM	9	73	0	0	97	24	21	0	7	0	0	0	231
	5:30 PM	7	86	0	0	112	21	10	0	11	0	0	0	247
	5:45 PM	8	70	0	0	105	22	17	0	6	0	0	0	228
	VOLUMES	62	593	0	0	928	205	185	0	70	0	0	0	2,043
	APPROACH %	9%	91%	0%	0%	82%	18%	73%	0%	27%	0%	0%	0%	
	APP/DEPART	655	/	778	1,133	/	998	255	/	0	0	/	267	0
	BEGIN PEAK HR	4:00 PM												
	VOLUMES	27	283	0	0	487	118	112	0	39	0	0	0	1,066
	APPROACH %	9%	91%	0%	0%	80%	20%	74%	0%	26%	0%	0%	0%	
PEAK HR FACTOR	0.901				0.934		0.858		0.000				0.932	
APP/DEPART	310	/	395	605	/	526	151	/	0	0	/	145	0	

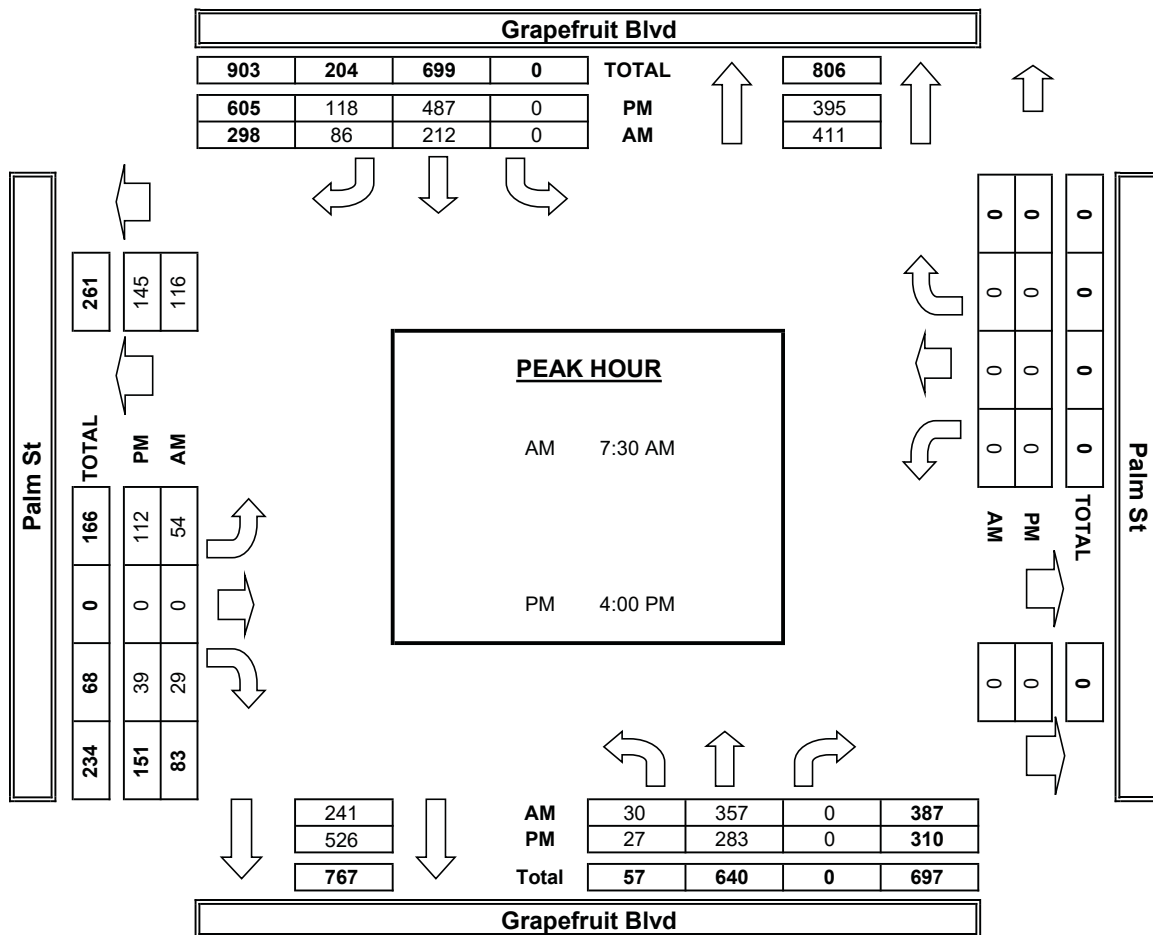
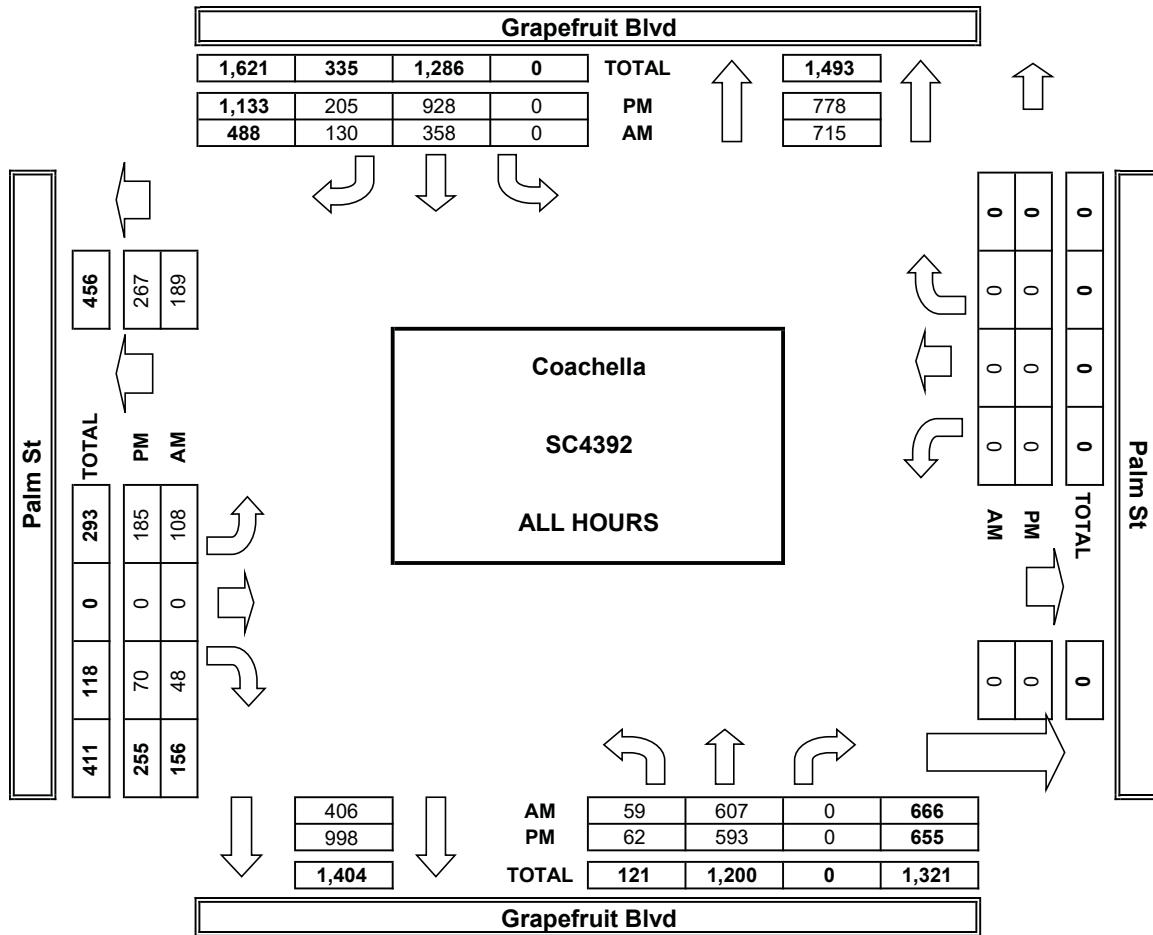
[illegible][illegible]

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
	TOTAL	
	BEGIN PEAK HR	
PM		4:00 PM
		4:15 PM
		4:30 PM
		4:45 PM
		5:00 PM
		5:15 PM
		5:30 PM
		5:45 PM
	TOTAL	
	BEGIN PEAK HR	

ALL PED + BIKE & SCOOTER					
N LEG	S LEG	E LEG	W LEG	TOTAL	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
7:30 AM					
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	1	1	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
8:00 PM					
0	0	0	1	1	

[illegible][illegible]

AimTD LLC
TURNING MOVEMENT COUNTS

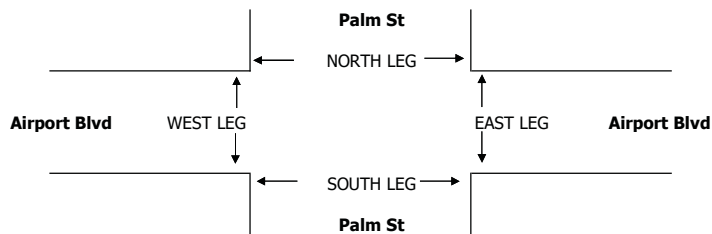


PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

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

DATE: Thu, Jan 18, 24	LOCATION: NORTH & SOUTH: EAST & WEST:	Coachella Palm St Airport Blvd	PROJECT #: LOCATION #: CONTROL:	SC4392 4 SIGNAL
NOTES:			AM PM MD OTHER OTHER	▲ N ▼ ◀ W S ▶ E

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	Palm St			Palm St			Airport Blvd			Airport Blvd			
LANES:	NL X	NT X	NR X	SL 1	ST X	SR 0	EL 1	ET 2	ER X	WL X	WT 2	WR 0	TOTAL
7:00 AM	0	0	0	10	0	9	4	44	0	0	90	21	178
7:15 AM	0	0	0	8	0	5	3	44	0	0	57	12	129
7:30 AM	0	0	0	9	0	12	6	35	0	0	98	8	168
7:45 AM	0	0	0	15	0	22	3	50	0	0	87	19	196
8:00 AM	0	0	0	11	0	13	4	37	0	0	102	14	181
8:15 AM	0	0	0	18	0	13	6	43	0	0	56	14	150
8:30 AM	0	0	0	10	0	9	8	36	0	0	44	10	117
8:45 AM	0	0	0	9	0	13	9	34	0	0	48	10	123
VOLUMES	0	0	0	90	0	96	43	323	0	0	582	108	1,242
APPROACH %	0%	0%	0%	48%	0%	52%	12%	88%	0%	0%	84%	16%	
APP/DEPART	0	/	151	186	/	0	366	/	413	690	/	678	0
BEGIN PEAK HR	7:30 AM												
VOLUMES	0	0	0	53	0	60	19	165	0	0	343	55	695
APPROACH %	0%	0%	0%	47%	0%	53%	10%	90%	0%	0%	86%	14%	
PEAK HR FACTOR	0.000			0.764			0.868			0.858			0.886
APP/DEPART	0	/	74	113	/	0	184	/	218	398	/	403	0
4:00 PM	0	0	0	22	0	13	14	73	0	0	47	25	194
4:15 PM	0	0	0	27	0	13	9	74	0	0	25	20	168
4:30 PM	0	0	0	25	0	20	16	83	0	0	48	25	217
4:45 PM	0	0	0	13	0	12	12	61	0	0	53	27	178
5:00 PM	0	0	0	23	0	8	11	60	0	0	59	17	178
5:15 PM	0	0	0	25	0	8	7	71	0	0	39	21	171
5:30 PM	0	0	0	15	0	14	5	57	0	0	52	19	162
5:45 PM	0	0	0	19	0	8	8	51	0	0	35	15	136
VOLUMES	0	0	0	169	0	96	82	530	0	0	358	169	1,404
APPROACH %	0%	0%	0%	64%	0%	36%	13%	87%	0%	0%	68%	32%	
APP/DEPART	0	/	251	265	/	0	612	/	699	527	/	454	0
BEGIN PEAK HR	4:00 PM												
VOLUMES	0	0	0	87	0	58	51	291	0	0	173	97	757
APPROACH %	0%	0%	0%	60%	0%	40%	15%	85%	0%	0%	64%	36%	
PEAK HR FACTOR	0.000			0.806			0.864			0.844			0.872
APP/DEPART	0	/	148	145	/	0	342	/	378	270	/	231	0

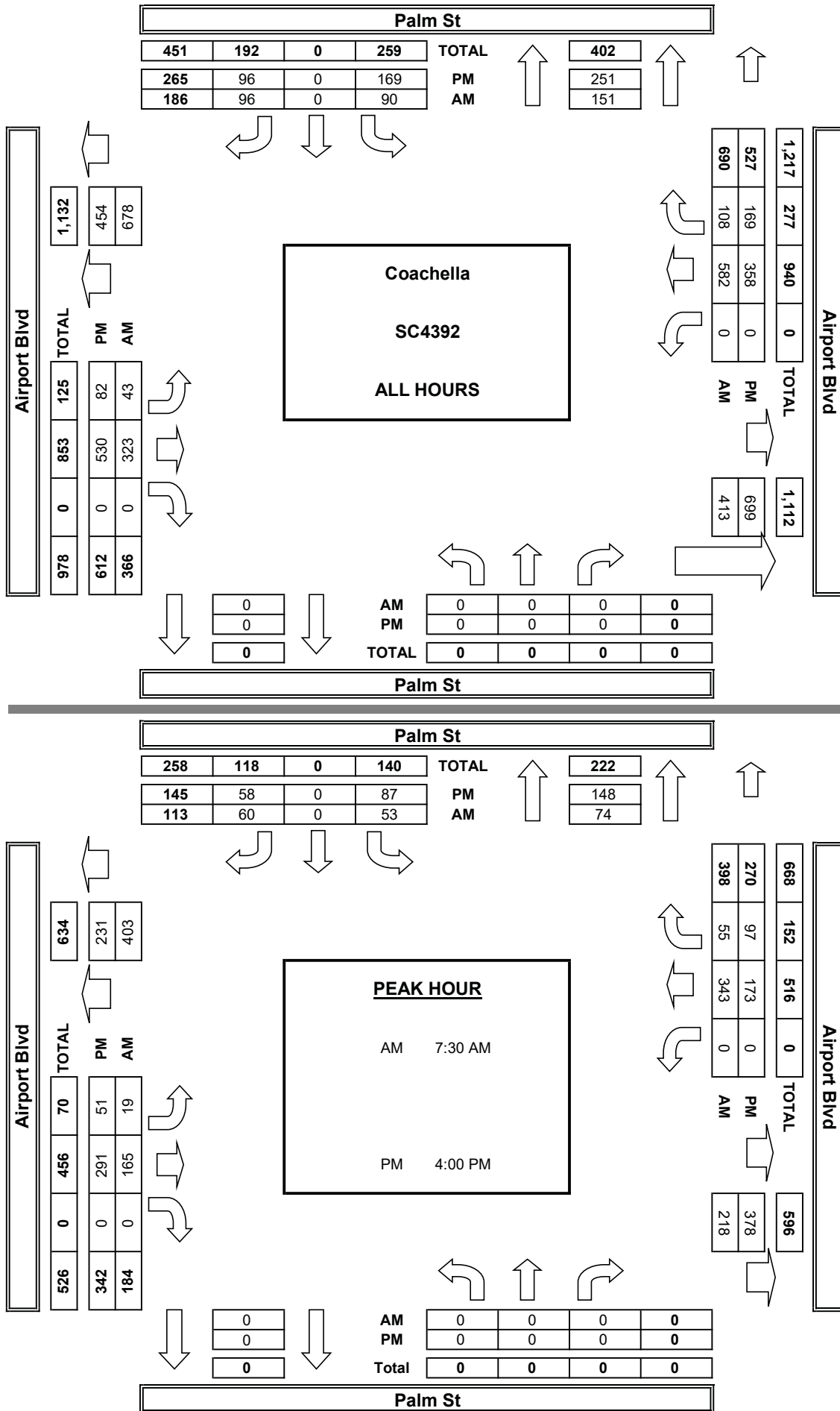
[illegible][illegible]

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
	TOTAL	
BEGIN PEAK HR		
PM		4:00 PM
		4:15 PM
		4:30 PM
		4:45 PM
		5:00 PM
		5:15 PM
		5:30 PM
	5:45 PM	
	TOTAL	
BEGIN PEAK HR		

ALL PED + BIKE & SCOOTER				
N LEG	S LEG	E LEG	W LEG	TOTAL
0	0	0	1	1
0	0	0	0	0
0	0	0	0	0
0	0	0	1	1
0	0	0	1	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	3	3
7:30 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	0	0	0
4:00 PM				

[illegible][illegible]

AimTD LLC
TURNING MOVEMENT COUNTS



ADT3 Airport Blvd between Project Dwy and Palm St.

Prepared by AimTD LLC tel. 714 253 7888

AM Period	EB		WB		PM Period		EB		WB		
0:00	6		3		12:00		44		58		
0:15	3		6		12:15		48		45		
0:30	1		5		12:30		42		36		
0:45	3	13	1	15	28	12:45	49	183	49	188	371
1:00	3		2		13:00		61		63		
1:15	1		3		13:15		50		62		
1:30	1		5		13:30		65		74		
1:45	2	7	4	14	21	13:45	73	249	67	266	515
2:00	3		3		14:00		75		67		
2:15	4		4		14:15		67		71		
2:30	1		0		14:30		94		74		
2:45	1	9	0	7	16	14:45	98	334	84	296	630
3:00	1		3		15:00		107		78		
3:15	4		2		15:15		97		73		
3:30	17		9		15:30		81		63		
3:45	14	36	12	26	62	15:45	71	356	58	272	628
4:00	9		13		16:00		95		72		
4:15	9		9		16:15		101		45		
4:30	10		25		16:30		108		73		
4:45	33	61	33	80	141	16:45	74	378	80	270	648
5:00	27		26		17:00		83		76		
5:15	43		27		17:15		96		60		
5:30	28		49		17:30		72		71		
5:45	63	161	62	164	325	17:45	70	321	50	257	578
6:00	52		71		18:00		59		41		
6:15	75		91		18:15		63		52		
6:30	59		100		18:30		59		40		
6:45	52	238	119	381	619	18:45	48	229	30	163	392
7:00	54		111		19:00		30		27		
7:15	52		69		19:15		41		27		
7:30	44		106		19:30		29		21		
7:45	65	215	106	392	607	19:45	34	134	25	100	234
8:00	48		116		20:00		26		31		
8:15	61		70		20:15		19		18		
8:30	46		54		20:30		27		19		
8:45	43	198	58	298	496	20:45	26	98	14	82	180
9:00	34		52		21:00		21		20		
9:15	24		57		21:15		28		24		
9:30	37		51		21:30		25		15		
9:45	32	127	37	197	324	21:45	14	88	18	77	165
10:00	36		53		22:00		16		13		
10:15	49		33		22:15		14		11		
10:30	34		39		22:30		12		11		
10:45	28	147	39	164	311	22:45	10	52	12	47	99
11:00	37		46		23:00		10		6		
11:15	33		47		23:15		3		9		
11:30	37		43		23:30		9		8		
11:45	42	149	43	179	328	23:45	7	29	8	31	60

Total Vol.

1361 1917 3278

Daily Totals

EB

WB

Combined

3812

3966

7778

AM

PM

Split %	41.5%	58.5%	42.1%		54.5%	45.5%	57.9%
Peak Hour	5:45	6:15	6:15		14:30	14:30	14:30
Volume	249	421	661		396	309	705
P.H.F.	0.83	0.88	0.97		0.93	0.92	0.95

Thursday, January 18, 2024

CITY: Coachella

PROJECT: SC4392

ADT4 Airport Blvd between Palm St and Polk St.

Prepared by AimTD LLC tel. 714 253 7888

AM Period	EB		WB		PM Period		EB		WB		
0:00	8		3		12:00		42		46		
0:15	2		8		12:15		51		43		
0:30	1		6		12:30		34		34		
0:45	2	13	1	18	31	12:45	39	166	38	161	327
1:00	2		1		13:00		52		50		
1:15	1		3		13:15		46		60		
1:30	0		3		13:30		62		55		
1:45	2	5	3	10	15	13:45	63	223	59	224	447
2:00	2		2		14:00		67		55		
2:15	4		4		14:15		62		63		
2:30	1		0		14:30		93		70		
2:45	1	8	0	6	14	14:45	96	318	71	259	577
3:00	1		3		15:00		98		72		
3:15	3		4		15:15		89		68		
3:30	10		9		15:30		85		62		
3:45	9	23	11	27	50	15:45	58	330	54	256	586
4:00	7		12		16:00		87		60		
4:15	5		9		16:15		83		38		
4:30	10		24		16:30		99		68		
4:45	23	45	30	75	120	16:45	73	342	65	231	573
5:00	18		25		17:00		71		67		
5:15	29		29		17:15		78		47		
5:30	19		49		17:30		62		66		
5:45	54	120	57	160	280	17:45	59	270	43	223	493
6:00	46		64		18:00		47		46		
6:15	61		84		18:15		49		48		
6:30	46		105		18:30		50		27		
6:45	44	197	121	374	571	18:45	33	179	22	143	322
7:00	48		99		19:00		23		24		
7:15	47		62		19:15		33		28		
7:30	41		110		19:30		14		16		
7:45	53	189	109	380	569	19:45	27	97	17	85	182
8:00	41		115		20:00		15		25		
8:15	49		69		20:15		16		14		
8:30	44		53		20:30		23		18		
8:45	43	177	61	298	475	20:45	21	75	15	72	147
9:00	35		43		21:00		15		17		
9:15	23		54		21:15		25		19		
9:30	33		48		21:30		19		12		
9:45	25	116	31	176	292	21:45	11	70	17	65	135
10:00	36		45		22:00		14		16		
10:15	47		31		22:15		12		10		
10:30	33		27		22:30		11		11		
10:45	26	142	34	137	279	22:45	4	41	11	48	89
11:00	32		36		23:00		8		5		
11:15	30		44		23:15		3		8		
11:30	35		40		23:30		5		9		
11:45	34	131	36	156	287	23:45	6	22	7	29	51
Total Vol.	1166		1817		2983	2133		1796		3929	

Total Vol.

1166

1817

2983

2133

1796

3929

Daily Totals

EB

WB

Combined

3299

3613

6912

AM

PM

Split %	39.1%	60.9%	43.2%		54.3%	45.7%	56.8%
Peak Hour	5:45	6:15	6:15		14:30	14:30	14:30
Volume	207	409	608		376	281	657
P.H.F.	0.85	0.85	0.92		0.96	0.98	0.97

cs@aimtd.com

Tell. 714 253 7888

ADT5 Grapefruit Blvd between Palm St and Ave 54.

Prepared by AimTD LLC tel. 714 253 7888

AM Period	NB		SB		PM Period		NB		SB	
0:00	8		16		12:00	78		81		
0:15	5		13		12:15	79		75		
0:30	3		6		12:30	77		70		
0:45	1	17	4	39	56	12:45	68	302	70	296
1:00	5		4		13:00	70		88		
1:15	2		5		13:15	86		102		
1:30	3		4		13:30	96		95		
1:45	3	13	2	15	28	13:45	84	336	92	377
2:00	1		2		14:00	98		114		
2:15	1		3		14:15	119		95		
2:30	5		4		14:30	110		121		
2:45	1	8	1	10	18	14:45	123	450	120	450
3:00	6		2		15:00	139		127		
3:15	1		2		15:15	143		124		
3:30	10		11		15:30	117		143		
3:45	11	28	15	30	58	15:45	115	514	152	546
4:00	10		11		16:00	109		162		
4:15	21		10		16:15	85		154		
4:30	24		11		16:30	108		159		
4:45	46	101	24	56	157	16:45	93	395	130	605
5:00	30		39		17:00	106		147		
5:15	38		57		17:15	94		121		
5:30	65		73		17:30	96		133		
5:45	70	203	90	259	462	17:45	87	383	127	528
6:00	76		89		18:00	63		126		
6:15	81		71		18:15	56		109		
6:30	90		69		18:30	65		74		
6:45	88	335	79	308	643	18:45	40	224	84	393
7:00	74		48		19:00	57		65		
7:15	78		40		19:15	43		71		
7:30	108		47		19:30	19		69		
7:45	97	357	95	230	587	19:45	29	148	52	257
8:00	110		92		20:00	32		68		
8:15	96		64		20:15	22		61		
8:30	86		48		20:30	24		48		
8:45	66	358	54	258	616	20:45	25	103	44	221
9:00	62		46		21:00	16		53		
9:15	46		50		21:15	25		37		
9:30	64		59		21:30	28		43		
9:45	59	231	53	208	439	21:45	17	86	32	165
10:00	60		42		22:00	14		33		
10:15	69		41		22:15	7		30		
10:30	56		43		22:30	8		28		
10:45	51	236	51	177	413	22:45	7	36	18	109
11:00	65		68		23:00	6		18		
11:15	71		57		23:15	8		18		
11:30	72		53		23:30	4		13		
11:45	70	278	67	245	523	23:45	5	23	8	57
Total Vol.	2165		1835		4000		3000		4004	7004
						Daily Totals				
						NB		SB		Combined
						5165		5839		11004
AM					PM					
Split %	54.1%		45.9%		36.4%		42.8%		57.2%	63.6%
Peak Hour	7:30		5:30		7:30		14:45		15:45	15:15
Volume	411		323		709		522		627	1065
P.H.F.	0.93		0.90		0.88		0.96		0.97	0.98

ADT6 Grapefruit Blvd between Avenue 54 and Tyler St.

Prepared by AimTD LLC tel. 714 253 7888

AM Period	NB		SB		PM Period	NB		SB	
0:00	15		13		12:00	81		68	
0:15	9		4		12:15	70		62	
0:30	0		3		12:30	87		70	
0:45	2	26	5	25	12:45	57	295	72	272
									567
1:00	6		4		13:00	71		86	
1:15	0		2		13:15	76		86	
1:30	2		2		13:30	79		81	
1:45	2	10	2	10	13:45	75	301	89	342
									643
2:00	1		1		14:00	83		93	
2:15	2		2		14:15	93		87	
2:30	3		2		14:30	99		104	
2:45	1	7	2	7	14:45	104	379	93	377
									756
3:00	5		3		15:00	109		112	
3:15	1		5		15:15	118		114	
3:30	4		10		15:30	109		109	
3:45	5	15	15	33	15:45	104	440	129	464
									904
4:00	11		6		16:00	107		130	
4:15	10		9		16:15	96		125	
4:30	11		11		16:30	94		138	
4:45	25	57	24	50	16:45	84	381	112	505
									886
5:00	21		31		17:00	98		125	
5:15	30		56		17:15	98		103	
5:30	32		78		17:30	79		111	
5:45	41	124	93	258	17:45	77	352	107	446
									798
6:00	49		80		18:00	71		105	
6:15	60		65		18:15	51		85	
6:30	63		67		18:30	57		71	
6:45	65	237	75	287	18:45	46	225	70	331
									556
7:00	59		40		19:00	50		57	
7:15	66		43		19:15	38		54	
7:30	80		51		19:30	19		59	
7:45	95	300	91	225	19:45	26	133	56	226
									359
8:00	80		82		20:00	27		58	
8:15	93		58		20:15	12		39	
8:30	78		54		20:30	27		47	
8:45	66	317	49	243	20:45	18	84	38	182
									266
9:00	54		40		21:00	11		45	
9:15	50		62		21:15	20		30	
9:30	54		56		21:30	24		30	
9:45	38	196	47	205	21:45	19	74	31	136
									210
10:00	48		45		22:00	20		26	
10:15	59		35		22:15	5		26	
10:30	55		34		22:30	8		18	
10:45	53	215	51	165	22:45	6	39	13	83
									122
11:00	54		63		23:00	7		13	
11:15	72		64		23:15	4		14	
11:30	61		48		23:30	4		8	
11:45	61	248	68	243	23:45	4	19	5	40
									59
Total Vol.	1752		1751		3503		2722	3404	6126
					Daily Totals				
						NB	SB		Combined
						4474	5155		9629
AM					PM				
Split %	50.0%	50.0%	36.4%		44.4%	55.6%	63.6%		
Peak Hour	7:30	5:30	7:45		14:45	15:45	15:45		
Volume	348	316	631		440	522	923		
P.H.F.	0.92	0.85	0.85		0.95	0.95	0.97		

ADT7 Grapefruit Blvd between Tyler St and 52nd Ave.

Prepared by AimTD LLC tel. 714 253 7888

AM Period	NB		SB			PM Period	NB		SB		
0:00	19		21			12:00	108		89		
0:15	9		10			12:15	99		92		
0:30	0		4			12:30	106		100		
0:45	5	33	4	39	72	12:45	82	395	105	386	781
1:00	8		5			13:00	92		125		
1:15	0		5			13:15	108		115		
1:30	5		4			13:30	121		105		
1:45	6	19	6	20	39	13:45	116	437	124	469	906
2:00	6		3			14:00	119		132		
2:15	3		4			14:15	137		123		
2:30	14		6			14:30	156		158		
2:45	4	27	16	29	56	14:45	141	553	153	566	1119
3:00	9		6			15:00	144		179		
3:15	3		11			15:15	163		186		
3:30	8		14			15:30	157		190		
3:45	12	32	29	60	92	15:45	166	630	220	775	1405
4:00	17		7			16:00	164		218		
4:15	17		8			16:15	140		200		
4:30	20		19			16:30	146		214		
4:45	38	92	29	63	155	16:45	126	576	165	797	1373
5:00	39		38			17:00	141		184		
5:15	56		63			17:15	143		168		
5:30	52		93			17:30	136		174		
5:45	80	227	118	312	539	17:45	122	542	176	702	1244
6:00	86		97			18:00	115		164		
6:15	95		89			18:15	77		136		
6:30	117		100			18:30	90		111		
6:45	116	414	123	409	823	18:45	73	355	107	518	873
7:00	117		83			19:00	84		92		
7:15	123		67			19:15	49		87		
7:30	147		74			19:30	38		95		
7:45	160	547	122	346	893	19:45	41	212	83	357	569
8:00	113		116			20:00	40		83		
8:15	127		93			20:15	31		75		
8:30	120		84			20:30	32		73		
8:45	97	457	73	366	823	20:45	31	134	55	286	420
9:00	76		64			21:00	14		71		
9:15	79		82			21:15	31		48		
9:30	71		74			21:30	31		45		
9:45	63	289	84	304	593	21:45	25	101	48	212	313
10:00	69		73			22:00	28		32		
10:15	88		55			22:15	9		38		
10:30	79		55			22:30	16		33		
10:45	77	313	74	257	570	22:45	10	63	26	129	192
11:00	72		86			23:00	9		22		
11:15	100		92			23:15	6		22		
11:30	91		61			23:30	10		19		
11:45	92	355	107	346	701	23:45	9	34	8	71	105
Total Vol.	2805		2551		5356		4032		5268		9300
						Daily Totals					
						NB		SB		Combined	
						6837		7819		14656	
AM						PM					
Split %	52.4%		47.6%		36.5%		43.4%		56.6%		63.5%
Peak Hour	7:00		7:45		7:30		15:15		15:45		15:45
Volume	547		415		952		650		852		1468
P.H.F.	0.85		0.85		0.84		0.98		0.97		0.95

Counts Unlimited, Inc.

City of Coachella
Avenue 53
W/ Tyler Street
24 Hour Directional Volume Count

PO Box 1178
Corona, CA 92878
(951) 268-6268
email: counts@countsunlimited.com

COA003
Site Code: 051-24576

Start Time	6/12/24 Wed	Eastbound		Hour Totals		Westbound		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		1	5			5	12				
12:15		0	7			2	9				
12:30		0	4			2	20				
12:45		1	6	2	22	1	9	10	50	12	72
01:00		0	4			0	16				
01:15		0	7			1	9				
01:30		1	7			2	22				
01:45		1	6	2	24	0	15	3	62	5	86
02:00		0	6			2	19				
02:15		2	4			0	30				
02:30		0	10			3	32				
02:45		4	8	6	28	2	28	7	109	13	137
03:00		3	8			1	23				
03:15		6	11			1	30				
03:30		2	4			1	16				
03:45		2	5	13	28	1	17	4	86	17	114
04:00		2	10			1	30				
04:15		1	4			1	23				
04:30		7	8			0	29				
04:45		8	9	18	31	1	20	3	102	21	133
05:00		14	7			2	18				
05:15		13	8			8	28				
05:30		9	7			6	24				
05:45		8	10	44	32	2	13	18	83	62	115
06:00		8	9			3	30				
06:15		4	10			4	11				
06:30		10	7			4	14				
06:45		9	8	31	34	7	20	18	75	49	109
07:00		7	6			8	19				
07:15		8	8			7	14				
07:30		10	7			13	15				
07:45		10	12	35	33	12	14	40	62	75	95
08:00		7	6			6	30				
08:15		6	7			16	18				
08:30		6	11			7	13				
08:45		7	5	26	29	10	16	39	77	65	106
09:00		3	5			9	7				
09:15		5	3			5	10				
09:30		1	2			5	17				
09:45		6	3	15	13	12	5	31	39	46	52
10:00		4	4			9	8				
10:15		6	4			15	9				
10:30		3	2			8	8				
10:45		5	2	18	12	10	5	42	30	60	42
11:00		6	5			11	4				
11:15		2	1			5	4				
11:30		9	0			8	1				
11:45		7	3	24	9	12	4	36	13	60	22
Total		234	295	234	295	251	788	251	788	485	1083
Combined Total		529		529		1039		1039		1568	
AM Peak	-	04:45	-	-	-	07:30	-	-	-	-	-
Vol.	-	44	-	-	-	47	-	-	-	-	-
P.H.F.		0.786				0.734					
PM Peak	-	-	02:30	-	-	-	02:15	-	-	-	-
Vol.	-	-	37	-	-	-	113	-	-	-	-
P.H.F.			0.841				0.883				
Percentage		44.2%	55.8%			24.2%	75.8%				
ADT/AADT		ADT 1,568		AADT 1,568							

Counts Unlimited, Inc.

City of Coachella
Tyler Street
B/ Avenue 53 - Armtec Entrance
24 Hour Directional Volume Count

PO Box 1178
Corona, CA 92878
(951) 268-6268
email: counts@countsunlimited.com

COA002
Site Code: 051-24576

Start Time	6/12/24 Wed	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		8	40			6	25				
12:15		2	27			2	30				
12:30		3	42			3	32				
12:45		0	17	13	126	3	30	14	117	27	243
01:00		0	24			1	38				
01:15		2	32			2	39				
01:30		2	38			2	36				
01:45		2	35	6	129	3	33	8	146	14	275
02:00		8	26			1	43				
02:15		1	46			6	26				
02:30		16	79			9	42				
02:45		3	49	28	200	19	45	35	156	63	356
03:00		6	42			9	46				
03:15		2	40			13	51				
03:30		5	45			9	54				
03:45		2	48	15	175	18	47	49	198	64	373
04:00		8	39			6	31				
04:15		5	34			9	35				
04:30		4	36			13	39				
04:45		6	43	23	152	24	38	52	143	75	295
05:00		21	22			36	38				
05:15		37	28			33	37				
05:30		26	50			30	53				
05:45		27	47	111	147	38	38	137	166	248	313
06:00		29	37			28	44				
06:15		30	35			35	35				
06:30		31	24			26	30				
06:45		44	20	134	116	48	20	137	129	271	245
07:00		41	19			44	18				
07:15		35	20			19	28				
07:30		34	25			28	25				
07:45		34	15	144	79	23	22	114	93	258	172
08:00		27	28			29	26				
08:15		24	23			16	26				
08:30		16	18			15	23				
08:45		26	13	93	82	20	27	80	102	173	184
09:00		25	11			18	17				
09:15		19	14			26	24				
09:30		27	15			15	25				
09:45		23	9	94	49	25	10	84	76	178	125
10:00		22	9			23	14				
10:15		22	5			22	21				
10:30		17	8			20	10				
10:45		22	3	83	25	26	3	91	48	174	73
11:00		19	6			23	14				
11:15		20	6			21	8				
11:30		27	4			19	6				
11:45		29	4	95	20	21	10	84	38	179	58
Total		839	1300	839	1300	885	1412	885	1412	1724	2712
Combined Total		2139		2139		2297		2297		4436	
AM Peak	-	06:45	-	-	-	06:15	-	-	-	-	-
Vol.	-	154	-	-	-	153	-	-	-	-	-
P.H.F.		0.875				0.797					
PM Peak	-	-	02:15	-	-	-	03:00	-	-	-	-
Vol.	-	-	216	-	-	-	198	-	-	-	-
P.H.F.			0.684				0.917				
Percentage		39.2%	60.8%			38.5%	61.5%				
ADT/AADT		ADT 4,436		AADT 4,436							

Counts Unlimited, Inc.

City of Coachella
Tyler Street
S/ Grapefruit Boulevard
24 Hour Directional Volume Count

PO Box 1178
Corona, CA 92878
(951) 268-6268
email: counts@countsunlimited.com

COA001
Site Code: 051-24576

Start Time	6/12/24 Wed	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		5	42			5	29				
12:15		3	29			4	30				
12:30		2	44			8	44				
12:45		1	30	11	145	1	38	18	141	29	286
01:00		1	22			1	43				
01:15		2	42			4	43				
01:30		2	36			1	62				
01:45		3	47	8	147	3	48	9	196	17	343
02:00		6	23			5	57				
02:15		1	31			5	56				
02:30		11	69			8	52				
02:45		3	37	21	160	16	55	34	220	55	380
03:00		4	44			4	68				
03:15		6	36			8	63				
03:30		9	50			7	67				
03:45		3	44	22	174	15	53	34	251	56	425
04:00		8	44			3	52				
04:15		9	25			3	50				
04:30		18	32			7	44				
04:45		26	41	61	142	11	52	24	198	85	340
05:00		27	35			13	54				
05:15		46	32			18	66				
05:30		38	53			17	79				
05:45		42	52	153	172	30	43	78	242	231	414
06:00		43	31			30	63				
06:15		42	48			31	38				
06:30		44	32			21	42				
06:45		53	26	182	137	44	31	126	174	308	311
07:00		53	26			39	37				
07:15		54	28			21	33				
07:30		49	29			30	31				
07:45		49	21	205	104	17	28	107	129	312	233
08:00		37	29			21	46				
08:15		26	31			26	41				
08:30		27	22			15	32				
08:45		41	25	131	107	24	43	86	162	217	269
09:00		33	14			28	25				
09:15		24	14			25	29				
09:30		34	16			19	44				
09:45		31	12	122	56	28	14	100	112	222	168
10:00		30	9			27	15				
10:15		33	9			32	29				
10:30		26	7			27	15				
10:45		31	3	120	28	36	8	122	67	242	95
11:00		23	3			28	11				
11:15		25	8			20	12				
11:30		36	5			23	10				
11:45		38	4	122	20	25	10	96	43	218	63
Total		1158	1392	1158	1392	834	1935	834	1935	1992	3327
Combined Total		2550		2550		2769		2769		5319	
AM Peak	-	06:45	-	-	-	06:15	-	-	-	-	-
Vol.	-	209	-	-	-	135	-	-	-	-	-
P.H.F.		0.968				0.767					
PM Peak	-	-	02:30	-	-	-	02:45	-	-	-	-
Vol.	-	-	186	-	-	-	253	-	-	-	-
P.H.F.			0.674				0.930				
Percentage		45.4%	54.6%			30.1%	69.9%				
ADT/AADT		ADT 5,319	AADT 5,319								

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

This Page Intentionally Left Blank

Lanes, Volumes, Timings
1: Grapefruit Bl. (Hwy. 111) & Tyler St.

Existing (2024) AM Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	222	4	10	338	278	127
Future Volume (vph)	222	4	10	338	278	127
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	50			45	40	
Link Distance (ft)	455			1162	502	
Travel Time (s)	13.8			17.6	7.6	
Confl. Peds. (#/hr)	5	5	5			5
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Shared Lane Traffic (%)						
Sign Control	Stop			Stop	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

HCM 6th AWSC
1: Grapefruit Bl. (Hwy. 111) & Tyler St.

Existing (2024) AM Peak Hour

Intersection	
Intersection Delay, s/veh	15.7
Intersection LOS	C

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	222	4	10	338	278	127
Future Vol, veh/h	222	4	10	338	278	127
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	264	5	12	402	331	151
Number of Lanes	1	0	0	1	1	1

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay, s/veh	14.9	18.3	13.9
HCM LOS	B	C	B

Lane	NBLn1	EBLn1	SBLn1	SBLn2
Vol Left, %	3%	98%	0%	0%
Vol Thru, %	97%	0%	100%	0%
Vol Right, %	0%	2%	0%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	348	226	278	127
LT Vol	10	222	0	0
Through Vol	338	0	278	0
RT Vol	0	4	0	127
Lane Flow Rate	414	269	331	151
Geometry Grp	4a	2	5	5
Degree of Util (X)	0.645	0.471	0.551	0.222
Departure Headway (Hd)	5.601	6.304	5.989	5.278
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	642	570	602	679
Service Time	3.648	4.357	3.737	3.026
HCM Lane V/C Ratio	0.645	0.472	0.55	0.222
HCM Control Delay, s/veh	18.3	14.9	15.9	9.5
HCM Lane LOS	C	B	C	A
HCM 95th-tile Q	4.7	2.5	3.3	0.8

Lanes, Volumes, Timings
2: Tyler St. & Ave. 53

Existing (2024) AM Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	97	39	30	129	94	43
Future Volume (vph)	97	39	30	129	94	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	70			50
Storage Lanes	1	1	1			1
Taper Length (ft)	90		90			
Link Speed (mph)	35			50	50	
Link Distance (ft)	743			558	590	
Travel Time (s)	14.3			7.4	13.8	
Confl. Peds. (#/hr)	5	5	5			5
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

HCM 6th TWSC
2: Tyler St. & Ave. 53

Existing (2024) AM Peak Hour

Intersection						
Int Delay, s/veh	4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↰	↱	↰	↱	↱↱	↰
Traffic Vol, veh/h	97	39	30	129	94	43
Future Vol, veh/h	97	39	30	129	94	43
Conflicting Peds, #/hr	5	5	5	0	0	5
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	70	-	-	50
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	109	44	34	145	106	48
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	329	63	159	0	-	0
Stage 1	111	-	-	-	-	-
Stage 2	218	-	-	-	-	-
Critical Hdwy	6.63	6.93	4.13	-	-	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-	-
Pot Cap-1 Maneuver	653	989	1419	-	-	-
Stage 1	902	-	-	-	-	-
Stage 2	818	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	631	980	1412	-	-	-
Mov Cap-2 Maneuver	631	-	-	-	-	-
Stage 1	876	-	-	-	-	-
Stage 2	814	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/v	11	1.4		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1412	-	631	980	-	-
HCM Lane V/C Ratio	0.024	-	0.173	0.045	-	-
HCM Control Delay (s/veh)	7.6	-	11.9	8.8	-	-
HCM Lane LOS	A	-	B	A	-	-
HCM 95th %tile Q (veh)	0.1	-	0.6	0.1	-	-

Lanes, Volumes, Timings
3: Tyler St. & Armtec Entrance

Existing (2024) AM Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	3	3	6	156	105	28
Future Volume (vph)	3	3	6	156	105	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	100			50
Storage Lanes	1	1	1			1
Taper Length (ft)	90		90			
Link Speed (mph)	30			50	50	
Link Distance (ft)	583			1051	558	
Travel Time (s)	13.3			14.3	7.4	
Confl. Peds. (#/hr)	5	5	5			5
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

HCM 6th TWSC
3: Tyler St. & Armtec Entrance

Existing (2024) AM Peak Hour

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↰	↱	↰	↱	↱↱	↰
Traffic Vol, veh/h	3	3	6	156	105	28
Future Vol, veh/h	3	3	6	156	105	28
Conflicting Peds, #/hr	5	5	5	0	0	5
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	100	-	-	50
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	75	75	75	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	4	8	208	140	37
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	374	80	182	0	-	0
Stage 1	145	-	-	-	-	-
Stage 2	229	-	-	-	-	-
Critical Hdwy	6.63	6.93	4.13	-	-	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-	-
Pot Cap-1 Maneuver	613	965	1392	-	-	-
Stage 1	868	-	-	-	-	-
Stage 2	808	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	603	956	1385	-	-	-
Mov Cap-2 Maneuver	653	-	-	-	-	-
Stage 1	858	-	-	-	-	-
Stage 2	804	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/v	9.7	0.3		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1385	-	653	956	-	-
HCM Lane V/C Ratio	0.006	-	0.006	0.004	-	-
HCM Control Delay (s/veh)	7.6	-	10.5	8.8	-	-
HCM Lane LOS	A	-	B	A	-	-
HCM 95th %tile Q (veh)	0	-	0	0	-	-

Lanes, Volumes, Timings
4: Grapefruit Bl. (Hwy. 111) & Palm St.

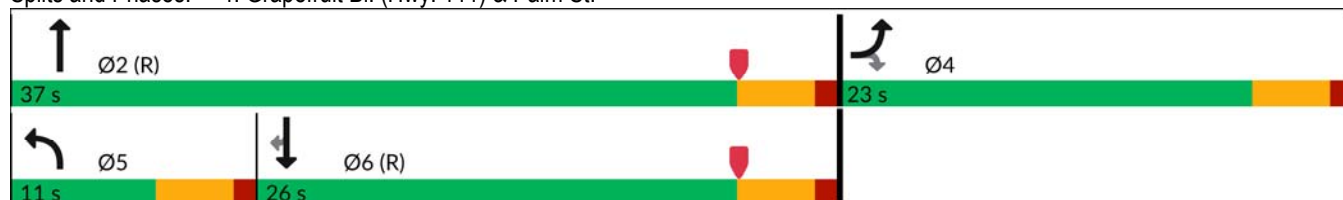
Existing (2024) AM Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	54	29	30	357	212	86
Future Volume (vph)	54	29	30	357	212	86
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100	0	245			205
Storage Lanes	1	1	1			1
Taper Length (ft)	90		90			
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			45	45	
Link Distance (ft)	682			483	791	
Travel Time (s)	13.3			7.3	12.0	
Confl. Peds. (#/hr)	5	5	5			5
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Shared Lane Traffic (%)						
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	9.5	22.5	22.5	22.5
Total Split (s)	23.0	23.0	11.0	37.0	26.0	26.0
Total Split (%)	38.3%	38.3%	18.3%	61.7%	43.3%	43.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	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
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	C-Max	C-Max	C-Max

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 60
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 55
Control Type: Actuated-Coordinated

Splits and Phases: 4: Grapefruit Bl. (Hwy. 111) & Palm St.



HCM 6th Signalized Intersection Summary 4: Grapefruit Bl. (Hwy. 111) & Palm St.

Existing (2024) AM Peak Hour

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	54	29	30	357	212	86
Future Volume (veh/h)	54	29	30	357	212	86
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	62	33	34	410	244	99
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	118	105	64	1466	1258	1062
Arrive On Green	0.07	0.07	0.04	0.78	0.67	0.67
Sat Flow, veh/h	1781	1585	1781	1870	1870	1579
Grp Volume(v), veh/h	62	33	34	410	244	99
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1870	1870	1579
Q Serve(g_s), s	2.0	1.2	1.1	3.6	2.9	1.3
Cycle Q Clear(g_c), s	2.0	1.2	1.1	3.6	2.9	1.3
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	118	105	64	1466	1258	1062
V/C Ratio(X)	0.53	0.31	0.53	0.28	0.19	0.09
Avail Cap(c_a), veh/h	549	489	193	1466	1258	1062
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	27.1	26.7	28.4	1.8	3.7	3.4
Incr Delay (d2), s/veh	3.6	1.7	6.6	0.5	0.3	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	1.1	0.6	0.2	0.6	0.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	30.7	28.4	35.0	2.3	4.0	3.6
LnGrp LOS	C	C	D	A	A	A
Approach Vol, veh/h	95			444	343	
Approach Delay, s/veh	29.9			4.8	3.9	
Approach LOS	C			A	A	
Timer - Assigned Phs	2			4	5	6
Phs Duration (G+Y+Rc), s	51.5			8.5	6.7	44.9
Change Period (Y+Rc), s	4.5			4.5	4.5	4.5
Max Green Setting (Gmax), s	32.5			18.5	6.5	21.5
Max Q Clear Time (g_c+I1), s	5.6			4.0	3.1	4.9
Green Ext Time (p_c), s	2.3			0.2	0.0	1.4
Intersection Summary						
HCM 6th Ctrl Delay, s/veh			7.1			
HCM 6th LOS			A			

Lanes, Volumes, Timings
5: Airport Bl. & Palm St.

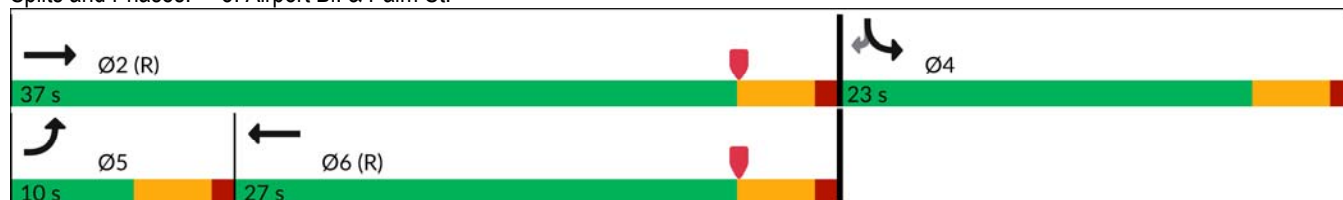
Existing (2024) AM Peak Hour

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	19	165	343	64	56	60
Future Volume (vph)	19	165	343	64	56	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	140			0	100	0
Storage Lanes	1			0	1	1
Taper Length (ft)	90				90	
Right Turn on Red				Yes		Yes
Link Speed (mph)		45	45		35	
Link Distance (ft)		684	1384		682	
Travel Time (s)		10.4	21.0		13.3	
Confl. Peds. (#/hr)	5			5	5	5
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Shared Lane Traffic (%)						
Turn Type	Prot	NA	NA		Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases						4
Detector Phase	5	2	6		4	4
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0
Minimum Split (s)	9.5	22.5	22.5		22.5	22.5
Total Split (s)	10.0	37.0	27.0		23.0	23.0
Total Split (%)	16.7%	61.7%	45.0%		38.3%	38.3%
Yellow Time (s)	3.5	3.5	3.5		3.5	3.5
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5		4.5	4.5
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None	C-Max	C-Max		Max	Max

Intersection Summary

Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 55
 Control Type: Actuated-Coordinated

Splits and Phases: 5: Airport Bl. & Palm St.



HCM 6th Signalized Intersection Summary 5: Airport Bl. & Palm St.

Existing (2024) AM Peak Hour

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	19	165	343	64	56	60
Future Volume (veh/h)	19	165	343	64	56	60
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.99	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	21	185	385	72	63	67
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	44	1925	1322	245	549	489
Arrive On Green	0.02	0.54	0.44	0.44	0.31	0.31
Sat Flow, veh/h	1781	3647	3083	554	1781	1585
Grp Volume(v), veh/h	21	185	227	230	63	67
Grp Sat Flow(s),veh/h/ln	1781	1777	1777	1767	1781	1585
Q Serve(g_s), s	0.7	1.5	4.9	5.0	1.5	1.8
Cycle Q Clear(g_c), s	0.7	1.5	4.9	5.0	1.5	1.8
Prop In Lane	1.00			0.31	1.00	1.00
Lane Grp Cap(c), veh/h	44	1925	785	781	549	489
V/C Ratio(X)	0.48	0.10	0.29	0.29	0.11	0.14
Avail Cap(c_a), veh/h	163	1925	785	781	549	489
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	28.9	6.6	10.7	10.7	14.9	15.0
Incr Delay (d2), s/veh	7.9	0.1	0.9	1.0	0.4	0.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.4	1.7	1.7	0.6	2.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	36.8	6.7	11.6	11.7	15.3	15.6
LnGrp LOS	D	A	B	B	B	B
Approach Vol, veh/h		206	457		130	
Approach Delay, s/veh		9.8	11.7		15.4	
Approach LOS		A	B		B	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		37.0		23.0	6.0	31.0
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		32.5		18.5	5.5	22.5
Max Q Clear Time (g_c+I1), s		3.5		3.8	2.7	7.0
Green Ext Time (p_c), s		1.0		0.3	0.0	2.1
Intersection Summary						
HCM 6th Ctrl Delay, s/veh			11.8			
HCM 6th LOS			B			

Lanes, Volumes, Timings
1: Grapefruit Bl. (Hwy. 111) & Tyler St.

Existing (2024) PM Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	206	3	11	370	502	295
Future Volume (vph)	206	3	11	370	502	295
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	50			45	40	
Link Distance (ft)	455			1162	502	
Travel Time (s)	13.8			17.6	7.6	
Confl. Peds. (#/hr)	5	5	5			5
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Shared Lane Traffic (%)						
Sign Control	Stop			Stop	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

HCM 6th AWSC
1: Grapefruit Bl. (Hwy. 111) & Tyler St.

Existing (2024) PM Peak Hour

Intersection	
Intersection Delay, s/veh	27.9
Intersection LOS	D

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	206	3	11	370	502	295
Future Vol, veh/h	206	3	11	370	502	295
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	231	3	12	416	564	331
Number of Lanes	1	0	0	1	1	1

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay, s/veh	15.4	21.4	34.2
HCM LOS	C	C	D

Lane	NBLn1	EBLn1	SBLn1	SBLn2
Vol Left, %	3%	99%	0%	0%
Vol Thru, %	97%	0%	100%	0%
Vol Right, %	0%	1%	0%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	381	209	502	295
LT Vol	11	206	0	0
Through Vol	370	0	502	0
RT Vol	0	3	0	295
Lane Flow Rate	428	235	564	331
Geometry Grp	4a	2	5	5
Degree of Util (X)	0.698	0.448	0.936	0.485
Departure Headway (Hd)	5.87	6.862	5.977	5.266
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	616	524	604	683
Service Time	3.918	4.912	3.727	3.015
HCM Lane V/C Ratio	0.695	0.448	0.934	0.485
HCM Control Delay, s/veh	21.4	15.4	46.7	12.9
HCM Lane LOS	C	C	E	B
HCM 95th-tile Q	5.6	2.3	12.3	2.7

Lanes, Volumes, Timings
2: Tyler St. & Ave. 53

Existing (2024) PM Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	78	37	39	131	152	154
Future Volume (vph)	78	37	39	131	152	154
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	70			50
Storage Lanes	1	1	1			1
Taper Length (ft)	90		90			
Link Speed (mph)	35			50	50	
Link Distance (ft)	743			558	590	
Travel Time (s)	14.3			7.4	13.8	
Confl. Peds. (#/hr)	5	5	5			5
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

HCM 6th TWSC
2: Tyler St. & Ave. 53

Existing (2024) PM Peak Hour

Intersection						
Int Delay, s/veh	2.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	78	37	39	131	152	154
Future Vol, veh/h	78	37	39	131	152	154
Conflicting Peds, #/hr	5	5	5	0	0	5
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	70	-	-	50
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	99	47	49	166	192	195
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	466	106	392	0	-	0
Stage 1	197	-	-	-	-	-
Stage 2	269	-	-	-	-	-
Critical Hdwy	6.63	6.93	4.13	-	-	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-	-
Pot Cap-1 Maneuver	540	928	1165	-	-	-
Stage 1	817	-	-	-	-	-
Stage 2	775	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	512	919	1159	-	-	-
Mov Cap-2 Maneuver	512	-	-	-	-	-
Stage 1	779	-	-	-	-	-
Stage 2	771	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/v	12.2	1.9		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1159	-	512	919	-	-
HCM Lane V/C Ratio	0.043	-	0.193	0.051	-	-
HCM Control Delay (s/veh)	8.2	-	13.7	9.1	-	-
HCM Lane LOS	A	-	B	A	-	-
HCM 95th %tile Q (veh)	0.1	-	0.7	0.2	-	-

Lanes, Volumes, Timings
3: Tyler St. & Armtec Entrance

Existing (2024) PM Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	38	7	1	132	188	1
Future Volume (vph)	38	7	1	132	188	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	100			50
Storage Lanes	1	1	1			1
Taper Length (ft)	90		90			
Link Speed (mph)	30			50	50	
Link Distance (ft)	583			1051	558	
Travel Time (s)	13.3			14.3	7.4	
Confl. Peds. (#/hr)	5	5	5			5
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

HCM 6th TWSC
3: Tyler St. & Armtec Entrance

Existing (2024) PM Peak Hour

Intersection						
Int Delay, s/veh	1.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	38	7	1	132	188	1
Future Vol, veh/h	38	7	1	132	188	1
Conflicting Peds, #/hr	5	5	5	0	0	5
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	100	-	-	50
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	75	75	75	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	51	9	1	176	251	1
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	439	136	257	0	-	0
Stage 1	256	-	-	-	-	-
Stage 2	183	-	-	-	-	-
Critical Hdwy	6.63	6.93	4.13	-	-	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-	-
Pot Cap-1 Maneuver	561	888	1306	-	-	-
Stage 1	764	-	-	-	-	-
Stage 2	848	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	555	880	1300	-	-	-
Mov Cap-2 Maneuver	616	-	-	-	-	-
Stage 1	759	-	-	-	-	-
Stage 2	844	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/v	11	0.1		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1300	-	616	880	-	-
HCM Lane V/C Ratio	0.001	-	0.082	0.011	-	-
HCM Control Delay (s/veh)	7.8	-	11.4	9.1	-	-
HCM Lane LOS	A	-	B	A	-	-
HCM 95th %tile Q (veh)	0	-	0.3	0	-	-

Lanes, Volumes, Timings
4: Grapefruit Bl. (Hwy. 111) & Palm St.

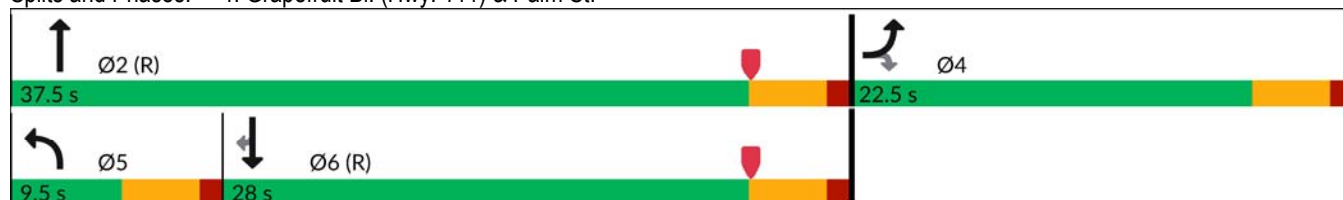
Existing (2024) PM Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	112	39	27	283	487	118
Future Volume (vph)	112	39	27	283	487	118
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100	0	245			205
Storage Lanes	1	1	1			1
Taper Length (ft)	90		90			
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			45	45	
Link Distance (ft)	682			483	791	
Travel Time (s)	13.3			7.3	12.0	
Confl. Peds. (#/hr)	5	5	5			5
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Shared Lane Traffic (%)						
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	9.5	22.5	22.5	22.5
Total Split (s)	22.5	22.5	9.5	37.5	28.0	28.0
Total Split (%)	37.5%	37.5%	15.8%	62.5%	46.7%	46.7%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	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
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	C-Max	C-Max	C-Max

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 60
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated

Splits and Phases: 4: Grapefruit Bl. (Hwy. 111) & Palm St.



HCM 6th Signalized Intersection Summary
4: Grapefruit Bl. (Hwy. 111) & Palm St.

Existing (2024) PM Peak Hour

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	112	39	27	283	487	118
Future Volume (veh/h)	112	39	27	283	487	118
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	120	42	29	304	524	127
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	173	154	57	1409	1209	1020
Arrive On Green	0.10	0.10	0.03	0.75	0.65	0.65
Sat Flow, veh/h	1781	1585	1781	1870	1870	1579
Grp Volume(v), veh/h	120	42	29	304	524	127
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1870	1870	1579
Q Serve(g_s), s	3.9	1.5	1.0	2.9	8.3	1.9
Cycle Q Clear(g_c), s	3.9	1.5	1.0	2.9	8.3	1.9
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	173	154	57	1409	1209	1020
V/C Ratio(X)	0.70	0.27	0.51	0.22	0.43	0.12
Avail Cap(c_a), veh/h	534	476	148	1409	1209	1020
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.97	0.97	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.2	25.1	28.6	2.2	5.2	4.1
Incr Delay (d2), s/veh	4.8	0.9	6.9	0.4	1.1	0.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	1.4	0.5	0.3	2.1	0.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	31.1	26.1	35.5	2.5	6.4	4.3
LnGrp LOS	C	C	D	A	A	A
Approach Vol, veh/h	162			333	651	
Approach Delay, s/veh	29.8			5.4	6.0	
Approach LOS	C			A	A	
Timer - Assigned Phs	2			4	5	6
Phs Duration (G+Y+Rc), s	49.7			10.3	6.4	43.3
Change Period (Y+Rc), s	4.5			4.5	4.5	4.5
Max Green Setting (Gmax), s	33.0			18.0	5.0	23.5
Max Q Clear Time (g_c+I1), s	4.9			5.9	3.0	10.3
Green Ext Time (p_c), s	1.6			0.3	0.0	2.9
Intersection Summary						
HCM 6th Ctrl Delay, s/veh			9.2			
HCM 6th LOS			A			

Lanes, Volumes, Timings
5: Airport Bl. & Palm St.

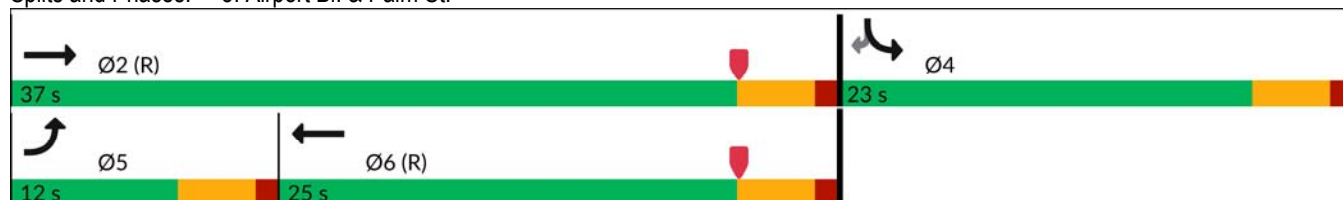
Existing (2024) PM Peak Hour

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	51	291	173	100	87	58
Future Volume (vph)	51	291	173	100	87	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	140			0	100	0
Storage Lanes	1			0	1	1
Taper Length (ft)	90				90	
Right Turn on Red				Yes		Yes
Link Speed (mph)		45	45		35	
Link Distance (ft)		684	1384		682	
Travel Time (s)		10.4	21.0		13.3	
Confl. Peds. (#/hr)	5			5	5	5
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Shared Lane Traffic (%)						
Turn Type	Prot	NA	NA		Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases						4
Detector Phase	5	2	6		4	4
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0
Minimum Split (s)	9.5	22.5	22.5		22.5	22.5
Total Split (s)	12.0	37.0	25.0		23.0	23.0
Total Split (%)	20.0%	61.7%	41.7%		38.3%	38.3%
Yellow Time (s)	3.5	3.5	3.5		3.5	3.5
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5		4.5	4.5
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None	C-Max	C-Max		Max	Max

Intersection Summary

Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 55
 Control Type: Actuated-Coordinated

Splits and Phases: 5: Airport Bl. & Palm St.



HCM 6th Signalized Intersection Summary 5: Airport Bl. & Palm St.

Existing (2024) PM Peak Hour

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		 	 			 
Traffic Volume (veh/h)	51	291	173	100	87	58
Future Volume (veh/h)	51	291	173	100	87	58
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.99	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	59	334	199	115	100	67
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	93	1925	913	504	549	489
Arrive On Green	0.05	0.54	0.41	0.41	0.31	0.31
Sat Flow, veh/h	1781	3647	2297	1216	1781	1585
Grp Volume(v), veh/h	59	334	159	155	100	67
Grp Sat Flow(s),veh/h/ln	1781	1777	1777	1643	1781	1585
Q Serve(g_s), s	1.9	2.9	3.4	3.7	2.5	1.8
Cycle Q Clear(g_c), s	1.9	2.9	3.4	3.7	2.5	1.8
Prop In Lane	1.00			0.74	1.00	1.00
Lane Grp Cap(c), veh/h	93	1925	737	681	549	489
V/C Ratio(X)	0.63	0.17	0.22	0.23	0.18	0.14
Avail Cap(c_a), veh/h	223	1925	737	681	549	489
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	27.9	7.0	11.3	11.4	15.2	15.0
Incr Delay (d2), s/veh	7.0	0.2	0.7	0.8	0.7	0.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.8	1.2	1.2	1.0	2.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	34.9	7.2	12.0	12.1	15.9	15.6
LnGrp LOS	C	A	B	B	B	B
Approach Vol, veh/h		393	314		167	
Approach Delay, s/veh		11.3	12.0		15.8	
Approach LOS		B	B		B	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		37.0		23.0	7.6	29.4
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		32.5		18.5	7.5	20.5
Max Q Clear Time (g_c+I1), s		4.9		4.5	3.9	5.7
Green Ext Time (p_c), s		2.0		0.4	0.0	1.4
Intersection Summary						
HCM 6th Ctrl Delay, s/veh			12.4			
HCM 6th LOS			B			

APPENDIX 3.3: TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS

This Page Intentionally Left Blank

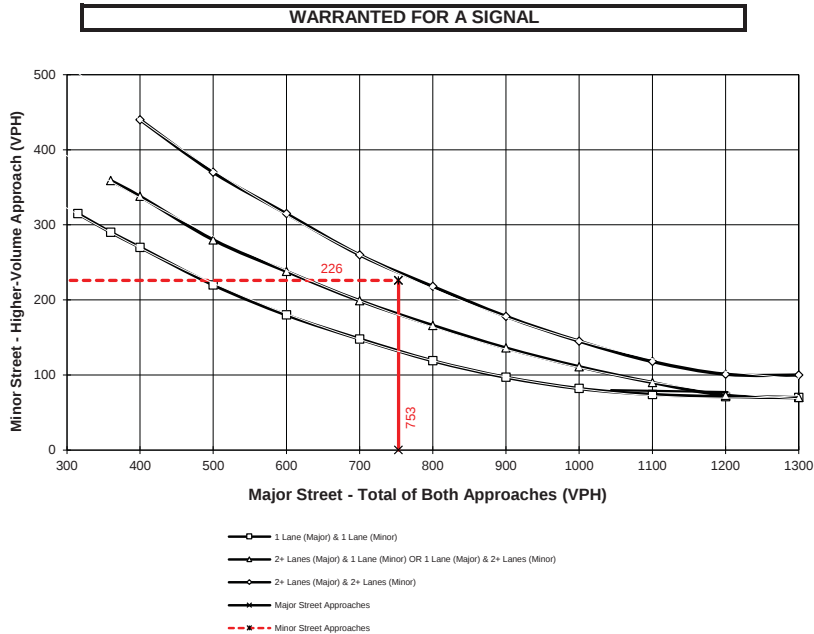
Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = EXISTING (2024) AM PEAK HOUR WARRANTS

Major Street Name = Grapefruit Bl. (Hwy. 111) Total of Both Approaches (VPH) = 753
Number of Approach Lanes Major Street = 1

Minor Street Name = Tyler St. High Volume Approach (VPH) = 226
Number of Approach Lanes Minor Street = 1



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Intersection ID: #1

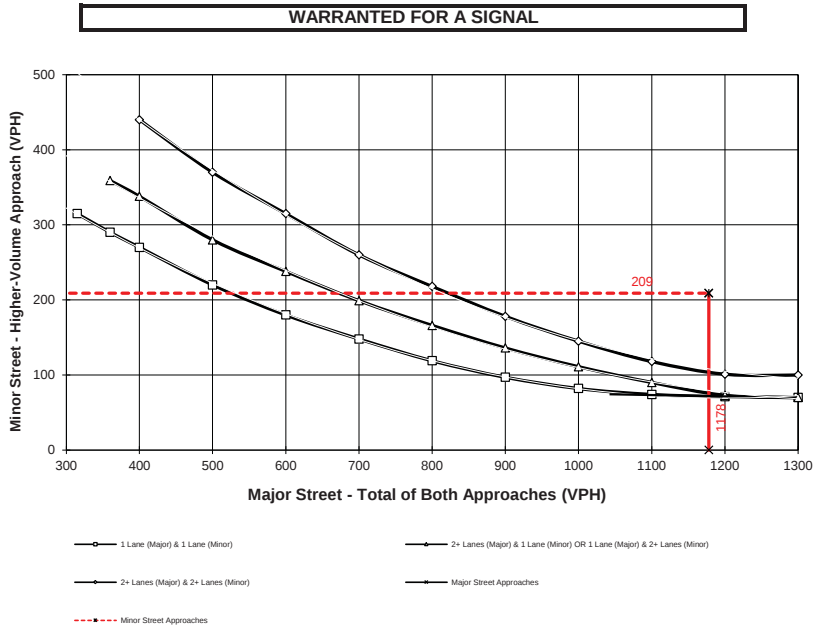
Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = EXISTING (2024) PM PEAK HOUR WARRANTS

Major Street Name = Grapefruit Bl. (Hwy. 111) Total of Both Approaches (VPH) = 1,178
Number of Approach Lanes Major Street = 1

Minor Street Name = Tyler St. High Volume Approach (VPH) = 209
Number of Approach Lanes Minor Street = 1



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Intersection ID: #1

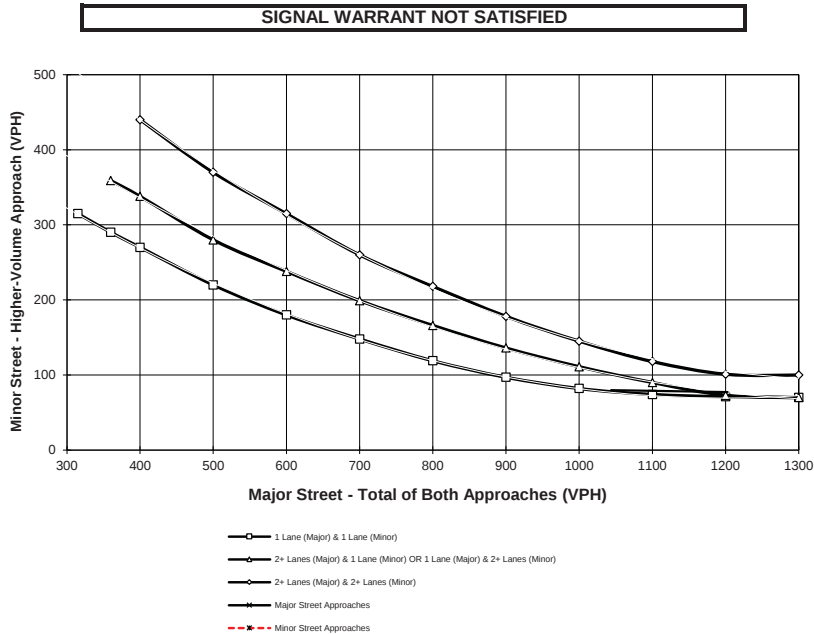
Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = EXISTING (2024) AM PEAK HOUR WARRANTS

Major Street Name = Tyler St. Total of Both Approaches (VPH) = 296
Number of Approach Lanes Major Street = 1

Minor Street Name = Avenue 53 High Volume Approach (VPH) = 136
Number of Approach Lanes Minor Street = 1



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Intersection ID: #2

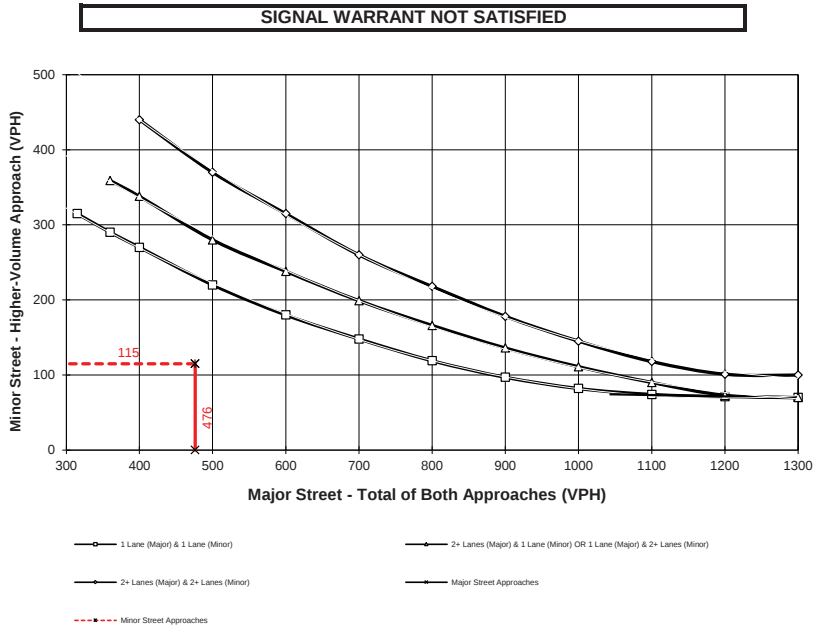
Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = EXISTING (2024) PM PEAK HOUR WARRANTS

Major Street Name = Tyler St. Total of Both Approaches (VPH) = 476
Number of Approach Lanes Major Street = 1

Minor Street Name = Avenue 53 High Volume Approach (VPH) = 115
Number of Approach Lanes Minor Street = 1



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Intersection ID: #2

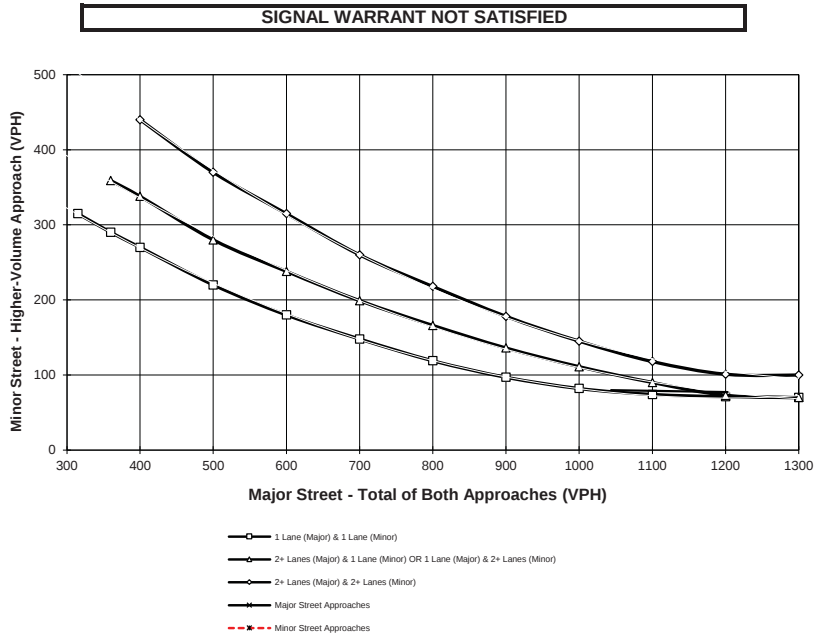
Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = EXISTING (2024) AM PEAK HOUR WARRANTS

Major Street Name = Tyler St. Total of Both Approaches (VPH) = 295
Number of Approach Lanes Major Street = 1

Minor Street Name = Armtec Entrance High Volume Approach (VPH) = 6
Number of Approach Lanes Minor Street = 1



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Intersection ID: #3

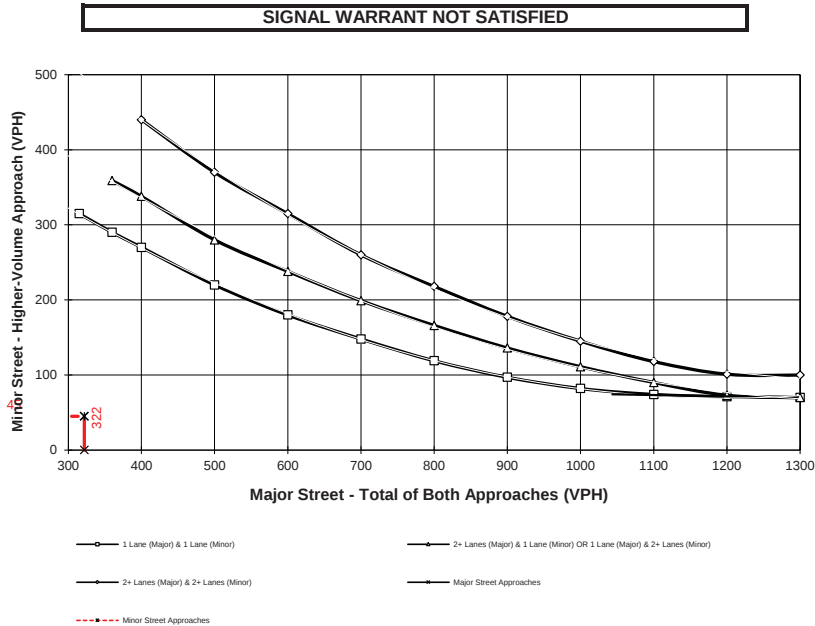
Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = EXISTING (2024) PM PEAK HOUR WARRANTS

Major Street Name = Tyler St. Total of Both Approaches (VPH) = 322
Number of Approach Lanes Major Street = 1

Minor Street Name = Armtec Entrance High Volume Approach (VPH) = 45
Number of Approach Lanes Minor Street = 1



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Intersection ID: #3

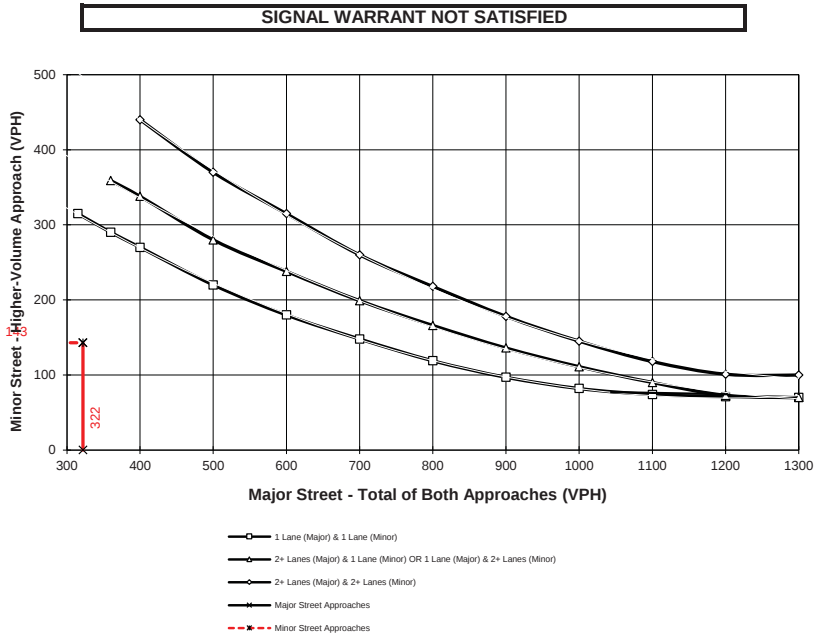
Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = E+A+P (2026) AM PEAK HOUR WARRANTS

Major Street Name = Tyler St. Total of Both Approaches (VPH) = 322
Number of Approach Lanes Major Street = 1

Minor Street Name = Avenue 53 High Volume Approach (VPH) = 143
Number of Approach Lanes Minor Street = 1



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Intersection ID: #2

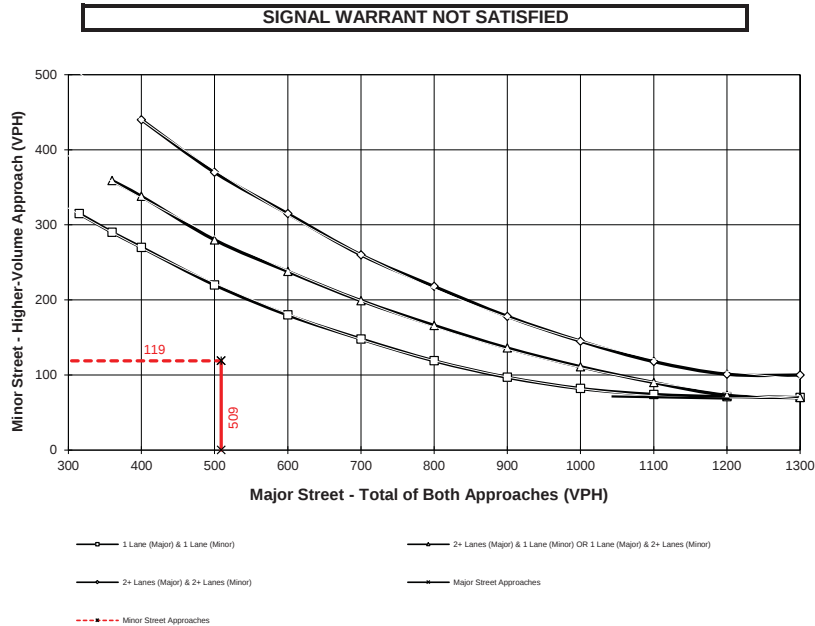
Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = E+A+P (2026) PM PEAK HOUR WARRANTS

Major Street Name = Tyler St. Total of Both Approaches (VPH) = 509
Number of Approach Lanes Major Street = 1

Minor Street Name = Avenue 53 High Volume Approach (VPH) = 119
Number of Approach Lanes Minor Street = 1



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Intersection ID: #2

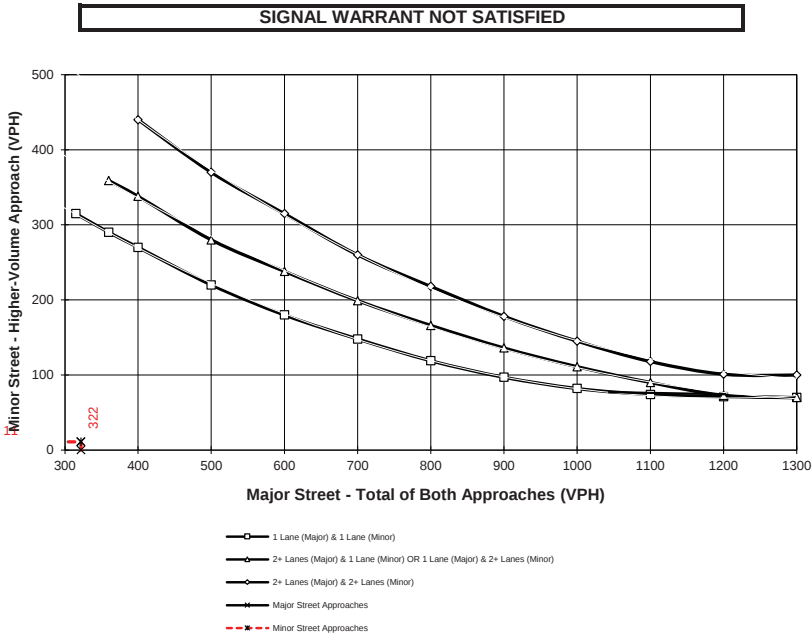
Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = E+A+P (2026) AM PEAK HOUR WARRANTS

Major Street Name = Tyler St. Total of Both Approaches (VPH) = 322
Number of Approach Lanes Major Street = 1

Minor Street Name = Armtec Entrance High Volume Approach (VPH) = 11
Number of Approach Lanes Minor Street = 1



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Intersection ID: #3

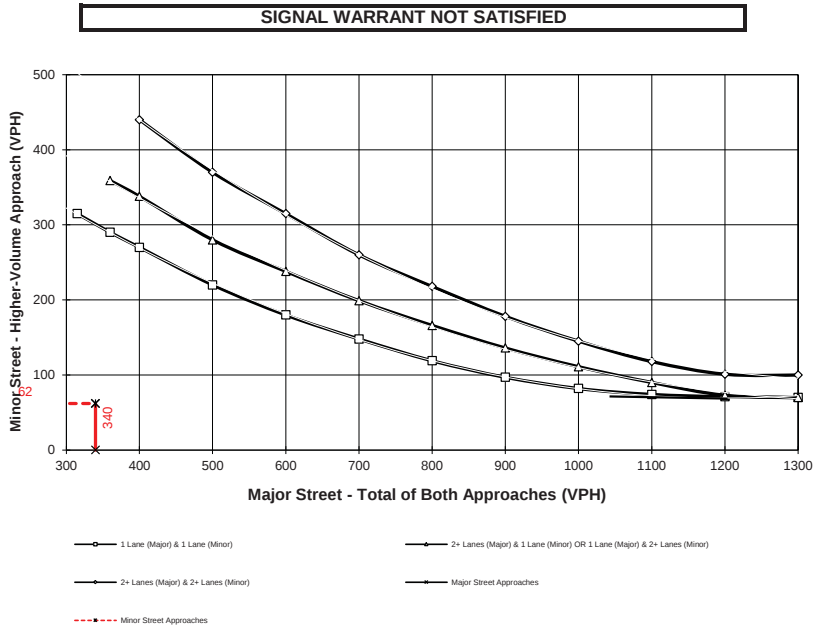
Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = E+A+P (2026) PM PEAK HOUR WARRANTS

Major Street Name = Tyler St. Total of Both Approaches (VPH) = 340
Number of Approach Lanes Major Street = 1

Minor Street Name = Armtec Entrance High Volume Approach (VPH) = 62
Number of Approach Lanes Minor Street = 1



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Intersection ID: #3

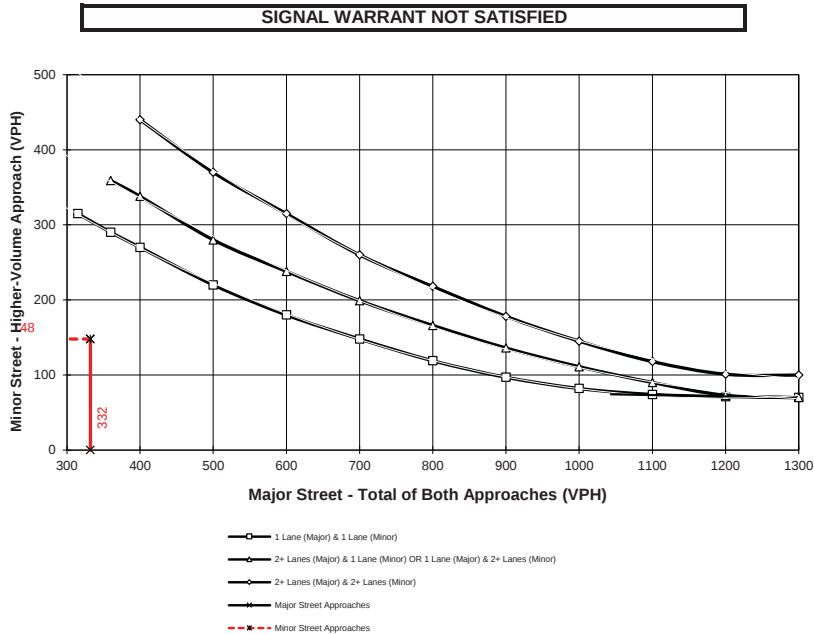
Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = EAPC (2026) AM PEAK HOUR WARRANTS

Major Street Name = Tyler St. Total of Both Approaches (VPH) = 332
Number of Approach Lanes Major Street = 1

Minor Street Name = Avenue 53 High Volume Approach (VPH) = 148
Number of Approach Lanes Minor Street = 1



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Intersection ID: #2

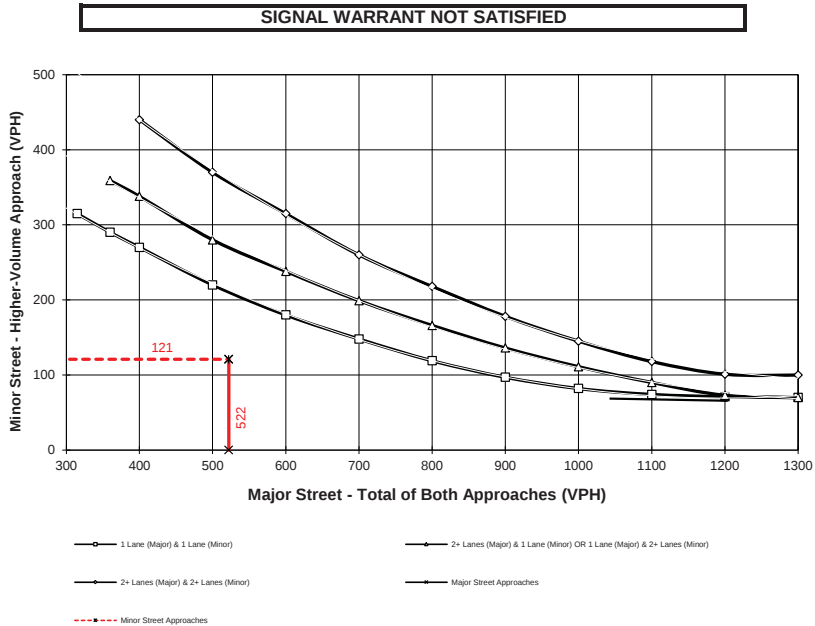
Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = EAPC (2026) PM PEAK HOUR WARRANTS

Major Street Name = Tyler St. Total of Both Approaches (VPH) = 522
Number of Approach Lanes Major Street = 1

Minor Street Name = Avenue 53 High Volume Approach (VPH) = 121
Number of Approach Lanes Minor Street = 1



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Intersection ID: #2

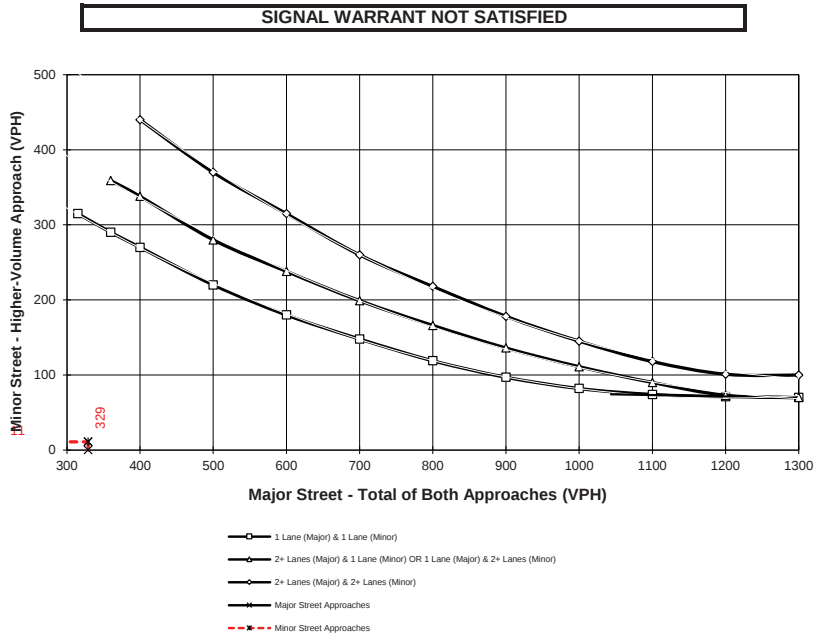
Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = EAPC (2026) AM PEAK HOUR WARRANTS

Major Street Name = Tyler St. Total of Both Approaches (VPH) = 329
Number of Approach Lanes Major Street = 1

Minor Street Name = Armtec Entrance High Volume Approach (VPH) = 11
Number of Approach Lanes Minor Street = 1



Intersection ID: #3

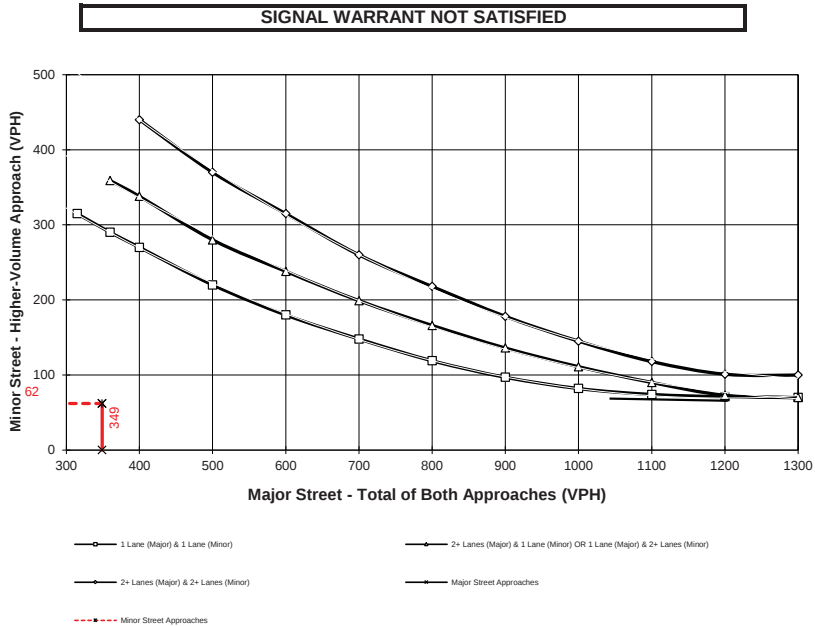
Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = EAPC (2026) PM PEAK HOUR WARRANTS

Major Street Name = Tyler St. Total of Both Approaches (VPH) = 349
Number of Approach Lanes Major Street = 1

Minor Street Name = Armtec Entrance High Volume Approach (VPH) = 62
Number of Approach Lanes Minor Street = 1



Intersection ID: #3

This Page Intentionally Left Blank

APPENDIX 5.1: EAP (2026) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

This Page Intentionally Left Blank

Lanes, Volumes, Timings
1: Grapefruit Bl. (Hwy. 111) & Tyler St.

EAP (2026) AM Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	234	4	12	352	289	142
Future Volume (vph)	234	4	12	352	289	142
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	50			45	40	
Link Distance (ft)	455			1162	502	
Travel Time (s)	13.8			17.6	7.6	
Confl. Peds. (#/hr)	5	5	5			5
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Shared Lane Traffic (%)						
Sign Control	Stop			Stop	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

Intersection	
Intersection Delay, s/veh	17.1
Intersection LOS	C

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	234	4	12	352	289	142
Future Vol, veh/h	234	4	12	352	289	142
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	279	5	14	419	344	169
Number of Lanes	1	0	0	1	1	1

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay, s/veh	15.9	20.5	14.8
HCM LOS	C	C	B

Lane	NBLn1	EBLn1	SBLn1	SBLn2
Vol Left, %	3%	98%	0%	0%
Vol Thru, %	97%	0%	100%	0%
Vol Right, %	0%	2%	0%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	364	238	289	142
LT Vol	12	234	0	0
Through Vol	352	0	289	0
RT Vol	0	4	0	142
Lane Flow Rate	433	283	344	169
Geometry Grp	4a	2	5	5
Degree of Util (X)	0.688	0.505	0.583	0.253
Departure Headway (Hd)	5.713	6.421	6.103	5.391
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	633	561	588	663
Service Time	3.766	4.48	3.86	3.147
HCM Lane V/C Ratio	0.684	0.504	0.585	0.255
HCM Control Delay, s/veh	20.5	15.9	17.1	10
HCM Lane LOS	C	C	C	A
HCM 95th-tile Q	5.4	2.8	3.7	1

Lanes, Volumes, Timings
2: Tyler St. & Ave. 53

EAP (2026) AM Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	101	42	31	137	109	45
Future Volume (vph)	101	42	31	137	109	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	70			50
Storage Lanes	1	1	1			1
Taper Length (ft)	90		90			
Link Speed (mph)	35			50	50	
Link Distance (ft)	743			558	590	
Travel Time (s)	14.3			7.4	13.8	
Confl. Peds. (#/hr)	5	5	5			5
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

HCM 6th TWSC
2: Tyler St. & Ave. 53

EAP (2026) AM Peak Hour

Intersection						
Int Delay, s/veh	4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	101	42	31	137	109	45
Future Vol, veh/h	101	42	31	137	109	45
Conflicting Peds, #/hr	5	5	5	0	0	5
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	70	-	-	50
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	113	47	35	154	122	51
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	356	71	178	0	-	0
Stage 1	127	-	-	-	-	-
Stage 2	229	-	-	-	-	-
Critical Hdwy	6.63	6.93	4.13	-	-	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-	-
Pot Cap-1 Maneuver	629	977	1397	-	-	-
Stage 1	886	-	-	-	-	-
Stage 2	808	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	607	968	1390	-	-	-
Mov Cap-2 Maneuver	607	-	-	-	-	-
Stage 1	859	-	-	-	-	-
Stage 2	804	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/v	11.3	1.4		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1390	-	607	968	-	-
HCM Lane V/C Ratio	0.025	-	0.187	0.049	-	-
HCM Control Delay (s/veh)	7.7	-	12.3	8.9	-	-
HCM Lane LOS	A	-	B	A	-	-
HCM 95th %tile Q (veh)	0.1	-	0.7	0.2	-	-

Lanes, Volumes, Timings
3: Tyler St. & Armtec Entrance

EAP (2026) AM Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	7	4	10	162	109	41
Future Volume (vph)	7	4	10	162	109	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	100			50
Storage Lanes	1	1	1			1
Taper Length (ft)	90		90			
Link Speed (mph)	30			50	50	
Link Distance (ft)	583			1051	558	
Travel Time (s)	13.3			14.3	7.4	
Confl. Peds. (#/hr)	5	5	5			5
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

HCM 6th TWSC
3: Tyler St. & Armtec Entrance

EAP (2026) AM Peak Hour

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↰	↱	↰	↱	↱↱	↰
Traffic Vol, veh/h	7	4	10	162	109	41
Future Vol, veh/h	7	4	10	162	109	41
Conflicting Peds, #/hr	5	5	5	0	0	5
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	100	-	-	50
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	75	75	75	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	5	13	216	145	55

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	397	83	205	0	-	0
Stage 1	150	-	-	-	-	-
Stage 2	247	-	-	-	-	-
Critical Hdwy	6.63	6.93	4.13	-	-	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-	-
Pot Cap-1 Maneuver	594	960	1365	-	-	-
Stage 1	863	-	-	-	-	-
Stage 2	793	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	582	951	1359	-	-	-
Mov Cap-2 Maneuver	638	-	-	-	-	-
Stage 1	850	-	-	-	-	-
Stage 2	789	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	10	0.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1359	-	638	951	-	-
HCM Lane V/C Ratio	0.01	-	0.015	0.006	-	-
HCM Control Delay (s/veh)	7.7	-	10.7	8.8	-	-
HCM Lane LOS	A	-	B	A	-	-
HCM 95th %tile Q (veh)	0	-	0	0	-	-

Lanes, Volumes, Timings
4: Grapefruit Bl. (Hwy. 111) & Palm St.

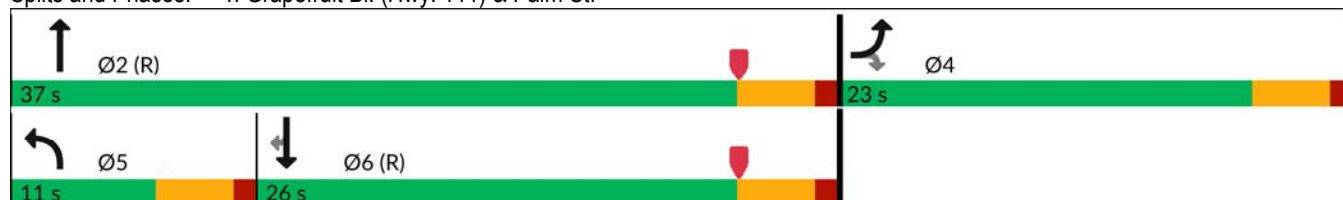
EAP (2026) AM Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	56	31	34	373	221	89
Future Volume (vph)	56	31	34	373	221	89
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100	0	245			205
Storage Lanes	1	1	1			1
Taper Length (ft)	90		90			
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			45	45	
Link Distance (ft)	682			483	791	
Travel Time (s)	13.3			7.3	12.0	
Confl. Peds. (#/hr)	5	5	5			5
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Shared Lane Traffic (%)						
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	9.5	22.5	22.5	22.5
Total Split (s)	23.0	23.0	11.0	37.0	26.0	26.0
Total Split (%)	38.3%	38.3%	18.3%	61.7%	43.3%	43.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	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
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	C-Max	C-Max	C-Max

Intersection Summary

Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 55
 Control Type: Actuated-Coordinated

Splits and Phases: 4: Grapefruit Bl. (Hwy. 111) & Palm St.



HCM 6th Signalized Intersection Summary
4: Grapefruit Bl. (Hwy. 111) & Palm St.

EAP (2026) AM Peak Hour

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	56	31	34	373	221	89
Future Volume (veh/h)	56	31	34	373	221	89
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	64	36	39	429	254	102
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	120	107	71	1463	1249	1054
Arrive On Green	0.07	0.07	0.04	0.78	0.67	0.67
Sat Flow, veh/h	1781	1585	1781	1870	1870	1579
Grp Volume(v), veh/h	64	36	39	429	254	102
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1870	1870	1579
Q Serve(g_s), s	2.1	1.3	1.3	3.9	3.1	1.4
Cycle Q Clear(g_c), s	2.1	1.3	1.3	3.9	3.1	1.4
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	120	107	71	1463	1249	1054
V/C Ratio(X)	0.53	0.34	0.55	0.29	0.20	0.10
Avail Cap(c_a), veh/h	549	489	193	1463	1249	1054
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.99	0.99	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.1	26.7	28.3	1.8	3.8	3.5
Incr Delay (d2), s/veh	3.6	1.8	6.5	0.5	0.4	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	1.2	0.6	0.2	0.7	0.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	30.6	28.5	34.8	2.4	4.2	3.7
LnGrp LOS	C	C	C	A	A	A
Approach Vol, veh/h	100			468	356	
Approach Delay, s/veh	29.9			5.1	4.1	
Approach LOS	C			A	A	
Timer - Assigned Phs	2			4	5	6
Phs Duration (G+Y+Rc), s	51.4			8.6	6.9	44.6
Change Period (Y+Rc), s	4.5			4.5	4.5	4.5
Max Green Setting (Gmax), s	32.5			18.5	6.5	21.5
Max Q Clear Time (g_c+I1), s	5.9			4.1	3.3	5.1
Green Ext Time (p_c), s	2.4			0.2	0.0	1.4
Intersection Summary						
HCM 6th Ctrl Delay, s/veh			7.4			
HCM 6th LOS			A			

Lanes, Volumes, Timings
5: Airport Bl. & Palm St.

EAP (2026) AM Peak Hour

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	21	172	358	67	58	65
Future Volume (vph)	21	172	358	67	58	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	140			0	100	0
Storage Lanes	1			0	1	1
Taper Length (ft)	90				90	
Right Turn on Red				Yes		Yes
Link Speed (mph)		45	45		35	
Link Distance (ft)		684	1384		682	
Travel Time (s)		10.4	21.0		13.3	
Confl. Peds. (#/hr)	5			5	5	5
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Shared Lane Traffic (%)						
Turn Type	Prot	NA	NA		Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases						4
Detector Phase	5	2	6		4	4
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0
Minimum Split (s)	9.5	22.5	22.5		22.5	22.5
Total Split (s)	10.0	37.0	27.0		23.0	23.0
Total Split (%)	16.7%	61.7%	45.0%		38.3%	38.3%
Yellow Time (s)	3.5	3.5	3.5		3.5	3.5
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5		4.5	4.5
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None	C-Max	C-Max		Max	Max

Intersection Summary

Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 55
 Control Type: Actuated-Coordinated

Splits and Phases: 5: Airport Bl. & Palm St.



HCM 6th Signalized Intersection Summary 5: Airport Bl. & Palm St.

EAP (2026) AM Peak Hour

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		 	 			
Traffic Volume (veh/h)	21	172	358	67	58	65
Future Volume (veh/h)	21	172	358	67	58	65
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.99	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	24	193	402	75	65	73
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	49	1925	1313	243	549	489
Arrive On Green	0.03	0.54	0.44	0.44	0.31	0.31
Sat Flow, veh/h	1781	3647	3084	553	1781	1585
Grp Volume(v), veh/h	24	193	237	240	65	73
Grp Sat Flow(s),veh/h/ln	1781	1777	1777	1767	1781	1585
Q Serve(g_s), s	0.8	1.6	5.2	5.3	1.6	2.0
Cycle Q Clear(g_c), s	0.8	1.6	5.2	5.3	1.6	2.0
Prop In Lane	1.00			0.31	1.00	1.00
Lane Grp Cap(c), veh/h	49	1925	780	776	549	489
V/C Ratio(X)	0.49	0.10	0.30	0.31	0.12	0.15
Avail Cap(c_a), veh/h	163	1925	780	776	549	489
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	28.8	6.7	10.9	10.9	14.9	15.0
Incr Delay (d2), s/veh	7.4	0.1	1.0	1.0	0.4	0.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.4	1.8	1.8	0.6	2.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	36.2	6.8	11.9	11.9	15.3	15.7
LnGrp LOS	D	A	B	B	B	B
Approach Vol, veh/h		217	477		138	
Approach Delay, s/veh		10.0	11.9		15.5	
Approach LOS		B	B		B	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		37.0		23.0	6.1	30.9
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		32.5		18.5	5.5	22.5
Max Q Clear Time (g_c+I1), s		3.6		4.0	2.8	7.3
Green Ext Time (p_c), s		1.1		0.3	0.0	2.2
Intersection Summary						
HCM 6th Ctrl Delay, s/veh			12.0			
HCM 6th LOS			B			

Lanes, Volumes, Timings
1: Grapefruit Bl. (Hwy. 111) & Tyler St.

EAP (2026) PM Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	223	4	11	385	522	310
Future Volume (vph)	223	4	11	385	522	310
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	50			45	40	
Link Distance (ft)	455			1162	502	
Travel Time (s)	13.8			17.6	7.6	
Confl. Peds. (#/hr)	5	5	5			5
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Shared Lane Traffic (%)						
Sign Control	Stop			Stop	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

Intersection	
Intersection Delay, s/veh	34
Intersection LOS	D

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	223	4	11	385	522	310
Future Vol, veh/h	223	4	11	385	522	310
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	251	4	12	433	587	348
Number of Lanes	1	0	0	1	1	1

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay, s/veh	16.6	24.4	43.4
HCM LOS	C	C	E

Lane	NBLn1	EBLn1	SBLn1	SBLn2
Vol Left, %	3%	98%	0%	0%
Vol Thru, %	97%	0%	100%	0%
Vol Right, %	0%	2%	0%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	396	227	522	310
LT Vol	11	223	0	0
Through Vol	385	0	522	0
RT Vol	0	4	0	310
Lane Flow Rate	445	255	587	348
Geometry Grp	4a	2	5	5
Degree of Util (X)	0.742	0.493	0.997	0.523
Departure Headway (Hd)	6.006	6.96	6.12	5.408
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	601	518	592	665
Service Time	4.06	5.014	3.878	3.166
HCM Lane V/C Ratio	0.74	0.492	0.992	0.523
HCM Control Delay, s/veh	24.4	16.6	60.9	14
HCM Lane LOS	C	C	F	B
HCM 95th-tile Q	6.5	2.7	14.7	3.1

Lanes, Volumes, Timings
2: Tyler St. & Ave. 53

EAP (2026) PM Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	81	38	42	146	161	160
Future Volume (vph)	81	38	42	146	161	160
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	70			50
Storage Lanes	1	1	1			1
Taper Length (ft)	90		90			
Link Speed (mph)	35			50	50	
Link Distance (ft)	743			558	590	
Travel Time (s)	14.3			7.4	13.8	
Confl. Peds. (#/hr)	5	5	5			5
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

HCM 6th TWSC
2: Tyler St. & Ave. 53

EAP (2026) PM Peak Hour

Intersection						
Int Delay, s/veh	3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	81	38	42	146	161	160
Future Vol, veh/h	81	38	42	146	161	160
Conflicting Peds, #/hr	5	5	5	0	0	5
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	70	-	-	50
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	103	48	53	185	204	203

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	505	112	412	0	-	0
Stage 1	209	-	-	-	-	-
Stage 2	296	-	-	-	-	-
Critical Hdwy	6.63	6.93	4.13	-	-	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-	-
Pot Cap-1 Maneuver	511	920	1145	-	-	-
Stage 1	806	-	-	-	-	-
Stage 2	754	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	482	911	1140	-	-	-
Mov Cap-2 Maneuver	482	-	-	-	-	-
Stage 1	765	-	-	-	-	-
Stage 2	750	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	12.8	1.9	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1140	-	482	911	-	-
HCM Lane V/C Ratio	0.047	-	0.213	0.053	-	-
HCM Control Delay (s/veh)	8.3	-	14.5	9.2	-	-
HCM Lane LOS	A	-	B	A	-	-
HCM 95th %tile Q (veh)	0.1	-	0.8	0.2	-	-

Lanes, Volumes, Timings
3: Tyler St. & Armtec Entrance

EAP (2026) PM Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	51	11	2	137	196	5
Future Volume (vph)	51	11	2	137	196	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	100			50
Storage Lanes	1	1	1			1
Taper Length (ft)	90		90			
Link Speed (mph)	30			50	50	
Link Distance (ft)	583			1051	558	
Travel Time (s)	13.3			14.3	7.4	
Confl. Peds. (#/hr)	5	5	5			5
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

HCM 6th TWSC
3: Tyler St. & Armtec Entrance

EAP (2026) PM Peak Hour

Intersection						
Int Delay, s/veh	1.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	51	11	2	137	196	5
Future Vol, veh/h	51	11	2	137	196	5
Conflicting Peds, #/hr	5	5	5	0	0	5
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	100	-	-	50
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	75	75	75	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	68	15	3	183	261	7
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	460	141	273	0	-	0
Stage 1	266	-	-	-	-	-
Stage 2	194	-	-	-	-	-
Critical Hdwy	6.63	6.93	4.13	-	-	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-	-
Pot Cap-1 Maneuver	544	882	1289	-	-	-
Stage 1	755	-	-	-	-	-
Stage 2	838	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	537	874	1283	-	-	-
Mov Cap-2 Maneuver	603	-	-	-	-	-
Stage 1	750	-	-	-	-	-
Stage 2	834	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/v	11.3	0.1		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1283	-	603	874	-	-
HCM Lane V/C Ratio	0.002	-	0.113	0.017	-	-
HCM Control Delay (s/veh)	7.8	-	11.7	9.2	-	-
HCM Lane LOS	A	-	B	A	-	-
HCM 95th %tile Q (veh)	0	-	0.4	0.1	-	-

Lanes, Volumes, Timings
4: Grapefruit Bl. (Hwy. 111) & Palm St.

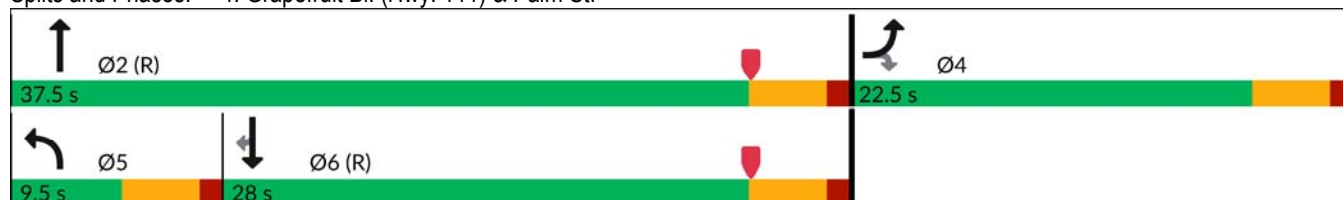
EAP (2026) PM Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	117	44	29	294	508	123
Future Volume (vph)	117	44	29	294	508	123
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100	0	245			205
Storage Lanes	1	1	1			1
Taper Length (ft)	90		90			
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			45	45	
Link Distance (ft)	682			483	791	
Travel Time (s)	13.3			7.3	12.0	
Confl. Peds. (#/hr)	5	5	5			5
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Shared Lane Traffic (%)						
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	9.5	22.5	22.5	22.5
Total Split (s)	22.5	22.5	9.5	37.5	28.0	28.0
Total Split (%)	37.5%	37.5%	15.8%	62.5%	46.7%	46.7%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	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
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	C-Max	C-Max	C-Max

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 60
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated

Splits and Phases: 4: Grapefruit Bl. (Hwy. 111) & Palm St.



HCM 6th Signalized Intersection Summary
4: Grapefruit Bl. (Hwy. 111) & Palm St.

EAP (2026) PM Peak Hour

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	117	44	29	294	508	123
Future Volume (veh/h)	117	44	29	294	508	123
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	126	47	31	316	546	132
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	181	161	60	1400	1197	1010
Arrive On Green	0.10	0.10	0.03	0.75	0.64	0.64
Sat Flow, veh/h	1781	1585	1781	1870	1870	1579
Grp Volume(v), veh/h	126	47	31	316	546	132
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1870	1870	1579
Q Serve(g_s), s	4.1	1.6	1.0	3.1	8.9	2.0
Cycle Q Clear(g_c), s	4.1	1.6	1.0	3.1	8.9	2.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	181	161	60	1400	1197	1010
V/C Ratio(X)	0.70	0.29	0.52	0.23	0.46	0.13
Avail Cap(c_a), veh/h	534	476	148	1400	1197	1010
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.96	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.1	25.0	28.5	2.3	5.5	4.2
Incr Delay (d2), s/veh	4.6	1.0	6.8	0.4	1.3	0.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	1.5	0.5	0.4	2.3	0.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	30.7	25.9	35.3	2.7	6.7	4.5
LnGrp LOS	C	C	D	A	A	A
Approach Vol, veh/h	173			347	678	
Approach Delay, s/veh	29.4			5.6	6.3	
Approach LOS	C			A	A	
Timer - Assigned Phs	2			4	5	6
Phs Duration (G+Y+Rc), s	49.4			10.6	6.5	42.9
Change Period (Y+Rc), s	4.5			4.5	4.5	4.5
Max Green Setting (Gmax), s	33.0			18.0	5.0	23.5
Max Q Clear Time (g_c+I1), s	5.1			6.1	3.0	10.9
Green Ext Time (p_c), s	1.7			0.3	0.0	3.0
Intersection Summary						
HCM 6th Ctrl Delay, s/veh			9.4			
HCM 6th LOS			A			

Lanes, Volumes, Timings
5: Airport Bl. & Palm St.

EAP (2026) PM Peak Hour

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	56	304	180	104	91	61
Future Volume (vph)	56	304	180	104	91	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	140			0	100	0
Storage Lanes	1			0	1	1
Taper Length (ft)	90				90	
Right Turn on Red				Yes		Yes
Link Speed (mph)		45	45		35	
Link Distance (ft)		684	1384		682	
Travel Time (s)		10.4	21.0		13.3	
Confl. Peds. (#/hr)	5			5	5	5
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Shared Lane Traffic (%)						
Turn Type	Prot	NA	NA		Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases						4
Detector Phase	5	2	6		4	4
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0
Minimum Split (s)	9.5	22.5	22.5		22.5	22.5
Total Split (s)	12.0	37.0	25.0		23.0	23.0
Total Split (%)	20.0%	61.7%	41.7%		38.3%	38.3%
Yellow Time (s)	3.5	3.5	3.5		3.5	3.5
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5		4.5	4.5
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None	C-Max	C-Max		Max	Max

Intersection Summary

Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 55
 Control Type: Actuated-Coordinated

Splits and Phases: 5: Airport Bl. & Palm St.



HCM 6th Signalized Intersection Summary 5: Airport Bl. & Palm St.

EAP (2026) PM Peak Hour

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		 	 			
Traffic Volume (veh/h)	56	304	180	104	91	61
Future Volume (veh/h)	56	304	180	104	91	61
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.99	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	64	349	207	120	105	70
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	97	1925	906	502	549	489
Arrive On Green	0.05	0.54	0.41	0.41	0.31	0.31
Sat Flow, veh/h	1781	3647	2293	1220	1781	1585
Grp Volume(v), veh/h	64	349	165	162	105	70
Grp Sat Flow(s),veh/h/ln	1781	1777	1777	1642	1781	1585
Q Serve(g_s), s	2.1	3.0	3.6	3.9	2.6	1.9
Cycle Q Clear(g_c), s	2.1	3.0	3.6	3.9	2.6	1.9
Prop In Lane	1.00			0.74	1.00	1.00
Lane Grp Cap(c), veh/h	97	1925	732	677	549	489
V/C Ratio(X)	0.66	0.18	0.23	0.24	0.19	0.14
Avail Cap(c_a), veh/h	223	1925	732	677	549	489
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	27.8	7.0	11.4	11.5	15.3	15.0
Incr Delay (d2), s/veh	7.3	0.2	0.7	0.8	0.8	0.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.8	1.3	1.3	1.1	2.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	35.1	7.2	12.2	12.3	16.0	15.6
LnGrp LOS	D	A	B	B	B	B
Approach Vol, veh/h		413	327		175	
Approach Delay, s/veh		11.5	12.2		15.9	
Approach LOS		B	B		B	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		37.0		23.0	7.8	29.2
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		32.5		18.5	7.5	20.5
Max Q Clear Time (g_c+I1), s		5.0		4.6	4.1	5.9
Green Ext Time (p_c), s		2.1		0.4	0.0	1.5
Intersection Summary						
HCM 6th Ctrl Delay, s/veh			12.6			
HCM 6th LOS			B			

APPENDIX 6.1: EAPC (2026) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

This Page Intentionally Left Blank

Lanes, Volumes, Timings
1: Grapefruit Bl. (Hwy. 111) & Tyler St.

EAPC (2026) AM Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	236	9	15	401	363	147
Future Volume (vph)	236	9	15	401	363	147
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	50			45	40	
Link Distance (ft)	455			1162	502	
Travel Time (s)	13.8			17.6	7.6	
Confl. Peds. (#/hr)	5	5	5			5
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Shared Lane Traffic (%)						
Sign Control	Stop			Stop	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

Intersection	
Intersection Delay, s/veh	23.9
Intersection LOS	C

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	236	9	15	401	363	147
Future Vol, veh/h	236	9	15	401	363	147
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	281	11	18	477	432	175
Number of Lanes	1	0	0	1	1	1

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay, s/veh	17.8	30.3	21.7
HCM LOS	C	D	C

Lane	NBLn1	EBLn1	SBLn1	SBLn2
Vol Left, %	4%	96%	0%	0%
Vol Thru, %	96%	0%	100%	0%
Vol Right, %	0%	4%	0%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	416	245	363	147
LT Vol	15	236	0	0
Through Vol	401	0	363	0
RT Vol	0	9	0	147
Lane Flow Rate	495	292	432	175
Geometry Grp	4a	2	5	5
Degree of Util (X)	0.817	0.548	0.757	0.272
Departure Headway (Hd)	5.936	6.769	6.307	5.594
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	604	531	570	637
Service Time	4.009	4.848	4.088	3.374
HCM Lane V/C Ratio	0.82	0.55	0.758	0.275
HCM Control Delay, s/veh	30.3	17.8	26.3	10.5
HCM Lane LOS	D	C	D	B
HCM 95th-tile Q	8.3	3.3	6.7	1.1

Lanes, Volumes, Timings
1: Grapefruit Bl. (Hwy. 111) & Tyler St.

EAPC (2026) AM Peak Hour
WITH IMPROVEMENTS

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	236	9	15	401	363	147
Future Volume (vph)	236	9	15	401	363	147
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Right Turn on Red		Yes				Yes
Link Speed (mph)	50			45	40	
Link Distance (ft)	455			1162	502	
Travel Time (s)	6.2			17.6	8.6	
Confl. Peds. (#/hr)	5	5	5			5
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Shared Lane Traffic (%)						
Turn Type	Prot		Perm	NA	NA	Perm
Protected Phases	4			2	6	
Permitted Phases			2			6
Detector Phase	4		2	2	6	6
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	22.5		22.5	22.5	22.5	22.5
Total Split (s)	24.0		36.0	36.0	36.0	36.0
Total Split (%)	40.0%		60.0%	60.0%	60.0%	60.0%
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0			0.0	0.0	0.0
Total Lost Time (s)	4.5			4.5	4.5	4.5
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None		C-Max	C-Max	C-Max	C-Max
Intersection Summary						
Area Type:	Other					
Cycle Length: 60						
Actuated Cycle Length: 60						
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow						
Natural Cycle: 45						
Control Type: Actuated-Coordinated						

Splits and Phases: 1: Grapefruit Bl. (Hwy. 111) & Tyler St.



HCM 6th Signalized Intersection Summary
1: Grapefruit Bl. (Hwy. 111) & Tyler St.

EAPC (2026) AM Peak Hour
WITH IMPROVEMENTS

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	236	9	15	401	363	147
Future Volume (veh/h)	236	9	15	401	363	147
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	0.99	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	281	11	18	477	432	175
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	344	13	78	1174	1211	1022
Arrive On Green	0.20	0.20	0.65	0.65	0.65	0.65
Sat Flow, veh/h	1700	67	25	1813	1870	1579
Grp Volume(v), veh/h	293	0	495	0	432	175
Grp Sat Flow(s),veh/h/ln	1772	0	1838	0	1870	1579
Q Serve(g_s), s	9.5	0.0	0.0	0.0	6.4	2.6
Cycle Q Clear(g_c), s	9.5	0.0	7.6	0.0	6.4	2.6
Prop In Lane	0.96	0.04	0.04			1.00
Lane Grp Cap(c), veh/h	359	0	1252	0	1211	1022
V/C Ratio(X)	0.82	0.00	0.40	0.00	0.36	0.17
Avail Cap(c_a), veh/h	576	0	1252	0	1211	1022
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	22.9	0.0	5.1	0.0	4.9	4.2
Incr Delay (d2), s/veh	4.8	0.0	0.9	0.0	0.8	0.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	0.0	1.9	0.0	1.7	0.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	27.7	0.0	6.0	0.0	5.7	4.6
LnGrp LOS	C		A		A	A
Approach Vol, veh/h	293			495	607	
Approach Delay, s/veh	27.7			6.0	5.4	
Approach LOS	C			A	A	
Timer - Assigned Phs	2		4		6	
Phs Duration (G+Y+Rc), s	43.3		16.7		43.3	
Change Period (Y+Rc), s	4.5		4.5		4.5	
Max Green Setting (Gmax), s	31.5		19.5		31.5	
Max Q Clear Time (g_c+l1), s	9.6		11.5		8.4	
Green Ext Time (p_c), s	2.9		0.5		3.1	
Intersection Summary						
HCM 6th Ctrl Delay, s/veh			10.3			
HCM 6th LOS			B			

Lanes, Volumes, Timings
2: Tyler St. & Ave. 53

EAPC (2026) AM Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	106	42	31	139	114	48
Future Volume (vph)	106	42	31	139	114	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	70			50
Storage Lanes	1	1	1			1
Taper Length (ft)	90		90			
Link Speed (mph)	35			50	50	
Link Distance (ft)	743			558	590	
Travel Time (s)	14.3			7.4	13.8	
Confl. Peds. (#/hr)	5	5	5			5
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

HCM 6th TWSC
2: Tyler St. & Ave. 53

EAPC (2026) AM Peak Hour

Intersection						
Int Delay, s/veh	4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	106	42	31	139	114	48
Future Vol, veh/h	106	42	31	139	114	48
Conflicting Peds, #/hr	5	5	5	0	0	5
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	70	-	-	50
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	119	47	35	156	128	54
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	364	74	187	0	-	0
Stage 1	133	-	-	-	-	-
Stage 2	231	-	-	-	-	-
Critical Hdwy	6.63	6.93	4.13	-	-	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-	-
Pot Cap-1 Maneuver	622	973	1386	-	-	-
Stage 1	880	-	-	-	-	-
Stage 2	807	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	600	964	1379	-	-	-
Mov Cap-2 Maneuver	600	-	-	-	-	-
Stage 1	854	-	-	-	-	-
Stage 2	803	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/v	11.5	1.4		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1379	-	600	964	-	-
HCM Lane V/C Ratio	0.025	-	0.199	0.049	-	-
HCM Control Delay (s/veh)	7.7	-	12.5	8.9	-	-
HCM Lane LOS	A	-	B	A	-	-
HCM 95th %tile Q (veh)	0.1	-	0.7	0.2	-	-

Lanes, Volumes, Timings
3: Tyler St. & Armtec Entrance

EAPC (2026) AM Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	7	4	10	164	114	41
Future Volume (vph)	7	4	10	164	114	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	100			50
Storage Lanes	1	1	1			1
Taper Length (ft)	90		90			
Link Speed (mph)	30			50	50	
Link Distance (ft)	583			1051	558	
Travel Time (s)	13.3			14.3	7.4	
Confl. Peds. (#/hr)	5	5	5			5
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

HCM 6th TWSC
3: Tyler St. & Armtec Entrance

EAPC (2026) AM Peak Hour

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	7	4	10	164	114	41
Future Vol, veh/h	7	4	10	164	114	41
Conflicting Peds, #/hr	5	5	5	0	0	5
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	100	-	-	50
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	75	75	75	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	5	13	219	152	55
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	407	86	212	0	-	0
Stage 1	157	-	-	-	-	-
Stage 2	250	-	-	-	-	-
Critical Hdwy	6.63	6.93	4.13	-	-	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-	-
Pot Cap-1 Maneuver	586	956	1357	-	-	-
Stage 1	856	-	-	-	-	-
Stage 2	791	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	574	947	1351	-	-	-
Mov Cap-2 Maneuver	632	-	-	-	-	-
Stage 1	843	-	-	-	-	-
Stage 2	787	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/v	10.1	0.4		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1351	-	632	947	-	-
HCM Lane V/C Ratio	0.01	-	0.015	0.006	-	-
HCM Control Delay (s/veh)	7.7	-	10.8	8.8	-	-
HCM Lane LOS	A	-	B	A	-	-
HCM 95th %tile Q (veh)	0	-	0	0	-	-

Lanes, Volumes, Timings
4: Grapefruit Bl. (Hwy. 111) & Palm St.

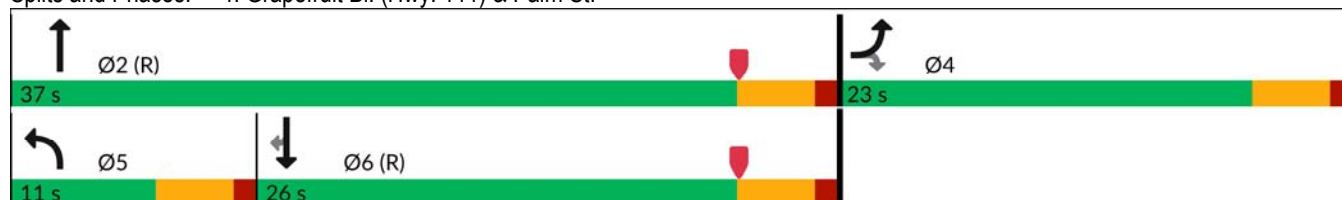
EAPC (2026) AM Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	92	35	37	394	250	144
Future Volume (vph)	92	35	37	394	250	144
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100	0	245			205
Storage Lanes	1	1	1			1
Taper Length (ft)	90		90			
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			45	45	
Link Distance (ft)	682			483	791	
Travel Time (s)	13.3			7.3	12.0	
Confl. Peds. (#/hr)	5	5	5			5
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Shared Lane Traffic (%)						
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	9.5	22.5	22.5	22.5
Total Split (s)	23.0	23.0	11.0	37.0	26.0	26.0
Total Split (%)	38.3%	38.3%	18.3%	61.7%	43.3%	43.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	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
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	C-Max	C-Max	C-Max

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 60
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 55
Control Type: Actuated-Coordinated

Splits and Phases: 4: Grapefruit Bl. (Hwy. 111) & Palm St.



HCM 6th Signalized Intersection Summary 4: Grapefruit Bl. (Hwy. 111) & Palm St.

EAPC (2026) AM Peak Hour

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	92	35	37	394	250	144
Future Volume (veh/h)	92	35	37	394	250	144
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	106	40	43	453	287	166
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	156	139	76	1426	1206	1018
Arrive On Green	0.09	0.09	0.04	0.76	0.64	0.64
Sat Flow, veh/h	1781	1585	1781	1870	1870	1579
Grp Volume(v), veh/h	106	40	43	453	287	166
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1870	1870	1579
Q Serve(g_s), s	3.5	1.4	1.4	4.6	3.9	2.5
Cycle Q Clear(g_c), s	3.5	1.4	1.4	4.6	3.9	2.5
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	156	139	76	1426	1206	1018
V/C Ratio(X)	0.68	0.29	0.57	0.32	0.24	0.16
Avail Cap(c_a), veh/h	549	489	193	1426	1206	1018
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.99	0.99	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.6	25.6	28.2	2.2	4.5	4.2
Incr Delay (d2), s/veh	5.1	1.1	6.5	0.6	0.5	0.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	1.3	0.7	0.5	1.0	0.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	31.6	26.7	34.6	2.8	4.9	4.6
LnGrp LOS	C	C	C	A	A	A
Approach Vol, veh/h	146			496	453	
Approach Delay, s/veh	30.3			5.6	4.8	
Approach LOS	C			A	A	
Timer - Assigned Phs	2			4	5	6
Phs Duration (G+Y+Rc), s	50.3			9.7	7.1	43.2
Change Period (Y+Rc), s	4.5			4.5	4.5	4.5
Max Green Setting (Gmax), s	32.5			18.5	6.5	21.5
Max Q Clear Time (g_c+I1), s	6.6			5.5	3.4	5.9
Green Ext Time (p_c), s	2.6			0.3	0.0	1.8
Intersection Summary						
HCM 6th Ctrl Delay, s/veh			8.6			
HCM 6th LOS			A			

Lanes, Volumes, Timings
5: Airport Bl. & Palm St.

EAPC (2026) AM Peak Hour

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	24	199	372	104	115	66
Future Volume (vph)	24	199	372	104	115	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	140			0	100	0
Storage Lanes	1			0	1	1
Taper Length (ft)	90				90	
Right Turn on Red				Yes		Yes
Link Speed (mph)		45	45		35	
Link Distance (ft)		684	1384		682	
Travel Time (s)		10.4	21.0		13.3	
Confl. Peds. (#/hr)	5			5	5	5
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Shared Lane Traffic (%)						
Turn Type	Prot	NA	NA		Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases						4
Detector Phase	5	2	6		4	4
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0
Minimum Split (s)	9.5	22.5	22.5		22.5	22.5
Total Split (s)	10.0	36.0	26.0		24.0	24.0
Total Split (%)	16.7%	60.0%	43.3%		40.0%	40.0%
Yellow Time (s)	3.5	3.5	3.5		3.5	3.5
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5		4.5	4.5
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None	C-Max	C-Max		Max	Max

Intersection Summary

Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 55
 Control Type: Actuated-Coordinated

Splits and Phases: 5: Airport Bl. & Palm St.



HCM 6th Signalized Intersection Summary
5: Airport Bl. & Palm St.

EAPC (2026) AM Peak Hour

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	24	199	372	104	115	66
Future Volume (veh/h)	24	199	372	104	115	66
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.99	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	27	224	418	117	129	74
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	54	1866	1152	319	579	515
Arrive On Green	0.03	0.52	0.42	0.42	0.32	0.32
Sat Flow, veh/h	1781	3647	2838	761	1781	1585
Grp Volume(v), veh/h	27	224	269	266	129	74
Grp Sat Flow(s),veh/h/ln	1781	1777	1777	1728	1781	1585
Q Serve(g_s), s	0.9	1.9	6.2	6.3	3.2	2.0
Cycle Q Clear(g_c), s	0.9	1.9	6.2	6.3	3.2	2.0
Prop In Lane	1.00			0.44	1.00	1.00
Lane Grp Cap(c), veh/h	54	1866	746	725	579	515
V/C Ratio(X)	0.50	0.12	0.36	0.37	0.22	0.14
Avail Cap(c_a), veh/h	163	1866	746	725	579	515
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.99	0.99
Uniform Delay (d), s/veh	28.6	7.2	11.9	11.9	14.7	14.3
Incr Delay (d2), s/veh	7.1	0.1	1.4	1.4	0.9	0.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.6	2.2	2.2	1.3	2.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	35.7	7.4	13.3	13.4	15.6	14.9
LnGrp LOS	D	A	B	B	B	B
Approach Vol, veh/h		251	535		203	
Approach Delay, s/veh		10.4	13.3		15.4	
Approach LOS		B	B		B	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		36.0		24.0	6.3	29.7
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		31.5		19.5	5.5	21.5
Max Q Clear Time (g_c+I1), s		3.9		5.2	2.9	8.3
Green Ext Time (p_c), s		1.3		0.5	0.0	2.4
Intersection Summary						
HCM 6th Ctrl Delay, s/veh			13.0			
HCM 6th LOS			B			

Lanes, Volumes, Timings
1: Grapefruit Bl. (Hwy. 111) & Tyler St.

EAPC (2026) PM Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	229	6	15	417	531	313
Future Volume (vph)	229	6	15	417	531	313
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	50			45	40	
Link Distance (ft)	455			1162	502	
Travel Time (s)	13.8			17.6	7.6	
Confl. Peds. (#/hr)	5	5	5			5
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Shared Lane Traffic (%)						
Sign Control	Stop			Stop	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

Intersection	
Intersection Delay, s/veh	39.9
Intersection LOS	E

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	229	6	15	417	531	313
Future Vol, veh/h	229	6	15	417	531	313
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	257	7	17	469	597	352
Number of Lanes	1	0	0	1	1	1

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay, s/veh	17.6	31.1	50.6
HCM LOS	C	D	F

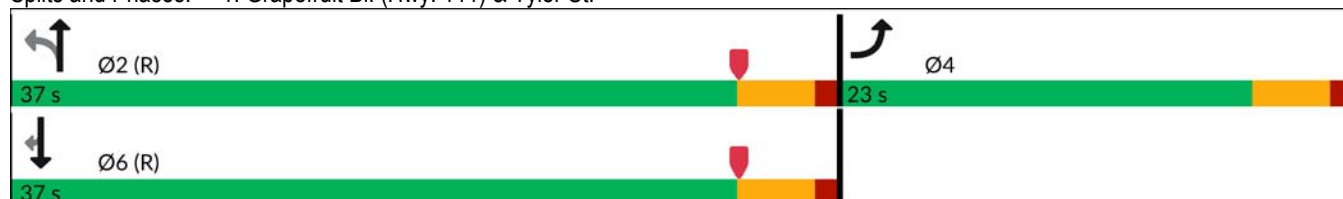
Lane	NBLn1	EBLn1	SBLn1	SBLn2
Vol Left, %	3%	97%	0%	0%
Vol Thru, %	97%	0%	100%	0%
Vol Right, %	0%	3%	0%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	432	235	531	313
LT Vol	15	229	0	0
Through Vol	417	0	531	0
RT Vol	0	6	0	313
Lane Flow Rate	485	264	597	352
Geometry Grp	4a	2	5	5
Degree of Util (X)	0.82	0.519	1.035	0.541
Departure Headway (Hd)	6.083	7.074	6.247	5.534
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	592	510	579	647
Service Time	4.143	5.134	4.016	3.302
HCM Lane V/C Ratio	0.819	0.518	1.031	0.544
HCM Control Delay, s/veh	31.1	17.6	71.7	14.7
HCM Lane LOS	D	C	F	B
HCM 95th-tile Q	8.4	3	16.2	3.2

Lanes, Volumes, Timings
1: Grapefruit Bl. (Hwy. 111) & Tyler St.

EAPC (2026) PM Peak Hour
WITH IMPROVEMENTS

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	229	6	15	417	531	313
Future Volume (vph)	229	6	15	417	531	313
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Right Turn on Red		Yes				Yes
Link Speed (mph)	50			45	40	
Link Distance (ft)	455			1162	502	
Travel Time (s)	6.2			17.6	8.6	
Confl. Peds. (#/hr)	5	5	5			5
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Shared Lane Traffic (%)						
Turn Type	Prot		Perm	NA	NA	Perm
Protected Phases	4			2	6	
Permitted Phases			2			6
Detector Phase	4		2	2	6	6
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	22.5		22.5	22.5	22.5	22.5
Total Split (s)	23.0		37.0	37.0	37.0	37.0
Total Split (%)	38.3%		61.7%	61.7%	61.7%	61.7%
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0			0.0	0.0	0.0
Total Lost Time (s)	4.5			4.5	4.5	4.5
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None		C-Max	C-Max	C-Max	C-Max
Intersection Summary						
Area Type:	Other					
Cycle Length: 60						
Actuated Cycle Length: 60						
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow						
Natural Cycle: 50						
Control Type: Actuated-Coordinated						

Splits and Phases: 1: Grapefruit Bl. (Hwy. 111) & Tyler St.



HCM 6th Signalized Intersection Summary
1: Grapefruit Bl. (Hwy. 111) & Tyler St.

EAPC (2026) PM Peak Hour
WITH IMPROVEMENTS

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	229	6	15	417	531	313
Future Volume (veh/h)	229	6	15	417	531	313
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	0.99	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	257	7	17	469	597	352
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	321	9	77	1194	1241	1048
Arrive On Green	0.19	0.19	0.66	0.66	0.66	0.66
Sat Flow, veh/h	1722	47	23	1799	1870	1579
Grp Volume(v), veh/h	265	0	486	0	597	352
Grp Sat Flow(s),veh/h/ln	1775	0	1821	0	1870	1579
Q Serve(g_s), s	8.6	0.0	0.0	0.0	9.5	5.8
Cycle Q Clear(g_c), s	8.6	0.0	7.1	0.0	9.5	5.8
Prop In Lane	0.97	0.03	0.03			1.00
Lane Grp Cap(c), veh/h	331	0	1271	0	1241	1048
V/C Ratio(X)	0.80	0.00	0.38	0.00	0.48	0.34
Avail Cap(c_a), veh/h	547	0	1271	0	1241	1048
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	23.3	0.0	4.6	0.0	5.0	4.4
Incr Delay (d2), s/veh	4.5	0.0	0.9	0.0	1.3	0.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	0.0	1.6	0.0	2.5	1.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	27.9	0.0	5.5	0.0	6.3	5.2
LnGrp LOS	C		A		A	A
Approach Vol, veh/h	265			486	949	
Approach Delay, s/veh	27.9			5.5	5.9	
Approach LOS	C			A	A	
Timer - Assigned Phs	2		4		6	
Phs Duration (G+Y+Rc), s	44.3		15.7		44.3	
Change Period (Y+Rc), s	4.5		4.5		4.5	
Max Green Setting (Gmax), s	32.5		18.5		32.5	
Max Q Clear Time (g_c+I1), s	9.1		10.6		11.5	
Green Ext Time (p_c), s	2.9		0.5		5.0	
Intersection Summary						
HCM 6th Ctrl Delay, s/veh			9.2			
HCM 6th LOS			A			

Lanes, Volumes, Timings
2: Tyler St. & Ave. 53

EAPC (2026) PM Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	83	38	42	152	164	164
Future Volume (vph)	83	38	42	152	164	164
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	70			50
Storage Lanes	1	1	1			1
Taper Length (ft)	90		90			
Link Speed (mph)	35			50	50	
Link Distance (ft)	743			558	590	
Travel Time (s)	14.3			7.4	13.8	
Confl. Peds. (#/hr)	5	5	5			5
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

HCM 6th TWSC
2: Tyler St. & Ave. 53

EAPC (2026) PM Peak Hour

Intersection						
Int Delay, s/veh	3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	83	38	42	152	164	164
Future Vol, veh/h	83	38	42	152	164	164
Conflicting Peds, #/hr	5	5	5	0	0	5
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	70	-	-	50
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	105	48	53	192	208	208
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	516	114	421	0	-	0
Stage 1	213	-	-	-	-	-
Stage 2	303	-	-	-	-	-
Critical Hdwy	6.63	6.93	4.13	-	-	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-	-
Pot Cap-1 Maneuver	504	918	1136	-	-	-
Stage 1	803	-	-	-	-	-
Stage 2	748	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	475	909	1131	-	-	-
Mov Cap-2 Maneuver	475	-	-	-	-	-
Stage 1	761	-	-	-	-	-
Stage 2	744	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/v	13	1.8		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1131	-	475	909	-	-
HCM Lane V/C Ratio	0.047	-	0.221	0.053	-	-
HCM Control Delay (s/veh)	8.3	-	14.7	9.2	-	-
HCM Lane LOS	A	-	B	A	-	-
HCM 95th %tile Q (veh)	0.1	-	0.8	0.2	-	-

Lanes, Volumes, Timings
3: Tyler St. & Armtec Entrance

EAPC (2026) PM Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	51	11	2	143	199	5
Future Volume (vph)	51	11	2	143	199	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	100			50
Storage Lanes	1	1	1			1
Taper Length (ft)	90		90			
Link Speed (mph)	30			50	50	
Link Distance (ft)	583			1051	558	
Travel Time (s)	13.3			14.3	7.4	
Confl. Peds. (#/hr)	5	5	5			5
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

HCM 6th TWSC
3: Tyler St. & Armtec Entrance

EAPC (2026) PM Peak Hour

Intersection						
Int Delay, s/veh	1.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	51	11	2	143	199	5
Future Vol, veh/h	51	11	2	143	199	5
Conflicting Peds, #/hr	5	5	5	0	0	5
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	100	-	-	50
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	75	75	75	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	68	15	3	191	265	7
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	472	143	277	0	-	0
Stage 1	270	-	-	-	-	-
Stage 2	202	-	-	-	-	-
Critical Hdwy	6.63	6.93	4.13	-	-	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-	-
Pot Cap-1 Maneuver	535	879	1284	-	-	-
Stage 1	752	-	-	-	-	-
Stage 2	831	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	529	871	1278	-	-	-
Mov Cap-2 Maneuver	598	-	-	-	-	-
Stage 1	747	-	-	-	-	-
Stage 2	827	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/v	11.3	0.1		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1278	-	598	871	-	-
HCM Lane V/C Ratio	0.002	-	0.114	0.017	-	-
HCM Control Delay (s/veh)	7.8	-	11.8	9.2	-	-
HCM Lane LOS	A	-	B	A	-	-
HCM 95th %tile Q (veh)	0	-	0.4	0.1	-	-

Lanes, Volumes, Timings
4: Grapefruit Bl. (Hwy. 111) & Palm St.

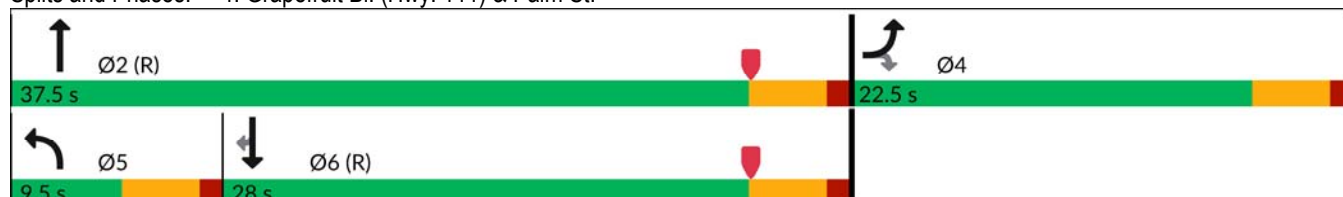
EAPC (2026) PM Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	173	47	33	329	535	163
Future Volume (vph)	173	47	33	329	535	163
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100	0	245			205
Storage Lanes	1	1	1			1
Taper Length (ft)	90		90			
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			45	45	
Link Distance (ft)	682			483	791	
Travel Time (s)	13.3			7.3	12.0	
Confl. Peds. (#/hr)	5	5	5			5
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Shared Lane Traffic (%)						
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	9.5	22.5	22.5	22.5
Total Split (s)	22.5	22.5	9.5	37.5	28.0	28.0
Total Split (%)	37.5%	37.5%	15.8%	62.5%	46.7%	46.7%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	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
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	C-Max	C-Max	C-Max

Intersection Summary

Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated

Splits and Phases: 4: Grapefruit Bl. (Hwy. 111) & Palm St.



HCM 6th Signalized Intersection Summary
4: Grapefruit Bl. (Hwy. 111) & Palm St.

EAPC (2026) PM Peak Hour

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	173	47	33	329	535	163
Future Volume (veh/h)	173	47	33	329	535	163
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	186	51	35	354	575	175
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	247	220	66	1330	1121	946
Arrive On Green	0.14	0.14	0.04	0.71	0.60	0.60
Sat Flow, veh/h	1781	1585	1781	1870	1870	1578
Grp Volume(v), veh/h	186	51	35	354	575	175
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1870	1870	1578
Q Serve(g_s), s	6.0	1.7	1.2	4.0	10.7	3.0
Cycle Q Clear(g_c), s	6.0	1.7	1.2	4.0	10.7	3.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	247	220	66	1330	1121	946
V/C Ratio(X)	0.75	0.23	0.53	0.27	0.51	0.18
Avail Cap(c_a), veh/h	534	476	148	1330	1121	946
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.95	0.95	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.8	23.0	28.4	3.1	7.0	5.4
Incr Delay (d2), s/veh	4.4	0.5	6.6	0.5	1.7	0.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	1.6	0.6	0.7	3.1	0.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	29.2	23.5	35.0	3.6	8.6	5.8
LnGrp LOS	C	C	C	A	A	A
Approach Vol, veh/h	237			389	750	
Approach Delay, s/veh	28.0			6.4	8.0	
Approach LOS	C			A	A	
Timer - Assigned Phs	2			4	5	6
Phs Duration (G+Y+Rc), s	47.2			12.8	6.7	40.5
Change Period (Y+Rc), s	4.5			4.5	4.5	4.5
Max Green Setting (Gmax), s	33.0			18.0	5.0	23.5
Max Q Clear Time (g_c+I1), s	6.0			8.0	3.2	12.7
Green Ext Time (p_c), s	1.9			0.5	0.0	3.0
Intersection Summary						
HCM 6th Ctrl Delay, s/veh			11.0			
HCM 6th LOS			B			

Lanes, Volumes, Timings
5: Airport Bl. & Palm St.

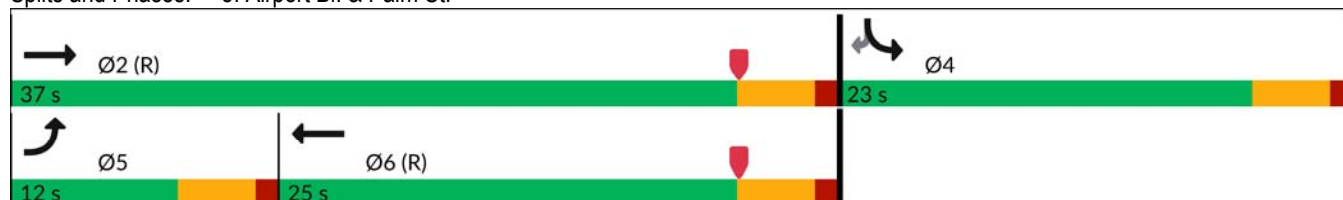
EAPC (2026) PM Peak Hour

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	58	319	204	161	132	64
Future Volume (vph)	58	319	204	161	132	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	140			0	100	0
Storage Lanes	1			0	1	1
Taper Length (ft)	90				90	
Right Turn on Red				Yes		Yes
Link Speed (mph)		45	45		35	
Link Distance (ft)		684	1384		682	
Travel Time (s)		10.4	21.0		13.3	
Confl. Peds. (#/hr)	5			5	5	5
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Shared Lane Traffic (%)						
Turn Type	Prot	NA	NA		Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases						4
Detector Phase	5	2	6		4	4
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0
Minimum Split (s)	9.5	22.5	22.5		22.5	22.5
Total Split (s)	12.0	37.0	25.0		23.0	23.0
Total Split (%)	20.0%	61.7%	41.7%		38.3%	38.3%
Yellow Time (s)	3.5	3.5	3.5		3.5	3.5
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5		4.5	4.5
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None	C-Max	C-Max		Max	Max

Intersection Summary

Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 55
 Control Type: Actuated-Coordinated

Splits and Phases: 5: Airport Bl. & Palm St.



HCM 6th Signalized Intersection Summary 5: Airport Bl. & Palm St.

EAPC (2026) PM Peak Hour

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	58	319	204	161	132	64
Future Volume (veh/h)	58	319	204	161	132	64
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.99	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	67	367	234	185	152	74
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	100	1925	789	597	549	489
Arrive On Green	0.06	0.54	0.41	0.41	0.31	0.31
Sat Flow, veh/h	1781	3647	2015	1453	1781	1585
Grp Volume(v), veh/h	67	367	216	203	152	74
Grp Sat Flow(s),veh/h/ln	1781	1777	1777	1598	1781	1585
Q Serve(g_s), s	2.2	3.2	4.9	5.2	3.9	2.0
Cycle Q Clear(g_c), s	2.2	3.2	4.9	5.2	3.9	2.0
Prop In Lane	1.00			0.91	1.00	1.00
Lane Grp Cap(c), veh/h	100	1925	730	656	549	489
V/C Ratio(X)	0.67	0.19	0.30	0.31	0.28	0.15
Avail Cap(c_a), veh/h	223	1925	730	656	549	489
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.99	0.99
Uniform Delay (d), s/veh	27.8	7.0	11.9	11.9	15.7	15.1
Incr Delay (d2), s/veh	7.6	0.2	1.0	1.2	1.2	0.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.9	1.7	1.7	1.6	2.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	35.3	7.2	12.9	13.2	16.9	15.7
LnGrp LOS	D	A	B	B	B	B
Approach Vol, veh/h		434	419		226	
Approach Delay, s/veh		11.6	13.0		16.5	
Approach LOS		B	B		B	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		37.0		23.0	7.9	29.1
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		32.5		18.5	7.5	20.5
Max Q Clear Time (g_c+I1), s		5.2		5.9	4.2	7.2
Green Ext Time (p_c), s		2.2		0.5	0.0	1.9
Intersection Summary						
HCM 6th Ctrl Delay, s/veh			13.2			
HCM 6th LOS			B			

APPENDIX 7.1: VEHICLE MILES TRAVELED (VMT) SCREENING

This Page Intentionally Left Blank

*Screening
Conclusion accepted
as presented.
6.18.24*

*Include in TIA,
LIST IN TIA TOC.*

May 23, 2024

Mr. Andrew Simmons, P.E.
City of Coachella
53990 Enterprise Way
Coachella, CA 92236

ARMTEC MASTER PLAN VEHICLE MILES TRAVELED (VMT) SCREENING

Mr. Andrew Simmons, P.E.,

Urban Crossroads, Inc. is pleased to provide the following Vehicle Miles Traveled (VMT) Screening for the Armtec Master Plan development (Project), which is located at the southwest corner of Tyler Street and Avenue 53 in the City of Coachella.

PROJECT OVERVIEW

It is our understanding that the Project is to consist of the expansion of an existing defense technologies facility. A preliminary master plan for the proposed Project is shown on Exhibit 1. Access to the Project is provided via the Armtec Entrance, which is a full access driveway to Tyler Street (located south of Avenue 53).

The Project total addition to the existing site includes:

- 15,000 SF of Production Facility (Manufacturing) ✓
- 37,800 SF Storage Facilities (Warehousing) ✓
- 3,000 SF of Research & Development ✓

BACKGROUND

Changes to California Environmental Quality Act (CEQA) Guidelines were adopted in December 2018, which requires all lead agencies to adopt VMT as a replacement for automobile delay-based level of service (LOS) as the new measure for identifying transportation impacts for land use projects. This statewide mandate went into effect July 1, 2020. To aid in this transition, the Governor's Office of Planning and Research (OPR) released a Technical Advisory on Evaluating Transportation Impacts in CEQA (December of 2018) (**Technical Advisory**) (1). Based on OPR's Technical Advisory, the County of Riverside adopted their Transportation Analysis Guidelines for Level of Service Vehicle Miles Traveled (December of 2020) (**County Guidelines**) (2).

The adopted County Guidelines have been utilized to prepare this VMT screening assessment.

Consistent with County Guidelines, projects should evaluate available screening criteria based on their location and project type to determine if a presumption of a less than significant transportation impact can be made. The following project screening thresholds were selected for review based on their applicability to the proposed Project:

- Small Projects Screening
- High Quality Transit Areas (HQTAs) Screening
- Map-Based Screening

SMALL PROJECTS SCREENING

County Guidelines identify those projects forecasted to generate greenhouse gas (GHG) emissions below 3,000 Metric Tons of Carbon Dioxide Equivalent (MTCO_{2e}) per year are also assumed to cause a less than significant VMT impact.¹ The County Guidelines provides a list of land use types based on quantity (i.e., dwelling units or square footage) and provides a typical development potential to be below the 3,000 MTCO_{2e} per year. Warehouse buildings sized 208,000 square feet, industrial buildings sized 179,000 square feet and below and office buildings sized 165,000 square feet and below have been identified to meet the County threshold². In addition, if project trip generation is less than 110 trips per day per the ITE Manual, the Project is presumed to cause a less-than-significant impact.

The Project warehouse quantity of 37,800 SF is approximately 18% of the 208,000 SF warehouse VMT screening criteria. The Project manufacturing quantity of 15,000 SF is approximately 8% of the 179,000 SF industrial VMT screening criteria. The Project research and development quantity of 3,000 SF is approximately 2% of the 165,000 SF office VMT screening criteria.

✓ **Small Projects screening criteria is met.**

HIGH QUALITY TRANSIT AREAS (HQTAs) SCREENING

Projects located within a Transit Priority Area (TPA) (i.e., within ½ mile of an existing “major transit stop”³ or an existing stop along a “high-quality transit corridor”⁴) may be presumed to have a less than significant impact absent substantial evidence to the contrary. The Project is not located within ½ mile of an existing major transit stop, or along a high-quality transit corridor.

HQTA screening criteria is not met.

¹ County Guidelines; Page 19.

² County Guidelines; Page 42, Table 1

³ Pub. Resources Code, § 21064.3 (“‘Major transit stop’ means a site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods.”).

⁴ Pub. Resources Code, § 21155 (“For purposes of this section, a high-quality transit corridor means a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours.”).

EXHIBIT 1: ARMTEC MASTER PLAN



MAP-BASED SCREENING

The County Guidelines note that “office projects that locate in areas with low VMT, and that incorporate similar features (i.e., density, mix of uses, transit accessibility), will tend to exhibit similarly low VMT.”⁵ County Guidelines also state that the use of map-based screening is also applicable for other employment uses, so map-based screening applies to the entire Project. Urban Crossroads has obtained a VMT data table from County Staff for all TAZs within Riverside County that identifies VMT per employee for the purposes of identifying low VMT areas. The data utilizes the sub-regional Riverside Transportation Analysis Model (RIVTAM) to measure baseline VMT performance, and a comparison was made to the applicable impact threshold.

The Project’s TAZ was identified in the Riverside County Transportation Analysis Model (RIVTAM) as TAZ 4831. The County’s data table identifies the Project’s TAZ 4831 to generate 16.70 VMT per employee. Whereas the County regional threshold is 14.2 VMT per employee⁶, the Project is not located in a low VMT area.

Map-Based screening criteria is not met.

CONCLUSION

✓ In summary, the Project was evaluated consistent with available screening criteria as presented in the County Guidelines. The small project screening criteria is met, so a full analysis of VMT associated with site employment is not required. The Project is presumed to have a less than significant impact on VMT.

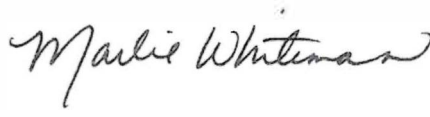
If you have any questions, please contact us at jkain@urbanxroads.com for John or mwhiteman@urbanxroads.com for Marlie.

Respectfully submitted,

URBAN CROSSROADS, INC.



John Kain, AICP
Principal



Marlie Whiteman, P.E.
Senior Associate

⁵ Technical Advisory; Page 12

⁶ County Guidelines; Page 22

REFERENCES

1. **Office of Planning and Research.** *Technical Advisory on Evaluating Transportation Impacts in CEQA.* State of California : s.n., December 2018.
2. **County of Riverside.** *Transportation Analysis Guidelines for Level of Service Vehicle Miles Traveled.* County of Riverside : s.n., December 2020.

This Page Intentionally Left Blank