



Kassab Travel Center Project

Appendix K Traffic Impact Study

Traffic Impact Study

KASSAB TRAVEL CENTER CITY OF LAKE ELSINORE, CA

Prepared for:
Sagecrest Planning+Environmental

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Executive Summary

This section provides an executive summary of the Traffic Impact Study through a set of frequently asked questions (FAQs).

Where is the project located and what would be developed?

The proposed project is located at 29301 Riverside Drive (northwest corner of Collier Avenue/Riverside Drive) in the City of Lake Elsinore in Riverside County (County). The proposed project is proposing an 18 fueling position gas station with convenience mart, and a 2,540 square foot fast-food restaurant with a drive-through.

What existing public streets will serve the project and where is access proposed?

A full access driveway on Collier Avenue and one right turn in/out restricted driveway on Riverside Drive (SR-74) would provide access to the project. The project will restripe the southbound approach at Collier Avenue/Riverside Drive (SR-74) to consist of one right lane and one shared-left lane in order to construct an additional northbound left-turn lane for the Collier Avenue driveway. Regional access would be provided by the I-15 freeway via interchanges at Nichols Road and Central Avenue (SR-74).

Is the site currently served by public transit?

The project site is served by RTA Route 8 and 22. A bus stop is located on the northeast corner of Collier Avenue/Riverside Drive. There is weekday and weekend service along Collier Avenue.

How many daily vehicular trips would the project generate and when would peak traffic volumes occur?

The proposed project is proposing an 18 fueling position gas station with convenience mart, and a 2,540 square foot fast-food restaurant with a drive-through. This project is expected to generate a net of 1,919 daily trips, 129 AM peak hour trips (65 inbound and 64 outbound), and 148 PM peak hour trips (75 inbound and 73 outbound).

What Transportation impacts are anticipated, if any?

The following intersections are forecast to be impacted under the Existing plus Project condition:

- I-15 NB Ramps/Nichols Road (remains at LOS F during the AM peak hour)
- Collier Avenue/Nichols Road (LOS D to LOS E during the PM peak hour)
- Gunnerson Street-Strickland Avenue/Riverside Drive (SR-74) (remains at LOS F during both peak hours)

The following intersections are forecast to be impacted under the Existing plus Ambient Growth plus Project condition:

- I-15 NB Ramps/Nichols Road (remains at LOS F during the AM peak hour, LOS D to LOS E during the PM peak hour)
- Collier Avenue/Nichols Road (LOS D to LOS E during the PM peak hour)
- Gunnerson Street-Strickland Avenue/Riverside Drive (SR-74) (remains at LOS F during both peak hours)

The following intersections are forecast to be impacted under the Existing plus Ambient Growth plus Project plus Cumulative Projects condition:

- I-15 NB Ramps/Nichols Road (LOS F during both peak hours)
- Collier Avenue/Nichols Road (LOS E during the AM peak hour and LOS F during the PM peak hour)
- Collier Avenue (SR-74)/Central Avenue (SR-74) (LOS E during both peak hours)
- I-15 SB Ramps/Central Avenue (SR-74) (LOS F during the PM peak hour)
- Dexter Avenue/Central Avenue (SR-74) (LOS E during the AM peak hour)
- Gunnerson Street-Strickland Avenue/Riverside Drive (SR-74) (LOS F during both peak hours)

What measures are proposed to reduce or control traffic impacts?

The following mitigation measures are recommended to improve the LOS at impacted intersections. These mitigation measures are applicable to the Existing plus Project scenario:

Prior to issuance of Certificate of Occupancy, the proposed project shall pay its fair-share to construct the following improvements:

- I-15 NB Ramps/Nichols Road – The peak hour volumes at this intersection would not satisfy the peak hour signal warrant. The following improvement is needed to mitigate intersection LOS:
 - Convert this intersection into an all-way-stop. With this mitigation, the intersection is forecast to operate at LOS C during the AM peak hour.
 - The City and Caltrans have recently converted this intersection to an all-way-stop configuration consistent with this mitigation measure. Therefore, the requirement for this mitigation measure has been satisfied.
- Gunnerson Street-Strickland Avenue/Riverside Drive (SR-74) –The following improvement is needed to mitigate intersection LOS:
 - Convert this intersection into a signalized intersection when the traffic volumes would satisfy signal warrants. With this mitigation, the intersection is forecast to operate at LOS A during the AM peak hour.

Prior to issuance of Certificate of Occupancy, the proposed project shall construct the following improvements:

- Collier Avenue/Nichols Road – Although the peak hour volumes at this intersection would satisfy the peak hour signal warrant for the PM peak hour, a signal is not needed to improve LOS back to LOS D or better. The following improvement would mitigate intersection LOS without the installation of a traffic signal:
 - Convert this intersection into an all-way-stop. With this mitigation, the intersection is forecast to operate at LOS B during the PM peak hour.

The following mitigation measures are recommended to improve the LOS at impacted intersections. These mitigation measures are applicable to the Existing plus Ambient Growth plus Project scenario:

Prior to issuance of Certificate of Occupancy, the proposed project shall pay its fair-share to construct the following improvements:

- Gunnerson Street-Strickland Avenue/Riverside Drive (SR-74) –The following improvement is needed to mitigate intersection LOS:

- Convert this intersection into a signalized intersection when the traffic volumes would satisfy signal warrants. With this mitigation, the intersection is forecast to operate at LOS A during the AM peak hour.
- I-15 NB Ramps/Nichols Road – The peak hour volumes at this intersection would not satisfy the peak hour signal warrant. The following improvement is needed to mitigate intersection LOS:
 - Convert this intersection into an all-way-stop. With this mitigation, the intersection is forecast to operate at LOS D during the AM peak hour and LOS B during the PM peak hour.
 - The City and Caltrans have recently converted this intersection to an all-way-stop configuration consistent with this mitigation measure. Therefore, the requirement for this mitigation measure has been satisfied.

Prior to issuance of Certificate of Occupancy, the proposed project shall construct the following improvements:

- ~~● I-15 NB Ramps/Nichols Road – The peak hour volumes at this intersection would not satisfy the peak hour signal warrant. The following improvement is needed to mitigate intersection LOS:~~
 - ~~○ Convert this intersection into an all-way-stop. With this mitigation, the intersection is forecast to operate at LOS D during the AM peak hour and LOS B during the PM peak hour.~~
- Collier Avenue/Nichols Road – Although the peak hour volumes at this intersection would satisfy the peak hour signal warrant for the PM peak hour, a signal is not needed to improve LOS back to LOS D or better. The following improvement would mitigate intersection LOS without the installation of a traffic signal:
 - Convert this intersection into an all-way-stop. With this mitigation, the intersection is forecast to operate at LOS C during the PM peak hour.

The following mitigation measures are recommended to improve the LOS at impacted intersections. These mitigation measures are applicable to the Existing plus Ambient Growth plus Project plus Cumulative Projects scenario:

Prior to issuance of Certificate of Occupancy, the proposed project shall pay its fair-share to construct the following improvements:

- I-15 NB Ramps/Nichols Road – ~~Although, it~~ The peak hour volumes at this intersection would not satisfy the peak hour signal warrant for the AM peak hour, ~~a signal is not needed to improve LOS back to LOS D or better.~~ The following improvement is needed to mitigate intersection LOS:
 - Convert this intersection into an all-way-stop. With this mitigation, the intersection is forecast to operate at LOS B during both the AM and PM.
 - The City and Caltrans have recently converted this intersection to an all-way-stop configuration consistent with this mitigation measure. Therefore, the requirement for this mitigation measure has been satisfied.
- ~~● Collier Avenue/Nichols Road – Although the peak hour volumes at this intersection would satisfy the peak hour signal warrant for the PM peak hour, a signal is not needed to improve LOS back to LOS D or better. The following improvement would mitigate intersection LOS without the installation of a traffic signal:~~
 - ~~○ Convert this intersection into an all-way-stop. With this mitigation, the intersection is forecast to operate at LOS D during the AM peak hour and LOS C during the PM peak hour.~~

- Collier Avenue (SR-74)/Riverside Drive (SR-74) – The following improvement is needed to mitigate intersection LOS:
 - Restripe two southbound approach lanes to one southbound through-left and one southbound through-right lane. With this mitigation, the intersection is forecast to operate at LOS D during both the AM and PM peak hour.
- I-15 SB Ramps/Central Avenue (SR-74) – The following improvement is needed to mitigate intersection LOS:
 - Install a third eastbound through lane and install a second (dual) southbound left turn lane. With this mitigation, the intersection is forecast to operate at LOS C during the AM peak hour.
- Dexter Avenue /Central Avenue (SR-74) – The following improvement is needed to mitigate intersection LOS:
 - Change northbound left turn phasing to protected-permitted. With this mitigation, the intersection is forecast to operate at LOS D during the AM peak hour.
- Gunnerson Street-Strickland Avenue/Riverside Drive (SR-74) –The following improvement is needed to mitigate intersection LOS:
 - Convert this intersection into a signalized intersection when the traffic volumes would satisfy signal warrants. With this mitigation, the intersection is forecast to operate at LOS B during the AM peak hour and LOS C during the PM peak hour.

Prior to issuance of Certificate of Occupancy, the proposed project shall construct the following improvements:

- Collier Avenue/Nichols Road – Although the peak hour volumes at this intersection would satisfy the peak hour signal warrant for the PM peak hour, a signal is not needed to improve LOS back to LOS D or better. The following improvement would mitigate intersection LOS without the installation of a traffic signal:
 - Convert this intersection into an all-way-stop. With this mitigation, the intersection is forecast to operate at LOS D during the AM peak hour and LOS C during the PM peak hour.
- The project's fair share percentages range from 0.9 percent through 12.5 percent for the intersection improvements discussed above.
- All roadway segments operate at LOS D or better and would operate within the City's standard of LOS D, except for Riverside Drive (SR-74), west of Collier Avenue. This segment is currently operating at LOS E-F under existing conditions, and is forecast to continue to operate at LOS E-F under Existing plus Ambient Growth plus Project conditions, as well as with the addition of traffic from cumulative projects (Existing plus Ambient Growth plus Project plus Cumulative Projects). Collier Avenue, south of Riverside Drive (SR-74) in the Existing plus Ambient Growth plus Project plus Cumulative Projects condition is forecast to degrade to LOS F with the addition of Cumulative Project traffic.

Currently, Riverside Drive (SR-74), along the project's frontage, is also not constructed to its ultimate Urban Arterial width of 96 feet, curb-to-curb. It is currently unimproved (i.e., no curb-and-gutter), and has approximately 48 to 52 feet of pavement. Based on review of the project site plan, the proposed project will dedicate between 21 feet and 36 feet (street tapers in toward the west) in order to allow their half-section of Riverside Drive to be consistent with the Urban Arterial (half) cross section (center median, three travel lanes, six foot bike lane, and 6 foot sidewalk – in one direction). The project will follow Caltrans standards to improve its section of Riverside Drive. Street improvements on the north side of Riverside Drive

(SR-74), along the project's frontage, will conform with Caltrans roadway design standards.

The roadway segment of Riverside Drive, west of Collier Avenue is part of the TUMF network and is to be improved to its ultimate width using those funds. However, with the project improvements listed above, and the addition of project traffic (approximately 540 ADT), this segment of Riverside Drive (SR-74) is forecast to continue to operate at LOS E-F under both conditions. The project's fair share percentage for the roadway segment of Riverside Drive (SR-74), west of Collier Avenue would be 5.2 percent. Collier Avenue, south of Riverside Drive (SR-74), with the addition of project traffic (approximately 1,056 ADT), this segment of Collier Avenue (SR-74) is forecast to continue to operate LOS E-F under Existing plus Ambient Growth plus Project conditions. The project's fair share percentage for the roadway segment of Collier Avenue, south of Riverside Drive (SR-74) would be 9.6 percent.

Chapter 1. Introduction

The purpose of this traffic impact study (TIS) is to identify potential traffic-related impacts associated with the proposed Kassab Travel Center (proposed project), located at 29301 Riverside Drive (northwest corner of Collier Avenue/Riverside Drive) in the City of Lake Elsinore (City) in Riverside County (County). As necessary, and if required, mitigation measures will be identified to offset or reduce significant impacts.

This TIS has been prepared consistent with the requirements of the Riverside County Transportation Department *Traffic Impact Analysis Preparation Guide* (April 2008) and the City of Lake Elsinore General Plan. A *Scoping Agreement for Traffic Impact Study* has been submitted to, and approved, by the City Traffic Engineer, and is provided as an attachment to this TIS in Appendix A.

Figure 1 illustrates the project site location and the project study area.

Project Description

The project proposes to construct an 18 pump gas station with an 8,360 square foot (SF) convenience store containing two quick serve restaurants; and, a 2,543 SF fast food restaurant with drive through. Access to the project site would be via one driveway off Collier Avenue and one driveway off Riverside Drive. The project site plan is provided in Figure 2.

The current General Plan designation of the site is Limited Industrial and the site is zoned as Commercial Manufacturing. The proposed land use is Commercial with the proposed zoning as Commercial Manufacturing.

Pedestrian facilities, in the form of sidewalks, are proposed along the project's frontages on Collier Avenue and Riverside Drive. These sidewalks are shown to be 5 feet in width on Collier Avenue and 6 feet in width on Riverside Drive; and, will be constructed to be consistent with Caltrans and the City's Standard Plans. The proposed sidewalk on the west side of Collier Avenue would connect to the existing sidewalk north of the project site, which provides continuous pedestrian access to the adjacent retail and industrial uses, including the Outlets at Lake Elsinore, further to the north. The proposed sidewalk on the north side of Riverside Drive would be constructed just along the project frontage, as there are no other existing pedestrian facilities to connect with west of the project site.

Collier Avenue and Riverside Drive Improvements

Per the City's General Plan Roadway Classifications (Figure 2.3 of General Plan), Collier Avenue, north of Riverside Drive (along the project's frontage), is classified as a Major roadway with four lanes and a 100 foot right-of-way (80 feet, curb-to-curb). Riverside Drive (SR-74), west of Collier Avenue (along the project's frontage), is classified as an Urban Arterial with six lanes and a 120 foot right-of-way (96 feet, curb-to-curb). Figure 3, illustrates the street cross sections for a Major roadway and Urban Arterial.

The project will restripe the southbound approach at Collier Avenue/Riverside Drive (SR-74) to consist of one right lane and one shared-left lane in order to construct an additional northbound left-turn lane for the Collier Avenue driveway. Therefore, all project scenarios incorporate this alteration in geometrics. Figure 2 illustrates this change in access.

Currently, Collier Avenue, along the project's frontage, is not constructed to its ultimate Major roadway width of 80 feet, curb-to-curb. It is approximately 76 feet, curb-to-curb. Based on review of the project site plan, the proposed project will dedicate approximately 10 feet in order to allow their half-section of Collier Avenue to be consistent with the Major roadway

(half) cross section (center median, two travel lanes, six foot bike lane, and 5 foot sidewalk – in one direction). Street improvements on the west side of Collier Avenue, along the project's frontage, will conform with City roadway design standards.

- Widened roadway, with curb-and-gutter, on the west side of the centerline to include:
 - Widened sidewalk/landscape/parkway from six feet to 10 feet
 - New six foot wide bike lane (Class II – striped, on-pavement)

These improvements will be constructed to be consistent with the General Plan and the City's Standard Plans.

Currently, Riverside Drive (SR-74), along the project's frontage, is also not constructed to its ultimate Urban Arterial width of 96 feet, curb-to-curb. It is currently unimproved (i.e., no curb-and-gutter), and has approximately 48 to 52 feet of pavement. Based on review of the project site plan, the proposed project will dedicate between 21 feet and 36 feet (street tapers in toward the west) in order to allow their half-section of Riverside Drive to be consistent with the Urban Arterial (half) cross section (center median, three travel lanes, six foot bike lane, and 6 foot sidewalk – in one direction). With the street dedication on the north side (project frontage), the pavement width would be approximately 74 feet (48 feet from curb face to new centerline, plus 26 feet of existing pavement on the south side of the street). The project will follow Caltrans standards to improve its section of Riverside Drive. Street improvements on the north side of Riverside Drive (SR-74), along the project's frontage, will conform with Caltrans roadway design standards.

Study Area and Scope

Per the Scoping Agreement, this analysis focuses on the weekday AM (7:00 to 9:00 AM) peak period and the PM (4:00 to 6:00 PM) peak period. These periods represent the highest cumulative total traffic for the adjacent street system. The study intersections include:

1. I-15 NB ramps/Nichols Road
2. I-15 SB ramps/Nichols Road
3. Collier Avenue/Nichols Road
4. Collier Avenue (SR-74)/Riverside Drive (SR-74)
5. Collier Avenue (SR-74)/Hunco Way
6. Collier Avenue (SR-74)/Central Avenue (SR-74)
7. I-15 SB ramps/Central Avenue (SR-74)
8. I-15 NB ramps/Central Avenue (SR-74)
9. Dexter Avenue/Central Avenue (SR-74)
10. Gunnerson Street-Strickland Avenue/Riverside Drive (SR-74)
11. Lakeshore Drive/Riverside Drive (SR-74)

The study roadway segments include:

- Riverside Drive (SR-74), west of Collier Avenue
- Collier Avenue, north of Riverside Drive (SR-74)
- Collier Avenue, south of Riverside Drive (SR-74)

The study intersections were analyzed for the following scenarios:

- Existing Condition
- Existing plus Project
- Existing plus Ambient Growth plus Project
- Existing plus Ambient Growth plus Project plus Cumulative Projects

This TIS includes a description of existing conditions in the site vicinity, including roadway network, existing and future weekday AM and PM peak hour traffic volumes, and traffic operations.

A supplemental technical memorandum, *Buildout Year 2035 Supplemental Traffic Analysis for Kassab Travel Center, City of Lake Elsinore* (Dudek, December 2017), has been prepared for the Build-out (General Plan) scenario. This technical memorandum has already been submitted to, and approved by, the City and Caltrans. This analysis conservatively adds all net project trips to the study area in the Buildout plus Project condition.

Methodology

Signalized intersections. The operational characteristics of an intersection are determined by calculating the intersection's level of service (LOS). The intersection as a whole and its individual turning movements can be described alphabetically with a range of levels of service (A through F), with LOS A indicating free-flow traffic and LOS F indicating extreme congestion and long vehicle delays. At signalized intersections, LOS was calculated using the *Highway Capacity Manual 2010* (HCM) methodology. LOS at signalized intersections is measured based on the average vehicle delay of all of the movements. The *Synchro/SimTraffic* (version 10) software was utilized to analyze intersection delay, LOS, and queues. The *Synchro/SimTraffic* software is consistent with HCM methodologies. Table 1 shows the relationship between v/c ratio and LOS for signalized intersections.

Table 1. Level of Service Criteria for Signalized Intersections using HCM Methodology

Level of Service	Average Control Delay	General Description (Signalized Intersections)
A	0.0 – 10.0 seconds	Free Flow
B	10.1 – 20.0 seconds	Stable Flow (slight delays)
C	20.1 – 35.0 seconds	Stable flow (acceptable delays)
D	35.1 to 55.0 seconds	Approaching unstable flow (tolerable delay, occasionally wait through more than one signal cycle before proceeding)
E	55.1 to 80.0 seconds	Unstable flow (intolerable delay)
F	80.1 seconds or greater	Forced flow (jammed)

Unsignalized intersections. LOS at unsignalized intersections is classified by two intersection types: all-way stop-controlled and two-way stop-controlled. LOS for unsignalized intersections was also calculated using the *Synchro/SimTraffic* LOS software which is consistent with HCM methodology. All-way, stop-controlled intersection LOS is expressed in terms of the average vehicle delay of all of the movements, much like that of a signalized intersection. Two-way, stop-controlled intersection LOS is defined in terms of the average vehicle delay of an individual movement(s). This is because the performance of a two-way, stop-controlled intersection is more closely reflected in terms of its individual movements, rather than its performance overall. For this reason, LOS for a two-way, stop-controlled intersection is defined in terms of its individual movements. With this in mind, total average vehicle delay (i.e., average delay of all movements) for a two-way, stop-controlled intersection should be viewed with discretion. Table 2 shows the relationship between vehicle delay and LOS for unsignalized intersections (both all-way and two-way, stop-controlled).

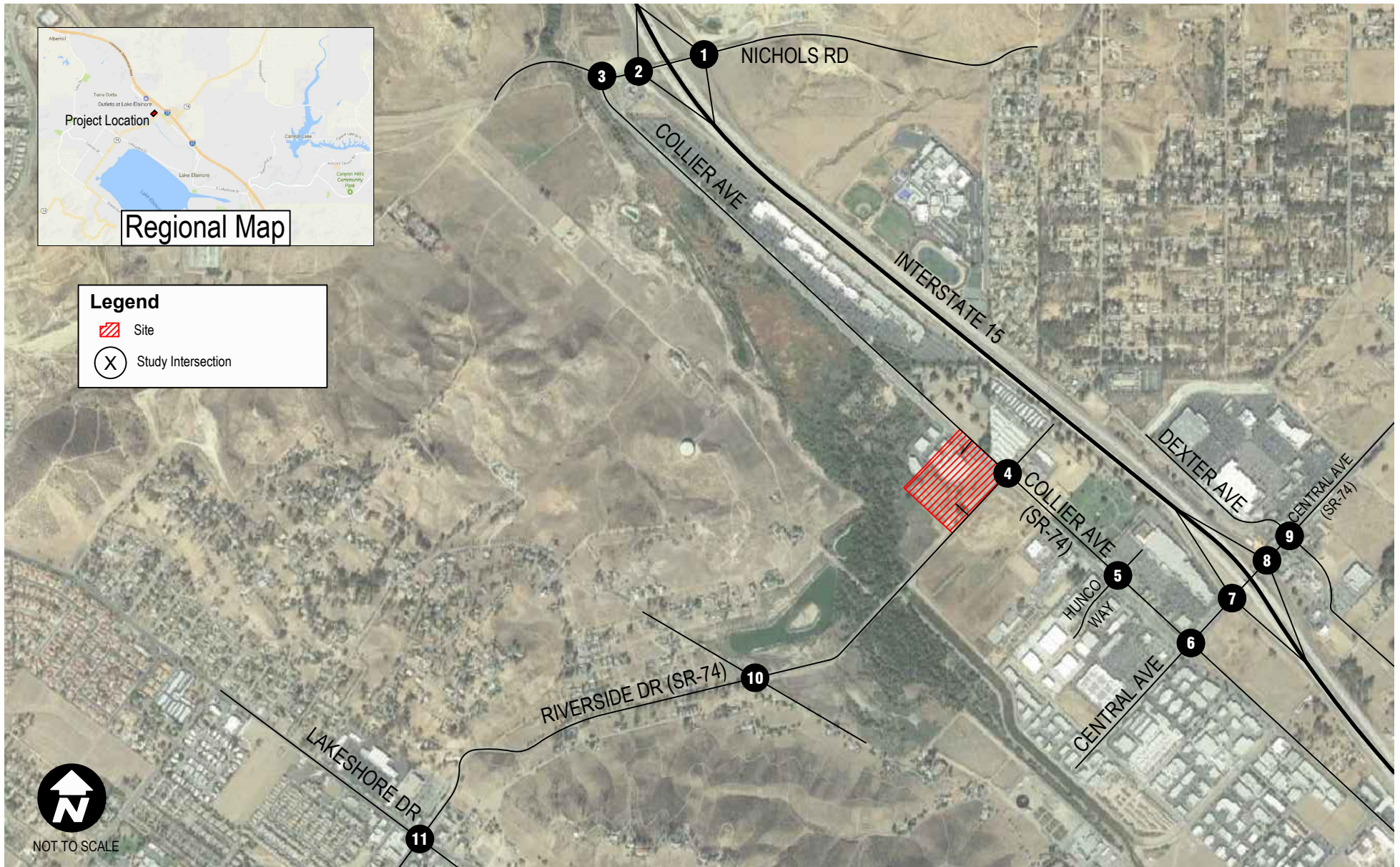
Table 2. Level of Service Criteria for Unsignalized Intersections

Level of Service	Two-Way and All-Way Stop Average Control Delay (sec/veh)
A	0 - 10
B	>10 - 15
C	>15 - 25
D	>25 - 35
E	>35 - 50
F	>50

Source: *Highway Capacity Manual*, Transportation Research Board, 2010.

Future Traffic Forecasts. Existing plus Ambient Growth plus Project volumes were determined by adding a growth rate of two (2) percent per year to the existing traffic volumes as directed by the City staff. Existing plus Ambient Growth plus Project plus Cumulative Projects traffic volumes were determined by adding traffic from cumulative (approved and/or pending) projects to the Existing plus Ambient Growth plus Project scenario.

Significance Criteria. According to the City's General Plan Circulation Element, the worst acceptable level of service for study area intersections would be LOS D. Facilities operating at, or are forecast to operate at, LOS E or F would be considered deficient.



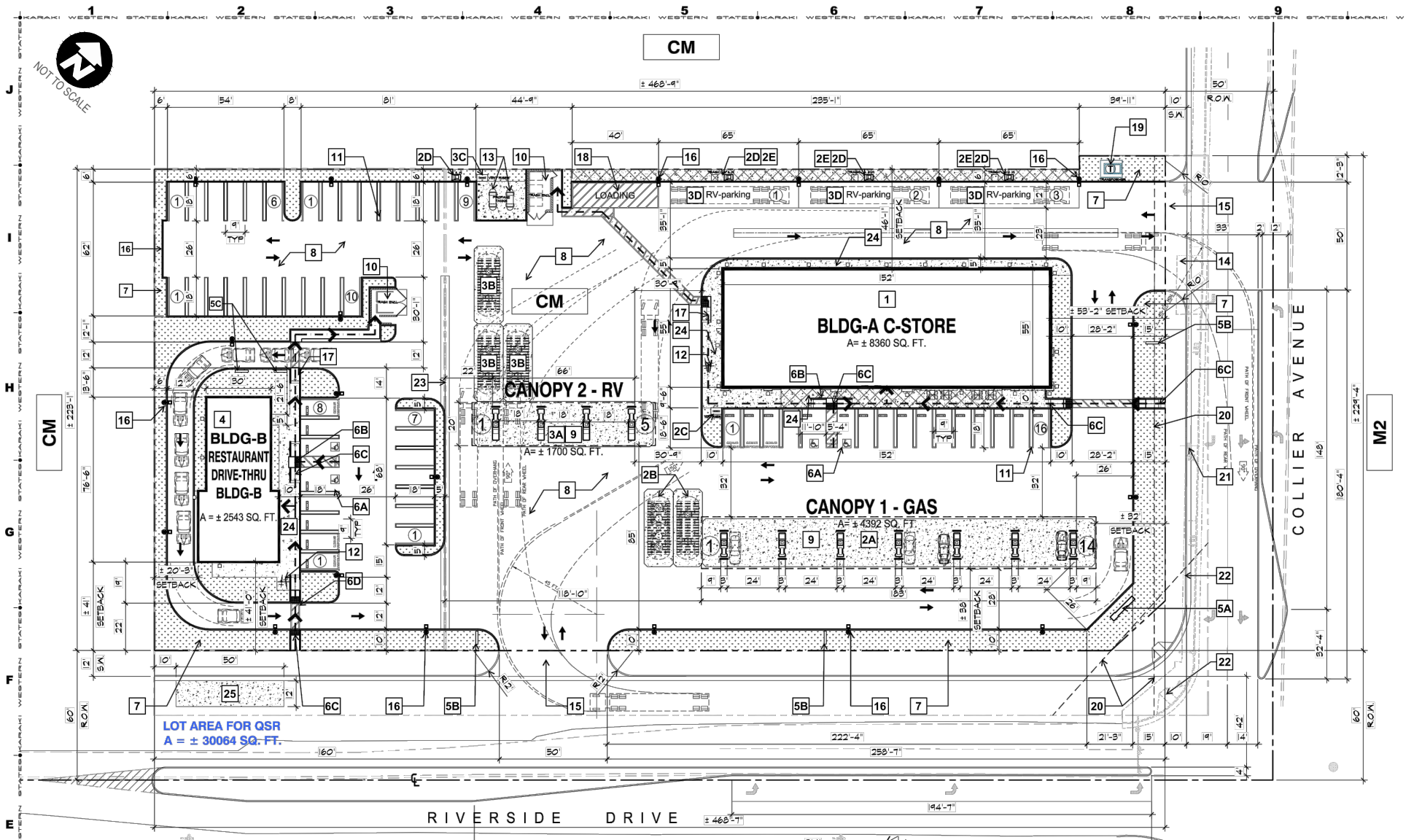
Source: Google Maps, 10/2016

Project Site Location and Study Area

Kassab Travel Center TIA

FIGURE

1

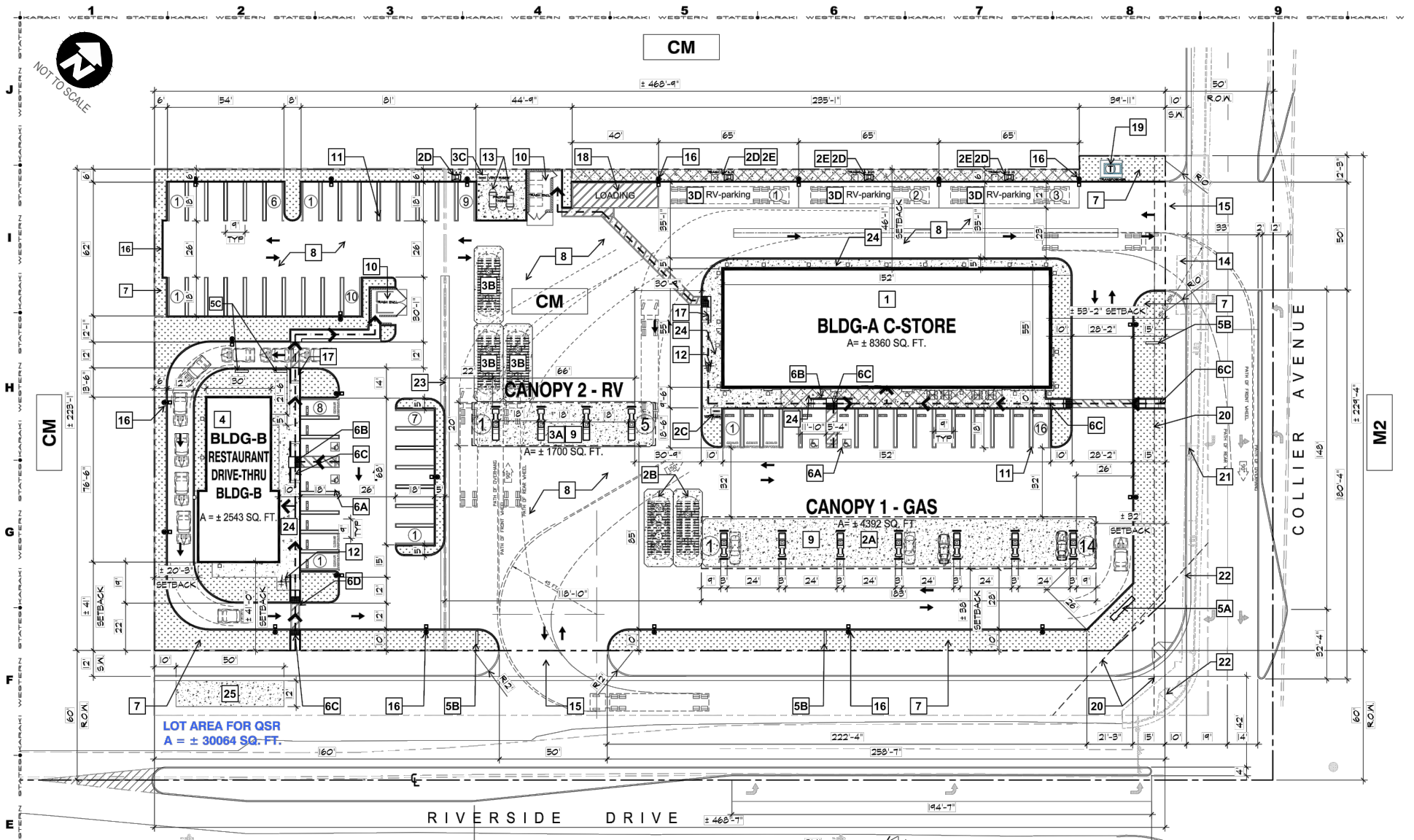


Project Site Plan

Kassab Travel Center TIA

FIGURE

2



Project Site Plan

Kassab Travel Center TIA

FIGURE

2

Chapter 2. Project Traffic Characteristics

Trip Generation

As noted previously in Chapter 1, the proposed project is an 18 fueling position gas station with an 8,360 square foot (SF) convenience store containing two quick serve restaurants; and, a 2,543 SF fast food restaurant with drive through. The trip generation for the project was calculated using trip rates from the Institute of Transportation Engineers' *Trip Generation, 9th Edition* (ITE 2012).

Pass-by trip reductions for retail uses allow for a reduction of project trips at all offsite intersections as it assumes that existing and/or baseline (background) traffic, already traveling on the street network, would deviate from their pattern and create a pass-by trip to a retail use. For example, a driver that is already traveling from his office, back to his home (which is called the "primary" trip), may now decide to pass-by a retail use (e.g., to purchase goods or food, or utilize services, like banks or gas stations) now that this use is on his way home. At that point, his existing trip through the street network is now a pass-by trip to the retail use, and not a creation of a new trip on the street network by the retail use. Pass-by trip reduction percentages were researched in ITE's *Trip Generation Manual* for the project's retail uses. The project trip generation calculations are shown in Table 3.

Table 3. Kassab Travel Center Trip Generation Estimates

Land Use	Units	AM Peak Hour				PM Peak Hour			
		Daily	In	Out	Total	In	Out	Total	
<u>Trip Rates</u>									
Fast-Food Restaurant with Drive-Through Window ¹	TSF	496.12	23.16	22.26	45.42	16.98	15.67	32.65	
Gasoline/Service Station with Convenience Market ²	VFP	162.78	5.08	5.08	10.16	6.76	6.76	13.51	
<u>Project Trip Generation</u>									
Fast-Food Restaurant with Drive-Through Window	2.54	TSF	1,260	59	57	115	43	40	83
Passby (49% AM/Daily, 50% PM) ³			-630	-29	-28	-57	-22	-20	-41
NET			630	30	29	59	22	20	41
Gas Station & Convenience Market	18	VFP	2,930	91	91	183	122	122	243
Passby (62% AM/Daily, 56% PM) ³			-1,641	-57	-57	-113	-68	-68	-136
NET			1,289	35	35	69	53	53	107
<u>Total Trip Generation</u>			4,190	150	148	298	165	161	326
<u>NET Trip Generation</u>			1,919	65	64	129	75	73	148

TSF = Thousand Square Feet, VFP = Vehicle Fueling Positions

¹ Trip rates from the Institute of Transportation Engineers, *Trip Generation, 9th Edition*, 2012. Land Use Code 934 - Fast-Food Restaurant with Drive-Through Window.

² Trip rates from the Institute of Transportation Engineers, *Trip Generation, 9th Edition*, 2012. Land Use Code 945 - Gasoline/Service Station with Convenience Market

³ Pass-by percentages based on rates/equations obtained from the Trip Generation Handbook, 2nd Edition, ITE, 2004.

As shown in Table 3, the proposed project would generate a total of 4,190 daily trips, 298 AM peak hour trips, and 326 PM peak hour trips. With the application of pass-by trip reductions, the project would generate a net total of approximately 1,919 daily trips, 129 AM peak hour trips, and 148 PM peak hour trips.

Trip Distribution and Assignment

Based on the location of the project, it is likely that most project trips would utilize the freeway ramps at Nichols Road and Central Avenue to travel on Interstate 15. Other project traffic would be distributed through Central Avenue and Riverside Drive. The project's trip distribution is shown in Figure 4. The resulting project trip assignment is shown on Figure 5. In addition, the project driveway trip assignment, detailing the total trip generation at driveways, is shown in Figure 6. Pass-by trip information is provided in Figure 7, detailing inbound and outbound pass-by trips.

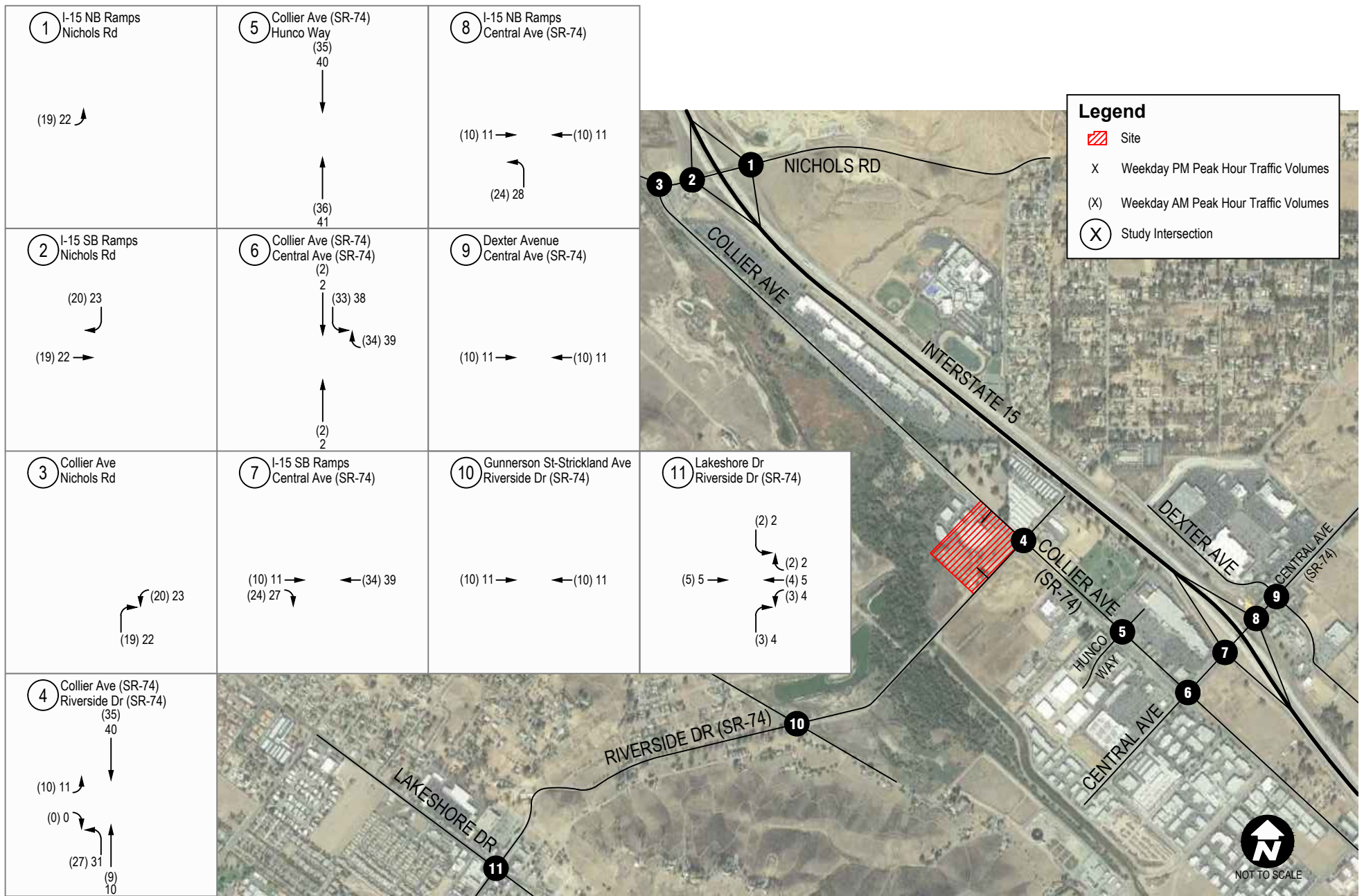


Project Trip Distribution

Kassab Travel Center TIA

FIGURE

4



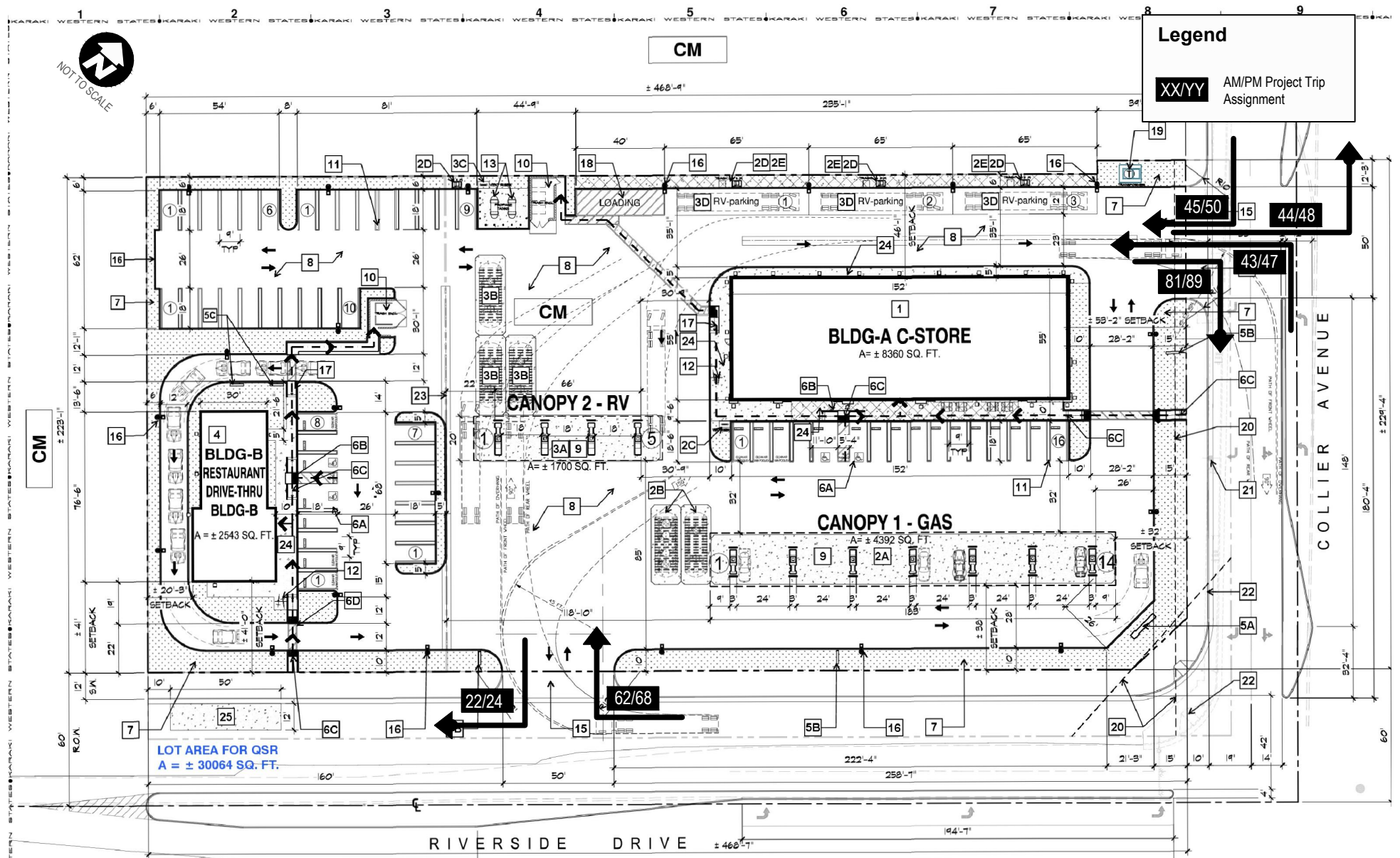
Source: Google Maps, 10/2016

Project Net Total Trip Assignment

Kassab Travel Center TIA

FIGURE

5

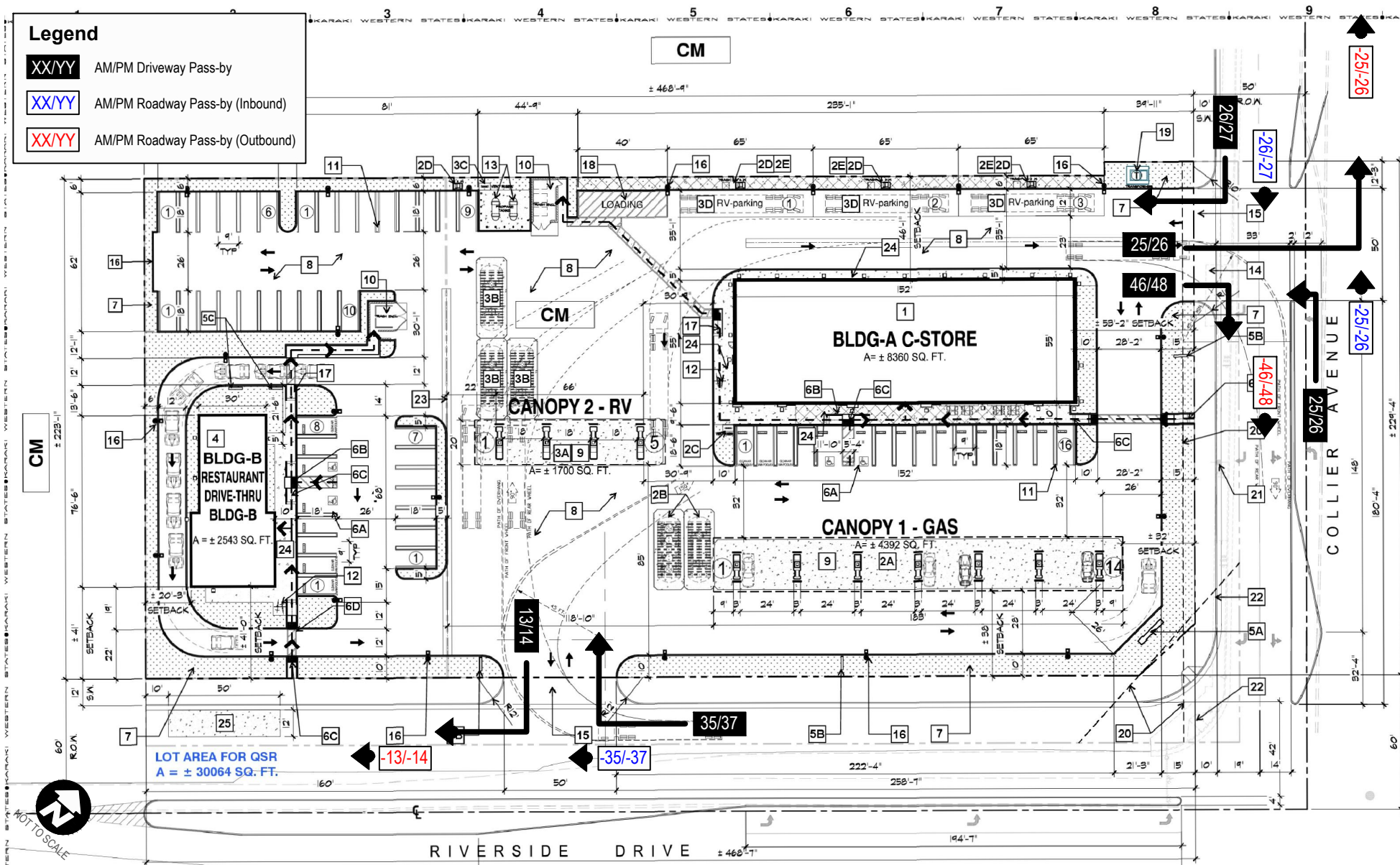


Project Driveway Trip Assignment

Kassab Travel Center TIA

FIGURE

6



Project Driveway Pass-by Assignment

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FIGURE

7

Chapter 3. Existing Conditions

This section describes Existing conditions within the identified study area, as well as the Existing plus Project conditions and potential traffic impacts. Characteristics are provided for the roadway network, peak hour traffic volumes, traffic operations, traffic safety, non-motorized facilities, and transit.

Street System

Characteristics of the existing street system in the proposed project vicinity are shown in Table 4. Traffic control and geometrics at study area intersections is illustrated in Figure 8. As shown on Figure 2, access to the project is proposed to be provided from a driveway on Collier Avenue and two driveways on Riverside Drive (SR-74).

Table 4. Study Area Existing Street System Summary

Roadway	Street Classification ¹	Posted Speed Limit (mph)	Number of Travel Lanes	Parking	Sidewalks	Bicycle Lanes
Collier Avenue	Major	50	4	NO	YES	No
Nichols Road	Urban Arterial	40	2	NO	Some Segments	No
Riverside Drive (SR-74)	Urban Arterial	45	2	NO	E/O Collier Ave	No
Central Avenue (SR-74)	Augmented Urban Arterial	30 W/O Collier, 45 E/O Collier	4	NO	North Side Only, some segments on the South Side	No
Lakeshore Drive	Urban Arterial/Secondary	45	2 S/O Riverside Dr, 5 N/O Riverside Dr	NO	N/O Riverside Drive, some segments S/O Riverside Drive	No
Dexter Avenue	Collector	45	2 S/O Central, 3 N/O Central	NO	N/O Central Ave, some segments S/O Central Ave	No

Street classification is from the City of Lake Elsinore General Plan, N/O = north of, S/O = south of, E/O = east of, W/O = west of

Riverside Transit Agency (RTA) Routes 8 and 22 provide weekday and weekend service along Collier Avenue (SR-74). There is a bus stop on the east side of Collier Avenue (SR-74) north of Riverside Drive. This stop is directly across the project site.

Traffic Volumes

Existing turning movement counts at the study intersections were conducted in 2014, 2016, and 2017 while adjacent schools were in session. Traffic volumes collected in 2014 or 2016 were adjusted using an annual growth rate of two percent to bring them to existing 2017 conditions. Figure 9 [\(revised\)](#) illustrates the existing AM and PM peak hour traffic volumes.

Intersection Operations

An intersection LOS analysis was prepared for the Existing Baseline condition and is shown in Table 5 [\(revised\)](#). The adopted LOS threshold for the study locations is LOS D. Detailed LOS worksheets are included in Appendix C

Table 5. Existing Peak Hour Levels of Service

Intersection	Control	AM Peak		PM Peak	
		Delay ¹	LOS ²	Delay ¹	LOS ²
1. I-15 NB Ramps/Nichols Road	unsignalized	120.9	F	26.6	D
2. I-15 SB Ramps/Nichols Road	unsignalized	14.0	B	12.9	B
3. Collier Avenue/Nichols Road	unsignalized	20.7	C	33.6	D
4. Collier Avenue (SR-74)/Riverside Drive (SR-74)	signal	16.6	B	27.7	C
5. Collier Avenue (SR-74)/Hunco Way	signal	9.2	A	15.2	B
6. Collier Ave (SR-74)/Central Avenue (SR-74)	signal	49.4	D	37.7	D
7. I-15 SB Ramps/Central Avenue (SR-74)	signal	24.2	C	25.3	C
8. I-15 NB Ramps/Central Avenue (SR-74)	signal	12.7	B	13.1	B
9. Dexter Avenue/Central Avenue (SR-74)	signal	21.5	C	19.7	B
10. Gunnerson Street-Strickland Avenue/Riverside Drive (SR-74)	unsignalized	62.3	F	209.1	F
11. Lakeshore Drive/Riverside Drive (SR-74)	signal	26.3	C	34.8	C

¹ Seconds/Vehicle

² Level of Service, based on Highway Capacity Manual HCM 2010.

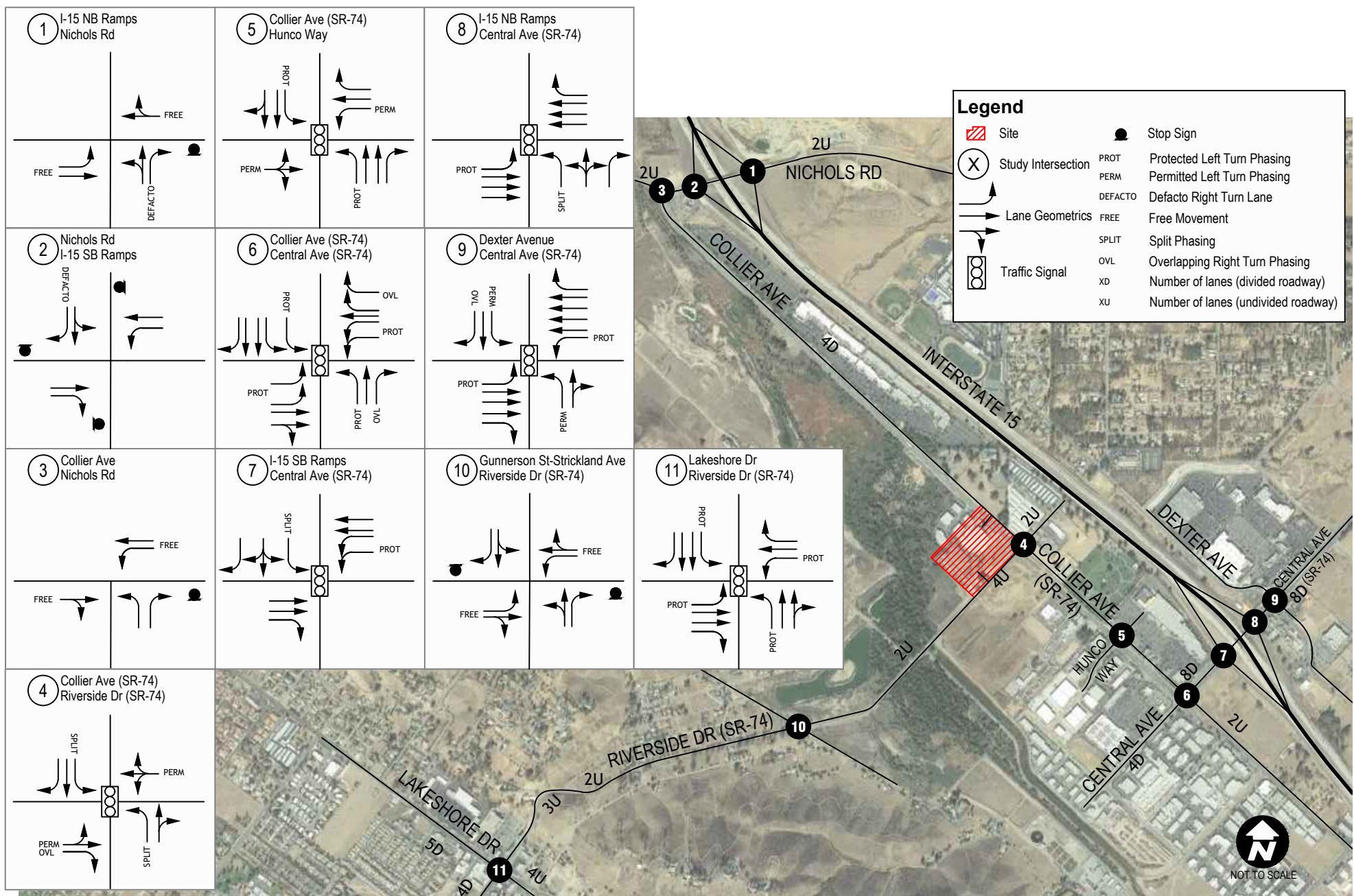
Intersection	Control	AM Peak		PM Peak	
		Delay ¹	LOS ²	Delay ¹	LOS ²
1. I-15 NB Ramps/Nichols Road	unsignalized	103.5	F	25.2	D
2. I-15 SB Ramps/Nichols Road	unsignalized	13.7	B	12.6	B
3. Collier Avenue/Nichols Road	unsignalized	20.3	C	31.5	D
4. Collier Avenue (SR-74)/Riverside Drive (SR-74)	signal	16.0	B	25.7	C
5. Collier Avenue (SR-74)/Hunco Way	signal	9.0	A	14.6	B
6. Collier Ave (SR-74)/Central Avenue (SR-74)	signal	34.0	C	37.8	D
7. I-15 SB Ramps/Central Avenue (SR-74)	signal	23.0	C	25.5	C
8. I-15 NB Ramps/Central Avenue (SR-74)	signal	13.8	B	13.5	B
9. Dexter Avenue/Central Avenue (SR-74)	signal	22.9	C	19.6	B
10. Gunnerson Street-Strickland Avenue/Riverside Drive (SR-74)	unsignalized	62.3	F	209.1	F
11. Lakeshore Drive/Riverside Drive (SR-74)	signal	26.3	C	34.8	C

¹ Seconds/Vehicle

² Level of Service, based on Highway Capacity Manual HCM 2010.

As shown in Table 5 all of the study intersections are currently operating at satisfactory LOS D or better during the weekday AM and PM peak hours under Existing conditions except for the following intersections:

- I-15 NB Ramps/Nichols Road (LOS F during the AM peak hour)
- Gunnerson Street-Strickland avenue/Riverside Drive (SR-74) (LOS F during both peak hours)



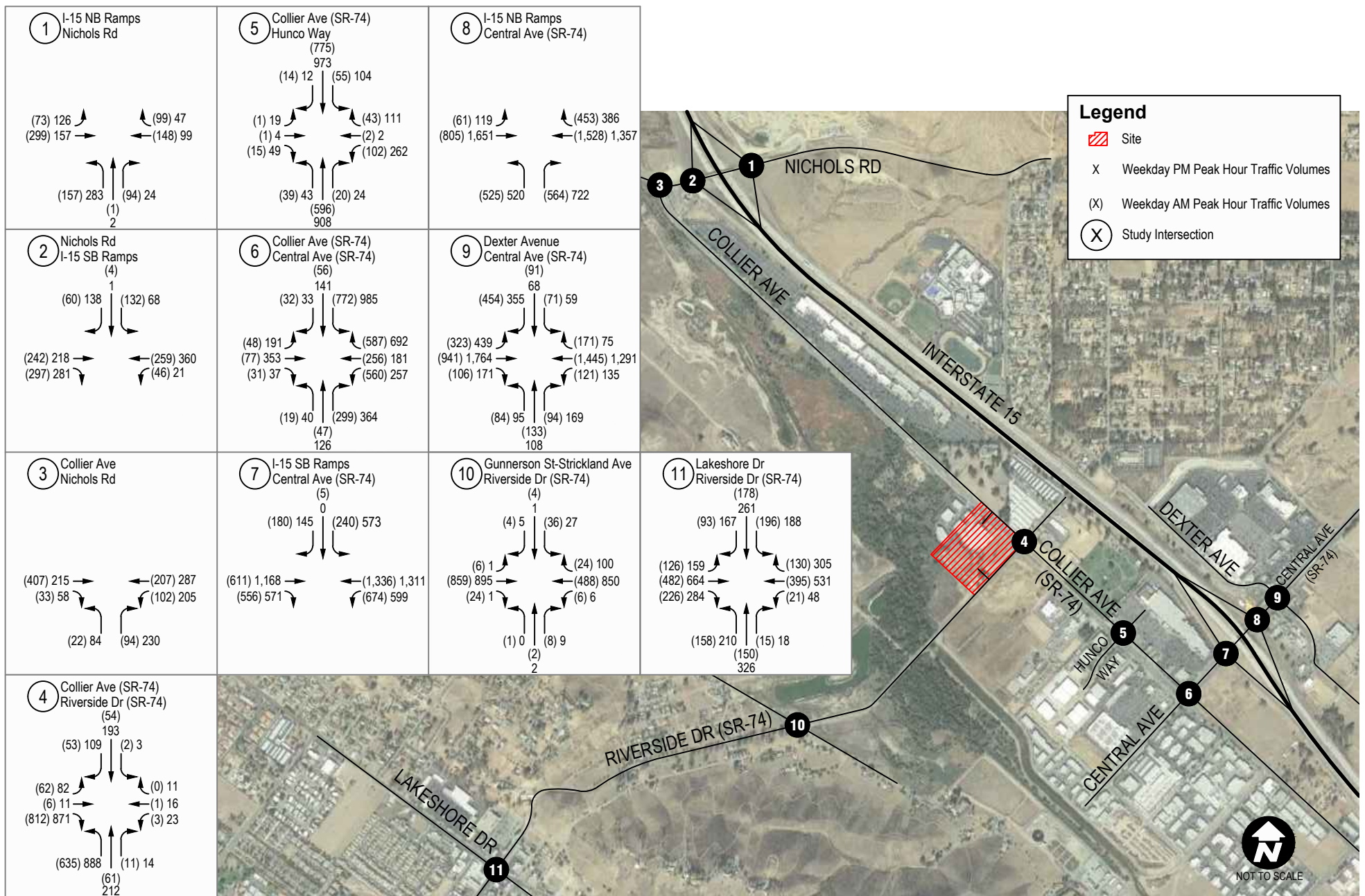
Source: Google Maps, 10/2016

Existing Traffic Controls and Geometrics

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FIGURE

8



Source: Google Maps, 10/2016

Existing Peak Hour Traffic Volumes

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FIGURE
9

Chapter 4. Existing plus Project Traffic Analysis

This section documents project-generated impacts on the surrounding transportation system and at the study intersections during the Existing plus Project condition.

Traffic Volumes

Existing plus Project traffic volumes were determined by adding the project traffic volumes to the Existing traffic volumes. Figure 10 (~~revised~~) shows the Existing plus Project weekday AM and PM peak hour traffic volumes.

Intersection Operations

An intersection operations analysis was conducted to evaluate the Existing plus Project weekday AM and PM peak hour conditions. Intersection operations were calculated using the LOS methodology described previously. Project-related improvements to the existing traffic controls or geometrics were assumed for Collier Avenue/Riverside. These improvements are as follows:

- Restripe existing northbound through-right to through-left-right movement
- Reconfigure southbound approach to reflect cut into existing median to create larger storage length for Collier Avenue driveway inbound access.
 - Restripe existing southbound through lane to shared through-left movement

The remainder of the traffic controls and geometrics illustrated in Figure 8 were assumed. The project is expected to widen the north side of Riverside Drive along the project frontage. Table 6 (~~revised~~) provides a comparison between the Existing plus Project and Existing conditions for the weekday AM and PM peak hours. Detailed LOS worksheets are included in Appendix C.

As shown in Table 6, most of the study area intersections are forecast to operate at LOS D or better with the project, except for the following intersections:

- I-15 NB Ramps/Nichols Road (remains at LOS F during the AM peak hour)
- Collier Avenue/Nichols Road (LOS D to LOS E during the PM peak hour)
- Gunnerson Street-Strickland Avenue/Riverside Drive (SR-74) (remains at LOS F during both peak hours)

These intersections would be considered significantly impacted as the project would contribute its traffic to an intersection that is forecast to operate less than the City standard of LOS D or would cause an intersection that is operating at LOS D or better, to LOS E or F. Mitigation measures for these intersections are discussed in the mitigation section.

Table 6. Existing plus Project Intersection Levels of Service

Intersection	Existing				Existing plus Project				Delay Change		Impact	
	AM Peak		PM Peak		AM Peak		PM Peak		AM	PM	AM	PM
	Delay ¹	LOS ²	Delay ¹	LOS ²	Delay ¹	LOS ²	Delay ¹	LOS ²				
1. I-15 NB Ramps/Nichols Road	120.9	F	26.6	D	176.7	F	32.1	D	55.8	5.5	YES	NO
2. I-15 SB Ramps/Nichols Road	14.0	B	12.9	B	14.6	B	13.4	B	0.6	0.5	NO	NO
3. Collier Avenue/Nichols Road	20.7	C	33.6	D	22.5	C	39.0	E	1.8	5.4	NO	YES
4. Collier Avenue (SR-74)/Riverside Drive (SR-74)	16.6	B	27.7	C	18.9	B	35.4	D	2.3	7.7	NO	NO
5. Collier Avenue (SR-74)/Hunco Way	9.2	A	15.2	B	9.3	A	15.6	B	0.1	0.4	NO	NO
6. Collier Ave (SR-74)/Central Avenue (SR-74)	49.4	D	37.7	D	53.8	D	41.2	D	4.4	3.5	NO	NO
7. I-15 SB Ramps/Central Avenue (SR-74)	24.2	C	25.3	C	26.5	C	26.4	C	2.3	1.1	NO	NO
8. I-15 NB Ramps/Central Avenue (SR-74)	12.7	B	13.1	B	12.8	B	13.2	B	0.1	0.1	NO	NO
9. Dexter Avenue/Central Avenue (SR-74)	21.5	C	19.7	B	21.6	C	19.8	B	0.1	0.1	NO	NO
10. Gunnerson Street-Strickland Avenue/Riverside Drive (SR-74)	62.3	F	209.1	F	65.9	F	217.8	F	3.6	8.7	YES	YES
11. Lakeshore Drive/Riverside Drive (SR-74)	26.3	C	34.8	C	26.6	C	35.1	D	0.3	0.3	NO	NO

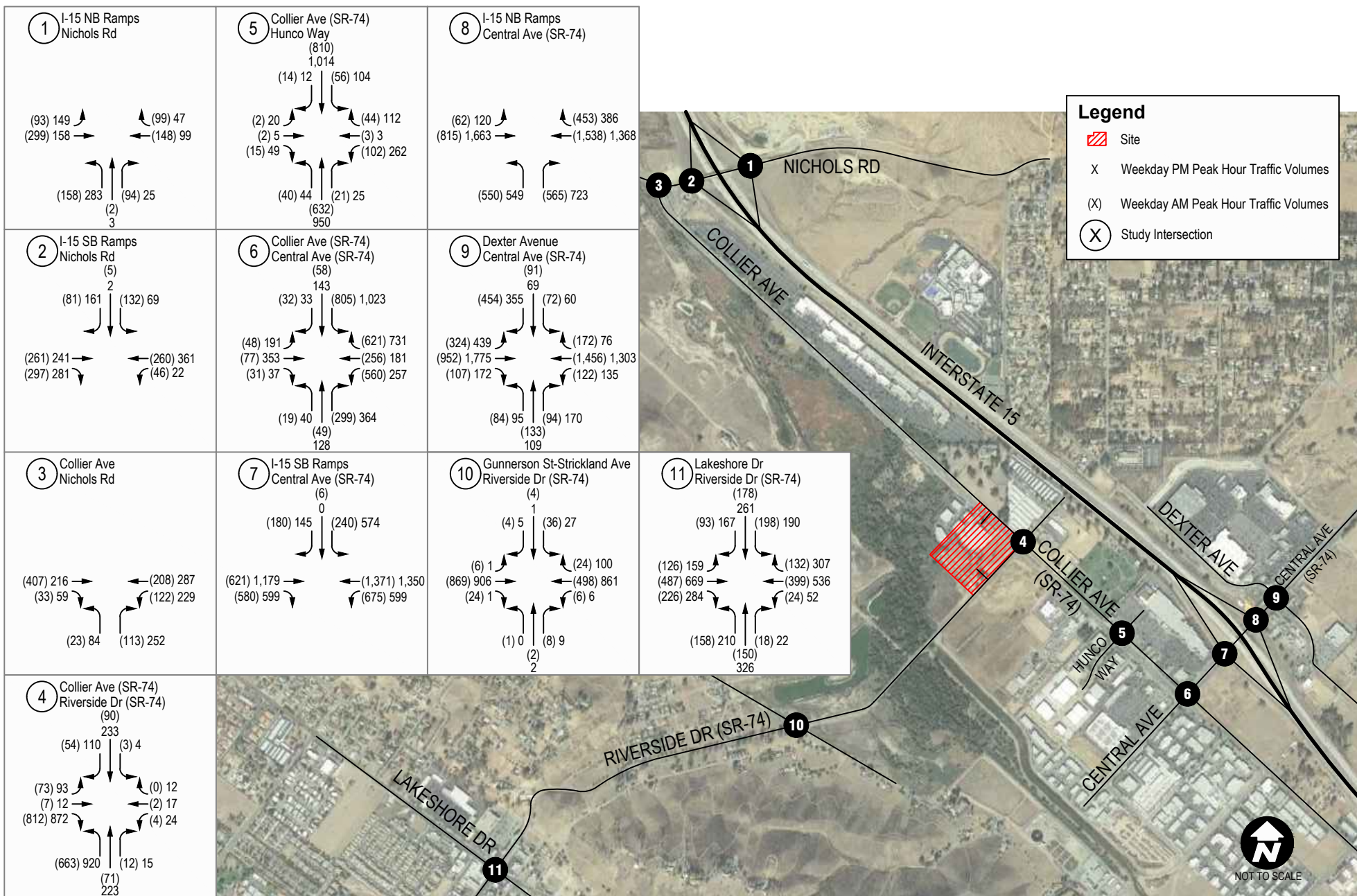
¹ Seconds/Vehicle

² Level of Service, based on Highway Capacity Manual HCM 2010.

Intersection	Existing				Existing plus Project				Delay Change		Impact	
	AM Peak		PM Peak		AM Peak		PM Peak		AM	PM	AM	PM
	Delay ¹	LOS ²	Delay ¹	LOS ²	Delay ¹	LOS ²	Delay ¹	LOS ²				
1. I-15 NB Ramps/Nichols Road	103.5	F	25.2	D	148.5	F	29.8	D	45.0	4.6	YES	NO
2. I-15 SB Ramps/Nichols Road	13.7	B	12.6	B	14.2	B	13.0	B	0.5	0.4	NO	NO
3. Collier Avenue/Nichols Road	20.3	C	31.5	D	21.8	C	35.9	E	1.5	4.4	NO	YES
4. Collier Avenue (SR-74)/Riverside Drive (SR-74)	16.0	B	25.7	C	12.2	B	21.1	C	-3.8	-4.6	NO	NO
5. Collier Avenue (SR-74)/Hunco Way	9.0	A	14.6	B	9.1	A	14.8	B	0.1	0.2	NO	NO
6. Collier Ave (SR-74)/Central Avenue (SR-74)	34.0	C	37.8	D	34.3	C	41.2	D	0.3	3.4	NO	NO
7. I-15 SB Ramps/Central Avenue (SR-74)	23.0	C	25.5	C	24.7	C	26.8	C	1.7	1.3	NO	NO
8. I-15 NB Ramps/Central Avenue (SR-74)	13.8	B	13.5	B	13.8	B	13.6	B	0.0	0.1	NO	NO
9. Dexter Avenue/Central Avenue (SR-74)	22.9	C	19.6	B	22.9	C	19.6	B	0.0	0.0	NO	NO
10. Gunnerson Street-Strickland Avenue/Riverside Drive (SR-74)	62.3	F	209.1	F	65.9	F	217.8	F	3.6	8.7	YES	YES
11. Lakeshore Drive/Riverside Drive (SR-74)	26.3	C	34.8	C	26.6	C	35.1	D	0.3	0.3	NO	NO

¹ Seconds/Vehicle

² Level of Service, based on Highway Capacity Manual HCM 2010.



Source: Google Maps, 10/2016

Existing plus Project Peak Hour Traffic Volumes

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FIGURE

10

Chapter 5. Existing plus Ambient Growth plus Project Traffic Analysis

This section documents project-generated impacts on the surrounding transportation system and at the study intersections during the Existing plus Ambient Growth plus Project condition.

Central Plaza Project

The Central Plaza project is currently under construction on the southeast corner of Collier Avenue (SR-74)/Central Avenue (SR-74). The project will widen the roadways along its frontage as well as provide the following alterations in geometry to the intersection:

- Northbound approach will consist of one left turn lane, two through lanes, and two right turn lanes with overlap phasing

These alterations have been included within the analysis for Existing plus Ambient Growth plus Project scenario in addition to the Existing plus Ambient Growth plus Project plus Cumulative Projects scenario. Due to these improvements over existing geometrics, some analyzed peak hours will contain a decrease in delay as compared to baseline condition.

Traffic Volumes

Existing plus Ambient Growth plus Project traffic volumes were determined by adding a growth rate of two (2) percent per year to the existing traffic volumes as directed by the City Traffic Engineer. Then, the project traffic volumes were added to the Existing plus Ambient Growth traffic volumes. Figure 11 *(revised)* shows the Existing plus Ambient Growth plus Project weekday AM and PM peak hour traffic volumes.

Intersection Operations

An intersection operations analysis was conducted to evaluate the Existing plus Ambient Growth plus Project weekday AM and PM peak hour conditions. Intersection operations were calculated using the LOS methodology described previously. Project-related improvements to the existing traffic controls or geometrics were assumed for Collier Avenue/Riverside as well as the improvements listed about for the Central Plaza Project. These improvements are as follows:

- Restripe existing northbound through-right to through-left-right movement
- Reconfigure southbound approach to reflect cut into existing median to create larger storage length for Collier Avenue driveway inbound access.
 - Restripe existing southbound through lane to shared through-left movement

The remainder of the traffic controls and geometrics illustrated in Figure 8 were assumed. The project is expected to widen the north side of Riverside Drive along the project frontage in the future, but the specific geometrics are unknown at this time. Table 7 provides a comparison between the Existing plus Ambient Growth plus Project and Existing conditions for the weekday AM and PM peak hours. Detailed LOS worksheets are included in Appendix C.

As shown in Table 6, most of the study area intersections are forecast to operate at LOS D or better with the project, except for the following intersections:

- I-15 NB Ramps/Nichols Road (remains at LOS F during the AM peak hour, LOS D to LOS E during the PM peak hour)
- Collier Avenue/Nichols Road (LOS D to LOS E during the PM peak hour)

- Gunnerson Street-Strickland Avenue/Riverside Drive (SR-74) (remains at LOS F during both peak hours)

These intersections would be considered significantly impacted as the project would contribute its traffic to an intersection that is forecast to operate less than the City standard of LOS D or would cause an intersection that is operating at LOS D or better, to LOS E or F. Mitigation measures for these intersections are discussed in the mitigation section.

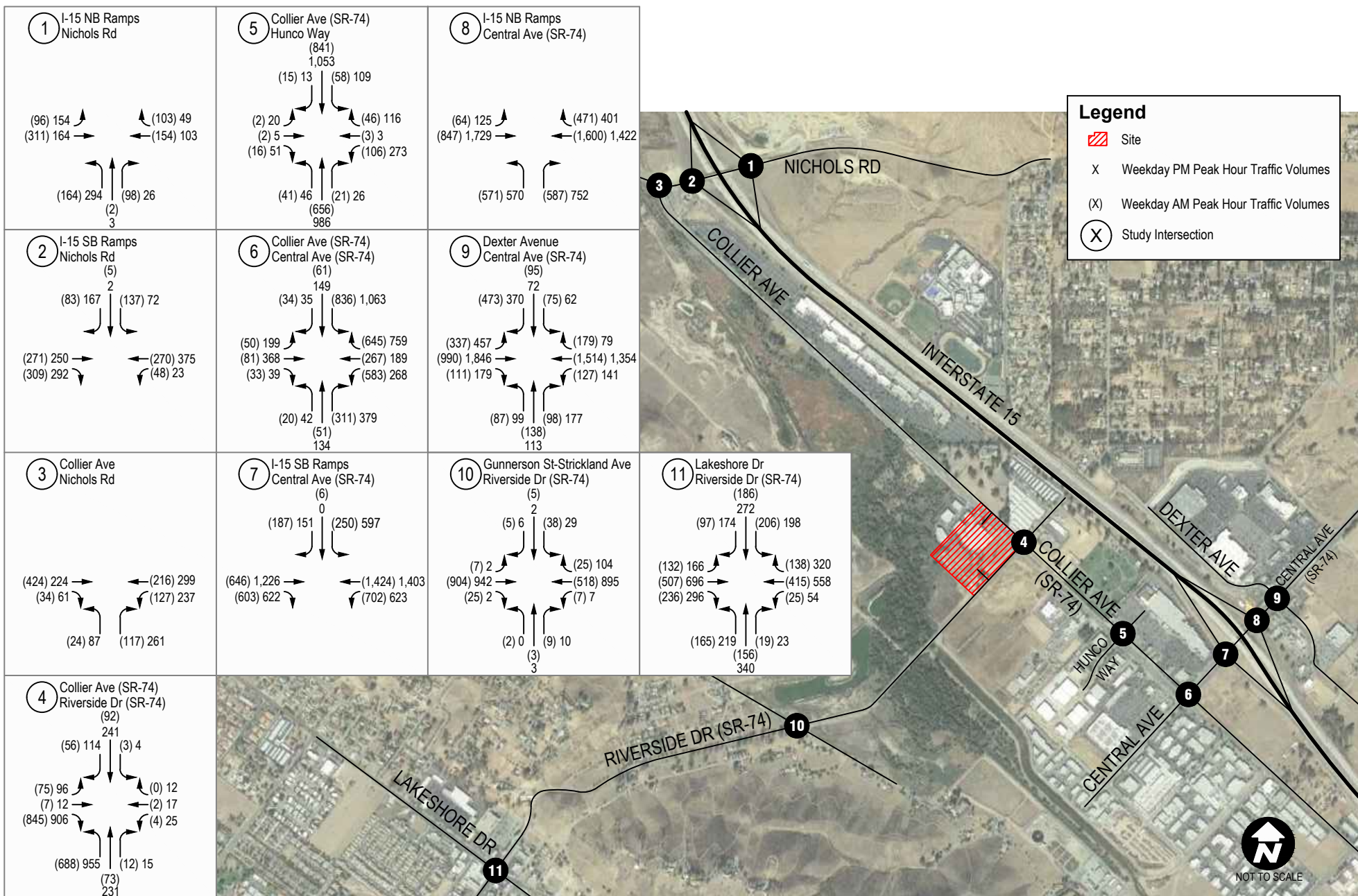
Table 7. Existing plus Ambient Growth plus Project Intersection Levels of Service

Intersection	Existing				Existing plus Ambient Growth plus Project				Delay Change		Impact	
	AM Peak		PM Peak		AM Peak		PM Peak		AM	PM	AM	PM
	Delay ¹	LOS ²	Delay ¹	LOS ²	Delay ¹	LOS ²	Delay ¹	LOS ²				
1. I-15 NB Ramps/Nichols Road	120.9	F	26.6	D	228.7	F	37.7	E	107.8	11.1	YES	YES
2. I-15 SB Ramps/Nichols Road	14.0	B	12.9	B	15.4	C	14.1	B	1.4	1.2	NO	NO
3. Collier Avenue/Nichols Road	20.7	C	33.6	D	23.9	C	44.4	E	3.2	10.8	NO	YES
4. Collier Avenue (SR-74)/Riverside Drive (SR-74)	16.6	B	27.7	C	21.0	C	41.8	D	4.4	14.1	NO	NO
5. Collier Avenue (SR-74)/Hunco Way	9.2	A	15.2	B	9.5	A	16.4	B	0.3	1.2	NO	NO
6. Collier Ave (SR-74)/Central Avenue (SR-74)	49.4	D	37.7	D	46.0	D	40.2	D	-3.4	2.5	NO	NO
7. I-15 SB Ramps/Central Avenue (SR-74)	24.2	C	25.3	C	28.9	C	28.2	C	4.7	2.9	NO	NO
8. I-15 NB Ramps/Central Avenue (SR-74)	12.7	B	13.1	B	13.0	B	13.3	B	0.3	0.2	NO	NO
9. Dexter Avenue/Central Avenue (SR-74)	21.5	C	19.7	B	22.2	C	20.2	C	0.7	0.5	NO	NO
10. Gunnerson Street-Strickland Avenue/Riverside Drive (SR-74)	62.3	F	209.1	F	83.0	F	314.2	F	20.7	105.1	YES	YES
11. Lakeshore Drive/Riverside Drive (SR-74)	26.3	C	34.8	C	27.9	C	37.8	D	1.6	3.0	NO	NO
¹ Seconds/Vehicle ² Level of Service, based on Highway Capacity Manual HCM 2010.												

Intersection	Existing				Existing plus Ambient Growth plus Project				Delay Change		Impact	
	AM Peak		PM Peak		AM Peak		PM Peak		AM	PM	AM	PM
	Delay ¹	LOS ²	Delay ¹	LOS ²	Delay ¹	LOS ²	Delay ¹	LOS ²				
1. I-15 NB Ramps/Nichols Road	103.5	F	25.2	D	228.7	F	37.7	E	125.2	12.5	YES	YES
2. I-15 SB Ramps/Nichols Road	13.7	B	12.6	B	15.4	C	14.1	B	1.7	1.5	NO	NO
3. Collier Avenue/Nichols Road	20.3	C	31.5	D	23.8	C	44.0	E	3.5	12.5	NO	YES
4. Collier Avenue (SR-74)/Riverside Drive (SR-74)	16.0	B	25.7	C	13.0	B	23.3	C	-3.0	-2.4	NO	NO
5. Collier Avenue (SR-74)/Hunco Way	9.0	A	14.6	B	9.4	A	16.0	B	0.4	1.4	NO	NO
6. Collier Ave (SR-74)/Central Avenue (SR-74)	34.0	C	37.8	D	32.9	C	40.3	D	-1.1	2.5	NO	NO
7. I-15 SB Ramps/Central Avenue (SR-74)	23.0	C	25.5	C	28.0	C	31.0	C	5.0	5.5	NO	NO
8. I-15 NB Ramps/Central Avenue (SR-74)	13.8	B	13.5	B	14.1	B	13.9	B	0.3	0.4	NO	NO
9. Dexter Avenue/Central Avenue (SR-74)	22.9	C	19.6	B	23.6	C	20.1	C	0.7	0.5	NO	NO
10. Gunnerson Street-Strickland Avenue/Riverside Drive (SR-74)	62.3	F	209.1	F	83.0	F	314.2	F	20.7	105.1	YES	YES
11. Lakeshore Drive/Riverside Drive (SR-74)	26.3	C	34.8	C	27.9	C	37.8	D	1.6	3.0	NO	NO

¹ Seconds/Vehicle

² Level of Service, based on Highway Capacity Manual HCM 2010.



Source: Google Maps, 10/2016

Existing plus Ambient Growth plus Project Peak Hour Traffic Volumes

Kassab Travel Center TIA

FIGURE

11

Chapter 6. Existing plus Ambient Growth plus Project plus Cumulative Projects Traffic Analysis

This section documents project-generated impacts in the cumulative condition on the surrounding transportation system and at the study intersections during the Existing plus Ambient Growth plus Project plus Cumulative Projects condition.

Traffic Volumes

Existing plus Ambient Growth plus Project plus Cumulative Projects traffic volumes were determined by adding a growth rate of two (2) percent per year to the existing traffic volumes as directed by the City Traffic Engineer. In addition, any traffic from cumulative (approved/pending) projects were added to the study area intersections. City staff provided a list of cumulative projects. A majority of the projects were collated from the nearby Central Plaza project as well as other traffic impact studies. Appendix D provides information concerning the distribution and assignment of these projects, as well as the exact locations of each.

These projects are illustrated within Appendix D, while Figure 12 (~~revised~~) shows the cumulative projects' traffic volumes.

Trip generation estimates for these projects are based on application of trip rates from the Institute of Transportation Engineers' *Trip Generation, 9th Edition* (ITE 2012), and are presented in Table 8. As shown in Table 8, the cumulative projects in the study area would generate approximately 472,917 daily trips, 30,065 AM peak hour trips and 45,496 PM peak hour trips. The resulting Existing plus Ambient Growth plus Project plus Cumulative Projects Peak Hour Traffic Volumes are illustrated in Figure 13.

Intersection Operations

An intersection operations analysis was conducted in the study area to evaluate the Existing plus Ambient Growth plus Project plus Cumulative Projects weekday AM and PM peak hour conditions with the project. Intersection operations were calculated using the LOS methodology described previously.

The approved Central Plaza project will be improving its frontages along Collier Avenue and Central Avenue (SR-74) with the following roadway improvements:

- Collier Avenue/Central Avenue (SR-74)
 - addition of second northbound through lane
 - addition of second northbound right turn lane
- I-15 southbound ramps/Central Avenue (SR-74)
 - addition of third eastbound through lane

Table 8. Cumulative Projects Trip Generation Estimates

Land Use	Units	Daily	AM Peak Hour			PM Peak Hour			
			In	Out	Total	In	Out	Total	
<u>Trip Rates</u> ¹									
Fitness Center	TSF	32.93	0.71	0.71	1.41	2.01	1.52	3.53	
Single Family Residential	DU	9.52	0.19	0.56	0.75	0.63	0.37	1.00	
Mini-Warehousing	ACRES	35.43	1.16	1.42	2.58	1.79	1.79	3.57	
Senior Adult Housing - Attached	DU	3.44	0.07	0.13	0.20	0.14	0.12	0.25	
Automobile Sales	TSF	32.30	1.44	0.48	1.92	1.05	1.57	2.62	
Manufacturing	TSF	3.82	0.57	0.16	0.73	0.26	0.47	0.73	
Residential Condominium/Townhouse	DU	5.81	0.07	0.37	0.44	0.35	0.17	0.52	
Shopping Center	TSF	42.70	0.60	0.36	0.96	1.78	1.93	3.71	
<u>Project Trip Generation</u>									
CUP03503 - Fitness Facility	45.46	TSF	1,497	32	32	64	91	69	160
PM33840 - Subdivide 4 res lots	4	DU	38	1	2	3	3	1	4
PM34997 - Subdivide 2 res lots	2	DU	19	0	1	1	1	1	2
PP20247 - Self-Storage (Mini-Warehouse & RV Parking Facility)	14.72	ACRES	522	17	21	38	26	26	53
(APN: 378-030-006) Boat Sale and Manufacturing Facility ²	34.50	TSF	136	21	6	27	10	17	27
Spyglass Ranch (Single Family, Multi-family, and Commerical) ³	694	DU	12,165	197	409	606	647	503	1,150
South Shore I (Single Family Res.) ³	521	DU	4,960	98	293	391	328	193	521
South Shore II (Single Family Res.) ³	400	DU	3,808	75	225	300	252	148	400
La Strada (Single Family Res.) ³	134	DU	1,276	25	75	100	84	50	134
TAG Property (Car Dealership) ³	50	TSF	1,615	72	24	96	52	79	131
City Center Condos ³	144	DU	837	11	53	64	50	25	75
Diamond Specific Plan (Condos, Hotel, Office, Commerical) ³			29,554	956	504	1,460	1,204	1,584	2,788
The Colony (Multi-family) ³	211	DU	1,403	22	86	108	85	46	131
TAG Property (Single Family and Multi-family) ³	2731	DU	24,797	475	1,472	1,947	1,629	947	2,576
John Lang Homes Phase 2 (Single Family, Multi-family, and Commerical) ³	1955	DU	18,490	281	871	1,152	1,049	676	1,725
Summerly (Single Family Res.) ³	142	DU	1,352	27	80	107	89	53	142
Beazer (Single Family Res.) ³	72	DU	685	14	41	55	45	27	72
KB Homes (Single Family Res.) ³	106	DU	1,009	20	60	80	67	39	106
McMillin Homes (Single Family Res.) ³	143	DU	1,361	27	80	107	90	53	143
Richmond American (Single Family Res.) ³	74	DU	704	14	42	56	47	27	74

LE Sports Complex ³	525	TSF	17,756	710	366	1,076	705	734	1,439
Greenwald (Commercial) ³	104.45	TSF	4,460	62	38	100	186	202	388
Ramsgate (Single Family and Multi-family) ³	1426	DU	13,130	254	779	1,033	865	504	1,369
Canyon Hills Estates (Single Family Res.) ³	302	DU	2,875	57	170	227	190	112	302
Canyon Hills (Single Family and Multi-family) ³	5278	DU	45,727	855	2,726	3,581	2,968	1,712	4,680
Marina Village Condos ³	94	DU	546	7	34	41	33	16	49
Lakeshore Town Center (Mixed-Use Commerical) ³	237.40	TSF	10,137	141	87	228	423	458	881
Lake Elsinore Walmart (Commerical) ³	168.80	TSF	11,723	339	256	595	412	417	829
Alberhill Ridge (Single Family, Multi-family, Office, and Commerical) ³			48,829	1,569	1,110	2,679	2,185	2,616	4,801
Alberhill Ranch (Single Family Res.) ³	1986	DU	18,907	372	1,117	1,489	1,251	735	1,986
Terracina (Single Family Res.) ³	365	DU	3,475	68	205	273	230	135	365
Alberhill Villages (All Proposed Land Uses) ³			158,189	4,875	5,258	10,133	7,850	7,665	15,515
Wakerider (Resort) ³	11.35	TSF	2,201	73	60	133	88	71	159
Village at Lakeshore (Multi-family) ³	163	DU	947	12	60	72	57	28	85
Circle K (Gas Station/Car Wash) ³	4.50	TSF	1,834	72	70	142	85	81	166
Golden Corral (Restaurant) ³	7.80	TSF	992	46	38	84	46	31	77
La Quinta Inn (Hotel) ³	64	RM	523	20	14	34	20	19	39
Ness Industrial Garage (Industrial) ³	12	TSF	84	10	1	11	1	10	11
Fairway Business Park (Industrial) ³			1,952	227	31	258	33	239	272
Trieste (Single Family Res.) ³	75	DU	714	14	42	56	47	28	75
Central Plaza (Commerical) ³	75	TSF	7,269	181	138	319	150	147	297
Artisan Alley (Commerical) ⁴	95.1	TSF	5,543	135	105	240	283	174	457
Quickrete Plant	163.9	TSF	626	93	26	120	43	77	120
Lakeshore Senior Apartments	121	DU	416	8	16	24	16	14	30
Running Deer (Single Family Res.)	101	DU	962	19	57	76	64	37	101
Lakeview Manor (Multi-family) ⁵	104	DU	685	10	38	48	39	21	60
Honda Dealership	53.4	TSF	1725	77	26	103	56	84	140
North Peak Plaza (Mixed-Use)	92	DU	535	7	34	40	32	16	48
	92	TSF	3928	55	34	88	164	177	341
Total Trip Generation			472,917	12,753	17,312	30,065	24,371	21,125	45,496

SEE APPENDIX D FOR COMPLETE CUMULATIVE PROJECT INFORMATION; Notes: TSF = Thousand Square Feet, DU = Dwelling Units, RM = Rooms

¹ All Trip rates from the Institute of Transportation Engineers, *Trip Generation, 9th Edition*, 2012.

² Trip generation estimates from: Scoping Agreement for Proposed Boat and Sale Manufacturing Facility on Riverside Drive, June 30, 2017.

³ Trip generation estimates from: Central Plaza Traffic Impact Study by RK Engineering Group Inc., February 9, 2017.

⁴ Trip generation estimates from: Mission Trail Apartments Project Traffic Impact Analysis Report by LLG Inc., March 22, 2017.

⁵ Trip generation estimates from: Lakeview Manor Traffic Impact Analysis by LOS Engineering Inc., January 9, 2017.

The proposed project is expected to widen the north side of Riverside Drive along the project frontage in the future, but the specific geometrics are unknown at this time.

Table 9 provides the Existing plus Ambient Growth plus Project plus Cumulative Projects conditions for the weekday AM and PM peak hours. Detailed LOS worksheets are included in Appendix C.

As shown in Table 9, all of the study area intersection are forecast to operate at LOS D or better with the project, except for the following intersections:

- I-15 NB Ramps/Nichols Road (LOS F during both peak hours)
- Collier Avenue/Nichols Road (LOS E during the AM peak hour and LOS F during the PM peak hour)
- Collier Avenue (SR-74)/Central Avenue (SR-74) (LOS E during both peak hours)
- I-15 SB Ramps/Central Avenue (SR-74) (LOS F during the PM peak hour)
- Dexter Avenue/Central Avenue (SR-74) (LOS E during the AM peak hour)
- Gunnerson Street-Strickland Avenue/Riverside Drive (SR-74) (LOS F during both peak hours)

These intersections would be considered impacted as they would already contribute to an LOS that is less than the City standard of LOS D. Mitigation measures for these intersections are discussed in the mitigation section.

Table 9. Existing plus Ambient Growth plus Project plus Cumulative Projects Intersection Levels of Service

Intersection	AM Peak		PM Peak	
	Delay ¹	LOS ²	Delay ¹	LOS ²
1. I-15 NB Ramps/Nichols Road	94.1	F	103.8	F
2. I-15 SB Ramps/Nichols Road	20.2	C	18.1	C
3. Collier Avenue/Nichols Road	36.3	E	115.6	F
4. Collier Avenue (SR-74)/Riverside Drive (SR-74)	18.4	B	52.2	D
5. Collier Avenue (SR-74)/Hunco Way	10.9	B	23.1	C
6. Collier Ave (SR-74)/Central Avenue (SR-74)	77.8	E	62.7	E
7. I-15 SB Ramps/Central Avenue (SR-74)	43.7	D	96.5	F
8. I-15 NB Ramps/Central Avenue (SR-74)	20.4	C	42.4	D
9. Dexter Avenue/Central Avenue (SR-74)	56.7	E	53.2	D
10. Gunnerson Street-Strickland Avenue/Riverside Drive (SR-74)	612.3	F	3328.7	F
11. Lakeshore Drive/Riverside Drive (SR-74)	36.2	D	53.4	D

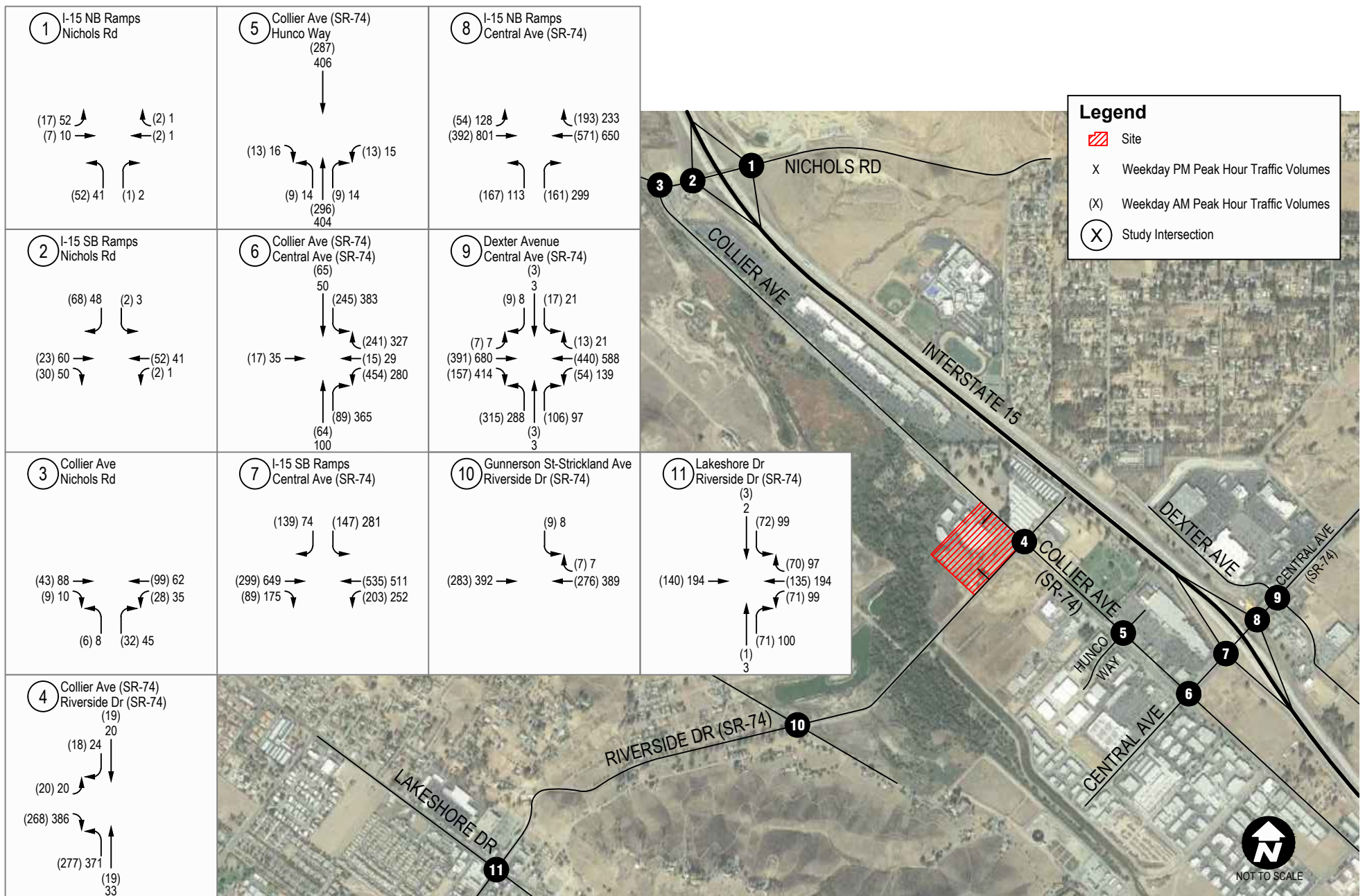
¹ Seconds/Vehicle

² Level of Service, based on Highway Capacity Manual HCM 2010.

Intersection	AM Peak		PM Peak	
	Delay ¹	LOS ²	Delay ¹	LOS ²
1. I-15 NB Ramps/Nichols Road	508.9	F	103.8	F
2. I-15 SB Ramps/Nichols Road	20.2	C	18.1	C
3. Collier Avenue/Nichols Road	36.3	E	115.6	F
4. Collier Avenue (SR-74)/Riverside Drive (SR-74)	18.3	B	51.8	D
5. Collier Avenue (SR-74)/Hunco Way	10.9	B	22.3	C
6. Collier Ave (SR-74)/Central Avenue (SR-74)	70.2	E	60.4	E
7. I-15 SB Ramps/Central Avenue (SR-74)	43.0	D	96.3	F
8. I-15 NB Ramps/Central Avenue (SR-74)	20.6	C	42.3	D
9. Dexter Avenue/Central Avenue (SR-74)	57.1	E	53.0	D
10. Gunnerson Street-Strickland Avenue/Riverside Drive (SR-74)	612.3	F	3328.7	F
11. Lakeshore Drive/Riverside Drive (SR-74)	36.2	D	53.4	D

¹ Seconds/Vehicle

² Level of Service, based on Highway Capacity Manual HCM 2010.

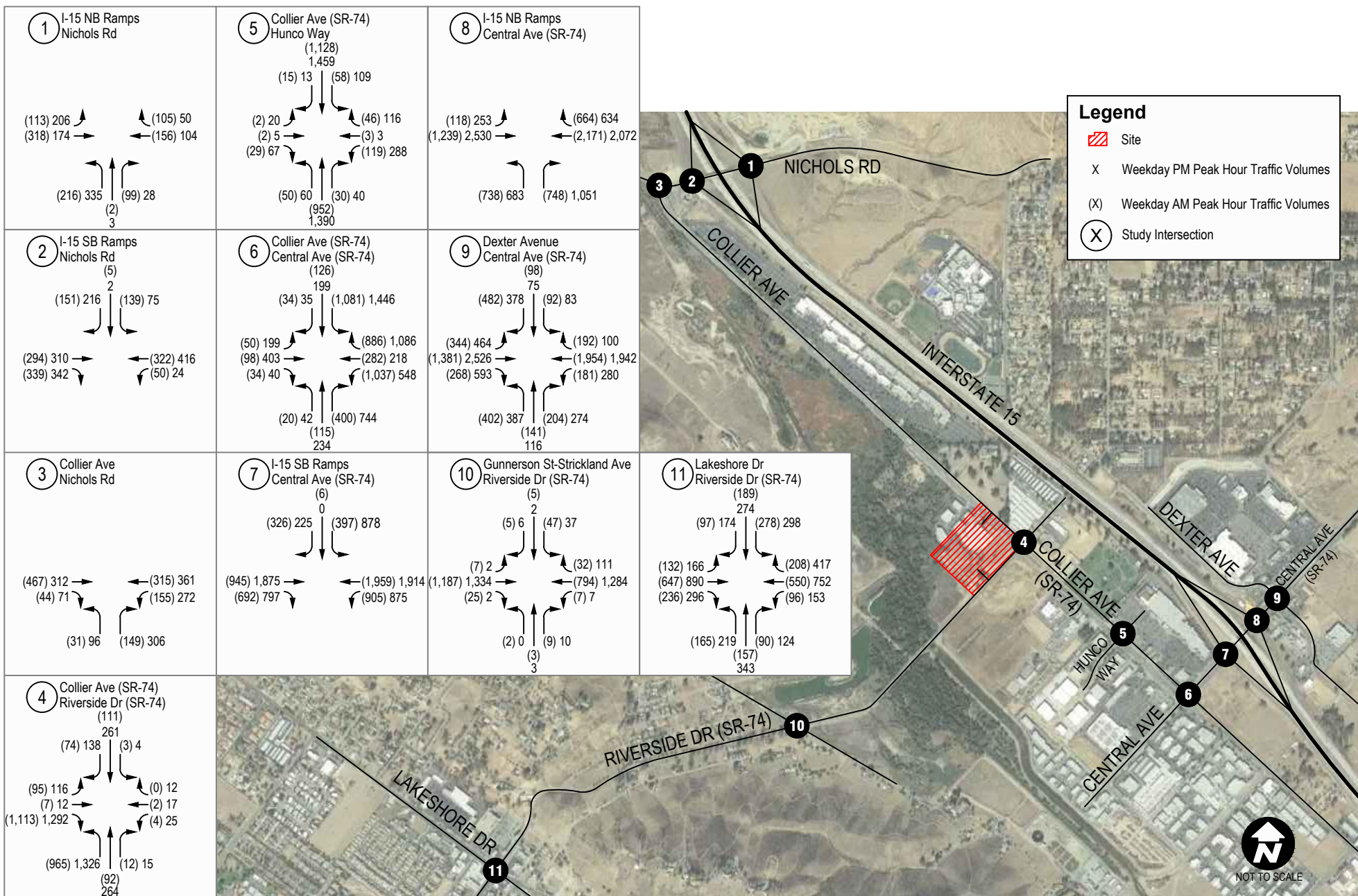


Source: Google Maps, 10/2016

Cumulative Project Traffic Volumes

Kassab Travel Center TIA

FIGURE
12



Source: Google Maps, 10/2016

Existing plus Ambient Growth plus Cumulative Projects plus Project Peak Hour Traffic Volumes FIGURE

Kassab Travel Center TIA

13

Chapter 7. Roadway Segment Analysis

The project is forecast to generate a net of approximately 1,919 average daily trips. A average daily traffic (ADT) roadway segment analysis for the following segments was conducted, based on input from City Staff:

- Riverside Drive (SR-74), west of Collier Avenue
- Collier Avenue, north of Riverside Drive (SR-74)
- Collier Avenue, south of Riverside Drive (SR-74)

Traffic volumes for Collier Avenue, north of Riverside Drive (SR-74) were collected in May 2017. Traffic volumes for Collier Avenue between Riverside Drive (SR-74) and Central Avenue were collected in June 2017. Traffic volumes for Riverside Drive (SR-74), west of Collier Drive were collected in August 2017. This count data is provided in Appendix B.

The ADT analysis for the Existing and Existing plus Project conditions are shown in Table 10, while the ADT analysis for the Existing and Existing plus Ambient Growth plus Project conditions are shown in Table 11. The ADT analysis for the Existing plus Ambient Growth plus Project plus Cumulative Projects condition is shown in Table 12. Per the City's General Plan, LOS D is the minimum acceptable standard used for this analysis. Additionally, Riverside Drive (SR-74), west of Collier Avenue was adjusted to account for two lanes.

Table 10. Existing and Existing plus Project ADT Analysis

Roadway Segments	Roadway Classification	LOS Standard E ¹	Existing		Existing plus Project	
			ADT	LOS	ADT	LOS
Riverside Drive (SR-74), west of Collier Avenue	Urban Arterial ²	17,950	26,360	E-F	26,900	E-F ³
Collier Avenue, north of Riverside Drive (SR-74)	Major	34,100	6,540	C	7,344	C
Collier Avenue, south of Riverside Drive (SR-74)	Urban Arterial	35,900	27,790	A-C	28,846	D

¹ Standard obtained via Figure C-3, County of Riverside General Plan Circulation Element, March 2014. Using LOS E per City Standards. LOS E value is transition point between LOS D and LOS E.

² Adjusted for 2 lanes, not 4 as shown in Figure C-3 of County Circulation Element.

³ Project would add second WB lane along its frontage, for a total of three through lanes (2 WB and 1 EB).

As shown in Tables 10, 11, and 12, all segments operate at LOS D or better and would operate within the City's standard of LOS D, except for Riverside Drive (SR-74), west of Collier Avenue. This segment is currently operating at LOS E-F under existing conditions, and is forecast to continue to operate at LOS E-F under Existing plus Ambient Growth plus Project Conditions, as well as with the addition of traffic from cumulative projects (Existing plus Ambient Growth plus Project plus Cumulative Projects). Collier Avenue, south of Riverside Drive (SR-74) in the Existing plus Ambient Growth plus Project plus Cumulative Projects condition is forecast to degrade to LOS F with the addition of Cumulative Project traffic.

Currently, Riverside Drive (SR-74), along the project's frontage, is also not constructed to its ultimate Urban Arterial width of 96 feet, curb-to-curb. It is currently unimproved (i.e., no curb-and-gutter), and has approximately 48 to 52 feet of pavement. Based on review of the project site plan, the proposed project will dedicate between 21 feet and 36 feet (street tapers in toward the west) in order to allow their half-section of Riverside Drive to be consistent with the Urban Arterial (half) cross section (center median, three travel lanes, six foot bike lane, and 6 foot sidewalk – in one direction).

The project will follow Caltrans standards to improve its section of Riverside Drive. Street improvements on the north side of Riverside Drive (SR-74), along the project's frontage, will conform with Caltrans roadway design standards.

Table 11. Existing and Existing plus Ambient Growth plus Project ADT Analysis

Roadway Segments	Roadway Classification	LOS Standard E ¹	Existing		Existing plus Ambient plus Project	
			ADT	LOS	ADT	LOS
Riverside Drive (SR-74), west of Collier Avenue	Urban Arterial ²	17,950	26,360	E-F	27,980	E-F ³
Collier Avenue, north of Riverside Drive (SR-74)	Major	34,100	6,540	C	7,640	C
Collier Avenue, south of Riverside Drive (SR-74)	Urban Arterial	35,900	27,790	A-C	30,000	D

¹ Standard obtained via Figure C-3, County of Riverside General Plan Circulation Element, March 2014. Using LOS E per City Standards. LOS E value is transition point between LOS D and LOS E.

² Adjusted for 2 lanes, not 4 as shown in Figure C-3 of County Circulation Element.

³ Project would add second WB lane along its frontage, for a total of three through lanes (2 WB and 1 EB).

Table 12. Existing plus Ambient Growth plus Project plus Cumulative Projects ADT Analysis

Roadway Segments	Roadway Classification	LOS Standard E ¹	Existing plus Ambient plus Cumulative plus Project	
			ADT	LOS
Riverside Drive (SR-74), west of Collier Avenue	Urban Arterial ²	17,950	36,809	E-F ³
Collier Avenue, north of Riverside Drive (SR-74)	Major	34,100	8,683	A-C
Collier Avenue, south of Riverside Drive (SR-74)	Urban Arterial	35,900	38,844	F

¹ Standard obtained via Figure C-3, County of Riverside General Plan Circulation Element, March 2014. Using LOS E per City Standards. LOS E value is transition point between LOS D and LOS E.

² Adjusted for 2 lanes, not 4 as shown in Figure C-3 of County Circulation Element.

³ Project would add second WB lane along its frontage, for a total of three through lanes (2 WB and 1 EB).

The roadway segment of Riverside Drive west of Collier Avenue is part of the TUMF network and will be improved to its ultimate width using those funds. However, with the improvements listed above, and the addition of project traffic (approximately 540 ADT), this segment of Riverside Drive (SR-74) is forecast to continue to operate at LOS E-F under both conditions.

Chapter 8. Special Issues: Queuing, Collier Avenue/Riverside Drive Geometry, Truck Turn Radii, Class II Bike Lane, and Pedestrian Safety Analyses

This section documents the following special issues requested to be addressed by City staff and Caltrans:

- Intersection queuing
- Collier Avenue (SR-74)/Riverside Drive (SR-74) conceptual geometry
- On-site truck turn radii
- Class II bicycle lane on Riverside Drive (SR-74)
- Pedestrian safety analysis

Queuing Analysis

A queuing analysis was conducted to determine the vehicle queues for turning movements at the study area intersections. In addition, the queuing analysis illustrates how much the queuing might increase with the addition of traffic from the proposed project. The queuing analysis is based on the Synchro LOS analysis which reports the 95th percentile (design) queues, consistent with HCM 2010.

Existing plus Project

Table 13 presents the queuing analysis for the Existing and Existing plus Project scenario. This table also illustrates the existing turning pocket length, if available, and the change in the queue length with the addition of the project. It should be noted that all of the queue lengths shown below are also exceeded in the Existing (without project) condition. As shown in Table 13, the following intersections/movements are expected to exceed the existing turn pocket (queue storage) length in the Existing plus Project condition:

- I-15 NB Ramps/Nichols Road
 - NBR pocket length = 50', queue length = 76'
- I-15 SB Ramps/Nichols Road
 - SBR pocket length = 50', queue length = 67'
- Collier Avenue (SR-74)/Hunco Way
 - SBL pocket length = 220', queue length = 265'
- Collier Avenue (SR-74)/Central Avenue (SR-74)
 - EBL pocket length = 150', queue length = 179'
 - NBL pocket length = 100', queue length = 127'
 - NBR pocket length = 50', queue length = 85'
- I-15 SB Ramps/Central Avenue (SR-74)
 - SBL pocket length = 100', queue length = 149'
 - SBR pocket length = 100', queue length = 165'

Table 13. Existing and Existing plus Ambient Growth plus Project Queuing Analysis

Intersection	Movement	Existing Pocket Length (feet)	Existing		Existing Plus Project		Change		Exceeds Turn Pocket Length?	
			AM	PM	AM	PM	AM	PM	AM	PM
1. I-15 NB Ramps/Nichols Rd	EBL	275	41	40	46	44	5	4	No	No
	NBR	50	71	56	76	54	5	-2	Yes	Yes
2. I-15 SB Ramps/Nichols Rd	EBR	150	88	62	82	57	-6	-5	No	No
	WBL	280	47	41	48	40	1	-1	No	No
	SBR	50	49	65	58	67	9	2	Yes	Yes
	WBL	135	51	56	55	61	4	5	No	No
4. Collier Ave (SR-74)/Riverside Dr (SR-74)	EBL ¹	0	69	96	80	107	11	11	No	No
	EBR ¹	0	157	467	203	578	46	111	No	No
	SBL ²	6000	11	12	78	292	67	280	No	No
5. Collier Ave (SR-74)/Hunco Way	WBL ¹	0	90	174	83	188	-7	14	No	No
	WBR ¹	0	36	63	39	83	3	20	No	No
	NBL	250	52	159	50	180	-2	21	No	No
	SBL	220	67	158	52	265	-15	107	No	Yes
6. Collier Ave (SR-74)/Central Avenue (SR-74)	EBL	150	91	100	179	167	88	67	Yes	Yes
	WBL ¹	0	125	100	141	106	16	6	No	No
	NBL	100	116	97	127	118	11	21	Yes	Yes
	NBR	50	82	84	82	85	0	1	Yes	Yes
	SBL	900	331	734	536	804	205	70	No	No
7. I-15 SB Ramps/Central Ave (SR-74)	EBR ¹	0	251	250	259	275	8	25	No	No
	WBL	400	218	153	226	178	8	25	No	No
	SBL	100	123	161	126	149	3	-12	Yes	Yes
	SBR	100	127	164	140	165	13	1	Yes	Yes
8. I-15 NB Ramps/Central Ave (SR-74)	EBL	250	85	121	92	126	7	5	No	No
	NBL	100	173	172	171	175	-2	3	Yes	Yes
	NBR	100	110	159	109	162	-1	3	Yes	Yes
9. Dexter Ave/Central Ave (SR-74)	EBL ¹	0	260	147	247	178	-13	31	No	No
	EBR ¹	0	47	47	53	57	6	10	No	No
	WBL	200	161	182	135	157	-26	-25	No	No
	WBR	300	130	227	127	205	-3	-22	No	No
	NBL	120	123	139	133	142	10	3	Yes	Yes
	SBL	175	133	80	110	75	-23	-5	No	No
10. Gunnerson St-Strickland Ave/Riverside Dr (SR-74)	SBR	150	187	126	188	131	1	5	Yes	No
	EBL	50	16	12	15	0	-1	-12	No	No
	WBL	50	17	16	22	18	5	2	No	No
	NBR	50	5	7	0	5	-5	-2	No	No
11. Lakeshore Drive/Riverside Dr (SR-74)	SBR	50	16	23	19	27	3	4	No	No
	EBL	150	150	195	193	199	43	4	Yes	Yes
	EBR	225	62	312	106	341	44	29	No	Yes
	WBL	160	64	155	86	142	22	-13	No	No
	NBL	130	138	182	149	185	11	3	Yes	Yes
	SBL	150	159	187	173	204	14	17	Yes	Yes
	SBR ¹	0	54	73	53	76	-1	3	No	No

¹ No turn pocket length.

² In Plus Project condition, movement will be shared with a through lane.

- I-15 NB Ramps/Central Avenue (SR-74)

- NBL pocket length = 100', queue length = 175'
 - NBR pocket length = 100', queue length = 162'
- Dexter Avenue/Central Avenue (SR-74)
 - NBL pocket length = 120', queue length = 142'
- SBR pocket length = 150', queue length = 188' Lakeshore Drive/Riverside Drive (SR-74)
 - EBL pocket length = 150', queue length = 199'
 - EBR pocket length = 225', queue length = 341'
 - NBL pocket length = 130', queue length = 185'
 - SBL pocket length = 150', queue length = 204'

Existing plus Ambient Growth plus Project

Table 14 presents the queuing analysis for the Existing and Existing plus Ambient Growth plus Project scenario. This table also illustrates the existing turning pocket length, if available, and the change in the queue length with the addition of the project. It should be noted that all of the queue lengths shown below are also exceeded in the Existing (without project) condition. As shown in Table 14, the following intersections/movements are expected to exceed the existing turn pocket (queue storage) length in the Existing plus Ambient Growth plus Project condition:

- I-15 NB Ramps/Nichols Road
 - NBR pocket length = 50', queue length = 81'
- I-15 SB Ramps/Nichols Road
 - SBR pocket length = 50', queue length = 70'
- Collier Avenue (SR-74)/Hunco Way
 - NBL pocket length = 250', queue length = 270'
 - SBL pocket length = 220', queue length = 326'
- Collier Avenue (SR-74)/Central Avenue (SR-74)
 - EBL pocket length = 150', queue length = 181'
 - NBR pocket length = 50', queue length = 86'
- I-15 SB Ramps/Central Avenue (SR-74)
 - SBL pocket length = 100', queue length = 155'
 - SBR pocket length = 100', queue length = 170'

Table 14. Existing and Existing plus Ambient Growth plus Project Queuing Analysis

Intersection	Movement	Existing Pocket Length (feet)	Existing		Existing Plus Ambient Plus Project		Change		Exceeds Turn Pocket Length?	
			AM	PM	AM	PM	AM	PM	AM	PM
1. I-15 NB Ramps/Nichols Rd	EBL	275	41	40	49	46	8	6	No	No
	NBR	50	71	56	81	65	10	9	Yes	Yes
2. I-15 SB Ramps/Nichols Rd	EBR	150	88	62	107	59	19	-3	No	No
	WBL	280	47	41	47	66	0	25	No	No
	SBR	50	49	65	65	70	16	5	Yes	Yes
3. Collier Ave (SR-74)/Nichols Rd	WBL	135	51	56	57	98	6	42	No	No
4. Collier Ave (SR-74)/Riverside Dr (SR-74)	EBL ¹	0	69	96	83	265	14	169	No	No
	EBR ¹	0	157	467	196	996	39	529	No	No
	SBL ²	6000	11	12	88	934	77	922	No	No
5. Collier Ave (SR-74)/Hunco Way	WBL ¹	0	90	174	94	222	4	48	No	No
	WBR ¹	0	36	63	41	96	5	33	No	No
	NBL	250	52	159	56	270	4	111	No	Yes
	SBL	220	67	158	60	326	-7	168	No	Yes
6. Collier Ave (SR-74)/Central Avenue (SR-74)	EBL	150	91	100	181	181	90	81	Yes	Yes
	WBL ¹	0	125	100	137	101	12	1	No	No
	NBL	100	116	97	60	72	-56	-25	No	No
	NBR	50	82	84	85	86	3	2	Yes	Yes
	SBL	900	331	734	523	738	192	4	No	No
7. I-15 SB Ramps/Central Ave (SR-74)	EBR ¹	0	251	250	273	254	22	4	No	No
	WBL	400	218	153	239	166	21	13	No	No
	SBL	100	123	161	121	155	-2	-6	Yes	Yes
	SBR	100	127	164	140	170	13	6	Yes	Yes
8. I-15 NB Ramps/Central Ave (SR-74)	EBL	250	85	121	85	131	0	10	No	No
	NBL	100	173	172	172	171	-1	-1	Yes	Yes
	NBR	100	110	159	107	163	-3	4	Yes	Yes
9. Dexter Ave/Central Ave (SR-74)	EBL ¹	0	260	147	262	177	2	30	No	No
	EBR ¹	0	47	47	45	51	-2	4	No	No
	WBL	200	161	182	179	215	18	33	No	Yes
	WBR	300	130	227	138	354	8	127	No	Yes
	NBL	120	123	139	130	132	7	-7	Yes	Yes
	SBL	175	133	80	109	86	-24	6	No	No
10. Gunnerson St-Strickland Ave/Riverside Dr (SR-74)	SBR	150	187	126	190	139	3	13	Yes	No
	EBL	50	16	12	13	27	-3	15	No	No
	WBL	50	17	16	22	24	5	8	No	No
	NBR	50	5	7	0	10	-5	3	No	No
	SBR	50	16	23	0	23	-16	0	No	No
11. Lakeshore Drive/Riverside Dr (SR-74)	EBL	150	150	195	178	209	28	14	Yes	Yes
	EBR	225	62	312	160	298	98	-14	No	Yes
	WBL	160	64	155	95	137	31	-18	No	No
	NBL	130	138	182	141	183	3	1	Yes	Yes
	SBL	150	159	187	169	198	10	11	Yes	Yes
	SBR ¹	0	54	73	58	88	4	15	No	No

¹ No turn pocket length.

² In Plus Project condition, movement will be shared with a through lane.

- I-15 NB Ramps/Central Avenue (SR-74)
 - NBL pocket length = 100', queue length = 171'
 - NBR pocket length = 100', queue length = 163'
- Dexter Avenue/Central Avenue (SR-74)
 - WBL pocket length = 200', queue length = 215'
 - WBR pocket length = 300', queue length = 354'
 - NBL pocket length = 120', queue length = 132'
 - SBR pocket length = 150', queue length = 190'
- Lakeshore Drive/Riverside Drive (SR-74)
 - EBL pocket length = 150', queue length = 209'
 - EBR pocket length = 225', queue length = 298'
 - NBL pocket length = 130', queue length = 183'
 - SBL pocket length = 150', queue length = 198'

Existing plus Ambient Growth plus Project plus Cumulative Projects

Table 15 presents the queuing analysis for the Existing plus Ambient Growth plus Project plus Cumulative Projects scenario. This table also illustrates the existing turning pocket length, if available, and the change in the queue length with the addition of the project. It should be noted that most of the queue lengths shown below are also exceeded in the Existing condition. As shown in Table 15, the following intersections/movements are expected to exceed the existing turn pocket (queue storage) length in the Existing plus Ambient Growth plus Project plus Cumulative Projects condition:

- I-15 NB Ramps/Nichols Road
 - NBR pocket length = 50', queue length = 86'
- I-15 SB Ramps/Nichols Road
 - SBR pocket length = 50', queue length = 85'
- Collier Avenue/Nichols Road
 - WBL pocket length = 135', queue length = 231'
- Collier Avenue (SR-74)/Hunco Way
 - NBL pocket length = 250', queue length = 279'
 - SBL pocket length = 220', queue length = 312'
- Collier Avenue (SR-74)/Central Avenue (SR-74)
 - EBL pocket length = 150', queue length = 207'
 - NBL pocket length = 100', queue length = 106'
 - NBR pocket length = 50', queue length = 78'
- I-15 SB Ramps/Central Avenue (SR-74)
 - SBL pocket length = 100', queue length = 171'
 - SBR pocket length = 100', queue length = 169'
- I-15 NB Ramps/Central Avenue (SR-74)
 - NBL pocket length = 100', queue length = 168'
 - NBR pocket length = 100', queue length = 154'

Table 15. Existing plus Ambient Growth plus Project plus Cumulative Queuing Analysis

Intersection	Movement	Existing Pocket Length (feet)	Existing Plus Ambient Plus Cumulative Plus Project		Exceeds Turn Pocket Length?	
			AM	PM	AM	PM
1. I-15 NB Ramps/Nichols Rd	EBL	275	60	46	No	No
	NBR	50	86	55	Yes	Yes
2. I-15 SB Ramps/Nichols Rd	EBR	150	119	77	No	No
	WBL	280	49	170	No	No
	SBR	50	71	85	Yes	Yes
3. Collier Ave (SR-74)/Nichols Rd	WBL	135	66	201	No	Yes
4. Collier Ave (SR-74)/Riverside Dr (SR-74)	EBL ¹	0	106	235	No	No
	EBR ¹	0	375	986	No	No
	SBL ²	6000	122	1305	No	No
5. Collier Ave (SR-74)/Hunco Way	WBL ¹	0	88	474	No	No
	WBR ¹	0	40	242	No	No
	NBL	250	58	279	No	Yes
	SBL	220	133	312	No	Yes
6. Collier Ave (SR-74)/Central Avenue (SR-74)	EBL	150	203	207	Yes	Yes
	WBL ¹	0	310	197	No	No
	NBL	100	106	100	Yes	No
	NBR	50	78	76	Yes	Yes
	SBL	900	735	710	No	No
7. I-15 SB Ramps/Central Ave (SR-74)	EBR ¹	0	347	368	No	No
	WBL	400	218	367	No	No
	SBL	100	169	171	Yes	Yes
	SBR	100	169	155	Yes	Yes
8. I-15 NB Ramps/Central Ave (SR-74)	EBL	250	142	169	No	No
	NBL	100	168	157	Yes	Yes
	NBR	100	128	154	Yes	Yes
9. Dexter Ave/Central Ave (SR-74)	EBL ¹	0	295	227	No	No
	EBR ¹	0	48	118	No	No
	WBL	200	274	263	Yes	Yes
	WBR	300	425	343	Yes	Yes
	NBL	120	147	146	Yes	Yes
	SBL	175	150	122	No	No
10. Gunnerson St-Strickland Ave/Riverside Dr (SR-74)	SBR	150	202	185	Yes	Yes
	EBL	50	18	19	No	No
	WBL	50	22	15	No	No
	NBR	50	12	8	No	No
11. Lakeshore Drive/Riverside Dr (SR-74)	SBR	50	41	25	No	No
	EBL	150	227	250	Yes	Yes
	EBR	225	326	356	Yes	Yes
	WBL	160	177	193	Yes	Yes
	NBL	130	147	181	Yes	Yes
	NBR	300	84	334	No	Yes
	SBL	150	199	178	Yes	Yes
	SBR ¹	0	52	63	No	No

¹ No turn pocket length.

² In Plus Project condition, movement will be shared with a through lane.

- Dexter Avenue/Central Avenue (SR-74)
 - WBL pocket length = 200', queue length = 274'
 - WBR pocket length = 300', queue length = 425'
 - NBL pocket length = 120', queue length = 147'
 - SBR pocket length = 150', queue length = 202'
- Lakeshore Drive/Riverside Drive (SR-74)
 - EBL pocket length = 150', queue length = 250'
 - EBR pocket length = 225', queue length = 356'
 - WBL pocket length = 160', queue length = 193'
 - NBL pocket length = 130', queue length = 181'
 - NBR pocket length = 300', queue length = 334'
 - SBL pocket length = 150', queue length = 199'

Collier Avenue (SR-74)/Central Avenue (SR-74) Conceptual Geometry

Per the City's General Plan Roadway Classifications (Figure 2.3 of General Plan), Collier Avenue, north of Riverside Drive (along the project's frontage), is classified as a Major roadway with four lanes and a 100 foot right-of-way (80 feet, curb-to-curb). Riverside Drive (SR-74), west of Collier Avenue (along the project's frontage), is classified as an Urban Arterial with six lanes and a 120 foot right-of-way (96 feet, curb-to-curb). Figure 3 above, illustrates the street cross sections for a Major roadway and Urban Arterial.

Currently, Collier Avenue, along the project's frontage, is not constructed to its ultimate Major roadway width of 80 feet, curb-to-curb. It is approximately 76 feet, curb-to-curb. Based on review of the project site plan, the proposed project will dedicate approximately 10 feet in order to allow their half-section of Collier Avenue to be consistent with the Major roadway (half) cross section (center median, two travel lanes, six foot bike lane, and 5 foot sidewalk – in one direction). Street improvements on the west side of Collier Avenue, along the project's frontage, will conform with City roadway design standards.

These improvements will be constructed to be consistent with the General Plan and the City's Standard Plans.

Currently, Riverside Drive (SR-74), along the project's frontage, is also not constructed to its ultimate Urban Arterial width of 96 feet, curb-to-curb. It is currently unimproved (i.e., no curb-and-gutter), and has approximately 48 to 52 feet of pavement. Based on review of the project site plan, the proposed project will dedicate between 21 feet and 36 feet (street tapers in toward the west) in order to allow their half-section of Riverside Drive to be consistent with the Urban Arterial (half) cross section (center median, three travel lanes, six foot bike lane, and 6 foot sidewalk – in one direction). With the street dedication on the north side (project frontage), the pavement width would be approximately 74 feet (48 feet from curb face to new centerline, plus 26 feet of existing pavement on the south side of the street). The project will follow Caltrans standards to improve its section of Riverside Drive. Street improvements on the north side of Riverside Drive (SR-74), along the project's frontage, will conform with Caltrans roadway design standards.

On-site Truck Turning Radii

As shown in the project site plan above (Figure 2), truck turning templates for a semi-trailer truck (heavy truck) or fuel transport truck have been placed on the two driveways (driveway on Riverside Drive, and driveway on Collier Avenue). The truck turning templates have also been placed at the (underground) fuel storage tanks on site. All truck turning templates show there is adequate space on the project site for a large trailer truck and recreational vehicles (RVs) to maneuver through the site, and through the primary driveways.

Furthermore, the proposed project is not designed, nor intended, to serve heavy, long-haul trucks, but mainly to serve local residents, visitors, and RVs traveling through the area (on I-15 or SR-74). Also, fuel distribution trucks typically arrive at the site to refill the underground storage tanks during the off-peak hours of the business (i.e., late nights, or early mornings).

Class II Bicycle Lane on Riverside Drive (SR-74)

As previously discussed, the proposed project will dedicate between 21 feet and 36 feet (street tapers in toward the west) in order to allow their half-section of Riverside Drive to be consistent with the Urban Arterial (half) cross section (center median, three travel lanes, six foot bike lane, and 6 foot sidewalk – in one direction). With the street dedication on the north side (project frontage), the pavement width would be approximately 74 feet (48 feet from curb face to new centerline, plus 26 feet of existing pavement on the south side of the street). Street improvements on the north side of Riverside Drive (SR-74), along the project's frontage, include a new six foot wide bike lane (Class II – striped, on-pavement) consistent with the City's General Plan Circulation Element.

Pedestrian Safety Analysis

As shown on the project site plan (Figure 2), pedestrian facilities, in the form of sidewalks, are proposed along the project's frontages on Collier Avenue and Riverside Drive. These sidewalks are shown to be 5 feet in width on Collier Avenue and 6 feet in width on Riverside Drive; and, will be constructed to be consistent with Caltrans and the City's Standard Plans. The proposed sidewalk on the west side of Collier Avenue would connect to the existing sidewalk north of the project site, which provides continuous pedestrian access to the adjacent retail and industrial uses, including the Outlets at Lake Elsinore, further to the north. The proposed sidewalk on the north side of Riverside Drive would be constructed just along the project frontage, as there are no other existing pedestrian facilities to connect with west of the project site.

On site, pedestrian connections, in the form of landscape cut-outs connected to striped crosswalks, are provided adjacent to the gas station convenience mart (on Collier Avenue), and adjacent to the fast-food restaurant (on Riverside Drive). Pedestrians using these connections from the sidewalks on Collier Avenue and Riverside Drive would have direct access to those buildings. Additionally, pedestrian crosswalks and internal sidewalks are provided from each building (convenience mart and fast-food restaurant) to their respective trash enclosure areas. The locations of these crosswalks provide the shortest path from the buildings to the trash enclosures, reducing the length of time employees are in vehicle paths while going to the trash enclosures.

Furthermore, the on-site parking areas have been designed to be as close to the buildings as possible, and the buildings have surrounding sidewalks to keep patrons off the vehicle drive aisles.

Chapter 9. Mitigation Measures and Fair-Share

This section discusses the mitigation measures and fair share costs for the impacted intersections discussed in the previous sections. As mentioned before, the project impacts the following intersections under the Existing plus Project scenario:

- I-15 NB Ramps/Nichols Road (remains at LOS F during the AM peak hour)
- Collier Avenue/Nichols Road (LOS D to LOS E during the PM peak hour)
 - Project is 100% responsible for improvements to mitigate impact
- Gunnerson Street-Strickland Avenue/Riverside Drive (SR-74) (remains at LOS F during both peak hours)

The project impacts the following intersections under the Existing plus Ambient Growth plus Project scenario:

- I-15 NB Ramps/Nichols Road (remains at LOS F during the AM peak hour, LOS D to LOS E during the PM peak hour)
 - Project is 100% responsible for improvements to mitigate impact
- Collier Avenue/Nichols Road (LOS D to LOS E during the PM peak hour)
 - Project is 100% responsible for improvements to mitigate impact
- Gunnerson Street-Strickland Avenue/Riverside Drive (SR-74) (remains at LOS F during both peak hours)

The project impacts the following intersections under the Existing plus Ambient Growth plus Project plus Cumulative Projects scenario:

- I-15 NB Ramps/Nichols Road (LOS F during both peak hours)
- Collier Avenue/Nichols Road (LOS E during the AM peak hour and LOS F during the PM peak hour) Collier Avenue (SR-74)/Central Avenue (SR-74) (LOS E during both peak hours)
- I-15 SB Ramps/Central Avenue (SR-74) (LOS F during the PM peak hour)
- Dexter Avenue/Central Avenue (SR-74) (LOS E during the AM peak hour)
- Gunnerson Street-Strickland Avenue/Riverside Drive (SR-74) (LOS F during both peak hours)

These intersections will be required to be mitigated to a level of less than significant per the City's significance criteria. The fair share calculations will be assessed with the Existing plus Ambient Growth plus Project plus Cumulative Projects scenario. The mitigation measures for the Existing plus Project and Existing plus Ambient Growth plus Project conditions and the Existing plus Ambient Growth plus Project plus Cumulative projects condition are listed in Figures 14 and 15, respectively.

The incorporation of the mitigation measures defined below would reduce the proposed project's impacts to a level of less than significant per the City's significance criteria.

Existing plus Project

Prior to issuance of Certificate of Occupancy, the proposed project shall pay its fair-share to construct the following improvements:

- I-15 NB Ramps/Nichols Road – The peak hour volumes at this intersection would not satisfy the peak hour signal warrant. The following improvement is needed to mitigate intersection LOS:

- Convert this intersection into an all-way-stop. With this mitigation, the intersection is forecast to operate at LOS C during the AM peak hour.
 - While delays at the northbound left turn movement would increase with the implementation of this measure, the total intersection delay with all-way stop control is forecast to result in satisfactory LOS (LOS D or better) which would mitigate the project's impact. Furthermore, the queuing analysis indicates that the forecast queue for the northbound left turn lane would be accommodated within the existing storage lane.
 - The City and Caltrans have recently converted this intersection to an all-way-stop configuration consistent with this mitigation measure. Therefore, the requirement for this mitigation measure has been satisfied.
- Gunnerson Street-Strickland Avenue/Riverside Drive (SR-74) –The following improvement is needed to mitigate intersection LOS:
 - Convert this intersection into a signalized intersection when the traffic volumes would satisfy signal warrants. With this mitigation, the intersection is forecast to operate at LOS A during the AM peak hour.

Prior to issuance of Certificate of Occupancy, the proposed project shall construct the following improvements:

- Collier Avenue/Nichols Road –~~Although, t~~The peak hour volumes at this intersection would not satisfy the peak hour signal warrant for the PM peak hour, ~~a signal is not needed to improve LOS back to LOS D or better.~~ The following improvement would mitigate intersection LOS ~~without the installation of a traffic signal~~:
 - Convert this intersection into an all-way-stop. With this mitigation, the intersection is forecast to operate at LOS B during the PM peak hour.
 - While delays at the northbound left turn movement would increase with the implementation of this measure, the total intersection delay with all-way stop control is forecast to result in satisfactory LOS (LOS D or better) which would mitigate the project's impact. Furthermore, the queuing analysis indicates that the forecast queue for the northbound left turn lane would be accommodated within the existing storage lane.

Table 16 presents the LOS (improvement) with the implementation of the mitigation measures listed above for the Existing plus Project condition.

Existing plus Ambient Growth plus Project

Prior to issuance of Certificate of Occupancy, the proposed project shall pay its fair-share to construct the following improvements:

- Gunnerson Street-Strickland Avenue/Riverside Drive (SR-74) –The following improvement is needed to mitigate intersection LOS:
 - Convert this intersection into a signalized intersection when the traffic volumes would satisfy signal warrants. With this mitigation, the intersection is forecast to operate at LOS A during the AM peak hour.

~~Prior to issuance of Certificate of Occupancy, the proposed project shall construct the following improvements:~~

- I-15 NB Ramps/Nichols Road – The peak hour volumes at this intersection would not satisfy the peak hour signal warrant. The following improvement is needed to mitigate intersection LOS:
 - Convert this intersection into an all-way-stop. With this mitigation, the intersection is forecast to operate at LOS D during the AM peak hour and LOS B during the PM peak hour.
 - While delays at the northbound left turn movement would increase with the implementation of this measure, the total intersection delay with all-way stop control is forecast to result in satisfactory LOS (LOS D or better) which would mitigate the project's impact. Furthermore, the queuing analysis indicates that the forecast queue for the northbound left turn lane would be accommodated within the existing storage lane.
 - The City and Caltrans have recently converted this intersection to an all-way-stop configuration consistent with this mitigation measure. Therefore, the requirement for this mitigation measure has been satisfied.

Prior to issuance of Certificate of Occupancy, the proposed project shall construct the following improvements:

⊖

- Collier Avenue/Nichols Road – Although the peak hour volumes at this intersection would satisfy the peak hour signal warrant for the PM peak hour, a signal is not needed to improve LOS back to LOS D or better. The following improvement would mitigate intersection LOS without the installation of a traffic signal:
 - Convert this intersection into an all-way-stop. With this mitigation, the intersection is forecast to operate at LOS C during the PM peak hour.
 - While delays at the northbound left turn movement would increase with the implementation of this measure, the total intersection delay with all-way stop control is forecast to result in satisfactory LOS (LOS D or better) which would mitigate the project's impact. Furthermore, the queuing analysis indicates that the forecast queue for the northbound left turn lane would be accommodated within the existing storage lane.

Table 17 presents the LOS (improvement) with the implementation of the mitigation measures listed above for the Existing plus Ambient Growth plus Project condition.

Existing plus Ambient Growth plus Project plus Cumulative Projects

Prior to issuance of Certificate of Occupancy, the proposed project shall pay its fair-share to construct the following improvements:

- I-15 NB Ramps/Nichols Road — ~~Although t~~ The peak hour volumes at this intersection would not satisfy the peak hour signal warrant for the AM peak hour, ~~a signal is not needed to improve LOS back to LOS D or better.~~ The following improvement is needed to mitigate intersection LOS:
 - Convert this intersection into an all-way-stop. With this mitigation, the intersection is forecast to operate at LOS B during both the AM and PM.
 - While delays at the northbound left turn movement would increase with the implementation of this measure, the total intersection delay with all-way stop control is forecast to result in satisfactory LOS (LOS D or better) which would mitigate the project's impact. Furthermore, the queuing analysis indicates

- that the forecast queue for the northbound left turn lane would be accommodated within the existing storage lane.
 - The City and Caltrans have recently converted this intersection to an all-way-stop configuration consistent with this mitigation measure. Therefore, the requirement for this mitigation measure has been satisfied.
- ~~Collier Avenue/Nichols Road – Although the peak hour volumes at this intersection would satisfy the peak hour signal warrant for the PM peak hour, a signal is not needed to improve LOS back to LOS D or better. The following improvement would mitigate intersection LOS without the installation of a traffic signal:~~
 - ~~— Convert this intersection into an all-way-stop. With this mitigation, the intersection is forecast to operate at LOS D during the AM peak hour and LOS C during the PM peak hour.~~
 - ~~While delays at the northbound left turn movement would increase with the implementation of this measure, the total intersection delay with all-way stop control is forecast to result in satisfactory LOS (LOS D or better) which would mitigate the project's impact. Furthermore, the queuing analysis indicates that the forecast queue for the northbound left turn lane would be accommodated within the existing storage lane.~~
- Collier Avenue (SR-74)/~~Central Avenue~~Riverside Drive (SR-74) – The following improvement is needed to mitigate intersection LOS:
 - Restripe two southbound through lanes to one southbound through and one southbound through-left lane. With this mitigation, the intersection is forecast to operate at LOS D during both the AM and PM peak hour.
- I-15 SB Ramps/Central Avenue (SR-74) – The following improvement is needed to mitigate intersection LOS:
 - Install a third eastbound through lane and install a second (dual) southbound left turn lane. With this mitigation, the intersection is forecast to operate at LOS C during the AM peak hour.
- Dexter Avenue /Central Avenue (SR-74) – The following improvement is needed to mitigate intersection LOS:
 - Change northbound left turn phasing to protected-permitted. With this mitigation, the intersection is forecast to operate at LOS D during the AM peak hour.
- Gunnerson Street-Strickland Avenue/Riverside Drive (SR-74) –The following improvement is needed to mitigate intersection LOS:
 - Convert this intersection into a signalized intersection when the traffic volumes would satisfy signal warrants. With this mitigation, the intersection is forecast to operate at LOS B during the AM peak hour and LOS C during the PM peak hour.

Prior to issuance of Certificate of Occupancy, the proposed project shall construct the following improvements:

- Collier Avenue/Nichols Road – Although the peak hour volumes at this intersection would satisfy the peak hour signal warrant for the PM peak hour, a signal is not needed to improve LOS back to LOS D or better. The following improvement would mitigate intersection LOS without the installation of a traffic signal:
 - Convert this intersection into an all-way-stop. With this mitigation, the intersection is forecast to operate at LOS D during the AM peak hour and LOS C during the PM peak hour.
 - While delays at the northbound left turn movement would increase with the implementation of this measure, the total intersection delay with all-way stop control is forecast to result in satisfactory LOS (LOS D or better) which would

mitigate the project's impact. Furthermore, the queuing analysis indicates that the forecast queue for the northbound left turn lane would be accommodated within the existing storage lane.

Table 18 presents the LOS (improvement) with the implementation of the mitigation measures listed above for the Existing plus Ambient Growth plus Project plus Cumulative Projects condition.

Table 16. Existing plus Project LOS with Mitigation Measures

Intersection	Existing plus Project				Mitigated				Delay Change		Impact	
	AM Peak		PM Peak		AM Peak		PM Peak		AM	PM	AM	PM
	Delay ¹	LOS ²	Delay ¹	LOS ²	Delay ¹	LOS ²	Delay ¹	LOS ²				
1. I-15 NB Ramps/Nichols Road	176.7	F	32.1	D	25.8	D	--	--	-150.9	--	NO	NO
3. Collier Avenue/Nichols Road	22.5	C	39.0	E	--	--	14.7	B	--	-24.3	NO	NO
10. Gunnerson Street-Strickland Avenue/Riverside Drive (SR-74)	65.9	F	217.8	F	7.9	A	8.8	A	-58.0	-209.0	NO	NO

¹ Seconds/Vehicle

² Level of Service, based on Highway Capacity Manual HCM 2010. Unless otherwise noted.

Intersection	Existing plus Project				Mitigated				Delay Change		Impact	
	AM Peak		PM Peak		AM Peak		PM Peak		AM	PM	AM	PM
	Delay ¹	LOS ²	Delay ¹	LOS ²	Delay ¹	LOS ²	Delay ¹	LOS ²				
1. I-15 NB Ramps/Nichols Road	148.5	F	27.6	D	24.0	C	--	--	-124.5	--	NO	NO
3. Collier Avenue/Nichols Road	21.8	C	35.9	E	--	--	14.3	B	--	-21.6	NO	NO
10. Gunnerson Street-Strickland Avenue/Riverside Drive (SR-74)	65.9	F	217.8	F	8.0	A	8.9	A	-57.9	-208.9	NO	NO

¹ Seconds/Vehicle

² Level of Service, based on Highway Capacity Manual HCM 2010. Unless otherwise noted.

Table 17. Existing plus Ambient Growth plus Project LOS with Mitigation Measures

Intersection	Existing plus Ambient Growth plus Project				Mitigated				Delay Change		Impact	
	AM Peak		PM Peak		AM Peak		PM Peak		AM	PM	AM	PM
	Delay ¹	LOS ²	Delay ¹	LOS ²	Delay ¹	LOS ²	Delay ¹	LOS ²				
1. I-15 NB Ramps/Nichols Road	228.7	F	37.7	E	29.7	D	13.1	B	-199.0	-24.6	NO	NO
3. Collier Avenue/Nichols Road	23.9	C	44.4	E	--	--	15.4	C	--	-29.0	NO	NO
10. Gunnerson Street-Strickland Avenue/Riverside Drive (SR-74)	83.0	F	314.2	F	8.5	A	9.8	A	-74.5	-304.4	NO	NO

¹ Seconds/Vehicle

² Level of Service, based on Highway Capacity Manual HCM 2010. Unless otherwise noted.

Intersection	Existing plus Ambient Growth plus Project				Mitigated				Delay Change		Impact	
	AM Peak		PM Peak		AM Peak		PM Peak		AM	PM	AM	PM
	Delay ¹	LOS ²	Delay ¹	LOS ²	Delay ¹	LOS ²	Delay ¹	LOS ²				
1. I-15 NB Ramps/Nichols Road	228.7	F	37.7	E	29.7	D	13.1	B	-199.0	-24.6	NO	NO
3. Collier Avenue/Nichols Road	23.8	C	44.0	E	--	--	15.4	C	--	-28.6	NO	NO
10. Gunnerson Street-Strickland Avenue/Riverside Drive (SR-74)	83.0	F	314.2	F	8.6	A	9.9	A	-74.4	-304.3	NO	NO

¹ Seconds/Vehicle

² Level of Service, based on Highway Capacity Manual HCM 2010. Unless otherwise noted.

Table 18. Existing plus Ambient Growth plus Project plus Cumulative Projects LOS with Mitigation Measures

Intersection	Existing plus Ambient Growth plus Project plus Cumulative Projects				Mitigated				Delay Change		Impact	
	AM Peak		PM Peak		AM Peak		PM Peak		AM	PM	AM	PM
	Delay ¹	LOS ²	Delay ¹	LOS ²	Delay ¹	LOS ²	Delay ¹	LOS ²				
1. I-15 NB Ramps/Nichols Road	94.1	F	103.8	F	17.8	C	15.3	C	-76.3	-88.5	NO	NO
3. Collier Avenue/Nichols Road	36.3	E	115.6	F	27.6	D	22.8	C	-8.7	-92.8	NO	NO
6. Collier Ave (SR-74)/Central Avenue (SR-74)	77.8	E	62.7	E	46.0	D	38.0	D	-31.8	-24.7	NO	NO
7. I-15 SB Ramps/Central Avenue (SR-74)	43.7	D	96.5	F	--	--	39.4	D	--	-57.1	NO	NO
9. Dexter Avenue/Central Avenue (SR-74)	56.7	E	53.2	D	44.8	D	--	--	-11.9	--	NO	NO
10. Gunnerson Street-Strickland Avenue/Riverside Drive (SR-74)	612.3	F	3328.7	F	11.7	B	27.1	C	-600.6	-3301.6	NO	NO
¹ Seconds/Vehicle ² Level of Service, based on Highway Capacity Manual HCM 2010.												

Intersection	Existing plus Ambient Growth plus Cumulative Project				Mitigated				Delay Change		Impact	
	AM Peak		PM Peak		AM Peak		PM Peak		AM	PM	AM	PM
	Delay ¹	LOS ²	Delay ¹	LOS ²	Delay ¹	LOS ²	Delay ¹	LOS ²				
1. I-15 NB Ramps/Nichols Road	508.9	F	103.8	F	13.4	B	11.5	B	-495.5	-92.3	NO	NO
3. Collier Avenue/Nichols Road	36.3	E	115.6	F	27.4	D	22.8	C	-8.9	-92.8	NO	NO
6. Collier Ave (SR-74)/Central Avenue (SR-74)	70.2	E	60.4	E	45.8	D	36.9	D	-24.4	-23.5	NO	NO
7. I-15 SB Ramps/Central Avenue (SR-74)	43.0	D	96.3	F	--	--	35.0	C	--	-61.3	NO	NO
9. Dexter Avenue/Central Avenue (SR-74)	57.1	E	53.0	D	44.9	D	--	--	-12.2	--	NO	NO
10. Gunnerson Street-Strickland Avenue/Riverside Drive (SR-74)	612.3	F	3328.7	F	11.7	B	27.3	C	-600.6	--	NO	NO

¹ Seconds/Vehicle

² Level of Service, based on Highway Capacity Manual HCM 2010.

Project Fair Share Costs

The following section discusses the project's fair share costs for the improvements noted above. The fair share calculation is based on the following formula, and uses the Existing plus Ambient Growth plus Project plus Cumulative Projects condition:

$$\frac{\text{Project Traffic}}{\text{Opening Year} + \text{Project} - \text{Existing Traffic}}$$

As shown in Table 19, the project fair share ranges from 0.9 percent to 12.5 percent. It is expected that the project is expected to pay its fair share costs for the mitigation measures noted previously.

For the intersection of I-15 NB Ramps/Nichols Road, the mitigation measure of conversion of an all-way-stop configuration has already been enacted by the City and Caltrans. The fair share calculation shown for this intersection is purely informational as the requirement for the mitigation measure has been satisfied.

A similar calculation was conducted for the impacted roadway segment of Collier Avenue, south of Riverside Drive (SR-74). Based on the daily traffic volumes shown in Table 11, the project's fair share would be 9.6 percent (1,056 Project ADT/ (38,844 – 27,790)). Another calculation was conducted for Riverside Drive (SR-74), west of Collier Avenue. Based on the daily traffic volumes shown in Table 11, the project's fair share would be 5.2 percent (540 Project ADT/ (36,809 – 26,360). The roadway segment of Riverside Drive west of Collier Avenue is part of the TUMF network and is to be improved to its ultimate width using those funds.

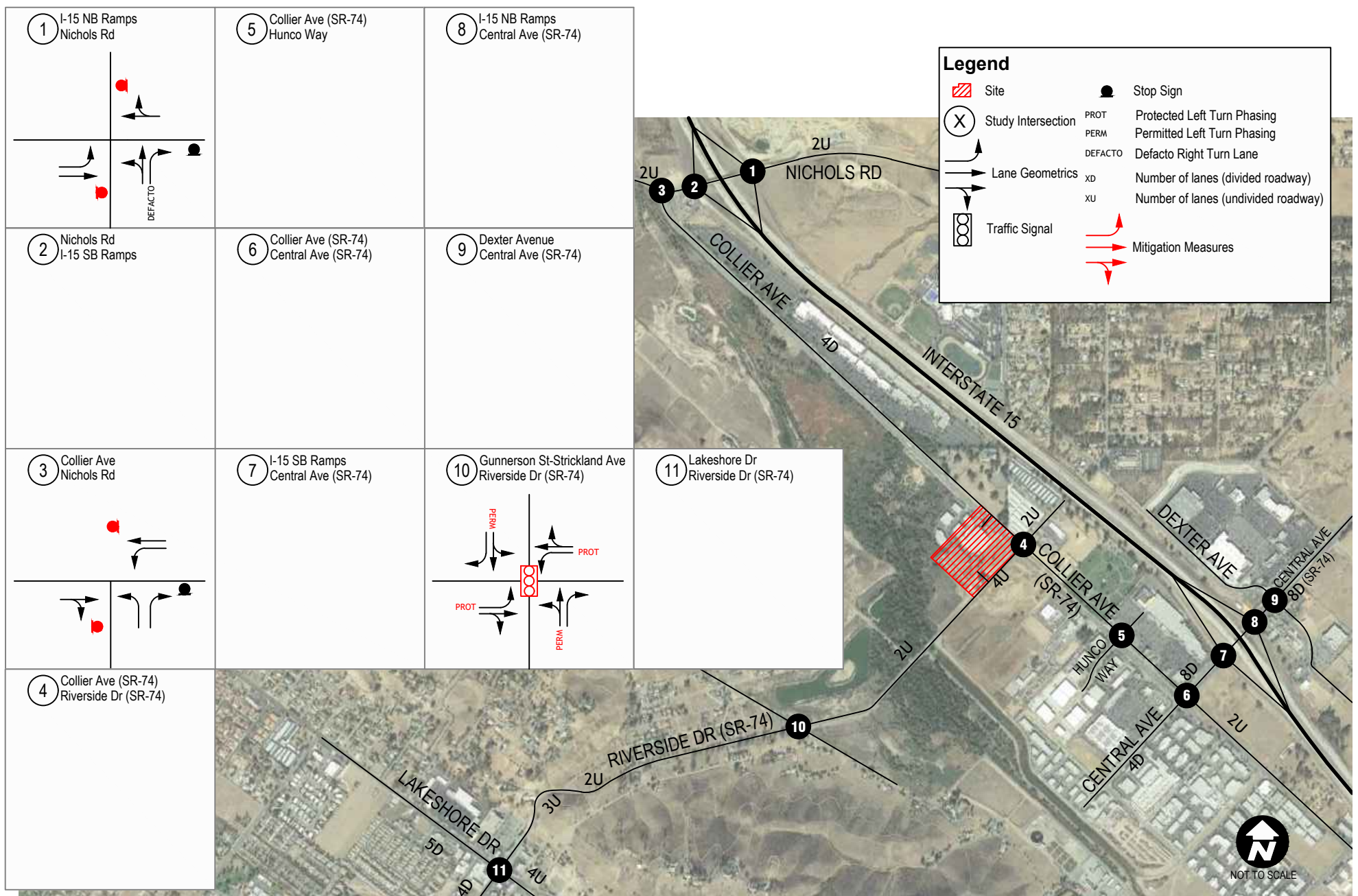
Table 19. Project Fair Share

Intersection	AM Peak				PM Peak			
	Project Traffic	Cumulative Plus Project	Existing	Fair Share % ¹	Project Traffic	Cumulative Plus Project	Existing	Fair Share % ¹
Existing plus Ambient Growth plus Project plus Cumulative Projects								
1. I-15 NB Ramps/Nichols Road	19	1009	871	13.8%	22	900	738	13.6%
3. Collier Avenue/Nichols Road	39	1161	865	13.2%	45	1418	1078	13.2%
4. Collier Avenue (SR-74)/Riverside Drive (SR-74)	81	2478	1701	10.4%	92	3482	2435	8.8%
6. Collier Ave (SR-74)/Central Avenue (SR-74)	71	4272	2784	4.8%	81	5194	3400	4.5%
7. I-15 SB Ramps/Central Avenue (SR-74)	68	5230	3602	4.2%	77	6564	4367	3.5%
9. Dexter Avenue/Central Avenue (SR-74)	20	5739	4035	1.2%	22	7218	4730	0.9%
10. Gunnerson Street-Strickland Avenue/Riverside Drive (SR-74)	20	2123	1462	3.0%	22	2798	1897	2.4%

¹ Project Traffic/(Existing + Ambient Growth + Cumulative + Project - Existing Traffic)

Intersection	AM Peak				PM Peak			
	Project Traffic	Cumulative Plus Project	Existing	Fair Share % ¹	Project Traffic	Cumulative Plus Project	Existing	Fair Share % ¹
Existing Plus Ambient Growth Plus Cumulative Plus Project								
1. I-15 NB Ramps/Nichols Rd	19	1009	854	12.3%	22	900	724	12.5%
3. Collier Ave/Nichols Rd	39	1159	848	12.5%	45	1417	1057	12.5%
4. Collier Ave (SR-74)/Riverside Dr (SR-74)	81	2477	1668	10.0%	92	3482	2387	8.4%
6. Collier Ave (SR-74)/Central Ave (SR-74)	71	4859	3452	5.0%	81	5194	3400	4.5%
7. I-15 SB Ramps/Central Ave (SR-74)	68	5226	3531	4.0%	77	6560	4281	3.4%
9. Dexter Avenue/Central Ave (SR-74)	20	5736	3956	1.1%	22	7211	4637	0.9%
10. Gunnerson St-Strickland Ave/Riverside Dr (SR-74)	20	2123	1462	3.0%	22	2798	1897	2.4%

¹ Project Traffic/(Existing + Ambient Growth + Cumulative + Project - Existing Traffic)

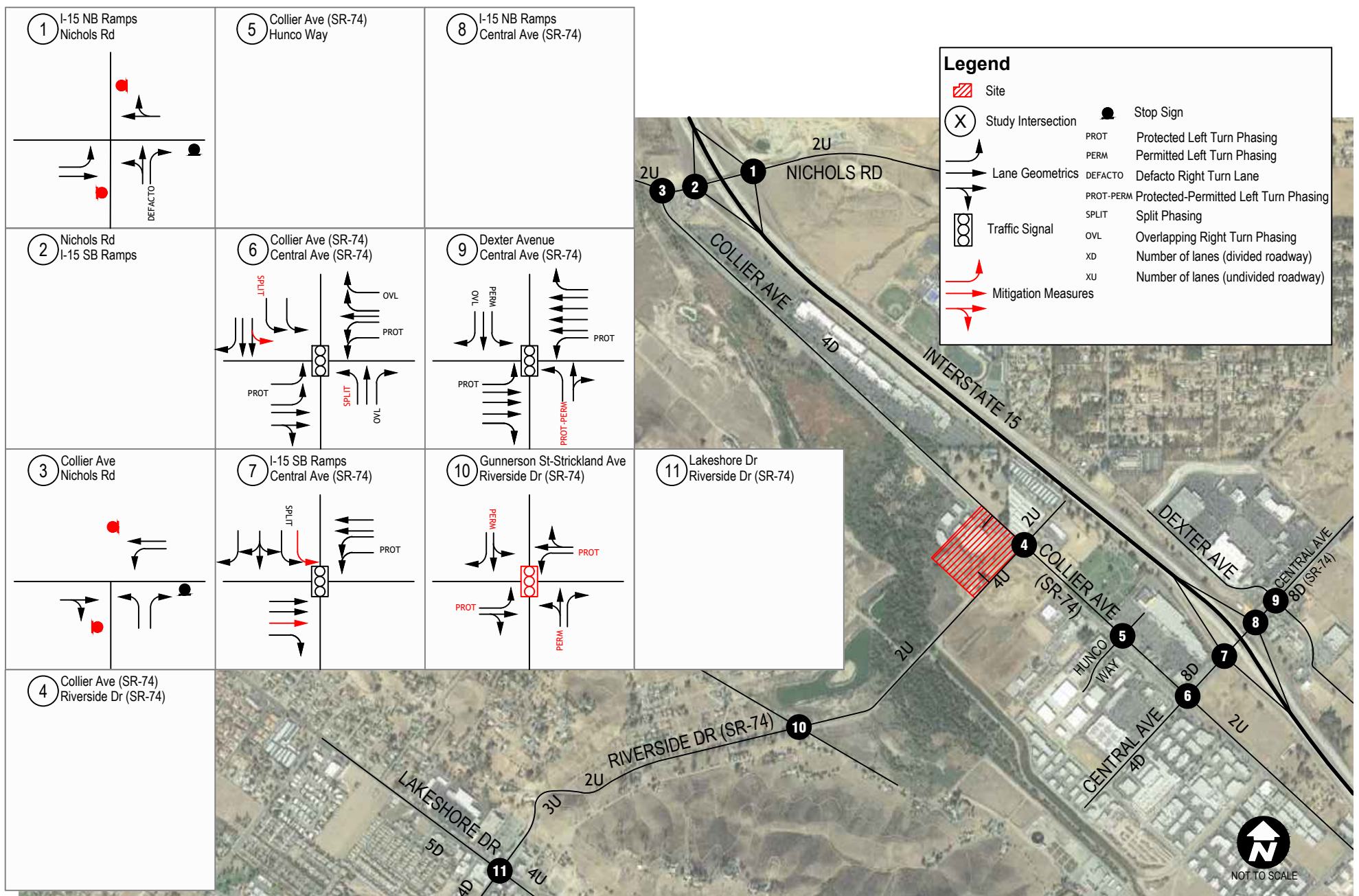


Source: Google Maps, 10/2016

Mitigation Measures for Existing plus Project & Existing plus Ambient Growth plus Project Scenarios FIGURE

Kassab Travel Center TIA

14



Source: Google Maps, 10/2016

Mitigation Measures for Existing plus Ambient Growth plus Project plus Cumulative Projects Scenario **FIGURE 15**
 Kassab Travel Center TIA

Chapter 10. Findings and Recommendations

This chapter of the transportation impact study summarizes the project traffic analysis for the proposed Kassab Travel Center in the City of Lake Elsinore. General findings and recommendations include:

- The proposed project is proposing an 18 fueling position gas station with convenience mart; and, a 2,543 square foot fast-food restaurant with a drive-through. This project is expected to generate a net of 1,919 daily trips, 129 AM peak hour trips (65 inbound and 64 outbound), and 148 PM peak hour trips (75 inbound and 73 outbound).
- Under the Existing plus Project conditions, the following intersections would be impacted as they would operate below the City's LOS standard of LOS D:
 - I-15 NB Ramps/Nichols Road (remains at LOS F during the AM peak hour)
 - Collier Avenue/Nichols Road (LOS D to LOS E during the PM peak hour)
 - Gunnerson Street-Strickland Avenue/Riverside Drive (SR-74) (remains at LOS F during both peak hours)
- Under the Existing plus Ambient Growth plus Project conditions, the following intersections would be impacted as they would operate below the City's LOS standard of LOS D:
 - I-15 NB Ramps/Nichols Road (remains at LOS F during the AM peak hour, LOS D to LOS E during the PM peak hour)
 - Collier Avenue/Nichols Road (LOS D to LOS E during the PM peak hour)
 - Gunnerson Street-Strickland Avenue/Riverside Drive (SR-74) (remains at LOS F during both peak hours)
- Under the Existing plus Ambient Growth plus Project plus Cumulative Projects condition, the following intersections would be impacted as they would operate below the City's LOS standard of LOS D:
 - I-15 NB Ramps/Nichols Road (LOS F during both peak hours)
 - Collier Avenue/Nichols Road (LOS E during the AM peak hour and LOS F during the PM peak hour) Collier Avenue (SR-74)/Central Avenue (SR-74) (LOS E during both peak hours)
 - I-15 SB Ramps/Central Avenue (SR-74) (LOS F during the PM peak hour)
 - Dexter Avenue/Central Avenue (SR-74) (LOS E during the AM peak hour)
 - Gunnerson Street-Strickland Avenue/Riverside Drive (SR-74) (LOS F during both peak hours)
- The following mitigation measures are proposed to improve the LOS at the impacted intersections. These mitigation measures are proposed for the Existing plus Project scenario:
 - Prior to issuance of Certificate of Occupancy, the proposed project shall ~~pay its fair share to~~ construct the following improvements:
 - I-15 NB Ramps/Nichols Road – The peak hour volumes at this intersection would not satisfy the peak hour signal warrant. The following improvement is needed to mitigate intersection LOS:
 - Convert this intersection into an all-way-stop. With this mitigation, the intersection is forecast to operate at LOS C during the AM peak hour.

- The City and Caltrans have recently converted this intersection to an all-way-stop configuration consistent with this mitigation measure. Therefore, the requirement for this mitigation measure has been satisfied.
- Gunnerson Street-Strickland Avenue/Riverside Drive (SR-74) – The peak hour volumes at this intersection would not satisfy the peak hour signal warrant. The following improvement is needed to mitigate intersection LOS:
 - Convert this intersection into a signalized intersection. With this mitigation, the intersection is forecast to operate at LOS A during the AM peak hour.
- ~~○ Prior to issuance of Certificate of Occupancy, the proposed project shall construct the following improvements:~~
 - Collier Avenue/Nichols Road – Although the peak hour volumes at this intersection would satisfy the peak hour signal warrant for the PM peak hour, a signal is not needed to improve LOS back to LOS D or better. The following improvement would mitigate intersection LOS without the installation of a traffic signal:
 - Convert this intersection into an all-way-stop. With this mitigation, the intersection is forecast to operate at LOS B during the PM peak hour.
- The following mitigation measures are proposed to improve the LOS at the impacted intersections. These mitigation measures are proposed for the Existing plus Ambient Growth plus Project scenario:
 - Prior to issuance of Certificate of Occupancy, the proposed project shall pay its fair-share to construct the following improvements:
 - Gunnerson Street-Strickland Avenue/Riverside Drive (SR-74) – The peak hour volumes at this intersection would not satisfy the peak hour signal warrant. The following improvement is needed to mitigate intersection LOS:
 - Convert this intersection into a signalized intersection. With this mitigation, the intersection is forecast to operate at LOS A during the AM peak hour.
 - ~~○ Prior to issuance of Certificate of Occupancy, the proposed project shall construct the following improvements:~~
 - I-15 NB Ramps/Nichols Road – The peak hour volumes at this intersection would not satisfy the peak hour signal warrant. The following improvement is needed to mitigate intersection LOS:
 - Convert this intersection into an all-way-stop. With this mitigation, the intersection is forecast to operate at LOS D during the AM peak hour and LOS B during the PM peak hour.
 - The City and Caltrans have recently converted this intersection to an all-way-stop configuration consistent with this mitigation measure. Therefore, the requirement for this mitigation measure has been satisfied.
 - Collier Avenue/Nichols Road – Although the peak hour volumes at this intersection would satisfy the peak hour signal warrant for the PM peak hour, a signal is not needed to improve LOS back to LOS D or better. The following improvement would mitigate intersection LOS without the installation of a traffic signal:

- Convert this intersection into an all-way-stop. With this mitigation, the intersection is forecast to operate at LOS C during the PM peak hour.
- The following mitigation measures are proposed to improve the LOS at the impacted intersections. These mitigation measures are proposed for the Existing plus Ambient Growth plus Project plus Cumulative Projects scenario:
 - Prior to issuance of Certificate of Occupancy, the proposed project shall pay its fair-share to construct the following improvements:
 - I-15 NB Ramps/Nichols Road – ~~Although the~~ The peak hour volumes at this intersection would not satisfy the peak hour signal warrant for the AM peak hour, ~~a signal is not needed to improve LOS back to LOS D or better.~~ The following improvement is needed to mitigate intersection LOS:
 - Convert this intersection into an all-way-stop. With this mitigation, the intersection is forecast to operate at LOS B during both the AM and PM.
 - The City and Caltrans have recently converted this intersection to an all-way-stop configuration consistent with this mitigation measure. Therefore, the requirement for this mitigation measure has been satisfied.
 - Collier Avenue/Nichols Road – Although the peak hour volumes at this intersection would satisfy the peak hour signal warrant for the PM peak hour, a signal is not needed to improve LOS back to LOS D or better. The following improvement would mitigate intersection LOS without the installation of a traffic signal:
 - Convert this intersection into an all-way-stop. With this mitigation, the intersection is forecast to operate at LOS D during the AM peak hour and LOS C during the PM peak hour.
 - Collier Avenue (SR-74)/~~Riverside Drive~~ Central Avenue (SR-74) – The following improvement is needed to mitigate intersection LOS:
 - Restripe two southbound through lanes to one southbound through and one southbound through-left lane. With this mitigation, the intersection is forecast to operate at LOS D during both the AM and PM peak hour.
 - I-15 SB Ramps/Central Avenue (SR-74) – The following improvement is needed to mitigate intersection LOS:
 - Install a third eastbound through lane and install a second (dual) southbound left turn lane. With this mitigation, the intersection is forecast to operate at LOS C during the AM peak hour.
 - Dexter Avenue /Central Avenue (SR-74) – The following improvement is needed to mitigate intersection LOS:
 - Change northbound left turn phasing to protected-permitted. With this mitigation, the intersection is forecast to operate at LOS D during the AM peak hour.
 - Gunnerson Street-Strickland Avenue/Riverside Drive (SR-74) – The peak hour volumes at this intersection would not satisfy the peak hour signal warrant. The following improvement is needed to mitigate intersection LOS:

- Convert this intersection into a signalized intersection. With this mitigation, the intersection is forecast to operate at LOS B during the AM peak hour and LOS C during the PM peak hour.
- The project's fair share percentages range from 0.9 percent through 12.5 percent for the intersection improvements discussed above.
- All roadway segments operate at LOS D or better and would operate within the City's standard of LOS D, except for Riverside Drive (SR-74), west of Collier Avenue. This segment is currently operating at LOS E-F under existing conditions, and is forecast to continue to operate at LOS E-F under Existing plus Ambient Growth plus Project conditions, as well as with the addition of traffic from cumulative projects (Existing plus Ambient Growth plus Project plus Cumulative Projects). Collier Avenue, south of Riverside Drive (SR-74) in the Existing plus Ambient Growth plus Project plus Cumulative Projects condition is forecast to degrade to LOS F with the addition of Cumulative Project traffic.

The project will restripe the southbound approach at Collier Avenue/Riverside Drive (SR-74) to consist of one right lane and one shared-left lane in order to construct an additional northbound left-turn lane for the Collier Avenue driveway.

The Project will provide two driveways, along Riverside Drive (SR-74) and Collier Avenue. As per discussion with Caltrans, the Riverside Drive driveway will be restricted to right in right out movements. The Collier Avenue driveway, as per approval from the City, will be constructed as a full access driveway with two approaching southbound lanes, and one northbound left turn lane providing access to the site. For both driveways there will be one lane for entering and one lane for exiting, with a width of 50 feet, providing ample space for larger vehicles to enter the site without restricting vehicles exiting. See Figure 2 for more information.

Currently, Riverside Drive (SR-74), along the project's frontage, is also not constructed to its ultimate Urban Arterial width of 96 feet, curb-to-curb. It is currently unimproved (i.e., no curb-and-gutter), and has approximately 48 to 52 feet of pavement. Based on review of the project site plan, the proposed project will dedicate between 21 feet and 36 feet (street tapers in toward the west) in order to allow their half-section of Riverside Drive to be consistent with the Urban Arterial (half) cross section (center median, three travel lanes, six foot bike lane, and 6 foot sidewalk – in one direction). The project will follow Caltrans standards to improve its section of Riverside Drive. Street improvements on the north side of Riverside Drive (SR-74), along the project's frontage, will conform with Caltrans roadway design standards. The roadway segment of Riverside Drive, west of Collier Avenue is part of the TUMF network and is to be improved to its ultimate width using those funds. However, with the project improvements listed above, and the addition of project traffic (approximately 540 ADT), this segment of Riverside Drive (SR-74) is forecast to continue to operate at LOS E-F under both conditions. The project's fair share percentage for the roadway segment of Riverside Drive (SR-74), west of Collier Avenue would be 5.2 percent. Collier Avenue, south of Riverside Drive (SR-74), with the addition of project traffic (approximately 1,056 ADT), this segment of Collier Avenue (SR-74) is forecast to continue to operate LOS E-F under Existing plus Ambient Growth plus Project conditions. The project's fair share percentage for the roadway segment of Collier Avenue, south of Riverside Drive (SR-74) would be 9.6 percent.

Appendix A: Scoping Agreement

Exhibit B

SCOPING AGREEMENT FOR TRAFFIC IMPACT STUDY

This letter acknowledges the Riverside County Transportation Department requirements for traffic impact analysis of the following project. The analysis must follow the Riverside County Transportation Department Traffic Study Guidelines dated February 2005.

Case No. (i.e. TR, PM, CUP, PP) 2016-112 Kassab Travel Center
Related Cases -
SP No. Provide SP No. and list of other approved or active projects within the SP.
EIR No. _____
GPA No. _____
CZ No. _____
Project Name: Kassab Travel Center
Project Address: 29301 Riverside Drive (southwest corner of Collier Avenue/Riverside Drive), Lake Elsinore, CA
Project Description: 18 pump gas station with 6,000 SF convenience store containing three quick serve restaurants; and, 2,543 SF fast food restaurant with drive-through

	<u>Consultant</u>	<u>Developer</u>
Name:	<u>Transpo Group</u>	<u>Ken Kassab</u>
Address:	<u>603 N. Park Center Drive, Suite 108</u> <u>Santa Ana, CA 92705</u>	<u>c/o Environmental Advisors</u> <u>Josh Haskins</u>
Telephone:	<u>949-656-7908</u>	<u>2400 E. Katella Avenue, Suite 800</u>
Fax:	_____	<u>Anaheim, CA 92806</u>

A. Trip Generation Source: ITE Trip Generation, 9th Edition (2012)

Current GP Land Use	<u>Provide General Plan Land Use Designation (e.g. MDR, C, Limited Industrial)</u>	Proposed Land Use	<u>Commercial</u>
Current Zoning	<u>Commercial Manufacturing</u>	Proposed Zoning	<u>Commercial Manufacturing</u>
Current Trip Generation		Proposed Trip Generation	
	In Out Total	In Out Total	
AM Trips	<u>None</u> <u>None</u> <u>None</u>	<u>65</u> <u>64</u> <u>129</u>	
PM Trips	<u>None</u> <u>None</u> <u>None</u>	<u>75</u> <u>73</u> <u>148</u>	
Internal Trip Allowance	☐ Yes ☒ No	(_____ % Trip Discount)	
Pass-By Trip Allowance	☒ Yes ☐ No	(<u>See Table 1 - Trip Generation</u> % Trip Discount)	

A passby trip discount of 25% is allowed for appropriate land uses. The passby trips at adjacent study area intersections and project driveways shall be indicated on a report figure.

B. Trip Geographic Distribution: N % S % E % W %
(attach exhibit for detailed assignment) Please see attached exhibits

C. Background Traffic

Project Build-out Year: Provide realistic opening year, considering time needed for approvals and construction. 2019 Annual Ambient Growth Rate: _____ %
To be provided by County Staff
Phase Year(s) _____
Other area projects to be analyzed: To be provided by City staff

Model/Forecast methodology Existing traffic plus growth rate plus traffic from other area projects (cumulative projects)

Table 1. Project Trip Generation

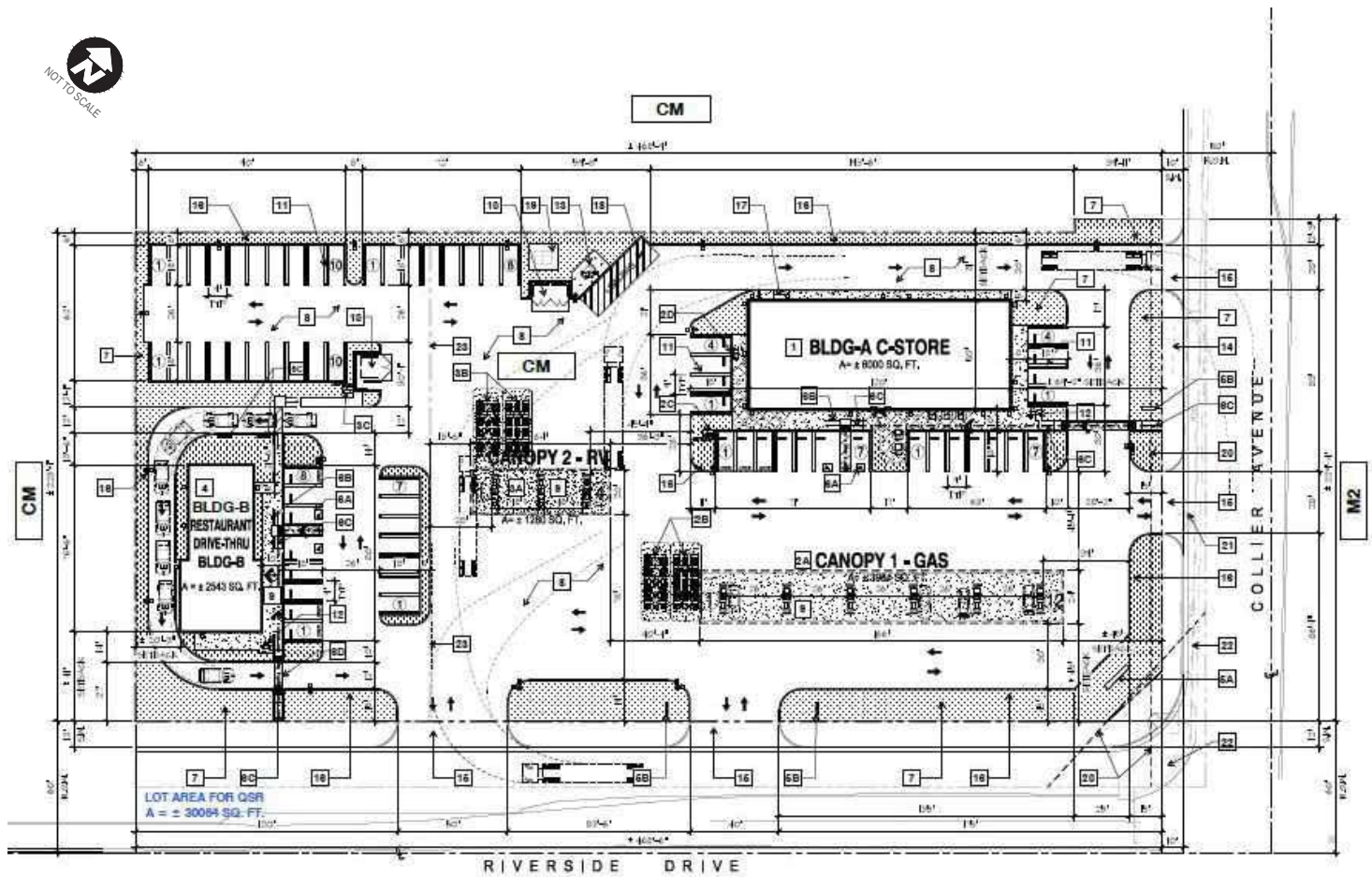
			AM Peak Hour			PM Peak Hour			
Land Use		Units	Daily	In	Out	Total	In	Out	Total
<u>Trip Rates</u>									
Fast-Food Restaurant with Drive-Through Window ¹		TSF	496.12	23.16	22.26	45.42	16.98	15.67	32.65
Gasoline/Service Station with Convenience Market ²		VFP	162.78	5.08	5.08	10.16	6.76	6.76	13.51
<u>Project Trip Generation</u>									
Fast-Food Restaurant with Drive-Through Window	2.54	TSF	1,260	59	57	115	43	40	83
<i>Passby (49% AM/Daily, 50% PM) ³</i>			-630	-29	-28	-57	-22	-20	-41
NET			630	30	29	59	22	20	41
Gas Station & Convenience Market	18	VFP	2,930	91	91	183	122	122	243
<i>Passby (62% AM/Daily, 56% PM) ³</i>			-1,641	-57	-57	-113	-68	-68	-136
NET			1,289	35	35	69	53	53	107
<u>Total Trip Generation</u>			4,190	150	148	298	165	161	326
<u>NET Trip Generation</u>			1,919	65	64	129	75	73	148

TSF = Thousand Square Feet, VFP = Vehicle Fueling Positions

¹ Trip rates from the Institute of Transportation Engineers, *Trip Generation, 9th Edition*, 2012. Land Use Code 934 - Fast-Food Restaurant with Drive-Through Window.

² Trip rates from the Institute of Transportation Engineers, *Trip Generation, 9th Edition*, 2012. Land Use Code 945 - Gasoline/Service Station with Convenience Market

³ Pass-by percentages based on rates/equations obtained from the Trip Generation Handbook, 2nd Edition, ITE, 2004.



Project Site Plan

Kassab Travel Center TIA

FIGURE

1

transpogroup 
WHAT TRANSPORTATION CAN BE.

May 24, 2017 - 4:30pm mladenp C:\Users\mladenp\Dropbox (Transpo CA)\Transpo CA Team Folder\Projects\2017\17143.PR - Kassab Travel Center Lake Elsinore\Graphics\Base_KassabTravelCenter.dwg Layout: Fig1-Proj Site Plan

Table 1. Project Trip Generation

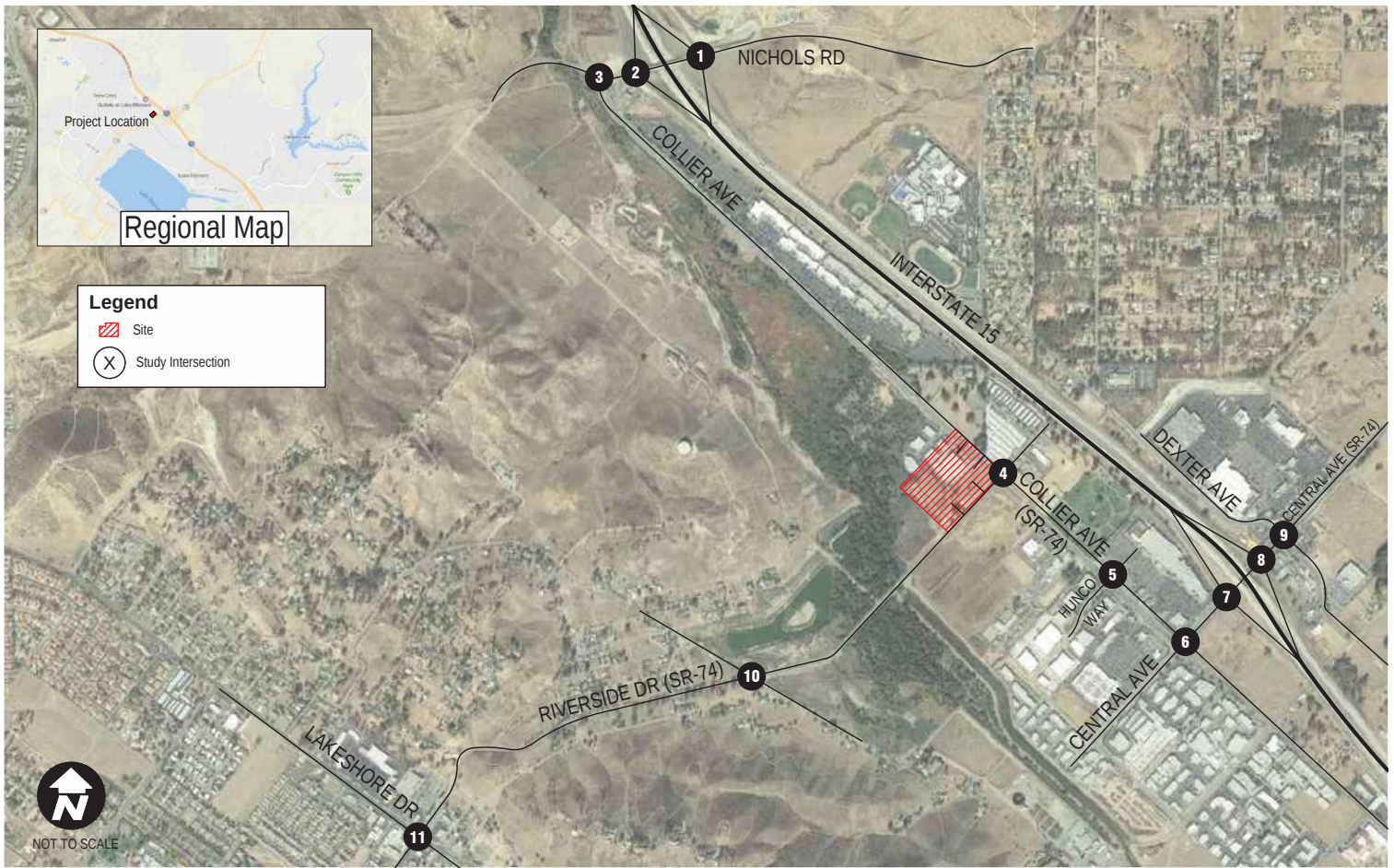
			AM Peak Hour			PM Peak Hour			
Land Use		Units	Daily	In	Out	Total	In	Out	Total
<u>Trip Rates</u>									
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<u>Project Trip Generation</u>									
Fast-Food Restaurant with Drive-Through Window	2.54	TSF	1,260	59	57	115	43	40	83
Passby (49% AM/Daily, 50% PM) ³			-630	-29	-28	-57	-22	-20	-41
NET			630	30	29	59	22	20	41
Gas Station & Convenience Market	18	VFP	2,930	91	91	183	122	122	243
Passby (62% AM/Daily, 56% PM) ³			-1,641	-57	-57	-113	-68	-68	-136
NET			1,289	35	35	69	53	53	107
<u>Total Trip Generation</u>			4,190	150	148	298	165	161	326
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³ Pass-by percentages based on rates/equations obtained from the Trip Generation Handbook, 2nd Edition, ITE, 2004.



Project Site Location and Study Area

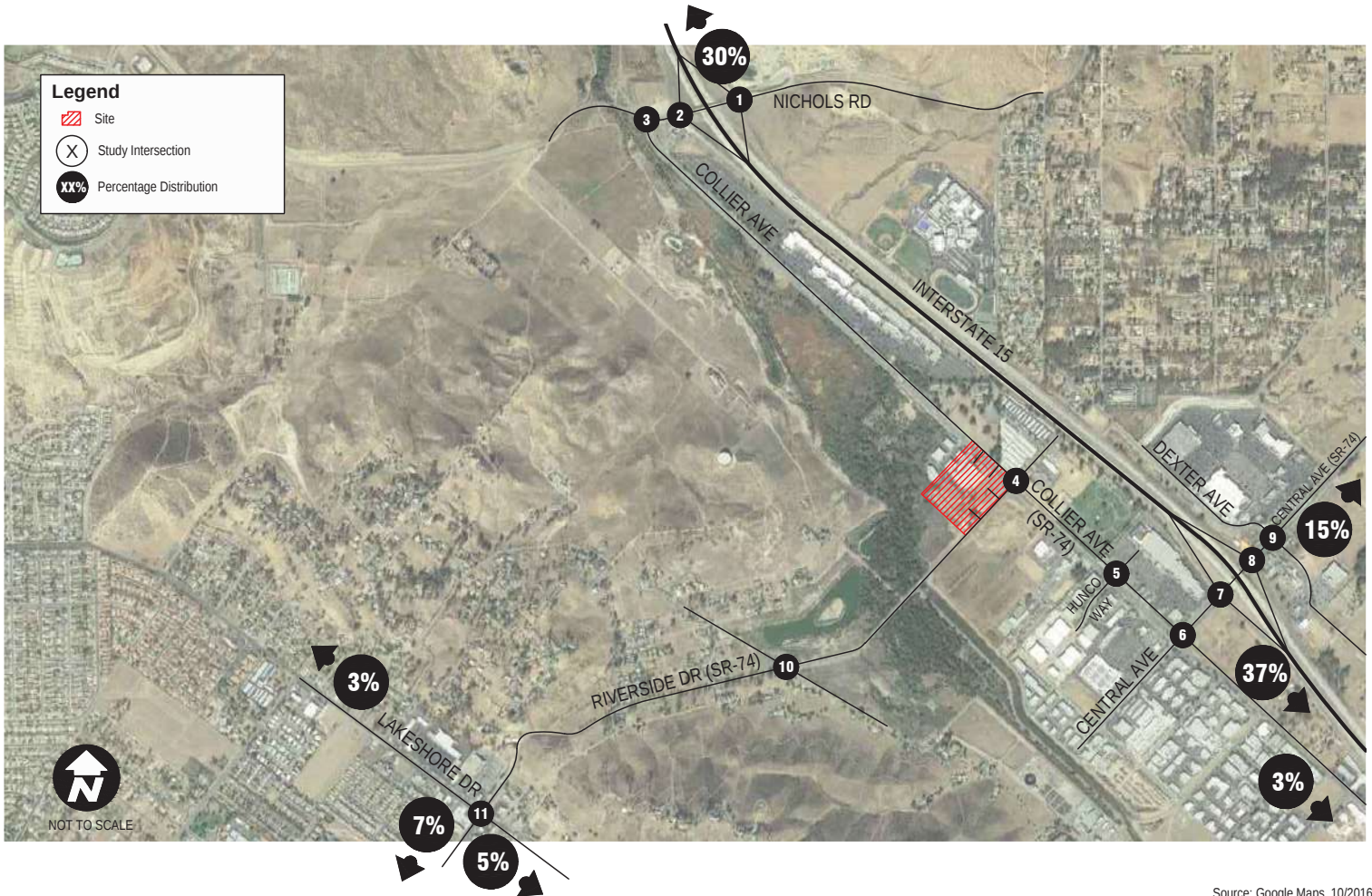
Kassab Travel Center TIA

FIGURE

2

transpogroup **7**
WHAT TRANSPORTATION CAN BE.

Jun 09, 2017 - 2:21pm mladenp C:\Users\mladenp\Dropbox (Transpo CA)\Transpo CA Team Folder\Projects\2017\17143.PR - Kassab Travel Center Lake Elsinore\Graphics\Base_KassabTravelCenter.dwg Layout: Fig2-StudyArea



Project Trip Distribution

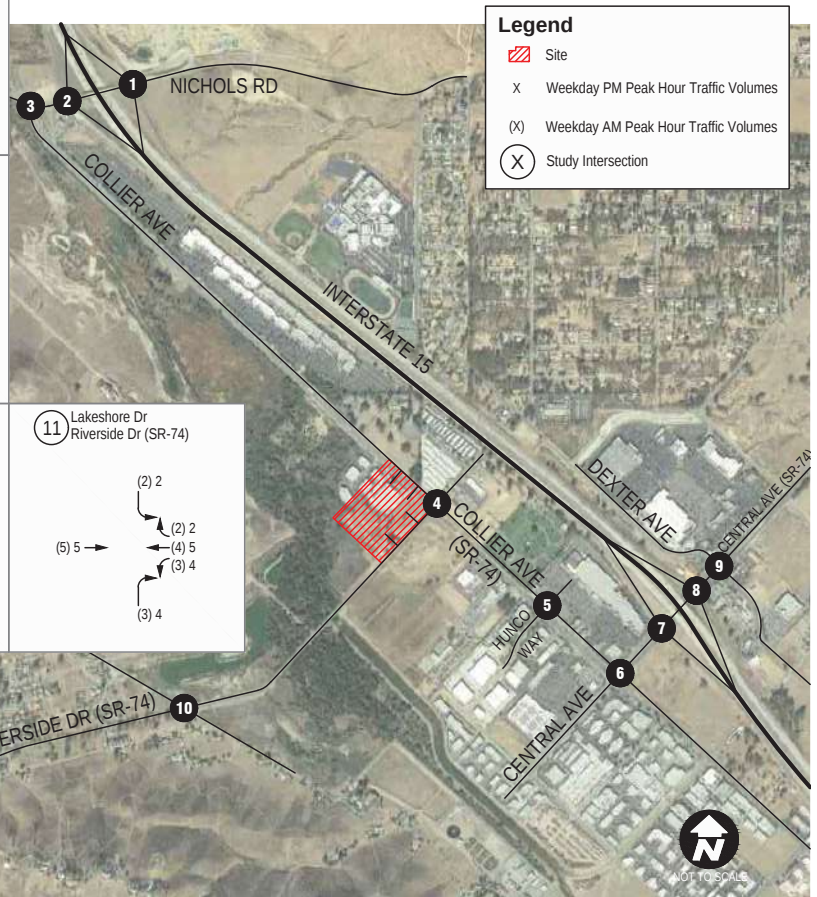
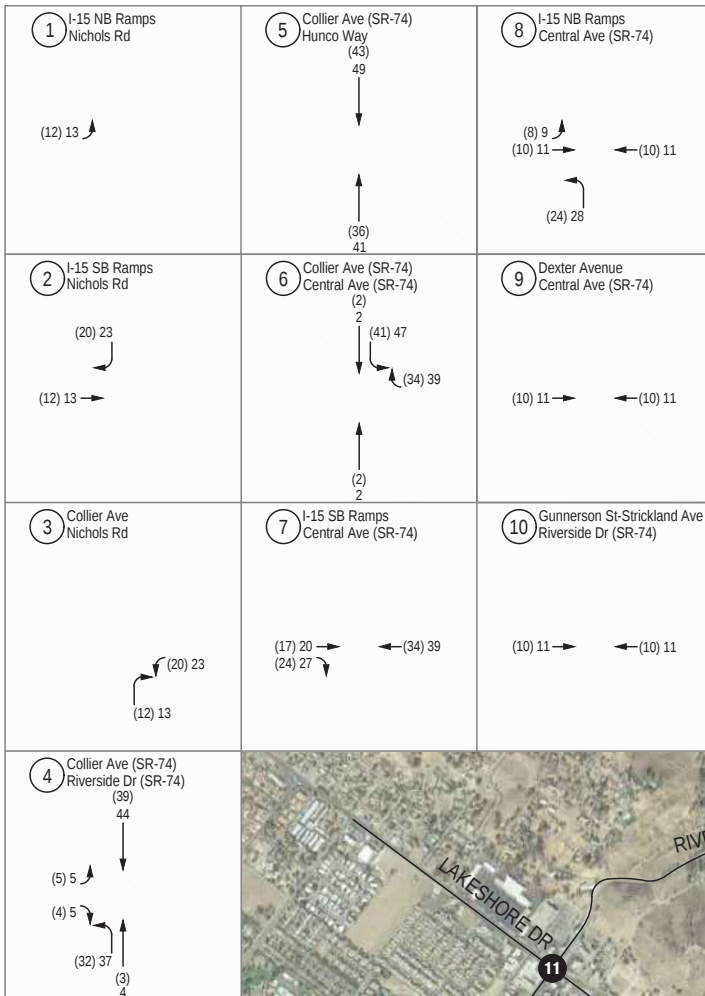
Kassab Travel Center TIA

FIGURE

3

transpogroup **7**
WHAT TRANSPORTATION CAN BE.

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Source: Google Maps, 10/2016

Project Net Total Trip Assignment

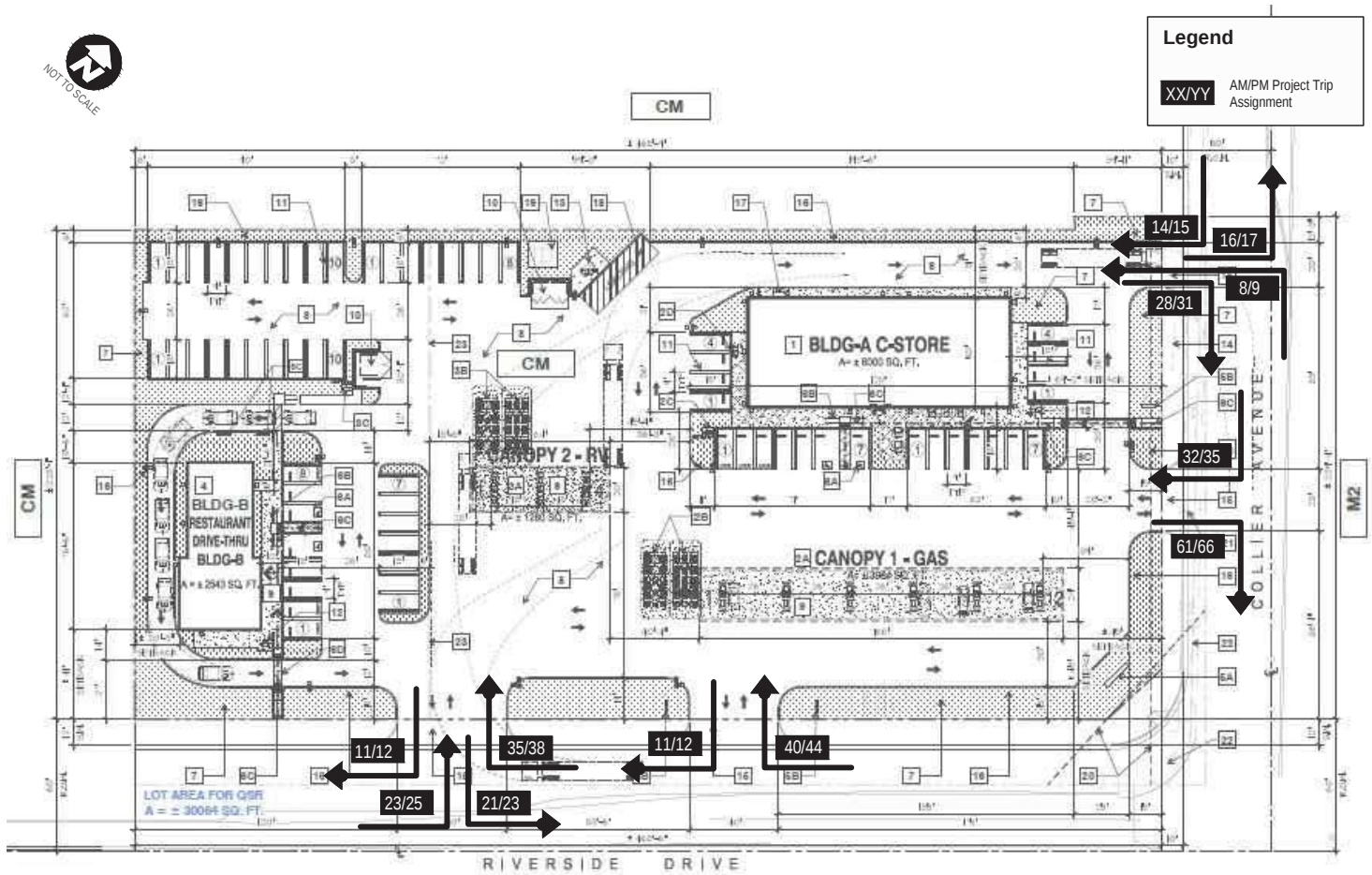
Kassab Travel Center TIA

FIGURE

4

transpogroup **7**
WHAT TRANSPORTATION CAN BE.

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Project Driveway Trip Assignment

Kassab Travel Center TIA

FIGURE

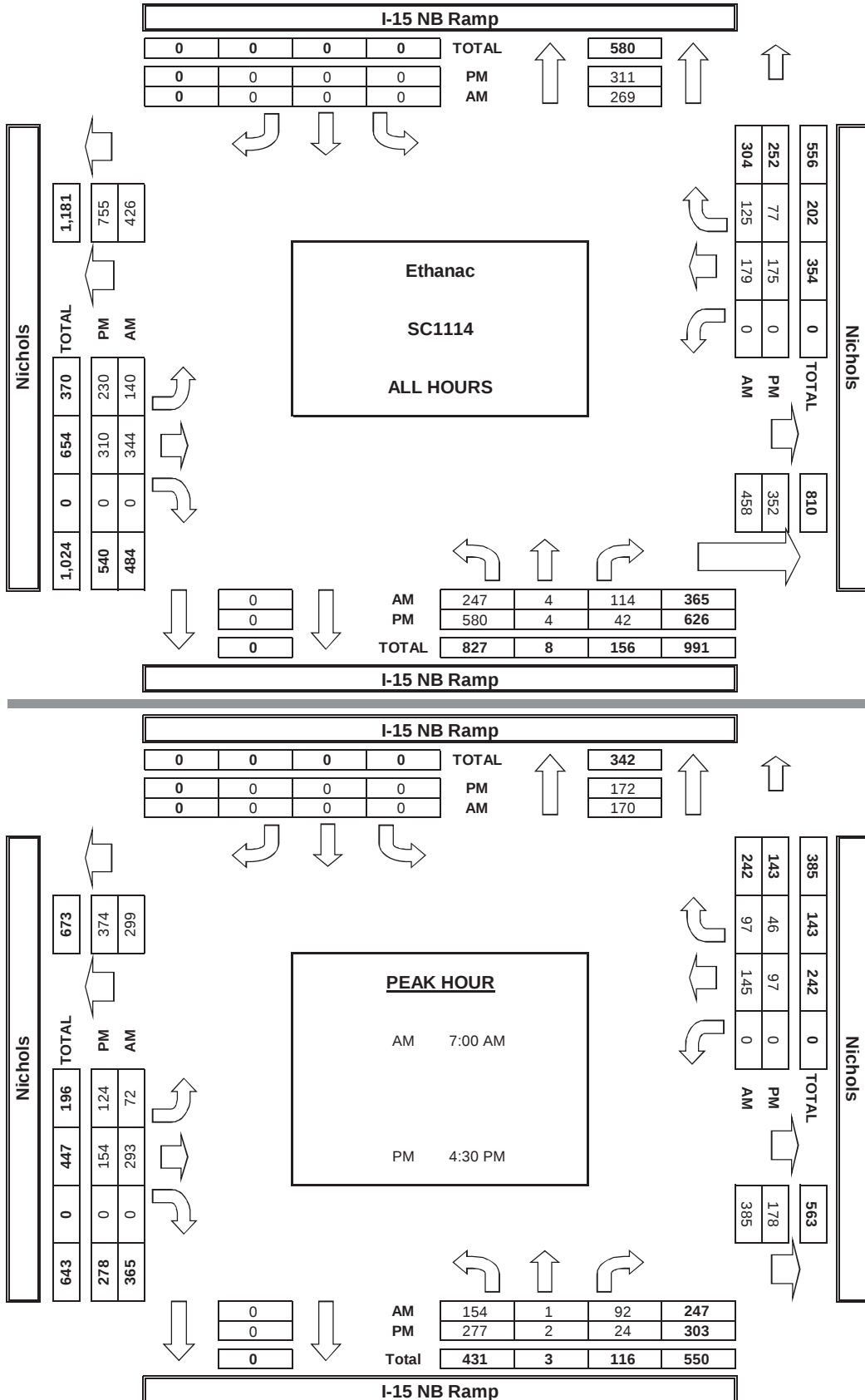
5

transpogroup **7**
WHAT TRANSPORTATION CAN BE.

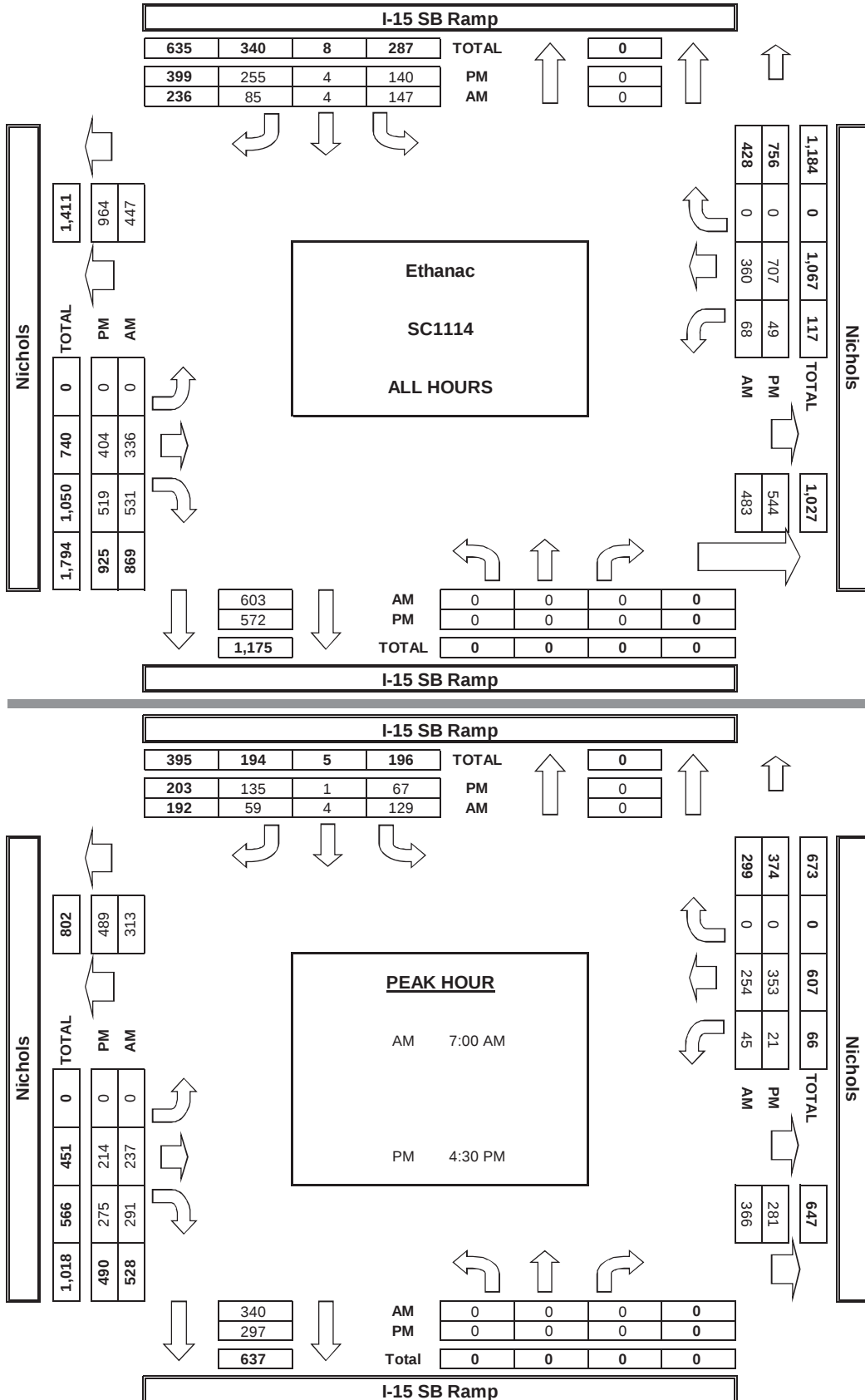
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Appendix B: Traffic Counts

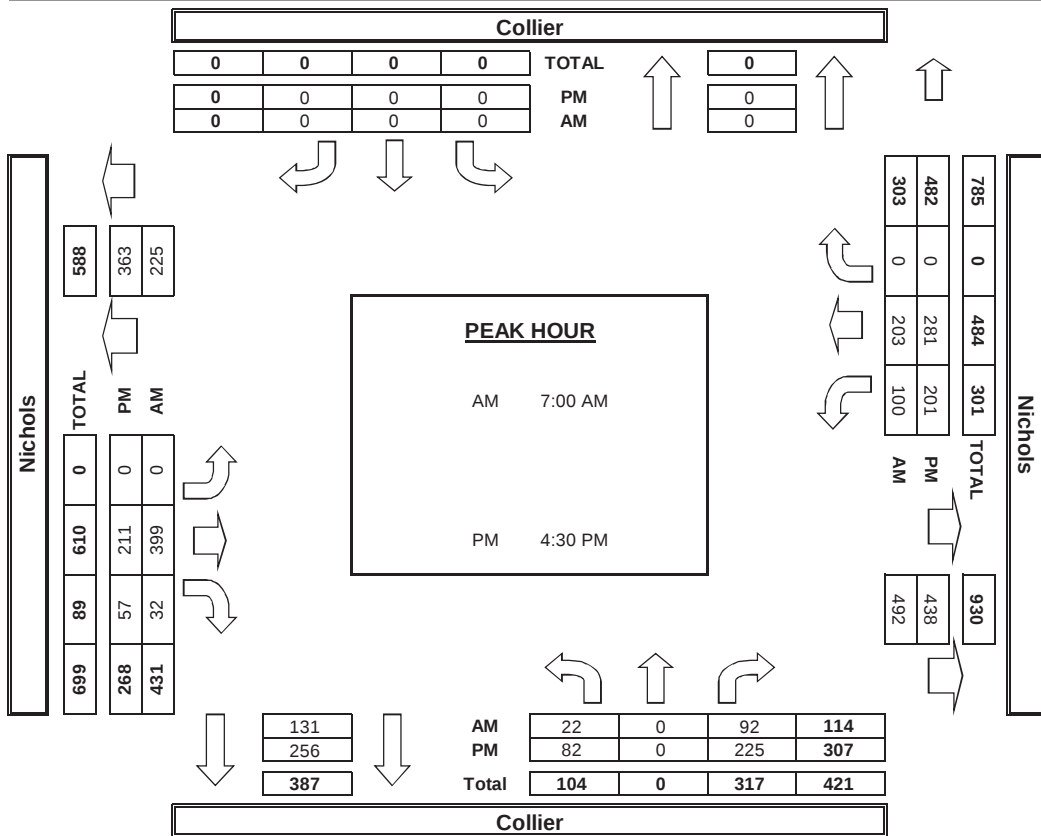
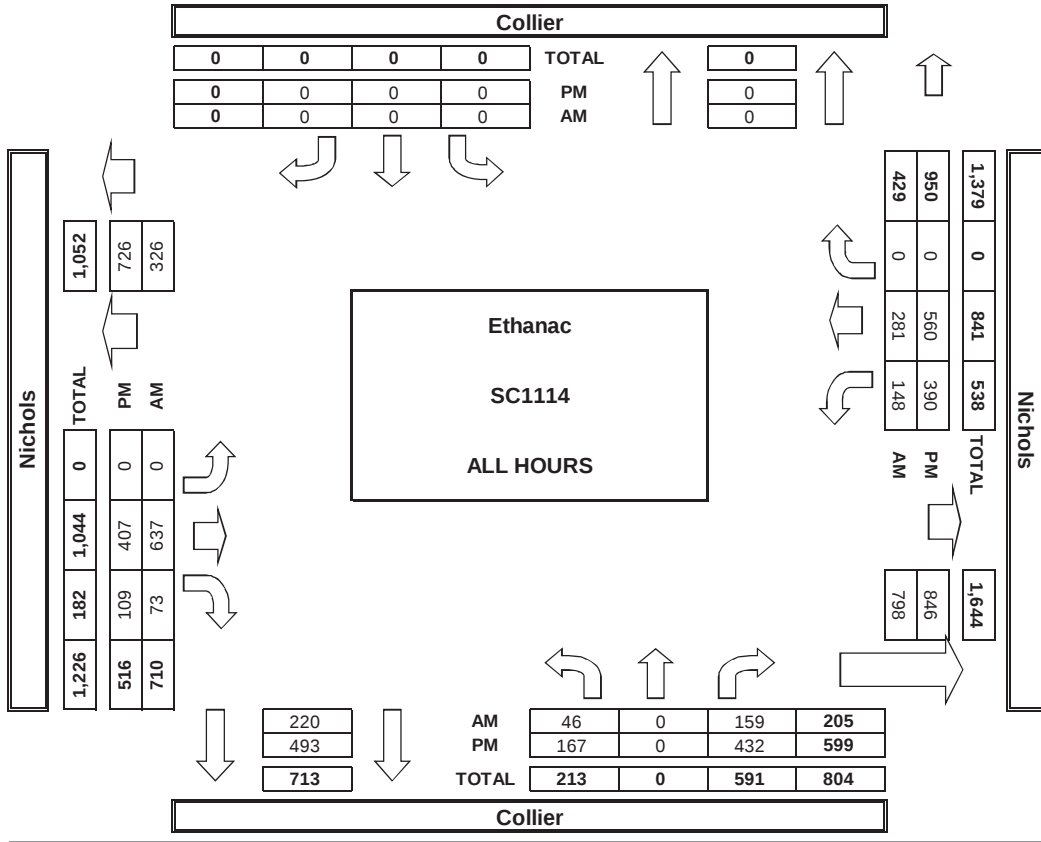
AimTD LLC
TURNING MOVEMENT COUNTS



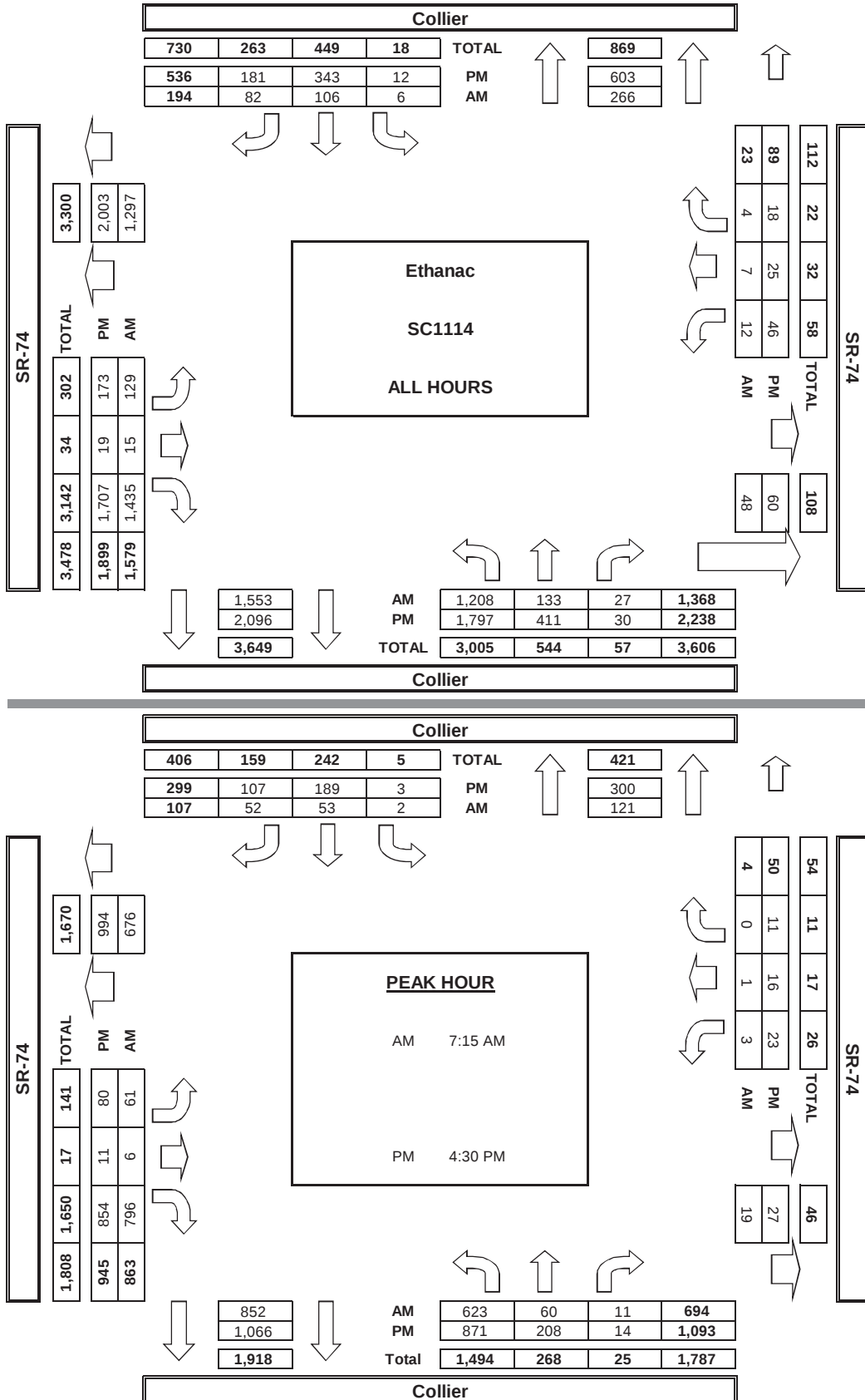
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TURNING MOVEMENT COUNTS



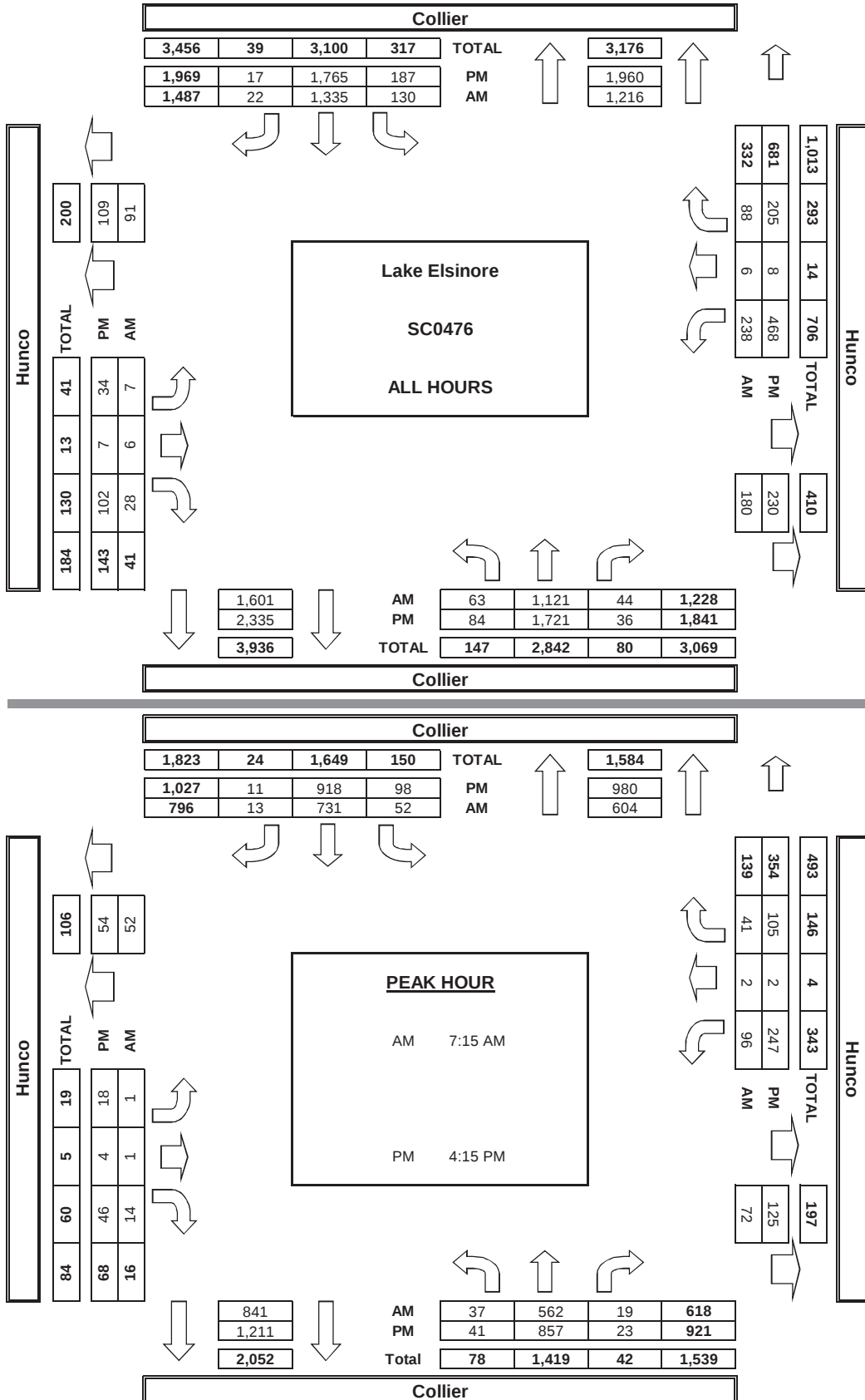
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TURNING MOVEMENT COUNTS



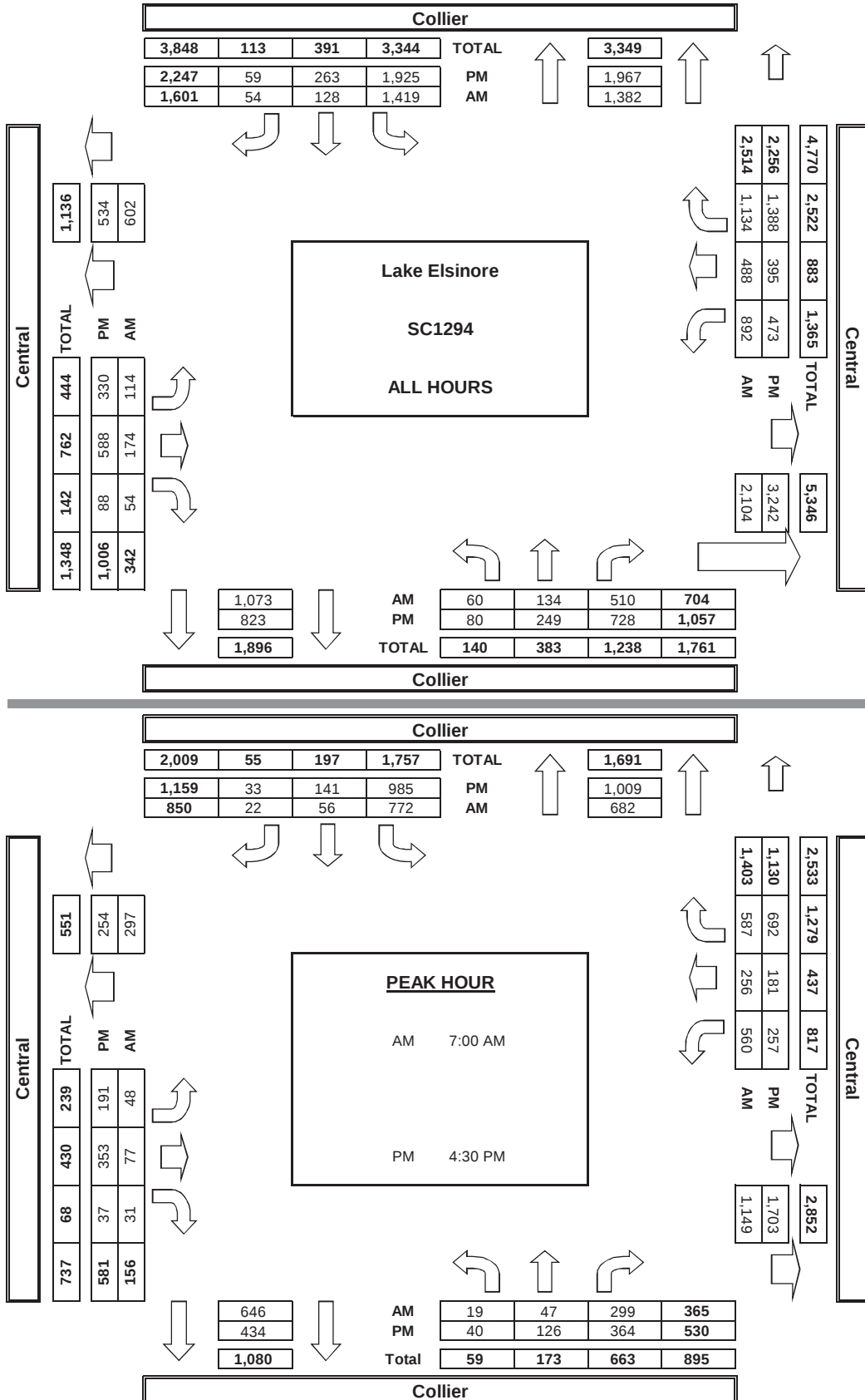
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TURNING MOVEMENT COUNTS



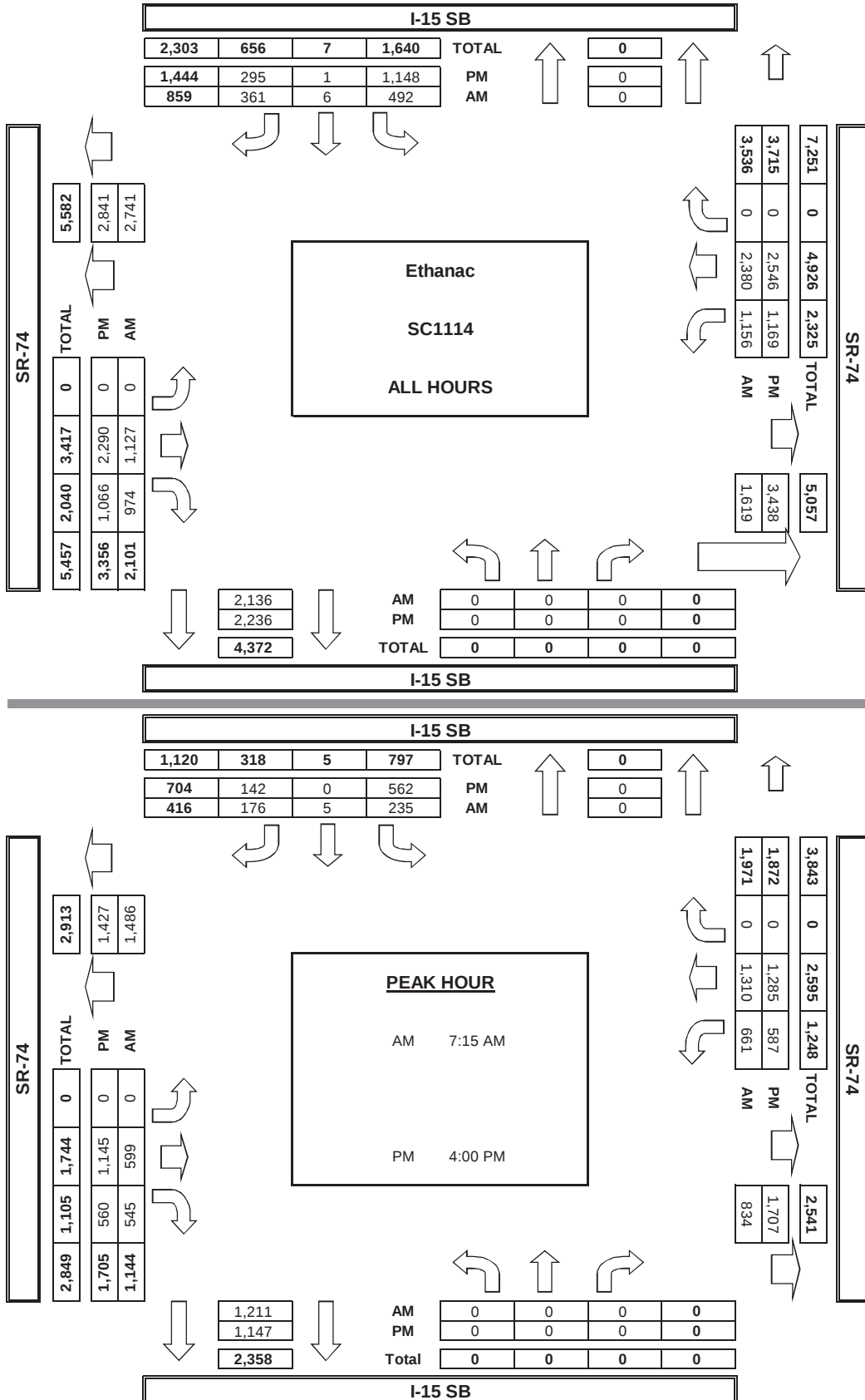
AimTD LLC
TURNING MOVEMENT COUNTS



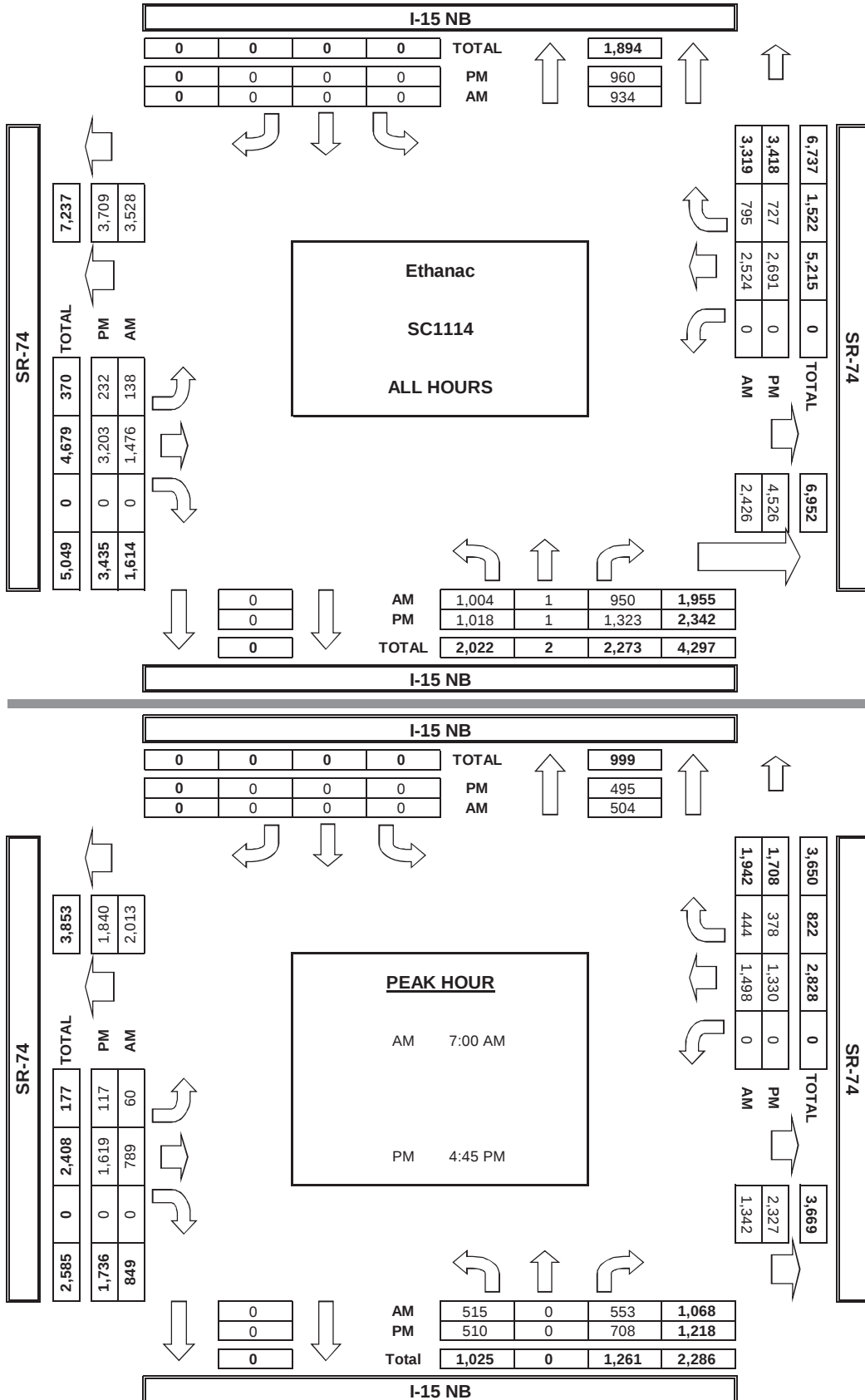
AimTD LLC
TURNING MOVEMENT COUNTS



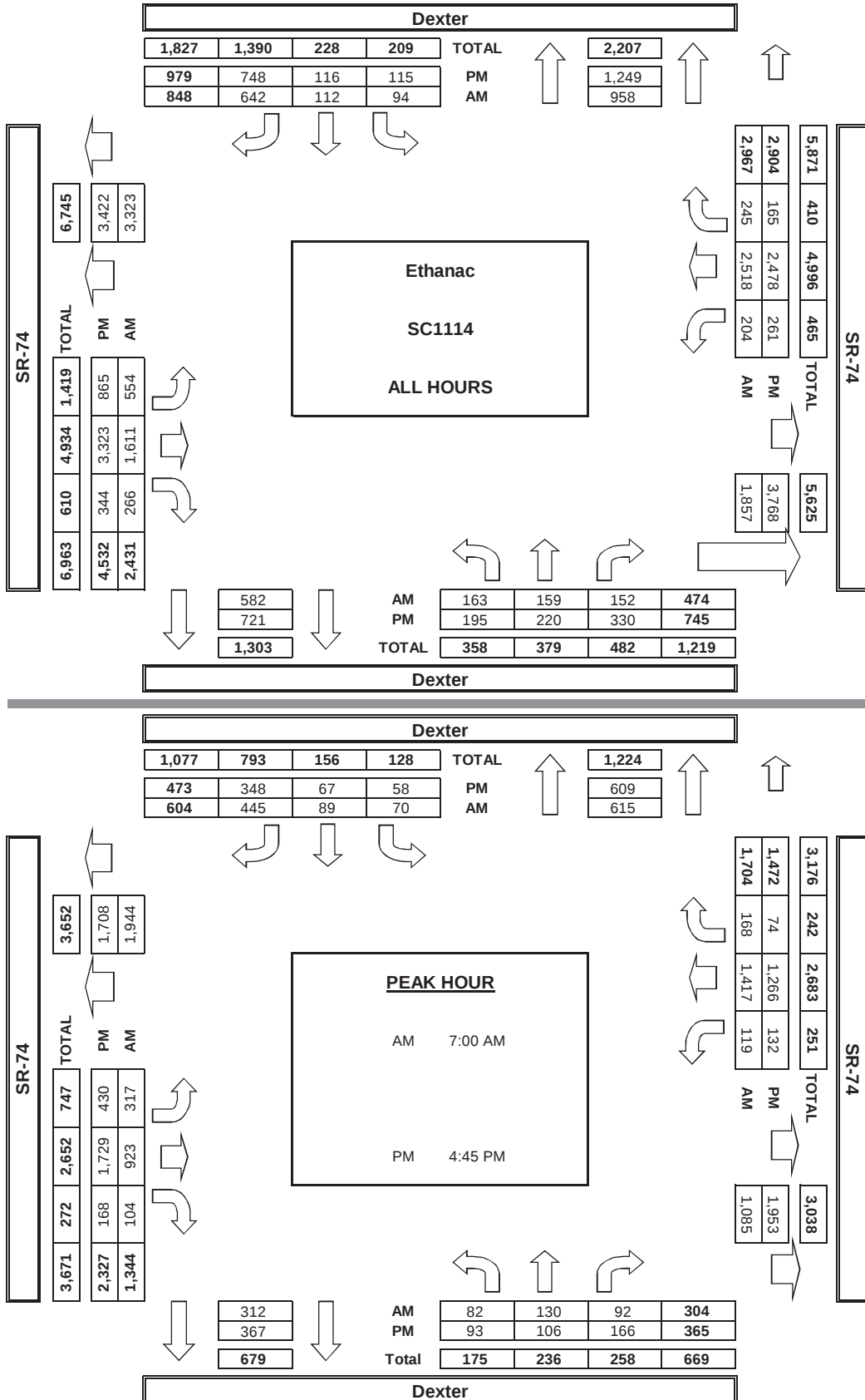
AimTD LLC
TURNING MOVEMENT COUNTS



AimTD LLC
TURNING MOVEMENT COUNTS



AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE: Wed, Jun 21, 17	LOCATION: NORTH & SOUTH: EAST & WEST:	Lake Elsinore Gunnerson Riverside	PROJECT #: LOCATION #: CONTROL:	SC1384 1 STOP N/S
--------------------------	---	---	---------------------------------------	-------------------------

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

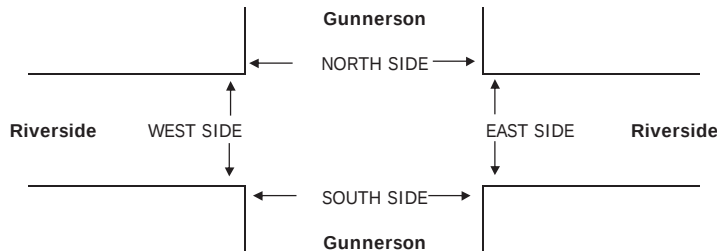
☒ Add U-Turns to Left Turns

	NORTHBOUND Gunnerson			SOUTHBOUND Gunnerson			EASTBOUND Riverside			WESTBOUND Riverside			
LANES:	NL 0	NT 1	NR 1	SL 0	ST 1	SR 1	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL

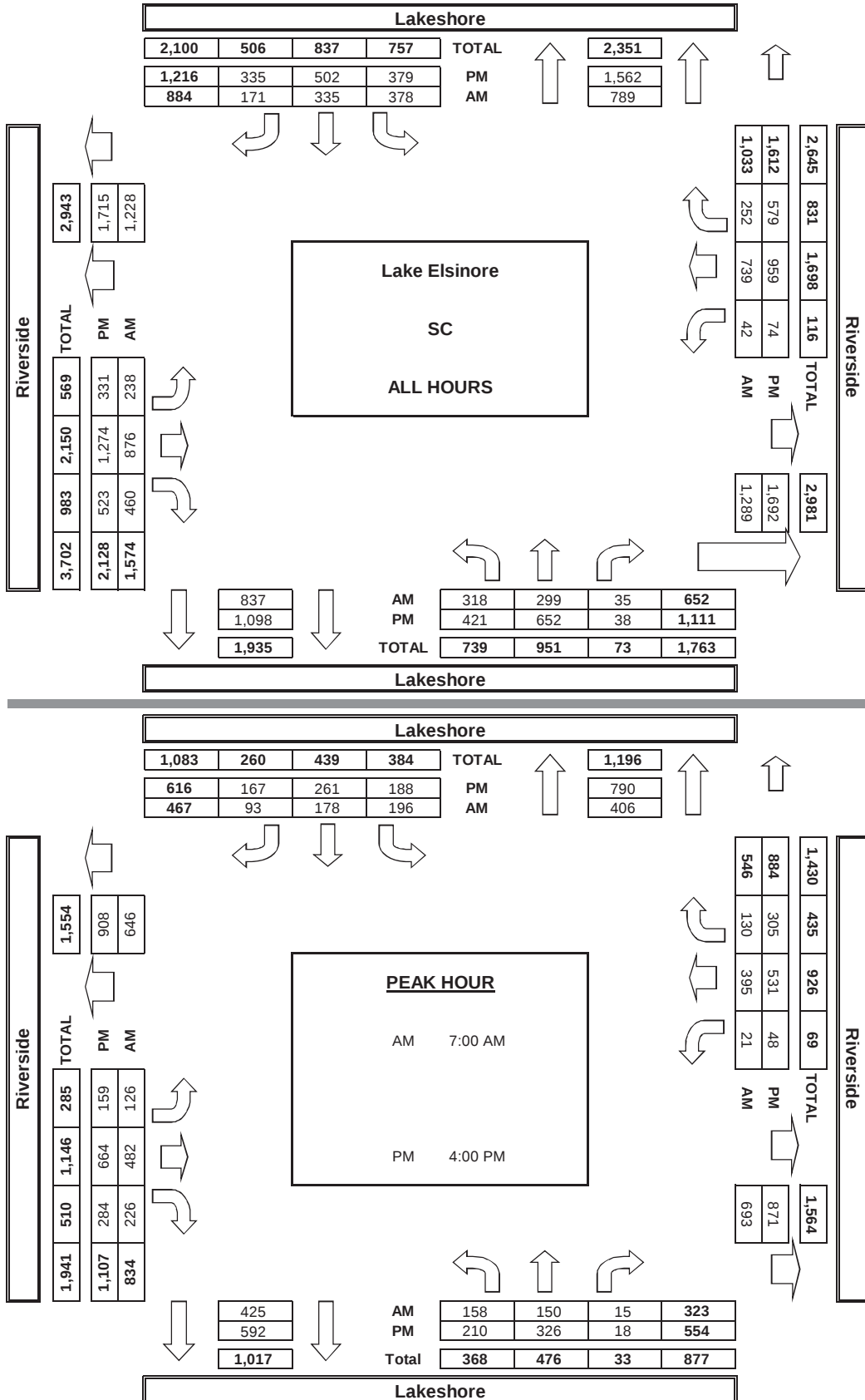
U-TURNS				
NB 0	SB 0	EB 0	WB 0	TTL

AM	7:00 AM	0	0	1	4	0	0	1	130	1	0	117	9	263
	7:15 AM	0	0	0	11	2	0	0	183	0	1	107	4	308
	7:30 AM	0	0	1	23	1	0	1	191	0	1	103	1	322
	7:45 AM	0	0	3	9	0	1	0	204	0	2	120	7	346
	8:00 AM	0	0	1	11	0	0	0	225	4	3	118	11	373
	8:15 AM	1	0	4	9	0	1	1	224	5	0	133	5	383
	8:30 AM	0	1	2	4	3	2	3	203	15	2	108	5	348
	8:45 AM	0	1	1	12	1	1	2	207	0	1	129	3	358
	VOLUMES	1	2	13	83	7	5	8	1,567	25	10	935	45	2,701
	APPROACH %	6%	13%	81%	87%	7%	5%	1%	98%	2%	1%	94%	5%	
PM	APP/DEPART	16	/	55	95	/	42	1,600	/	1,663	990	/	941	0
	BEGIN PEAK HR	8:00 AM												
	VOLUMES	1	2	8	36	4	4	6	859	24	6	488	24	1,462
	APPROACH %	9%	18%	73%	82%	9%	9%	1%	97%	3%	1%	94%	5%	
	PEAK HR FACTOR	0.550			0.786			0.966			0.938			0.954
	APP/DEPART	11	/	32	44	/	34	889	/	903	518	/	493	0
	4:00 PM	0	0	4	6	1	3	1	237	1	3	199	25	480
	4:15 PM	0	0	3	8	1	1	1	227	1	1	170	17	430
	4:30 PM	0	0	1	11	0	1	1	256	0	2	226	25	523
	4:45 PM	0	1	2	8	0	1	0	222	1	2	204	22	463
PM	5:00 PM	0	1	3	6	1	2	0	201	0	0	200	28	442
	5:15 PM	0	0	3	2	0	1	0	216	0	2	220	25	469
	5:30 PM	0	0	1	6	0	1	0	220	1	1	228	16	474
	5:45 PM	0	0	0	8	0	1	1	218	1	1	221	28	479
	VOLUMES	0	2	17	55	3	11	4	1,797	5	12	1,668	186	3,760
	APPROACH %	0%	11%	89%	80%	4%	16%	0%	100%	0%	1%	89%	10%	
	APP/DEPART	19	/	192	69	/	20	1,806	/	1,869	1,866	/	1,679	0
	BEGIN PEAK HR	4:30 PM												
	VOLUMES	0	2	9	27	1	5	1	895	1	6	850	100	1,897
	APPROACH %	0%	18%	82%	82%	3%	15%	0%	100%	0%	1%	89%	10%	
PM	PEAK HR FACTOR	0.688			0.688			0.873			0.945			0.907
	APP/DEPART	11	/	103	33	/	8	897	/	931	956	/	855	0

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



AimTD LLC
TURNING MOVEMENT COUNTS



Tuesday, June 20, 2017

Location: Lake Elsinore

PROJECT: SC1384

ADT Collier between Riverside and Central.**Prepared by AimTD tel. 714 253 7888**

AM Period	NB		SB		EB	WB	PM Period	NB		SB		EB	WB
0:00	36		19				12:00	229		180			
0:15	24		19				12:15	226		208			
0:30	24		18				12:30	221		163			
0:45	26	110	23	79		189	12:45	187	863	209	760		1623
1:00	26		11				13:00	239		209			
1:15	14		11				13:15	216		238			
1:30	9		7				13:30	224		222			
1:45	16	65	11	40		105	13:45	240	919	214	883		1802
2:00	12		10				14:00	206		199			
2:15	14		6				14:15	230		210			
2:30	14		5				14:30	202		209			
2:45	19	59	19	40		99	14:45	180	818	173	791		1609
3:00	15		17				15:00	212		221			
3:15	11		19				15:15	219		201			
3:30	24		26				15:30	200		190			
3:45	31	81	26	88		169	15:45	252	883	213	825		1708
4:00	29		42				16:00	216		221			
4:15	46		47				16:15	236		225			
4:30	88		61				16:30	288		269			
4:45	146	309	73	223		532	16:45	230	970	244	959		1929
5:00	170		88				17:00	289		215			
5:15	173		85				17:15	260		226			
5:30	165		116				17:30	274		194			
5:45	140	648	150	439		1087	17:45	240	1063	217	852		1915
6:00	124		119				18:00	235		221			
6:15	126		115				18:15	235		216			
6:30	138		149				18:30	201		201			
6:45	132	520	155	538		1058	18:45	223	894	208	846		1740
7:00	136		129				19:00	229		211			
7:15	121		192				19:15	190		191			
7:30	129		214				19:30	187		193			
7:45	149	535	265	800		1335	19:45	183	789	172	767		1556
8:00	163		247				20:00	192		167			
8:15	133		262				20:15	160		178			
8:30	141		262				20:30	181		135			
8:45	160	597	281	1052		1649	20:45	167	700	102	582		1282
9:00	145		235				21:00	150		114			
9:15	164		255				21:15	129		83			
9:30	173		270				21:30	144		81			
9:45	172	654	243	1003		1657	21:45	82	505	55	333		838
10:00	163		192				22:00	101		53			
10:15	179		178				22:15	88		41			
10:30	170		190				22:30	62		46			
10:45	202	714	209	769		1483	22:45	63	314	40	180		494
11:00	221		204				23:00	47		31			
11:15	208		226				23:15	50		28			
11:30	201		176				23:30	55		31			
11:45	214	844	189	795		1639	23:45	38	190	15	105		295
Total Vol.	5136		5866		11002		8908		7883		16791		
Daily Totals													
EBWBCombined													
140441374927793													
AMPM													
Split %	46.7%		53.3%		39.6 %		53.1%		46.9%		60.4 %		
Peak Hour	11:45		8:00		8:45		16:30		16:00		16:30		
Volume	890		1052		1683		1067		959		2021		
P.H.F.	0.97		0.94		0.95		0.95		0.89		0.91		

PROJECT: SC

Prepared by AimTD tel. 714 253 7888

Tell. 714 253 7888

Appendix C: LOS and Queuing Worksheets (revised)

HCM 2010 TWSC

1: I-15 NB Ramps & Nichols Rd

EX AM Plus Project_FullTripGen

Intersection												
Int Delay, s/veh	35.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	96	299	0	0	148	99	158	2	94	0	0	0
Future Vol, veh/h	96	299	0	0	148	99	158	2	94	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	275	-	-	-	-	-	-	-	50	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	63	63	63	63	63	63	63	63	63	63	63	63
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	152	475	0	0	235	157	251	3	149	0	0	0
Major/Minor	Major1			Major2			Minor1					
Conflicting Flow All	392	0	-	-	-	-	0	1093	1171	475		
Stage 1	-	-	-	-	-	-	-	779	779	-		
Stage 2	-	-	-	-	-	-	-	314	392	-		
Critical Hdwy	4.12	-	-	-	-	-	-	6.42	6.52	6.22		
Critical Hdwy Stg 1	-	-	-	-	-	-	-	5.42	5.52	-		
Critical Hdwy Stg 2	-	-	-	-	-	-	-	5.42	5.52	-		
Follow-up Hdwy	2.218	-	-	-	-	-	-	3.518	4.018	3.318		
Pot Cap-1 Maneuver	1167	-	0	0	-	-	~ 237	193	590			
Stage 1	-	-	0	0	-	-	452	406	-			
Stage 2	-	-	0	0	-	-	741	606	-			
Platoon blocked, %		-			-	-						
Mov Cap-1 Maneuver	1167	-	-	-	-	-	~ 206	0	590			
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 206	0	-			
Stage 1	-	-	-	-	-	-	393	0	-			
Stage 2	-	-	-	-	-	-	741	0	-			
Approach	EB			WB			NB					
HCM Control Delay, s	2.1			0			122.3					
HCM LOS							F					
Minor Lane/Major Mvmt	NBLn1 NBLn2		EBL	EBT	WBT	WBR						
Capacity (veh/h)	206 590		1167	-	-	-						
HCM Lane V/C Ratio	1.233 0.253		0.131	-	-	-						
HCM Control Delay (s)	186.4 13.2		8.5	-	-	-						
HCM Lane LOS	F B		A	-	-	-						
HCM 95th %tile Q(veh)	13.2 1		0.4	-	-	-						
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s			+: Computation Not Defined				*: All major volume in platoon			

HCM 2010 AWSC

2: I-15 SB Ramps & Nichols Rd

EX AM Plus Project_FullTripGen

Intersection												
Intersection Delay, s/veh	15											
Intersection LOS	B											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑	↑	↑						↑	↑
Traffic Vol, veh/h	0	264	297	46	260	0	0	0	0	132	5	106
Future Vol, veh/h	0	264	297	46	260	0	0	0	0	132	5	106
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	322	362	56	317	0	0	0	0	161	6	129
Number of Lanes	0	1	1	1	1	0	0	0	0	0	1	1
Approach	EB			WB			SB					
Opposing Approach	WB			EB								
Opposing Lanes	2			2			0					
Conflicting Approach Left	SB						WB					
Conflicting Lanes Left	2			0			2					
Conflicting Approach Right				SB			EB					
Conflicting Lanes Right	0			2			2					
HCM Control Delay	15.2			16.3			12.8					
HCM LOS	C			C			B					
Lane	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2						
Vol Left, %	0%	0%	100%	0%	96%	0%						
Vol Thru, %	100%	0%	0%	100%	4%	0%						
Vol Right, %	0%	100%	0%	0%	0%	100%						
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop						
Traffic Vol by Lane	264	297	46	260	137	106						
LT Vol	0	0	46	0	132	0						
Through Vol	264	0	0	260	5	0						
RT Vol	0	297	0	0	0	106						
Lane Flow Rate	322	362	56	317	167	129						
Geometry Grp	7	7	7	7	7	7						
Degree of Util (X)	0.545	0.542	0.108	0.566	0.349	0.227						
Departure Headway (Hd)	6.099	5.388	6.937	6.428	7.529	6.326						
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes						
Cap	589	666	516	558	478	566						
Service Time	3.851	3.14	4.697	4.188	5.287	4.084						
HCM Lane V/C Ratio	0.547	0.544	0.109	0.568	0.349	0.228						
HCM Control Delay	16	14.4	10.5	17.3	14.3	10.9						
HCM Lane LOS	C	B	B	C	B	B						
HCM 95th-tile Q	3.3	3.3	0.4	3.5	1.5	0.9						

HCM 2010 TWSC

3: Collier Ave & Nichols Rd

EX AM Plus Project_FullTripGen

Intersection						
Int Delay, s/veh	3.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	407	33	147	208	23	116
Future Vol, veh/h	407	33	147	208	23	116
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	135	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	468	38	169	239	26	133
Major/Minor	Major1	Major2		Minor1		
Conflicting Flow All	0	0	506	0	1064	487
Stage 1	-	-	-	-	487	-
Stage 2	-	-	-	-	577	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1059	-	247	581
Stage 1	-	-	-	-	618	-
Stage 2	-	-	-	-	562	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1059	-	207	581
Mov Cap-2 Maneuver	-	-	-	-	207	-
Stage 1	-	-	-	-	618	-
Stage 2	-	-	-	-	472	-
Approach	EB	WB		NB		
HCM Control Delay, s	0	3.7		15		
HCM LOS	C					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	207	581	-	-	1059	-
HCM Lane V/C Ratio	0.128	0.229	-	-	0.16	-
HCM Control Delay (s)	24.9	13	-	-	9	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	0.4	0.9	-	-	0.6	-

HCM 2010 TWSC

1: I-15 NB Ramps & Nichols Rd

EX PM Plus Project_FullTripGen

Intersection												
Int Delay, s/veh	14											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	151	158	0	0	99	47	283	3	25	0	0	0
Future Vol, veh/h	151	158	0	0	99	47	283	3	25	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	275	-	-	-	-	-	-	-	50	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	156	163	0	0	102	48	292	3	26	0	0	0
Major/Minor	Major1			Major2			Minor1					
Conflicting Flow All	150	0	-	-	-	0	601	625	163			
Stage 1	-	-	-	-	-	-	475	475	-			
Stage 2	-	-	-	-	-	-	126	150	-			
Critical Hdwy	4.12	-	-	-	-	-	6.42	6.52	6.22			
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-			
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-			
Follow-up Hdwy	2.218	-	-	-	-	-	3.518	4.018	3.318			
Pot Cap-1 Maneuver	1431	-	0	0	-	-	463	401	882			
Stage 1	-	-	0	0	-	-	626	557	-			
Stage 2	-	-	0	0	-	-	900	773	-			
Platoon blocked, %		-			-	-						
Mov Cap-1 Maneuver	1431	-	-	-	-	-	413	0	882			
Mov Cap-2 Maneuver	-	-	-	-	-	-	413	0	-			
Stage 1	-	-	-	-	-	-	558	0	-			
Stage 2	-	-	-	-	-	-	900	0	-			
Approach	EB			WB			NB					
HCM Control Delay, s	3.8			0			30.8					
HCM LOS							D					
Minor Lane/Major Mvmt	NBLn1 NBLn2		EBL	EBT	WBT	WBR						
Capacity (veh/h)	413 882		1431	-	-	-						
HCM Lane V/C Ratio	0.714 0.029		0.109	-	-	-						
HCM Control Delay (s)	32.7 9.2		7.8	-	-	-						
HCM Lane LOS	D A		A	-	-	-						
HCM 95th %tile Q(veh)	5.5 0.1		0.4	-	-	-						

HCM 2010 AWSC

2: I-15 SB Ramps & Nichols Rd

EX PM Plus Project_FullTripGen

Intersection												
Intersection Delay, s/veh	13.8											
Intersection LOS	B											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑	↑	↑						↑	↑
Traffic Vol, veh/h	0	243	281	22	361	0	0	0	0	69	2	188
Future Vol, veh/h	0	243	281	22	361	0	0	0	0	69	2	188
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	248	287	22	368	0	0	0	0	70	2	192
Number of Lanes	0	1	1	1	1	0	0	0	0	0	1	1
Approach	EB			WB			SB					
Opposing Approach	WB			EB								
Opposing Lanes	2			2			0					
Conflicting Approach Left	SB						WB					
Conflicting Lanes Left	2			0			2					
Conflicting Approach Right				SB			EB					
Conflicting Lanes Right	0			2			2					
HCM Control Delay	12.1			17.6			11.6					
HCM LOS	B			C			B					
Lane	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2						
Vol Left, %	0%	0%	100%	0%	97%	0%						
Vol Thru, %	100%	0%	0%	100%	3%	0%						
Vol Right, %	0%	100%	0%	0%	0%	100%						
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop						
Traffic Vol by Lane	243	281	22	361	71	188						
LT Vol	0	0	22	0	69	0						
Through Vol	243	0	0	361	2	0						
RT Vol	0	281	0	0	0	188						
Lane Flow Rate	248	287	22	368	72	192						
Geometry Grp	7	7	7	7	7	7						
Degree of Util (X)	0.407	0.414	0.041	0.618	0.146	0.324						
Departure Headway (Hd)	5.905	5.195	6.542	6.035	7.275	6.071						
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes						
Cap	610	691	547	597	493	591						
Service Time	3.646	2.936	4.287	3.78	5.026	3.821						
HCM Lane V/C Ratio	0.407	0.415	0.04	0.616	0.146	0.325						
HCM Control Delay	12.7	11.6	9.6	18.1	11.3	11.7						
HCM Lane LOS	B	B	A	C	B	B						
HCM 95th-tile Q	2	2	0.1	4.2	0.5	1.4						

HCM 2010 TWSC

3: Collier Ave & Nichols Rd

EX PM Plus Project_FullTripGen

Intersection						
Int Delay, s/veh	7.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	216	59	256	287	84	254
Future Vol, veh/h	216	59	256	287	84	254
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	135	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	235	64	278	312	91	276
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	299	0	1135	267
Stage 1	-	-	-	-	267	-
Stage 2	-	-	-	-	868	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1262	-	224	772
Stage 1	-	-	-	-	778	-
Stage 2	-	-	-	-	411	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1262	-	175	772
Mov Cap-2 Maneuver	-	-	-	-	175	-
Stage 1	-	-	-	-	778	-
Stage 2	-	-	-	-	321	-
Approach	EB	WB	NB			
HCM Control Delay, s	0	4.1	20.6			
HCM LOS	C					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	175	772	-	-	1262	-
HCM Lane V/C Ratio	0.522	0.358	-	-	0.22	-
HCM Control Delay (s)	46.1	12.2	-	-	8.7	-
HCM Lane LOS	E	B	-	-	A	-
HCM 95th %tile Q(veh)	2.6	1.6	-	-	0.8	-

HCM 2010 TWSC

1: I-15 NB Ramps & Nichols Rd

EX AM+AMBIENT+PROJ_FullTripGen

Intersection												
Int Delay, s/veh	44.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	99	311	0	0	154	103	164	2	98	0	0	0
Future Vol, veh/h	99	311	0	0	154	103	164	2	98	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	275	-	-	-	-	-	-	-	50	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	63	63	63	63	63	63	63	63	63	63	63	63
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	157	494	0	0	244	163	260	3	156	0	0	0
Major/Minor	Major1			Major2			Minor1					
Conflicting Flow All	407	0	-	-	-	-	0	1134	1215	494		
Stage 1	-	-	-	-	-	-	-	808	808	-		
Stage 2	-	-	-	-	-	-	-	326	407	-		
Critical Hdwy	4.12	-	-	-	-	-	-	6.42	6.52	6.22		
Critical Hdwy Stg 1	-	-	-	-	-	-	-	5.42	5.52	-		
Critical Hdwy Stg 2	-	-	-	-	-	-	-	5.42	5.52	-		
Follow-up Hdwy	2.218	-	-	-	-	-	-	3.518	4.018	3.318		
Pot Cap-1 Maneuver	1152	-	0	0	-	-	~ 224	181	575			
Stage 1	-	-	0	0	-	-	-	438	394	-		
Stage 2	-	-	0	0	-	-	-	731	597	-		
Platoon blocked, %		-			-	-						
Mov Cap-1 Maneuver	1152	-	-	-	-	-	~ 194	0	575			
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 194	0	-			
Stage 1	-	-	-	-	-	-	-	378	0	-		
Stage 2	-	-	-	-	-	-	-	731	0	-		
Approach	EB			WB			NB					
HCM Control Delay, s	2.1			0			154.5					
HCM LOS							F					
Minor Lane/Major Mvmt	NBLn1 NBLn2		EBL	EBT	WBT	WBR						
Capacity (veh/h)	194	575	1152	-	-	-						
HCM Lane V/C Ratio	1.358	0.271	0.136	-	-	-						
HCM Control Delay (s)	237.7	13.6	8.6	-	-	-						
HCM Lane LOS	F	B	A	-	-	-						
HCM 95th %tile Q(veh)	15.2	1.1	0.5	-	-	-						
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s			+: Computation Not Defined				*: All major volume in platoon			

HCM 2010 AWSC
2: I-15 SB Ramps & Nichols Rd

EX AM+AMBIENT+PROJ_FullTripGen

Intersection												
Intersection Delay, s/veh	15.8											
Intersection LOS	C											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑	↑	↑						↑	↑
Traffic Vol, veh/h	0	274	309	48	270	0	0	0	0	137	5	108
Future Vol, veh/h	0	274	309	48	270	0	0	0	0	137	5	108
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	334	377	59	329	0	0	0	0	167	6	132
Number of Lanes	0	1	1	1	1	0	0	0	0	0	1	1
Approach	EB			WB			SB					
Opposing Approach	WB			EB								
Opposing Lanes	2			2			0					
Conflicting Approach Left	SB						WB					
Conflicting Lanes Left	2			0			2					
Conflicting Approach Right				SB			EB					
Conflicting Lanes Right	0			2			2					
HCM Control Delay	16.1			17.3			13.2					
HCM LOS	C			C			B					
Lane	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2						
Vol Left, %	0%	0%	100%	0%	96%	0%						
Vol Thru, %	100%	0%	0%	100%	4%	0%						
Vol Right, %	0%	100%	0%	0%	0%	100%						
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop						
Traffic Vol by Lane	274	309	48	270	142	108						
LT Vol	0	0	48	0	137	0						
Through Vol	274	0	0	270	5	0						
RT Vol	0	309	0	0	0	108						
Lane Flow Rate	334	377	59	329	173	132						
Geometry Grp	7	7	7	7	7	7						
Degree of Util (X)	0.573	0.571	0.114	0.596	0.366	0.235						
Departure Headway (Hd)	6.17	5.459	7.024	6.514	7.619	6.415						
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes						
Cap	581	659	509	553	471	557						
Service Time	3.929	3.216	4.79	4.28	5.382	4.178						
HCM Lane V/C Ratio	0.575	0.572	0.116	0.595	0.367	0.237						
HCM Control Delay	17	15.3	10.7	18.5	14.7	11.2						
HCM Lane LOS	C	C	B	C	B	B						
HCM 95th-tile Q	3.6	3.6	0.4	3.9	1.7	0.9						

HCM 2010 TWSC
3: Collier Ave & Nichols Rd

EX AM+AMBIENT+PROJ_FullTripGen

Intersection						
Int Delay, s/veh	3.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	424	34	152	216	24	120
Future Vol, veh/h	424	34	152	216	24	120
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	135	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	487	39	175	248	28	138
Major/Minor	Major1	Major2		Minor1		
Conflicting Flow All	0	0	526	0	1105	507
Stage 1	-	-	-	-	507	-
Stage 2	-	-	-	-	598	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1041	-	233	566
Stage 1	-	-	-	-	605	-
Stage 2	-	-	-	-	549	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1041	-	194	566
Mov Cap-2 Maneuver	-	-	-	-	194	-
Stage 1	-	-	-	-	605	-
Stage 2	-	-	-	-	457	-
Approach	EB	WB		NB		
HCM Control Delay, s	0	3.8		15.6		
HCM LOS	C					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	194	566	-	-	1041	-
HCM Lane V/C Ratio	0.142	0.244	-	-	0.168	-
HCM Control Delay (s)	26.6	13.4	-	-	9.2	-
HCM Lane LOS	D	B	-	-	A	-
HCM 95th %tile Q(veh)	0.5	0.9	-	-	0.6	-

HCM 2010 TWSC
1: I-15 NB Ramps & Nichols Rd

EX PM+AMBIENT+PROJ_FullTripGen

Intersection												
Int Delay, s/veh	16.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	156	164	0	0	103	49	294	3	26	0	0	0
Future Vol, veh/h	156	164	0	0	103	49	294	3	26	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	275	-	-	-	-	-	-	-	50	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	161	169	0	0	106	51	303	3	27	0	0	0
Major/Minor	Major1			Major2			Minor1					
Conflicting Flow All	157	0	-	-	-	0	623	648	169			
Stage 1	-	-	-	-	-	-	491	491	-			
Stage 2	-	-	-	-	-	-	132	157	-			
Critical Hdwy	4.12	-	-	-	-	-	6.42	6.52	6.22			
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-			
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-			
Follow-up Hdwy	2.218	-	-	-	-	-	3.518	4.018	3.318			
Pot Cap-1 Maneuver	1423	-	0	0	-	-	450	389	875			
Stage 1	-	-	0	0	-	-	615	548	-			
Stage 2	-	-	0	0	-	-	894	768	-			
Platoon blocked, %		-			-	-						
Mov Cap-1 Maneuver	1423	-	-	-	-	-	399	0	875			
Mov Cap-2 Maneuver	-	-	-	-	-	-	399	0	-			
Stage 1	-	-	-	-	-	-	546	0	-			
Stage 2	-	-	-	-	-	-	894	0	-			
Approach	EB			WB			NB					
HCM Control Delay, s	3.8			0			35.9					
HCM LOS							E					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR						
Capacity (veh/h)	399	875	1423	-	-	-						
HCM Lane V/C Ratio	0.767	0.031	0.113	-	-	-						
HCM Control Delay (s)	38.2	9.2	7.9	-	-	-						
HCM Lane LOS	E	A	A	-	-	-						
HCM 95th %tile Q(veh)	6.4	0.1	0.4	-	-	-						

HCM 2010 AWSC
2: I-15 SB Ramps & Nichols Rd

EX PM+AMBIENT+PROJ_FullTripGen

Intersection												
Intersection Delay, s/veh	14.5											
Intersection LOS	B											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑	↑	↑						↑	↑
Traffic Vol, veh/h	0	252	292	23	375	0	0	0	0	72	2	194
Future Vol, veh/h	0	252	292	23	375	0	0	0	0	72	2	194
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	257	298	23	383	0	0	0	0	73	2	198
Number of Lanes	0	1	1	1	1	0	0	0	0	0	1	1
Approach	EB			WB			SB					
Opposing Approach	WB			EB								
Opposing Lanes	2			2			0					
Conflicting Approach Left	SB						WB					
Conflicting Lanes Left	2			0			2					
Conflicting Approach Right				SB			EB					
Conflicting Lanes Right	0			2			2					
HCM Control Delay	12.5			18.9			11.9					
HCM LOS	B			C			B					
Lane	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2						
Vol Left, %	0%	0%	100%	0%	97%	0%						
Vol Thru, %	100%	0%	0%	100%	3%	0%						
Vol Right, %	0%	100%	0%	0%	0%	100%						
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop						
Traffic Vol by Lane	252	292	23	375	74	194						
LT Vol	0	0	23	0	72	0						
Through Vol	252	0	0	375	2	0						
RT Vol	0	292	0	0	0	194						
Lane Flow Rate	257	298	23	383	76	198						
Geometry Grp	7	7	7	7	7	7						
Degree of Util (X)	0.427	0.436	0.043	0.649	0.154	0.339						
Departure Headway (Hd)	5.975	5.265	6.618	6.11	7.362	6.157						
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes						
Cap	602	682	540	589	486	582						
Service Time	3.72	3.009	4.367	3.859	5.116	3.909						
HCM Lane V/C Ratio	0.427	0.437	0.043	0.65	0.156	0.34						
HCM Control Delay	13.1	12	9.7	19.5	11.5	12.1						
HCM Lane LOS	B	B	A	C	B	B						
HCM 95th-tile Q	2.1	2.2	0.1	4.7	0.5	1.5						

HCM 2010 TWSC

3: Collier Ave & Nichols Rd

EX PM+AMBIENT+PROJ_FullTripGen

Intersection

Int Delay, s/veh 8.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	224	61	264	299	87	263
Future Vol, veh/h	224	61	264	299	87	263
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	135	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	243	66	287	325	95	286

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	309
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1252
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1252
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	4.1	22.8
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	163	763	-	-	1252	-
HCM Lane V/C Ratio	0.58	0.375	-	-	0.229	-
HCM Control Delay (s)	53.8	12.5	-	-	8.7	-
HCM Lane LOS	F	B	-	-	A	-
HCM 95th %tile Q(veh)	3.1	1.7	-	-	0.9	-

HCM 2010 TWSC
1: I-15 NB Ramps & Nichols Rd

EX+AMBIENT+CUMUL+PROJ AM_FullTrip

Intersection												
Int Delay, s/veh	23.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	116	318	0	0	156	105	216	2	99	0	0	0
Future Vol, veh/h	116	318	0	0	156	105	216	2	99	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	275	-	-	-	-	-	-	-	50	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	141	388	0	0	190	128	263	2	121	0	0	0
Major/Minor	Major1			Major2			Minor1					
Conflicting Flow All	318	0	-	-	-	0	924	988	388			
Stage 1	-	-	-	-	-	-	670	670	-			
Stage 2	-	-	-	-	-	-	254	318	-			
Critical Hdwy	4.12	-	-	-	-	-	6.42	6.52	6.22			
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-			
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-			
Follow-up Hdwy	2.218	-	-	-	-	-	3.518	4.018	3.318			
Pot Cap-1 Maneuver	1242	-	0	0	-	-	299	247	660			
Stage 1	-	-	0	0	-	-	509	455	-			
Stage 2	-	-	0	0	-	-	788	654	-			
Platoon blocked, %		-			-	-						
Mov Cap-1 Maneuver	1242	-	-	-	-	-	265	0	660			
Mov Cap-2 Maneuver	-	-	-	-	-	-	265	0	-			
Stage 1	-	-	-	-	-	-	451	0	-			
Stage 2	-	-	-	-	-	-	788	0	-			
Approach	EB			WB			NB					
HCM Control Delay, s	2.2			0			70.8					
HCM LOS							F					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR						
Capacity (veh/h)	265	660	1242	-	-	-						
HCM Lane V/C Ratio	1.003	0.183	0.114	-	-	-						
HCM Control Delay (s)	97.6	11.7	8.3	-	-	-						
HCM Lane LOS	F	B	A	-	-	-						
HCM 95th %tile Q(veh)	10	0.7	0.4	-	-	-						

HCM 2010 AWSC
2: I-15 SB Ramps & Nichols Rd

EX+AMBIENT+CUMUL+PROJ AM_FullTrip

Intersection

Intersection Delay, s/veh 21.1

Intersection LOS C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑	↑	↑						↑	↑
Traffic Vol, veh/h	0	297	339	50	322	0	0	0	0	139	5	176
Future Vol, veh/h	0	297	339	50	322	0	0	0	0	139	5	176
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	362	413	61	393	0	0	0	0	170	6	215
Number of Lanes	0	1	1	1	1	0	0	0	0	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	2	2	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	2
HCM Control Delay	21.1	26.4	14.9
HCM LOS	C	D	B

Lane	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	100%	0%	97%	0%
Vol Thru, %	100%	0%	0%	100%	3%	0%
Vol Right, %	0%	100%	0%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	297	339	50	322	144	176
LT Vol	0	0	50	0	139	0
Through Vol	297	0	0	322	5	0
RT Vol	0	339	0	0	0	176
Lane Flow Rate	362	413	61	393	176	215
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.666	0.678	0.127	0.759	0.388	0.402
Departure Headway (Hd)	6.617	5.902	7.471	6.96	7.958	6.749
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	543	608	477	514	450	530
Service Time	4.404	3.689	5.267	4.755	5.744	4.533
HCM Lane V/C Ratio	0.667	0.679	0.128	0.765	0.391	0.406
HCM Control Delay	21.8	20.4	11.4	28.7	15.8	14.1
HCM Lane LOS	C	C	B	D	C	B
HCM 95th-tile Q	4.9	5.2	0.4	6.6	1.8	1.9

HCM 2010 TWSC
3: Collier Ave & Nichols Rd

EX+AMBIENT+CUMUL+PROJ AM_FullTrip

Intersection						
Int Delay, s/veh	4.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	467	44	180	315	31	152
Future Vol, veh/h	467	44	180	315	31	152
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	135	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	537	51	207	362	36	175
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	588	0	1339	563
Stage 1	-	-	-	-	563	-
Stage 2	-	-	-	-	776	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	987	-	168	526
Stage 1	-	-	-	-	570	-
Stage 2	-	-	-	-	454	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	987	-	133	526
Mov Cap-2 Maneuver	-	-	-	-	133	-
Stage 1	-	-	-	-	570	-
Stage 2	-	-	-	-	359	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		3.5		19.7	
HCM LOS	C					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	133	526	-	-	987	-
HCM Lane V/C Ratio	0.268	0.332	-	-	0.21	-
HCM Control Delay (s)	41.7	15.2	-	-	9.6	-
HCM Lane LOS	E	C	-	-	A	-
HCM 95th %tile Q(veh)	1	1.4	-	-	0.8	-

HCM 2010 TWSC
1: I-15 NB Ramps & Nichols Rd

EX+AMBIENT+CUMUL+PROJ PM_FullTrip

Intersection												
Int Delay, s/veh	41.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	208	174	0	0	104	50	335	3	28	0	0	0
Future Vol, veh/h	208	174	0	0	104	50	335	3	28	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	275	-	-	-	-	-	-	-	50	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	214	179	0	0	107	52	345	3	29	0	0	0
Major/Minor	Major1			Major2			Minor1					
Conflicting Flow All	159	0	-	-	-	0	740	766	179			
Stage 1	-	-	-	-	-	-	607	607	-			
Stage 2	-	-	-	-	-	-	133	159	-			
Critical Hdwy	4.12	-	-	-	-	-	6.42	6.52	6.22			
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-			
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-			
Follow-up Hdwy	2.218	-	-	-	-	-	3.518	4.018	3.318			
Pot Cap-1 Maneuver	1420	-	0	0	-	-	384	333	864			
Stage 1	-	-	0	0	-	-	544	486	-			
Stage 2	-	-	0	0	-	-	893	766	-			
Platoon blocked, %		-			-	-						
Mov Cap-1 Maneuver	1420	-	-	-	-	-	~ 326	0	864			
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 326	0	-			
Stage 1	-	-	-	-	-	-	462	0	-			
Stage 2	-	-	-	-	-	-	893	0	-			
Approach	EB			WB			NB					
HCM Control Delay, s	4.3			0			98.7					
HCM LOS							F					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR						
Capacity (veh/h)	326	864	1420	-	-	-						
HCM Lane V/C Ratio	1.069	0.033	0.151	-	-	-						
HCM Control Delay (s)	106.1	9.3	8	-	-	-						
HCM Lane LOS	F	A	A	-	-	-						
HCM 95th %tile Q(veh)	12.9	0.1	0.5	-	-	-						
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon						

HCM 2010 AWSC
2: I-15 SB Ramps & Nichols Rd

EX+AMBIENT+CUMUL+PROJ PM_FullTrip

Intersection												
Intersection Delay, s/veh	18.9											
Intersection LOS	C											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑	↑	↑						↑	↑
Traffic Vol, veh/h	0	312	342	24	416	0	0	0	0	75	2	243
Future Vol, veh/h	0	312	342	24	416	0	0	0	0	75	2	243
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	318	349	24	424	0	0	0	0	77	2	248
Number of Lanes	0	1	1	1	1	0	0	0	0	0	1	1
Approach	EB			WB			SB					
Opposing Approach	WB			EB								
Opposing Lanes	2			2			0					
Conflicting Approach Left	SB						WB					
Conflicting Lanes Left	2			0			2					
Conflicting Approach Right				SB			EB					
Conflicting Lanes Right	0			2			2					
HCM Control Delay	15.9			27			14					
HCM LOS	C			D			B					
Lane	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2						
Vol Left, %	0%	0%	100%	0%	97%	0%						
Vol Thru, %	100%	0%	0%	100%	3%	0%						
Vol Right, %	0%	100%	0%	0%	0%	100%						
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop						
Traffic Vol by Lane	312	342	24	416	77	243						
LT Vol	0	0	24	0	75	0						
Through Vol	312	0	0	416	2	0						
RT Vol	0	342	0	0	0	243						
Lane Flow Rate	318	349	24	424	79	248						
Geometry Grp	7	7	7	7	7	7						
Degree of Util (X)	0.559	0.543	0.048	0.77	0.169	0.449						
Departure Headway (Hd)	6.318	5.605	7.036	6.526	7.73	6.519						
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes						
Cap	567	639	506	552	462	550						
Service Time	4.091	3.377	4.812	4.302	5.506	4.293						
HCM Lane V/C Ratio	0.561	0.546	0.047	0.768	0.171	0.451						
HCM Control Delay	16.9	14.9	10.2	28	12.1	14.6						
HCM Lane LOS	C	B	B	D	B	B						
HCM 95th-tile Q	3.4	3.3	0.2	7	0.6	2.3						

HCM 2010 TWSC
3: Collier Ave & Nichols Rd

EX+AMBIENT+CUMUL+PROJ PM_FullTrip

Intersection

Int Delay, s/veh 15.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	312	71	299	361	96	308
Future Vol, veh/h	312	71	299	361	96	308
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	135	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	339	77	325	392	104	335

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	416
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1143
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1143
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	4.3	48.7
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	107	669	-	-	1143	-
HCM Lane V/C Ratio	0.975	0.5	-	-	0.284	-
HCM Control Delay (s)	154.7	15.6	-	-	9.4	-
HCM Lane LOS	F	C	-	-	A	-
HCM 95th %tile Q(veh)	6.1	2.8	-	-	1.2	-

HCM 2010 AWSC

1: I-15 NB Ramps & Nichols Rd

EX AM Plus Project_FullTripGen_MIT

Intersection												
Intersection Delay, s/veh	25.8											
Intersection LOS	D											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	96	299	0	0	148	99	158	2	94	0	0	0
Future Vol, veh/h	96	299	0	0	148	99	158	2	94	0	0	0
Peak Hour Factor	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	152	475	0	0	235	157	251	3	149	0	0	0
Number of Lanes	1	1	0	0	1	0	0	1	1	0	0	0
Approach	EB				WB		NB					
Opposing Approach	WB				EB							
Opposing Lanes	1				2		0					
Conflicting Approach Left					NB		EB					
Conflicting Lanes Left	0				2		2					
Conflicting Approach Right	NB						WB					
Conflicting Lanes Right	2				0		1					
HCM Control Delay	32.3				24.6		16.8					
HCM LOS	D				C		C					
Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1							
Vol Left, %	99%	0%	100%	0%	0%							
Vol Thru, %	1%	0%	0%	100%	60%							
Vol Right, %	0%	100%	0%	0%	40%							
Sign Control	Stop	Stop	Stop	Stop	Stop							
Traffic Vol by Lane	160	94	96	299	247							
LT Vol	158	0	96	0	0							
Through Vol	2	0	0	299	148							
RT Vol	0	94	0	0	99							
Lane Flow Rate	254	149	152	475	392							
Geometry Grp	7	7	7	7	6							
Degree of Util (X)	0.549	0.272	0.3	0.867	0.715							
Departure Headway (Hd)	7.788	6.566	7.083	6.573	6.567							
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes							
Cap	462	543	504	551	549							
Service Time	5.569	4.347	4.864	4.353	4.646							
HCM Lane V/C Ratio	0.55	0.274	0.302	0.862	0.714							
HCM Control Delay	19.7	11.8	12.9	38.5	24.6							
HCM Lane LOS	C	B	B	E	C							
HCM 95th-tile Q	3.2	1.1	1.3	9.5	5.8							

HCM 2010 AWSC

3: Collier Ave & Nichols Rd

EX PM Plus Project_FullTripGen_MIT

Intersection

Intersection Delay, s/veh	15.1
Intersection LOS	C

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	216	59	256	287	84	254
Future Vol, veh/h	216	59	256	287	84	254
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	235	64	278	312	91	276
Number of Lanes	1	0	1	1	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	2	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	2
HCM Control Delay	15.4	15.9	13.7
HCM LOS	C	C	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	WBLn2
Vol Left, %	100%	0%	0%	100%	0%
Vol Thru, %	0%	0%	79%	0%	100%
Vol Right, %	0%	100%	21%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	84	254	275	256	287
LT Vol	84	0	0	256	0
Through Vol	0	0	216	0	287
RT Vol	0	254	59	0	0
Lane Flow Rate	91	276	299	278	312
Geometry Grp	7	7	4	7	7
Degree of Util (X)	0.187	0.47	0.508	0.513	0.532
Departure Headway (Hd)	7.354	6.133	6.115	6.643	6.136
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	488	585	589	543	586
Service Time	5.11	3.888	4.164	4.392	3.884
HCM Lane V/C Ratio	0.186	0.472	0.508	0.512	0.532
HCM Control Delay	11.8	14.3	15.4	16.2	15.7
HCM Lane LOS	B	B	C	C	C
HCM 95th-tile Q	0.7	2.5	2.9	2.9	3.1

HCM 2010 AWSC
1: I-15 NB Ramps & Nichols Rd

EX AM+AMBIENT+PROJ_FullTripGen_MIT

Intersection												
Intersection Delay, s/veh	29.7											
Intersection LOS	D											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	99	311	0	0	154	103	164	2	98	0	0	0
Future Vol, veh/h	99	311	0	0	154	103	164	2	98	0	0	0
Peak Hour Factor	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	157	494	0	0	244	163	260	3	156	0	0	0
Number of Lanes	1	1	0	0	1	0	0	1	1	0	0	0
Approach	EB				WB		NB					
Opposing Approach	WB				EB							
Opposing Lanes	1				2		0					
Conflicting Approach Left					NB		EB					
Conflicting Lanes Left	0				2		2					
Conflicting Approach Right	NB						WB					
Conflicting Lanes Right	2				0		1					
HCM Control Delay	38.6				27.7		17.7					
HCM LOS	E				D		C					
Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1							
Vol Left, %	99%	0%	100%	0%	0%							
Vol Thru, %	1%	0%	0%	100%	60%							
Vol Right, %	0%	100%	0%	0%	40%							
Sign Control	Stop	Stop	Stop	Stop	Stop							
Traffic Vol by Lane	166	98	99	311	257							
LT Vol	164	0	99	0	0							
Through Vol	2	0	0	311	154							
RT Vol	0	98	0	0	103							
Lane Flow Rate	263	156	157	494	408							
Geometry Grp	7	7	7	7	6							
Degree of Util (X)	0.578	0.288	0.314	0.916	0.756							
Departure Headway (Hd)	7.893	6.669	7.191	6.68	6.669							
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes							
Cap	456	535	497	538	538							
Service Time	5.681	4.457	4.98	4.469	4.753							
HCM Lane V/C Ratio	0.577	0.292	0.316	0.918	0.758							
HCM Control Delay	21	12.2	13.3	46.7	27.7							
HCM Lane LOS	C	B	B	E	D							
HCM 95th-tile Q	3.6	1.2	1.3	11	6.6							

HCM 2010 AWSC
1: I-15 NB Ramps & Nichols Rd

EX PM+AMBIENT+PROJ_FullTripGen_MIT

Intersection

Intersection Delay, s/veh 13.1

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	156	164	0	0	103	49	294	3	26	0	0	0
Future Vol, veh/h	156	164	0	0	103	49	294	3	26	0	0	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	161	169	0	0	106	51	303	3	27	0	0	0
Number of Lanes	1	1	0	0	1	0	0	1	1	0	0	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	1
HCM Control Delay	11.2	11	15.9
HCM LOS	B	B	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1
Vol Left, %	99%	0%	100%	0%	0%
Vol Thru, %	1%	0%	0%	100%	68%
Vol Right, %	0%	100%	0%	0%	32%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	297	26	156	164	152
LT Vol	294	0	156	0	0
Through Vol	3	0	0	164	103
RT Vol	0	26	0	0	49
Lane Flow Rate	306	27	161	169	157
Geometry Grp	7	7	7	7	6
Degree of Util (X)	0.546	0.039	0.285	0.276	0.259
Departure Headway (Hd)	6.415	5.208	6.376	5.87	5.942
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	563	688	564	612	605
Service Time	4.14	2.934	4.106	3.6	3.974
HCM Lane V/C Ratio	0.544	0.039	0.285	0.276	0.26
HCM Control Delay	16.6	8.1	11.6	10.8	11
HCM Lane LOS	C	A	B	B	B
HCM 95th-tile Q	3.3	0.1	1.2	1.1	1

HCM 2010 AWSC

3: Collier Ave & Nichols Rd

EX PM+AMBIENT+PROJ_FullTripGen_MIT

Intersection

Intersection Delay, s/veh 15.9

Intersection LOS C

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	224	61	264	299	87	263
Future Vol, veh/h	224	61	264	299	87	263
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	243	66	287	325	95	286
Number of Lanes	1	0	1	1	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	2	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	2
HCM Control Delay	16.1	16.8	14.2
HCM LOS	C	C	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	WBLn2
Vol Left, %	100%	0%	0%	100%	0%
Vol Thru, %	0%	0%	79%	0%	100%
Vol Right, %	0%	100%	21%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	87	263	285	264	299
LT Vol	87	0	0	264	0
Through Vol	0	0	224	0	299
RT Vol	0	263	61	0	0
Lane Flow Rate	95	286	310	287	325
Geometry Grp	7	7	4	7	7
Degree of Util (X)	0.195	0.493	0.533	0.536	0.561
Departure Headway (Hd)	7.435	6.213	6.191	6.719	6.211
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	481	577	582	537	579
Service Time	5.194	3.972	4.244	4.473	3.964
HCM Lane V/C Ratio	0.198	0.496	0.533	0.534	0.561
HCM Control Delay	12	14.9	16.1	17	16.7
HCM Lane LOS	B	B	C	C	C
HCM 95th-tile Q	0.7	2.7	3.1	3.1	3.5

HCM 2010 AWSC
1: I-15 NB Ramps & Nichols Rd

EX+AMBIENT+CUMUL+PROJ AM_FullTrip-MIT

Intersection												
Intersection Delay, s/veh	17.7											
Intersection LOS	C											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	116	318	0	0	156	105	216	2	99	0	0	0
Future Vol, veh/h	116	318	0	0	156	105	216	2	99	0	0	0
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	141	388	0	0	190	128	263	2	121	0	0	0
Number of Lanes	1	1	0	0	1	0	0	1	1	0	0	0
Approach	EB				WB		NB					
Opposing Approach	WB				EB							
Opposing Lanes	1				2		0					
Conflicting Approach Left					NB		EB					
Conflicting Lanes Left	0				2		2					
Conflicting Approach Right	NB						WB					
Conflicting Lanes Right	2				0		1					
HCM Control Delay	19.2				17.3		16.1					
HCM LOS	C				C		C					
Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1							
Vol Left, %	99%	0%	100%	0%	0%							
Vol Thru, %	1%	0%	0%	100%	60%							
Vol Right, %	0%	100%	0%	0%	40%							
Sign Control	Stop	Stop	Stop	Stop	Stop							
Traffic Vol by Lane	218	99	116	318	261							
LT Vol	216	0	116	0	0							
Through Vol	2	0	0	318	156							
RT Vol	0	99	0	0	105							
Lane Flow Rate	266	121	141	388	318							
Geometry Grp	7	7	7	7	6							
Degree of Util (X)	0.544	0.206	0.269	0.684	0.561							
Departure Headway (Hd)	7.364	6.147	6.854	6.345	6.347							
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes							
Cap	489	582	522	566	567							
Service Time	5.128	3.91	4.617	4.108	4.41							
HCM Lane V/C Ratio	0.544	0.208	0.27	0.686	0.561							
HCM Control Delay	18.6	10.5	12.1	21.8	17.3							
HCM Lane LOS	C	B	B	C	C							
HCM 95th-tile Q	3.2	0.8	1.1	5.3	3.4							

HCM 2010 AWSC

3: Collier Ave & Nichols Rd

EX+AMBIENT+CUMUL+PROJ AM_FullTrip-MIT

Intersection

Intersection Delay, s/veh28.1

Intersection LOS D

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	467	44	180	315	31	152
Future Vol, veh/h	467	44	180	315	31	152
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	537	51	207	362	36	175
Number of Lanes	1	0	1	1	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	2	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	2
HCM Control Delay	45.5	15.9	12.3
HCM LOS	E	C	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	WBLn2
Vol Left, %	100%	0%	0%	100%	0%
Vol Thru, %	0%	0%	91%	0%	100%
Vol Right, %	0%	100%	9%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	31	152	511	180	315
LT Vol	31	0	0	180	0
Through Vol	0	0	467	0	315
RT Vol	0	152	44	0	0
Lane Flow Rate	36	175	587	207	362
Geometry Grp	7	7	4	7	7
Degree of Util (X)	0.078	0.322	0.935	0.374	0.603
Departure Headway (Hd)	7.865	6.636	5.728	6.503	5.995
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	455	540	634	552	601
Service Time	5.625	4.394	3.769	4.252	3.743
HCM Lane V/C Ratio	0.079	0.324	0.926	0.375	0.602
HCM Control Delay	11.3	12.5	45.5	13.1	17.5
HCM Lane LOS	B	B	E	B	C
HCM 95th-tile Q	0.3	1.4	12.5	1.7	4

HCM 2010 AWSC
1: I-15 NB Ramps & Nichols Rd

EX+AMBIENT+CUMUL+PROJ PM_FullTrip_MIT

Intersection	
Intersection Delay, s/veh	15.3
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	208	174	0	0	104	50	335	3	28	0	0	0
Future Vol, veh/h	208	174	0	0	104	50	335	3	28	0	0	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	214	179	0	0	107	52	345	3	29	0	0	0
Number of Lanes	1	1	0	0	1	0	0	1	1	0	0	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	1
HCM Control Delay	12.6	11.6	19.6
HCM LOS	B	B	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1
Vol Left, %	99%	0%	100%	0%	0%
Vol Thru, %	1%	0%	0%	100%	68%
Vol Right, %	0%	100%	0%	0%	32%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	338	28	208	174	154
LT Vol	335	0	208	0	0
Through Vol	3	0	0	174	104
RT Vol	0	28	0	0	50
Lane Flow Rate	348	29	214	179	159
Geometry Grp	7	7	7	7	6
Degree of Util (X)	0.641	0.043	0.392	0.303	0.275
Departure Headway (Hd)	6.625	5.417	6.589	6.083	6.24
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	547	661	547	590	575
Service Time	4.358	3.149	4.327	3.82	4.283
HCM Lane V/C Ratio	0.636	0.044	0.391	0.303	0.277
HCM Control Delay	20.5	8.4	13.5	11.5	11.6
HCM Lane LOS	C	A	B	B	B
HCM 95th-tile Q	4.5	0.1	1.9	1.3	1.1

HCM 2010 AWSC

3: Collier Ave & Nichols Rd

EX+AMBIENT+CUMUL+PROJ PM_FullTrip_MIT

Intersection

Intersection Delay, s/veh 23.7

Intersection LOS C

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	312	71	299	361	96	308
Future Vol, veh/h	312	71	299	361	96	308
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	339	77	325	392	104	335
Number of Lanes	1	0	1	1	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	2	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	2
HCM Control Delay	27.9	24.4	18.4
HCM LOS	D	C	C

Lane	NBLn1	NBLn2	EBLn1	WBLn1	WBLn2
Vol Left, %	100%	0%	0%	100%	0%
Vol Thru, %	0%	0%	81%	0%	100%
Vol Right, %	0%	100%	19%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	96	308	383	299	361
LT Vol	96	0	0	299	0
Through Vol	0	0	312	0	361
RT Vol	0	308	71	0	0
Lane Flow Rate	104	335	416	325	392
Geometry Grp	7	7	4	7	7
Degree of Util (X)	0.23	0.623	0.762	0.652	0.731
Departure Headway (Hd)	7.929	6.7	6.591	7.218	6.707
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	451	536	545	497	538
Service Time	5.707	4.476	4.664	5.004	4.493
HCM Lane V/C Ratio	0.231	0.625	0.763	0.654	0.729
HCM Control Delay	13.1	20	27.9	22.7	25.8
HCM Lane LOS	B	C	D	C	D
HCM 95th-tile Q	0.9	4.2	6.8	4.6	6.1

Intersection												
Int Delay, s/veh	24.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	73	299	0	0	148	99	157	1	94	0	0	0
Future Vol, veh/h	73	299	0	0	148	99	157	1	94	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	275	-	-	-	-	-	-	-	50	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	63	63	63	63	63	63	63	63	63	63	63	63
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	116	475	0	0	235	157	249	2	149	0	0	0

Major/Minor	Major1		Major2		Minor1		
Conflicting Flow All	392	0	-	-	-	0	1021
Stage 1	-	-	-	-	-	-	707
Stage 2	-	-	-	-	-	-	314
Critical Hdwy	4.12	-	-	-	-	-	6.42
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42
Follow-up Hdwy	2.218	-	-	-	-	-	3.518
Pot Cap-1 Maneuver	1167	-	0	0	-	-	262
Stage 1	-	-	0	0	-	-	489
Stage 2	-	-	0	0	-	-	741
Platoon blocked, %	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1167	-	-	-	-	-	~ 236
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 236
Stage 1	-	-	-	-	-	-	441
Stage 2	-	-	-	-	-	-	741

Approach	EB	WB	NB
HCM Control Delay, s	1.7	0	80.7
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR
Capacity (veh/h)	236	590	1167	-	-	-
HCM Lane V/C Ratio	1.063	0.253	0.099	-	-	-
HCM Control Delay (s)	120.9	13.2	8.4	-	-	-
HCM Lane LOS	F	B	A	-	-	-
HCM 95th %tile Q(veh)	10.7	1	0.3	-	-	-

Notes			
~: Volume exceeds capacity	\$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	14
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑	↑	↑						↑	↑
Traffic Vol, veh/h	0	242	297	46	259	0	0	0	0	132	4	60
Future Vol, veh/h	0	242	297	46	259	0	0	0	0	132	4	60
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	295	362	56	316	0	0	0	0	161	5	73
Number of Lanes	0	1	1	1	1	0	0	0	0	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	2	2	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	2
HCM Control Delay	13.8	15.2	12.7
HCM LOS	B	C	B

Lane	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	100%	0%	97%	0%
Vol Thru, %	100%	0%	0%	100%	3%	0%
Vol Right, %	0%	100%	0%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	242	297	46	259	136	60
LT Vol	0	0	46	0	132	0
Through Vol	242	0	0	259	4	0
RT Vol	0	297	0	0	0	60
Lane Flow Rate	295	362	56	316	166	73
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.484	0.522	0.104	0.543	0.342	0.127
Departure Headway (Hd)	5.899	5.189	6.695	6.187	7.43	6.225
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	611	695	535	581	484	575
Service Time	3.641	2.931	4.444	3.936	5.178	3.973
HCM Lane V/C Ratio	0.483	0.521	0.105	0.544	0.343	0.127
HCM Control Delay	14.1	13.5	10.2	16.1	14	9.9
HCM Lane LOS	B	B	B	C	B	A
HCM 95th-tile Q	2.6	3	0.3	3.2	1.5	0.4

Intersection						
Int Delay, s/veh	2.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	407	33	102	207	22	94
Future Vol, veh/h	407	33	102	207	22	94
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	135	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	468	38	117	238	25	108
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	506	0	959	487
Stage 1	-	-	-	-	487	-
Stage 2	-	-	-	-	472	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1059	-	285	581
Stage 1	-	-	-	-	618	-
Stage 2	-	-	-	-	628	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1059	-	254	581
Mov Cap-2 Maneuver	-	-	-	-	254	-
Stage 1	-	-	-	-	550	-
Stage 2	-	-	-	-	628	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		2.9		14.1	
HCM LOS	B					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	254	581	-	-	1059	-
HCM Lane V/C Ratio	0.1	0.186	-	-	0.111	-
HCM Control Delay (s)	20.7	12.6	-	-	8.8	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	0.3	0.7	-	-	0.4	-

4: Collier Ave - SR-74/Collier Ave & Riverside Dr - SR-74/Riverside Dr

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	62	6	812	3	1	0	635	61	11	2	54	53
Future Volume (veh/h)	62	6	812	3	1	0	635	61	11	2	54	53
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	64	6	837	3	1	0	655	63	11	2	56	55
Adj No. of Lanes	0	1	1	0	1	0	1	1	0	1	1	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	471	39	1110	243	67	0	770	670	117	176	184	157
Arrive On Green	0.27	0.27	0.27	0.27	0.27	0.00	0.43	0.43	0.43	0.10	0.10	0.10
Sat Flow, veh/h	1333	147	1583	517	250	0	1774	1545	270	1774	1863	1583
Grp Volume(v), veh/h	70	0	837	4	0	0	655	0	74	2	56	55
Grp Sat Flow(s),veh/h/ln	1480	0	1583	767	0	0	1774	0	1815	1774	1863	1583
Q Serve(g_s), s	0.0	0.0	16.0	0.0	0.0	0.0	19.9	0.0	1.4	0.1	1.7	1.9
Cycle Q Clear(g_c), s	1.8	0.0	16.0	1.8	0.0	0.0	19.9	0.0	1.4	0.1	1.7	1.9
Prop In Lane	0.91		1.00	0.75		0.00	1.00		0.15	1.00		1.00
Lane Grp Cap(c), veh/h	510	0	1110	310	0	0	770	0	787	176	184	157
V/C Ratio(X)	0.14	0.00	0.75	0.01	0.00	0.00	0.85	0.00	0.09	0.01	0.30	0.35
Avail Cap(c_a), veh/h	510	0	1110	310	0	0	770	0	787	474	497	423
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.8	0.0	5.1	16.1	0.0	0.0	15.2	0.0	10.0	24.4	25.1	25.2
Incr Delay (d2), s/veh	0.1	0.0	3.0	0.0	0.0	0.0	11.4	0.0	0.2	0.0	0.9	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	14.6	0.1	0.0	0.0	12.1	0.0	0.8	0.0	0.9	0.9
LnGrp Delay(d),s/veh	16.9	0.0	8.1	16.2	0.0	0.0	26.6	0.0	10.3	24.4	26.0	26.5
LnGrp LOS	B		A	B			C		B	C	C	C
Approach Vol, veh/h	907		4				729				113	
Approach Delay, s/veh	8.7		16.2				25.0				26.2	
Approach LOS	A		B				C				C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	30.0		20.0		9.9		20.0					
Change Period (Y+Rc), s	4.0		4.0		4.0		4.0					
Max Green Setting (Gmax), s	26.0		16.0		16.0		16.0					
Max Q Clear Time (g_c+l1), s	21.9		18.0		3.9		3.8					
Green Ext Time (p_c), s	1.1		0.0		0.3		0.0					
Intersection Summary												
HCM 2010 Ctrl Delay	16.6											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

5: Collier Ave - SR-74 & Hunco Way

EX AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (veh/h)	1	1	15	102	2	43	39	596	20	55	775	14
Future Volume (veh/h)	1	1	15	102	2	43	39	596	20	55	775	14
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	1	1	16	106	2	45	41	621	21	57	807	15
Adj No. of Lanes	0	1	0	1	1	1	1	2	1	1	2	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	85	19	189	342	248	211	110	1886	844	139	1953	36
Arrive On Green	0.13	0.13	0.13	0.13	0.13	0.13	0.06	0.53	0.53	0.08	0.55	0.55
Sat Flow, veh/h	33	145	1422	1390	1863	1583	1774	3539	1583	1774	3555	66
Grp Volume(v), veh/h	18	0	0	106	2	45	41	621	21	57	402	420
Grp Sat Flow(s),veh/h/ln	1599	0	0	1390	1863	1583	1774	1770	1583	1774	1770	1851
Q Serve(g_s), s	0.0	0.0	0.0	2.8	0.0	1.2	1.0	4.7	0.3	1.4	6.2	6.2
Cycle Q Clear(g_c), s	0.5	0.0	0.0	3.2	0.0	1.2	1.0	4.7	0.3	1.4	6.2	6.2
Prop In Lane	0.06		0.89	1.00		1.00	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	294	0	0	342	248	211	110	1886	844	139	972	1017
V/C Ratio(X)	0.06	0.00	0.00	0.31	0.01	0.21	0.37	0.33	0.02	0.41	0.41	0.41
Avail Cap(c_a), veh/h	623	0	0	631	635	540	265	1886	844	265	972	1017
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.8	0.0	0.0	19.0	17.6	18.1	21.1	6.2	5.2	20.6	6.2	6.2
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.5	0.0	0.5	2.1	0.5	0.1	1.9	1.3	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.0	1.3	0.0	0.6	0.6	2.4	0.1	0.8	3.4	3.5
LnGrp Delay(d),s/veh	17.9	0.0	0.0	19.5	17.7	18.6	23.2	6.7	5.2	22.5	7.5	7.4
LnGrp LOS	B			B	B	B	C	A	A	C	A	A
Approach Vol, veh/h	18			153			683			879		
Approach Delay, s/veh	17.9			19.2			7.6			8.4		
Approach LOS	B			B			A			A		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.7	29.0		10.2	6.9	29.8		10.2				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	7.0	25.0		16.0	7.0	25.0		16.0				
Max Q Clear Time (g_c+13.4), s	13.4	6.7		2.5	3.0	8.2		5.2				
Green Ext Time (p_c), s	0.0	3.5		0.0	0.0	4.3		0.3				
Intersection Summary												
HCM 2010 Ctrl Delay	9.2											
HCM 2010 LOS	A											

6: Collier Ave/Collier Ave - SR-74 & Central Ave/Central Ave - SR-74

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	→	↱	↰	→	↱	↰	→	↱	↰	→	↱
Traffic Volume (veh/h)	48	77	31	560	256	587	19	47	299	772	56	32
Future Volume (veh/h)	48	77	31	560	256	587	19	47	299	772	56	32
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	54	87	35	629	288	660	21	53	336	867	63	36
Adj No. of Lanes	2	2	0	2	1	2	1	1	1	2	2	1
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	210	219	84	682	418	1252	58	539	772	774	1705	763
Arrive On Green	0.06	0.09	0.09	0.07	0.07	0.07	0.03	0.29	0.29	0.22	0.48	0.48
Sat Flow, veh/h	3442	2505	958	3442	1863	2787	1774	1863	1583	3442	3539	1583
Grp Volume(v), veh/h	54	60	62	629	288	660	21	53	336	867	63	36
Grp Sat Flow(s),veh/h/ln	1721	1770	1694	1721	1863	1393	1774	1863	1583	1721	1770	1583
Q Serve(g_s), s	1.2	2.6	2.8	14.5	12.1	13.5	0.9	1.7	5.9	18.0	0.8	1.0
Cycle Q Clear(g_c), s	1.2	2.6	2.8	14.5	12.1	13.5	0.9	1.7	5.9	18.0	0.8	1.0
Prop In Lane	1.00		0.57	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	210	155	148	682	418	1252	58	539	772	774	1705	763
V/C Ratio(X)	0.26	0.39	0.42	0.92	0.69	0.53	0.36	0.10	0.44	1.12	0.04	0.05
Avail Cap(c_a), veh/h	301	354	339	682	512	1393	155	539	772	774	1705	763
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.75	0.75	0.75	1.00	1.00	1.00	0.94	0.94	0.94
Uniform Delay (d), s/veh	35.8	34.5	34.6	36.8	34.3	18.9	37.9	20.8	4.8	31.0	10.9	11.0
Incr Delay (d2), s/veh	0.6	1.6	1.9	14.7	2.2	0.3	3.8	0.4	1.8	69.6	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	1.3	1.4	8.3	6.5	5.3	0.5	0.9	2.9	16.0	0.4	0.4
LnGrp Delay(d),s/veh	36.5	36.1	36.4	51.5	36.5	19.2	41.7	21.2	6.6	100.6	11.0	11.1
LnGrp LOS	D	D	D	D	D	B	D	C	A	F	B	B
Approach Vol, veh/h		176			1577			410			966	
Approach Delay, s/veh		36.3			35.2			10.3			91.4	
Approach LOS		D			D			B			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	22.0	27.2	19.8	11.0	6.6	42.5	8.9	22.0				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	18.0	17.0	13.0	16.0	7.0	28.0	7.0	22.0				
Max Q Clear Time (g_c+20.0), s	20.0	7.9	16.5	4.8	2.9	3.0	3.2	15.5				
Green Ext Time (p_c), s	0.0	0.9	0.0	0.4	0.0	0.4	0.0	2.4				
Intersection Summary												
HCM 2010 Ctrl Delay			49.4									
HCM 2010 LOS			D									

HCM 2010 Signalized Intersection Summary

7: I-15 SB Ramps & Central Ave - SR-74

EX AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑↑	↑↑					↑	↑↑	↑
Traffic Volume (veh/h)	0	611	556	674	1336	0	0	0	0	240	5	180
Future Volume (veh/h)	0	611	556	674	1336	0	0	0	0	240	5	180
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1863	1863	1863	0				1863	1863	1863
Adj Flow Rate, veh/h	0	636	579	702	1392	0				311	0	127
Adj No. of Lanes	0	2	1	2	2	0				2	0	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96				0.96	0.96	0.96
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1239	554	793	2231	0				957	0	427
Arrive On Green	0.00	0.12	0.12	0.46	1.00	0.00				0.27	0.00	0.27
Sat Flow, veh/h	0	3632	1583	3442	3632	0				3548	0	1583
Grp Volume(v), veh/h	0	636	579	702	1392	0				311	0	127
Grp Sat Flow(s),veh/h/ln	0	1770	1583	1721	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	13.5	28.0	14.9	0.0	0.0				5.6	0.0	5.1
Cycle Q Clear(g_c), s	0.0	13.5	28.0	14.9	0.0	0.0				5.6	0.0	5.1
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1239	554	793	2231	0				957	0	427
V/C Ratio(X)	0.00	0.51	1.04	0.89	0.62	0.00				0.32	0.00	0.30
Avail Cap(c_a), veh/h	0	1239	554	989	2433	0				957	0	427
HCM Platoon Ratio	1.00	0.33	0.33	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.49	0.49	0.55	0.55	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	29.0	35.4	20.6	0.0	0.0				23.4	0.0	23.2
Incr Delay (d2), s/veh	0.0	0.2	39.2	4.8	0.2	0.0				0.9	0.0	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	6.7	18.3	7.3	0.1	0.0				2.9	0.0	2.4
LnGrp Delay(d),s/veh	0.0	29.2	74.6	25.4	0.2	0.0				24.3	0.0	25.0
LnGrp LOS		C	F	C	A					C		C
Approach Vol, veh/h		1215			2094						438	
Approach Delay, s/veh		50.8			8.7						24.5	
Approach LOS		D			A						C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			22.4	32.0		25.6		54.4				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			23.0	28.0		17.0		55.0				
Max Q Clear Time (g_c+I1), s			16.9	30.0		7.6		2.0				
Green Ext Time (p_c), s			1.6	0.0		1.1		16.1				
Intersection Summary												
HCM 2010 Ctrl Delay			24.2									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

8: I-15 NB Ramps & Central Ave - SR-74

EX AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	61	805	0	0	1528	453	525	0	564	0	0	0
Future Volume (veh/h)	61	805	0	0	1528	453	525	0	564	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1863	1863	1863			
Adj Flow Rate, veh/h	66	866	0	0	1643	487	760	0	397			
Adj No. of Lanes	1	3	0	0	3	1	2	0	1			
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	119	2467	0	0	1871	582	1472	0	657			
Arrive On Green	0.13	0.97	0.00	0.00	0.74	0.74	0.41	0.00	0.41			
Sat Flow, veh/h	1774	5253	0	0	5253	1583	3548	0	1583			
Grp Volume(v), veh/h	66	866	0	0	1643	487	760	0	397			
Grp Sat Flow(s),veh/h/ln	1774	1695	0	0	1695	1583	1774	0	1583			
Q Serve(g_s), s	2.8	0.6	0.0	0.0	19.3	16.9	12.8	0.0	15.7			
Cycle Q Clear(g_c), s	2.8	0.6	0.0	0.0	19.3	16.9	12.8	0.0	15.7			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	119	2467	0	0	1871	582	1472	0	657			
V/C Ratio(X)	0.55	0.35	0.00	0.00	0.88	0.84	0.52	0.00	0.60			
Avail Cap(c_a), veh/h	155	2733	0	0	2034	633	1472	0	657			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(I)	0.82	0.82	0.00	0.00	0.66	0.66	1.00	0.00	1.00			
Uniform Delay (d), s/veh	33.5	0.6	0.0	0.0	9.2	8.9	17.4	0.0	18.3			
Incr Delay (d2), s/veh	3.3	0.1	0.0	0.0	3.0	6.1	1.3	0.0	4.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	1.5	0.2	0.0	0.0	9.0	7.7	6.5	0.0	7.6			
LnGrp Delay(d),s/veh	36.8	0.7	0.0	0.0	12.2	15.0	18.7	0.0	22.4			
LnGrp LOS	D	A			B	B	B		C			
Approach Vol, veh/h	932				2130				1157			
Approach Delay, s/veh	3.2				12.9				20.0			
Approach LOS	A				B				B			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4				7		8			
Phs Duration (G+Y+Rc), s	37.2		42.8				9.4		33.4			
Change Period (Y+Rc), s	4.0		4.0				4.0		4.0			
Max Green Setting (Gmax), s	29.0		43.0				7.0		32.0			
Max Q Clear Time (g_c+I1), s	17.7		2.6				4.8		21.3			
Green Ext Time (p_c), s	3.6		6.4				0.0		8.1			
Intersection Summary												
HCM 2010 Ctrl Delay			12.7									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

9: Dexter Ave & Central Ave - SR-74

EX AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	323	941	106	121	1445	171	84	133	94	71	91	454
Future Volume (veh/h)	323	941	106	121	1445	171	84	133	94	71	91	454
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	355	1034	116	133	1588	188	92	146	103	78	100	499
Adj No. of Lanes	1	3	1	1	4	1	1	1	0	1	1	1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	390	2122	661	168	1872	462	335	344	243	346	630	883
Arrive On Green	0.44	0.83	0.83	0.09	0.29	0.29	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	1774	5085	1583	1774	6408	1583	816	1018	718	1126	1863	1583
Grp Volume(v), veh/h	355	1034	116	133	1588	188	92	0	249	78	100	499
Grp Sat Flow(s),veh/h/ln	1774	1695	1583	1774	1602	1583	816	0	1736	1126	1863	1583
Q Serve(g_s), s	15.0	4.5	1.1	5.9	18.7	7.6	7.1	0.0	8.9	4.6	3.0	16.3
Cycle Q Clear(g_c), s	15.0	4.5	1.1	5.9	18.7	7.6	10.1	0.0	8.9	13.5	3.0	16.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.41	1.00		1.00
Lane Grp Cap(c), veh/h	390	2122	661	168	1872	462	335	0	587	346	630	883
V/C Ratio(X)	0.91	0.49	0.18	0.79	0.85	0.41	0.27	0.00	0.42	0.23	0.16	0.56
Avail Cap(c_a), veh/h	532	2288	712	266	1922	475	335	0	587	346	630	883
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.92	0.92	0.92	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.7	4.2	3.9	35.5	26.7	22.7	22.1	0.0	20.5	25.7	18.5	11.4
Incr Delay (d2), s/veh	15.0	0.2	0.1	8.2	3.7	0.6	2.0	0.0	2.2	1.5	0.5	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.7	1.9	0.5	3.3	8.8	3.4	1.8	0.0	4.6	1.6	1.6	7.6
LnGrp Delay(d),s/veh	36.7	4.4	4.1	43.6	30.4	23.3	24.1	0.0	22.7	27.2	19.1	14.0
LnGrp LOS	D	A	A	D	C	C	C		C	C	B	B
Approach Vol, veh/h	1505			1909			341			677		
Approach Delay, s/veh	12.0			30.6			23.1			16.3		
Approach LOS	B			C			C			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		31.1	11.6	37.4		31.1	21.6	27.4				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		20.0	12.0	36.0		20.0	24.0	24.0				
Max Q Clear Time (g_c+I1), s		12.1	7.9	6.5		18.3	17.0	20.7				
Green Ext Time (p_c), s		1.2	0.1	8.1		0.5	0.6	2.7				
Intersection Summary												
HCM 2010 Ctrl Delay	21.5											
HCM 2010 LOS	C											

10: Strickland Ave/Gunnerson St & Riverside Dr - SR-74

Intersection												
Int Delay, s/veh	2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	859	24	6	488	24	1	2	8	36	4	4
Future Vol, veh/h	6	859	24	6	488	24	1	2	8	36	4	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	Stop	-	-	Stop
Storage Length	100	-	-	100	-	-	-	-	50	-	-	50
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	904	25	6	514	25	1	2	8	38	4	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	539	0	0	929	0	0	1470	1480	917	1469	1480	527
Stage 1	-	-	-	-	-	-	929	929	-	539	539	-
Stage 2	-	-	-	-	-	-	541	551	-	930	941	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1029	-	-	736	-	-	105	125	330	106	125	551
Stage 1	-	-	-	-	-	-	321	346	-	527	522	-
Stage 2	-	-	-	-	-	-	525	515	-	321	342	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1029	-	-	736	-	-	100	123	330	101	123	551
Mov Cap-2 Maneuver	-	-	-	-	-	-	100	123	-	101	123	-
Stage 1	-	-	-	-	-	-	319	344	-	524	518	-
Stage 2	-	-	-	-	-	-	513	511	-	309	340	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.1			22			57.7		
HCM LOS							C			F		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	114	330	1029	-	-	736	-	-	103	551
HCM Lane V/C Ratio	0.028	0.026	0.006	-	-	0.009	-	-	0.409	0.008
HCM Control Delay (s)	37.5	16.2	8.5	-	-	9.9	-	-	62.3	11.6
HCM Lane LOS	E	C	A	-	-	A	-	-	F	B
HCM 95th %tile Q(veh)	0.1	0.1	0	-	-	0	-	-	1.7	0

HCM 2010 Signalized Intersection Summary
11: Lakeshore Dr & Riverside Dr - SR-74

EX AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	126	482	226	21	395	130	158	150	15	196	178	93
Future Volume (veh/h)	126	482	226	21	395	130	158	150	15	196	178	93
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	131	502	235	22	411	135	165	156	16	204	185	97
Adj No. of Lanes	1	2	1	1	1	1	1	2	0	1	2	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	175	1130	506	63	477	406	206	830	84	249	992	444
Arrive On Green	0.10	0.32	0.32	0.04	0.26	0.26	0.12	0.26	0.26	0.14	0.28	0.28
Sat Flow, veh/h	1774	3539	1583	1774	1863	1583	1774	3245	329	1774	3539	1583
Grp Volume(v), veh/h	131	502	235	22	411	135	165	84	88	204	185	97
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1805	1774	1770	1583
Q Serve(g_s), s	4.6	7.2	7.6	0.8	13.5	4.5	5.8	2.4	2.4	7.2	2.6	3.0
Cycle Q Clear(g_c), s	4.6	7.2	7.6	0.8	13.5	4.5	5.8	2.4	2.4	7.2	2.6	3.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.18	1.00		1.00
Lane Grp Cap(c), veh/h	175	1130	506	63	477	406	206	453	461	249	992	444
V/C Ratio(X)	0.75	0.44	0.46	0.35	0.86	0.33	0.80	0.19	0.19	0.82	0.19	0.22
Avail Cap(c_a), veh/h	221	1130	506	193	551	468	249	453	461	304	992	444
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.2	17.3	17.5	30.3	22.8	19.4	27.7	18.7	18.7	26.8	17.6	17.7
Incr Delay (d2), s/veh	10.3	0.3	0.7	3.3	11.8	0.5	14.4	0.9	0.9	13.5	0.4	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	3.5	3.4	0.4	8.5	2.0	3.7	1.3	1.3	4.5	1.3	1.4
LnGrp Delay(d),s/veh	38.4	17.6	18.1	33.6	34.6	19.9	42.0	19.6	19.6	40.3	18.0	18.9
LnGrp LOS	D	B	B	C	C	B	D	B	B	D	B	B
Approach Vol, veh/h		868			568			337			486	
Approach Delay, s/veh		20.9			31.1			30.6			27.5	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.0	20.4	6.3	24.5	11.5	22.0	10.3	20.5				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	11.0	16.0	7.0	20.0	9.0	18.0	8.0	19.0				
Max Q Clear Time (g_c+I1), s	9.2	4.4	2.8	9.6	7.8	5.0	6.6	15.5				
Green Ext Time (p_c), s	0.1	0.6	0.0	2.8	0.0	1.0	0.0	0.9				
Intersection Summary												
HCM 2010 Ctrl Delay				26.3								
HCM 2010 LOS				C								

Intersection												
Int Delay, s/veh	11.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	126	157	0	0	99	47	283	2	24	0	0	0
Future Vol, veh/h	126	157	0	0	99	47	283	2	24	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	275	-	-	-	-	-	-	-	50	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	130	162	0	0	102	48	292	2	25	0	0	0
Major/Minor	Major1		Major2			Minor1						
Conflicting Flow All	150	0	-	-	-	0	548	572	162			
Stage 1	-	-	-	-	-	-	422	422	-			
Stage 2	-	-	-	-	-	-	126	150	-			
Critical Hdwy	4.12	-	-	-	-	-	6.42	6.52	6.22			
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-			
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-			
Follow-up Hdwy	2.218	-	-	-	-	-	3.518	4.018	3.318			
Pot Cap-1 Maneuver	1431	-	0	0	-	-	497	430	883			
Stage 1	-	-	0	0	-	-	662	588	-			
Stage 2	-	-	0	0	-	-	900	773	-			
Platoon blocked, %		-			-	-						
Mov Cap-1 Maneuver	1431	-	-	-	-	-	452	0	883			
Mov Cap-2 Maneuver	-	-	-	-	-	-	452	0	-			
Stage 1	-	-	-	-	-	-	602	0	-			
Stage 2	-	-	-	-	-	-	900	0	-			
Approach	EB		WB			NB						
HCM Control Delay, s	3.5		0			25.2						
HCM LOS						D						
Minor Lane/Major Mvmt	NBLn1 NBLn2		EBL	EBT	WBT	WBR						
Capacity (veh/h)	452 883		1431	-	-	-						
HCM Lane V/C Ratio	0.65 0.028		0.091	-	-	-						
HCM Control Delay (s)	26.6 9.2		7.8	-	-	-						
HCM Lane LOS	D A		A	-	-	-						
HCM 95th %tile Q(veh)	4.5 0.1		0.3	-	-	-						

Intersection	
Intersection Delay, s/veh	12.9
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑	↑	↑						↑	↑
Traffic Vol, veh/h	0	218	281	21	360	0	0	0	0	68	1	138
Future Vol, veh/h	0	218	281	21	360	0	0	0	0	68	1	138
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	222	287	21	367	0	0	0	0	69	1	141
Number of Lanes	0	1	1	1	1	0	0	0	0	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	2	2	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	2
HCM Control Delay	11.2	16.2	10.7
HCM LOS	B	C	B

Lane	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	100%	0%	99%	0%
Vol Thru, %	100%	0%	0%	100%	1%	0%
Vol Right, %	0%	100%	0%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	218	281	21	360	69	138
LT Vol	0	0	21	0	68	0
Through Vol	218	0	0	360	1	0
RT Vol	0	281	0	0	0	138
Lane Flow Rate	222	287	21	367	70	141
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.351	0.397	0.037	0.591	0.14	0.233
Departure Headway (Hd)	5.688	4.98	6.299	5.793	7.172	5.962
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	634	723	569	624	501	603
Service Time	3.415	2.706	4.028	3.522	4.909	3.699
HCM Lane V/C Ratio	0.35	0.397	0.037	0.588	0.14	0.234
HCM Control Delay	11.5	11	9.3	16.6	11.1	10.5
HCM Lane LOS	B	B	A	C	B	B
HCM 95th-tile Q	1.6	1.9	0.1	3.9	0.5	0.9

Intersection						
Int Delay, s/veh	6.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	215	58	205	287	84	230
Future Vol, veh/h	215	58	205	287	84	230
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	135	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	234	63	223	312	91	250
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	297	0	1024	266
Stage 1	-	-	-	-	266	-
Stage 2	-	-	-	-	758	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1264	-	261	773
Stage 1	-	-	-	-	779	-
Stage 2	-	-	-	-	463	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1264	-	215	773
Mov Cap-2 Maneuver	-	-	-	-	215	-
Stage 1	-	-	-	-	642	-
Stage 2	-	-	-	-	463	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		3.5		17.7	
HCM LOS	C					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	215	773	-	-	1264	-
HCM Lane V/C Ratio	0.425	0.323	-	-	0.176	-
HCM Control Delay (s)	33.6	11.9	-	-	8.5	-
HCM Lane LOS	D	B	-	-	A	-
HCM 95th %tile Q(veh)	2	1.4	-	-	0.6	-

4: Collier Ave - SR-74/Collier Ave & Riverside Dr - SR-74/Riverside Dr

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	82	11	871	23	16	11	888	212	14	3	193	109
Future Volume (veh/h)	82	11	871	23	16	11	888	212	14	3	193	109
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	86	12	917	24	17	12	935	223	15	3	203	115
Adj No. of Lanes	0	1	1	0	1	0	1	1	0	1	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	322	40	1146	120	81	41	953	927	62	241	253	215
Arrive On Green	0.19	0.19	0.19	0.19	0.19	0.19	0.54	0.54	0.54	0.14	0.14	0.14
Sat Flow, veh/h	1300	214	1583	315	431	218	1774	1726	116	1774	1863	1583
Grp Volume(v), veh/h	98	0	917	53	0	0	935	0	238	3	203	115
Grp Sat Flow(s),veh/h/ln	1514	0	1583	965	0	0	1774	0	1842	1774	1863	1583
Q Serve(g_s), s	0.0	0.0	16.0	0.1	0.0	0.0	44.2	0.0	5.9	0.1	9.1	5.8
Cycle Q Clear(g_c), s	4.1	0.0	16.0	4.2	0.0	0.0	44.2	0.0	5.9	0.1	9.1	5.8
Prop In Lane	0.88		1.00	0.45		0.23	1.00		0.06	1.00		1.00
Lane Grp Cap(c), veh/h	362	0	1146	241	0	0	953	0	989	241	253	215
V/C Ratio(X)	0.27	0.00	0.80	0.22	0.00	0.00	0.98	0.00	0.24	0.01	0.80	0.53
Avail Cap(c_a), veh/h	362	0	1146	241	0	0	953	0	989	331	348	296
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.0	0.0	5.5	29.2	0.0	0.0	19.4	0.0	10.5	32.0	35.9	34.5
Incr Delay (d2), s/veh	0.4	0.0	4.1	0.5	0.0	0.0	25.0	0.0	0.6	0.0	9.0	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	0.0	22.7	1.1	0.0	0.0	27.9	0.0	3.1	0.1	5.3	2.6
LnGrp Delay(d),s/veh	30.4	0.0	9.6	29.7	0.0	0.0	44.4	0.0	11.1	32.0	44.9	36.5
LnGrp LOS	C		A	C			D		B	C	D	D
Approach Vol, veh/h	1015				53			1173			321	
Approach Delay, s/veh	11.6				29.7			37.6			41.8	
Approach LOS	B				C			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	50.0		20.0		15.6		20.0					
Change Period (Y+Rc), s	4.0		4.0		4.0		4.0					
Max Green Setting (Gmax), s	46.0		16.0		16.0		16.0					
Max Q Clear Time (g_c+I1), s	46.2		18.0		11.1		6.2					
Green Ext Time (p_c), s	0.0		0.0		0.6		0.2					
Intersection Summary												
HCM 2010 Ctrl Delay	27.7											
HCM 2010 LOS	C											

HCM 2010 Signalized Intersection Summary

5: Collier Ave - SR-74 & Hunco Way

EX PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	4	49	262	2	111	43	908	24	104	973	12
Future Volume (veh/h)	19	4	49	262	2	111	43	908	24	104	973	12
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	20	4	52	279	2	118	46	966	26	111	1035	13
Adj No. of Lanes	0	1	0	1	1	1	1	2	1	1	2	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	141	58	250	462	436	371	114	1560	698	186	1722	22
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	0.06	0.44	0.44	0.10	0.48	0.48
Sat Flow, veh/h	246	247	1067	1342	1863	1583	1774	3539	1583	1774	3579	45
Grp Volume(v), veh/h	76	0	0	279	2	118	46	966	26	111	512	536
Grp Sat Flow(s),veh/h/ln	1559	0	0	1342	1863	1583	1774	1770	1583	1774	1770	1855
Q Serve(g_s), s	0.0	0.0	0.0	8.1	0.0	3.4	1.4	11.4	0.5	3.3	11.5	11.5
Cycle Q Clear(g_c), s	2.0	0.0	0.0	10.1	0.0	3.4	1.4	11.4	0.5	3.3	11.5	11.5
Prop In Lane	0.26		0.68	1.00		1.00	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	449	0	0	462	436	371	114	1560	698	186	851	892
V/C Ratio(X)	0.17	0.00	0.00	0.60	0.00	0.32	0.40	0.62	0.04	0.60	0.60	0.60
Avail Cap(c_a), veh/h	565	0	0	567	582	494	228	1560	698	228	851	892
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.7	0.0	0.0	19.6	16.0	17.2	24.5	11.7	8.7	23.3	10.3	10.3
Incr Delay (d2), s/veh	0.2	0.0	0.0	1.3	0.0	0.5	2.3	1.9	0.1	3.1	3.1	3.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	0.0	4.1	0.0	1.5	0.7	5.9	0.2	1.7	6.3	6.6
LnGrp Delay(d),s/veh	16.9	0.0	0.0	20.9	16.0	17.7	26.7	13.6	8.8	26.4	13.5	13.3
LnGrp LOS	B			C	B	B	C	B	A	C	B	B
Approach Vol, veh/h		76			399			1038			1159	
Approach Delay, s/veh		16.9			19.9			14.0			14.6	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.7	28.0		16.8	7.5	30.2		16.8				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	7.0	24.0		17.0	7.0	24.0		17.0				
Max Q Clear Time (g_c+1/3), s	13.4	13.4		4.0	3.4	13.5		12.1				
Green Ext Time (p_c), s	0.0	4.4		0.3	0.0	4.5		0.6				
Intersection Summary												
HCM 2010 Ctrl Delay			15.2									
HCM 2010 LOS			B									

6: Collier Ave/Collier Ave - SR-74 & Central Ave/Central Ave - SR-74

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	191	353	37	257	181	692	40	126	364	985	141	33
Future Volume (veh/h)	191	353	37	257	181	692	40	126	364	985	141	33
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	205	380	40	276	195	744	43	135	391	1059	152	35
Adj No. of Lanes	2	2	0	2	1	2	1	1	1	2	2	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	298	499	52	301	289	1269	96	481	547	1032	1785	798
Arrive On Green	0.09	0.15	0.15	0.03	0.05	0.05	0.05	0.26	0.26	0.30	0.50	0.50
Sat Flow, veh/h	3442	3234	339	3442	1863	2787	1774	1863	1583	3442	3539	1583
Grp Volume(v), veh/h	205	207	213	276	195	744	43	135	391	1059	152	35
Grp Sat Flow(s),veh/h/ln	1721	1770	1803	1721	1863	1393	1774	1863	1583	1721	1770	1583
Q Serve(g_s), s	4.6	9.0	9.1	6.4	8.2	8.1	1.9	4.6	17.2	24.0	1.8	0.6
Cycle Q Clear(g_c), s	4.6	9.0	9.1	6.4	8.2	8.1	1.9	4.6	17.2	24.0	1.8	0.6
Prop In Lane	1.00		0.19	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	298	273	278	301	289	1269	96	481	547	1032	1785	798
V/C Ratio(X)	0.69	0.76	0.77	0.92	0.67	0.59	0.45	0.28	0.71	1.03	0.09	0.04
Avail Cap(c_a), veh/h	301	354	361	301	373	1393	155	481	547	1032	1785	798
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.81	0.81	0.81	1.00	1.00	1.00	0.78	0.78	0.78
Uniform Delay (d), s/veh	35.5	32.4	32.4	38.6	36.0	6.9	36.7	23.7	22.7	28.0	10.3	3.9
Incr Delay (d2), s/veh	6.4	6.8	7.1	26.8	2.6	0.4	3.3	1.5	7.8	31.4	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	4.9	5.0	4.2	4.5	3.2	1.0	2.6	8.6	15.8	0.9	0.3
LnGrp Delay(d),s/veh	41.9	39.2	39.5	65.4	38.5	7.3	40.0	25.2	30.5	59.4	10.3	4.0
LnGrp LOS	D	D	D	E	D	A	D	C	C	F	B	A
Approach Vol, veh/h	625		1215				569			1246		
Approach Delay, s/veh	40.2		25.5				30.0			51.9		
Approach LOS	D		C				C			D		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	38.0	24.6	11.0	16.4	8.3	44.3	10.9	16.4				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	24.0	17.0	7.0	16.0	7.0	34.0	7.0	16.0				
Max Q Clear Time (g_c+20), s	20.0	19.2	8.4	11.1	3.9	3.8	6.6	10.2				
Green Ext Time (p_c), s	0.0	0.0	0.0	1.0	0.0	0.9	0.0	2.2				
Intersection Summary												
HCM 2010 Ctrl Delay	37.7											
HCM 2010 LOS	D											

HCM 2010 Signalized Intersection Summary
7: I-15 SB Ramps & Central Ave - SR-74

EX PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑↑	↑↑					↑	↑↑	↑
Traffic Volume (veh/h)	0	1168	571	599	1311	0	0	0	0	573	0	145
Future Volume (veh/h)	0	1168	571	599	1311	0	0	0	0	573	0	145
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1863	1863	1863	0				1863	1863	1863
Adj Flow Rate, veh/h	0	1192	583	611	1338	0				631	0	99
Adj No. of Lanes	0	2	1	2	2	0				2	0	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98				0.98	0.98	0.98
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1371	614	680	2247	0				940	0	420
Arrive On Green	0.00	0.13	0.13	0.39	1.00	0.00				0.27	0.00	0.27
Sat Flow, veh/h	0	3632	1583	3442	3632	0				3548	0	1583
Grp Volume(v), veh/h	0	1192	583	611	1338	0				631	0	99
Grp Sat Flow(s),veh/h/ln	0	1770	1583	1721	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	26.4	29.2	13.3	0.0	0.0				12.7	0.0	3.9
Cycle Q Clear(g_c), s	0.0	26.4	29.2	13.3	0.0	0.0				12.7	0.0	3.9
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1371	614	680	2247	0				940	0	420
V/C Ratio(X)	0.00	0.87	0.95	0.90	0.60	0.00				0.67	0.00	0.24
Avail Cap(c_a), veh/h	0	1371	614	731	2300	0				940	0	420
HCM Platoon Ratio	1.00	0.33	0.33	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.47	0.47	0.59	0.59	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	32.9	34.1	23.5	0.0	0.0				26.3	0.0	23.0
Incr Delay (d2), s/veh	0.0	3.1	14.7	8.6	0.2	0.0				3.8	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	13.6	15.4	7.1	0.1	0.0				6.7	0.0	1.9
LnGrp Delay(d),s/veh	0.0	36.0	48.8	32.1	0.2	0.0				30.1	0.0	24.4
LnGrp LOS		D	D	C	A					C		C
Approach Vol, veh/h		1775			1949						730	
Approach Delay, s/veh		40.2			10.2						29.3	
Approach LOS		D			B						C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			19.8	35.0		25.2		54.8				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			17.0	31.0		20.0		52.0				
Max Q Clear Time (g_c+I1), s			15.3	31.2		14.7		2.0				
Green Ext Time (p_c), s			0.5	0.0		1.4		14.9				
Intersection Summary												
HCM 2010 Ctrl Delay			25.3									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

8: I-15 NB Ramps & Central Ave - SR-74

EX PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	119	1651	0	0	1357	386	520	0	722	0	0	0
Future Volume (veh/h)	119	1651	0	0	1357	386	520	0	722	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1863	1863	1863			
Adj Flow Rate, veh/h	121	1685	0	0	1385	394	792	0	457			
Adj No. of Lanes	1	3	0	0	3	1	2	0	1			
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	151	2278	0	0	1591	495	1604	0	716			
Arrive On Green	0.17	0.90	0.00	0.00	0.63	0.63	0.45	0.00	0.45			
Sat Flow, veh/h	1774	5253	0	0	5253	1583	3548	0	1583			
Grp Volume(v), veh/h	121	1685	0	0	1385	394	792	0	457			
Grp Sat Flow(s),veh/h/ln	1774	1695	0	0	1695	1583	1774	0	1583			
Q Serve(g_s), s	5.2	8.2	0.0	0.0	17.9	14.8	12.6	0.0	17.8			
Cycle Q Clear(g_c), s	5.2	8.2	0.0	0.0	17.9	14.8	12.6	0.0	17.8			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	151	2278	0	0	1591	495	1604	0	716			
V/C Ratio(X)	0.80	0.74	0.00	0.00	0.87	0.80	0.49	0.00	0.64			
Avail Cap(c_a), veh/h	222	2606	0	0	1716	534	1604	0	716			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(I)	0.44	0.44	0.00	0.00	0.66	0.66	1.00	0.00	1.00			
Uniform Delay (d), s/veh	32.5	2.7	0.0	0.0	13.6	13.1	15.5	0.0	16.9			
Incr Delay (d2), s/veh	5.7	0.4	0.0	0.0	3.3	5.2	1.1	0.0	4.3			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	2.8	3.2	0.0	0.0	8.4	6.8	6.4	0.0	8.6			
LnGrp Delay(d),s/veh	38.2	3.2	0.0	0.0	16.9	18.2	16.6	0.0	21.2			
LnGrp LOS	D	A			B	B	B		C			
Approach Vol, veh/h	1806			1779			1249					
Approach Delay, s/veh	5.5			17.2			18.3					
Approach LOS	A			B			B					
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4				7	8				
Phs Duration (G+Y+Rc), s	40.2		39.8				10.8	29.0				
Change Period (Y+Rc), s	4.0		4.0				4.0	4.0				
Max Green Setting (Gmax), s	31.0		41.0				10.0	27.0				
Max Q Clear Time (g_c+I1), s	19.8		10.2				7.2	19.9				
Green Ext Time (p_c), s	3.9		14.7				0.1	5.1				
Intersection Summary												
HCM 2010 Ctrl Delay	13.1											
HCM 2010 LOS	B											
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

9: Dexter Ave & Central Ave - SR-74

EX PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	439	1764	171	135	1291	75	95	108	169	59	68	355
Future Volume (veh/h)	439	1764	171	135	1291	75	95	108	169	59	68	355
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	448	1800	174	138	1317	77	97	110	172	60	69	362
Adj No. of Lanes	1	3	1	1	4	1	1	1	0	1	1	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	480	2112	658	173	1553	384	387	221	346	312	628	962
Arrive On Green	0.54	0.83	0.83	0.10	0.24	0.24	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	1774	5085	1583	1774	6408	1583	953	656	1026	1093	1863	1583
Grp Volume(v), veh/h	448	1800	174	138	1317	77	97	0	282	60	69	362
Grp Sat Flow(s),veh/h/ln	1774	1695	1583	1774	1602	1583	953	0	1682	1093	1863	1583
Q Serve(g_s), s	18.7	16.4	1.9	6.1	15.7	3.1	6.2	0.0	10.7	3.7	2.0	0.0
Cycle Q Clear(g_c), s	18.7	16.4	1.9	6.1	15.7	3.1	8.3	0.0	10.7	14.4	2.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.61	1.00		1.00
Lane Grp Cap(c), veh/h	480	2112	658	173	1553	384	387	0	567	312	628	962
V/C Ratio(X)	0.93	0.85	0.26	0.80	0.85	0.20	0.25	0.00	0.50	0.19	0.11	0.38
Avail Cap(c_a), veh/h	643	2352	732	266	1602	396	387	0	567	312	628	962
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.69	0.69	0.69	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.7	5.4	4.1	35.3	28.9	24.1	21.1	0.0	21.1	26.9	18.3	8.0
Incr Delay (d2), s/veh	13.2	2.1	0.1	9.1	4.4	0.3	1.5	0.0	3.1	1.4	0.4	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	7.1	0.8	3.4	7.4	1.4	1.8	0.0	5.4	1.2	1.1	4.3
LnGrp Delay(d),s/veh	30.8	7.4	4.3	44.4	33.3	24.4	22.7	0.0	24.2	28.2	18.6	9.1
LnGrp LOS	C	A	A	D	C	C	C		C	C	B	A
Approach Vol, veh/h	2422			1532			379			491		
Approach Delay, s/veh	11.5			33.8			23.8			12.8		
Approach LOS	B			C			C			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		31.0	11.8	37.2		31.0	25.7	23.4				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		19.0	12.0	37.0		19.0	29.0	20.0				
Max Q Clear Time (g_c+I1), s		12.7	8.1	18.4		16.4	20.7	17.7				
Green Ext Time (p_c), s		1.1	0.1	12.3		0.5	0.9	1.7				
Intersection Summary												
HCM 2010 Ctrl Delay	19.7											
HCM 2010 LOS	B											

10: Strickland Ave/Gunnerson St & Riverside Dr - SR-74

Intersection

Int Delay, s/veh 3.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	895	1	6	850	100	0	2	9	27	1	5
Future Vol, veh/h	1	895	1	6	850	100	0	2	9	27	1	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	Stop	-	-	Stop
Storage Length	100	-	-	100	-	-	-	-	50	-	-	50
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	984	1	7	934	110	0	2	10	30	1	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1044	0	0	985	0	0	1991	2045	985	1991	1990	989
Stage 1	-	-	-	-	-	-	987	987	-	1003	1003	-
Stage 2	-	-	-	-	-	-	1004	1058	-	988	987	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	666	-	-	701	-	-	45	56	301	45	61	299
Stage 1	-	-	-	-	-	-	298	325	-	292	320	-
Stage 2	-	-	-	-	-	-	291	301	-	297	325	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	666	-	-	701	-	-	43	55	301	42	60	299
Mov Cap-2 Maneuver	-	-	-	-	-	-	43	55	-	42	60	-
Stage 1	-	-	-	-	-	-	297	324	-	291	317	-
Stage 2	-	-	-	-	-	-	282	298	-	285	324	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0.1			27.5			180		
HCM LOS							D			F		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	55	301	666	-	-	701	-	-	42	299
HCM Lane V/C Ratio	0.04	0.033	0.002	-	-	0.009	-	-	0.733	0.018
HCM Control Delay (s)	73.2	17.4	10.4	-	-	10.2	-	-	209.1	17.3
HCM Lane LOS	F	C	B	-	-	B	-	-	F	C
HCM 95th %tile Q(veh)	0.1	0.1	0	-	-	0	-	-	2.8	0.1

HCM 2010 Signalized Intersection Summary
11: Lakeshore Dr & Riverside Dr - SR-74

EX PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	159	664	284	48	531	305	210	326	18	188	261	167
Future Volume (veh/h)	159	664	284	48	531	305	210	326	18	188	261	167
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	167	699	299	51	559	321	221	343	19	198	275	176
Adj No. of Lanes	1	2	1	1	1	1	1	2	0	1	2	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	201	1327	594	106	599	509	245	791	44	235	801	358
Arrive On Green	0.11	0.38	0.38	0.06	0.32	0.32	0.14	0.23	0.23	0.13	0.23	0.23
Sat Flow, veh/h	1774	3539	1583	1774	1863	1583	1774	3411	188	1774	3539	1583
Grp Volume(v), veh/h	167	699	299	51	559	321	221	177	185	198	275	176
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1830	1774	1770	1583
Q Serve(g_s), s	7.3	12.2	11.6	2.2	23.2	13.7	9.8	6.8	6.9	8.7	5.2	7.7
Cycle Q Clear(g_c), s	7.3	12.2	11.6	2.2	23.2	13.7	9.8	6.8	6.9	8.7	5.2	7.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.10	1.00		1.00
Lane Grp Cap(c), veh/h	201	1327	594	106	599	509	245	410	424	235	801	358
V/C Ratio(X)	0.83	0.53	0.50	0.48	0.93	0.63	0.90	0.43	0.44	0.84	0.34	0.49
Avail Cap(c_a), veh/h	201	1327	594	156	609	517	245	410	424	245	801	358
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.5	19.4	19.2	36.2	26.2	23.0	33.8	26.1	26.1	33.7	25.8	26.8
Incr Delay (d2), s/veh	24.7	0.4	0.7	3.4	21.5	2.4	32.6	3.3	3.2	21.7	1.2	4.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	6.0	5.2	1.2	15.4	6.3	7.0	3.7	3.8	5.7	2.7	3.8
LnGrp Delay(d),s/veh	59.3	19.8	19.8	39.6	47.7	25.4	66.4	29.4	29.3	55.4	27.0	31.6
LnGrp LOS	E	B	B	D	D	C	E	C	C	E	C	C
Approach Vol, veh/h	1165				931				583			
Approach Delay, s/veh	25.4				39.5				43.4			
Approach LOS	C				D				D			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.6	22.4	8.7	33.8	15.0	22.0	13.0	29.6				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	11.0	18.0	7.0	28.0	11.0	18.0	9.0	26.0				
Max Q Clear Time (g_c+l1), s	10.7	8.9	4.2	14.2	11.8	9.7	9.3	25.2				
Green Ext Time (p_c), s	0.0	1.2	0.0	4.6	0.0	1.4	0.0	0.4				
Intersection Summary												
HCM 2010 Ctrl Delay	34.8											
HCM 2010 LOS	C											

Intersection												
Int Delay, s/veh	33.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑			↱			↰	↱			
Traffic Vol, veh/h	93	299	0	0	148	99	158	2	94	0	0	0
Future Vol, veh/h	93	299	0	0	148	99	158	2	94	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	275	-	-	-	-	-	-	-	50	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	63	63	63	63	63	63	63	63	63	63	63	63
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	148	475	0	0	235	157	251	3	149	0	0	0

Major/Minor	Major1		Major2		Minor1		
Conflicting Flow All	392	0	-	-	-	0	1085
Stage 1	-	-	-	-	-	-	771
Stage 2	-	-	-	-	-	-	314
Critical Hdwy	4.12	-	-	-	-	-	6.42
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42
Follow-up Hdwy	2.218	-	-	-	-	-	3.518
Pot Cap-1 Maneuver	1167	-	0	0	-	-	~240
Stage 1	-	-	0	0	-	-	456
Stage 2	-	-	0	0	-	-	741
Platoon blocked, %	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1167	-	-	-	-	-	~210
Mov Cap-2 Maneuver	-	-	-	-	-	-	~210
Stage 1	-	-	-	-	-	-	398
Stage 2	-	-	-	-	-	-	741

Approach	EB	WB	NB
HCM Control Delay, s	2	0	116.2
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR
Capacity (veh/h)	210	590	1167	-	-	-
HCM Lane V/C Ratio	1.209	0.253	0.126	-	-	-
HCM Control Delay (s)	176.7	13.2	8.5	-	-	-
HCM Lane LOS	F	B	A	-	-	-
HCM 95th %tile Q(veh)	12.9	1	0.4	-	-	-

Notes			
~: Volume exceeds capacity	\$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	14.6
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑	↑	↑						↑	↑
Traffic Vol, veh/h	0	261	297	46	260	0	0	0	0	132	5	81
Future Vol, veh/h	0	261	297	46	260	0	0	0	0	132	5	81
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	318	362	56	317	0	0	0	0	161	6	99
Number of Lanes	0	1	1	1	1	0	0	0	0	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	2	2	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	2
HCM Control Delay	14.6	15.8	12.8
HCM LOS	B	C	B

Lane	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	100%	0%	96%	0%
Vol Thru, %	100%	0%	0%	100%	4%	0%
Vol Right, %	0%	100%	0%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	261	297	46	260	137	81
LT Vol	0	0	46	0	132	0
Through Vol	261	0	0	260	5	0
RT Vol	0	297	0	0	0	81
Lane Flow Rate	318	362	56	317	167	99
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.53	0.532	0.106	0.556	0.348	0.173
Departure Headway (Hd)	5.998	5.288	6.827	6.318	7.495	6.293
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	602	681	524	571	480	569
Service Time	3.746	3.035	4.582	4.073	5.248	4.046
HCM Lane V/C Ratio	0.528	0.532	0.107	0.555	0.348	0.174
HCM Control Delay	15.4	13.9	10.4	16.8	14.2	10.4
HCM Lane LOS	C	B	B	C	B	B
HCM 95th-tile Q	3.1	3.2	0.4	3.4	1.5	0.6

Intersection

Int Delay, s/veh 3.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	407	33	122	208	23	113
Future Vol, veh/h	407	33	122	208	23	113
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	135	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	468	38	140	239	26	130

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	506
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1059
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1059
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.3	14.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	232	581	-	-	1059	-
HCM Lane V/C Ratio	0.114	0.224	-	-	0.132	-
HCM Control Delay (s)	22.5	13	-	-	8.9	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	0.4	0.9	-	-	0.5	-

HCM 2010 Signalized Intersection Summary

4: Collier Ave - SR-74/Collier Ave & Riverside Dr - SR-74/Riverside Dr

EX AM Plus Project

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	73	7	812	4	2	0	663	71	12	3	90	54
Future Volume (veh/h)	73	7	812	4	2	0	663	71	12	3	90	54
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	75	7	837	4	2	0	684	73	12	3	93	56
Adj No. of Lanes	0	1	1	0	1	0	1	1	0	1	1	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	468	39	1100	226	94	0	763	671	110	189	199	169
Arrive On Green	0.26	0.26	0.26	0.26	0.26	0.00	0.43	0.43	0.43	0.11	0.11	0.11
Sat Flow, veh/h	1339	147	1583	479	356	0	1774	1561	257	1774	1863	1583
Grp Volume(v), veh/h	82	0	837	6	0	0	684	0	85	3	93	56
Grp Sat Flow(s),veh/h/ln	1486	0	1583	835	0	0	1774	0	1817	1774	1863	1583
Q Serve(g_s), s	0.0	0.0	16.0	0.0	0.0	0.0	21.6	0.0	1.7	0.1	2.8	2.0
Cycle Q Clear(g_c), s	2.1	0.0	16.0	2.1	0.0	0.0	21.6	0.0	1.7	0.1	2.8	2.0
Prop In Lane	0.91		1.00	0.67		0.00	1.00		0.14	1.00		1.00
Lane Grp Cap(c), veh/h	507	0	1100	320	0	0	763	0	782	189	199	169
V/C Ratio(X)	0.16	0.00	0.76	0.02	0.00	0.00	0.90	0.00	0.11	0.02	0.47	0.33
Avail Cap(c_a), veh/h	507	0	1100	320	0	0	763	0	782	470	493	419
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.1	0.0	5.3	16.4	0.0	0.0	16.0	0.0	10.3	24.2	25.4	25.0
Incr Delay (d2), s/veh	0.1	0.0	3.2	0.0	0.0	0.0	15.4	0.0	0.3	0.0	1.7	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	14.7	0.1	0.0	0.0	13.7	0.0	0.9	0.0	1.5	0.9
LnGrp Delay(d),s/veh	17.3	0.0	8.4	16.4	0.0	0.0	31.3	0.0	10.6	24.2	27.1	26.1
LnGrp LOS	B		A	B			C		B	C	C	C
Approach Vol, veh/h	919		6				769				152	
Approach Delay, s/veh	9.2		16.4				29.0				26.7	
Approach LOS	A		B				C				C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	30.0		20.0		10.5		20.0					
Change Period (Y+Rc), s	4.0		4.0		4.0		4.0					
Max Green Setting (Gmax), s	26.0		16.0		16.0		16.0					
Max Q Clear Time (g_c+I1), s	23.6		18.0		4.8		4.1					
Green Ext Time (p_c), s	0.8		0.0		0.4		0.0					
Intersection Summary												
HCM 2010 Ctrl Delay	18.9											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary 5: Collier Ave - SR-74 & Hunco Way

EX AM Plus Project

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	2	15	102	3	44	40	632	21	56	810	14
Future Volume (veh/h)	2	2	15	102	3	44	40	632	21	56	810	14
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	2	2	16	106	3	46	42	658	22	58	844	15
Adj No. of Lanes	0	1	0	1	1	1	1	2	1	1	2	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	93	35	172	343	249	212	112	1882	842	140	1950	35
Arrive On Green	0.13	0.13	0.13	0.13	0.13	0.13	0.06	0.53	0.53	0.08	0.55	0.55
Sat Flow, veh/h	63	259	1289	1389	1863	1583	1774	3539	1583	1774	3558	63
Grp Volume(v), veh/h	20	0	0	106	3	46	42	658	22	58	420	439
Grp Sat Flow(s),veh/h/ln	1611	0	0	1389	1863	1583	1774	1770	1583	1774	1770	1852
Q Serve(g_s), s	0.0	0.0	0.0	2.7	0.1	1.2	1.1	5.0	0.3	1.5	6.6	6.6
Cycle Q Clear(g_c), s	0.5	0.0	0.0	3.2	0.1	1.2	1.1	5.0	0.3	1.5	6.6	6.6
Prop In Lane	0.10		0.80	1.00		1.00	1.00		1.00	1.00		0.03
Lane Grp Cap(c), veh/h	300	0	0	343	249	212	112	1882	842	140	970	1015
V/C Ratio(X)	0.07	0.00	0.00	0.31	0.01	0.22	0.38	0.35	0.03	0.41	0.43	0.43
Avail Cap(c_a), veh/h	626	0	0	630	634	539	264	1882	842	264	970	1015
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.9	0.0	0.0	19.0	17.7	18.2	21.1	6.3	5.2	20.6	6.3	6.3
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.5	0.0	0.5	2.1	0.5	0.1	1.9	1.4	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.0	1.3	0.0	0.6	0.6	2.5	0.1	0.8	3.5	3.7
LnGrp Delay(d),s/veh	17.9	0.0	0.0	19.5	17.7	18.7	23.2	6.8	5.3	22.5	7.7	7.6
LnGrp LOS	B			B	B	B	C	A	A	C	A	A
Approach Vol, veh/h	20		155				722			917		
Approach Delay, s/veh	17.9		19.2				7.7			8.6		
Approach LOS	B		B				A			A		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	4		5	6	8					
Phs Duration (G+Y+Rc), s	7.7	29.0	10.3		7.0	29.8	10.3					
Change Period (Y+Rc), s	4.0	4.0	4.0		4.0	4.0	4.0					
Max Green Setting (Gmax), s	7.0	25.0	16.0		7.0	25.0	16.0					
Max Q Clear Time (g_c+I13), s	7.0	7.0	2.5		3.1	8.6	5.2					
Green Ext Time (p_c), s	0.0	3.8	0.0		0.0	4.5	0.3					
Intersection Summary												
HCM 2010 Ctrl Delay			9.3									
HCM 2010 LOS			A									

6: Collier Ave/Collier Ave - SR-74 & Central Ave/Central Ave - SR-74

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	48	77	31	560	256	621	19	49	299	805	58	32
Future Volume (veh/h)	48	77	31	560	256	621	19	49	299	805	58	32
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	54	87	35	629	288	698	21	55	336	904	65	36
Adj No. of Lanes	2	2	0	2	1	2	1	1	1	2	2	1
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	210	219	84	709	433	1274	58	524	772	774	1677	750
Arrive On Green	0.06	0.09	0.09	0.07	0.08	0.08	0.03	0.28	0.28	0.22	0.47	0.47
Sat Flow, veh/h	3442	2505	958	3442	1863	2787	1774	1863	1583	3442	3539	1583
Grp Volume(v), veh/h	54	60	62	629	288	698	21	55	336	904	65	36
Grp Sat Flow(s),veh/h/ln	1721	1770	1694	1721	1863	1393	1774	1863	1583	1721	1770	1583
Q Serve(g_s), s	1.2	2.6	2.8	14.5	12.0	14.3	0.9	1.7	5.9	18.0	0.8	1.0
Cycle Q Clear(g_c), s	1.2	2.6	2.8	14.5	12.0	14.3	0.9	1.7	5.9	18.0	0.8	1.0
Prop In Lane	1.00		0.57	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	210	155	148	709	433	1274	58	524	772	774	1677	750
V/C Ratio(X)	0.26	0.39	0.42	0.89	0.67	0.55	0.36	0.10	0.44	1.17	0.04	0.05
Avail Cap(c_a), veh/h	301	354	339	709	512	1393	155	524	772	774	1677	750
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.74	0.74	0.74	1.00	1.00	1.00	0.93	0.93	0.93
Uniform Delay (d), s/veh	35.8	34.5	34.6	36.4	33.9	18.8	37.9	21.3	4.8	31.0	11.3	11.3
Incr Delay (d2), s/veh	0.6	1.6	1.9	10.1	1.9	0.3	3.8	0.4	1.8	88.2	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	1.3	1.4	7.9	6.4	5.6	0.5	1.0	2.9	18.0	0.4	0.4
LnGrp Delay(d),s/veh	36.5	36.1	36.4	46.5	35.8	19.1	41.7	21.7	6.6	119.2	11.3	11.4
LnGrp LOS	D	D	D	D	D	B	D	C	A	F	B	B
Approach Vol, veh/h	176		1615				412		1005			
Approach Delay, s/veh	36.3		32.7				10.4		108.4			
Approach LOS	D		C				B		F			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	22.0	26.5	20.5	11.0	6.6	41.9	8.9	22.6				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	18.0	17.0	13.0	16.0	7.0	28.0	7.0	22.0				
Max Q Clear Time (g_c+20), s	20.0	7.9	16.5	4.8	2.9	3.0	3.2	16.3				
Green Ext Time (p_c), s	0.0	1.0	0.0	0.4	0.0	0.4	0.0	2.3				
Intersection Summary												
HCM 2010 Ctrl Delay			53.8									
HCM 2010 LOS			D									

HCM 2010 Signalized Intersection Summary
7: I-15 SB Ramps & Central Ave - SR-74

EX AM Plus Project

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗	↗↗	↑↑					↗	↕	↗
Traffic Volume (veh/h)	0	621	580	675	1371	0	0	0	0	240	6	180
Future Volume (veh/h)	0	621	580	675	1371	0	0	0	0	240	6	180
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1863	1863	1863	0				1863	1863	1863
Adj Flow Rate, veh/h	0	647	604	703	1428	0				311	0	127
Adj No. of Lanes	0	2	1	2	2	0				2	0	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96				0.96	0.96	0.96
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1239	554	793	2232	0				956	0	427
Arrive On Green	0.00	0.12	0.12	0.46	1.00	0.00				0.27	0.00	0.27
Sat Flow, veh/h	0	3632	1583	3442	3632	0				3548	0	1583
Grp Volume(v), veh/h	0	647	604	703	1428	0				311	0	127
Grp Sat Flow(s),veh/h/ln	0	1770	1583	1721	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	13.8	28.0	14.9	0.0	0.0				5.6	0.0	5.1
Cycle Q Clear(g_c), s	0.0	13.8	28.0	14.9	0.0	0.0				5.6	0.0	5.1
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1239	554	793	2232	0				956	0	427
V/C Ratio(X)	0.00	0.52	1.09	0.89	0.64	0.00				0.33	0.00	0.30
Avail Cap(c_a), veh/h	0	1239	554	989	2433	0				956	0	427
HCM Platoon Ratio	1.00	0.33	0.33	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.43	0.43	0.54	0.54	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	29.1	35.4	20.6	0.0	0.0				23.4	0.0	23.2
Incr Delay (d2), s/veh	0.0	0.2	53.2	4.7	0.3	0.0				0.9	0.0	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	6.8	20.5	7.4	0.1	0.0				2.9	0.0	2.4
LnGrp Delay(d),s/veh	0.0	29.3	88.6	25.3	0.3	0.0				24.3	0.0	25.0
LnGrp LOS		C	F	C	A					C		C
Approach Vol, veh/h	1251					2131				438		
Approach Delay, s/veh	57.9					8.5				24.5		
Approach LOS	E					A				C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4	6		8					
Phs Duration (G+Y+Rc), s			22.4	32.0	25.6		54.4					
Change Period (Y+Rc), s			4.0	4.0	4.0		4.0					
Max Green Setting (Gmax), s			23.0	28.0	17.0		55.0					
Max Q Clear Time (g_c+I1), s			16.9	30.0	7.6		2.0					
Green Ext Time (p_c), s			1.6	0.0	1.1		16.9					
Intersection Summary												
HCM 2010 Ctrl Delay			26.5									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary 8: I-15 NB Ramps & Central Ave - SR-74

EX AM Plus Project

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	62	815	0	0	1538	453	550	0	565	0	0	0
Future Volume (veh/h)	62	815	0	0	1538	453	550	0	565	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1863	1863	1863			
Adj Flow Rate, veh/h	67	876	0	0	1654	487	783	0	402			
Adj No. of Lanes	1	3	0	0	3	1	2	0	1			
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	120	2476	0	0	1877	584	1466	0	654			
Arrive On Green	0.14	0.97	0.00	0.00	0.74	0.74	0.41	0.00	0.41			
Sat Flow, veh/h	1774	5253	0	0	5253	1583	3548	0	1583			
Grp Volume(v), veh/h	67	876	0	0	1654	487	783	0	402			
Grp Sat Flow(s),veh/h/ln	1774	1695	0	0	1695	1583	1774	0	1583			
Q Serve(g_s), s	2.8	0.6	0.0	0.0	19.5	16.7	13.3	0.0	16.0			
Cycle Q Clear(g_c), s	2.8	0.6	0.0	0.0	19.5	16.7	13.3	0.0	16.0			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	120	2476	0	0	1877	584	1466	0	654			
V/C Ratio(X)	0.56	0.35	0.00	0.00	0.88	0.83	0.53	0.00	0.61			
Avail Cap(c_a), veh/h	155	2733	0	0	2034	633	1466	0	654			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(I)	0.82	0.82	0.00	0.00	0.65	0.65	1.00	0.00	1.00			
Uniform Delay (d), s/veh	33.5	0.5	0.0	0.0	9.2	8.8	17.7	0.0	18.5			
Incr Delay (d2), s/veh	3.3	0.1	0.0	0.0	3.1	5.9	1.4	0.0	4.3			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	1.5	0.2	0.0	0.0	9.1	7.7	6.8	0.0	7.7			
LnGrp Delay(d),s/veh	36.7	0.6	0.0	0.0	12.3	14.7	19.1	0.0	22.7			
LnGrp LOS	D	A			B	B	B		C			
Approach Vol, veh/h		943			2141			1185				
Approach Delay, s/veh		3.2			12.8			20.3				
Approach LOS		A			B			C				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		37.1		42.9			9.4	33.5				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		29.0		43.0			7.0	32.0				
Max Q Clear Time (g_c+I1), s		18.0		2.6			4.8	21.5				
Green Ext Time (p_c), s		3.7		6.5			0.0	8.0				
Intersection Summary												
HCM 2010 Ctrl Delay				12.8								
HCM 2010 LOS				B								
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

9: Dexter Ave & Central Ave - SR-74

EX AM Plus Project

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	324	952	107	122	1456	172	84	133	94	72	91	454
Future Volume (veh/h)	324	952	107	122	1456	172	84	133	94	72	91	454
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	356	1046	118	134	1600	189	92	146	103	79	100	499
Adj No. of Lanes	1	3	1	1	4	1	1	1	0	1	1	1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	391	2125	662	169	1876	463	334	343	242	344	628	882
Arrive On Green	0.44	0.84	0.84	0.10	0.29	0.29	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	1774	5085	1583	1774	6408	1583	816	1018	718	1126	1863	1583
Grp Volume(v), veh/h	356	1046	118	134	1600	189	92	0	249	79	100	499
Grp Sat Flow(s),veh/h/ln	1774	1695	1583	1774	1602	1583	816	0	1736	1126	1863	1583
Q Serve(g_s), s	15.0	4.6	1.2	5.9	18.8	7.7	7.1	0.0	8.9	4.7	3.0	16.3
Cycle Q Clear(g_c), s	15.0	4.6	1.2	5.9	18.8	7.7	10.1	0.0	8.9	13.6	3.0	16.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.41	1.00		1.00
Lane Grp Cap(c), veh/h	391	2125	662	169	1876	463	334	0	585	344	628	882
V/C Ratio(X)	0.91	0.49	0.18	0.79	0.85	0.41	0.28	0.00	0.43	0.23	0.16	0.57
Avail Cap(c_a), veh/h	532	2288	712	266	1922	475	334	0	585	344	628	882
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.92	0.92	0.92	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.6	4.2	3.9	35.4	26.7	22.7	22.1	0.0	20.5	25.8	18.6	11.4
Incr Delay (d2), s/veh	15.1	0.2	0.1	8.4	3.9	0.6	2.0	0.0	2.3	1.5	0.5	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.8	2.0	0.5	3.3	8.8	3.4	1.8	0.0	4.6	1.6	1.7	7.6
LnGrp Delay(d),s/veh	36.7	4.4	4.0	43.8	30.5	23.3	24.2	0.0	22.8	27.3	19.1	14.1
LnGrp LOS	D	A	A	D	C	C	C		C	C	B	B
Approach Vol, veh/h	1520			1923			341			678		
Approach Delay, s/veh	11.9			30.8			23.2			16.4		
Approach LOS	B			C			C			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		31.0	11.6	37.4		31.0	21.6	27.4				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		20.0	12.0	36.0		20.0	24.0	24.0				
Max Q Clear Time (g_c+I1), s		12.1	7.9	6.6		18.3	17.0	20.8				
Green Ext Time (p_c), s		1.2	0.1	8.2		0.5	0.6	2.6				
Intersection Summary												
HCM 2010 Ctrl Delay	21.6											
HCM 2010 LOS	C											

Intersection												
Int Delay, s/veh	2.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	869	24	6	498	24	1	2	8	36	4	4
Future Vol, veh/h	6	869	24	6	498	24	1	2	8	36	4	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	Stop	-	-	Stop
Storage Length	100	-	-	100	-	-	-	-	50	-	-	50
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	915	25	6	524	25	1	2	8	38	4	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	549	0	0	940	0	0	1491	1501	928	1490	1501	537
Stage 1	-	-	-	-	-	-	940	940	-	549	549	-
Stage 2	-	-	-	-	-	-	551	561	-	941	952	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1021	-	-	729	-	-	102	122	325	102	122	544
Stage 1	-	-	-	-	-	-	316	342	-	520	516	-
Stage 2	-	-	-	-	-	-	519	510	-	316	338	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1021	-	-	729	-	-	97	120	325	97	120	544
Mov Cap-2 Maneuver	-	-	-	-	-	-	97	120	-	97	120	-
Stage 1	-	-	-	-	-	-	314	340	-	517	512	-
Stage 2	-	-	-	-	-	-	507	506	-	304	336	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.1			22.4			61		
HCM LOS							C			F		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	111	325	1021	-	-	729	-	-	99	544
HCM Lane V/C Ratio	0.028	0.026	0.006	-	-	0.009	-	-	0.425	0.008
HCM Control Delay (s)	38.4	16.4	8.5	-	-	10	-	-	65.9	11.7
HCM Lane LOS	E	C	A	-	-	A	-	-	F	B
HCM 95th %tile Q(veh)	0.1	0.1	0	-	-	0	-	-	1.8	0

HCM 2010 Signalized Intersection Summary
11: Lakeshore Dr & Riverside Dr - SR-74

EX AM Plus Project

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	126	487	226	24	399	132	158	150	18	198	178	93
Future Volume (veh/h)	126	487	226	24	399	132	158	150	18	198	178	93
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	131	507	235	25	416	138	165	156	19	206	185	97
Adj No. of Lanes	1	2	1	1	1	1	1	2	0	1	2	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	174	1123	502	70	481	409	206	807	97	251	988	442
Arrive On Green	0.10	0.32	0.32	0.04	0.26	0.26	0.12	0.25	0.25	0.14	0.28	0.28
Sat Flow, veh/h	1774	3539	1583	1774	1863	1583	1774	3183	382	1774	3539	1583
Grp Volume(v), veh/h	131	507	235	25	416	138	165	86	89	206	185	97
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1795	1774	1770	1583
Q Serve(g_s), s	4.6	7.4	7.7	0.9	13.7	4.6	5.8	2.5	2.5	7.3	2.6	3.0
Cycle Q Clear(g_c), s	4.6	7.4	7.7	0.9	13.7	4.6	5.8	2.5	2.5	7.3	2.6	3.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.21	1.00		1.00
Lane Grp Cap(c), veh/h	174	1123	502	70	481	409	206	449	455	251	988	442
V/C Ratio(X)	0.75	0.45	0.47	0.36	0.86	0.34	0.80	0.19	0.20	0.82	0.19	0.22
Avail Cap(c_a), veh/h	220	1123	502	193	549	467	248	449	455	303	988	442
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.3	17.5	17.6	30.2	22.8	19.4	27.8	18.9	18.9	26.9	17.7	17.8
Incr Delay (d2), s/veh	10.5	0.3	0.7	3.1	12.3	0.5	14.5	0.9	1.0	13.9	0.4	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	3.6	3.4	0.5	8.7	2.0	3.7	1.3	1.4	4.5	1.3	1.4
LnGrp Delay(d),s/veh	38.8	17.8	18.3	33.3	35.2	19.9	42.3	19.8	19.9	40.8	18.1	19.0
LnGrp LOS	D	B	B	C	D	B	D	B	B	D	B	B
Approach Vol, veh/h		873			579			340			488	
Approach Delay, s/veh		21.1			31.4			30.7			27.8	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.1	20.3	6.5	24.5	11.5	22.0	10.3	20.6				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	11.0	16.0	7.0	20.0	9.0	18.0	8.0	19.0				
Max Q Clear Time (g_c+I1), s	9.3	4.5	2.9	9.7	7.8	5.0	6.6	15.7				
Green Ext Time (p_c), s	0.1	0.6	0.0	2.8	0.0	1.0	0.0	0.9				
Intersection Summary												
HCM 2010 Ctrl Delay				26.6								
HCM 2010 LOS				C								

HCM 2010 TWSC
1: I-15 NB Ramps & Nichols Rd

EX PM

Intersection												
Int Delay, s/veh	13.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	149	158	0	0	99	47	283	3	25	0	0	0
Future Vol, veh/h	149	158	0	0	99	47	283	3	25	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	275	-	-	-	-	-	-	-	50	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	154	163	0	0	102	48	292	3	26	0	0	0
Major/Minor	Major1			Major2			Minor1					
Conflicting Flow All	150	0	-	-	-	0	597	621	163			
Stage 1	-	-	-	-	-	-	471	471	-			
Stage 2	-	-	-	-	-	-	126	150	-			
Critical Hdwy	4.12	-	-	-	-	-	6.42	6.52	6.22			
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-			
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-			
Follow-up Hdwy	2.218	-	-	-	-	-	3.518	4.018	3.318			
Pot Cap-1 Maneuver	1431	-	0	0	-	-	466	403	882			
Stage 1	-	-	0	0	-	-	628	560	-			
Stage 2	-	-	0	0	-	-	900	773	-			
Platoon blocked, %		-			-	-						
Mov Cap-1 Maneuver	1431	-	-	-	-	-	416	0	882			
Mov Cap-2 Maneuver	-	-	-	-	-	-	416	0	-			
Stage 1	-	-	-	-	-	-	560	0	-			
Stage 2	-	-	-	-	-	-	900	0	-			
Approach	EB			WB			NB					
HCM Control Delay, s	3.8			0			30.3					
HCM LOS							D					
Minor Lane/Major Mvmt	NBLn1 NBLn2		EBL	EBT	WBT	WBR						
Capacity (veh/h)	416 882		1431	-	-	-						
HCM Lane V/C Ratio	0.709 0.029		0.107	-	-	-						
HCM Control Delay (s)	32.1 9.2		7.8	-	-	-						
HCM Lane LOS	D A		A	-	-	-						
HCM 95th %tile Q(veh)	5.4 0.1		0.4	-	-	-						

Intersection	
Intersection Delay, s/veh	13.4
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑	↑	↑						↑	↑
Traffic Vol, veh/h	0	241	281	22	361	0	0	0	0	69	2	161
Future Vol, veh/h	0	241	281	22	361	0	0	0	0	69	2	161
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	246	287	22	368	0	0	0	0	70	2	164
Number of Lanes	0	1	1	1	1	0	0	0	0	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	2	2	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	2
HCM Control Delay	11.8	16.9	11.1
HCM LOS	B	C	B

Lane	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	100%	0%	97%	0%
Vol Thru, %	100%	0%	0%	100%	3%	0%
Vol Right, %	0%	100%	0%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	241	281	22	361	71	161
LT Vol	0	0	22	0	69	0
Through Vol	241	0	0	361	2	0
RT Vol	0	281	0	0	0	161
Lane Flow Rate	246	287	22	368	72	164
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.396	0.405	0.04	0.606	0.146	0.276
Departure Headway (Hd)	5.798	5.089	6.434	5.927	7.244	6.04
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	620	708	557	608	495	595
Service Time	3.533	2.823	4.172	3.665	4.986	3.781
HCM Lane V/C Ratio	0.397	0.405	0.039	0.605	0.145	0.276
HCM Control Delay	12.3	11.3	9.4	17.4	11.2	11.1
HCM Lane LOS	B	B	A	C	B	B
HCM 95th-tile Q	1.9	2	0.1	4.1	0.5	1.1

Intersection						
Int Delay, s/veh	7.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	216	59	229	287	84	252
Future Vol, veh/h	216	59	229	287	84	252
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	135	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	235	64	249	312	91	274
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	299	0	1077	267
Stage 1	-	-	-	-	267	-
Stage 2	-	-	-	-	810	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1262	-	242	772
Stage 1	-	-	-	-	778	-
Stage 2	-	-	-	-	438	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1262	-	194	772
Mov Cap-2 Maneuver	-	-	-	-	194	-
Stage 1	-	-	-	-	625	-
Stage 2	-	-	-	-	438	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		3.8		18.9	
HCM LOS	C					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	194	772	-	-	1262	-
HCM Lane V/C Ratio	0.471	0.355	-	-	0.197	-
HCM Control Delay (s)	39	12.2	-	-	8.6	-
HCM Lane LOS	E	B	-	-	A	-
HCM 95th %tile Q(veh)	2.3	1.6	-	-	0.7	-

4: Collier Ave - SR-74/Collier Ave & Riverside Dr - SR-74/Riverside Dr

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	93	12	872	24	17	12	920	223	15	4	233	110
Future Volume (veh/h)	93	12	872	24	17	12	920	223	15	4	233	110
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	98	13	918	25	18	13	968	235	16	4	245	116
Adj No. of Lanes	0	1	1	0	1	0	1	1	0	1	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	296	35	1120	105	72	35	931	905	62	276	290	247
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	0.52	0.52	0.52	0.16	0.16	0.16
Sat Flow, veh/h	1198	190	1583	251	392	194	1774	1725	117	1774	1863	1583
Grp Volume(v), veh/h	111	0	918	56	0	0	968	0	251	4	245	116
Grp Sat Flow(s),veh/h/ln	1388	0	1583	837	0	0	1774	0	1842	1774	1863	1583
Q Serve(g_s), s	0.0	0.0	16.0	0.3	0.0	0.0	46.0	0.0	6.6	0.2	11.2	5.9
Cycle Q Clear(g_c), s	6.4	0.0	16.0	6.7	0.0	0.0	46.0	0.0	6.6	0.2	11.2	5.9
Prop In Lane	0.88		1.00	0.45		0.23	1.00		0.06	1.00		1.00
Lane Grp Cap(c), veh/h	331	0	1120	212	0	0	931	0	967	276	290	247
V/C Ratio(X)	0.34	0.00	0.82	0.26	0.00	0.00	1.04	0.00	0.26	0.01	0.84	0.47
Avail Cap(c_a), veh/h	331	0	1120	212	0	0	931	0	967	324	340	289
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.9	0.0	6.1	30.3	0.0	0.0	20.8	0.0	11.5	31.3	36.0	33.7
Incr Delay (d2), s/veh	0.6	0.0	4.9	0.7	0.0	0.0	40.3	0.0	0.7	0.0	15.4	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	0.0	23.5	1.2	0.0	0.0	32.7	0.0	3.5	0.1	7.0	2.6
LnGrp Delay(d),s/veh	32.5	0.0	11.0	31.0	0.0	0.0	61.2	0.0	12.1	31.3	51.4	35.1
LnGrp LOS	C		B	C			F		B	C	D	D
Approach Vol, veh/h	1029			56			1219			365		
Approach Delay, s/veh	13.4			31.0			51.1			46.0		
Approach LOS	B			C			D			D		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	50.0		20.0		17.7		20.0					
Change Period (Y+Rc), s	4.0		4.0		4.0		4.0					
Max Green Setting (Gmax), s	46.0		16.0		16.0		16.0					
Max Q Clear Time (g_c+l1), s	48.0		18.0		13.2		8.7					
Green Ext Time (p_c), s	0.0		0.0		0.5		0.1					
Intersection Summary												
HCM 2010 Ctrl Delay	35.4											
HCM 2010 LOS	D											

HCM 2010 Signalized Intersection Summary

5: Collier Ave - SR-74 & Hunco Way

EX PM

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↑	↔	↔	↑↑	↔	↔	↑↑	
Traffic Volume (veh/h)	20	5	49	262	3	112	44	950	25	104	1014	12
Future Volume (veh/h)	20	5	49	262	3	112	44	950	25	104	1014	12
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	21	5	52	279	3	119	47	1011	27	111	1079	13
Adj No. of Lanes	0	1	0	1	1	1	1	2	1	1	2	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	144	62	243	463	436	371	116	1560	698	186	1719	21
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	0.07	0.44	0.44	0.10	0.48	0.48
Sat Flow, veh/h	254	265	1039	1341	1863	1583	1774	3539	1583	1774	3582	43
Grp Volume(v), veh/h	78	0	0	279	3	119	47	1011	27	111	533	559
Grp Sat Flow(s),veh/h/ln	1559	0	0	1341	1863	1583	1774	1770	1583	1774	1770	1855
Q Serve(g_s), s	0.0	0.0	0.0	8.1	0.1	3.4	1.4	12.2	0.5	3.3	12.2	12.2
Cycle Q Clear(g_c), s	2.0	0.0	0.0	10.1	0.1	3.4	1.4	12.2	0.5	3.3	12.2	12.2
Prop In Lane	0.27		0.67	1.00		1.00	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	449	0	0	463	436	371	116	1560	698	186	849	890
V/C Ratio(X)	0.17	0.00	0.00	0.60	0.01	0.32	0.41	0.65	0.04	0.60	0.63	0.63
Avail Cap(c_a), veh/h	566	0	0	567	582	494	228	1560	698	228	849	890
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.7	0.0	0.0	19.6	16.0	17.3	24.4	11.9	8.7	23.3	10.5	10.5
Incr Delay (d2), s/veh	0.2	0.0	0.0	1.3	0.0	0.5	2.3	2.1	0.1	3.1	3.5	3.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	0.0	4.1	0.0	1.5	0.8	6.4	0.3	1.7	6.7	7.0
LnGrp Delay(d),s/veh	16.9	0.0	0.0	20.9	16.0	17.8	26.7	14.0	8.8	26.4	14.0	13.9
LnGrp LOS	B			C	B	B	C	B	A	C	B	B
Approach Vol, veh/h	78			401			1085			1203		
Approach Delay, s/veh	16.9			19.9			14.4			15.1		
Approach LOS	B			B			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.7	28.0		16.7	7.6	30.1		16.7				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	7.0	24.0		17.0	7.0	24.0		17.0				
Max Q Clear Time (g_c+1/3), s	14.2	14.2		4.0	3.4	14.2		12.1				
Green Ext Time (p_c), s	0.0	4.4		0.3	0.0	4.5		0.6				
Intersection Summary												
HCM 2010 Ctrl Delay	15.6											
HCM 2010 LOS	B											

6: Collier Ave/Collier Ave - SR-74 & Central Ave/Central Ave - SR-74

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	191	353	37	257	181	731	40	128	364	1023	143	33
Future Volume (veh/h)	191	353	37	257	181	731	40	128	364	1023	143	33
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	205	380	40	276	195	786	43	138	391	1100	154	35
Adj No. of Lanes	2	2	0	2	1	2	1	1	1	2	2	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	298	512	54	301	297	1280	96	474	541	1032	1771	792
Arrive On Green	0.09	0.16	0.16	0.03	0.05	0.05	0.05	0.25	0.25	0.30	0.50	0.50
Sat Flow, veh/h	3442	3234	339	3442	1863	2787	1774	1863	1583	3442	3539	1583
Grp Volume(v), veh/h	205	207	213	276	195	786	43	138	391	1100	154	35
Grp Sat Flow(s),veh/h/ln	1721	1770	1803	1721	1863	1393	1774	1863	1583	1721	1770	1583
Q Serve(g_s), s	4.6	8.9	9.0	6.4	8.2	8.5	1.9	4.8	17.3	24.0	1.8	0.6
Cycle Q Clear(g_c), s	4.6	8.9	9.0	6.4	8.2	8.5	1.9	4.8	17.3	24.0	1.8	0.6
Prop In Lane	1.00		0.19	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	298	280	285	301	297	1280	96	474	541	1032	1771	792
V/C Ratio(X)	0.69	0.74	0.75	0.92	0.66	0.61	0.45	0.29	0.72	1.07	0.09	0.04
Avail Cap(c_a), veh/h	301	354	361	301	373	1393	155	474	541	1032	1771	792
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.79	0.79	0.79	1.00	1.00	1.00	0.76	0.76	0.76
Uniform Delay (d), s/veh	35.5	32.1	32.1	38.6	35.8	6.9	36.7	24.0	23.0	28.0	10.4	4.0
Incr Delay (d2), s/veh	6.4	6.0	6.3	26.5	2.3	0.6	3.3	1.6	8.1	43.9	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	4.8	5.0	4.2	4.4	3.4	1.0	2.7	8.7	17.6	0.9	0.3
LnGrp Delay(d),s/veh	41.9	38.1	38.5	65.0	38.1	7.4	40.0	25.6	31.2	71.9	10.5	4.1
LnGrp LOS	D	D	D	E	D	A	D	C	C	F	B	A
Approach Vol, veh/h	625				1257				572		1289	
Approach Delay, s/veh	39.5				24.8				30.5		62.7	
Approach LOS	D				C				C		E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	38.0	24.3	11.0	16.7	8.3	44.0	10.9	16.7				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	24.0	17.0	7.0	16.0	7.0	34.0	7.0	16.0				
Max Q Clear Time (g_c+20), s	20.0	19.3	8.4	11.0	3.9	3.8	6.6	10.5				
Green Ext Time (p_c), s	0.0	0.0	0.0	1.0	0.0	1.0	0.0	2.2				
Intersection Summary												
HCM 2010 Ctrl Delay			41.2									
HCM 2010 LOS			D									

HCM 2010 Signalized Intersection Summary

7: I-15 SB Ramps & Central Ave - SR-74

EX PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑↑	↑↑					↑	↑↑	↑
Traffic Volume (veh/h)	0	1179	599	599	1350	0	0	0	0	574	0	145
Future Volume (veh/h)	0	1179	599	599	1350	0	0	0	0	574	0	145
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1863	1863	1863	0				1863	1863	1863
Adj Flow Rate, veh/h	0	1203	611	611	1378	0				632	0	99
Adj No. of Lanes	0	2	1	2	2	0				2	0	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98				0.98	0.98	0.98
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1371	614	680	2247	0				940	0	420
Arrive On Green	0.00	0.13	0.13	0.39	1.00	0.00				0.27	0.00	0.27
Sat Flow, veh/h	0	3632	1583	3442	3632	0				3548	0	1583
Grp Volume(v), veh/h	0	1203	611	611	1378	0				632	0	99
Grp Sat Flow(s),veh/h/ln	0	1770	1583	1721	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	26.7	30.9	13.3	0.0	0.0				12.7	0.0	3.9
Cycle Q Clear(g_c), s	0.0	26.7	30.9	13.3	0.0	0.0				12.7	0.0	3.9
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1371	614	680	2247	0				940	0	420
V/C Ratio(X)	0.00	0.88	1.00	0.90	0.61	0.00				0.67	0.00	0.24
Avail Cap(c_a), veh/h	0	1371	614	731	2300	0				940	0	420
HCM Platoon Ratio	1.00	0.33	0.33	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.43	0.43	0.58	0.58	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	33.0	34.8	23.5	0.0	0.0				26.3	0.0	23.0
Incr Delay (d2), s/veh	0.0	3.1	22.7	8.5	0.3	0.0				3.8	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	13.7	17.4	7.1	0.1	0.0				6.7	0.0	1.9
LnGrp Delay(d),s/veh	0.0	36.1	57.5	31.9	0.3	0.0				30.1	0.0	24.4
LnGrp LOS		D	E	C	A					C		C
Approach Vol, veh/h		1814			1989						731	
Approach Delay, s/veh		43.3			10.0						29.3	
Approach LOS		D			B						C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			19.8	35.0		25.2		54.8				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			17.0	31.0		20.0		52.0				
Max Q Clear Time (g_c+I1), s			15.3	32.9		14.7		2.0				
Green Ext Time (p_c), s			0.5	0.0		1.4		15.6				
Intersection Summary												
HCM 2010 Ctrl Delay			26.4									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

8: I-15 NB Ramps & Central Ave - SR-74

EX PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	120	1663	0	0	1368	386	549	0	723	0	0	0
Future Volume (veh/h)	120	1663	0	0	1368	386	549	0	723	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1863	1863	1863			
Adj Flow Rate, veh/h	122	1697	0	0	1396	394	817	0	462			
Adj No. of Lanes	1	3	0	0	3	1	2	0	1			
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	152	2288	0	0	1598	497	1597	0	713			
Arrive On Green	0.17	0.90	0.00	0.00	0.63	0.63	0.45	0.00	0.45			
Sat Flow, veh/h	1774	5253	0	0	5253	1583	3548	0	1583			
Grp Volume(v), veh/h	122	1697	0	0	1396	394	817	0	462			
Grp Sat Flow(s),veh/h/ln	1774	1695	0	0	1695	1583	1774	0	1583			
Q Serve(g_s), s	5.3	8.0	0.0	0.0	18.1	14.7	13.2	0.0	18.1			
Cycle Q Clear(g_c), s	5.3	8.0	0.0	0.0	18.1	14.7	13.2	0.0	18.1			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	152	2288	0	0	1598	497	1597	0	713			
V/C Ratio(X)	0.80	0.74	0.00	0.00	0.87	0.79	0.51	0.00	0.65			
Avail Cap(c_a), veh/h	222	2606	0	0	1716	534	1597	0	713			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(I)	0.43	0.43	0.00	0.00	0.65	0.65	1.00	0.00	1.00			
Uniform Delay (d), s/veh	32.5	2.6	0.0	0.0	13.6	12.9	15.7	0.0	17.1			
Incr Delay (d2), s/veh	5.7	0.4	0.0	0.0	3.4	5.0	1.2	0.0	4.5			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	2.8	3.2	0.0	0.0	8.5	6.8	6.6	0.0	8.7			
LnGrp Delay(d),s/veh	38.1	3.0	0.0	0.0	16.9	17.9	16.9	0.0	21.6			
LnGrp LOS	D	A			B	B	B		C			
Approach Vol, veh/h	1819			1790			1279					
Approach Delay, s/veh	5.4			17.1			18.6					
Approach LOS	A			B			B					
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4				7	8				
Phs Duration (G+Y+Rc), s	40.0		40.0				10.9	29.1				
Change Period (Y+Rc), s	4.0		4.0				4.0	4.0				
Max Green Setting (Gmax), s	31.0		41.0				10.0	27.0				
Max Q Clear Time (g_c+I1), s	20.1		10.0				7.3	20.1				
Green Ext Time (p_c), s	3.9		14.9				0.1	5.0				
Intersection Summary												
HCM 2010 Ctrl Delay	13.2											
HCM 2010 LOS	B											
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

9: Dexter Ave & Central Ave - SR-74

EX PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	439	1775	172	135	1303	76	95	109	170	60	69	355
Future Volume (veh/h)	439	1775	172	135	1303	76	95	109	170	60	69	355
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	448	1811	176	138	1330	78	97	111	173	61	70	362
Adj No. of Lanes	1	3	1	1	4	1	1	1	0	1	1	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	480	2116	659	173	1558	385	385	221	344	310	626	961
Arrive On Green	0.54	0.83	0.83	0.10	0.24	0.24	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	1774	5085	1583	1774	6408	1583	952	657	1025	1091	1863	1583
Grp Volume(v), veh/h	448	1811	176	138	1330	78	97	0	284	61	70	362
Grp Sat Flow(s),veh/h/ln	1774	1695	1583	1774	1602	1583	952	0	1682	1091	1863	1583
Q Serve(g_s), s	18.7	16.6	1.9	6.1	15.9	3.1	6.3	0.0	10.8	3.8	2.1	0.0
Cycle Q Clear(g_c), s	18.7	16.6	1.9	6.1	15.9	3.1	8.3	0.0	10.8	14.6	2.1	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.61	1.00		1.00
Lane Grp Cap(c), veh/h	480	2116	659	173	1558	385	385	0	565	310	626	961
V/C Ratio(X)	0.93	0.86	0.27	0.80	0.85	0.20	0.25	0.00	0.50	0.20	0.11	0.38
Avail Cap(c_a), veh/h	643	2352	732	266	1602	396	385	0	565	310	626	961
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.68	0.68	0.68	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.7	5.3	4.1	35.3	28.9	24.1	21.2	0.0	21.2	27.0	18.3	8.0
Incr Delay (d2), s/veh	13.0	2.1	0.1	9.1	4.6	0.3	1.6	0.0	3.2	1.4	0.4	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	7.1	0.8	3.4	7.5	1.4	1.8	0.0	5.5	1.3	1.1	4.3
LnGrp Delay(d),s/veh	30.7	7.4	4.2	44.4	33.5	24.4	22.7	0.0	24.4	28.4	18.7	9.1
LnGrp LOS	C	A	A	D	C	C	C		C	C	B	A
Approach Vol, veh/h	2435			1546			381			493		
Approach Delay, s/veh	11.5			34.0			24.0			12.9		
Approach LOS	B			C			C			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		30.9	11.8	37.3		30.9	25.7	23.4				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		19.0	12.0	37.0		19.0	29.0	20.0				
Max Q Clear Time (g_c+I1), s		12.8	8.1	18.6		16.6	20.7	17.9				
Green Ext Time (p_c), s		1.1	0.1	12.3		0.5	0.9	1.6				
Intersection Summary												
HCM 2010 Ctrl Delay	19.8											
HCM 2010 LOS	B											

10: Strickland Ave/Gunnerson St & Riverside Dr - SR-74

Intersection												
Int Delay, s/veh	3.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	906	1	6	861	100	0	2	9	27	1	5
Future Vol, veh/h	1	906	1	6	861	100	0	2	9	27	1	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	Stop	-	-	Stop
Storage Length	100	-	-	100	-	-	-	-	50	-	-	50
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	996	1	7	946	110	0	2	10	30	1	5
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1056	0	0	997	0	0	2015	2069	997	2015	2014	1001
Stage 1	-	-	-	-	-	-	999	999	-	1015	1015	-
Stage 2	-	-	-	-	-	-	1016	1070	-	1000	999	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	659	-	-	694	-	-	44	54	296	44	59	295
Stage 1	-	-	-	-	-	-	293	321	-	287	316	-
Stage 2	-	-	-	-	-	-	287	298	-	293	321	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	659	-	-	694	-	-	42	53	296	41	58	295
Mov Cap-2 Maneuver	-	-	-	-	-	-	42	53	-	41	58	-
Stage 1	-	-	-	-	-	-	292	320	-	286	313	-
Stage 2	-	-	-	-	-	-	278	295	-	281	320	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0.1			28.2			187.4		
HCM LOS							D			F		
Minor Lane/Major Mvmt	NBLn1		NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2	
Capacity (veh/h)	53		296	659	-	-	694	-	-	41	295	
HCM Lane V/C Ratio	0.041		0.033	0.002	-	-	0.01	-	-	0.75	0.019	
HCM Control Delay (s)	75.8		17.6	10.5	-	-	10.2	-	-	217.8	17.4	
HCM Lane LOS	F		C	B	-	-	B	-	-	F	C	
HCM 95th %tile Q(veh)	0.1		0.1	0	-	-	0	-	-	2.8	0.1	

HCM 2010 Signalized Intersection Summary

11: Lakeshore Dr & Riverside Dr - SR-74

EX PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	159	669	284	52	536	307	210	326	22	190	261	167
Future Volume (veh/h)	159	669	284	52	536	307	210	326	22	190	261	167
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	167	704	299	55	564	323	221	343	23	200	275	176
Adj No. of Lanes	1	2	1	1	1	1	1	2	0	1	2	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	200	1323	592	110	601	511	245	775	52	237	799	357
Arrive On Green	0.11	0.37	0.37	0.06	0.32	0.32	0.14	0.23	0.23	0.13	0.23	0.23
Sat Flow, veh/h	1774	3539	1583	1774	1863	1583	1774	3368	225	1774	3539	1583
Grp Volume(v), veh/h	167	704	299	55	564	323	221	180	186	200	275	176
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1823	1774	1770	1583
Q Serve(g_s), s	7.4	12.4	11.6	2.4	23.5	13.8	9.8	6.9	7.0	8.8	5.2	7.7
Cycle Q Clear(g_c), s	7.4	12.4	11.6	2.4	23.5	13.8	9.8	6.9	7.0	8.8	5.2	7.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.12	1.00		1.00
Lane Grp Cap(c), veh/h	200	1323	592	110	601	511	245	407	419	237	799	357
V/C Ratio(X)	0.83	0.53	0.51	0.50	0.94	0.63	0.90	0.44	0.44	0.84	0.34	0.49
Avail Cap(c_a), veh/h	200	1323	592	156	607	516	245	407	419	245	799	357
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.6	19.5	19.3	36.2	26.2	23.0	33.8	26.3	26.3	33.7	25.9	26.9
Incr Delay (d2), s/veh	25.0	0.4	0.7	3.5	22.4	2.5	33.0	3.4	3.4	22.2	1.2	4.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.0	6.1	5.2	1.3	15.8	6.4	7.0	3.8	3.9	5.7	2.7	3.8
LnGrp Delay(d),s/veh	59.6	19.9	20.0	39.7	48.6	25.4	66.9	29.7	29.7	55.9	27.1	31.7
LnGrp LOS	E	B	B	D	D	C	E	C	C	E	C	C
Approach Vol, veh/h	1170				942				587			
Approach Delay, s/veh	25.6				40.1				43.7			
Approach LOS	C				D				D			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.7	22.3	8.9	33.8	15.0	22.0	13.0	29.7				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	11.0	18.0	7.0	28.0	11.0	18.0	9.0	26.0				
Max Q Clear Time (g_c+I1), s	10.8	9.0	4.4	14.4	11.8	9.7	9.4	25.5				
Green Ext Time (p_c), s	0.0	1.2	0.0	4.6	0.0	1.4	0.0	0.3				
Intersection Summary												
HCM 2010 Ctrl Delay	35.1											
HCM 2010 LOS	D											

Intersection												
Int Delay, s/veh	43.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	96	311	0	0	154	103	164	2	98	0	0	0
Future Vol, veh/h	96	311	0	0	154	103	164	2	98	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	275	-	-	-	-	-	-	-	50	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	63	63	63	63	63	63	63	63	63	63	63	63
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	152	494	0	0	244	163	260	3	156	0	0	0
Major/Minor	Major1			Major2			Minor1					
Conflicting Flow All	407	0	-	-	-	0	1124	1205	494			
Stage 1	-	-	-	-	-	-	798	798	-			
Stage 2	-	-	-	-	-	-	326	407	-			
Critical Hdwy	4.12	-	-	-	-	-	6.42	6.52	6.22			
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-			
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-			
Follow-up Hdwy	2.218	-	-	-	-	-	3.518	4.018	3.318			
Pot Cap-1 Maneuver	1152	-	0	0	-	-	~ 227	184	575			
Stage 1	-	-	0	0	-	-	443	398	-			
Stage 2	-	-	0	0	-	-	731	597	-			
Platoon blocked, %		-			-	-						
Mov Cap-1 Maneuver	1152	-	-	-	-	-	~ 197	0	575			
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 197	0	-			
Stage 1	-	-	-	-	-	-	385	0	-			
Stage 2	-	-	-	-	-	-	731	0	-			
Approach	EB			WB			NB					
HCM Control Delay, s	2			0			148.9					
HCM LOS							F					
Minor Lane/Major Mvmt	NBLn1 NBLn2		EBL	EBT	WBT	WBR						
Capacity (veh/h)	197	575	1152	-	-	-						
HCM Lane V/C Ratio	1.338	0.271	0.132	-	-	-						
HCM Control Delay (s)	228.7	13.6	8.6	-	-	-						
HCM Lane LOS	F	B	A	-	-	-						
HCM 95th %tile Q(veh)	14.9	1.1	0.5	-	-	-						
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s			+: Computation Not Defined				*: All major volume in platoon			

Intersection	
Intersection Delay, s/veh	15.4
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑	↑	↑						↑	↑
Traffic Vol, veh/h	0	271	309	48	270	0	0	0	0	137	5	83
Future Vol, veh/h	0	271	309	48	270	0	0	0	0	137	5	83
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	330	377	59	329	0	0	0	0	167	6	101
Number of Lanes	0	1	1	1	1	0	0	0	0	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	2	2	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	2
HCM Control Delay	15.5	16.8	13.2
HCM LOS	C	C	B

Lane	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	100%	0%	96%	0%
Vol Thru, %	100%	0%	0%	100%	4%	0%
Vol Right, %	0%	100%	0%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	271	309	48	270	142	83
LT Vol	0	0	48	0	137	0
Through Vol	271	0	0	270	5	0
RT Vol	0	309	0	0	0	83
Lane Flow Rate	330	377	59	329	173	101
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.557	0.561	0.112	0.586	0.365	0.179
Departure Headway (Hd)	6.069	5.358	6.912	6.403	7.585	6.382
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	592	671	517	563	473	561
Service Time	3.821	3.11	4.672	4.163	5.345	4.14
HCM Lane V/C Ratio	0.557	0.562	0.114	0.584	0.366	0.18
HCM Control Delay	16.2	14.8	10.5	17.9	14.7	10.5
HCM Lane LOS	C	B	B	C	B	B
HCM 95th-tile Q	3.4	3.5	0.4	3.8	1.7	0.6

Intersection						
Int Delay, s/veh	3.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	424	34	127	216	24	117
Future Vol, veh/h	424	34	127	216	24	117
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	135	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	487	39	146	248	28	134
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	526	0	1047	507
Stage 1	-	-	-	-	507	-
Stage 2	-	-	-	-	540	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1041	-	253	566
Stage 1	-	-	-	-	605	-
Stage 2	-	-	-	-	584	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1041	-	218	566
Mov Cap-2 Maneuver	-	-	-	-	218	-
Stage 1	-	-	-	-	520	-
Stage 2	-	-	-	-	584	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		3.3		15.1	
HCM LOS	C					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	218	566	-	-	1041	-
HCM Lane V/C Ratio	0.127	0.238	-	-	0.14	-
HCM Control Delay (s)	23.9	13.3	-	-	9	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	0.4	0.9	-	-	0.5	-

4: Collier Ave - SR-74/Collier Ave & Riverside Dr - SR-74/Riverside Dr

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	75	7	845	4	2	0	688	73	12	3	92	56
Future Volume (veh/h)	75	7	845	4	2	0	688	73	12	3	92	56
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	77	7	871	4	2	0	709	75	12	3	95	58
Adj No. of Lanes	0	1	1	0	1	0	1	1	0	1	1	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	469	38	1099	222	92	0	763	674	108	190	200	170
Arrive On Green	0.26	0.26	0.26	0.26	0.26	0.00	0.43	0.43	0.43	0.11	0.11	0.11
Sat Flow, veh/h	1343	143	1583	465	349	0	1774	1568	251	1774	1863	1583
Grp Volume(v), veh/h	84	0	871	6	0	0	709	0	87	3	95	58
Grp Sat Flow(s),veh/h/ln	1487	0	1583	813	0	0	1774	0	1818	1774	1863	1583
Q Serve(g_s), s	0.0	0.0	16.0	0.0	0.0	0.0	23.0	0.0	1.7	0.1	2.9	2.1
Cycle Q Clear(g_c), s	2.2	0.0	16.0	2.2	0.0	0.0	23.0	0.0	1.7	0.1	2.9	2.1
Prop In Lane	0.92		1.00	0.67		0.00	1.00		0.14	1.00		1.00
Lane Grp Cap(c), veh/h	507	0	1099	314	0	0	763	0	782	190	200	170
V/C Ratio(X)	0.17	0.00	0.79	0.02	0.00	0.00	0.93	0.00	0.11	0.02	0.48	0.34
Avail Cap(c_a), veh/h	507	0	1099	314	0	0	763	0	782	469	493	419
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.2	0.0	5.3	16.4	0.0	0.0	16.4	0.0	10.3	24.1	25.4	25.0
Incr Delay (d2), s/veh	0.2	0.0	4.0	0.0	0.0	0.0	19.4	0.0	0.3	0.0	1.7	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	15.5	0.1	0.0	0.0	15.1	0.0	0.9	0.0	1.6	1.0
LnGrp Delay(d),s/veh	17.3	0.0	9.3	16.5	0.0	0.0	35.8	0.0	10.6	24.2	27.1	26.2
LnGrp LOS	B		A	B			D		B	C	C	C
Approach Vol, veh/h	955		6				796				156	
Approach Delay, s/veh	10.0		16.5				33.0				26.7	
Approach LOS	B		B				C				C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	30.0		20.0		10.5		20.0					
Change Period (Y+Rc), s	4.0		4.0		4.0		4.0					
Max Green Setting (Gmax), s	26.0		16.0		16.0		16.0					
Max Q Clear Time (g_c+I1), s	25.0		18.0		4.9		4.2					
Green Ext Time (p_c), s	0.4		0.0		0.4		0.0					
Intersection Summary												
HCM 2010 Ctrl Delay	21.0											
HCM 2010 LOS	C											

HCM 2010 Signalized Intersection Summary 5: Collier Ave - SR-74 & Hunco Way

EX AM+AMBIENT+PROJ

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↑	↔	↔	↑↑	↔	↔	↑↑	
Traffic Volume (veh/h)	2	2	16	106	3	46	41	656	21	58	841	15
Future Volume (veh/h)	2	2	16	106	3	46	41	656	21	58	841	15
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	2	2	17	110	3	48	43	683	22	60	876	16
Adj No. of Lanes	0	1	0	1	1	1	1	2	1	1	2	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	92	33	176	344	251	213	113	1876	839	143	1945	36
Arrive On Green	0.13	0.13	0.13	0.13	0.13	0.13	0.06	0.53	0.53	0.08	0.55	0.55
Sat Flow, veh/h	60	247	1303	1388	1863	1583	1774	3539	1583	1774	3556	65
Grp Volume(v), veh/h	21	0	0	110	3	48	43	683	22	60	436	456
Grp Sat Flow(s),veh/h/ln	1610	0	0	1388	1863	1583	1774	1770	1583	1774	1770	1851
Q Serve(g_s), s	0.0	0.0	0.0	2.8	0.1	1.3	1.1	5.3	0.3	1.5	7.0	7.0
Cycle Q Clear(g_c), s	0.5	0.0	0.0	3.4	0.1	1.3	1.1	5.3	0.3	1.5	7.0	7.0
Prop In Lane	0.10		0.81	1.00		1.00	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	301	0	0	344	251	213	113	1876	839	143	968	1012
V/C Ratio(X)	0.07	0.00	0.00	0.32	0.01	0.22	0.38	0.36	0.03	0.42	0.45	0.45
Avail Cap(c_a), veh/h	624	0	0	628	632	537	263	1876	839	263	968	1012
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.9	0.0	0.0	19.1	17.7	18.2	21.2	6.5	5.3	20.6	6.4	6.4
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.5	0.0	0.5	2.1	0.5	0.1	1.9	1.5	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.0	1.4	0.0	0.6	0.6	2.7	0.1	0.8	3.8	4.0
LnGrp Delay(d),s/veh	18.0	0.0	0.0	19.6	17.7	18.7	23.3	7.0	5.3	22.6	7.9	7.9
LnGrp LOS	B			B	B	B	C	A	A	C	A	A
Approach Vol, veh/h	21			161			748			952		
Approach Delay, s/veh	18.0			19.3			7.9			8.8		
Approach LOS	B			B			A			A		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.8	29.0		10.4	7.0	29.8		10.4				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	7.0	25.0		16.0	7.0	25.0		16.0				
Max Q Clear Time (g_c+13, s)	13.5	7.3		2.5	3.1	9.0		5.4				
Green Ext Time (p_c), s	0.0	3.9		0.0	0.0	4.6		0.3				
Intersection Summary												
HCM 2010 Ctrl Delay	9.5											
HCM 2010 LOS	A											

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	81	33	583	267	645	20	51	311	836	61	34
Future Volume (veh/h)	50	81	33	583	267	645	20	51	311	836	61	34
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	56	91	37	655	300	725	22	57	349	939	69	38
Adj No. of Lanes	2	2	0	2	1	2	1	2	2	2	2	1
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	214	218	84	742	449	1333	60	918	1324	817	1639	733
Arrive On Green	0.06	0.09	0.09	0.36	0.40	0.40	0.03	0.26	0.26	0.24	0.46	0.46
Sat Flow, veh/h	3442	2497	965	3442	1863	2787	1774	3539	2787	3442	3539	1583
Grp Volume(v), veh/h	56	63	65	655	300	725	22	57	349	939	69	38
Grp Sat Flow(s),veh/h/ln	1721	1770	1692	1721	1863	1393	1774	1770	1393	1721	1770	1583
Q Serve(g_s), s	1.2	2.7	2.9	14.3	10.5	15.1	1.0	1.0	3.3	19.0	0.9	1.1
Cycle Q Clear(g_c), s	1.2	2.7	2.9	14.3	10.5	15.1	1.0	1.0	3.3	19.0	0.9	1.1
Prop In Lane	1.00		0.57	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	214	155	148	742	449	1333	60	918	1324	817	1639	733
V/C Ratio(X)	0.26	0.41	0.44	0.88	0.67	0.54	0.37	0.06	0.26	1.15	0.04	0.05
Avail Cap(c_a), veh/h	301	354	338	742	512	1428	155	918	1324	817	1639	733
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	0.72	0.72	0.72	1.00	1.00	1.00	0.93	0.93	0.93
Uniform Delay (d), s/veh	35.8	34.5	34.6	24.6	21.3	11.7	37.8	22.3	4.6	30.5	11.8	11.8
Incr Delay (d2), s/veh	0.6	1.7	2.0	9.2	2.0	0.3	3.7	0.1	0.5	80.1	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	1.4	1.4	7.6	5.5	5.7	0.5	0.5	1.3	18.1	0.4	0.5
LnGrp Delay(d),s/veh	36.4	36.3	36.7	33.8	23.3	11.9	41.5	22.4	5.1	110.6	11.8	11.9
LnGrp LOS	D	D	D	C	C	B	D	C	A	F	B	B
Approach Vol, veh/h	184		1680				428		1046			
Approach Delay, s/veh	36.4		22.5				9.3		100.5			
Approach LOS	D		C				A		F			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	33.0	24.8	21.2	11.0	6.7	41.0	9.0	23.3				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	19.0	16.0	13.0	16.0	7.0	28.0	7.0	22.0				
Max Q Clear Time (g_c+Y), s	21.0	5.3	16.3	4.9	3.0	3.1	3.2	17.1				
Green Ext Time (p_c), s	0.0	1.2	0.0	0.4	0.0	0.4	0.0	2.1				
Intersection Summary												
HCM 2010 Ctrl Delay			46.0									
HCM 2010 LOS			D									

HCM 2010 Signalized Intersection Summary
7: I-15 SB Ramps & Central Ave - SR-74

EX AM+AMBIENT+PROJ

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗	↗↗	↑↑					↗	↕	↗
Traffic Volume (veh/h)	0	646	603	702	1424	0	0	0	0	250	6	187
Future Volume (veh/h)	0	646	603	702	1424	0	0	0	0	250	6	187
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1863	1863	1863	0				1863	1863	1863
Adj Flow Rate, veh/h	0	673	628	731	1483	0				323	0	132
Adj No. of Lanes	0	2	1	2	2	0				2	0	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96				0.96	0.96	0.96
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1239	554	818	2257	0				931	0	415
Arrive On Green	0.00	0.70	0.70	0.48	1.00	0.00				0.26	0.00	0.26
Sat Flow, veh/h	0	3632	1583	3442	3632	0				3548	0	1583
Grp Volume(v), veh/h	0	673	628	731	1483	0				323	0	132
Grp Sat Flow(s),veh/h/ln	0	1770	1583	1721	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	7.4	28.0	15.5	0.0	0.0				5.9	0.0	5.4
Cycle Q Clear(g_c), s	0.0	7.4	28.0	15.5	0.0	0.0				5.9	0.0	5.4
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1239	554	818	2257	0				931	0	415
V/C Ratio(X)	0.00	0.54	1.13	0.89	0.66	0.00				0.35	0.00	0.32
Avail Cap(c_a), veh/h	0	1239	554	989	2433	0				931	0	415
HCM Platoon Ratio	1.00	2.00	2.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.46	0.46	0.49	0.49	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	8.9	12.0	20.1	0.0	0.0				23.9	0.0	23.7
Incr Delay (d2), s/veh	0.0	0.2	70.8	4.8	0.3	0.0				1.0	0.0	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.4	22.3	7.7	0.1	0.0				3.0	0.0	2.6
LnGrp Delay(d),s/veh	0.0	9.1	82.8	24.9	0.3	0.0				25.0	0.0	25.8
LnGrp LOS		A	F	C	A					C		C
Approach Vol, veh/h	1301		2214				455					
Approach Delay, s/veh	44.7		8.4				25.2					
Approach LOS	D		A				C					
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4	6		8					
Phs Duration (G+Y+Rc), s			23.0	32.0	25.0		55.0					
Change Period (Y+Rc), s			4.0	4.0	4.0		4.0					
Max Green Setting (Gmax), s			23.0	28.0	17.0		55.0					
Max Q Clear Time (g_c+I1), s			17.5	30.0	7.9		2.0					
Green Ext Time (p_c), s			1.5	0.0	1.1		18.0					
Intersection Summary												
HCM 2010 Ctrl Delay			22.2									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

8: I-15 NB Ramps & Central Ave - SR-74

EX AM+AMBIENT+PROJ

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	64	847	0	0	1600	471	571	0	587	0	0	0
Future Volume (veh/h)	64	847	0	0	1600	471	571	0	587	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1863	1863	1863			
Adj Flow Rate, veh/h	69	911	0	0	1720	506	813	0	418			
Adj No. of Lanes	1	3	0	0	3	1	2	0	1			
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	122	2518	0	0	1915	596	1436	0	641			
Arrive On Green	0.14	0.99	0.00	0.00	0.75	0.75	0.40	0.00	0.40			
Sat Flow, veh/h	1774	5253	0	0	5253	1583	3548	0	1583			
Grp Volume(v), veh/h	69	911	0	0	1720	506	813	0	418			
Grp Sat Flow(s),veh/h/ln	1774	1695	0	0	1695	1583	1774	0	1583			
Q Serve(g_s), s	2.9	0.2	0.0	0.0	20.7	17.5	14.2	0.0	17.1			
Cycle Q Clear(g_c), s	2.9	0.2	0.0	0.0	20.7	17.5	14.2	0.0	17.1			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	122	2518	0	0	1915	596	1436	0	641			
V/C Ratio(X)	0.57	0.36	0.00	0.00	0.90	0.85	0.57	0.00	0.65			
Avail Cap(c_a), veh/h	155	2733	0	0	2034	633	1436	0	641			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(I)	0.81	0.81	0.00	0.00	0.61	0.61	1.00	0.00	1.00			
Uniform Delay (d), s/veh	33.4	0.2	0.0	0.0	8.7	8.3	18.4	0.0	19.2			
Incr Delay (d2), s/veh	3.3	0.1	0.0	0.0	3.6	6.5	1.6	0.0	5.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	1.5	0.1	0.0	0.0	9.5	8.1	7.2	0.0	8.3			
LnGrp Delay(d),s/veh	36.7	0.3	0.0	0.0	12.3	14.8	20.0	0.0	24.3			
LnGrp LOS	D	A			B	B	B		C			
Approach Vol, veh/h	980				2226				1231			
Approach Delay, s/veh	2.8				12.8				21.5			
Approach LOS	A				B				C			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4				7		8			
Phs Duration (G+Y+Rc), s	36.4		43.6				9.5		34.1			
Change Period (Y+Rc), s	4.0		4.0				4.0		4.0			
Max Green Setting (Gmax), s	29.0		43.0				7.0		32.0			
Max Q Clear Time (g_c+I1), s	19.1		2.2				4.9		22.7			
Green Ext Time (p_c), s	3.6		6.9				0.0		7.5			
Intersection Summary												
HCM 2010 Ctrl Delay			13.0									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary
9: Dexter Ave & Central Ave - SR-74

EX AM+AMBIENT+PROJ

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	337	990	111	127	1514	179	87	138	98	75	95	473
Future Volume (veh/h)	337	990	111	127	1514	179	87	138	98	75	95	473
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	370	1088	122	140	1664	197	96	152	108	82	104	520
Adj No. of Lanes	1	3	1	1	4	1	1	1	0	1	1	1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	404	2159	672	175	1895	468	319	331	235	322	608	878
Arrive On Green	0.46	0.85	0.85	0.10	0.30	0.30	0.33	0.33	0.33	0.33	0.33	0.33
Sat Flow, veh/h	1774	5085	1583	1774	6408	1583	797	1015	721	1115	1863	1583
Grp Volume(v), veh/h	370	1088	122	140	1664	197	96	0	260	82	104	520
Grp Sat Flow(s),veh/h/ln	1774	1695	1583	1774	1602	1583	797	0	1736	1115	1863	1583
Q Serve(g_s), s	15.6	4.5	1.1	6.2	19.8	8.0	7.8	0.0	9.5	5.0	3.2	17.4
Cycle Q Clear(g_c), s	15.6	4.5	1.1	6.2	19.8	8.0	11.0	0.0	9.5	14.5	3.2	17.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.42	1.00		1.00
Lane Grp Cap(c), veh/h	404	2159	672	175	1895	468	319	0	567	322	608	878
V/C Ratio(X)	0.92	0.50	0.18	0.80	0.88	0.42	0.30	0.00	0.46	0.25	0.17	0.59
Avail Cap(c_a), veh/h	532	2288	712	266	1922	475	319	0	567	322	608	878
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	0.91	0.91	0.91	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.1	3.8	3.6	35.3	26.8	22.7	23.1	0.0	21.3	27.1	19.2	11.8
Incr Delay (d2), s/veh	16.1	0.2	0.1	9.4	5.0	0.6	2.4	0.0	2.7	1.9	0.6	2.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.2	1.8	0.5	3.5	9.3	3.6	1.9	0.0	5.0	1.7	1.7	8.2
LnGrp Delay(d),s/veh	37.2	4.0	3.7	44.7	31.7	23.3	25.5	0.0	24.0	29.0	19.8	14.8
LnGrp LOS	D	A	A	D	C	C	C		C	C	B	B
Approach Vol, veh/h	1580			2001			356			706		
Approach Delay, s/veh	11.7			31.8			24.4			17.2		
Approach LOS	B			C			C			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		30.1	11.9	38.0		30.1	22.2	27.7				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		20.0	12.0	36.0		20.0	24.0	24.0				
Max Q Clear Time (g_c+I1), s		13.0	8.2	6.5		19.4	17.6	21.8				
Green Ext Time (p_c), s		1.2	0.1	8.6		0.2	0.6	1.9				
Intersection Summary												
HCM 2010 Ctrl Delay	22.2											
HCM 2010 LOS	C											

10: Strickland Ave/Gunnerson St & Riverside Dr - SR-74

Intersection

Int Delay, s/veh 2.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	904	25	7	518	25	2	3	9	38	5	5
Future Vol, veh/h	7	904	25	7	518	25	2	3	9	38	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	Stop	-	-	Stop
Storage Length	100	-	-	100	-	-	-	-	50	-	-	50
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	952	26	7	545	26	2	3	9	40	5	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	571	0	0	978	0	0	1554	1564	965	1553	1564	558
Stage 1	-	-	-	-	-	-	979	979	-	572	572	-
Stage 2	-	-	-	-	-	-	575	585	-	981	992	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1002	-	-	706	-	-	92	112	309	92	112	529
Stage 1	-	-	-	-	-	-	301	328	-	505	504	-
Stage 2	-	-	-	-	-	-	503	498	-	300	324	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1002	-	-	706	-	-	87	110	309	86	110	529
Mov Cap-2 Maneuver	-	-	-	-	-	-	87	110	-	86	110	-
Stage 1	-	-	-	-	-	-	299	326	-	501	499	-
Stage 2	-	-	-	-	-	-	488	493	-	286	322	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.1			26.4			75.6		
HCM LOS							D			F		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	99	309	1002	-	-	706	-	-	88	529
HCM Lane V/C Ratio	0.053	0.031	0.007	-	-	0.01	-	-	0.514	0.01
HCM Control Delay (s)	43.4	17	8.6	-	-	10.2	-	-	83	11.9
HCM Lane LOS	E	C	A	-	-	B	-	-	F	B
HCM 95th %tile Q(veh)	0.2	0.1	0	-	-	0	-	-	2.2	0

HCM 2010 Signalized Intersection Summary
11: Lakeshore Dr & Riverside Dr - SR-74

EX AM+AMBIENT+PROJ

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	132	507	236	25	415	138	165	156	19	206	186	97
Future Volume (veh/h)	132	507	236	25	415	138	165	156	19	206	186	97
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	138	528	246	26	432	144	172	162	20	215	194	101
Adj No. of Lanes	1	2	1	1	1	1	1	2	0	1	2	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	174	1139	510	71	491	418	213	787	96	260	970	434
Arrive On Green	0.10	0.32	0.32	0.04	0.26	0.26	0.12	0.25	0.25	0.15	0.27	0.27
Sat Flow, veh/h	1774	3539	1583	1774	1863	1583	1774	3177	387	1774	3539	1583
Grp Volume(v), veh/h	138	528	246	26	432	144	172	89	93	215	194	101
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1794	1774	1770	1583
Q Serve(g_s), s	5.0	7.8	8.2	0.9	14.6	4.8	6.2	2.6	2.7	7.7	2.8	3.2
Cycle Q Clear(g_c), s	5.0	7.8	8.2	0.9	14.6	4.8	6.2	2.6	2.7	7.7	2.8	3.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.22	1.00		1.00
Lane Grp Cap(c), veh/h	174	1139	510	71	491	418	213	438	445	260	970	434
V/C Ratio(X)	0.79	0.46	0.48	0.36	0.88	0.34	0.81	0.20	0.21	0.83	0.20	0.23
Avail Cap(c_a), veh/h	216	1139	510	189	539	458	243	438	445	297	970	434
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.9	17.7	17.9	30.7	23.2	19.6	28.2	19.6	19.6	27.2	18.3	18.5
Incr Delay (d2), s/veh	14.6	0.3	0.7	3.1	14.5	0.5	16.2	1.0	1.1	15.7	0.5	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	3.9	3.7	0.5	9.4	2.2	4.0	1.4	1.5	4.9	1.4	1.6
LnGrp Delay(d),s/veh	43.6	18.0	18.6	33.8	37.6	20.1	44.4	20.6	20.7	42.9	18.8	19.7
LnGrp LOS	D	B	B	C	D	C	D	C	C	D	B	B
Approach Vol, veh/h		912			602			354			510	
Approach Delay, s/veh		22.0			33.3			32.2			29.1	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.6	20.3	6.6	25.1	11.9	22.0	10.5	21.3				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	11.0	16.0	7.0	20.0	9.0	18.0	8.0	19.0				
Max Q Clear Time (g_c+I1), s	9.7	4.7	2.9	10.2	8.2	5.2	7.0	16.6				
Green Ext Time (p_c), s	0.1	0.6	0.0	2.9	0.0	1.1	0.0	0.7				
Intersection Summary												
HCM 2010 Ctrl Delay				27.9								
HCM 2010 LOS				C								

Intersection												
Int Delay, s/veh	15.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	154	164	0	0	103	49	294	3	26	0	0	0
Future Vol, veh/h	154	164	0	0	103	49	294	3	26	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	275	-	-	-	-	-	-	-	50	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	159	169	0	0	106	51	303	3	27	0	0	0
Major/Minor	Major1			Major2			Minor1					
Conflicting Flow All	157	0	-	-	-	0	619	644	169			
Stage 1	-	-	-	-	-	-	487	487	-			
Stage 2	-	-	-	-	-	-	132	157	-			
Critical Hdwy	4.12	-	-	-	-	-	6.42	6.52	6.22			
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-			
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-			
Follow-up Hdwy	2.218	-	-	-	-	-	3.518	4.018	3.318			
Pot Cap-1 Maneuver	1423	-	0	0	-	-	452	391	875			
Stage 1	-	-	0	0	-	-	618	550	-			
Stage 2	-	-	0	0	-	-	894	768	-			
Platoon blocked, %		-			-	-						
Mov Cap-1 Maneuver	1423	-	-	-	-	-	401	0	875			
Mov Cap-2 Maneuver	-	-	-	-	-	-	401	0	-			
Stage 1	-	-	-	-	-	-	549	0	-			
Stage 2	-	-	-	-	-	-	894	0	-			
Approach	EB			WB			NB					
HCM Control Delay, s	3.8			0			35.4					
HCM LOS							E					
Minor Lane/Major Mvmt	NBLn1 NBLn2		EBL	EBT	WBT	WBR						
Capacity (veh/h)	401 875		1423	-	-	-						
HCM Lane V/C Ratio	0.764 0.031		0.112	-	-	-						
HCM Control Delay (s)	37.7 9.2		7.8	-	-	-						
HCM Lane LOS	E A		A	-	-	-						
HCM 95th %tile Q(veh)	6.3 0.1		0.4	-	-	-						

Intersection	
Intersection Delay, s/veh	14.1
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑	↑	↑						↑	↑
Traffic Vol, veh/h	0	250	292	23	375	0	0	0	0	72	2	167
Future Vol, veh/h	0	250	292	23	375	0	0	0	0	72	2	167
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	255	298	23	383	0	0	0	0	73	2	170
Number of Lanes	0	1	1	1	1	0	0	0	0	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	2	2	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	2
HCM Control Delay	12.2	18.3	11.4
HCM LOS	B	C	B

Lane	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	100%	0%	97%	0%
Vol Thru, %	100%	0%	0%	100%	3%	0%
Vol Right, %	0%	100%	0%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	250	292	23	375	74	167
LT Vol	0	0	23	0	72	0
Through Vol	250	0	0	375	2	0
RT Vol	0	292	0	0	0	167
Lane Flow Rate	255	298	23	383	76	170
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.416	0.427	0.042	0.638	0.154	0.29
Departure Headway (Hd)	5.866	5.156	6.508	6.001	7.33	6.125
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	612	697	550	601	489	586
Service Time	3.605	2.895	4.25	3.742	5.079	3.873
HCM Lane V/C Ratio	0.417	0.428	0.042	0.637	0.155	0.29
HCM Control Delay	12.7	11.7	9.5	18.8	11.4	11.4
HCM Lane LOS	B	B	A	C	B	B
HCM 95th-tile Q	2	2.1	0.1	4.5	0.5	1.2

Intersection								
Int Delay, s/veh	7.8							
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations								
Traffic Vol, veh/h	224	61	237	299	87	261		
Future Vol, veh/h	224	61	237	299	87	261		
Conflicting Peds, #/hr	0	0	0	0	0	0		
Sign Control	Free	Free	Free	Free	Stop	Stop		
RT Channelized	-	None	-	None	-	None		
Storage Length	-	-	135	-	0	0		
Veh in Median Storage, #	0	-	-	0	0	-		
Grade, %	0	-	-	0	0	-		
Peak Hour Factor	92	92	92	92	92	92		
Heavy Vehicles, %	2	2	2	2	2	2		
Mvmt Flow	243	66	258	325	95	284		
Major/Minor	Major1		Major2		Minor1			
Conflicting Flow All	0	0	309	0	1117	276		
Stage 1	-	-	-	-	276	-		
Stage 2	-	-	-	-	841	-		
Critical Hdwy	-	-	4.12	-	6.42	6.22		
Critical Hdwy Stg 1	-	-	-	-	5.42	-		
Critical Hdwy Stg 2	-	-	-	-	5.42	-		
Follow-up Hdwy	-	-	2.218	-	3.518	3.318		
Pot Cap-1 Maneuver	-	-	1252	-	229	763		
Stage 1	-	-	-	-	771	-		
Stage 2	-	-	-	-	423	-		
Platoon blocked, %	-	-		-				
Mov Cap-1 Maneuver	-	-	1252	-	182	763		
Mov Cap-2 Maneuver	-	-	-	-	182	-		
Stage 1	-	-	-	-	612	-		
Stage 2	-	-	-	-	423	-		
Approach	EB		WB		NB			
HCM Control Delay, s	0		3.8		20.5			
HCM LOS	C							
Minor Lane/Major Mvmt	NBLn1		NBLn2		EBT	EBR	WBL	WBT
Capacity (veh/h)	182		763		-	-	1252	-
HCM Lane V/C Ratio	0.52		0.372		-	-	0.206	-
HCM Control Delay (s)	44.4		12.5		-	-	8.6	-
HCM Lane LOS	E		B		-	-	A	-
HCM 95th %tile Q(veh)	2.6		1.7		-	-	0.8	-

4: Collier Ave - SR-74/Collier Ave & Riverside Dr - SR-74/Riverside Dr

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	96	12	906	25	17	12	955	231	15	4	241	114
Future Volume (veh/h)	96	12	906	25	17	12	955	231	15	4	241	114
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	101	13	954	26	18	13	1005	243	16	4	254	120
Adj No. of Lanes	0	1	1	0	1	0	1	1	0	1	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	291	33	1114	102	67	32	926	903	59	284	298	253
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	0.52	0.52	0.52	0.16	0.16	0.16
Sat Flow, veh/h	1179	182	1583	234	367	177	1774	1729	114	1774	1863	1583
Grp Volume(v), veh/h	114	0	954	57	0	0	1005	0	259	4	254	120
Grp Sat Flow(s),veh/h/ln	1360	0	1583	778	0	0	1774	0	1843	1774	1863	1583
Q Serve(g_s), s	0.0	0.0	16.0	0.3	0.0	0.0	46.0	0.0	6.9	0.2	11.7	6.1
Cycle Q Clear(g_c), s	7.0	0.0	16.0	7.3	0.0	0.0	46.0	0.0	6.9	0.2	11.7	6.1
Prop In Lane	0.89		1.00	0.46		0.23	1.00		0.06	1.00		1.00
Lane Grp Cap(c), veh/h	324	0	1114	201	0	0	926	0	962	284	298	253
V/C Ratio(X)	0.35	0.00	0.86	0.28	0.00	0.00	1.08	0.00	0.27	0.01	0.85	0.47
Avail Cap(c_a), veh/h	324	0	1114	201	0	0	926	0	962	322	338	288
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.3	0.0	6.2	30.6	0.0	0.0	21.0	0.0	11.7	31.2	36.0	33.6
Incr Delay (d2), s/veh	0.6	0.0	6.7	0.8	0.0	0.0	55.3	0.0	0.7	0.0	17.0	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	0.0	25.1	1.2	0.0	0.0	36.6	0.0	3.6	0.1	7.4	2.7
LnGrp Delay(d),s/veh	32.9	0.0	13.0	31.4	0.0	0.0	76.4	0.0	12.4	31.2	52.9	35.0
LnGrp LOS	C		B	C			F		B	C	D	D
Approach Vol, veh/h	1068			57			1264			378		
Approach Delay, s/veh	15.1			31.4			63.3			47.0		
Approach LOS	B			C			E			D		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	50.0		20.0		18.1		20.0					
Change Period (Y+Rc), s	4.0		4.0		4.0		4.0					
Max Green Setting (Gmax), s	46.0		16.0		16.0		16.0					
Max Q Clear Time (g_c+l1), s	48.0		18.0		13.7		9.3					
Green Ext Time (p_c), s	0.0		0.0		0.4		0.1					
Intersection Summary												
HCM 2010 Ctrl Delay	41.8											
HCM 2010 LOS	D											

HCM 2010 Signalized Intersection Summary

5: Collier Ave - SR-74 & Hunco Way

EX PM+AMBIENT+PROJ

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↑	↔	↔	↑↑	↔	↔	↑↑	
Traffic Volume (veh/h)	20	5	51	273	3	116	46	986	26	109	1053	13
Future Volume (veh/h)	20	5	51	273	3	116	46	986	26	109	1053	13
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	21	5	54	290	3	123	49	1049	28	116	1120	14
Adj No. of Lanes	0	1	0	1	1	1	1	2	1	1	2	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	142	62	254	470	449	382	119	1541	690	187	1697	21
Arrive On Green	0.24	0.24	0.24	0.24	0.24	0.24	0.07	0.44	0.44	0.11	0.47	0.47
Sat Flow, veh/h	249	258	1052	1338	1863	1583	1774	3539	1583	1774	3580	45
Grp Volume(v), veh/h	80	0	0	290	3	123	49	1049	28	116	554	580
Grp Sat Flow(s),veh/h/ln	1558	0	0	1338	1863	1583	1774	1770	1583	1774	1770	1855
Q Serve(g_s), s	0.0	0.0	0.0	8.6	0.1	3.5	1.5	13.1	0.6	3.4	13.2	13.2
Cycle Q Clear(g_c), s	2.1	0.0	0.0	10.7	0.1	3.5	1.5	13.1	0.6	3.4	13.2	13.2
Prop In Lane	0.26		0.67	1.00		1.00	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	458	0	0	470	449	382	119	1541	690	187	839	879
V/C Ratio(X)	0.17	0.00	0.00	0.62	0.01	0.32	0.41	0.68	0.04	0.62	0.66	0.66
Avail Cap(c_a), veh/h	559	0	0	560	575	488	225	1541	690	225	839	879
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.7	0.0	0.0	19.7	15.9	17.2	24.7	12.5	8.9	23.6	11.1	11.1
Incr Delay (d2), s/veh	0.2	0.0	0.0	1.5	0.0	0.5	2.3	2.4	0.1	3.7	4.1	3.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	0.0	4.4	0.0	1.6	0.8	6.8	0.3	1.9	7.3	7.6
LnGrp Delay(d),s/veh	16.8	0.0	0.0	21.2	15.9	17.7	26.9	14.9	9.0	27.3	15.2	15.0
LnGrp LOS	B			C	B	B	C	B	A	C	B	B
Approach Vol, veh/h	80			416			1126			1250		
Approach Delay, s/veh	16.8			20.1			15.3			16.2		
Approach LOS	B			C			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	28.0			17.3	7.7	30.1		17.3				
Change Period (Y+Rc), s	4.0			4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	24.0			17.0	7.0	24.0		17.0				
Max Q Clear Time (g_c+15), s	15.1			4.1	3.5	15.2		12.7				
Green Ext Time (p_c), s	0.0	4.3		0.3	0.0	4.3		0.6				
Intersection Summary												
HCM 2010 Ctrl Delay	16.4											
HCM 2010 LOS	B											

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	199	368	39	268	189	759	42	134	379	1063	149	35
Future Volume (veh/h)	199	368	39	268	189	759	42	134	379	1063	149	35
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	214	396	42	288	203	816	45	144	408	1143	160	38
Adj No. of Lanes	2	2	0	2	1	2	1	2	2	2	2	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	299	516	54	301	299	1318	98	850	913	1076	1760	788
Arrive On Green	0.09	0.16	0.16	0.03	0.05	0.05	0.06	0.24	0.24	0.31	0.50	0.50
Sat Flow, veh/h	3442	3231	341	3442	1863	2787	1774	3539	2787	3442	3539	1583
Grp Volume(v), veh/h	214	216	222	288	203	816	45	144	408	1143	160	38
Grp Sat Flow(s),veh/h/ln	1721	1770	1803	1721	1863	1393	1774	1770	1393	1721	1770	1583
Q Serve(g_s), s	4.8	9.3	9.4	6.7	8.6	8.5	2.0	2.6	9.2	25.0	1.9	0.6
Cycle Q Clear(g_c), s	4.8	9.3	9.4	6.7	8.6	8.5	2.0	2.6	9.2	25.0	1.9	0.6
Prop In Lane	1.00		0.19	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	299	283	288	301	299	1318	98	850	913	1076	1760	788
V/C Ratio(X)	0.72	0.76	0.77	0.96	0.68	0.62	0.46	0.17	0.45	1.06	0.09	0.05
Avail Cap(c_a), veh/h	301	354	361	301	373	1428	155	850	913	1076	1760	788
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.77	0.77	0.77	1.00	1.00	1.00	0.69	0.69	0.69
Uniform Delay (d), s/veh	35.6	32.2	32.2	38.7	35.9	6.4	36.6	24.1	21.2	27.5	10.6	4.1
Incr Delay (d2), s/veh	7.9	7.5	7.8	34.2	2.8	0.6	3.3	0.4	1.6	41.5	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	5.1	5.3	4.6	4.6	3.4	1.1	1.3	3.8	18.0	1.0	0.3
LnGrp Delay(d),s/veh	43.4	39.6	40.0	72.9	38.6	7.0	39.9	24.5	22.8	69.0	10.7	4.2
LnGrp LOS	D	D	D	E	D	A	D	C	C	F	B	A
Approach Vol, veh/h	652				1307		597				1341	
Approach Delay, s/veh	41.0				26.4		24.5				60.2	
Approach LOS	D				C		C				E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	29.0	23.2	11.0	16.8	8.4	43.8	10.9	16.8				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	25.0	16.0	7.0	16.0	7.0	34.0	7.0	16.0				
Max Q Clear Time (g_c+Q), s	27.0	11.2	8.7	11.4	4.0	3.9	6.8	10.6				
Green Ext Time (p_c), s	0.0	1.1	0.0	1.0	0.0	1.0	0.0	2.3				
Intersection Summary												
HCM 2010 Ctrl Delay			40.2									
HCM 2010 LOS			D									

HCM 2010 Signalized Intersection Summary
7: I-15 SB Ramps & Central Ave - SR-74

EX PM+AMBIENT+PROJ

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑↑	↑↑					↑	↑↑	↑
Traffic Volume (veh/h)	0	1226	622	623	1403	0	0	0	0	597	0	151
Future Volume (veh/h)	0	1226	622	623	1403	0	0	0	0	597	0	151
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1863	1863	1863	0				1863	1863	1863
Adj Flow Rate, veh/h	0	1251	635	636	1432	0				657	0	103
Adj No. of Lanes	0	2	1	2	2	0				2	0	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98				0.98	0.98	0.98
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1371	614	699	2267	0				920	0	411
Arrive On Green	0.00	0.13	0.13	0.41	1.00	0.00				0.26	0.00	0.26
Sat Flow, veh/h	0	3632	1583	3442	3632	0				3548	0	1583
Grp Volume(v), veh/h	0	1251	635	636	1432	0				657	0	103
Grp Sat Flow(s),veh/h/ln	0	1770	1583	1721	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	27.9	31.0	13.9	0.0	0.0				13.5	0.0	4.1
Cycle Q Clear(g_c), s	0.0	27.9	31.0	13.9	0.0	0.0				13.5	0.0	4.1
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1371	614	699	2267	0				920	0	411
V/C Ratio(X)	0.00	0.91	1.03	0.91	0.63	0.00				0.71	0.00	0.25
Avail Cap(c_a), veh/h	0	1371	614	731	2300	0				920	0	411
HCM Platoon Ratio	1.00	0.33	0.33	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.48	0.48	0.54	0.54	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	33.5	34.9	23.1	0.0	0.0				26.9	0.0	23.5
Incr Delay (d2), s/veh	0.0	5.1	34.8	9.1	0.3	0.0				4.7	0.0	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	14.6	19.5	7.4	0.1	0.0				7.2	0.0	2.0
LnGrp Delay(d),s/veh	0.0	38.6	69.7	32.1	0.3	0.0				31.6	0.0	24.9
LnGrp LOS		D	F	C	A					C		C
Approach Vol, veh/h		1886			2068						760	
Approach Delay, s/veh		49.1			10.1						30.7	
Approach LOS		D			B						C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			20.3	35.0		24.7		55.3				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			17.0	31.0		20.0		52.0				
Max Q Clear Time (g_c+I1), s			15.9	33.0		15.5		2.0				
Green Ext Time (p_c), s			0.3	0.0		1.3		16.7				
Intersection Summary												
HCM 2010 Ctrl Delay			29.0									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

8: I-15 NB Ramps & Central Ave - SR-74

EX PM+AMBIENT+PROJ

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	125	1729	0	0	1422	401	570	0	752	0	0	0
Future Volume (veh/h)	125	1729	0	0	1422	401	570	0	752	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1863	1863	1863			
Adj Flow Rate, veh/h	128	1764	0	0	1451	409	849	0	480			
Adj No. of Lanes	1	3	0	0	3	1	2	0	1			
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	159	2338	0	0	1628	507	1562	0	697			
Arrive On Green	0.18	0.92	0.00	0.00	0.64	0.64	0.44	0.00	0.44			
Sat Flow, veh/h	1774	5253	0	0	5253	1583	3548	0	1583			
Grp Volume(v), veh/h	128	1764	0	0	1451	409	849	0	480			
Grp Sat Flow(s),veh/h/ln	1774	1695	0	0	1695	1583	1774	0	1583			
Q Serve(g_s), s	5.5	7.3	0.0	0.0	19.1	15.4	14.1	0.0	19.5			
Cycle Q Clear(g_c), s	5.5	7.3	0.0	0.0	19.1	15.4	14.1	0.0	19.5			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	159	2338	0	0	1628	507	1562	0	697			
V/C Ratio(X)	0.81	0.75	0.00	0.00	0.89	0.81	0.54	0.00	0.69			
Avail Cap(c_a), veh/h	222	2606	0	0	1716	534	1562	0	697			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(I)	0.36	0.36	0.00	0.00	0.61	0.61	1.00	0.00	1.00			
Uniform Delay (d), s/veh	32.2	2.0	0.0	0.0	13.2	12.5	16.5	0.0	18.0			
Incr Delay (d2), s/veh	5.4	0.4	0.0	0.0	3.9	5.4	1.4	0.0	5.5			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	2.9	2.7	0.0	0.0	9.2	7.1	7.1	0.0	9.5			
LnGrp Delay(d),s/veh	37.6	2.5	0.0	0.0	17.1	17.9	17.8	0.0	23.5			
LnGrp LOS	D	A			B	B	B		C			
Approach Vol, veh/h	1892			1860			1329					
Approach Delay, s/veh	4.8			17.3			19.9					
Approach LOS	A			B			B					
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		7		8					
Phs Duration (G+Y+Rc), s	39.2		40.8		11.2		29.6					
Change Period (Y+Rc), s	4.0		4.0		4.0		4.0					
Max Green Setting (Gmax), s	31.0		41.0		10.0		27.0					
Max Q Clear Time (g_c+I1), s	21.5		9.3		7.5		21.1					
Green Ext Time (p_c), s	3.8		15.9		0.1		4.5					
Intersection Summary												
HCM 2010 Ctrl Delay	13.3											
HCM 2010 LOS	B											
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

9: Dexter Ave & Central Ave - SR-74

EX PM+AMBIENT+PROJ

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	457	1846	179	141	1354	79	99	113	177	62	72	370
Future Volume (veh/h)	457	1846	179	141	1354	79	99	113	177	62	72	370
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	466	1884	183	144	1382	81	101	115	181	63	73	378
Adj No. of Lanes	1	3	1	1	4	1	1	1	0	1	1	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	497	2160	672	180	1577	390	367	212	333	284	603	956
Arrive On Green	0.56	0.85	0.85	0.10	0.25	0.25	0.32	0.32	0.32	0.32	0.32	0.32
Sat Flow, veh/h	1774	5085	1583	1774	6408	1583	936	653	1028	1079	1863	1583
Grp Volume(v), veh/h	466	1884	183	144	1382	81	101	0	296	63	73	378
Grp Sat Flow(s),veh/h/ln	1774	1695	1583	1774	1602	1583	936	0	1681	1079	1863	1583
Q Serve(g_s), s	19.5	17.2	1.8	6.4	16.6	3.3	6.8	0.0	11.6	4.1	2.2	0.0
Cycle Q Clear(g_c), s	19.5	17.2	1.8	6.4	16.6	3.3	9.0	0.0	11.6	15.6	2.2	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.61	1.00		1.00
Lane Grp Cap(c), veh/h	497	2160	672	180	1577	390	367	0	545	284	603	956
V/C Ratio(X)	0.94	0.87	0.27	0.80	0.88	0.21	0.27	0.00	0.54	0.22	0.12	0.40
Avail Cap(c_a), veh/h	643	2352	732	266	1602	396	367	0	545	284	603	956
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.65	0.65	0.65	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.9	4.8	3.6	35.2	29.0	24.0	22.2	0.0	22.2	28.6	19.0	8.2
Incr Delay (d2), s/veh	13.6	2.4	0.1	10.1	5.8	0.3	1.8	0.0	3.9	1.8	0.4	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	7.4	0.7	3.6	7.9	1.4	1.9	0.0	5.9	1.3	1.2	4.6
LnGrp Delay(d),s/veh	30.6	7.2	3.7	45.3	34.8	24.2	24.1	0.0	26.1	30.4	19.4	9.5
LnGrp LOS	C	A	A	D	C	C	C		C	C	B	A
Approach Vol, veh/h	2533			1607			397			514		
Approach Delay, s/veh	11.3			35.2			25.5			13.4		
Approach LOS	B			D			C			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		29.9	12.1	38.0		29.9	26.4	23.7				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		19.0	12.0	37.0		19.0	29.0	20.0				
Max Q Clear Time (g_c+I1), s		13.6	8.4	19.2		17.6	21.5	18.6				
Green Ext Time (p_c), s		1.1	0.1	12.5		0.3	0.9	1.1				
Intersection Summary												
HCM 2010 Ctrl Delay	20.2											
HCM 2010 LOS	C											

10: Strickland Ave/Gunnerson St & Riverside Dr - SR-74

Intersection

Int Delay, s/veh 5.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	942	2	7	895	104	0	3	10	29	2	6
Future Vol, veh/h	2	942	2	7	895	104	0	3	10	29	2	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	Stop	-	-	Stop
Storage Length	100	-	-	100	-	-	-	-	50	-	-	50
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	1035	2	8	984	114	0	3	11	32	2	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1098	0	0	1037	0	0	2098	2154	1036	2099	2098	1041
Stage 1	-	-	-	-	-	-	1040	1040	-	1057	1057	-
Stage 2	-	-	-	-	-	-	1058	1114	-	1042	1041	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	636	-	-	670	-	-	38	48	281	38	52	279
Stage 1	-	-	-	-	-	-	278	307	-	272	302	-
Stage 2	-	-	-	-	-	-	272	284	-	277	307	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	636	-	-	670	-	-	35	47	281	34	51	279
Mov Cap-2 Maneuver	-	-	-	-	-	-	35	47	-	34	51	-
Stage 1	-	-	-	-	-	-	277	306	-	271	298	-
Stage 2	-	-	-	-	-	-	260	281	-	262	306	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0.1			34.2			266.2		
HCM LOS							D			F		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	47	281	636	-	-	670	-	-	35	279
HCM Lane V/C Ratio	0.07	0.039	0.003	-	-	0.011	-	-	0.973	0.024
HCM Control Delay (s)	87.3	18.3	10.7	-	-	10.4	-	-	314.2	18.2
HCM Lane LOS	F	C	B	-	-	B	-	-	F	C
HCM 95th %tile Q(veh)	0.2	0.1	0	-	-	0	-	-	3.5	0.1

HCM 2010 Signalized Intersection Summary
11: Lakeshore Dr & Riverside Dr - SR-74

EX PM+AMBIENT+PROJ

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	166	696	296	54	558	320	219	340	23	198	272	174
Future Volume (veh/h)	166	696	296	54	558	320	219	340	23	198	272	174
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	175	733	312	57	587	337	231	358	24	208	286	183
Adj No. of Lanes	1	2	1	1	1	1	1	2	0	1	2	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	200	1326	593	111	605	515	244	758	51	244	796	356
Arrive On Green	0.11	0.37	0.37	0.06	0.32	0.32	0.14	0.22	0.22	0.14	0.22	0.22
Sat Flow, veh/h	1774	3539	1583	1774	1863	1583	1774	3368	225	1774	3539	1583
Grp Volume(v), veh/h	175	733	312	57	587	337	231	187	195	208	286	183
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1823	1774	1770	1583
Q Serve(g_s), s	7.8	13.1	12.3	2.5	24.8	14.6	10.3	7.3	7.4	9.2	5.5	8.1
Cycle Q Clear(g_c), s	7.8	13.1	12.3	2.5	24.8	14.6	10.3	7.3	7.4	9.2	5.5	8.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.12	1.00		1.00
Lane Grp Cap(c), veh/h	200	1326	593	111	605	515	244	398	410	244	796	356
V/C Ratio(X)	0.88	0.55	0.53	0.51	0.97	0.65	0.95	0.47	0.47	0.85	0.36	0.51
Avail Cap(c_a), veh/h	200	1326	593	155	605	515	244	398	410	244	796	356
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.0	19.7	19.5	36.3	26.6	23.2	34.2	26.9	26.9	33.7	26.1	27.2
Incr Delay (d2), s/veh	32.6	0.5	0.9	3.6	29.0	3.0	43.1	4.0	3.9	24.1	1.3	5.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.6	6.4	5.5	1.3	17.6	6.8	8.0	4.0	4.2	6.1	2.8	4.0
LnGrp Delay(d),s/veh	67.6	20.2	20.3	39.9	55.6	26.1	77.3	30.8	30.8	57.8	27.4	32.4
LnGrp LOS	E	C	C	D	E	C	E	C	C	E	C	C
Approach Vol, veh/h	1220				981				613			
Approach Delay, s/veh	27.0				44.6				48.3			
Approach LOS	C				D				D			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.0	22.0	9.0	34.0	15.0	22.0	13.0	30.0				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	11.0	18.0	7.0	28.0	11.0	18.0	9.0	26.0				
Max Q Clear Time (g_c+I1), s	11.2	9.4	4.5	15.1	12.3	10.1	9.8	26.8				
Green Ext Time (p_c), s	0.0	1.3	0.0	4.7	0.0	1.4	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay	37.8											
HCM 2010 LOS	D											

Intersection												
Int Delay, s/veh	22.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	113	318	0	0	156	105	216	2	99	0	0	0
Future Vol, veh/h	113	318	0	0	156	105	216	2	99	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	275	-	-	-	-	-	-	-	50	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	138	388	0	0	190	128	263	2	121	0	0	0

Major/Minor	Major1		Major2		Minor1		
Conflicting Flow All	318	0	-	-	-	0	918 982 388
Stage 1	-	-	-	-	-	-	664 664 -
Stage 2	-	-	-	-	-	-	254 318 -
Critical Hdwy	4.12	-	-	-	-	-	6.42 6.52 6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42 5.52 -
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42 5.52 -
Follow-up Hdwy	2.218	-	-	-	-	-	3.518 4.018 3.318
Pot Cap-1 Maneuver	1242	-	0	0	-	-	302 249 660
Stage 1	-	-	0	0	-	-	512 458 -
Stage 2	-	-	0	0	-	-	788 654 -
Platoon blocked, %	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1242	-	-	-	-	-	268 0 660
Mov Cap-2 Maneuver	-	-	-	-	-	-	268 0 -
Stage 1	-	-	-	-	-	-	455 0 -
Stage 2	-	-	-	-	-	-	788 0 -

Approach	EB	WB	NB
HCM Control Delay, s	2.2	0	68.4
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR
Capacity (veh/h)	268	660	1242	-	-	-
HCM Lane V/C Ratio	0.992	0.183	0.111	-	-	-
HCM Control Delay (s)	94.1	11.7	8.3	-	-	-
HCM Lane LOS	F	B	A	-	-	-
HCM 95th %tile Q(veh)	9.9	0.7	0.4	-	-	-

HCM 2010 AWSC
2: I-15 SB Ramps & Nichols Rd

EX+AMBIENT+CUMUL+PROJ AM

Intersection	
Intersection Delay, s/veh	20.2
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑	↑	↑						↑	↑
Traffic Vol, veh/h	0	294	339	50	322	0	0	0	0	139	5	151
Future Vol, veh/h	0	294	339	50	322	0	0	0	0	139	5	151
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	359	413	61	393	0	0	0	0	170	6	184
Number of Lanes	0	1	1	1	1	0	0	0	0	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	2	2	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	2
HCM Control Delay	20	25.2	14.3
HCM LOS	C	D	B

Lane	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	100%	0%	97%	0%
Vol Thru, %	100%	0%	0%	100%	3%	0%
Vol Right, %	0%	100%	0%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	294	339	50	322	144	151
LT Vol	0	0	50	0	139	0
Through Vol	294	0	0	322	5	0
RT Vol	0	339	0	0	0	151
Lane Flow Rate	359	413	61	393	176	184
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.648	0.666	0.125	0.747	0.387	0.344
Departure Headway (Hd)	6.51	5.796	7.355	6.844	7.925	6.717
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	552	620	484	526	453	532
Service Time	4.293	3.578	5.147	4.635	5.707	4.497
HCM Lane V/C Ratio	0.65	0.666	0.126	0.747	0.389	0.346
HCM Control Delay	20.6	19.5	11.2	27.4	15.7	13
HCM Lane LOS	C	C	B	D	C	B
HCM 95th-tile Q	4.6	5	0.4	6.4	1.8	1.5

Intersection								
Int Delay, s/veh	4.2							
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations								
Traffic Vol, veh/h	467	44	155	315	31	149		
Future Vol, veh/h	467	44	155	315	31	149		
Conflicting Peds, #/hr	0	0	0	0	0	0		
Sign Control	Free	Free	Free	Free	Stop	Stop		
RT Channelized	-	None	-	None	-	None		
Storage Length	-	-	135	-	0	0		
Veh in Median Storage, #	0	-	-	0	0	-		
Grade, %	0	-	-	0	0	-		
Peak Hour Factor	87	87	87	87	87	87		
Heavy Vehicles, %	2	2	2	2	2	2		
Mvmt Flow	537	51	178	362	36	171		
Major/Minor	Major1		Major2		Minor1			
Conflicting Flow All	0	0	588	0	1281	563		
Stage 1	-	-	-	-	563	-		
Stage 2	-	-	-	-	718	-		
Critical Hdwy	-	-	4.12	-	6.42	6.22		
Critical Hdwy Stg 1	-	-	-	-	5.42	-		
Critical Hdwy Stg 2	-	-	-	-	5.42	-		
Follow-up Hdwy	-	-	2.218	-	3.518	3.318		
Pot Cap-1 Maneuver	-	-	987	-	183	526		
Stage 1	-	-	-	-	570	-		
Stage 2	-	-	-	-	483	-		
Platoon blocked, %	-	-		-				
Mov Cap-1 Maneuver	-	-	987	-	150	526		
Mov Cap-2 Maneuver	-	-	-	-	150	-		
Stage 1	-	-	-	-	467	-		
Stage 2	-	-	-	-	483	-		
Approach	EB		WB		NB			
HCM Control Delay, s	0		3.1		18.8			
HCM LOS	C							
Minor Lane/Major Mvmt	NBLn1		NBLn2		EBT	EBR	WBL	WBT
Capacity (veh/h)	150		526		-	-	987	-
HCM Lane V/C Ratio	0.238		0.326		-	-	0.181	-
HCM Control Delay (s)	36.3		15.1		-	-	9.4	-
HCM Lane LOS	E		C		-	-	A	-
HCM 95th %tile Q(veh)	0.9		1.4		-	-	0.7	-

HCM 2010 Signalized Intersection Summary

EX+AMBIENT+CUMUL+PROJ AM

4: Collier Ave - SR-74/Collier Ave & Riverside Dr - SR-74/Riverside Dr

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	95	7	1113	4	2	0	965	92	12	3	111	74
Future Volume (veh/h)	95	7	1113	4	2	0	965	92	12	3	111	74
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1900	1863	1863	1900	1900	1863	1863
Adj Flow Rate, veh/h	98	7	1147	4	2	0	1074	0	0	3	114	76
Adj No. of Lanes	0	1	1	0	1	0	2	1	0	0	1	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	362	23	1207	136	54	0	2007	1053	0	4	164	143
Arrive On Green	0.20	0.20	0.20	0.20	0.20	0.00	0.57	0.00	0.00	0.09	0.09	0.09
Sat Flow, veh/h	1403	117	1583	318	276	0	3548	1863	0	48	1813	1583
Grp Volume(v), veh/h	105	0	1147	6	0	0	1074	0	0	117	0	76
Grp Sat Flow(s),veh/h/ln	1520	0	1583	594	0	0	1774	1863	0	1860	0	1583
Q Serve(g_s), s	0.0	0.0	16.0	0.0	0.0	0.0	15.3	0.0	0.0	5.0	0.0	3.7
Cycle Q Clear(g_c), s	4.1	0.0	16.0	4.2	0.0	0.0	15.3	0.0	0.0	5.0	0.0	3.7
Prop In Lane	0.93		1.00	0.67		0.00	1.00		0.00	0.03		1.00
Lane Grp Cap(c), veh/h	384	0	1207	191	0	0	2007	1053	0	168	0	143
V/C Ratio(X)	0.27	0.00	0.95	0.03	0.00	0.00	0.54	0.00	0.00	0.70	0.00	0.53
Avail Cap(c_a), veh/h	384	0	1207	191	0	0	2007	1053	0	366	0	311
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.9	0.0	4.2	26.4	0.0	0.0	11.0	0.0	0.0	35.9	0.0	35.4
Incr Delay (d2), s/veh	0.4	0.0	15.5	0.1	0.0	0.0	1.0	0.0	0.0	5.1	0.0	3.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	0.0	30.7	0.1	0.0	0.0	7.7	0.0	0.0	2.8	0.0	1.7
LnGrp Delay(d),s/veh	28.3	0.0	19.7	26.5	0.0	0.0	12.0	0.0	0.0	41.1	0.0	38.4
LnGrp LOS	C		B	C			B			D		D
Approach Vol, veh/h	1252					6		1074			193	
Approach Delay, s/veh	20.5					26.5		12.0			40.0	
Approach LOS	C					C		B			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	50.0		20.0		11.3		20.0					
Change Period (Y+Rc), s	4.0		4.0		4.0		4.0					
Max Green Setting (Gmax), s	46.0		16.0		16.0		16.0					
Max Q Clear Time (g_c+l1), s	17.3		18.0		7.0		6.2					
Green Ext Time (p_c), s	4.4		0.0		0.5		0.0					
Intersection Summary												
HCM 2010 Ctrl Delay	18.4											
HCM 2010 LOS	B											
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

5: Collier Ave - SR-74 & Hunco Way

EX+AMBIENT+CUMUL+PROJ AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↑	↔	↔	↑↑	↔	↔	↑↑	
Traffic Volume (veh/h)	2	2	29	119	3	46	50	952	30	58	1128	15
Future Volume (veh/h)	2	2	29	119	3	46	50	952	30	58	1128	15
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	2	2	30	124	3	48	52	992	31	60	1175	16
Adj No. of Lanes	0	1	0	1	1	1	1	2	1	1	2	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	85	21	195	349	258	219	130	1868	836	143	1913	26
Arrive On Green	0.14	0.14	0.14	0.14	0.14	0.14	0.07	0.53	0.53	0.08	0.54	0.54
Sat Flow, veh/h	36	152	1412	1372	1863	1583	1774	3539	1583	1774	3575	49
Grp Volume(v), veh/h	34	0	0	124	3	48	52	992	31	60	582	609
Grp Sat Flow(s),veh/h/ln1600	0	0	0	1372	1863	1583	1774	1770	1583	1774	1770	1854
Q Serve(g_s), s	0.0	0.0	0.0	2.9	0.1	1.3	1.3	8.7	0.4	1.5	10.8	10.8
Cycle Q Clear(g_c), s	0.9	0.0	0.0	3.8	0.1	1.3	1.3	8.7	0.4	1.5	10.8	10.8
Prop In Lane	0.06		0.88	1.00		1.00	1.00		1.00	1.00		0.03
Lane Grp Cap(c), veh/h	302	0	0	349	258	219	130	1868	836	143	947	992
V/C Ratio(X)	0.11	0.00	0.00	0.36	0.01	0.22	0.40	0.53	0.04	0.42	0.61	0.61
Avail Cap(c_a), veh/h	617	0	0	623	629	535	262	1868	836	262	947	992
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.0	0.0	0.0	19.1	17.6	18.1	21.0	7.3	5.4	20.7	7.6	7.6
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.6	0.0	0.5	2.0	1.1	0.1	1.9	3.0	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln0.4	0.0	0.0	1.6	0.0	0.6	0.7	4.4	0.2	0.8	6.0	6.2	
LnGrp Delay(d),s/veh	18.1	0.0	0.0	19.7	17.6	18.6	22.9	8.4	5.5	22.7	10.6	10.5
LnGrp LOS	B			B	B	B	C	A	A	C	B	B
Approach Vol, veh/h	34			175			1075			1251		
Approach Delay, s/veh	18.1			19.4			9.0			11.1		
Approach LOS	B			B			A			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s7.8	29.0			10.6	7.5	29.4		10.6				
Change Period (Y+Rc), s 4.0	4.0			4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s7.8	25.0			16.0	7.0	25.0		16.0				
Max Q Clear Time (g_c+13, s13.5	10.7			2.9	3.3	12.8		5.8				
Green Ext Time (p_c), s 0.0	5.4			0.1	0.0	5.7		0.3				
Intersection Summary												
HCM 2010 Ctrl Delay	10.9											
HCM 2010 LOS	B											

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	98	34	1037	282	886	20	115	400	1081	126	34
Future Volume (veh/h)	50	98	34	1037	282	886	20	115	400	1081	126	34
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	56	110	38	1165	317	996	22	129	449	1215	142	38
Adj No. of Lanes	2	2	0	2	1	2	1	2	2	2	2	1
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	406	164	54	1004	440	1495	54	751	1404	1032	1705	763
Arrive On Green	0.12	0.06	0.06	0.10	0.08	0.08	0.03	0.21	0.21	0.30	0.48	0.48
Sat Flow, veh/h	3442	2613	867	3442	1863	2787	1774	3539	2787	3442	3539	1583
Grp Volume(v), veh/h	56	73	75	1165	317	996	22	129	449	1215	142	38
Grp Sat Flow(s),veh/h/ln	1721	1770	1710	1721	1863	1393	1774	1770	1393	1721	1770	1583
Q Serve(g_s), s	1.8	4.8	5.2	35.0	19.9	14.4	1.5	3.6	7.7	36.0	2.6	1.0
Cycle Q Clear(g_c), s	1.8	4.8	5.2	35.0	19.9	14.4	1.5	3.6	7.7	36.0	2.6	1.0
Prop In Lane	1.00		0.51	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	406	111	108	1004	440	1495	54	751	1404	1032	1705	763
V/C Ratio(X)	0.14	0.66	0.70	1.16	0.72	0.67	0.41	0.17	0.32	1.18	0.08	0.05
Avail Cap(c_a), veh/h	406	236	228	1004	683	1858	103	751	1404	1032	1705	763
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	0.47	0.47	0.47	1.00	1.00	1.00	0.84	0.84	0.84
Uniform Delay (d), s/veh	47.4	55.0	55.1	54.2	51.4	9.4	57.1	38.7	8.6	42.0	16.8	6.8
Incr Delay (d2), s/veh	0.2	6.4	7.9	77.9	1.1	0.3	4.9	0.5	0.6	88.3	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	2.6	2.7	27.5	10.4	5.6	0.8	1.8	3.0	29.7	1.3	0.4
LnGrp Delay(d),s/veh	47.6	61.4	63.0	132.1	52.5	9.7	62.0	39.2	9.2	130.3	16.9	6.9
LnGrp LOS	D	E	E	F	D	A	E	D	A	F	B	A
Approach Vol, veh/h	204		2478				600		1395			
Approach Delay, s/veh	58.2		72.7				17.6		115.4			
Approach LOS	E		E				B		F			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	40.0	29.5	39.0	11.5	7.6	61.8	18.2	32.4				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	36.0	17.0	35.0	16.0	7.0	46.0	7.0	44.0				
Max Q Clear Time (g_c+Q_c), s	39.0	9.7	37.0	7.2	3.5	4.6	3.8	21.9				
Green Ext Time (p_c), s	0.0	1.5	0.0	0.4	0.0	0.9	0.0	6.4				
Intersection Summary												
HCM 2010 Ctrl Delay			77.8									
HCM 2010 LOS			E									

HCM 2010 Signalized Intersection Summary

7: I-15 SB Ramps & Central Ave - SR-74

EX+AMBIENT+CUMUL+PROJ AM

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑↑	↑↑					↑	↑↑	↑
Traffic Volume (veh/h)	0	945	692	905	1959	0	0	0	0	397	6	326
Future Volume (veh/h)	0	945	692	905	1959	0	0	0	0	397	6	326
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1863	1863	1863	0				1863	1863	1863
Adj Flow Rate, veh/h	0	984	721	943	2041	0				522	0	229
Adj No. of Lanes	0	2	1	2	2	0				2	0	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96				0.96	0.96	0.96
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1268	567	990	2404	0				901	0	402
Arrive On Green	0.00	0.12	0.12	0.58	1.00	0.00				0.25	0.00	0.25
Sat Flow, veh/h	0	3632	1583	3442	3632	0				3548	0	1583
Grp Volume(v), veh/h	0	984	721	943	2041	0				522	0	229
Grp Sat Flow(s),veh/h/ln	0	1770	1583	1721	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	32.4	43.0	30.9	0.0	0.0				15.4	0.0	15.1
Cycle Q Clear(g_c), s	0.0	32.4	43.0	30.9	0.0	0.0				15.4	0.0	15.1
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1268	567	990	2404	0				901	0	402
V/C Ratio(X)	0.00	0.78	1.27	0.95	0.85	0.00				0.58	0.00	0.57
Avail Cap(c_a), veh/h	0	1268	567	1061	2477	0				901	0	402
HCM Platoon Ratio	1.00	0.33	0.33	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.30	0.30	0.16	0.16	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	48.2	52.9	24.7	0.0	0.0				39.1	0.0	39.0
Incr Delay (d2), s/veh	0.0	0.9	126.2	4.0	0.5	0.0				2.7	0.0	5.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	16.1	38.7	15.0	0.2	0.0				7.9	0.0	7.3
LnGrp Delay(d),s/veh	0.0	49.2	179.1	28.7	0.5	0.0				41.9	0.0	44.8
LnGrp LOS		D	F	C	A					D		D
Approach Vol, veh/h		1705			2984						751	
Approach Delay, s/veh		104.1			9.4						42.7	
Approach LOS		F			A						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			38.5	47.0		34.5		85.5				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			37.0	43.0		28.0		84.0				
Max Q Clear Time (g_c+I1), s			32.9	45.0		17.4		2.0				
Green Ext Time (p_c), s			1.6	0.0		2.2		39.1				
Intersection Summary												
HCM 2010 Ctrl Delay			43.7									
HCM 2010 LOS			D									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary 8: I-15 NB Ramps & Central Ave - SR-74

EX+AMBIENT+CUMUL+PROJ AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 				
Traffic Volume (veh/h)	118	1239	0	0	2171	664	738	0	748	0	0	0
Future Volume (veh/h)	118	1239	0	0	2171	664	738	0	748	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1863	1863	1863			
Adj Flow Rate, veh/h	127	1332	0	0	2334	714	1046	0	534			
Adj No. of Lanes	1	3	0	0	3	1	2	0	1			
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	133	2911	0	0	2360	735	1281	0	571			
Arrive On Green	0.15	1.00	0.00	0.00	0.93	0.93	0.36	0.00	0.36			
Sat Flow, veh/h	1774	5253	0	0	5253	1583	3548	0	1583			
Grp Volume(v), veh/h	127	1332	0	0	2334	714	1046	0	534			
Grp Sat Flow(s),veh/h/ln	1774	1695	0	0	1695	1583	1774	0	1583			
Q Serve(g_s), s	8.5	0.0	0.0	0.0	48.2	39.6	32.1	0.0	39.0			
Cycle Q Clear(g_c), s	8.5	0.0	0.0	0.0	48.2	39.6	32.1	0.0	39.0			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	133	2911	0	0	2360	735	1281	0	571			
V/C Ratio(X)	0.95	0.46	0.00	0.00	0.99	0.97	0.82	0.00	0.93			
Avail Cap(c_a), veh/h	133	2924	0	0	2373	739	1281	0	571			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(I)	0.56	0.56	0.00	0.00	0.26	0.26	1.00	0.00	1.00			
Uniform Delay (d), s/veh	50.8	0.0	0.0	0.0	4.0	3.7	34.7	0.0	37.0			
Incr Delay (d2), s/veh	45.8	0.1	0.0	0.0	7.1	11.1	5.9	0.0	24.5			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	5.9	0.0	0.0	0.0	19.2	15.7	16.7	0.0	21.0			
LnGrp Delay(d),s/veh	96.6	0.1	0.0	0.0	11.2	14.8	40.6	0.0	61.5			
LnGrp LOS	F	A			B	B	D		E			
Approach Vol, veh/h	1459			3048			1580					
Approach Delay, s/veh	8.5			12.0			47.7					
Approach LOS	A			B			D					
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4				7	8				
Phs Duration (G+Y+Rc), s	47.3		72.7				13.0	59.7				
Change Period (Y+Rc), s	4.0		4.0				4.0	4.0				
Max Green Setting (Gmax), s	43.0		69.0				9.0	56.0				
Max Q Clear Time (g_c+I1), s	41.0		2.0				10.5	50.2				
Green Ext Time (p_c), s	1.3		12.4				0.0	5.5				
Intersection Summary												
HCM 2010 Ctrl Delay	20.4											
HCM 2010 LOS	C											
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary
9: Dexter Ave & Central Ave - SR-74

EX+AMBIENT+CUMUL+PROJ AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	344	1381	268	181	1954	192	402	141	204	92	98	482
Future Volume (veh/h)	344	1381	268	181	1954	192	402	141	204	92	98	482
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	378	1518	295	199	2147	211	442	155	224	101	108	530
Adj No. of Lanes	1	3	1	1	4	1	1	1	0	1	1	1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	370	1724	537	360	2136	528	311	247	357	232	667	897
Arrive On Green	0.42	0.68	0.68	0.20	0.33	0.33	0.36	0.36	0.36	0.36	0.36	0.36
Sat Flow, veh/h	1774	5085	1583	1774	6408	1583	787	690	997	1000	1863	1583
Grp Volume(v), veh/h	378	1518	295	199	2147	211	442	0	379	101	108	530
Grp Sat Flow(s),veh/h/ln	1774	1695	1583	1774	1602	1583	787	0	1687	1000	1863	1583
Q Serve(g_s), s	25.0	28.6	11.5	12.1	40.0	12.3	38.3	0.0	22.3	11.2	4.7	1.2
Cycle Q Clear(g_c), s	25.0	28.6	11.5	12.1	40.0	12.3	43.0	0.0	22.3	33.5	4.7	1.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.59	1.00		1.00
Lane Grp Cap(c), veh/h	370	1724	537	360	2136	528	311	0	604	232	667	897
V/C Ratio(X)	1.02	0.88	0.55	0.55	1.01	0.40	1.42	0.00	0.63	0.43	0.16	0.59
Avail Cap(c_a), veh/h	370	1992	620	360	2136	528	311	0	604	232	667	897
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.79	0.79	0.79	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.0	17.4	14.6	43.0	40.0	30.8	44.6	0.0	31.9	45.7	26.2	16.9
Incr Delay (d2), s/veh	47.6	3.6	0.7	1.8	20.7	0.5	207.4	0.0	4.9	5.8	0.5	2.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.0	13.5	5.0	6.1	20.7	5.5	28.2	0.0	11.2	3.5	2.5	1.1
LnGrp Delay(d),s/veh	82.6	21.0	15.3	44.8	60.7	31.3	252.0	0.0	36.7	51.5	26.7	19.8
LnGrp LOS	F	C	B	D	F	C	F		D	D	C	B
Approach Vol, veh/h	2191			2557				821			739	
Approach Delay, s/veh	30.9			57.1				152.6			25.1	
Approach LOS	C			E				F			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		47.0	28.3	44.7		47.0	29.0	44.0				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		43.0	18.0	47.0		43.0	25.0	40.0				
Max Q Clear Time (g_c+I1), s		45.0	14.1	30.6		35.5	27.0	42.0				
Green Ext Time (p_c), s		0.0	0.2	10.0		1.9	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay	56.7											
HCM 2010 LOS	E											

10: Strickland Ave/Gunnerson St & Riverside Dr - SR-74

Intersection

Int Delay, s/veh 15.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	1187	25	7	794	32	2	3	9	47	5	5
Future Vol, veh/h	7	1187	25	7	794	32	2	3	9	47	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	Stop	-	-	Stop
Storage Length	100	-	-	100	-	-	-	-	50	-	-	50
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	1249	26	7	836	34	2	3	9	49	5	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	870	0	0	1275	0	0	2146	2160	1262	2145	2156	853
Stage 1	-	-	-	-	-	-	1276	1276	-	867	867	-
Stage 2	-	-	-	-	-	-	870	884	-	1278	1289	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	775	-	-	545	-	-	35	47	207	~ 35	48	359
Stage 1	-	-	-	-	-	-	205	238	-	348	370	-
Stage 2	-	-	-	-	-	-	346	363	-	204	234	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	775	-	-	545	-	-	31	46	207	~ 31	47	359
Mov Cap-2 Maneuver	-	-	-	-	-	-	31	46	-	~ 31	47	-
Stage 1	-	-	-	-	-	-	203	236	-	345	365	-
Stage 2	-	-	-	-	-	-	332	358	-	190	232	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.1			54.6			\$ 559.9		
HCM LOS							F			F		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	39	207	775	-	-	545	-	-	32	359
HCM Lane V/C Ratio	0.135	0.046	0.01	-	-	0.014	-	-	1.711	0.015
HCM Control Delay (s)	111.2	23.2	9.7	-	-	11.7	-	-	\$ 612.3	15.2
HCM Lane LOS	F	C	A	-	-	B	-	-	F	C
HCM 95th %tile Q(veh)	0.4	0.1	0	-	-	0	-	-	6.2	0

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

HCM 2010 Signalized Intersection Summary
11: Lakeshore Dr & Riverside Dr - SR-74

EX+AMBIENT+CUMUL+PROJ AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	132	647	236	96	550	208	165	157	90	278	189	97
Future Volume (veh/h)	132	647	236	96	550	208	165	157	90	278	189	97
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	138	674	246	100	573	217	172	164	94	290	197	101
Adj No. of Lanes	1	2	1	1	1	1	1	2	0	1	2	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	163	1248	558	130	622	529	209	458	249	326	963	431
Arrive On Green	0.09	0.35	0.35	0.07	0.33	0.33	0.12	0.21	0.21	0.18	0.27	0.27
Sat Flow, veh/h	1774	3539	1583	1774	1863	1583	1774	2213	1206	1774	3539	1583
Grp Volume(v), veh/h	138	674	246	100	573	217	172	129	129	290	197	101
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1650	1774	1770	1583
Q Serve(g_s), s	6.7	13.3	10.4	4.8	25.8	9.2	8.2	5.4	5.8	13.9	3.7	4.3
Cycle Q Clear(g_c), s	6.7	13.3	10.4	4.8	25.8	9.2	8.2	5.4	5.8	13.9	3.7	4.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.73	1.00		1.00
Lane Grp Cap(c), veh/h	163	1248	558	130	622	529	209	366	341	326	963	431
V/C Ratio(X)	0.85	0.54	0.44	0.77	0.92	0.41	0.82	0.35	0.38	0.89	0.20	0.23
Avail Cap(c_a), veh/h	163	1248	558	224	663	564	326	366	341	346	963	431
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.9	22.5	21.6	39.6	27.9	22.4	37.5	29.6	29.7	34.7	24.4	24.6
Incr Delay (d2), s/veh	31.7	0.5	0.5	9.2	17.7	0.5	9.2	2.7	3.2	22.9	0.5	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	6.5	4.6	2.7	16.3	4.1	4.5	2.9	2.9	8.8	1.9	2.0
LnGrp Delay(d),s/veh	70.6	23.0	22.1	48.8	45.6	22.9	46.7	32.2	32.9	57.6	24.9	25.9
LnGrp LOS	E	C	C	D	D	C	D	C	C	E	C	C
Approach Vol, veh/h	1058				890				430			
Approach Delay, s/veh	29.0				40.4				38.2			
Approach LOS	C				D				D			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	20.0	22.0	10.4	34.7	14.3	27.7	12.0	33.1				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	17.0	18.0	11.0	28.0	16.0	19.0	8.0	31.0				
Max Q Clear Time (g_c+I1), s	15.9	7.8	6.8	15.3	10.2	6.3	8.7	27.8				
Green Ext Time (p_c), s	0.1	0.9	0.1	4.1	0.2	1.1	0.0	1.3				
Intersection Summary												
HCM 2010 Ctrl Delay	36.2											
HCM 2010 LOS	D											

Intersection												
Int Delay, s/veh	41.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	206	174	0	0	104	50	335	3	28	0	0	0
Future Vol, veh/h	206	174	0	0	104	50	335	3	28	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	275	-	-	-	-	-	-	-	50	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	212	179	0	0	107	52	345	3	29	0	0	0

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	159	0	- - - 0 736 762 179
Stage 1	-	-	- - - 603 603 -
Stage 2	-	-	- - - 133 159 -
Critical Hdwy	4.12	-	- - - 6.42 6.52 6.22
Critical Hdwy Stg 1	-	-	- - - 5.42 5.52 -
Critical Hdwy Stg 2	-	-	- - - 5.42 5.52 -
Follow-up Hdwy	2.218	-	- - - 3.518 4.018 3.318
Pot Cap-1 Maneuver	1420	-	0 0 - - 386 335 864
Stage 1	-	-	0 0 - - 546 488 -
Stage 2	-	-	0 0 - - 893 766 -
Platoon blocked, %	-	-	- -
Mov Cap-1 Maneuver	1420	-	- - - ~ 328 0 864
Mov Cap-2 Maneuver	-	-	- - - ~ 328 0 -
Stage 1	-	-	- - - 465 0 -
Stage 2	-	-	- - - 893 0 -

Approach	EB	WB	NB
HCM Control Delay, s	4.3	0	96.6
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR
Capacity (veh/h)	328	864	1420	-	-	-
HCM Lane V/C Ratio	1.062	0.033	0.15	-	-	-
HCM Control Delay (s)	103.8	9.3	8	-	-	-
HCM Lane LOS	F	A	A	-	-	-
HCM 95th %tile Q(veh)	12.8	0.1	0.5	-	-	-

Notes			
~: Volume exceeds capacity	\$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	18.1
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑	↑	↑						↑	↑
Traffic Vol, veh/h	0	310	342	24	416	0	0	0	0	75	2	216
Future Vol, veh/h	0	310	342	24	416	0	0	0	0	75	2	216
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	316	349	24	424	0	0	0	0	77	2	220
Number of Lanes	0	1	1	1	1	0	0	0	0	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	2	2	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	2
HCM Control Delay	15.3	25.6	13.1
HCM LOS	C	D	B

Lane	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	100%	0%	97%	0%
Vol Thru, %	100%	0%	0%	100%	3%	0%
Vol Right, %	0%	100%	0%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	310	342	24	416	77	216
LT Vol	0	0	24	0	75	0
Through Vol	310	0	0	416	2	0
RT Vol	0	342	0	0	0	216
Lane Flow Rate	316	349	24	424	79	220
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.545	0.532	0.047	0.756	0.168	0.397
Departure Headway (Hd)	6.2	5.487	6.917	6.408	7.696	6.485
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	579	653	516	560	464	553
Service Time	3.963	3.25	4.685	4.176	5.466	4.254
HCM Lane V/C Ratio	0.546	0.534	0.047	0.757	0.17	0.398
HCM Control Delay	16.2	14.4	10	26.5	12	13.5
HCM Lane LOS	C	B	A	D	B	B
HCM 95th-tile Q	3.3	3.1	0.1	6.7	0.6	1.9

Intersection						
Int Delay, s/veh	13					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	312	71	272	361	96	306
Future Vol, veh/h	312	71	272	361	96	306
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	135	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	339	77	296	392	104	333
Major/Minor	Major1	Major2		Minor1		
Conflicting Flow All	0	0	416	0	1362	378
Stage 1	-	-	-	-	378	-
Stage 2	-	-	-	-	984	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1143	-	163	669
Stage 1	-	-	-	-	693	-
Stage 2	-	-	-	-	362	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1143	-	121	669
Mov Cap-2 Maneuver	-	-	-	-	121	-
Stage 1	-	-	-	-	514	-
Stage 2	-	-	-	-	362	-
Approach	EB	WB		NB		
HCM Control Delay, s	0	4		39.5		
HCM LOS	E					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	121	669	-	-	1143	-
HCM Lane V/C Ratio	0.862	0.497	-	-	0.259	-
HCM Control Delay (s)	115.6	15.6	-	-	9.2	-
HCM Lane LOS	F	C	-	-	A	-
HCM 95th %tile Q(veh)	5.3	2.8	-	-	1	-

HCM 2010 Signalized Intersection Summary

EX+AMBIENT+CUMUL+PROJ PM

4: Collier Ave - SR-74/Collier Ave & Riverside Dr - SR-74/Riverside Dr

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	116	12	1292	25	17	12	1326	264	15	4	261	138
Future Volume (veh/h)	116	12	1292	25	17	12	1326	264	15	4	261	138
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1900	1863	1863	1900	1900	1863	1863
Adj Flow Rate, veh/h	122	13	1360	26	18	13	1610	0	0	4	275	145
Adj No. of Lanes	0	1	1	0	1	0	2	1	0	0	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	172	12	1201	44	27	8	2218	1164	0	4	260	224
Arrive On Green	0.13	0.13	0.13	0.13	0.13	0.13	0.63	0.00	0.00	0.14	0.14	0.14
Sat Flow, veh/h	865	92	1583	0	204	60	3548	1863	0	27	1835	1583
Grp Volume(v), veh/h	135	0	1360	57	0	0	1610	0	0	279	0	145
Grp Sat Flow(s),veh/h/ln	958	0	1583	265	0	0	1774	1863	0	1861	0	1583
Q Serve(g_s), s	0.0	0.0	16.0	0.0	0.0	0.0	37.4	0.0	0.0	17.0	0.0	10.4
Cycle Q Clear(g_c), s	16.0	0.0	16.0	16.0	0.0	0.0	37.4	0.0	0.0	17.0	0.0	10.4
Prop In Lane	0.90		1.00	0.46		0.23	1.00		0.00	0.01		1.00
Lane Grp Cap(c), veh/h	185	0	1201	79	0	0	2218	1164	0	264	0	224
V/C Ratio(X)	0.73	0.00	1.13	0.72	0.00	0.00	0.73	0.00	0.00	1.06	0.00	0.65
Avail Cap(c_a), veh/h	185	0	1201	79	0	0	2218	1164	0	264	0	224
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	52.4	0.0	5.4	50.8	0.0	0.0	15.4	0.0	0.0	51.5	0.0	48.7
Incr Delay (d2), s/veh	13.7	0.0	70.5	27.3	0.0	0.0	2.1	0.0	0.0	71.5	0.0	6.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.2	0.0	63.2	2.5	0.0	0.0	18.8	0.0	0.0	14.0	0.0	4.9
LnGrp Delay(d),s/veh	66.1	0.0	76.0	78.1	0.0	0.0	17.6	0.0	0.0	123.0	0.0	55.0
LnGrp LOS	E		F	E			B			F		D
Approach Vol, veh/h	1495				57				1610			
Approach Delay, s/veh	75.1				78.1				17.6			
Approach LOS	E				E				B			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	79.0		20.0		21.0		20.0					
Change Period (Y+Rc), s	4.0		4.0		4.0		4.0					
Max Green Setting (Gmax), s	75.0		16.0		17.0		16.0					
Max Q Clear Time (g_c+l1), s	39.4		18.0		19.0		18.0					
Green Ext Time (p_c), s	8.3		0.0		0.0		0.0					
Intersection Summary												
HCM 2010 Ctrl Delay			52.2									
HCM 2010 LOS			D									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary 5: Collier Ave - SR-74 & Hunco Way

EX+AMBIENT+CUMUL+PROJ PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↑	↔	↔	↑↑	↔	↔	↑↑	
Traffic Volume (veh/h)	20	5	67	288	3	116	60	1390	40	109	1459	13
Future Volume (veh/h)	20	5	67	288	3	116	60	1390	40	109	1459	13
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	21	5	71	306	3	123	64	1479	43	116	1552	14
Adj No. of Lanes	0	1	0	1	1	1	1	2	1	1	2	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	112	52	274	442	446	379	127	1752	784	161	1847	17
Arrive On Green	0.24	0.24	0.24	0.24	0.24	0.24	0.07	0.50	0.50	0.09	0.51	0.51
Sat Flow, veh/h	203	217	1145	1318	1863	1583	1774	3539	1583	1774	3594	32
Grp Volume(v), veh/h	97	0	0	306	3	123	64	1479	43	116	764	802
Grp Sat Flow(s), veh/h/ln	1564	0	0	1318	1863	1583	1774	1770	1583	1774	1770	1857
Q Serve(g_s), s	0.0	0.0	0.0	11.1	0.1	4.4	2.4	24.9	1.0	4.4	25.3	25.4
Cycle Q Clear(g_c), s	3.3	0.0	0.0	14.3	0.1	4.4	2.4	24.9	1.0	4.4	25.3	25.4
Prop In Lane	0.22		0.73	1.00		1.00	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	438	0	0	442	446	379	127	1752	784	161	909	954
V/C Ratio(X)	0.22	0.00	0.00	0.69	0.01	0.32	0.50	0.84	0.05	0.72	0.84	0.84
Avail Cap(c_a), veh/h	450	0	0	453	461	392	181	1752	784	181	909	954
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.1	0.0	0.0	24.9	19.9	21.5	30.7	15.0	9.0	30.4	14.3	14.3
Incr Delay (d2), s/veh	0.3	0.0	0.0	4.4	0.0	0.5	3.0	5.2	0.1	11.6	9.2	8.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	0.0	0.0	6.1	0.0	2.0	1.3	13.2	0.4	2.6	14.4	15.3
LnGrp Delay(d),s/veh	21.4	0.0	0.0	29.3	19.9	22.0	33.7	20.2	9.1	41.9	23.5	23.1
LnGrp LOS	C			C	B	C	C	C	A	D	C	C
Approach Vol, veh/h	97			432			1586			1682		
Approach Delay, s/veh	21.4			27.2			20.5			24.6		
Approach LOS	C			C			C			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	38.0			20.4	8.9	39.3		20.4				
Change Period (Y+Rc), s	4.0			4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	34.0			17.0	7.0	34.0		17.0				
Max Q Clear Time (g_c+1/4), s	26.9			5.3	4.4	27.4		16.3				
Green Ext Time (p_c), s	0.0	4.9		0.3	0.0	4.7		0.1				
Intersection Summary												
HCM 2010 Ctrl Delay	23.1											
HCM 2010 LOS	C											

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	199	403	40	548	218	1086	42	234	744	1446	199	35
Future Volume (veh/h)	199	403	40	548	218	1086	42	234	744	1446	199	35
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	214	433	43	589	234	1168	45	252	800	1555	214	38
Adj No. of Lanes	2	2	0	2	1	2	1	2	2	2	2	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	436	473	47	532	323	1598	113	547	861	1377	1737	777
Arrive On Green	0.13	0.15	0.15	0.05	0.06	0.06	0.06	0.15	0.15	0.40	0.49	0.49
Sat Flow, veh/h	3442	3254	322	3442	1863	2787	1774	3539	2787	3442	3539	1583
Grp Volume(v), veh/h	214	235	241	589	234	1168	45	252	800	1555	214	38
Grp Sat Flow(s),veh/h/ln	1721	1770	1806	1721	1863	1393	1774	1770	1393	1721	1770	1583
Q Serve(g_s), s	6.4	14.4	14.5	17.0	13.6	0.0	2.7	7.1	10.4	44.0	3.6	1.4
Cycle Q Clear(g_c), s	6.4	14.4	14.5	17.0	13.6	0.0	2.7	7.1	10.4	44.0	3.6	1.4
Prop In Lane	1.00		0.18	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	436	257	263	532	323	1598	113	547	861	1377	1737	777
V/C Ratio(X)	0.49	0.91	0.92	1.11	0.72	0.73	0.40	0.46	0.93	1.13	0.12	0.05
Avail Cap(c_a), veh/h	436	257	263	532	373	1672	113	547	861	1377	1737	777
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.52	0.52	0.52	1.00	1.00	1.00	0.44	0.44	0.44
Uniform Delay (d), s/veh	44.7	46.3	46.4	52.2	49.3	21.9	49.5	42.3	18.7	33.0	15.2	14.6
Incr Delay (d2), s/veh	0.9	33.6	34.7	62.3	3.1	0.8	2.3	2.8	17.6	63.0	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	9.4	9.8	12.7	7.3	16.5	1.4	3.7	6.0	32.9	1.8	0.6
LnGrp Delay(d),s/veh	45.6	79.9	81.1	114.5	52.3	22.7	51.7	45.1	36.3	96.0	15.2	14.7
LnGrp LOS	D	E	F	F	D	C	D	D	D	F	B	B
Approach Vol, veh/h	690			1991			1097			1807		
Approach Delay, s/veh	69.7			53.3			39.0			84.7		
Approach LOS	E			D			D			F		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	48.0	21.0	21.0	20.0	11.0	58.0	17.9	23.1				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	41.0	17.0	17.0	16.0	7.0	54.0	11.0	22.0				
Max Q Clear Time (g_c+Rc), s	10.0	12.4	19.0	16.5	4.7	5.6	8.4	15.6				
Green Ext Time (p_c), s	0.0	2.1	0.0	0.0	0.0	1.4	0.2	3.5				
Intersection Summary												
HCM 2010 Ctrl Delay			62.7									
HCM 2010 LOS			E									

HCM 2010 Signalized Intersection Summary

7: I-15 SB Ramps & Central Ave - SR-74

EX+AMBIENT+CUMUL+PROJ PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑↑	↑↑					↑	↑↑	↑
Traffic Volume (veh/h)	0	1875	797	875	1914	0	0	0	0	878	0	225
Future Volume (veh/h)	0	1875	797	875	1914	0	0	0	0	878	0	225
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1863	1863	1863	0				1863	1863	1863
Adj Flow Rate, veh/h	0	1913	813	893	1953	0				968	0	153
Adj No. of Lanes	0	2	1	2	2	0				2	0	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98				0.98	0.98	0.98
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1544	691	688	2381	0				903	0	403
Arrive On Green	0.00	0.14	0.14	0.40	1.00	0.00				0.25	0.00	0.25
Sat Flow, veh/h	0	3632	1583	3442	3632	0				3548	0	1583
Grp Volume(v), veh/h	0	1913	813	893	1953	0				968	0	153
Grp Sat Flow(s),veh/h/ln	0	1770	1583	1721	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	48.0	48.0	22.0	0.0	0.0				28.0	0.0	8.8
Cycle Q Clear(g_c), s	0.0	48.0	48.0	22.0	0.0	0.0				28.0	0.0	8.8
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1544	691	688	2381	0				903	0	403
V/C Ratio(X)	0.00	1.24	1.18	1.30	0.82	0.00				1.07	0.00	0.38
Avail Cap(c_a), veh/h	0	1544	691	688	2381	0				903	0	403
HCM Platoon Ratio	1.00	0.33	0.33	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.09	0.09	0.09	0.09	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	47.1	47.1	33.0	0.0	0.0				41.0	0.0	33.8
Incr Delay (d2), s/veh	0.0	107.9	81.1	134.8	0.2	0.0				51.1	0.0	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	46.7	36.6	23.2	0.1	0.0				20.1	0.0	4.1
LnGrp Delay(d),s/veh	0.0	155.0	128.1	167.8	0.2	0.0				92.1	0.0	36.5
LnGrp LOS		F	F	F	A					F		D
Approach Vol, veh/h		2726			2846						1121	
Approach Delay, s/veh		147.0			52.8						84.5	
Approach LOS		F			D						F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			26.0	52.0		32.0		78.0				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			22.0	48.0		28.0		74.0				
Max Q Clear Time (g_c+I1), s			24.0	50.0		30.0		2.0				
Green Ext Time (p_c), s			0.0	0.0		0.0		33.8				
Intersection Summary												
HCM 2010 Ctrl Delay			96.5									
HCM 2010 LOS			F									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary 8: I-15 NB Ramps & Central Ave - SR-74

EX+AMBIENT+CUMUL+PROJ PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	253	2530	0	0	2072	634	683	0	1051	0	0	0
Future Volume (veh/h)	253	2530	0	0	2072	634	683	0	1051	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1863	1863	1863			
Adj Flow Rate, veh/h	258	2582	0	0	2114	647	465	0	1321			
Adj No. of Lanes	1	3	0	0	3	1	1	0	2			
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	242	2866	0	0	1988	619	645	0	1152			
Arrive On Green	0.27	1.00	0.00	0.00	0.78	0.78	0.36	0.00	0.36			
Sat Flow, veh/h	1774	5253	0	0	5253	1583	1774	0	3167			
Grp Volume(v), veh/h	258	2582	0	0	2114	647	465	0	1321			
Grp Sat Flow(s),veh/h/ln	1774	1695	0	0	1695	1583	1774	0	1583			
Q Serve(g_s), s	15.0	0.0	0.0	0.0	43.0	43.0	24.9	0.0	40.0			
Cycle Q Clear(g_c), s	15.0	0.0	0.0	0.0	43.0	43.0	24.9	0.0	40.0			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	242	2866	0	0	1988	619	645	0	1152			
V/C Ratio(X)	1.07	0.90	0.00	0.00	1.06	1.05	0.72	0.00	1.15			
Avail Cap(c_a), veh/h	242	2866	0	0	1988	619	645	0	1152			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(I)	0.09	0.09	0.00	0.00	0.40	0.40	1.00	0.00	1.00			
Uniform Delay (d), s/veh	40.0	0.0	0.0	0.0	12.0	12.0	30.2	0.0	35.0			
Incr Delay (d2), s/veh	38.3	0.4	0.0	0.0	33.7	35.6	6.8	0.0	76.7			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	9.8	0.1	0.0	0.0	25.0	23.7	13.4	0.0	29.7			
LnGrp Delay(d),s/veh	78.3	0.4	0.0	0.0	45.7	47.6	37.0	0.0	111.7			
LnGrp LOS	F	A			F	F	D		F			
Approach Vol, veh/h	2840			2761			1786					
Approach Delay, s/veh	7.5			46.1			92.3					
Approach LOS	A			D			F					
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4				7	8				
Phs Duration (G+Y+Rc), s	44.0		66.0				19.0	47.0				
Change Period (Y+Rc), s	4.0		4.0				4.0	4.0				
Max Green Setting (Gmax), s	40.0		62.0				15.0	43.0				
Max Q Clear Time (g_c+I1), s	42.0		2.0				17.0	45.0				
Green Ext Time (p_c), s	0.0		40.0				0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay	42.4											
HCM 2010 LOS	D											
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary
9: Dexter Ave & Central Ave - SR-74

EX+AMBIENT+CUMUL+PROJ PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	464	2526	593	280	1942	100	387	116	274	83	75	378
Future Volume (veh/h)	464	2526	593	280	1942	100	387	116	274	83	75	378
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	473	2578	605	286	1982	102	395	118	280	85	77	386
Adj No. of Lanes	1	3	1	1	4	1	1	1	0	1	1	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	491	2358	734	274	2188	541	289	134	318	108	508	870
Arrive On Green	0.55	0.93	0.93	0.15	0.34	0.34	0.27	0.27	0.27	0.27	0.27	0.27
Sat Flow, veh/h	1774	5085	1583	1774	6408	1583	925	491	1166	983	1863	1583
Grp Volume(v), veh/h	473	2578	605	286	1982	102	395	0	398	85	77	386
Grp Sat Flow(s),veh/h/ln	1774	1695	1583	1774	1602	1583	925	0	1657	983	1863	1583
Q Serve(g_s), s	28.1	51.0	13.0	17.0	32.4	5.0	26.6	0.0	25.3	4.7	3.4	0.0
Cycle Q Clear(g_c), s	28.1	51.0	13.0	17.0	32.4	5.0	30.0	0.0	25.3	30.0	3.4	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.70	1.00		1.00
Lane Grp Cap(c), veh/h	491	2358	734	274	2188	541	289	0	452	108	508	870
V/C Ratio(X)	0.96	1.09	0.82	1.04	0.91	0.19	1.37	0.00	0.88	0.79	0.15	0.44
Avail Cap(c_a), veh/h	491	2358	734	274	2214	547	289	0	452	108	508	870
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.28	0.28	0.28	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.0	4.0	2.6	46.5	34.5	25.5	44.7	0.0	38.3	53.8	30.3	14.8
Incr Delay (d2), s/veh	14.0	44.4	2.3	66.1	5.8	0.2	186.0	0.0	21.1	43.3	0.6	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.3	28.0	4.8	13.3	15.2	2.2	23.7	0.0	14.1	3.9	1.9	7.4
LnGrp Delay(d),s/veh	38.0	48.4	4.9	112.6	40.3	25.7	230.8	0.0	59.4	97.1	31.0	16.4
LnGrp LOS	D	F	A	F	D	C	F		E	F	C	B
Approach Vol, veh/h	3656			2370			793			548		
Approach Delay, s/veh	39.9			48.4			144.7			31.0		
Approach LOS	D			D			F			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		34.0	21.0	55.0		34.0	34.4	41.6				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		30.0	17.0	51.0		30.0	30.0	38.0				
Max Q Clear Time (g_c+I1), s		32.0	19.0	53.0		32.0	30.1	34.4				
Green Ext Time (p_c), s		0.0	0.0	0.0		0.0	0.0	3.1				
Intersection Summary												
HCM 2010 Ctrl Delay	53.2											
HCM 2010 LOS	D											

10: Strickland Ave/Gunnerson St & Riverside Dr - SR-74

Intersection

Int Delay, s/veh 47

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	1334	2	7	1284	111	0	3	10	37	2	6
Future Vol, veh/h	2	1334	2	7	1284	111	0	3	10	37	2	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	Stop	-	-	Stop
Storage Length	100	-	-	100	-	-	-	-	50	-	-	50
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	1466	2	8	1411	122	0	3	11	41	2	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1533	0	0	1468	0	0	2960	3020	1467	2961	2960	1472
Stage 1	-	-	-	-	-	-	1471	1471	-	1488	1488	-
Stage 2	-	-	-	-	-	-	1489	1549	-	1473	1472	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	434	-	-	460	-	-	9	13	157	~9	14	156
Stage 1	-	-	-	-	-	-	158	191	-	155	188	-
Stage 2	-	-	-	-	-	-	155	175	-	158	191	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	434	-	-	460	-	-	7	13	157	~7	14	156
Mov Cap-2 Maneuver	-	-	-	-	-	-	7	13	-	~7	14	-
Stage 1	-	-	-	-	-	-	157	190	-	154	185	-
Stage 2	-	-	-	-	-	-	144	172	-	144	190	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.1	105.5	\$ 2888.8
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	13	157	434	-	-	460	-	-	7	156
HCM Lane V/C Ratio	0.254	0.07	0.005	-	-	0.017	-	-	6.122	0.042
HCM Control Delay (s)	\$ 358.5	29.6	13.3	-	-	13	-	-	\$ 3328.7	29.1
HCM Lane LOS	F	D	B	-	-	B	-	-	F	D
HCM 95th %tile Q(veh)	0.7	0.2	0	-	-	0.1	-	-	6.8	0.1

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

HCM 2010 Signalized Intersection Summary
11: Lakeshore Dr & Riverside Dr - SR-74

EX+AMBIENT+CUMUL+PROJ PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	166	890	296	153	752	417	219	343	124	298	274	174
Future Volume (veh/h)	166	890	296	153	752	417	219	343	124	298	274	174
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	175	937	312	161	792	439	231	361	131	314	288	183
Adj No. of Lanes	1	2	1	1	1	1	1	2	0	1	2	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	177	1418	634	194	764	649	264	409	146	302	642	287
Arrive On Green	0.10	0.40	0.40	0.11	0.41	0.41	0.15	0.16	0.16	0.17	0.18	0.18
Sat Flow, veh/h	1774	3539	1583	1774	1863	1583	1774	2557	914	1774	3539	1583
Grp Volume(v), veh/h	175	937	312	161	792	439	231	248	244	314	288	183
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1701	1774	1770	1583
Q Serve(g_s), s	9.8	21.6	14.7	8.9	41.0	22.6	12.7	13.7	14.0	17.0	7.3	10.7
Cycle Q Clear(g_c), s	9.8	21.6	14.7	8.9	41.0	22.6	12.7	13.7	14.0	17.0	7.3	10.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.54	1.00		1.00
Lane Grp Cap(c), veh/h	177	1418	634	194	764	649	264	283	272	302	642	287
V/C Ratio(X)	0.99	0.66	0.49	0.83	1.04	0.68	0.88	0.88	0.90	1.04	0.45	0.64
Avail Cap(c_a), veh/h	177	1418	634	284	764	649	302	283	272	302	642	287
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.9	24.4	22.4	43.6	29.5	24.1	41.7	41.0	41.2	41.5	36.5	37.9
Incr Delay (d2), s/veh	63.4	1.1	0.6	12.5	42.5	2.8	21.9	29.5	33.2	62.9	2.3	10.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.9	10.8	6.5	5.0	30.0	10.4	7.8	9.0	9.1	13.6	3.8	5.5
LnGrp Delay(d),s/veh	108.3	25.6	23.0	56.2	72.0	26.9	63.6	70.5	74.4	104.4	38.7	48.2
LnGrp LOS	F	C	C	E	F	C	E	E	E	F	D	D
Approach Vol, veh/h	1424				1392				723			
Approach Delay, s/veh	35.2				56.0				69.6			
Approach LOS	D				E				E			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	21.0	20.0	14.9	44.1	18.9	22.1	14.0	45.0				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	17.0	16.0	16.0	35.0	17.0	16.0	10.0	41.0				
Max Q Clear Time (g_c+I1), s	19.0	16.0	10.9	23.6	14.7	12.7	11.8	43.0				
Green Ext Time (p_c), s	0.0	0.0	0.2	5.4	0.1	0.7	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay	53.4											
HCM 2010 LOS	D											

Intersection												
Intersection Delay, s/veh	25.8											
Intersection LOS	D											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	93	299	0	0	148	99	158	2	94	0	0	0
Future Vol, veh/h	93	299	0	0	148	99	158	2	94	0	0	0
Peak Hour Factor	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	148	475	0	0	235	157	251	3	149	0	0	0
Number of Lanes	1	1	0	0	1	0	0	1	1	0	0	0
Approach	EB				WB		NB					
Opposing Approach	WB				EB							
Opposing Lanes	1				2		0					
Conflicting Approach Left					NB		EB					
Conflicting Lanes Left	0				2		2					
Conflicting Approach Right	NB						WB					
Conflicting Lanes Right	2				0		1					
HCM Control Delay	32.3				24.6		16.8					
HCM LOS	D				C		C					
Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1							
Vol Left, %	99%	0%	100%	0%	0%							
Vol Thru, %	1%	0%	0%	100%	60%							
Vol Right, %	0%	100%	0%	0%	40%							
Sign Control	Stop	Stop	Stop	Stop	Stop							
Traffic Vol by Lane	160	94	93	299	247							
LT Vol	158	0	93	0	0							
Through Vol	2	0	0	299	148							
RT Vol	0	94	0	0	99							
Lane Flow Rate	254	149	148	475	392							
Geometry Grp	7	7	7	7	6							
Degree of Util (X)	0.549	0.272	0.29	0.866	0.715							
Departure Headway (Hd)	7.781	6.559	7.082	6.572	6.565							
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes							
Cap	462	545	505	551	549							
Service Time	5.563	4.34	4.864	4.353	4.644							
HCM Lane V/C Ratio	0.55	0.273	0.293	0.862	0.714							
HCM Control Delay	19.7	11.8	12.8	38.4	24.6							
HCM Lane LOS	C	B	B	E	C							
HCM 95th-tile Q	3.2	1.1	1.2	9.5	5.8							

HCM 2010 Signalized Intersection Summary
10: Strickland Ave/Gunnerson St & Riverside Dr - SR-74

EX AM Plus Project MIT

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	869	24	6	498	24	1	2	8	36	4	4
Future Volume (veh/h)	6	869	24	6	498	24	1	2	8	36	4	4
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	6	915	25	6	524	25	1	2	0	38	4	0
Adj No. of Lanes	1	1	0	1	1	0	0	1	1	0	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	11	1104	30	11	1079	51	143	140	151	282	22	151
Arrive On Green	0.01	0.61	0.61	0.01	0.61	0.61	0.10	0.10	0.00	0.10	0.10	0.00
Sat Flow, veh/h	1774	1805	49	1774	1764	84	300	1465	1583	1237	227	1583
Grp Volume(v), veh/h	6	0	940	6	0	549	3	0	0	42	0	0
Grp Sat Flow(s),veh/h/ln	1774	0	1854	1774	0	1848	1765	0	1583	1465	0	1583
Q Serve(g_s), s	0.1	0.0	16.7	0.1	0.0	6.9	0.0	0.0	0.0	0.9	0.0	0.0
Cycle Q Clear(g_c), s	0.1	0.0	16.7	0.1	0.0	6.9	0.1	0.0	0.0	1.1	0.0	0.0
Prop In Lane	1.00		0.03	1.00		0.05	0.33		1.00	0.90		1.00
Lane Grp Cap(c), veh/h	11	0	1134	11	0	1130	283	0	151	303	0	151
V/C Ratio(X)	0.53	0.00	0.83	0.53	0.00	0.49	0.01	0.00	0.00	0.14	0.00	0.00
Avail Cap(c_a), veh/h	169	0	1682	169	0	1676	765	0	605	717	0	605
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	20.8	0.0	6.4	20.8	0.0	4.5	17.2	0.0	0.0	17.6	0.0	0.0
Incr Delay (d2), s/veh	32.7	0.0	2.3	32.7	0.0	0.3	0.0	0.0	0.0	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	9.1	0.2	0.0	3.5	0.0	0.0	0.0	0.5	0.0	0.0
LnGrp Delay(d),s/veh	53.4	0.0	8.7	53.4	0.0	4.8	17.2	0.0	0.0	17.8	0.0	0.0
LnGrp LOS	D		A	D		A	B			B		
Approach Vol, veh/h	946			555			3			42		
Approach Delay, s/veh	9.0			5.3			17.2			17.8		
Approach LOS	A			A			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		8.0	4.3	29.6		8.0	4.3	29.6				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		16.0	4.0	38.0		16.0	4.0	38.0				
Max Q Clear Time (g_c+I1), s		2.1	2.1	18.7		3.1	2.1	8.9				
Green Ext Time (p_c), s		0.0	0.0	6.9		0.1	0.0	3.4				
Intersection Summary												
HCM 2010 Ctrl Delay	7.9											
HCM 2010 LOS	A											

Intersection	
Intersection Delay, s/veh	14.7
Intersection LOS	B

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	216	59	229	287	84	252
Future Vol, veh/h	216	59	229	287	84	252
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	235	64	249	312	91	274
Number of Lanes	1	0	1	1	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	2	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	2
HCM Control Delay	15.2	15.3	13.4
HCM LOS	C	C	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	WBLn2
Vol Left, %	100%	0%	0%	100%	0%
Vol Thru, %	0%	0%	79%	0%	100%
Vol Right, %	0%	100%	21%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	84	252	275	229	287
LT Vol	84	0	0	229	0
Through Vol	0	0	216	0	287
RT Vol	0	252	59	0	0
Lane Flow Rate	91	274	299	249	312
Geometry Grp	7	7	4	7	7
Degree of Util (X)	0.185	0.462	0.504	0.458	0.53
Departure Headway (Hd)	7.291	6.07	6.069	6.621	6.113
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	491	592	592	543	590
Service Time	5.046	3.825	4.117	4.369	3.861
HCM Lane V/C Ratio	0.185	0.463	0.505	0.459	0.529
HCM Control Delay	11.7	14	15.2	14.9	15.6
HCM Lane LOS	B	B	C	B	C
HCM 95th-tile Q	0.7	2.4	2.8	2.4	3.1

HCM 2010 Signalized Intersection Summary
10: Strickland Ave/Gunnerson St & Riverside Dr - SR-74

EX PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	906	1	6	861	100	0	2	9	27	1	5
Future Volume (veh/h)	1	906	1	6	861	100	0	2	9	27	1	5
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	1	996	1	7	946	110	0	2	0	30	1	0
Adj No. of Lanes	1	1	0	1	1	0	0	1	1	0	1	1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	4	1239	1	13	1101	128	0	152	129	255	6	129
Arrive On Green	0.00	0.67	0.67	0.01	0.67	0.67	0.00	0.08	0.00	0.08	0.08	0.00
Sat Flow, veh/h	1774	1861	2	1774	1639	191	0	1863	1583	1352	76	1583
Grp Volume(v), veh/h	1	0	997	7	0	1056	0	2	0	31	0	0
Grp Sat Flow(s),veh/h/ln	1774	0	1862	1774	0	1829	0	1863	1583	1428	0	1583
Q Serve(g_s), s	0.0	0.0	18.9	0.2	0.0	21.9	0.0	0.0	0.0	0.9	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	18.9	0.2	0.0	21.9	0.0	0.0	0.0	1.0	0.0	0.0
Prop In Lane	1.00		0.00	1.00		0.10	0.00		1.00	0.97		1.00
Lane Grp Cap(c), veh/h	4	0	1240	13	0	1229	0	152	129	261	0	129
V/C Ratio(X)	0.28	0.00	0.80	0.53	0.00	0.86	0.00	0.01	0.00	0.12	0.00	0.00
Avail Cap(c_a), veh/h	145	0	1826	145	0	1793	0	609	517	609	0	517
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	24.4	0.0	5.9	24.2	0.0	6.2	0.0	20.7	0.0	21.1	0.0	0.0
Incr Delay (d2), s/veh	36.8	0.0	1.7	29.5	0.0	3.0	0.0	0.0	0.0	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	10.0	0.2	0.0	11.6	0.0	0.0	0.0	0.4	0.0	0.0
LnGrp Delay(d),s/veh	61.2	0.0	7.6	53.7	0.0	9.3	0.0	20.7	0.0	21.3	0.0	0.0
LnGrp LOS	E		A	D		A		C		C		
Approach Vol, veh/h	998			1063			2			31		
Approach Delay, s/veh	7.6			9.5			20.7			21.3		
Approach LOS	A			A			C			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		8.0	4.4	36.6		8.0	4.1	36.9				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		16.0	4.0	48.0		16.0	4.0	48.0				
Max Q Clear Time (g_c+I1), s		2.0	2.2	20.9		3.0	2.0	23.9				
Green Ext Time (p_c), s		0.0	0.0	8.7		0.1	0.0	9.0				
Intersection Summary												
HCM 2010 Ctrl Delay	8.8											
HCM 2010 LOS	A											

Intersection	
Intersection Delay, s/veh	29.7
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	96	311	0	0	154	103	164	2	98	0	0	0
Future Vol, veh/h	96	311	0	0	154	103	164	2	98	0	0	0
Peak Hour Factor	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	152	494	0	0	244	163	260	3	156	0	0	0
Number of Lanes	1	1	0	0	1	0	0	1	1	0	0	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	1
HCM Control Delay	38.8	27.6	17.7
HCM LOS	E	D	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1
Vol Left, %	99%	0%	100%	0%	0%
Vol Thru, %	1%	0%	0%	100%	60%
Vol Right, %	0%	100%	0%	0%	40%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	166	98	96	311	257
LT Vol	164	0	96	0	0
Through Vol	2	0	0	311	154
RT Vol	0	98	0	0	103
Lane Flow Rate	263	156	152	494	408
Geometry Grp	7	7	7	7	6
Degree of Util (X)	0.577	0.288	0.304	0.916	0.755
Departure Headway (Hd)	7.887	6.664	7.188	6.677	6.666
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	456	535	497	538	538
Service Time	5.676	4.451	4.977	4.466	4.751
HCM Lane V/C Ratio	0.577	0.292	0.306	0.918	0.758
HCM Control Delay	21	12.2	13.1	46.7	27.6
HCM Lane LOS	C	B	B	E	D
HCM 95th-tile Q	3.6	1.2	1.3	11	6.6

HCM 2010 Signalized Intersection Summary
10: Strickland Ave/Gunnerson St & Riverside Dr - SR-74

EX AM+AMBIENT+PROJ-MIT

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	904	25	7	518	25	2	3	9	38	5	5
Future Volume (veh/h)	7	904	25	7	518	25	2	3	9	38	5	5
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	7	952	26	7	545	26	2	3	0	40	5	0
Adj No. of Lanes	1	1	0	1	1	0	0	1	1	0	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	13	1129	31	13	1103	53	149	126	145	267	24	145
Arrive On Green	0.01	0.63	0.63	0.01	0.63	0.63	0.09	0.09	0.00	0.09	0.09	0.00
Sat Flow, veh/h	1774	1805	49	1774	1764	84	369	1374	1583	1207	266	1583
Grp Volume(v), veh/h	7	0	978	7	0	571	5	0	0	45	0	0
Grp Sat Flow(s),veh/h/ln	1774	0	1854	1774	0	1848	1743	0	1583	1473	0	1583
Q Serve(g_s), s	0.2	0.0	18.2	0.2	0.0	7.3	0.0	0.0	0.0	1.0	0.0	0.0
Cycle Q Clear(g_c), s	0.2	0.0	18.2	0.2	0.0	7.3	0.1	0.0	0.0	1.2	0.0	0.0
Prop In Lane	1.00		0.03	1.00		0.05	0.40		1.00	0.89		1.00
Lane Grp Cap(c), veh/h	13	0	1160	13	0	1156	275	0	145	291	0	145
V/C Ratio(X)	0.53	0.00	0.84	0.53	0.00	0.49	0.02	0.00	0.00	0.15	0.00	0.00
Avail Cap(c_a), veh/h	163	0	1616	163	0	1610	729	0	581	689	0	581
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	21.6	0.0	6.5	21.6	0.0	4.4	18.0	0.0	0.0	18.5	0.0	0.0
Incr Delay (d2), s/veh	29.1	0.0	3.0	29.1	0.0	0.3	0.0	0.0	0.0	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	9.9	0.2	0.0	3.8	0.1	0.0	0.0	0.5	0.0	0.0
LnGrp Delay(d),s/veh	50.6	0.0	9.5	50.6	0.0	4.8	18.1	0.0	0.0	18.7	0.0	0.0
LnGrp LOS	D		A	D		A	B			B		
Approach Vol, veh/h	985			578			5			45		
Approach Delay, s/veh	9.8			5.3			18.1			18.7		
Approach LOS	A			A			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		8.0	4.3	31.3		8.0	4.3	31.3				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		16.0	4.0	38.0		16.0	4.0	38.0				
Max Q Clear Time (g_c+I1), s		2.1	2.2	20.2		3.2	2.2	9.3				
Green Ext Time (p_c), s		0.0	0.0	7.1		0.1	0.0	3.6				
Intersection Summary												
HCM 2010 Ctrl Delay	8.5											
HCM 2010 LOS	A											

Intersection	
Intersection Delay, s/veh	13.1
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	154	164	0	0	103	49	294	3	26	0	0	0
Future Vol, veh/h	154	164	0	0	103	49	294	3	26	0	0	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	159	169	0	0	106	51	303	3	27	0	0	0
Number of Lanes	1	1	0	0	1	0	0	1	1	0	0	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	1
HCM Control Delay	11.2	11	15.9
HCM LOS	B	B	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1
Vol Left, %	99%	0%	100%	0%	0%
Vol Thru, %	1%	0%	0%	100%	68%
Vol Right, %	0%	100%	0%	0%	32%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	297	26	154	164	152
LT Vol	294	0	154	0	0
Through Vol	3	0	0	164	103
RT Vol	0	26	0	0	49
Lane Flow Rate	306	27	159	169	157
Geometry Grp	7	7	7	7	6
Degree of Util (X)	0.545	0.039	0.281	0.276	0.258
Departure Headway (Hd)	6.409	5.203	6.376	5.87	5.938
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	563	689	565	614	605
Service Time	4.133	2.927	4.103	3.597	3.969
HCM Lane V/C Ratio	0.544	0.039	0.281	0.275	0.26
HCM Control Delay	16.6	8.1	11.6	10.8	11
HCM Lane LOS	C	A	B	B	B
HCM 95th-tile Q	3.3	0.1	1.1	1.1	1

Intersection

Intersection Delay, s/veh 15.4

Intersection LOS C

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	224	61	237	299	87	261
Future Vol, veh/h	224	61	237	299	87	261
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	243	66	258	325	95	284
Number of Lanes	1	0	1	1	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	2	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	2
HCM Control Delay	15.9	16.1	13.9
HCM LOS	C	C	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	WBLn2
Vol Left, %	100%	0%	0%	100%	0%
Vol Thru, %	0%	0%	79%	0%	100%
Vol Right, %	0%	100%	21%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	87	261	285	237	299
LT Vol	87	0	0	237	0
Through Vol	0	0	224	0	299
RT Vol	0	261	61	0	0
Lane Flow Rate	95	284	310	258	325
Geometry Grp	7	7	4	7	7
Degree of Util (X)	0.194	0.485	0.529	0.479	0.559
Departure Headway (Hd)	7.375	6.153	6.147	6.698	6.19
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	486	584	585	536	582
Service Time	5.131	3.909	4.199	4.452	3.943
HCM Lane V/C Ratio	0.195	0.486	0.53	0.481	0.558
HCM Control Delay	11.9	14.6	15.9	15.5	16.6
HCM Lane LOS	B	B	C	C	C
HCM 95th-tile Q	0.7	2.6	3.1	2.6	3.4

HCM 2010 Signalized Intersection Summary
10: Strickland Ave/Gunnerson St & Riverside Dr - SR-74

EX PM+AMBIENT+PROJ

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	942	2	7	895	104	0	3	10	29	2	6
Future Volume (veh/h)	2	942	2	7	895	104	0	3	10	29	2	6
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	2	1035	2	8	984	114	0	3	0	32	2	0
Adj No. of Lanes	1	1	0	1	1	0	0	1	1	0	1	1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	4	1266	2	15	1127	131	0	145	123	237	11	123
Arrive On Green	0.00	0.68	0.68	0.01	0.69	0.69	0.00	0.08	0.00	0.08	0.08	0.00
Sat Flow, veh/h	1774	1859	4	1774	1639	190	0	1863	1583	1303	139	1583
Grp Volume(v), veh/h	2	0	1037	8	0	1098	0	3	0	34	0	0
Grp Sat Flow(s),veh/h/ln	1774	0	1862	1774	0	1829	0	1863	1583	1442	0	1583
Q Serve(g_s), s	0.1	0.0	20.7	0.2	0.0	24.2	0.0	0.1	0.0	1.0	0.0	0.0
Cycle Q Clear(g_c), s	0.1	0.0	20.7	0.2	0.0	24.2	0.0	0.1	0.0	1.1	0.0	0.0
Prop In Lane	1.00		0.00	1.00		0.10	0.00		1.00	0.94		1.00
Lane Grp Cap(c), veh/h	4	0	1268	15	0	1257	0	145	123	248	0	123
V/C Ratio(X)	0.51	0.00	0.82	0.54	0.00	0.87	0.00	0.02	0.00	0.14	0.00	0.00
Avail Cap(c_a), veh/h	138	0	1735	138	0	1705	0	579	492	580	0	492
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	25.7	0.0	5.9	25.4	0.0	6.3	0.0	21.9	0.0	22.4	0.0	0.0
Incr Delay (d2), s/veh	78.1	0.0	2.3	26.8	0.0	4.1	0.0	0.1	0.0	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	10.9	0.2	0.0	13.3	0.0	0.0	0.0	0.5	0.0	0.0
LnGrp Delay(d),s/veh	103.8	0.0	8.2	52.3	0.0	10.4	0.0	22.0	0.0	22.7	0.0	0.0
LnGrp LOS	F		A	D		B		C		C		
Approach Vol, veh/h	1039			1106			3			34		
Approach Delay, s/veh	8.4			10.7			22.0			22.7		
Approach LOS	A			B			C			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		8.0	4.4	39.1		8.0	4.1	39.4				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		16.0	4.0	48.0		16.0	4.0	48.0				
Max Q Clear Time (g_c+I1), s		2.1	2.2	22.7		3.1	2.1	26.2				
Green Ext Time (p_c), s		0.0	0.0	9.1		0.1	0.0	9.2				
Intersection Summary												
HCM 2010 Ctrl Delay	9.8											
HCM 2010 LOS	A											

Intersection	
Intersection Delay, s/veh	17.8
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	113	318	0	0	156	105	216	2	99	0	0	0
Future Vol, veh/h	113	318	0	0	156	105	216	2	99	0	0	0
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	138	388	0	0	190	128	263	2	121	0	0	0
Number of Lanes	1	1	0	0	1	0	0	1	1	0	0	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	1
HCM Control Delay	19.3	17.3	16.1
HCM LOS	C	C	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1
Vol Left, %	99%	0%	100%	0%	0%
Vol Thru, %	1%	0%	0%	100%	60%
Vol Right, %	0%	100%	0%	0%	40%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	218	99	113	318	261
LT Vol	216	0	113	0	0
Through Vol	2	0	0	318	156
RT Vol	0	99	0	0	105
Lane Flow Rate	266	121	138	388	318
Geometry Grp	7	7	7	7	6
Degree of Util (X)	0.543	0.206	0.262	0.683	0.561
Departure Headway (Hd)	7.358	6.141	6.852	6.343	6.342
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	489	582	522	566	567
Service Time	5.121	3.903	4.615	4.106	4.405
HCM Lane V/C Ratio	0.544	0.208	0.264	0.686	0.561
HCM Control Delay	18.6	10.5	12.1	21.8	17.3
HCM Lane LOS	C	B	B	C	C
HCM 95th-tile Q	3.2	0.8	1	5.2	3.4

Intersection

Intersection Delay, s/veh 27.6

Intersection LOS D

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	467	44	155	315	31	149
Future Vol, veh/h	467	44	155	315	31	149
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	537	51	178	362	36	171
Number of Lanes	1	0	1	1	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	2	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	2
HCM Control Delay	44	15.7	12.1
HCM LOS	E	C	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	WBLn2
Vol Left, %	100%	0%	0%	100%	0%
Vol Thru, %	0%	0%	91%	0%	100%
Vol Right, %	0%	100%	9%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	31	149	511	155	315
LT Vol	31	0	0	155	0
Through Vol	0	0	467	0	315
RT Vol	0	149	44	0	0
Lane Flow Rate	36	171	587	178	362
Geometry Grp	7	7	4	7	7
Degree of Util (X)	0.077	0.313	0.928	0.32	0.6
Departure Headway (Hd)	7.818	6.589	5.687	6.476	5.968
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	458	545	640	554	605
Service Time	5.575	4.345	3.725	4.222	3.713
HCM Lane V/C Ratio	0.079	0.314	0.917	0.321	0.598
HCM Control Delay	11.2	12.3	44	12.3	17.3
HCM Lane LOS	B	B	E	B	C
HCM 95th-tile Q	0.2	1.3	12.2	1.4	4

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	98	34	1037	282	886	20	115	400	1081	126	34
Future Volume (veh/h)	50	98	34	1037	282	886	20	115	400	1081	126	34
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	56	110	38	1165	317	996	22	129	449	1215	142	38
Adj No. of Lanes	2	2	0	2	1	2	1	2	2	3	1	1
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	346	164	54	1147	551	1567	362	721	1497	1419	497	422
Arrive On Green	0.10	0.06	0.06	0.11	0.10	0.10	0.20	0.20	0.20	0.27	0.27	0.27
Sat Flow, veh/h	3442	2613	867	3442	1863	2787	1774	3539	2787	5322	1863	1583
Grp Volume(v), veh/h	56	73	75	1165	317	996	22	129	449	1215	142	38
Grp Sat Flow(s),veh/h/ln	1721	1770	1710	1721	1863	1393	1774	1770	1393	1774	1863	1583
Q Serve(g_s), s	1.8	4.8	5.2	40.0	19.5	27.3	1.2	3.6	0.0	26.0	7.3	2.2
Cycle Q Clear(g_c), s	1.8	4.8	5.2	40.0	19.5	27.3	1.2	3.6	0.0	26.0	7.3	2.2
Prop In Lane	1.00		0.51	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	346	111	108	1147	551	1567	362	721	1497	1419	497	422
V/C Ratio(X)	0.16	0.66	0.70	1.02	0.58	0.64	0.06	0.18	0.30	0.86	0.29	0.09
Avail Cap(c_a), veh/h	346	236	228	1147	761	1881	362	721	1497	1419	497	422
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.47	0.47	0.47	1.00	1.00	1.00	0.84	0.84	0.84
Uniform Delay (d), s/veh	49.3	55.0	55.1	53.4	47.0	22.4	38.5	39.5	15.3	41.8	34.9	33.1
Incr Delay (d2), s/veh	0.2	6.4	7.9	22.2	0.4	0.2	0.3	0.5	0.5	5.8	1.2	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	2.6	2.7	22.6	10.2	16.6	0.6	1.8	4.2	13.5	3.9	1.0
LnGrp Delay(d),s/veh	49.5	61.4	63.0	75.6	47.4	22.6	38.8	40.0	15.8	47.6	36.1	33.4
LnGrp LOS	D	E	E	F	D	C	D	D	B	D	D	C
Approach Vol, veh/h	204		2478				600		1395			
Approach Delay, s/veh	58.7		50.7				21.9		46.1			
Approach LOS	E		D				C		D			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		3	4	6		7	8				
Phs Duration (G+Y+Rc), s	28.5		44.0	11.5	36.0		16.1	39.5				
Change Period (Y+Rc), s	4.0		4.0	4.0	4.0		4.0	4.0				
Max Green Setting (Gmax), s	16.0		40.0	16.0	32.0		7.0	49.0				
Max Q Clear Time (g_c+I1), s	5.6		42.0	7.2	28.0		3.8	29.3				
Green Ext Time (p_c), s	1.9		0.0	0.4	2.2		0.0	6.2				
Intersection Summary												
HCM 2010 Ctrl Delay			46.0									
HCM 2010 LOS			D									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary
9: Dexter Ave & Central Ave - SR-74

EX+AMBIENT+CUMUL+PROJ AM-MIT

																		
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR						
Lane Configurations																		
Traffic Volume (veh/h)	344	1381	268	181	1954	192	402	141	204	92	98	482						
Future Volume (veh/h)	344	1381	268	181	1954	192	402	141	204	92	98	482						
Number	7	4	14	3	8	18	5	2	12	1	6	16						
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0						
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00						
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00						
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1863						
Adj Flow Rate, veh/h	378	1518	295	199	2147	211	442	155	224	101	108	530						
Adj No. of Lanes	1	3	1	1	4	1	1	1	0	1	1	1						
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91						
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2						
Cap, veh/h	395	1714	534	404	2189	541	405	231	334	203	283	594						
Arrive On Green	0.45	0.67	0.67	0.23	0.34	0.34	0.15	0.34	0.34	0.15	0.15	0.15						
Sat Flow, veh/h	1774	5085	1583	1774	6408	1583	1774	690	997	1000	1863	1583						
Grp Volume(v), veh/h	378	1518	295	199	2147	211	442	0	379	101	108	530						
Grp Sat Flow(s),veh/h/ln	1774	1695	1583	1774	1602	1583	1774	0	1687	1000	1863	1583						
Q Serve(g_s), s	24.7	29.0	7.8	11.7	39.8	12.1	18.0	0.0	23.1	11.6	6.3	11.1						
Cycle Q Clear(g_c), s	24.7	29.0	7.8	11.7	39.8	12.1	18.0	0.0	23.1	12.7	6.3	11.1						
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.59	1.00		1.00						
Lane Grp Cap(c), veh/h	395	1714	534	404	2189	541	405	0	566	203	283	594						
V/C Ratio(X)	0.96	0.89	0.55	0.49	0.98	0.39	1.09	0.00	0.67	0.50	0.38	0.89						
Avail Cap(c_a), veh/h	399	1949	607	404	2189	541	405	0	566	203	283	594						
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00						
Upstream Filter(I)	0.79	0.79	0.79	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00						
Uniform Delay (d), s/veh	32.7	17.7	6.7	40.3	39.1	30.0	39.6	0.0	34.2	49.0	45.8	15.7						
Incr Delay (d2), s/veh	29.1	3.9	0.7	0.9	14.9	0.5	71.8	0.0	6.2	8.5	3.9	18.3						
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
%ile BackOfQ(50%),veh/ln	5.2	13.8	3.4	5.9	19.9	5.3	19.1	0.0	11.7	3.7	3.5	12.7						
LnGrp Delay(d),s/veh	61.8	21.6	7.4	41.3	54.0	30.5	111.4	0.0	40.4	57.5	49.6	34.0						
LnGrp LOS	E	C	A	D	D	C	F		D	E	D	C						
Approach Vol, veh/h	2191			2557				821			739							
Approach Delay, s/veh	26.6			51.1				78.6			39.5							
Approach LOS	C			D				E			D							
Timer	1	2	3	4	5	6	7	8										
Assigned Phs	2		3	4	5	6	7	8										
Phs Duration (G+Y+Rc), s	44.3		31.3	44.4	22.0	22.3	30.7	45.0										
Change Period (Y+Rc), s	4.0		4.0	4.0	4.0	4.0	4.0	4.0										
Max Green Setting (Gmax), s	40.0		22.0	46.0	18.0	18.0	27.0	41.0										
Max Q Clear Time (g_c+I1), s	25.1		13.7	31.0	20.0	14.7	26.7	41.8										
Green Ext Time (p_c), s	2.0		0.3	9.5	0.0	1.1	0.0	0.0										
Intersection Summary																		
HCM 2010 Ctrl Delay	44.8																	
HCM 2010 LOS	D																	

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	1187	25	7	794	32	2	3	9	47	5	5
Future Volume (veh/h)	7	1187	25	7	794	32	2	3	9	47	5	5
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	7	1249	26	7	836	34	2	3	0	49	5	0
Adj No. of Lanes	1	1	0	1	1	0	0	1	1	0	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	13	1360	28	13	1329	54	99	94	106	190	9	106
Arrive On Green	0.01	0.75	0.75	0.01	0.75	0.75	0.07	0.07	0.00	0.07	0.07	0.00
Sat Flow, veh/h	1774	1818	38	1774	1778	72	366	1393	1583	1319	135	1583
Grp Volume(v), veh/h	7	0	1275	7	0	870	5	0	0	54	0	0
Grp Sat Flow(s),veh/h/ln	1774	0	1856	1774	0	1850	1759	0	1583	1453	0	1583
Q Serve(g_s), s	0.3	0.0	37.4	0.3	0.0	15.1	0.0	0.0	0.0	2.2	0.0	0.0
Cycle Q Clear(g_c), s	0.3	0.0	37.4	0.3	0.0	15.1	0.2	0.0	0.0	2.4	0.0	0.0
Prop In Lane	1.00		0.02	1.00		0.04	0.40		1.00	0.91		1.00
Lane Grp Cap(c), veh/h	13	0	1388	13	0	1383	193	0	106	199	0	106
V/C Ratio(X)	0.54	0.00	0.92	0.54	0.00	0.63	0.03	0.00	0.00	0.27	0.00	0.00
Avail Cap(c_a), veh/h	105	0	1594	105	0	1589	472	0	375	444	0	375
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	33.4	0.0	6.9	33.4	0.0	4.1	29.5	0.0	0.0	30.5	0.0	0.0
Incr Delay (d2), s/veh	30.9	0.0	8.2	30.9	0.0	0.6	0.1	0.0	0.0	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	21.6	0.2	0.0	7.7	0.1	0.0	0.0	1.0	0.0	0.0
LnGrp Delay(d),s/veh	64.3	0.0	15.1	64.3	0.0	4.7	29.5	0.0	0.0	31.2	0.0	0.0
LnGrp LOS	E		B	E		A	C			C		
Approach Vol, veh/h	1282			877			5			54		
Approach Delay, s/veh	15.3			5.2			29.5			31.2		
Approach LOS	B			A			C			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		8.5	4.5	54.5		8.5	4.5	54.5				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		16.0	4.0	58.0		16.0	4.0	58.0				
Max Q Clear Time (g_c+I1), s		2.2	2.3	39.4		4.4	2.3	17.1				
Green Ext Time (p_c), s		0.0	0.0	11.1		0.1	0.0	7.2				
Intersection Summary												
HCM 2010 Ctrl Delay	11.7											
HCM 2010 LOS	B											

Intersection	
Intersection Delay, s/veh	15.3
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	206	174	0	0	104	50	335	3	28	0	0	0
Future Vol, veh/h	206	174	0	0	104	50	335	3	28	0	0	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	212	179	0	0	107	52	345	3	29	0	0	0
Number of Lanes	1	1	0	0	1	0	0	1	1	0	0	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	1
HCM Control Delay	12.6	11.6	19.6
HCM LOS	B	B	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1
Vol Left, %	99%	0%	100%	0%	0%
Vol Thru, %	1%	0%	0%	100%	68%
Vol Right, %	0%	100%	0%	0%	32%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	338	28	206	174	154
LT Vol	335	0	206	0	0
Through Vol	3	0	0	174	104
RT Vol	0	28	0	0	50
Lane Flow Rate	348	29	212	179	159
Geometry Grp	7	7	7	7	6
Degree of Util (X)	0.641	0.043	0.389	0.303	0.275
Departure Headway (Hd)	6.618	5.41	6.586	6.08	6.235
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	547	662	546	590	576
Service Time	4.354	3.145	4.327	3.82	4.28
HCM Lane V/C Ratio	0.636	0.044	0.388	0.303	0.276
HCM Control Delay	20.5	8.4	13.5	11.5	11.6
HCM Lane LOS	C	A	B	B	B
HCM 95th-tile Q	4.5	0.1	1.8	1.3	1.1

Intersection

Intersection Delay, s/veh 22.8

Intersection LOS C

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	312	71	272	361	96	306
Future Vol, veh/h	312	71	272	361	96	306
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	339	77	296	392	104	333
Number of Lanes	1	0	1	1	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	2	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	2
HCM Control Delay	27.5	23.1	18
HCM LOS	D	C	C

Lane	NBLn1	NBLn2	EBLn1	WBLn1	WBLn2
Vol Left, %	100%	0%	0%	100%	0%
Vol Thru, %	0%	0%	81%	0%	100%
Vol Right, %	0%	100%	19%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	96	306	383	272	361
LT Vol	96	0	0	272	0
Through Vol	0	0	312	0	361
RT Vol	0	306	71	0	0
Lane Flow Rate	104	333	416	296	392
Geometry Grp	7	7	4	7	7
Degree of Util (X)	0.228	0.615	0.758	0.591	0.728
Departure Headway (Hd)	7.88	6.652	6.552	7.193	6.682
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	454	539	550	500	538
Service Time	5.66	4.431	4.627	4.981	4.47
HCM Lane V/C Ratio	0.229	0.618	0.756	0.592	0.729
HCM Control Delay	13	19.6	27.5	20	25.5
HCM Lane LOS	B	C	D	C	D
HCM 95th-tile Q	0.9	4.1	6.7	3.8	6

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	199	403	40	548	218	1086	42	234	744	1446	199	35
Future Volume (veh/h)	199	403	40	548	218	1086	42	234	744	1446	199	35
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	214	433	43	589	234	1168	45	252	800	1555	214	38
Adj No. of Lanes	2	2	0	2	1	2	1	2	2	3	1	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	292	483	48	641	466	1765	263	525	933	2040	714	607
Arrive On Green	0.08	0.15	0.15	0.31	0.42	0.42	0.15	0.15	0.15	0.38	0.38	0.38
Sat Flow, veh/h	3442	3254	322	3442	1863	2787	1774	3539	2787	5322	1863	1583
Grp Volume(v), veh/h	214	235	241	589	234	1168	45	252	800	1555	214	38
Grp Sat Flow(s),veh/h/ln	1721	1770	1806	1721	1863	1393	1774	1770	1393	1774	1863	1583
Q Serve(g_s), s	7.3	15.6	15.8	19.8	11.1	30.0	2.7	7.8	17.8	30.5	9.6	1.8
Cycle Q Clear(g_c), s	7.3	15.6	15.8	19.8	11.1	30.0	2.7	7.8	17.8	30.5	9.6	1.8
Prop In Lane	1.00		0.18	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	292	263	268	641	466	1765	263	525	933	2040	714	607
V/C Ratio(X)	0.73	0.89	0.90	0.92	0.50	0.66	0.17	0.48	0.86	0.76	0.30	0.06
Avail Cap(c_a), veh/h	344	265	271	688	466	1765	263	525	933	2040	714	607
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.58	0.58	0.58	1.00	1.00	1.00	0.44	0.44	0.44
Uniform Delay (d), s/veh	53.6	50.1	50.2	40.5	29.4	10.5	44.6	46.8	37.2	32.2	25.8	23.4
Incr Delay (d2), s/veh	6.5	29.0	29.9	10.9	0.5	0.5	1.4	3.1	10.0	1.2	0.5	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	9.7	10.1	10.4	5.7	19.3	1.4	4.0	13.6	15.2	5.0	0.8
LnGrp Delay(d),s/veh	60.1	79.2	80.1	51.4	29.9	11.1	46.0	50.0	47.3	33.5	26.3	23.5
LnGrp LOS	E	E	F	D	C	B	D	D	D	C	C	C
Approach Vol, veh/h	690				1991				1097		1807	
Approach Delay, s/veh	73.6				25.2				47.9		32.4	
Approach LOS	E				C				D		C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		3	4	6		7	8				
Phs Duration (G+Y+Rc), s	21.8		26.4	21.8	50.0		14.2	34.0				
Change Period (Y+Rc), s	4.0		4.0	4.0	4.0		4.0	4.0				
Max Green Setting (Gmax), s	16.0		24.0	18.0	46.0		12.0	30.0				
Max Q Clear Time (g_c+I1), s	19.8		21.8	17.8	32.5		9.3	32.0				
Green Ext Time (p_c), s	0.0		0.5	0.1	6.7		0.2	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			38.0									
HCM 2010 LOS			D									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

7: I-15 SB Ramps & Central Ave - SR-74

EX+AMBIENT+CUMUL+PROJ PM

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↑↑	↑↑					↑↑	↑	↑
Traffic Volume (veh/h)	0	1875	797	875	1914	0	0	0	0	878	0	225
Future Volume (veh/h)	0	1875	797	875	1914	0	0	0	0	878	0	225
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1863	1863	1863	0				1863	1863	1863
Adj Flow Rate, veh/h	0	1913	813	893	1953	0				968	0	153
Adj No. of Lanes	0	3	1	2	2	0				3	0	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98				0.98	0.98	0.98
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	2034	633	950	2510	0				1192	0	355
Arrive On Green	0.00	0.80	0.80	0.28	0.71	0.00				0.22	0.00	0.22
Sat Flow, veh/h	0	5253	1583	3442	3632	0				5322	0	1583
Grp Volume(v), veh/h	0	1913	813	893	1953	0				968	0	153
Grp Sat Flow(s),veh/h/ln	0	1695	1583	1721	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	36.5	48.0	30.4	43.0	0.0				20.7	0.0	10.0
Cycle Q Clear(g_c), s	0.0	36.5	48.0	30.4	43.0	0.0				20.7	0.0	10.0
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2034	633	950	2510	0				1192	0	355
V/C Ratio(X)	0.00	0.94	1.28	0.94	0.78	0.00				0.81	0.00	0.43
Avail Cap(c_a), veh/h	0	2034	633	975	2536	0				1192	0	355
HCM Platoon Ratio	1.00	2.00	2.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.38	0.38	0.09	0.09	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	10.8	12.0	42.5	11.3	0.0				44.2	0.0	40.0
Incr Delay (d2), s/veh	0.0	4.1	132.3	2.2	0.1	0.0				6.1	0.0	3.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	16.7	42.6	14.7	20.7	0.0				10.8	0.0	4.8
LnGrp Delay(d),s/veh	0.0	15.0	144.3	44.6	11.5	0.0				50.2	0.0	43.8
LnGrp LOS		B	F	D	B					D		D
Approach Vol, veh/h		2726			2846						1121	
Approach Delay, s/veh		53.6			21.9						49.3	
Approach LOS		D			C						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			37.1	52.0		30.9		89.1				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			34.0	48.0		26.0		86.0				
Max Q Clear Time (g_c+I1), s			32.4	50.0		22.7		45.0				
Green Ext Time (p_c), s			0.7	0.0		1.6		25.3				
Intersection Summary												
HCM 2010 Ctrl Delay			39.4									
HCM 2010 LOS			D									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary
10: Strickland Ave/Gunnerson St & Riverside Dr - SR-74

EX+AMBIENT+CUMUL+PROJ PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	1334	2	7	1284	111	0	3	10	37	2	6
Future Volume (veh/h)	2	1334	2	7	1284	111	0	3	10	37	2	6
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	2	1466	2	8	1411	122	0	3	0	41	2	0
Adj No. of Lanes	1	1	0	1	1	0	0	1	1	0	1	1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	4	1539	2	14	1409	122	0	95	81	134	3	81
Arrive On Green	0.00	0.83	0.83	0.01	0.83	0.83	0.00	0.05	0.00	0.05	0.05	0.00
Sat Flow, veh/h	1774	1860	3	1774	1691	146	0	1863	1583	1317	64	1583
Grp Volume(v), veh/h	2	0	1468	8	0	1533	0	3	0	43	0	0
Grp Sat Flow(s),veh/h/ln	1774	0	1862	1774	0	1837	0	1863	1583	1381	0	1583
Q Serve(g_s), s	0.1	0.0	67.8	0.5	0.0	88.0	0.0	0.2	0.0	3.1	0.0	0.0
Cycle Q Clear(g_c), s	0.1	0.0	67.8	0.5	0.0	88.0	0.0	0.2	0.0	3.3	0.0	0.0
Prop In Lane	1.00		0.00	1.00		0.08	0.00		1.00	0.95		1.00
Lane Grp Cap(c), veh/h	4	0	1541	14	0	1531	0	95	81	137	0	81
V/C Ratio(X)	0.52	0.00	0.95	0.57	0.00	1.00	0.00	0.03	0.00	0.31	0.00	0.00
Avail Cap(c_a), veh/h	67	0	1552	67	0	1531	0	282	240	280	0	240
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	52.6	0.0	7.4	52.2	0.0	8.8	0.0	47.6	0.0	49.2	0.0	0.0
Incr Delay (d2), s/veh	80.7	0.0	13.2	31.5	0.0	23.3	0.0	0.1	0.0	1.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	39.1	0.4	0.0	52.9	0.0	0.1	0.0	1.3	0.0	0.0
LnGrp Delay(d),s/veh	133.4	0.0	20.7	83.7	0.0	32.1	0.0	47.8	0.0	50.5	0.0	0.0
LnGrp LOS	F		C	F		F		D		D		
Approach Vol, veh/h	1470			1541			3			43		
Approach Delay, s/veh	20.8			32.4			47.8			50.5		
Approach LOS	C			C			D			D		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		9.4	4.8	91.4		9.4	4.2	92.0				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		16.0	4.0	88.0		16.0	4.0	88.0				
Max Q Clear Time (g_c+l1), s		2.2	2.5	69.8		5.3	2.1	90.0				
Green Ext Time (p_c), s		0.0	0.0	13.7		0.1	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay	27.1											
HCM 2010 LOS	C											

Intersection: 1: I-15 NB Ramps & Nichols Rd

Movement	EB	WB	NB	NB
Directions Served	L	TR	LT	R
Maximum Queue (ft)	49	2	185	75
Average Queue (ft)	14	0	59	38
95th Queue (ft)	41	2	128	71
Link Distance (ft)		234	204	
Upstream Blk Time (%)			0	
Queuing Penalty (veh)			0	
Storage Bay Dist (ft)	275			50
Storage Blk Time (%)			11	2
Queuing Penalty (veh)			14	4

Intersection: 2: I-15 SB Ramps & Nichols Rd

Movement	EB	EB	WB	WB	SB	SB
Directions Served	T	R	L	T	LT	R
Maximum Queue (ft)	107	118	48	74	84	58
Average Queue (ft)	39	30	23	42	41	29
95th Queue (ft)	72	88	47	64	66	49
Link Distance (ft)	334			716	132	
Upstream Blk Time (%)					0	
Queuing Penalty (veh)					0	
Storage Bay Dist (ft)		150	280			50
Storage Blk Time (%)	0	0			2	0
Queuing Penalty (veh)	0	0			1	0

Intersection: 3: Collier Ave & Nichols Rd

Movement	EB	WB	NB	NB
Directions Served	TR	L	L	R
Maximum Queue (ft)	4	57	49	64
Average Queue (ft)	0	23	15	32
95th Queue (ft)	5	51	42	52
Link Distance (ft)	181		1067	1067
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		135		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Collier Ave - SR-74/Collier Ave & Riverside Dr - SR-74/Riverside Dr

Movement	EB	EB	WB	NB	NB	SB	SB	SB
Directions Served	LT	R	LTR	L	TR	L	T	R
Maximum Queue (ft)	91	192	29	264	38	11	69	60
Average Queue (ft)	36	83	3	113	7	2	28	23
95th Queue (ft)	69	157	16	222	26	11	61	50
Link Distance (ft)	791	791	244	421	421		1067	1067
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)						270		
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 5: Collier Ave - SR-74 & Hunco Way

Movement	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	LTR	L	T	R	L	T	T	R	L	T	TR
Maximum Queue (ft)	40	113	17	43	74	188	54	26	78	201	50
Average Queue (ft)	13	49	1	16	24	80	12	4	33	88	14
95th Queue (ft)	38	90	9	36	52	159	39	20	67	169	37
Link Distance (ft)	467	370	370	370		860	860			421	421
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)					250			250	220		
Storage Blk Time (%)						0				0	
Queuing Penalty (veh)						0				0	

Intersection: 6: Collier Ave/Collier Ave - SR-74 & Central Ave/Central Ave - SR-74

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	L	T	TR	L	L	T	R	R	L	T	R
Maximum Queue (ft)	104	109	205	253	151	148	168	177	139	125	468	75
Average Queue (ft)	54	57	79	138	69	80	91	104	77	42	229	73
95th Queue (ft)	91	100	156	222	125	133	155	161	123	116	440	82
Link Distance (ft)			363	363	532	532	532	532			884	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150	150							450	100		50
Storage Blk Time (%)			0							0	34	38
Queuing Penalty (veh)			1							2	139	64

Intersection: 6: Collier Ave/Collier Ave - SR-74 & Central Ave/Central Ave - SR-74

Movement	SB	SB	SB	SB	SB
Directions Served	L	L	T	T	R
Maximum Queue (ft)	387	458	130	61	39
Average Queue (ft)	201	282	22	20	6
95th Queue (ft)	331	423	79	47	24
Link Distance (ft)			860	860	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	650	650		225	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 7: I-15 SB Ramps & Central Ave - SR-74

Movement	EB	EB	EB	WB	WB	WB	WB	SB	SB	SB
Directions Served	T	T	R	L	L	T	T	L	LTR	R
Maximum Queue (ft)	201	220	282	234	240	96	164	124	195	125
Average Queue (ft)	97	134	158	148	155	35	80	46	126	55
95th Queue (ft)	176	205	251	218	229	64	131	123	206	127
Link Distance (ft)	532	532	532		458	458	458		172	
Upstream Blk Time (%)									5	
Queuing Penalty (veh)									0	
Storage Bay Dist (ft)				400				100		100
Storage Blk Time (%)								0	16	0
Queuing Penalty (veh)								1	33	1

Intersection: 8: I-15 NB Ramps & Central Ave - SR-74

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	T	T	T	T	R	L	LTR	R
Maximum Queue (ft)	101	87	113	115	206	320	411	169	124	330	125
Average Queue (ft)	41	31	33	38	104	124	202	62	96	301	30
95th Queue (ft)	85	71	75	86	177	250	346	131	173	316	110
Link Distance (ft)		458	458	458	452	452	452	452		282	
Upstream Blk Time (%)							0			59	
Queuing Penalty (veh)							0			0	
Storage Bay Dist (ft)	250								100		100
Storage Blk Time (%)									2	55	0
Queuing Penalty (veh)									14	295	0

Intersection: 9: Dexter Ave & Central Ave - SR-74

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	NB
Directions Served	L	T	T	T	R	L	T	T	T	T	R	L
Maximum Queue (ft)	303	178	201	197	65	205	297	295	377	328	179	144
Average Queue (ft)	167	65	81	79	19	85	150	144	207	164	57	63
95th Queue (ft)	260	147	164	161	47	161	244	259	348	300	130	123
Link Distance (ft)	452	452	452	452	452		436	436	436	436		
Upstream Blk Time (%)							0	0	2	1		
Queuing Penalty (veh)							0	0	0	0		
Storage Bay Dist (ft)						200					300	120
Storage Blk Time (%)						0	2			1	0	1
Queuing Penalty (veh)						0	2			1	0	2

Intersection: 9: Dexter Ave & Central Ave - SR-74

Movement	NB	SB	SB	SB
Directions Served	TR	L	T	R
Maximum Queue (ft)	228	178	212	175
Average Queue (ft)	96	58	69	113
95th Queue (ft)	179	133	177	187
Link Distance (ft)	231		201	
Upstream Blk Time (%)	0	0	1	
Queuing Penalty (veh)	0	0	0	
Storage Bay Dist (ft)		175		150
Storage Blk Time (%)	5	1		4
Queuing Penalty (veh)	4	4		7

Intersection: 10: Strickland Ave/Gunnerson St & Riverside Dr - SR-74

Movement	EB	WB	NB	NB	SB	SB
Directions Served	L	L	LT	R	LT	R
Maximum Queue (ft)	30	27	17	7	82	36
Average Queue (ft)	2	3	2	0	31	1
95th Queue (ft)	16	17	13	5	66	16
Link Distance (ft)			335		411	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	100	100		50		50
Storage Blk Time (%)				0	6	0
Queuing Penalty (veh)				0	0	0

Intersection: 11: Lakeshore Dr & Riverside Dr - SR-74

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	R	L	T	TR	L	T
Maximum Queue (ft)	174	283	224	77	109	295	67	146	177	114	168	149
Average Queue (ft)	80	126	77	34	20	151	32	77	58	7	100	55
95th Queue (ft)	150	219	178	62	64	233	57	138	134	52	159	103
Link Distance (ft)		422	422			708	708		403			452
Upstream Blk Time (%)		0										
Queuing Penalty (veh)		0										
Storage Bay Dist (ft)	150			225	160			130		300	150	
Storage Blk Time (%)	0	7	0			7		4	0		2	0
Queuing Penalty (veh)	0	9	0			2		7	0		2	0

Intersection: 11: Lakeshore Dr & Riverside Dr - SR-74

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	85	70
Average Queue (ft)	25	29
95th Queue (ft)	62	54
Link Distance (ft)	452	452
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 611

Intersection: 1: I-15 NB Ramps & Nichols Rd

Movement	EB	NB	NB
Directions Served	L	LT	R
Maximum Queue (ft)	60	155	63
Average Queue (ft)	12	72	22
95th Queue (ft)	40	123	56
Link Distance (ft)		204	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	275		50
Storage Blk Time (%)		16	0
Queuing Penalty (veh)		4	1

Intersection: 2: I-15 SB Ramps & Nichols Rd

Movement	EB	EB	WB	WB	SB	SB
Directions Served	T	R	L	T	LT	R
Maximum Queue (ft)	62	89	31	84	102	75
Average Queue (ft)	32	17	16	49	35	40
95th Queue (ft)	54	62	41	76	69	65
Link Distance (ft)	334			716	132	
Upstream Blk Time (%)					0	
Queuing Penalty (veh)					0	
Storage Bay Dist (ft)		150	280			50
Storage Blk Time (%)					1	2
Queuing Penalty (veh)					1	1

Intersection: 3: Collier Ave & Nichols Rd

Movement	EB	WB	NB	NB
Directions Served	TR	L	L	R
Maximum Queue (ft)	9	58	90	100
Average Queue (ft)	0	27	37	49
95th Queue (ft)	4	56	72	81
Link Distance (ft)	181		1067	1067
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		135		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Collier Ave - SR-74/Collier Ave & Riverside Dr - SR-74/Riverside Dr

Movement	EB	EB	WB	NB	NB	SB	SB	SB
Directions Served	LT	R	LTR	L	TR	L	T	R
Maximum Queue (ft)	112	369	92	427	232	24	262	136
Average Queue (ft)	51	182	36	279	53	1	120	51
95th Queue (ft)	96	467	77	426	146	12	242	103
Link Distance (ft)	791	791	244	421	421		1067	1067
Upstream Blk Time (%)		1		1	0			
Queuing Penalty (veh)		6		3	0			
Storage Bay Dist (ft)						270		
Storage Blk Time (%)							4	
Queuing Penalty (veh)							0	

Intersection: 5: Collier Ave - SR-74 & Hunco Way

Movement	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	LTR	L	T	R	L	T	T	R	L	T	TR
Maximum Queue (ft)	79	199	13	87	233	390	277	30	174	370	222
Average Queue (ft)	33	103	1	30	46	220	75	8	63	191	55
95th Queue (ft)	67	174	7	63	159	392	235	29	158	355	206
Link Distance (ft)	467	370	370	370		860	860			421	421
Upstream Blk Time (%)										3	1
Queuing Penalty (veh)										15	3
Storage Bay Dist (ft)					250			250	220		
Storage Blk Time (%)						9	0			8	
Queuing Penalty (veh)						4	0			8	

Intersection: 6: Collier Ave/Collier Ave - SR-74 & Central Ave/Central Ave - SR-74

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	L	T	TR	L	L	T	R	R	L	T	R
Maximum Queue (ft)	114	122	241	314	115	125	175	165	104	124	427	75
Average Queue (ft)	58	47	79	169	56	63	80	96	54	40	173	71
95th Queue (ft)	100	91	183	272	100	111	144	140	90	97	365	84
Link Distance (ft)			363	363	532	532	532	532			884	
Upstream Blk Time (%)			0	0								
Queuing Penalty (veh)			0	0								
Storage Bay Dist (ft)	150	150							450	100		50
Storage Blk Time (%)	0		0							0	30	28
Queuing Penalty (veh)	0		1							0	121	47

Intersection: 6: Collier Ave/Collier Ave - SR-74 & Central Ave/Central Ave - SR-74

Movement	SB	SB	SB	SB	SB
Directions Served	L	L	T	T	R
Maximum Queue (ft)	615	642	386	196	25
Average Queue (ft)	436	500	183	27	5
95th Queue (ft)	734	741	726	129	18
Link Distance (ft)			860	860	
Upstream Blk Time (%)			2		
Queuing Penalty (veh)			10		
Storage Bay Dist (ft)	650	650		225	
Storage Blk Time (%)	1	8	1		
Queuing Penalty (veh)	1	5	7		

Intersection: 7: I-15 SB Ramps & Central Ave - SR-74

Movement	EB	EB	EB	WB	WB	WB	WB	SB	SB	SB
Directions Served	T	T	R	L	L	T	T	L	LTR	R
Maximum Queue (ft)	475	499	303	174	166	104	224	125	225	125
Average Queue (ft)	223	273	118	103	104	27	79	114	189	78
95th Queue (ft)	439	465	250	154	153	69	169	161	210	164
Link Distance (ft)	532	532	532		458	458	458		172	
Upstream Blk Time (%)	0	1	0						61	
Queuing Penalty (veh)	1	3	0						0	
Storage Bay Dist (ft)				400				100		100
Storage Blk Time (%)								4	64	0
Queuing Penalty (veh)								19	226	1

Intersection: 8: I-15 NB Ramps & Central Ave - SR-74

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	T	T	T	T	R	L	LTR	R
Maximum Queue (ft)	150	127	153	144	289	339	461	249	125	335	125
Average Queue (ft)	66	49	81	92	70	99	224	40	83	301	62
95th Queue (ft)	121	100	128	131	173	248	427	151	172	317	159
Link Distance (ft)		458	458	458	452	452	452	452		282	
Upstream Blk Time (%)					0		1	0		63	
Queuing Penalty (veh)					0		2	1		0	
Storage Bay Dist (ft)	250								100		100
Storage Blk Time (%)									0	58	0
Queuing Penalty (veh)									1	352	1

Intersection: 9: Dexter Ave & Central Ave - SR-74

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	NB
Directions Served	L	T	T	T	R	L	T	T	T	T	R	L
Maximum Queue (ft)	185	163	240	246	58	208	365	409	469	456	274	144
Average Queue (ft)	82	33	80	90	20	96	192	272	366	332	69	71
95th Queue (ft)	147	96	151	159	47	182	363	503	545	551	227	139
Link Distance (ft)	452	452	452	452	452		436	436	436	436		
Upstream Blk Time (%)							1	7	35	26		
Queuing Penalty (veh)							0	0	0	0		
Storage Bay Dist (ft)						200					300	120
Storage Blk Time (%)						0	4			14	0	1
Queuing Penalty (veh)						0	5			11	0	2

Intersection: 9: Dexter Ave & Central Ave - SR-74

Movement	NB	SB	SB	SB
Directions Served	TR	L	T	R
Maximum Queue (ft)	241	99	128	162
Average Queue (ft)	119	38	33	64
95th Queue (ft)	216	80	85	126
Link Distance (ft)	231		201	
Upstream Blk Time (%)	2		0	
Queuing Penalty (veh)	0		0	
Storage Bay Dist (ft)		175		150
Storage Blk Time (%)	10			0
Queuing Penalty (veh)	10			0

Intersection: 10: Strickland Ave/Gunnerson St & Riverside Dr - SR-74

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	LT	R	LT	R
Maximum Queue (ft)	23	142	28	4	28	14	133	29
Average Queue (ft)	1	24	3	0	3	0	42	2
95th Queue (ft)	12	202	16	3	16	7	127	23
Link Distance (ft)		708		791	335		411	
Upstream Blk Time (%)		0						
Queuing Penalty (veh)		0						
Storage Bay Dist (ft)	100		100			50		50
Storage Blk Time (%)		3				0	21	0
Queuing Penalty (veh)		0				0	1	0

Intersection: 11: Lakeshore Dr & Riverside Dr - SR-74

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	R	L	T	TR	L	T
Maximum Queue (ft)	175	467	467	250	184	397	124	155	407	314	172	284
Average Queue (ft)	172	429	425	241	59	228	60	136	244	154	120	110
95th Queue (ft)	195	491	502	312	155	368	99	182	460	371	187	243
Link Distance (ft)		422	422			708	708		403			452
Upstream Blk Time (%)		61	60						21			0
Queuing Penalty (veh)		0	0						0			0
Storage Bay Dist (ft)	150			225	160			130		300	150	
Storage Blk Time (%)	7	93	80	1		25		44	5	1	12	0
Queuing Penalty (veh)	23	148	225	4		12		151	19	3	16	1

Intersection: 11: Lakeshore Dr & Riverside Dr - SR-74

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	188	85
Average Queue (ft)	61	42
95th Queue (ft)	172	73
Link Distance (ft)	452	452
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 1476

Intersection: 1: I-15 NB Ramps & Nichols Rd

Movement	EB	NB	NB
Directions Served	L	LT	R
Maximum Queue (ft)	58	212	75
Average Queue (ft)	16	66	42
95th Queue (ft)	46	155	76
Link Distance (ft)		204	
Upstream Blk Time (%)		4	
Queuing Penalty (veh)		0	
Storage Bay Dist (ft)	275		50
Storage Blk Time (%)		17	2
Queuing Penalty (veh)		22	4

Intersection: 2: I-15 SB Ramps & Nichols Rd

Movement	EB	EB	WB	WB	SB	SB
Directions Served	T	R	L	T	LT	R
Maximum Queue (ft)	88	117	48	94	121	72
Average Queue (ft)	39	26	23	46	44	35
95th Queue (ft)	68	82	48	73	81	58
Link Distance (ft)	340			716	132	
Upstream Blk Time (%)					0	
Queuing Penalty (veh)					0	
Storage Bay Dist (ft)		150	280			50
Storage Blk Time (%)		0			2	1
Queuing Penalty (veh)		0			2	1

Intersection: 3: Collier Ave & Nichols Rd

Movement	EB	WB	NB	NB
Directions Served	TR	L	L	R
Maximum Queue (ft)	15	57	40	78
Average Queue (ft)	1	27	14	34
95th Queue (ft)	8	55	37	62
Link Distance (ft)	187		1067	1067
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		135		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Collier Ave - SR-74/Collier Ave & Riverside Dr - SR-74/Riverside Dr

Movement	EB	EB	WB	NB	NB	SB	SB
Directions Served	LT	R	LTR	L	LTR	LT	R
Maximum Queue (ft)	96	239	29	156	180	90	57
Average Queue (ft)	43	115	2	77	94	45	21
95th Queue (ft)	80	203	14	137	162	78	48
Link Distance (ft)	791	791	245	421	421	1067	1067
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)							
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 5: Collier Ave - SR-74 & Hunco Way

Movement	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	LTR	L	T	R	L	T	T	R	L	T	TR
Maximum Queue (ft)	47	101	17	57	69	86	111	30	63	218	55
Average Queue (ft)	9	44	1	16	21	32	53	5	27	92	19
95th Queue (ft)	34	83	7	39	50	70	99	22	52	176	46
Link Distance (ft)	467	370	370	370		860	860			421	421
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)					250			250	220		
Storage Blk Time (%)										0	
Queuing Penalty (veh)										0	

Intersection: 6: Collier Ave/Collier Ave - SR-74 & Central Ave/Central Ave - SR-74

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	L	T	TR	L	L	T	R	R	L	T	R
Maximum Queue (ft)	158	172	250	294	156	170	176	150	168	124	507	75
Average Queue (ft)	42	113	92	149	73	88	87	90	105	50	227	73
95th Queue (ft)	137	179	196	254	130	141	146	132	155	127	424	82
Link Distance (ft)			363	363	532	532	532	532			884	
Upstream Blk Time (%)				0								
Queuing Penalty (veh)				0								
Storage Bay Dist (ft)	150	150							450	100		50
Storage Blk Time (%)	0	6	0							0	34	41
Queuing Penalty (veh)	0	10	1							2	135	70

Intersection: 6: Collier Ave/Collier Ave - SR-74 & Central Ave/Central Ave - SR-74

Movement	SB	SB	SB	SB	SB
Directions Served	L	L	T	T	R
Maximum Queue (ft)	543	553	293	128	38
Average Queue (ft)	272	344	33	23	7
95th Queue (ft)	489	536	164	81	24
Link Distance (ft)			860	860	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	650	650		225	
Storage Blk Time (%)	0	0			
Queuing Penalty (veh)	0	0			

Intersection: 7: I-15 SB Ramps & Central Ave - SR-74

Movement	EB	EB	EB	WB	WB	WB	WB	SB	SB	SB
Directions Served	T	T	R	L	L	T	T	L	LTR	R
Maximum Queue (ft)	170	240	287	233	245	80	154	124	190	125
Average Queue (ft)	98	140	168	146	155	34	76	49	134	62
95th Queue (ft)	160	213	259	210	226	68	133	126	213	140
Link Distance (ft)	532	532	532		458	458	458		172	
Upstream Blk Time (%)									7	
Queuing Penalty (veh)									0	
Storage Bay Dist (ft)				400				100		100
Storage Blk Time (%)								0	18	0
Queuing Penalty (veh)								0	37	1

Intersection: 8: I-15 NB Ramps & Central Ave - SR-74

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	T	T	T	T	R	L	LTR	R
Maximum Queue (ft)	116	77	97	99	207	360	422	161	125	327	125
Average Queue (ft)	45	29	35	40	102	131	215	56	94	300	30
95th Queue (ft)	92	66	72	84	183	281	372	127	171	316	109
Link Distance (ft)		458	458	458	452	452	452	452		282	
Upstream Blk Time (%)							0			60	
Queuing Penalty (veh)							0			0	
Storage Bay Dist (ft)	250								100		100
Storage Blk Time (%)									1	56	0
Queuing Penalty (veh)									12	305	0

Intersection: 9: Dexter Ave & Central Ave - SR-74

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	NB
Directions Served	L	T	T	T	R	L	T	T	T	T	R	L
Maximum Queue (ft)	284	195	210	209	83	164	344	354	446	437	279	144
Average Queue (ft)	162	60	79	79	21	76	139	143	217	167	53	61
95th Queue (ft)	247	130	153	155	53	135	241	268	375	323	127	133
Link Distance (ft)	452	452	452	452	452		436	436	436	436		
Upstream Blk Time (%)							0	0	2	1		
Queuing Penalty (veh)							0	0	0	0		
Storage Bay Dist (ft)						200					300	120
Storage Blk Time (%)							1			1	0	1
Queuing Penalty (veh)							2			1	0	1

Intersection: 9: Dexter Ave & Central Ave - SR-74

Movement	NB	SB	SB	SB
Directions Served	TR	L	T	R
Maximum Queue (ft)	228	168	198	173
Average Queue (ft)	101	49	74	113
95th Queue (ft)	189	110	182	188
Link Distance (ft)	231		201	
Upstream Blk Time (%)	1	0	2	
Queuing Penalty (veh)	0	0	0	
Storage Bay Dist (ft)		175		150
Storage Blk Time (%)	6		0	5
Queuing Penalty (veh)	5		0	7

Intersection: 10: Strickland Ave/Gunnerson St & Riverside Dr - SR-74

Movement	EB	EB	WB	NB	SB	SB
Directions Served	L	TR	L	LT	LT	R
Maximum Queue (ft)	23	4	29	28	96	29
Average Queue (ft)	2	0	5	3	31	2
95th Queue (ft)	15	3	22	17	71	19
Link Distance (ft)		708		335	411	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	100		100			50
Storage Blk Time (%)					7	0
Queuing Penalty (veh)					0	0

Intersection: 11: Lakeshore Dr & Riverside Dr - SR-74

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	R	L	T	TR	L	T
Maximum Queue (ft)	175	312	265	118	139	314	64	152	186	56	169	166
Average Queue (ft)	100	168	112	42	28	157	32	83	59	6	114	58
95th Queue (ft)	193	297	241	106	86	260	54	149	133	43	173	119
Link Distance (ft)		422	422			708	708		403			452
Upstream Blk Time (%)		0										
Queuing Penalty (veh)		0										
Storage Bay Dist (ft)	150			225	160			130		300	150	
Storage Blk Time (%)	3	19	1	0		10		7	0		3	0
Queuing Penalty (veh)	7	24	2	0		2		11	0		3	0

Intersection: 11: Lakeshore Dr & Riverside Dr - SR-74

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	74	61
Average Queue (ft)	28	28
95th Queue (ft)	62	53
Link Distance (ft)	452	452
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 671

Intersection: 1: I-15 NB Ramps & Nichols Rd

Movement	EB	NB	NB
Directions Served	L	LT	R
Maximum Queue (ft)	48	169	68
Average Queue (ft)	17	72	21
95th Queue (ft)	44	128	54
Link Distance (ft)		204	
Upstream Blk Time (%)		1	
Queuing Penalty (veh)		0	
Storage Bay Dist (ft)	275		50
Storage Blk Time (%)		16	0
Queuing Penalty (veh)		4	0

Intersection: 2: I-15 SB Ramps & Nichols Rd

Movement	EB	EB	WB	WB	SB	SB
Directions Served	T	R	L	T	LT	R
Maximum Queue (ft)	74	90	31	89	84	72
Average Queue (ft)	35	14	15	48	36	42
95th Queue (ft)	60	57	40	73	68	67
Link Distance (ft)	340			716	132	
Upstream Blk Time (%)					0	
Queuing Penalty (veh)					0	
Storage Bay Dist (ft)		150	280			50
Storage Blk Time (%)					1	2
Queuing Penalty (veh)					1	2

Intersection: 3: Collier Ave & Nichols Rd

Movement	EB	WB	NB	NB
Directions Served	TR	L	L	R
Maximum Queue (ft)	13	80	96	116
Average Queue (ft)	0	27	34	50
95th Queue (ft)	6	61	69	87
Link Distance (ft)	187		1067	1067
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		135		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Collier Ave - SR-74/Collier Ave & Riverside Dr - SR-74/Riverside Dr

Movement	EB	EB	WB	NB	NB	SB	SB
Directions Served	LT	R	LTR	L	LTR	LT	R
Maximum Queue (ft)	129	572	89	435	452	315	136
Average Queue (ft)	59	242	37	318	336	151	55
95th Queue (ft)	107	578	73	508	511	292	106
Link Distance (ft)	791	791	245	421	421	1067	1067
Upstream Blk Time (%)		2		6	10		
Queuing Penalty (veh)		8		35	57		
Storage Bay Dist (ft)							
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 5: Collier Ave - SR-74 & Hunco Way

Movement	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	LTR	L	T	R	L	T	T	R	L	T	TR
Maximum Queue (ft)	104	239	13	98	155	463	461	128	245	453	460
Average Queue (ft)	37	112	1	38	51	238	262	35	109	285	100
95th Queue (ft)	79	188	6	83	180	678	693	170	265	499	341
Link Distance (ft)	467	370	370	370		860	860			421	421
Upstream Blk Time (%)						2	3			7	1
Queuing Penalty (veh)						8	13			40	6
Storage Bay Dist (ft)					250			250	220		
Storage Blk Time (%)						17	20	0	0	27	
Queuing Penalty (veh)						8	5	0	0	26	

Intersection: 6: Collier Ave/Collier Ave - SR-74 & Central Ave/Central Ave - SR-74

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	L	T	TR	L	L	T	R	R	L	T	R
Maximum Queue (ft)	150	170	261	318	110	118	184	136	169	125	535	75
Average Queue (ft)	32	98	93	168	57	60	77	72	97	47	239	72
95th Queue (ft)	120	167	229	281	99	106	136	115	144	118	500	85
Link Distance (ft)			363	363	532	532	532	532			884	
Upstream Blk Time (%)			0	0								
Queuing Penalty (veh)			0	0								
Storage Bay Dist (ft)	150	150							450	100		50
Storage Blk Time (%)	1	7	0							0	37	32
Queuing Penalty (veh)	1	11	1							1	151	55

Intersection: 6: Collier Ave/Collier Ave - SR-74 & Central Ave/Central Ave - SR-74

Movement	SB	SB	SB	SB	SB
Directions Served	L	L	T	T	R
Maximum Queue (ft)	662	675	860	65	24
Average Queue (ft)	567	601	468	23	5
95th Queue (ft)	804	786	1139	49	16
Link Distance (ft)			860	860	
Upstream Blk Time (%)			5		
Queuing Penalty (veh)			31		
Storage Bay Dist (ft)	650	650		225	
Storage Blk Time (%)	4	22	1		
Queuing Penalty (veh)	3	15	14		

Intersection: 7: I-15 SB Ramps & Central Ave - SR-74

Movement	EB	EB	EB	WB	WB	WB	WB	SB	SB	SB
Directions Served	T	T	R	L	L	T	T	L	LTR	R
Maximum Queue (ft)	502	511	473	200	224	86	247	125	210	125
Average Queue (ft)	215	273	134	108	112	26	85	120	188	79
95th Queue (ft)	407	439	275	167	178	59	194	149	199	165
Link Distance (ft)	532	532	532		458	458	458		172	
Upstream Blk Time (%)	0	0	0						62	
Queuing Penalty (veh)	1	2	0						0	
Storage Bay Dist (ft)				400				100		100
Storage Blk Time (%)								6	64	0
Queuing Penalty (veh)								24	225	1

Intersection: 8: I-15 NB Ramps & Central Ave - SR-74

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	T	T	T	T	R	L	LTR	R
Maximum Queue (ft)	150	151	158	147	237	401	470	248	125	338	125
Average Queue (ft)	69	52	80	96	70	98	212	36	93	301	66
95th Queue (ft)	126	112	126	139	165	265	418	127	175	319	162
Link Distance (ft)		458	458	458	452	452	452	452		282	
Upstream Blk Time (%)						0	0	0		62	
Queuing Penalty (veh)						0	2	0		0	
Storage Bay Dist (ft)	250								100		100
Storage Blk Time (%)									0	58	0
Queuing Penalty (veh)									2	360	1

Intersection: 9: Dexter Ave & Central Ave - SR-74

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	NB
Directions Served	L	T	T	T	R	L	T	T	T	T	R	L
Maximum Queue (ft)	235	190	193	223	70	176	398	416	464	460	270	144
Average Queue (ft)	88	41	80	91	22	86	173	247	349	309	61	72
95th Queue (ft)	178	117	147	160	57	157	346	469	526	520	205	142
Link Distance (ft)	452	452	452	452	452		436	436	436	436		
Upstream Blk Time (%)							0	4	24	19		
Queuing Penalty (veh)							0	0	0	0		
Storage Bay Dist (ft)						200					300	120
Storage Blk Time (%)						0	2			7	0	1
Queuing Penalty (veh)						0	3			5	0	2

Intersection: 9: Dexter Ave & Central Ave - SR-74

Movement	NB	SB	SB	SB
Directions Served	TR	L	T	R
Maximum Queue (ft)	245	90	135	161
Average Queue (ft)	123	37	36	69
95th Queue (ft)	216	75	82	131
Link Distance (ft)	231		201	
Upstream Blk Time (%)	1			
Queuing Penalty (veh)	0			
Storage Bay Dist (ft)		175		150
Storage Blk Time (%)	9		0	0
Queuing Penalty (veh)	8		0	1

Intersection: 10: Strickland Ave/Gunnerson St & Riverside Dr - SR-74

Movement	EB	WB	NB	NB	SB	SB
Directions Served	TR	L	LT	R	LT	R
Maximum Queue (ft)	193	30	28	8	164	58
Average Queue (ft)	38	3	2	0	50	3
95th Queue (ft)	271	18	13	5	135	27
Link Distance (ft)	708		335		411	
Upstream Blk Time (%)	0					
Queuing Penalty (veh)	0					
Storage Bay Dist (ft)		100		50		50
Storage Blk Time (%)	5			0	34	0
Queuing Penalty (veh)	0			0	2	0

Intersection: 11: Lakeshore Dr & Riverside Dr - SR-74

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	R	L	T	TR	L	T
Maximum Queue (ft)	175	468	462	250	185	324	128	155	427	322	174	375
Average Queue (ft)	171	407	389	216	51	193	59	136	235	135	135	140
95th Queue (ft)	199	527	543	341	142	296	103	185	433	347	204	312
Link Distance (ft)		422	422			708	708		403			452
Upstream Blk Time (%)		48	46						11			0
Queuing Penalty (veh)		0	0						0			0
Storage Bay Dist (ft)	150			225	160			130		300	150	
Storage Blk Time (%)	6	88	65	1	0	16		43	4	0	23	0
Queuing Penalty (veh)	22	139	184	3	0	8		150	14	1	31	0

Intersection: 11: Lakeshore Dr & Riverside Dr - SR-74

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	300	91
Average Queue (ft)	81	44
95th Queue (ft)	228	76
Link Distance (ft)	452	452
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 1691

Intersection: 1: I-15 NB Ramps & Nichols Rd

Movement	EB	EB	WB	NB	NB
Directions Served	L	T	TR	LT	R
Maximum Queue (ft)	66	4	14	229	75
Average Queue (ft)	17	0	1	80	45
95th Queue (ft)	49	3	8	186	81
Link Distance (ft)		716	234	204	
Upstream Blk Time (%)				7	
Queuing Penalty (veh)				0	
Storage Bay Dist (ft)	275				50
Storage Blk Time (%)				20	3
Queuing Penalty (veh)				28	7

Intersection: 2: I-15 SB Ramps & Nichols Rd

Movement	EB	EB	WB	WB	SB	SB
Directions Served	T	R	L	T	LT	R
Maximum Queue (ft)	91	150	45	86	114	72
Average Queue (ft)	42	37	24	46	48	38
95th Queue (ft)	72	107	47	72	87	65
Link Distance (ft)	340			716	132	
Upstream Blk Time (%)					0	
Queuing Penalty (veh)					0	
Storage Bay Dist (ft)		150	280			50
Storage Blk Time (%)		1			3	1
Queuing Penalty (veh)		2			2	2

Intersection: 3: Collier Ave & Nichols Rd

Movement	EB	WB	NB	NB
Directions Served	TR	L	L	R
Maximum Queue (ft)	9	65	56	79
Average Queue (ft)	0	28	14	39
95th Queue (ft)	5	57	39	67
Link Distance (ft)	187		1067	1067
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		135		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Collier Ave - SR-74/Collier Ave & Riverside Dr - SR-74/Riverside Dr

Movement	EB	EB	WB	NB	NB	SB	SB
Directions Served	LT	R	LTR	L	LTR	LT	R
Maximum Queue (ft)	98	266	38	201	234	110	69
Average Queue (ft)	46	109	5	96	116	46	29
95th Queue (ft)	83	196	25	172	199	88	58
Link Distance (ft)	791	791	245	421	421	1067	1067
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)							
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 5: Collier Ave - SR-74 & Hunco Way

Movement	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	LTR	L	T	R	L	T	T	R	L	T	TR
Maximum Queue (ft)	40	121	18	56	65	93	119	29	80	235	54
Average Queue (ft)	14	50	2	17	25	34	55	5	28	106	17
95th Queue (ft)	40	94	11	41	56	77	102	22	60	196	42
Link Distance (ft)	467	370	370	370		860	860			421	421
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)					250			250	220		
Storage Blk Time (%)										0	
Queuing Penalty (veh)										0	

Intersection: 6: Collier Ave/Collier Ave - SR-74 & Central Ave/Central Ave - SR-74

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	L	T	TR	L	L	T	R	R	L	T	T
Maximum Queue (ft)	161	174	258	305	130	140	190	150	160	78	216	303
Average Queue (ft)	45	118	106	161	78	87	80	81	96	27	65	114
95th Queue (ft)	145	181	217	269	127	137	150	132	153	60	136	259
Link Distance (ft)			363	363	515	515	515	515			885	885
Upstream Blk Time (%)				0								
Queuing Penalty (veh)				0								
Storage Bay Dist (ft)	150	150							450	100		
Storage Blk Time (%)	0	6	2							0	1	3
Queuing Penalty (veh)	0	10	3							0	1	13

Intersection: 6: Collier Ave/Collier Ave - SR-74 & Central Ave/Central Ave - SR-74

Movement	NB	NB	SB	SB	SB	SB	SB
Directions Served	R	R	L	L	T	T	R
Maximum Queue (ft)	75	64	531	544	137	54	28
Average Queue (ft)	69	52	269	344	24	20	5
95th Queue (ft)	85	76	468	523	111	46	19
Link Distance (ft)					860	860	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	50	50	650	650		225	
Storage Blk Time (%)	38	8	0	0			
Queuing Penalty (veh)	26	5	0	0			

Intersection: 7: I-15 SB Ramps & Central Ave - SR-74

Movement	EB	EB	EB	WB	WB	WB	WB	SB	SB	SB
Directions Served	T	T	R	L	L	T	T	L	LTR	R
Maximum Queue (ft)	203	246	310	286	291	110	165	124	194	125
Average Queue (ft)	104	142	174	162	166	35	82	46	138	66
95th Queue (ft)	167	214	273	235	239	78	138	121	219	140
Link Distance (ft)	515	515	515		458	458	458		172	
Upstream Blk Time (%)									7	
Queuing Penalty (veh)									0	
Storage Bay Dist (ft)				400				100		100
Storage Blk Time (%)								0	20	0
Queuing Penalty (veh)								1	44	1

Intersection: 8: I-15 NB Ramps & Central Ave - SR-74

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	T	T	T	T	R	L	LTR	R
Maximum Queue (ft)	109	92	108	125	278	405	429	178	125	334	125
Average Queue (ft)	43	32	38	38	118	139	223	71	94	301	30
95th Queue (ft)	85	74	83	89	218	295	393	147	172	317	107
Link Distance (ft)		458	458	458	452	452	452	452		282	
Upstream Blk Time (%)						0	0			58	
Queuing Penalty (veh)						0	2			0	
Storage Bay Dist (ft)	250								100		100
Storage Blk Time (%)									1	55	0
Queuing Penalty (veh)									9	317	0

Intersection: 9: Dexter Ave & Central Ave - SR-74

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	NB
Directions Served	L	T	T	T	R	L	T	T	T	T	R	L
Maximum Queue (ft)	321	143	184	182	62	219	302	358	421	393	204	144
Average Queue (ft)	169	50	73	75	19	95	159	159	236	186	61	63
95th Queue (ft)	262	105	130	141	45	179	262	277	396	333	138	130
Link Distance (ft)	452	452	452	452	452		436	436	436	436		
Upstream Blk Time (%)								0	1	0		
Queuing Penalty (veh)								0	0	0		
Storage Bay Dist (ft)						200					300	120
Storage Blk Time (%)						0	3			1	0	3
Queuing Penalty (veh)						1	4			1	0	7

Intersection: 9: Dexter Ave & Central Ave - SR-74

Movement	NB	SB	SB	SB
Directions Served	TR	L	T	R
Maximum Queue (ft)	225	146	216	175
Average Queue (ft)	103	51	76	114
95th Queue (ft)	194	109	188	190
Link Distance (ft)	231		201	
Upstream Blk Time (%)	0	0	1	
Queuing Penalty (veh)	0	0	0	
Storage Bay Dist (ft)		175		150
Storage Blk Time (%)	6	0	0	5
Queuing Penalty (veh)	5	0	0	8

Intersection: 10: Strickland Ave/Gunnerson St & Riverside Dr - SR-74

Movement	EB	EB	WB	NB	SB
Directions Served	L	TR	L	LT	LT
Maximum Queue (ft)	23	12	29	32	112
Average Queue (ft)	2	0	5	4	31
95th Queue (ft)	13	8	22	20	76
Link Distance (ft)		708		335	411
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	100		100		
Storage Blk Time (%)				0	10
Queuing Penalty (veh)				0	1

Intersection: 11: Lakeshore Dr & Riverside Dr - SR-74

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	R	L	T	TR	L	T
Maximum Queue (ft)	174	336	320	152	158	304	68	143	194	119	171	224
Average Queue (ft)	93	165	116	57	27	160	34	82	60	10	107	64
95th Queue (ft)	178	337	286	160	95	270	59	141	142	63	169	153
Link Distance (ft)		422	422			708	708		403			452
Upstream Blk Time (%)		2	0									
Queuing Penalty (veh)		0	0									
Storage Bay Dist (ft)	150			225	160			130		300	150	
Storage Blk Time (%)	1	20	5	0		11		5	0		5	0
Queuing Penalty (veh)	3	27	12	0		3		8	1		5	0

Intersection: 11: Lakeshore Dr & Riverside Dr - SR-74

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	100	74
Average Queue (ft)	30	30
95th Queue (ft)	71	58
Link Distance (ft)	452	452
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 558

Intersection: 1: I-15 NB Ramps & Nichols Rd

Movement	EB	WB	NB	NB
Directions Served	L	TR	LT	R
Maximum Queue (ft)	51	23	187	75
Average Queue (ft)	19	1	84	23
95th Queue (ft)	46	17	148	65
Link Distance (ft)		234	204	
Upstream Blk Time (%)			2	
Queuing Penalty (veh)			0	
Storage Bay Dist (ft)	275			50
Storage Blk Time (%)			23	0
Queuing Penalty (veh)			6	1

Intersection: 2: I-15 SB Ramps & Nichols Rd

Movement	EB	EB	WB	WB	SB	SB
Directions Served	T	R	L	T	LT	R
Maximum Queue (ft)	75	74	95	215	95	70
Average Queue (ft)	34	17	18	76	40	45
95th Queue (ft)	60	59	66	274	87	70
Link Distance (ft)	340			716	132	
Upstream Blk Time (%)				2	2	
Queuing Penalty (veh)				7	0	
Storage Bay Dist (ft)		150	280			50
Storage Blk Time (%)				4	1	6
Queuing Penalty (veh)				1	1	4

Intersection: 3: Collier Ave & Nichols Rd

Movement	EB	WB	WB	NB	NB
Directions Served	TR	L	T	L	R
Maximum Queue (ft)	48	95	70	91	94
Average Queue (ft)	4	39	21	36	46
95th Queue (ft)	37	98	154	69	75
Link Distance (ft)	187		340	1067	1067
Upstream Blk Time (%)	0		4		
Queuing Penalty (veh)	0		19		
Storage Bay Dist (ft)		135			
Storage Blk Time (%)		5	0		
Queuing Penalty (veh)		14	0		

Intersection: 4: Collier Ave - SR-74/Collier Ave & Riverside Dr - SR-74/Riverside Dr

Movement	EB	EB	WB	NB	NB	SB	SB
Directions Served	LT	R	LTR	L	LTR	LT	R
Maximum Queue (ft)	512	816	119	441	469	852	682
Average Queue (ft)	78	547	44	392	405	431	144
95th Queue (ft)	265	996	98	503	501	934	564
Link Distance (ft)	791	791	245	421	421	1067	1067
Upstream Blk Time (%)		8		14	20	5	2
Queuing Penalty (veh)		37		80	116	7	2
Storage Bay Dist (ft)							
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 5: Collier Ave - SR-74 & Hunco Way

Movement	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	LTR	L	T	R	L	T	T	R	L	T	TR
Maximum Queue (ft)	98	293	94	123	275	815	826	275	245	464	464
Average Queue (ft)	38	132	5	46	89	396	414	57	161	398	193
95th Queue (ft)	74	222	58	96	270	910	916	230	326	543	512
Link Distance (ft)	467	370	370	370		860	860			421	421
Upstream Blk Time (%)		0	0			5	6			23	4
Queuing Penalty (veh)		0	0			27	34			130	24
Storage Bay Dist (ft)					250			250	220		
Storage Blk Time (%)					0	36	41	0	0	55	
Queuing Penalty (veh)					0	17	11	0	0	57	

Intersection: 6: Collier Ave/Collier Ave - SR-74 & Central Ave/Central Ave - SR-74

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	L	T	TR	L	L	T	R	R	L	T	T
Maximum Queue (ft)	154	171	311	311	118	126	168	235	254	98	208	366
Average Queue (ft)	51	117	92	170	53	59	75	79	95	30	65	140
95th Queue (ft)	154	181	232	282	97	101	140	186	200	72	166	294
Link Distance (ft)			363	363	515	515	515	515			885	885
Upstream Blk Time (%)			0	0								
Queuing Penalty (veh)			0	0								
Storage Bay Dist (ft)	150	150							450	100		
Storage Blk Time (%)	2	9	0							0	6	9
Queuing Penalty (veh)	3	16	1							0	2	34

Intersection: 6: Collier Ave/Collier Ave - SR-74 & Central Ave/Central Ave - SR-74

Movement	NB	NB	SB	SB	SB	SB	SB
Directions Served	R	R	L	L	T	T	R
Maximum Queue (ft)	75	63	662	675	891	186	34
Average Queue (ft)	70	50	647	664	737	27	5
95th Queue (ft)	86	79	738	725	1196	124	20
Link Distance (ft)					860	860	
Upstream Blk Time (%)					9		
Queuing Penalty (veh)					61		
Storage Bay Dist (ft)	50	50	650	650		225	
Storage Blk Time (%)	38	5	5	39	3		
Queuing Penalty (veh)	26	3	4	28	31		

Intersection: 7: I-15 SB Ramps & Central Ave - SR-74

Movement	EB	EB	EB	WB	WB	WB	WB	SB	SB	SB
Directions Served	T	T	R	L	L	T	T	L	LTR	R
Maximum Queue (ft)	527	525	344	177	180	85	217	125	218	125
Average Queue (ft)	274	330	132	108	108	25	77	118	190	87
95th Queue (ft)	495	513	254	160	166	62	164	155	204	170
Link Distance (ft)	515	515	515		458	458	458		172	
Upstream Blk Time (%)	0	1	0						68	
Queuing Penalty (veh)	3	4	0						0	
Storage Bay Dist (ft)				400				100		100
Storage Blk Time (%)								5	68	0
Queuing Penalty (veh)								21	253	2

Intersection: 8: I-15 NB Ramps & Central Ave - SR-74

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	T	T	T	T	R	L	LTR	R
Maximum Queue (ft)	172	120	134	167	238	410	456	334	125	326	125
Average Queue (ft)	72	51	79	96	72	146	276	51	89	301	67
95th Queue (ft)	131	109	123	143	162	336	487	199	171	315	163
Link Distance (ft)		458	458	458	452	452	452	452		282	
Upstream Blk Time (%)						0	1	0		62	
Queuing Penalty (veh)						0	6	1		0	
Storage Bay Dist (ft)	250								100		100
Storage Blk Time (%)									1	58	0
Queuing Penalty (veh)									6	383	1

Intersection: 9: Dexter Ave & Central Ave - SR-74

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	NB
Directions Served	L	T	T	T	R	L	T	T	T	T	R	L
Maximum Queue (ft)	231	146	178	194	65	224	448	463	484	470	325	144
Average Queue (ft)	87	41	81	90	20	108	230	351	430	413	131	68
95th Queue (ft)	177	102	143	149	51	215	424	555	527	548	354	132
Link Distance (ft)	452	452	452	452	452		436	436	436	436		
Upstream Blk Time (%)							1	10	58	48		
Queuing Penalty (veh)							0	0	0	0		
Storage Bay Dist (ft)						200					300	120
Storage Blk Time (%)						0	7			22	0	1
Queuing Penalty (veh)						1	9			17	0	4

Intersection: 9: Dexter Ave & Central Ave - SR-74

Movement	NB	SB	SB	SB
Directions Served	TR	L	T	R
Maximum Queue (ft)	241	124	129	163
Average Queue (ft)	112	38	34	72
95th Queue (ft)	202	86	81	139
Link Distance (ft)	231		201	
Upstream Blk Time (%)	0		0	
Queuing Penalty (veh)	0		0	
Storage Bay Dist (ft)		175		150
Storage Blk Time (%)	7			1
Queuing Penalty (veh)	7			1

Intersection: 10: Strickland Ave/Gunnerson St & Riverside Dr - SR-74

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	LT	R	LT	R
Maximum Queue (ft)	61	547	34	4	28	22	295	52
Average Queue (ft)	2	180	5	0	3	1	93	2
95th Queue (ft)	27	590	24	3	16	10	262	23
Link Distance (ft)		708		791	335		411	
Upstream Blk Time (%)		0					1	
Queuing Penalty (veh)		1					0	
Storage Bay Dist (ft)	100		100			50		50
Storage Blk Time (%)		25				0	46	0
Queuing Penalty (veh)		0				0	3	0

Intersection: 11: Lakeshore Dr & Riverside Dr - SR-74

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	R	L	T	TR	L	T
Maximum Queue (ft)	175	473	470	250	184	350	119	155	440	325	174	396
Average Queue (ft)	170	435	433	244	50	202	59	144	285	201	131	147
95th Queue (ft)	209	482	493	298	137	313	100	183	494	401	198	318
Link Distance (ft)		422	422			708	708		403			452
Upstream Blk Time (%)		72	71						18			0
Queuing Penalty (veh)		0	0						0			0
Storage Bay Dist (ft)	150			225	160			130		300	150	
Storage Blk Time (%)	8	92	84	1		17		55	5	1	24	0
Queuing Penalty (veh)	29	153	248	4		9		199	21	4	33	1

Intersection: 11: Lakeshore Dr & Riverside Dr - SR-74

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	321	120
Average Queue (ft)	88	46
95th Queue (ft)	229	88
Link Distance (ft)	452	452
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 2230

Intersection: 1: I-15 NB Ramps & Nichols Rd

Movement	EB	WB	NB	NB
Directions Served	L	TR	LT	R
Maximum Queue (ft)	80	8	239	76
Average Queue (ft)	24	0	100	47
95th Queue (ft)	60	3	222	86
Link Distance (ft)		234	204	
Upstream Blk Time (%)			17	
Queuing Penalty (veh)			0	
Storage Bay Dist (ft)	275			50
Storage Blk Time (%)			31	3
Queuing Penalty (veh)			42	9

Intersection: 2: I-15 SB Ramps & Nichols Rd

Movement	EB	EB	WB	WB	SB	SB
Directions Served	T	R	L	T	LT	R
Maximum Queue (ft)	92	165	55	89	118	75
Average Queue (ft)	45	43	27	52	48	43
95th Queue (ft)	76	119	49	79	87	71
Link Distance (ft)	340			716	132	
Upstream Blk Time (%)					0	
Queuing Penalty (veh)					0	
Storage Bay Dist (ft)		150	280			50
Storage Blk Time (%)		1			3	2
Queuing Penalty (veh)		2			4	4

Intersection: 3: Collier Ave & Nichols Rd

Movement	EB	WB	NB	NB
Directions Served	TR	L	L	R
Maximum Queue (ft)	18	78	64	91
Average Queue (ft)	1	34	18	41
95th Queue (ft)	8	66	48	70
Link Distance (ft)	187		1067	1067
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		135		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Collier Ave - SR-74/Collier Ave & Riverside Dr - SR-74/Riverside Dr

Movement	EB	EB	WB	NB	NB	SB	SB
Directions Served	LT	R	LTR	L	LTR	LT	R
Maximum Queue (ft)	121	484	33	332	353	151	83
Average Queue (ft)	58	188	4	169	184	68	38
95th Queue (ft)	106	375	21	301	323	122	72
Link Distance (ft)	791	791	245	421	421	1067	1067
Upstream Blk Time (%)		0		0	0		
Queuing Penalty (veh)		0		0	0		
Storage Bay Dist (ft)							
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 5: Collier Ave - SR-74 & Hunco Way

Movement	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	LTR	L	T	R	L	T	T	R	L	T	TR
Maximum Queue (ft)	61	114	22	55	74	134	163	33	214	446	296
Average Queue (ft)	21	49	2	16	27	56	77	6	42	210	50
95th Queue (ft)	50	88	11	40	58	111	134	25	133	400	195
Link Distance (ft)	467	370	370	370		860	860			421	421
Upstream Blk Time (%)										1	0
Queuing Penalty (veh)										7	1
Storage Bay Dist (ft)					250			250	220		
Storage Blk Time (%)										9	
Queuing Penalty (veh)										5	

Intersection: 6: Collier Ave/Collier Ave - SR-74 & Central Ave/Central Ave - SR-74

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	L	T	TR	L	L	T	R	R	L	T	T
Maximum Queue (ft)	156	174	377	386	351	346	202	171	197	124	271	404
Average Queue (ft)	44	124	277	331	197	211	95	80	106	44	125	235
95th Queue (ft)	132	203	418	429	308	310	167	145	180	106	219	381
Link Distance (ft)			363	363	515	515	515	515			885	885
Upstream Blk Time (%)			12	29								
Queuing Penalty (veh)			0	0								
Storage Bay Dist (ft)	150	150							450	100		
Storage Blk Time (%)	0	3	24							0	15	14
Queuing Penalty (veh)	0	5	49							0	6	65

Intersection: 6: Collier Ave/Collier Ave - SR-74 & Central Ave/Central Ave - SR-74

Movement	NB	NB	SB	SB	SB	SB	SB
Directions Served	R	R	L	L	T	T	R
Maximum Queue (ft)	76	63	662	675	882	367	39
Average Queue (ft)	74	56	619	642	449	52	7
95th Queue (ft)	78	73	735	718	1046	210	24
Link Distance (ft)					860	860	
Upstream Blk Time (%)					2		
Queuing Penalty (veh)					10		
Storage Bay Dist (ft)	50	50	650	650		225	
Storage Blk Time (%)	47	11	2	12	1		
Queuing Penalty (veh)	47	11	3	14	19		

Intersection: 7: I-15 SB Ramps & Central Ave - SR-74

Movement	EB	EB	EB	WB	WB	WB	WB	SB	SB	SB
Directions Served	T	T	R	L	L	T	T	L	LTR	R
Maximum Queue (ft)	395	443	402	226	249	244	329	124	218	125
Average Queue (ft)	196	252	236	140	145	59	121	85	190	96
95th Queue (ft)	323	383	347	204	218	156	238	169	203	169
Link Distance (ft)	515	515	515		458	458	458		172	
Upstream Blk Time (%)	0	0	0				0		73	
Queuing Penalty (veh)	0	1	1				3		0	
Storage Bay Dist (ft)				400				100		100
Storage Blk Time (%)								1	72	1
Queuing Penalty (veh)								7	260	7

Intersection: 8: I-15 NB Ramps & Central Ave - SR-74

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	T	T	T	T	R	L	LTR	R
Maximum Queue (ft)	161	156	260	278	275	394	440	286	125	325	125
Average Queue (ft)	82	49	119	138	151	202	275	135	76	300	41
95th Queue (ft)	142	114	195	217	246	326	388	248	168	313	128
Link Distance (ft)		458	458	458	452	452	452	452		282	
Upstream Blk Time (%)						0	0	0		65	
Queuing Penalty (veh)						0	1	0		0	
Storage Bay Dist (ft)	250								100		100
Storage Blk Time (%)									1	62	0
Queuing Penalty (veh)									12	463	0

Intersection: 9: Dexter Ave & Central Ave - SR-74

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	NB
Directions Served	L	T	T	T	R	L	T	T	T	T	R	L
Maximum Queue (ft)	328	94	128	141	75	225	451	454	482	476	325	144
Average Queue (ft)	192	23	68	86	19	155	338	378	452	452	216	144
95th Queue (ft)	295	73	114	133	48	274	475	488	470	470	425	147
Link Distance (ft)	452	452	452	452	452		436	436	436	436		
Upstream Blk Time (%)							3	5	54	51		
Queuing Penalty (veh)							0	0	0	0		
Storage Bay Dist (ft)						200					300	120
Storage Blk Time (%)						1	35			33	0	69
Queuing Penalty (veh)						3	64			63	1	239

Intersection: 9: Dexter Ave & Central Ave - SR-74

Movement	NB	SB	SB	SB
Directions Served	TR	L	T	R
Maximum Queue (ft)	276	193	227	175
Average Queue (ft)	250	69	115	143
95th Queue (ft)	265	150	253	202
Link Distance (ft)	231		201	
Upstream Blk Time (%)	75	0	5	
Queuing Penalty (veh)	0	0	0	
Storage Bay Dist (ft)		175		150
Storage Blk Time (%)	19	0	0	12
Queuing Penalty (veh)	76	0	0	22

Intersection: 10: Strickland Ave/Gunnerson St & Riverside Dr - SR-74

Movement	EB	EB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	LT	R	LT	R
Maximum Queue (ft)	30	34	29	28	29	166	58
Average Queue (ft)	3	1	5	3	1	59	7
95th Queue (ft)	18	25	22	18	12	148	41
Link Distance (ft)		708		335		411	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	100		100		50		50
Storage Blk Time (%)		0			0	33	0
Queuing Penalty (veh)		0			0	2	0

Intersection: 11: Lakeshore Dr & Riverside Dr - SR-74

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	R	L	T	TR	L	T
Maximum Queue (ft)	175	471	472	250	184	327	80	152	216	129	174	366
Average Queue (ft)	162	435	431	233	84	201	37	88	67	34	144	129
95th Queue (ft)	227	500	507	326	177	312	66	147	139	84	199	315
Link Distance (ft)		422	422			708	708		403			452
Upstream Blk Time (%)		74	77									1
Queuing Penalty (veh)		0	0									0
Storage Bay Dist (ft)	150			225	160			130		300	150	
Storage Blk Time (%)	9	94	86	1	0	17		4	1		20	0
Queuing Penalty (veh)	28	124	202	3	0	16		10	2		19	0

Intersection: 11: Lakeshore Dr & Riverside Dr - SR-74

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	298	55
Average Queue (ft)	64	30
95th Queue (ft)	201	52
Link Distance (ft)	452	452
Upstream Blk Time (%)	0	
Queuing Penalty (veh)	0	
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 1932

Intersection: 1: I-15 NB Ramps & Nichols Rd

Movement	EB	WB	NB	NB
Directions Served	L	TR	LT	R
Maximum Queue (ft)	52	279	229	66
Average Queue (ft)	15	100	160	15
95th Queue (ft)	46	285	269	55
Link Distance (ft)		234	204	
Upstream Blk Time (%)		27	48	
Queuing Penalty (veh)		0	0	
Storage Bay Dist (ft)	275			50
Storage Blk Time (%)			67	0
Queuing Penalty (veh)			19	0

Intersection: 2: I-15 SB Ramps & Nichols Rd

Movement	EB	EB	WB	WB	SB	SB
Directions Served	T	R	L	T	LT	R
Maximum Queue (ft)	183	136	304	729	170	75
Average Queue (ft)	43	19	34	423	100	59
95th Queue (ft)	109	77	170	952	186	85
Link Distance (ft)	340			716	132	
Upstream Blk Time (%)	0			41	55	
Queuing Penalty (veh)	0			178	0	
Storage Bay Dist (ft)		150	280			50
Storage Blk Time (%)	0	0		55	2	59
Queuing Penalty (veh)	0	1		13	4	45

Intersection: 3: Collier Ave & Nichols Rd

Movement	EB	WB	WB	NB	NB
Directions Served	TR	L	T	L	R
Maximum Queue (ft)	198	160	358	104	141
Average Queue (ft)	46	113	213	34	53
95th Queue (ft)	172	201	489	75	111
Link Distance (ft)	187		340	1067	1067
Upstream Blk Time (%)	8		46		
Queuing Penalty (veh)	0		291		
Storage Bay Dist (ft)		135			
Storage Blk Time (%)		57	1		
Queuing Penalty (veh)		200	3		

Intersection: 4: Collier Ave - SR-74/Collier Ave & Riverside Dr - SR-74/Riverside Dr

Movement	EB	EB	WB	NB	NB	SB	SB
Directions Served	LT	R	LTR	L	LTR	LT	R
Maximum Queue (ft)	638	832	222	444	459	1095	1082
Average Queue (ft)	57	766	109	408	418	960	566
95th Queue (ft)	235	986	232	497	489	1305	1326
Link Distance (ft)	791	791	245	421	421	1067	1067
Upstream Blk Time (%)		37	8	15	20	56	19
Queuing Penalty (veh)		252	0	118	158	94	32
Storage Bay Dist (ft)							
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 5: Collier Ave - SR-74 & Hunco Way

Movement	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	LTR	L	T	R	L	T	T	R	L	T	TR
Maximum Queue (ft)	150	403	391	369	274	694	717	275	245	470	470
Average Queue (ft)	55	359	262	81	94	379	406	93	124	439	233
95th Queue (ft)	111	474	552	242	279	736	767	298	312	467	568
Link Distance (ft)	467	370	370	370		860	860			421	421
Upstream Blk Time (%)		79	48	0						49	8
Queuing Penalty (veh)		0	0	0						388	62
Storage Bay Dist (ft)					250			250	220		
Storage Blk Time (%)					0	39	49	0	0	77	
Queuing Penalty (veh)					0	24	20	0	0	80	

Intersection: 6: Collier Ave/Collier Ave - SR-74 & Central Ave/Central Ave - SR-74

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	L	T	TR	L	L	T	R	R	L	T	T
Maximum Queue (ft)	162	175	398	402	197	224	172	100	134	124	865	946
Average Queue (ft)	62	137	340	364	102	119	76	45	60	34	283	907
95th Queue (ft)	159	207	463	445	177	197	139	86	111	100	761	928
Link Distance (ft)			363	363	515	515	515	515			885	885
Upstream Blk Time (%)			30	72							0	99
Queuing Penalty (veh)			0	0							0	0
Storage Bay Dist (ft)	150	150							450	100		
Storage Blk Time (%)	0	6	35							0	16	5
Queuing Penalty (veh)	1	12	68							0	7	38

Intersection: 6: Collier Ave/Collier Ave - SR-74 & Central Ave/Central Ave - SR-74

Movement	NB	NB	SB	SB	SB	SB	SB
Directions Served	R	R	L	L	T	T	R
Maximum Queue (ft)	76	64	662	675	889	358	23
Average Queue (ft)	75	58	659	673	859	26	3
95th Queue (ft)	76	74	710	695	1032	183	13
Link Distance (ft)					860	860	
Upstream Blk Time (%)					33	0	
Queuing Penalty (veh)					289	0	
Storage Bay Dist (ft)	50	50	650	650			225
Storage Blk Time (%)	70	11	8	61	3		
Queuing Penalty (veh)	82	12	8	61	40		

Intersection: 7: I-15 SB Ramps & Central Ave - SR-74

Movement	EB	EB	EB	WB	WB	WB	WB	SB	SB	SB
Directions Served	T	T	R	L	L	T	T	L	LTR	R
Maximum Queue (ft)	565	550	507	337	354	96	252	124	213	125
Average Queue (ft)	492	520	188	230	245	28	110	99	189	66
95th Queue (ft)	618	564	368	354	367	73	188	171	201	155
Link Distance (ft)	515	515	515		458	458	458		172	
Upstream Blk Time (%)	6	13	0		0				73	
Queuing Penalty (veh)	49	111	1		1				0	
Storage Bay Dist (ft)				400				100		100
Storage Blk Time (%)				0	1			5	72	0
Queuing Penalty (veh)				1	6			33	395	2

Intersection: 8: I-15 NB Ramps & Central Ave - SR-74

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	T	T	T	T	R	L	LTR	R
Maximum Queue (ft)	197	177	238	243	255	407	473	288	125	323	125
Average Queue (ft)	99	56	161	170	137	229	365	115	64	299	61
95th Queue (ft)	169	127	217	217	235	397	476	239	157	311	154
Link Distance (ft)		458	458	458	452	452	452	452		282	
Upstream Blk Time (%)						0	1			64	
Queuing Penalty (veh)						0	7			0	
Storage Bay Dist (ft)	250								100		100
Storage Blk Time (%)		0							0	61	0
Queuing Penalty (veh)		0							0	526	1

Intersection: 9: Dexter Ave & Central Ave - SR-74

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	NB
Directions Served	L	T	T	T	R	L	T	T	T	T	R	L
Maximum Queue (ft)	242	207	275	296	154	225	463	469	483	480	325	145
Average Queue (ft)	138	102	142	148	59	162	297	393	454	453	123	144
95th Queue (ft)	227	166	208	218	118	263	499	540	468	465	343	146
Link Distance (ft)	452	452	452	452	452		436	436	436	436		
Upstream Blk Time (%)							4	12	72	61		
Queuing Penalty (veh)							0	0	0	0		
Storage Bay Dist (ft)						200					300	120
Storage Blk Time (%)						5	16			30	0	62
Queuing Penalty (veh)						26	45			30	0	243

Intersection: 9: Dexter Ave & Central Ave - SR-74

Movement	NB	SB	SB	SB
Directions Served	TR	L	T	R
Maximum Queue (ft)	282	169	220	174
Average Queue (ft)	248	56	61	112
95th Queue (ft)	261	122	168	185
Link Distance (ft)	231		201	
Upstream Blk Time (%)	75	0	1	
Queuing Penalty (veh)	0	0	0	
Storage Bay Dist (ft)		175		150
Storage Blk Time (%)	28		0	4
Queuing Penalty (veh)	109		1	7

Intersection: 10: Strickland Ave/Gunnerson St & Riverside Dr - SR-74

Movement	EB	EB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	LT	R	LT	R
Maximum Queue (ft)	37	724	23	14	23	412	45
Average Queue (ft)	1	636	3	1	1	292	3
95th Queue (ft)	19	972	15	9	8	503	25
Link Distance (ft)		708		335		411	
Upstream Blk Time (%)		23				40	
Queuing Penalty (veh)		294				0	
Storage Bay Dist (ft)	100		100		50		50
Storage Blk Time (%)		76			0	96	0
Queuing Penalty (veh)		2			0	6	0

Intersection: 11: Lakeshore Dr & Riverside Dr - SR-74

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	R	L	T	TR	L	T
Maximum Queue (ft)	175	465	460	250	185	444	171	155	422	323	175	498
Average Queue (ft)	136	439	438	217	103	226	61	142	249	188	173	452
95th Queue (ft)	250	455	456	356	193	393	123	181	415	334	178	551
Link Distance (ft)		422	422			708	708		403			452
Upstream Blk Time (%)		85	84						3			85
Queuing Penalty (veh)		0	0						0			0
Storage Bay Dist (ft)	150			225	160			130		300	150	
Storage Blk Time (%)	2	98	95	1	0	16		24	25	1	94	1
Queuing Penalty (veh)	9	162	280	2	3	25		115	126	6	128	2

Intersection: 11: Lakeshore Dr & Riverside Dr - SR-74

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	443	76
Average Queue (ft)	126	22
95th Queue (ft)	408	63
Link Distance (ft)	452	452
Upstream Blk Time (%)	0	
Queuing Penalty (veh)	0	
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 5355

Intersection: 1: I-15 NB Ramps & Nichols Rd

Movement	EB	EB	WB	NB	NB
Directions Served	L	T	TR	LT	R
Maximum Queue (ft)	70	98	105	128	74
Average Queue (ft)	34	48	50	58	38
95th Queue (ft)	53	79	86	98	66
Link Distance (ft)		716	234	204	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	275				50
Storage Blk Time (%)				7	1
Queuing Penalty (veh)				7	2

Intersection: 1: I-15 NB Ramps & Nichols Rd

Movement	EB	EB	WB	NB	NB
Directions Served	L	T	TR	LT	R
Maximum Queue (ft)	71	63	75	172	72
Average Queue (ft)	39	36	34	77	24
95th Queue (ft)	61	54	60	138	64
Link Distance (ft)		716	234	204	
Upstream Blk Time (%)				0	
Queuing Penalty (veh)				0	
Storage Bay Dist (ft)	275				50
Storage Blk Time (%)				14	0
Queuing Penalty (veh)				4	1

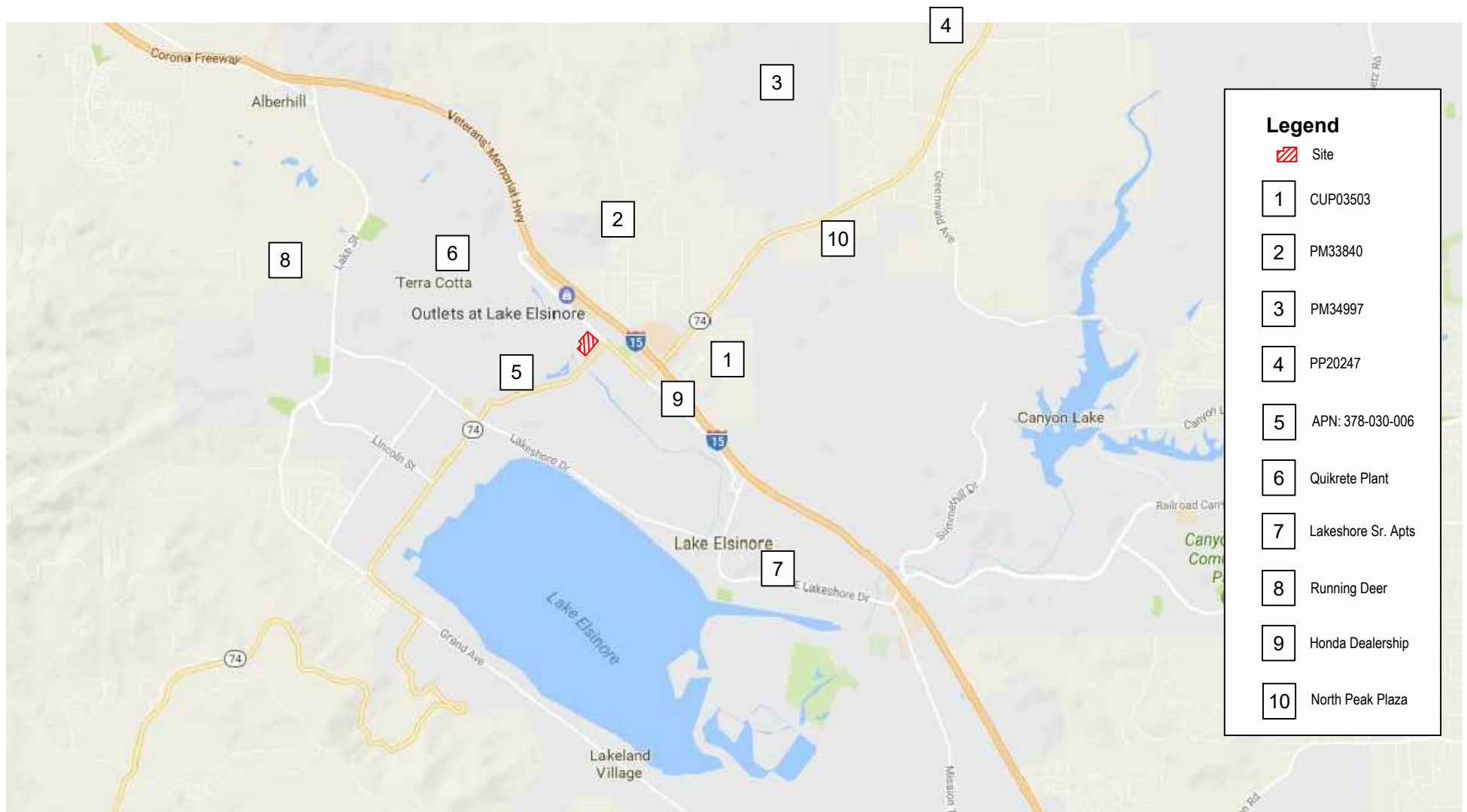
Intersection: 3: Collier Ave & Nichols Rd

Movement	EB	WB	WB	NB	NB
Directions Served	TR	L	T	L	R
Maximum Queue (ft)	211	72	77	44	80
Average Queue (ft)	106	39	44	13	38
95th Queue (ft)	179	60	69	36	65
Link Distance (ft)	187		340	1067	1067
Upstream Blk Time (%)	2				
Queuing Penalty (veh)	0				
Storage Bay Dist (ft)		135			
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 3: Collier Ave & Nichols Rd

Movement	EB	WB	WB	NB	NB
Directions Served	TR	L	T	L	R
Maximum Queue (ft)	202	92	94	74	118
Average Queue (ft)	89	49	53	29	55
95th Queue (ft)	156	76	80	55	91
Link Distance (ft)	187		340	1067	1067
Upstream Blk Time (%)	1				
Queuing Penalty (veh)	0				
Storage Bay Dist (ft)		135			
Storage Blk Time (%)			0		
Queuing Penalty (veh)			0		

Appendix D: Cumulative Projects Data



Source: Google Maps, 10/2016

Remaining Cumulative Projects Location Map

Kassab Travel Center TIA

FIGURE

A

Project Number	City / County	Project Name	Location	Land Use	Quantity	Units ¹
1	Lake Elsinore	Greenwald	APN 349-290-009. Approximately 200 feet northeast of the intersection of Greenwald and Bella Vista.	Shopping Center	104.450	TSF
2	Lake Elsinore	Ramsgate	1,300 Acre project area. Project is bounded by Riverside Street to the north, La Strada to the South, Greenwald to the east, and Highway 74 to the west.	Single Family Residential	1306.00	DU
				Condos/Townhomes	120.00	DU
3	Lake Elsinore	Trieste (Tract 36624)	Located at Rosetta Canyon Drive, south of Highway 74. APN: 347-120-047-8	Single Family Residential	75	DU
4	Lake Elsinore	Spyglass Ranch	APN's: 377-250-011, 377-350-004, 007, 008, 010, 014, 015, 016, 017, 377-260-004, 005, 006.	Single Family	523	DU
				Condominiums	171	DU
				Shopping Center	145.000	TSF
5	Lake Elsinore	South Shore I (Tract 31593)	Directly west of South Shore II	Single Family	521	DU
		South Shore II (Tract 36567)	East side of I-15 from Main Street adjacent to and east of TTM 35337. APNs: 363-020-012, 363-020-013, 363-020-014, 363-020-014, 363-020-015, 363-020-018, 363-020-002 and 363-020-003	Single Family	400	DU
6	Lake Elsinore	La Strada (Tract 32077)	Aproximately 1,500 feet east of the intersection of La Strada and Summerhill	Single Family	134	DU
7	Lake Elsinore	Marina Village Condos (Tract: 33820).	Spring St.and Lakeshore Dr. APN: 374-271-007,004,013,015,003.	Condominiums	94	DU
8	Lake Elsinore	TAG Property	APN: 363-130-086. Approximately 1,500 feet northwest of the intersection of Diamond and Auto Center.	Car Dealership	50.000	TSF
9	Lake Elsinore	City Center Condos	southeast quadrant off-15, Railroad Canyon and Grape	Condominiums	144	DU
10	Lake Elsinore	Diamond Specific Plan	The Project Site consists of 87.2 acres in the southeast portion of the city, generally located along Diamond Drive between Lakeshore Drive and a point approximately 600 feet south of Malaga Road	Condominiums	600	DU
				Hotel	150	RM
				General Office	425.000	TSF
				Shopping Center	472.000	TSF
11	Lake Elsinore	The Colony	East Lake is located in the City of Lake Elsinore along the eastern shore of Lake Elsinore	Apartments	211	DU
		TAG Property		Single Family	2407	DU
		John Laing Homes (Phase 2)		Condominiums	324	DU
				Single Family	506	DU
				Condominiums	1141	DU
				Apartments	308	DU
				Shopping Center	117.000	TSF
12	Lake Elsinore	Lake Elsinore Walmart	Southeast corner of Central and Cambern Avenues. APN's: 377-030-015 & -076 and 377-090-009, & -029 through -032.	Retail	151.397	TSF
				Speciality Retail	5.300	TSF
				Fast-Food without Drive-Thru	5.300	TSF
				Fast-Food without Drive-Thru	6.800	TSF

Project Number	City / County	Project Name	Location	Land Use	Quantity	Units ¹
13	Lake Elsinore	Summerly	East Lake is located in the City of Lake Elsinore along the eastern shore of Lake Elsinore	Single Family	142	DU
14	Lake Elsinore	Beazer		Single Family	72	DU
		KB Homes		Single Family	106	DU
		McMillin Homes		Single Family	143	DU
		Richmond American		Single Family	74	DU
15	Lake Elsinore	Lakeshore Town Center	Located at the northwest corner of Lakeshore Drive and Main Street and is located on Lake Elsinore (APNs: 374-281-001, 002, 003, 004, 005, 006, 007, 008, 009, and 010/374-282-001, 002, 003, and 004/373-162-001, 002, 003, 004, and 005).	Mixed-Use Commercial	237.400	TSF
16	Lake Elsinore	Canyon Hills Estates	APN: 365-220-026; 365-230-001, 005 thru 007, 009 thru 013	Single Family	302	DU
17	Lake Elsinore	Canyon Hills	Generally located east of the intersection of Railroad Canyon and Canyon Hills	Single Family	2700	DU
				Apartments	1575	DU
				Single Family	1003	DU
18	Lake Elsinore	Alberhill Ridge	APN's: 389-020-035 & 036, 389-080-040, 390-130-026 & 028, 390-160-003 & 006, 390-190-013, 014 & 015, 390-200-008 & 010, 390-210-021	Single Family	1056	DU
				Apartments	345	DU
				Shopping Center	679.000	TSF
				General Office	679.000	TSF
19	Lake Elsinore	Alberhill Ranch	APN: 391-800-001, 391-230-009, 391-240-001, 389-020-063, 390-130-021, 390-160-012, 390-190-019, 391-200-012, 391-230-005, 390-170-001, 390-160-001, 390-160-002-390-190-011, 391-230-002, 391-200-007, 391-230-002, 391-200-004, 391-230-004, 390-130-020, 390-130-006, 391-170-005, 391-170-007, 391-200-010, 391-200-003, 391-230-010	Single Family	1986	DU
20	Lake Elsinore	Terracina	APNs: 378-040-004, 378-040-005, 378-040-006, 378-040-012, 378-040-012, 389-040-012, 389-180-002, 389-190-002.	Single Family	365	DU
21	Lake Elsinore	Wakerider	APN: 381-030-005	Resort	11.350	TSF
22	Lake Elsinore	Village at Lakeshore (Tract 33267)	APNs: 387-180-001, 387-170-004, 387-170-006, 387-080-003, 387-080-004, 379-050-034, 379-050-006.	Condominiums	163	DU
23	Lake Elsinore	Golden Corral	APN: 377-080-059, 377-080-078, 377-080-082	Restaurant	7.798	TSF
24	Lake Elsinore	Circle K	APN: 379-132-013.	Gas Station	4.500	TSF
			Assessor's Parcel Numbers (APNs): 389-020-032, 390-130-006, 390-130-015, 390-130-016, 390-130-017, 390-130-020, 390-130-021, 390-130-024, 390-160-001, 390-160-002, 390-160-011, 390-160-012, 390-170-001, 390-190-011, 390-190-019,	Single Family Residential	8,244	DU
				Non-Residential	4,007.00	TSF

Project Number	City / County	Project Name	Location	Land Use	Quantity	Units ¹
25	Lake Elsinore	Alberhill Villages	391-170-005, 391-170-007, 391-200-003, 391-200-004, 391-200-007, 391-200-010, 391-200-011, 391-200-012, 391-200-017, 391-230-002, 391-230-003, 391-230-004, 391-230-005, 391-230-007, 391-230-009, 391-230-010, 391-240-001, 391-800-011.	University or similar use	6,000	STU
26	Lake Elsinore	Ness Industrial Garage	APN: 377-430-060	Light Industrial	12.000	TSF
27	Lake Elsinore	Fairway Business Park	APN: 377-140-124	Heavy Industrial		
28	Lake Elsinore	La Quinta Inn	APN: 377-090-036	Hotel	64	RM
29	Lake Elsinore	LE Sports Complex	APN: 373-210-378, 389,390, 433 363-161-035-2, 363-161-034-1 363-161-033-0, 363-161-032-9 363-161-031-8, 363-161-030-7, 363-161-029-7, 363-161-032 450	Recreational	525	TSF
30	Lake Elsinore	Central and Collier	APN: 377-080-014; 031; 032; 033; 034;	Commercial	75	TSF
31	Lake Elsinore	Artisan Alley	APN: 365-280-022 & 373-210-041	Commercial	95.1	TSF
32	Lake Elsinore	Quikrete Plant	APN: 378-020-014, 015, & 016	Commercial	163.9	TSF
33	Lake Elsinore	Lakeshore Senior Apartments	APN: 373-176-019, 373-185-022, 023, 036, 037, 038, 046, 024	Apartments	121	DU
34	Lake Elsinore	Southshore (TR 31593)	350-003, 018, 347-360-004 thru 010, and 013	Single Family Residential	521	DU
35	Lake Elsinore	Running Deer (TR 31957)	APN: 391-790-002 & 003	Single Family Residential	101	DU
36	Lake Elsinore	Lakeview Manor	APN: 379-230-001	Condominiums	104	DU
37	Lake Elsinore	Tige Watersports	APN: 378-030-031	Boat dealership	34.5	TSF
38	Lake Elsinore	Kassab Travel Center	APN: 378-030-007 & 009	Gas Station, restaurants	17.2	TSF
39	Lake Elsinore	Honda	APN: 377-080-053, 057, 079	Honda dealership	53.4	TSF
40	Lake Elsinore	North Peak Plaza	APN: 347-110-048, 057, 059, 070, 077, and 089	Mixed-Use Commercial	92	TSF

1. TSF= Thousand Square Feet; DU= Dwelling Unit; AC = Acres; STU = Student; RM= Rooms.

APPENDIX G

Traffic Impact Assessment Scoping Agreement



SCOPING AGREEMENT
FOR

PROPOSED BOAT SALE AND MANUFACTURING FACILITY ON RIVERSIDE

SIGNAL WARRANT NOT MET

CITY OF LAKE ELSINORE CA.

Revised June 30, 2017

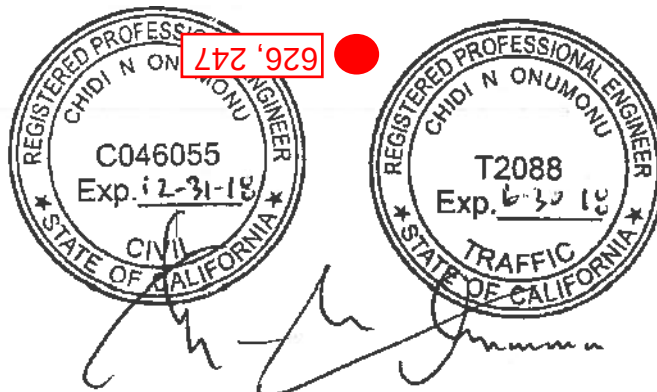


TABLE OF CONTENT

- Traffic Impact Study Scoping Agreement
- Trip Generation
- Site Plan
- Trip Distribution



1427, 55

SIGNAL WARRANT NOT MET

Exhibit B

SCOPING AGREEMENT FOR TRAFFIC IMPACT STUDY

This letter acknowledges the Riverside County Transportation Department requirements for traffic impact analysis of the following project. The analysis must follow the Riverside County Transportation Department Traffic Study Guidelines dated February 2005.

Case No. 2016-113

Related Cases -

SP No. Provide SP No. and list of other approved or active projects within the SP.

EIR No. _____

GPA No. _____

SIGNAL WARRANT MET

	<u>Consultant</u>	<u>Developer</u>
Name:	<u>Albert Wilson & Associates</u>	<u>Tige Watersports</u>
Address:	<u>7866 Henbane Street</u> <u>Rancho Cucamonga, Ca. 91739</u>	<u>29400 Enterprise Way</u> <u>Lake Elsinore Ca. 92530</u>
Telephone:	<u>909-483-4876</u>	<u>951-245-1222</u>
Fax:	<u>909-989-1576</u>	

A. Trip Generation Source: (ITE 7th Edition or other) ITE 9TH EDITION

Current GP Land Use	<u>Provide General Plan Land Use Designation (e.g.: MDR, CR, etc) LIMITED INDUSTRIAL</u>	Proposed Land Use
Current Zoning	<u>CM</u>	Proposed Zoning <u>CM</u>
Current Trip Generation		Proposed Trip Generation
	In Out Total	In Out Total
AM Trips	<u>0</u> <u>0</u> <u>0</u>	<u>21</u> <u>6</u> <u>27</u>
PM Trips	<u>0</u> <u>0</u> <u>0</u>	<u>10</u> <u>17</u> <u>27</u>
Internal Trip Allowance	☐ Yes ☒ No	(_____ % Trip Discount)
Pass-By Trip Allowance	☐ Yes ☒ No	(_____ % Trip Discount)

A passby trip discount of 25% is allowed for appropriate land uses. The passby trips at adjacent study area intersections and project driveways shall be indicated on a report figure.

B. Trip Geographic Distribution: N 10% 773,329 0% E 25% W 45%
(attach exhibit for detailed assignment)

C. Background Traffic

Project Build-out Year: 2019 Annual Ambient Growth Rate: 2%
time needed for approvals and construction.
Phase Year(s) NA
Other area projects to be analyzed: _____

Model/Forecast methodology RELATIVE ADT FACTOR

Exhibit B – Scoping Agreement – Page 2

D. Study intersections: (NOTE: Subject to revision after other projects, trip generation and distribution are determined, or comments from other agencies.)

- | | |
|---------------|-----------|
| 1. <u>NON</u> | 6. _____ |
| 2. _____ | 7. _____ |
| 3. _____ | 8. _____ |
| 4. _____ | 9. _____ |
| 5. _____ | 10. _____ |

E. Study Roadway Segments: (NOTE: Subject to revision after other projects, trip generation and distribution are determined, or comments from other agencies.)

- | | |
|---------------|-----------|
| 1. <u>NON</u> | 6. _____ |
| 2. _____ | 7. _____ |
| 3. _____ | 8. _____ |
| 4. _____ | 9. _____ |
| 5. _____ | 10. _____ |

E. Other Jurisdictional Impacts

Is this project within a City's Sphere of Influence or one-mile radius of City boundaries? ☐ Yes ☒ No

If so, name of City Jurisdiction: _____

F. Site Plan (please attach reduced copy) **ATTACHED**

G. Specific issues to be addressed in the Study (in addition to the standard analysis described in the Guideline) (To be filled out by Transportation Department)

(NOTE: If the traffic study states that "a traffic signal is warranted" (or "a traffic signal appears to be warranted," or similar statement) at an existing unsignalized intersection under existing conditions, 8-hour approach traffic volume information must be submitted in addition to the peak hourly turning movement counts for that intersection.)

H. Existing Conditions

Traffic count data must be new or recent. Provide traffic count dates if using other than new counts.

SIGNAL WARRANT NOT MET

submittal of this form. Transportation Department staff will not process the Scoping Agreement prior to receipt of the fee.

Recommended by:

CHIDI UNAMUNU 6-30-17
 Consultant's Representative Date

Scoping Agreement Submitted on 5-31-17

Revised on 6-30-17

Approved Scoping Agreement:

Nicholas Lowe, PE 7/6/2017
 City Traffic Engineer Date

• TIA Not Required due to volumes. •

TABLE 1:

PROJECT TRIP GENERATION- Boat Manufacturing/Sales Facility

LAND USE	UNITS	A.M. PEAK HOUR			P.M. PEAK HOUR			DAILY		
		IN	OUT	TOT	IN	OUT	TOT	IN	OUT	TOT
PHASE I: Land Use 140- Manufacturing	25.682 TSF									
Trips/Unit		0.57	0.16	0.73	0.26	0.47	0.73	1.91	1.91	3.82
Trips		15	4	19	7	13	19	48	48	98
Land Use 140- Manufacturing	9.8 TSF	0.57	0.16	0.73	0.26	0.47	0.73	1.91	1.91	3.82
		6	2	8	3	5	8	19	19	38
Total New Trips		21	6	27	10	17	27	68	68	136

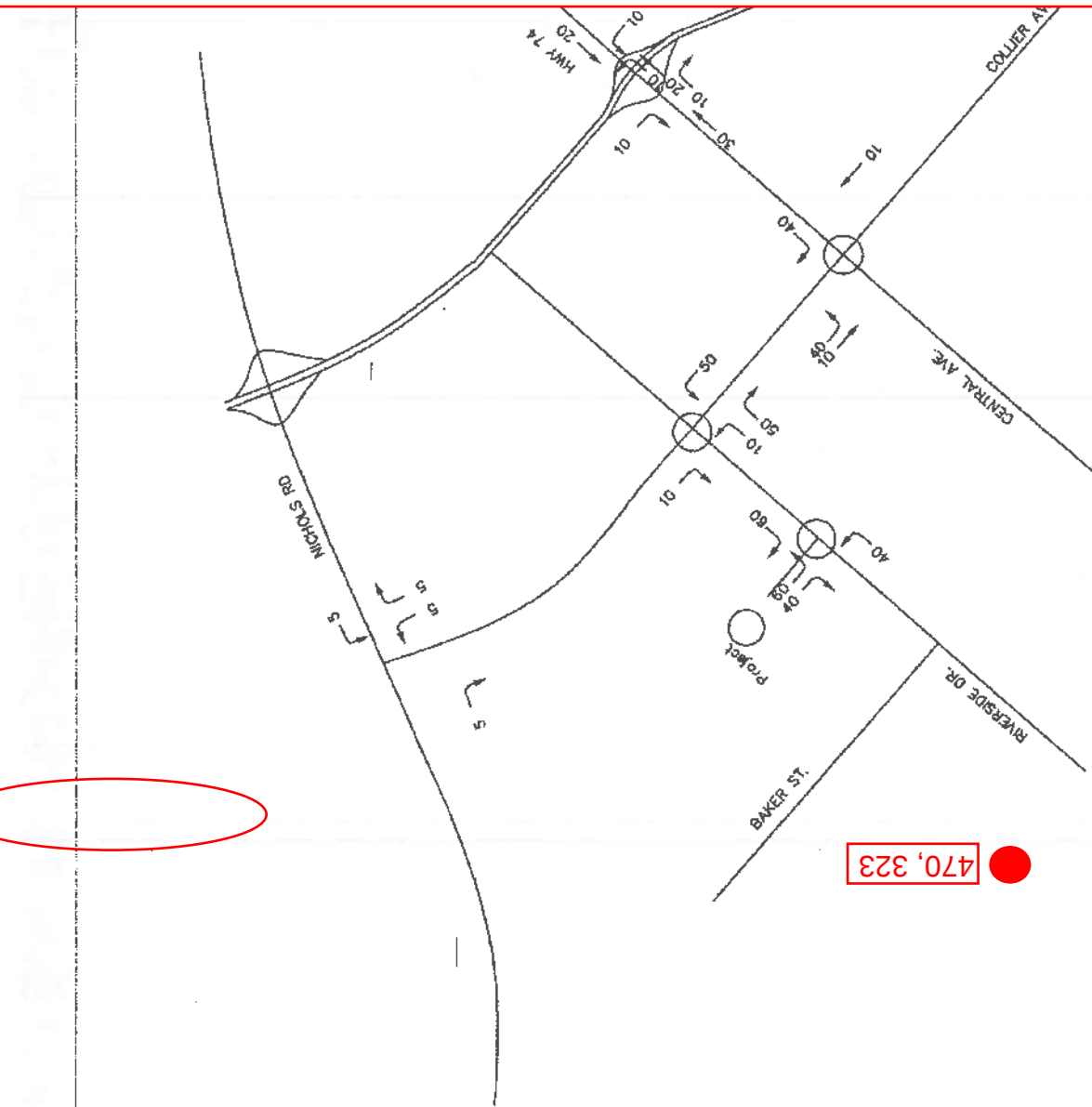
SIGNAL WARRANT NOT MET

664, 264

1 - I-15 NB Ramps/Nichols Rd - Existing + Ambient + Project

EXHIBIT 2: PROJECT TRIP DISTRIBUTION %

SIGNAL WARRANT NOT MET



**CENTRAL PLAZA
TRAFFIC IMPACT STUDY
City of Lake Elsinore, California
(Updated 2/9/2017)**

Prepared for:

PENINSULA RETAIL PARTNERS, LLC.
417 29th Street
Newport Beach, CA 92663

Prepared by:

RK ENGINEERING GROUP, INC.
4000 Westerly Place, Suite 280
Newport Beach, CA 92660

Mohammad "Alex" Tabrizi, PE, TE
Alex Vu, EIT
Jethro Narciso, EIT

820, 348

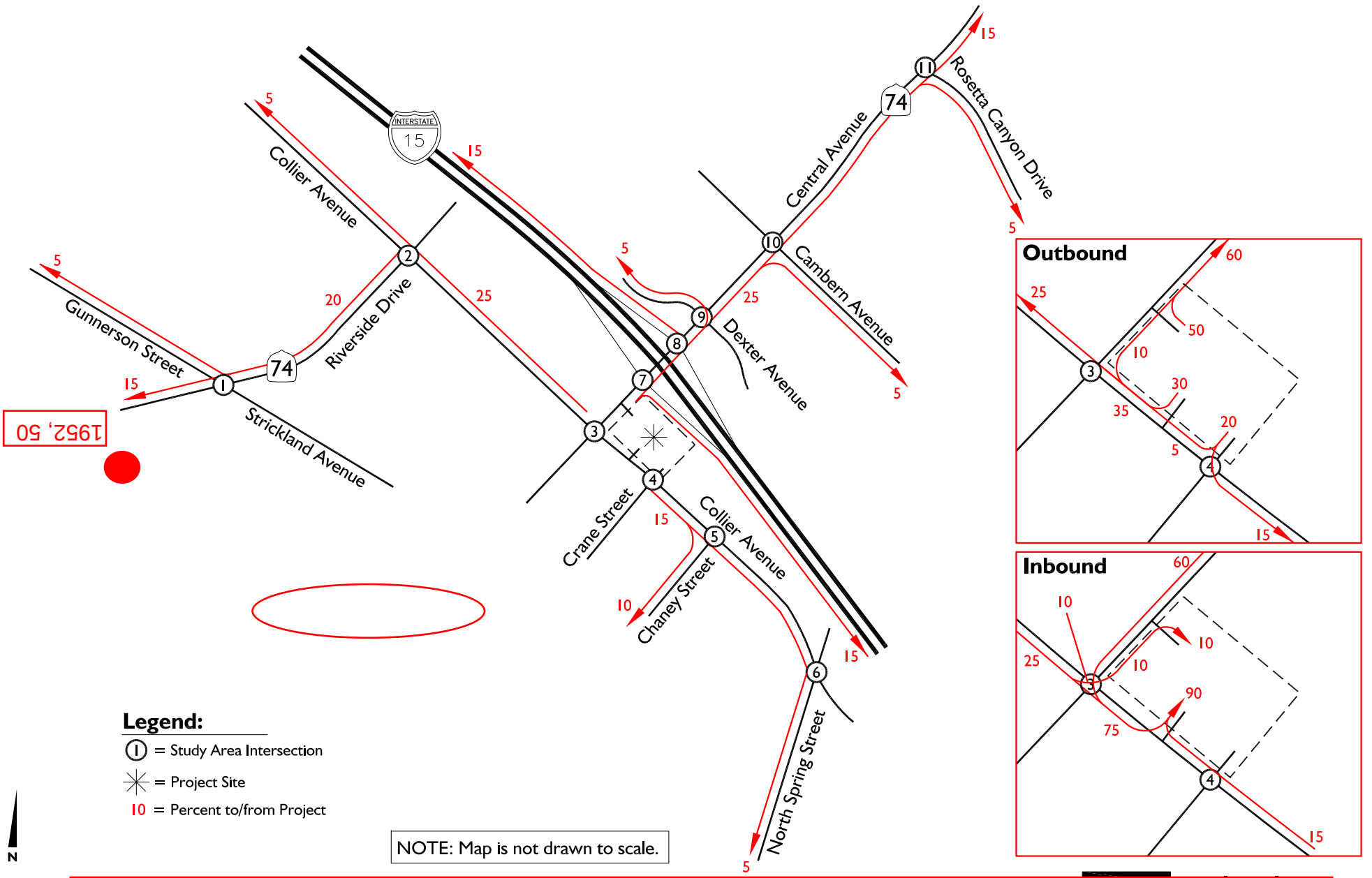


February 9, 2017

SIGNAL WARRANT MET

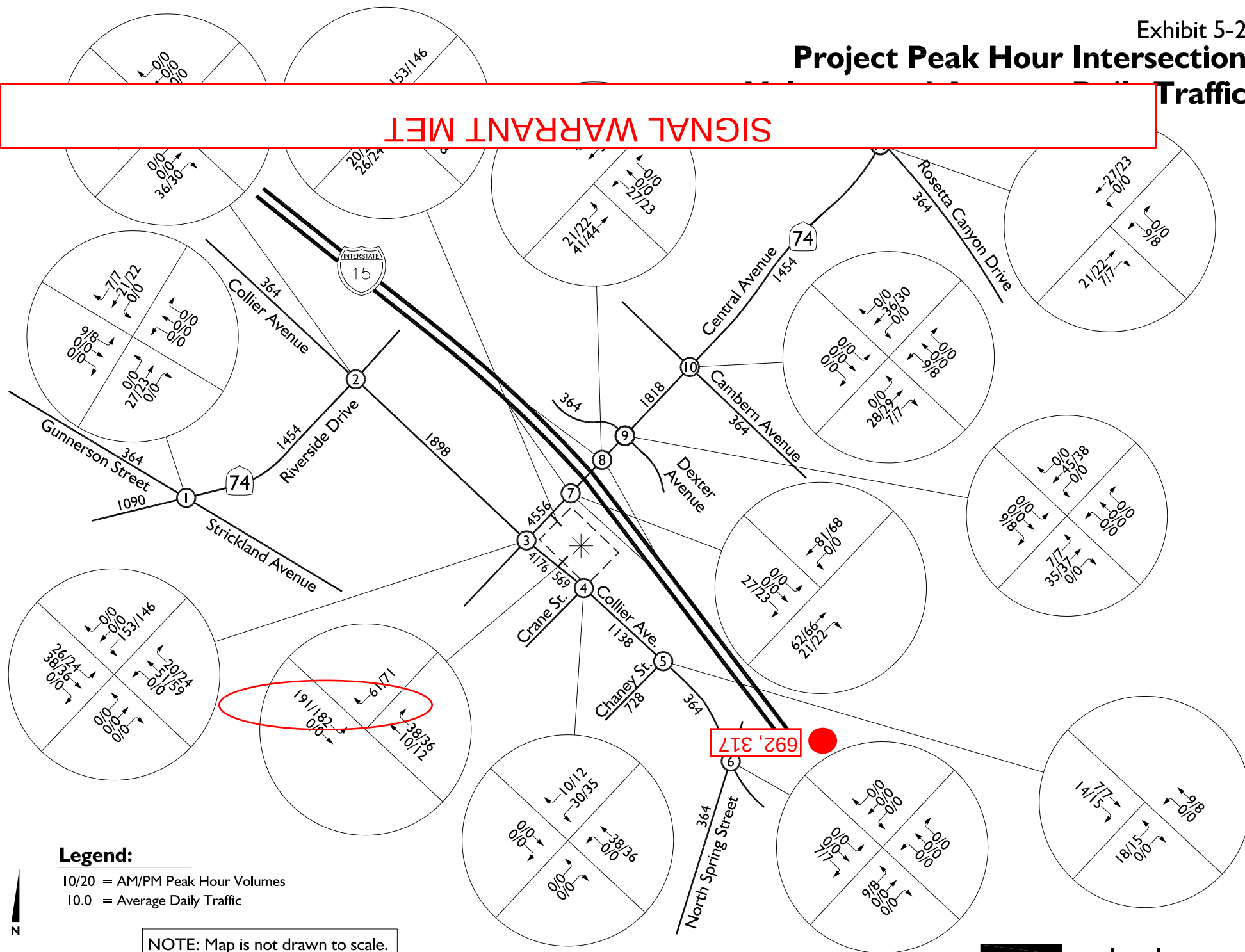
Project Trip Distribution

SIGNAL WARRANT NOT MET

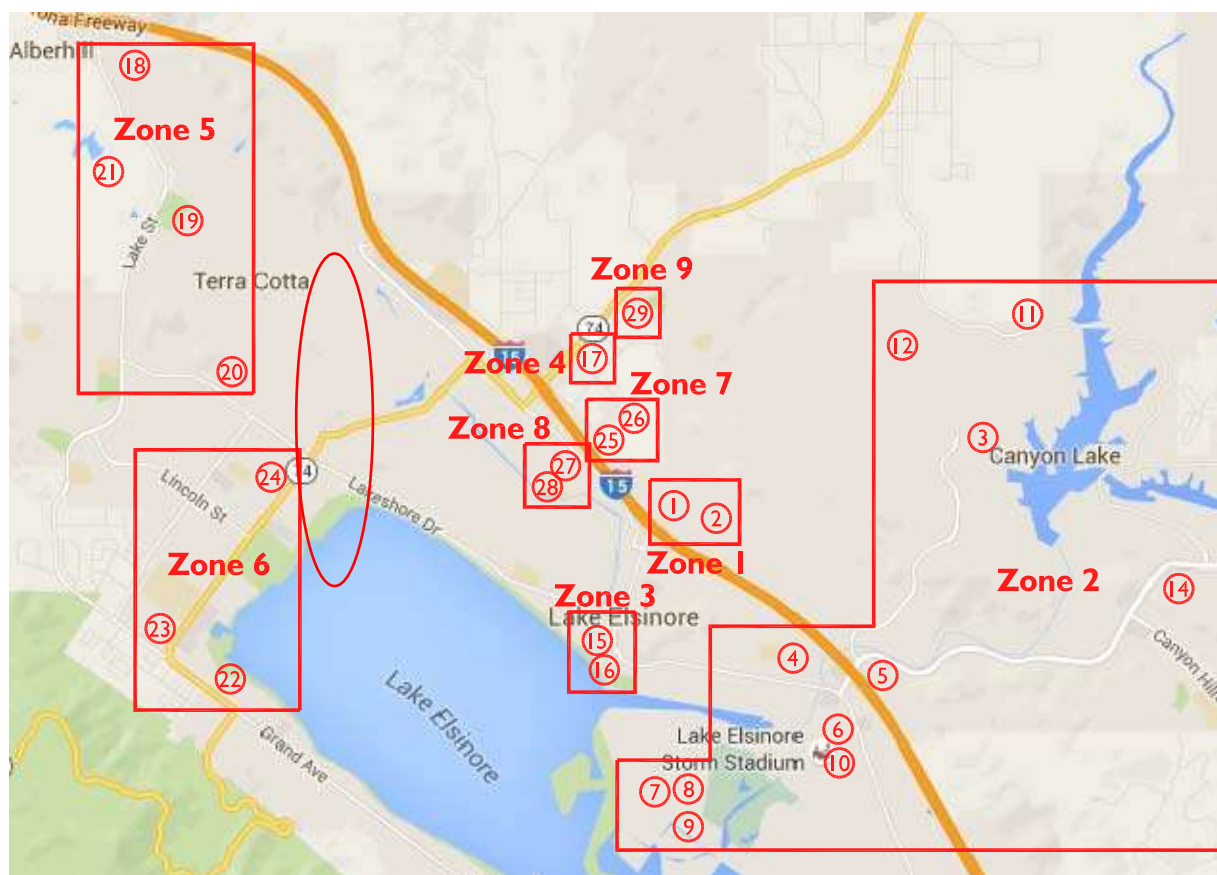


Project Peak Hour Intersection Traffic

SIGNAL WARRANT MET



Cumulative Projects Location Map

**Zone 1:**

- ① = LE4 - Spyglass Ranch
- ② = LE5 - South Shore I & II

Zone 2:

- ③ = LE6 - La Strada
- ④ = LE8 - TAG Property
- ⑤ = LE9 - City Center Condos
- ⑥ = LE10 - Diamond Specific Plan
- ⑦ = LE11 - The Colony, TAG Property, John Laing Homes (Phase 2)
- ⑧ = LE13 - Summerly
- ⑨ = LE14 - Beazer, KB Homes, McMillin Homes, Richmond American
- ⑩ = LE29 - LE Sports Complex
- ⑪ = LE1 - Greenwald
- ⑫ = LE2 - Ramsgate
- ⑬ = LE16 - Canyon Hills Estates
- ⑭ = LE17 - Canyon Hills

Zone 3:

- ⑮ = LE7 - Marina Village Condos
- ⑯ = LE15 - Lakeshore Town Center

Zone 4:

- ⑰ = LE4 - Lake Elsinore Walmart

Zone 5:

- ⑱ = LE18 - Alberhill Ridge
- ⑲ = LE19 - Alberhill Ranch
- ⑳ = LE20 - Terracina
- ㉑ = LE25 - Alberhill Villages

Zone 6:

- ㉒ = LE21 - Wakerider
- ㉓ = LE22 - Village at Lakeshore (Tract 3326)
- ㉔ = LE24 - Circle K

Zone 7:

- ㉕ = LE23 - Golden Corral
- ㉖ = LE28 - La Quinta Inn

Zone 8:

- ㉗ = LE26 - Ness Industrial Garage
- ㉘ = LE27 - Fairway Business Park

Zone 9:

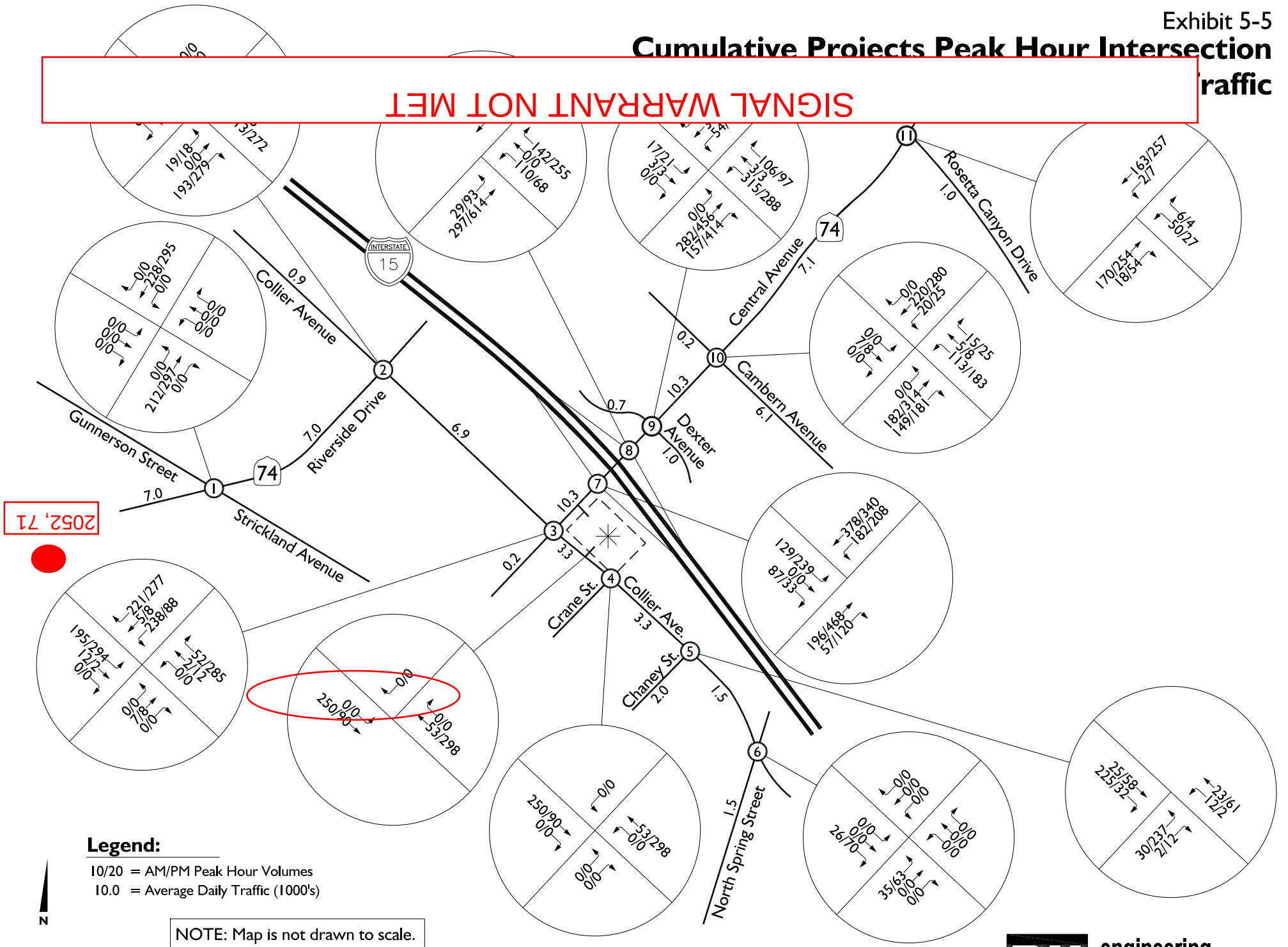
- ㉙ = LE3 - Trieste (Tract 36624)

SIGNAL WARRANT NOT MET

979, 180

Cumulative Projects Peak Hour Intersection Traffic

SIGNAL WARRANT NOT MET



10 - Gunnerson/Riverside - Ex + Ambient Cumulative + Project AM Peak Hour

TABLE 5-1
Trip Generation Rates for Proposed Project

Land Use	ITE Trip Code	Units ²	Weekday					
			AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Shopping Center	820	TSF	0.60	0.36	0.96	1.78	1.93	3.71
Fast Food without Drive Thru	933	TSF	26.32	17.55	43.87	13.34	12.81	26.15
Fast Food with Drive Thru	934	TSF	23.16	22.26	45.42	16.98	15.67	32.65
High Turnover Sit-Down Restaurant	932	TSF	5.95	4.86	10.81	5.91	3.94	9.85

¹ Source: Institute of Transportation Engineers (ITE), *Trip Generation*, 9th Edition, 2012

² TSF = Thousand Square Feet

534, 366

SIGNAL WARRANT NOT MET

TABLE 5-2
Project Trip Generation

Land Use	Quantity	Units	AM			PM		
			In	Out	Total	In	Out	Total
Shopping Center	53.469	TSF	32	20	52	95	103	198
<i>Pass-by Adjustment (0% AM & 34% PM) ²</i>			0	0	0	-32	-35	-67
Subtotal - Shopping Center			32	20	52	63	68	131
Fast Food without Drive Thru	3.530	TSF	93	62	155	47	45	92
<i>Pass-by Adjustment (25% AM & 25% PM) ³</i>			-23	-16	-39	-12	-11	-23
Subtotal - Fast Food without Drive Thru			70	46	116	35	34	69
Fast Food with Drive Thru	4.500	TSF	104	100	204	76	71	147
<i>Pass-by Adjustment (49% AM 50% PM) ²</i>			-51	-49	-100	-38	-36	-74
Subtotal - Fast Food with Drive Thru			53	51	104	38	35	73
High Turnover Sit-Down Restaurant	4.304	TSF	26	21	47	25	17	42
<i>Pass-by Adjustment (0% AM 43% PM) ²</i>			0	0	0	-11	-7	-18
Subtotal - High Turnover Sit-Down Restaurant			26	21	47	14	10	24
Project Total (before pass-by adjustment)			255	203	458	243	236	479
Project Total (after pass-by adjustment)			181	138	319	150	147	297

¹ TSF = Thousand Square Feet;

² Pass-by trip adjustment rates are based on ITE 9th Edition.

³ Since ITE does not have any pass-by data compiled for this type of land use, this analysis conservatively utilized a pass-by rate of 25 percent.

TABLE 5-3
Cumulative Projects Trip Generation²

Traffic Analysis Zone	#	City of Lake Elsinore Project Number ⁵	Project Name	Land Use	Quantity	Units ¹	ITE Code	Peak Hour						Daily	
								AM			PM				
								In	Out	Total	In	Out	Total		
1	1	LE 4	Spyglass Ranch	Single Family Residential	523	DU	210	98	294	392	329	194	523	4,979	
				Condominiums	171	DU	230	13	62	75	60	29	89	994	
				Shopping Center	145.000	TSF	820	86	53	139	258	280	538	6,192	
	2	LE 5	South Shore I	Single Family Residential	521	DU	210	98	293	391	328	193	521	4,960	
			South Shore II	Single Family Residential	400	DU	210	75	225	300	252	148	400	3,808	
Zone 1 Subtotal								370	927	1,297	1,227	844	2,071	20,933	
2	3	LE 6	La Strada	Single Family Residential	134	DU	210	25	75	100	84	50	134	1,276	
	4	LE 8	TAG Property	Car Dealership	50.000	TSF	841	72	24	96	52	79	131	1,615	
	5	LE 9	City Center Condos	Condominiums	144	DU	230	11	53	64	50	25	75	837	
	6	LE 10	Diamond Specific Plan	Condominiums	600	DU	230	45	219	264	209	103	312	3,486	
				Hotel	150	RM	310	47	33	80	46	44	90	1,226	
				General Office	425.000	TSF	710	583	80	663	108	526	634	4,688	
				Shopping Center	472.000	TSF	820	281	172	453	841	911	1,752	20,154	
	7	LE 11	The Colony	Apartments	211	DU	220	22	86	108	85	46	131	1,403	
			TAG Property	Single Family Residential	2407	DU	210	451	1,354	1,805	1,516	891	2,407	22,915	
				Condominiums	324	DU	230	24	118	142	113	56	169	1,882	
		John Laing Homes (Phase 2)	Single Family Residential	506	DU	210	95	285	380	319	187	506	4,817		
			Condominiums	1141	DU	230	85	417	502	398	196	594	6,629		
			Apartments	308	DU	220	31	126	157	124	67	191	2,048		
	9	LE 14	Shopping Center	117.000	TSF	820	70	43	113	208	226	434	4,996		
			Summerly	Single Family Residential	142	DU	210	27	80	107	89	53	142	1,352	
			Beazer	Single Family Residential	72	DU	210	14	41	55	45	27	72	685	
			KB Homes	Single Family Residential	106	DU	210	20	60	80	67	39	106	1,009	
	10	LE 29	McMillin Homes	Single Family Residential	143	DU	210	27	80	107	90	53	143	1,361	
			Richmond American	Single Family Residential	74	DU	210	14	42	56	47	27	74	704	
			LE Sports Complex	Recreational	525.000	TSF	495	710		1,076	705	734	1,439	17,756	
			Greenwald	Shopping Center	104.450	TSF	820	62		100	186	202	388	4,460	
	12	LE 2	Ramsgate	Single Family Residential	1306	DU	210	245		980	823	483	1,306	12,433	
				Condos/Townhomes	120	DU	230	9		53	42	21	63	697	
	13	LE 16	Canyon Hills Estates	Single Family Residential	302	DU	210	57		227	190	112	302	2,875	
	14	LE 17	Canyon Hills	Single Family Residential	2700	DU	210	506		2,025	1,701	999	2,700	25,704	
Apartments				1575	DU	220	161		804	635	342	977	10,474		
Single Family Residential				1003	DU	210	188		752	632	371	1,003	9,549		
Zone 2 Subtotal								3,882		11,349	9,405	6,870	16,275	167,031	
3	15	LE 7	Marina Village Condos	Condominiums	94	DU	230	7		41	33	16	49	546	
	16	LE 15	Lakeshore Town Center	Mixed-Use Commercial	237.400	TSF	820	141		228	423	458	881	10,137	
	Zone 3 Subtotal								148		269	456	474	930	10,683
4	17	LE 12	Lake Elsinore Walmart ⁵	Mixed Commercial	170.487	TSF	---	339		595	412	417	829	11,723	
	Zone 4 Subtotal								339		595	412	417	829	11,723
5	18	LE 18	Alberhill Ridge	Single Family Residential	1056	DU	210	198		792	665	391	1,056	10,053	
				Apartments	345	DU	220	35		176	139	75	214	2,294	
				Shopping Center	679.000	TSF	820	404		652	1,209	1,310	2,519	28,993	
				General Office	679.000	TSF	710	932		1,059	172	840	1,012	7,489	
	19	LE 19	Alberhill Ranch	Single Family Residential	1986	DU	210	372		1,489	1,251	735	1,986	18,907	
	20	LE 20	Terracina	Single Family Residential	365	DU	210	68		273	230	135	365	3,475	
6	21	LE 25	Alberhill Villages ³	All Proposed Land Uses	--	--	--	4,875		10,133	7,850	7,665	15,515	158,189	
	Zone 5 Subtotal								6,884		14,574	11,516	11,151	22,667	229,400
	22	LE 21	Wakerider ⁴	Resort	--	--	--	73		133	88	71	159	2,201	
	23	LE 22	Village at Lakeshore	Condominiums	163	DU	230	12		72	57	28	85	947	
	24	LE 24	Circle K	Gas Station/Car Wash	12.000	FP	946	72		142	85	81	166	1,834	
						347	230	180	410	4,982					
7	25	LE 23	Golden Corral	Restaurant	7.798	TSF	932	46		84	46	31	77	992	
	26	LE 28	La Quinta Inn	Hotel	64	RM	310	20		34	20	19	39	523	
	Zone 7 Subtotal								66		118	66	50	116	1,515
8	27	LE 26	Ness Industrial Garage	Light Industrial	12.000	TSF	110	10		11	1	10	11	84	
	28	LE 27	Fairway Business Park	Light Industrial	280.000	TSF	110	227		258	33	239	272	1,952	
	Zone 8 Subtotal								237		269	34	249	283	2,036
9	29	LE 3	Trieste	Single Family Residential	75	DU	210	14		56	47	28	75	714	
	Zone 9 Subtotal								14		56	47	28	75	714
Total Cumulative Project Trip Generation								12,097		28,874	23,393	20,263	43,656	449,017	

¹ DU = Dwelling Units; FP = Fueling Positions; RM = Rooms; TSF = Thousand Square Feet

² Cumulative project information provided by the City of Lake Elsinore and County of Riverside.

³ Trip Generation is based on *Alberhill Villages Specific Plan (Linscott, Law & Greenspan Engineers, October 14, 2015)*.

⁴ Trip Generation is based on *Wakerider Beach Resort Traffic Study (RK Engineering Group, Inc., May 27, 2015)*.

⁵ Trip Generation is based on *Lake Elsinore Walmart Traffic Impact Analysis (Urban Crossroads, Inc., June 11, 2015)*.

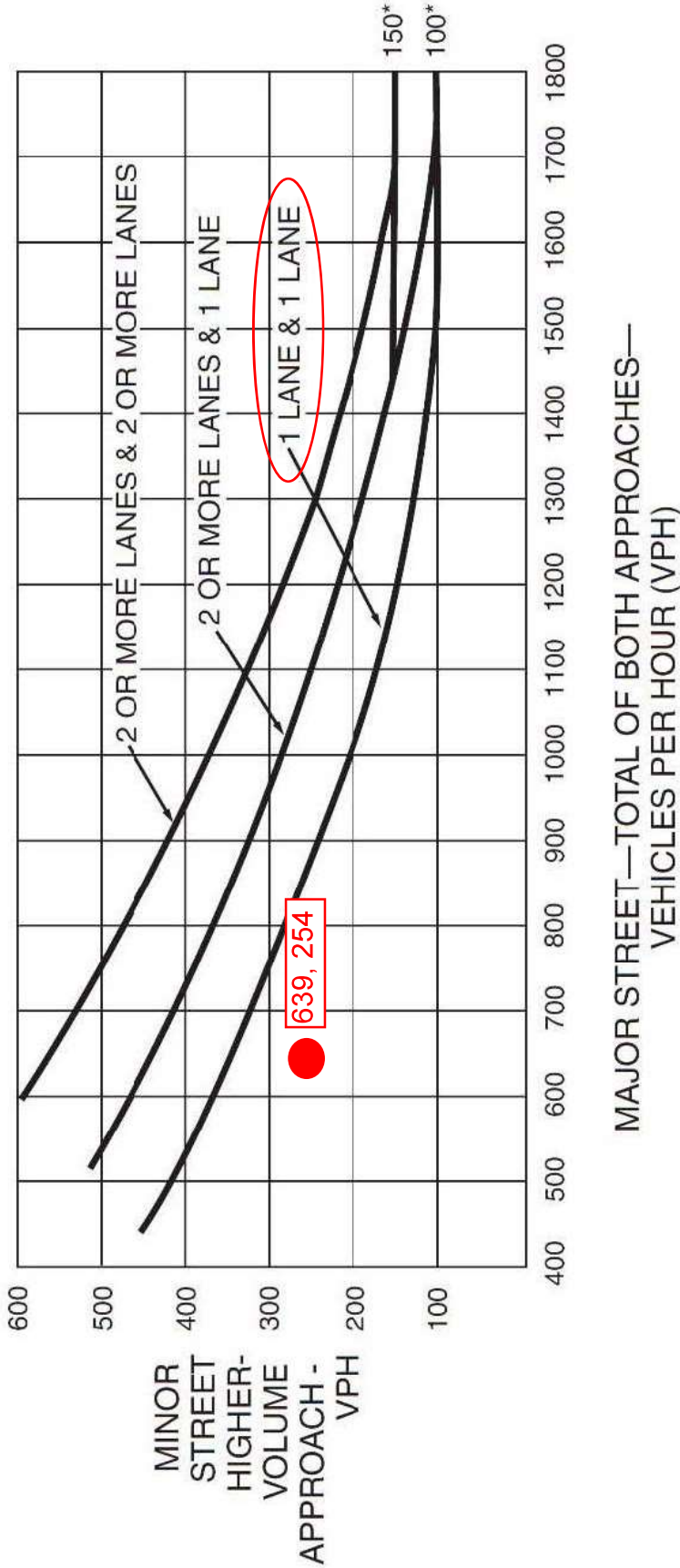
⁶ Project number from City of Lake Elsinore-provided cumulative project list.

SIGNAL WARRANT NOT MET

Appendix E: Traffic Signal Warrants (revised)

Appendix E:Traffic Signal Warrants

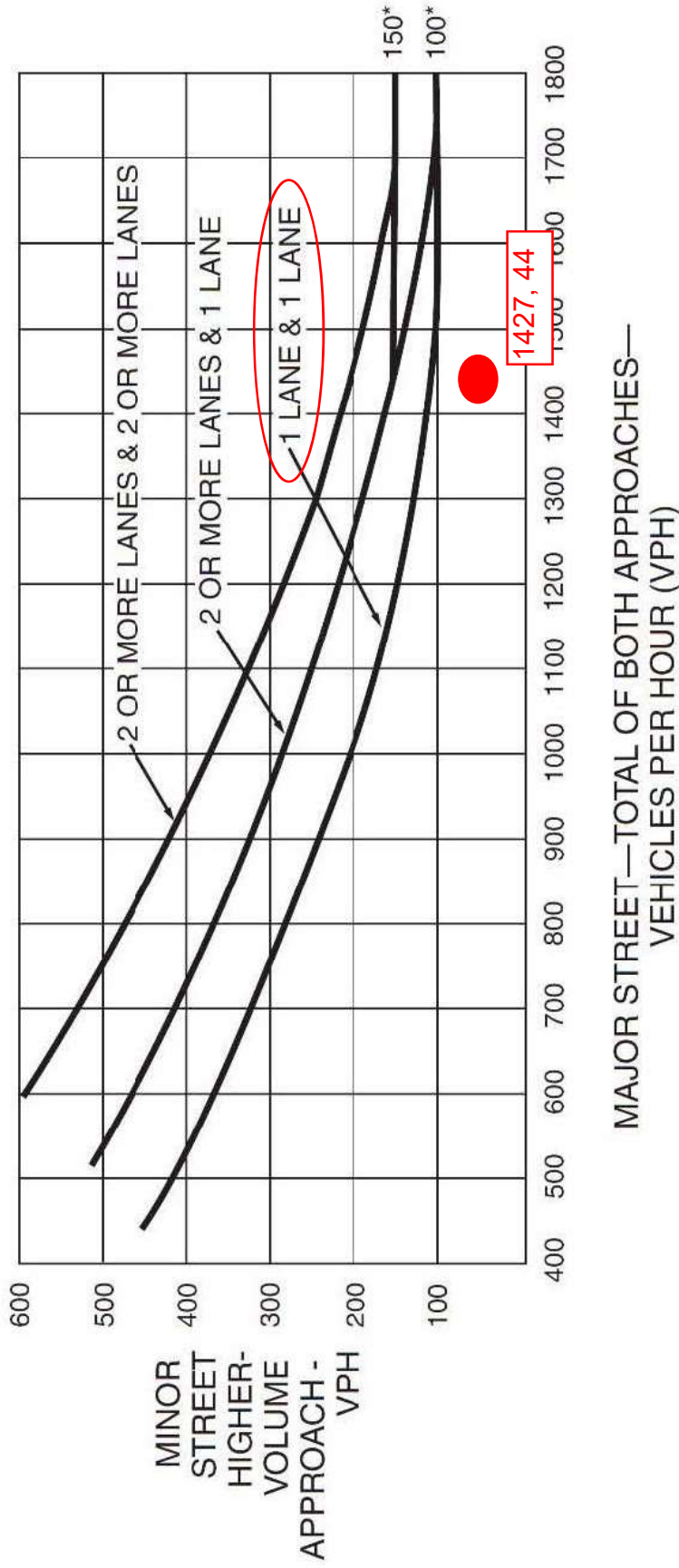
Figure 4C-3. Warrant 3, Peak Hour



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

SIGNAL WARRANT NOT MET

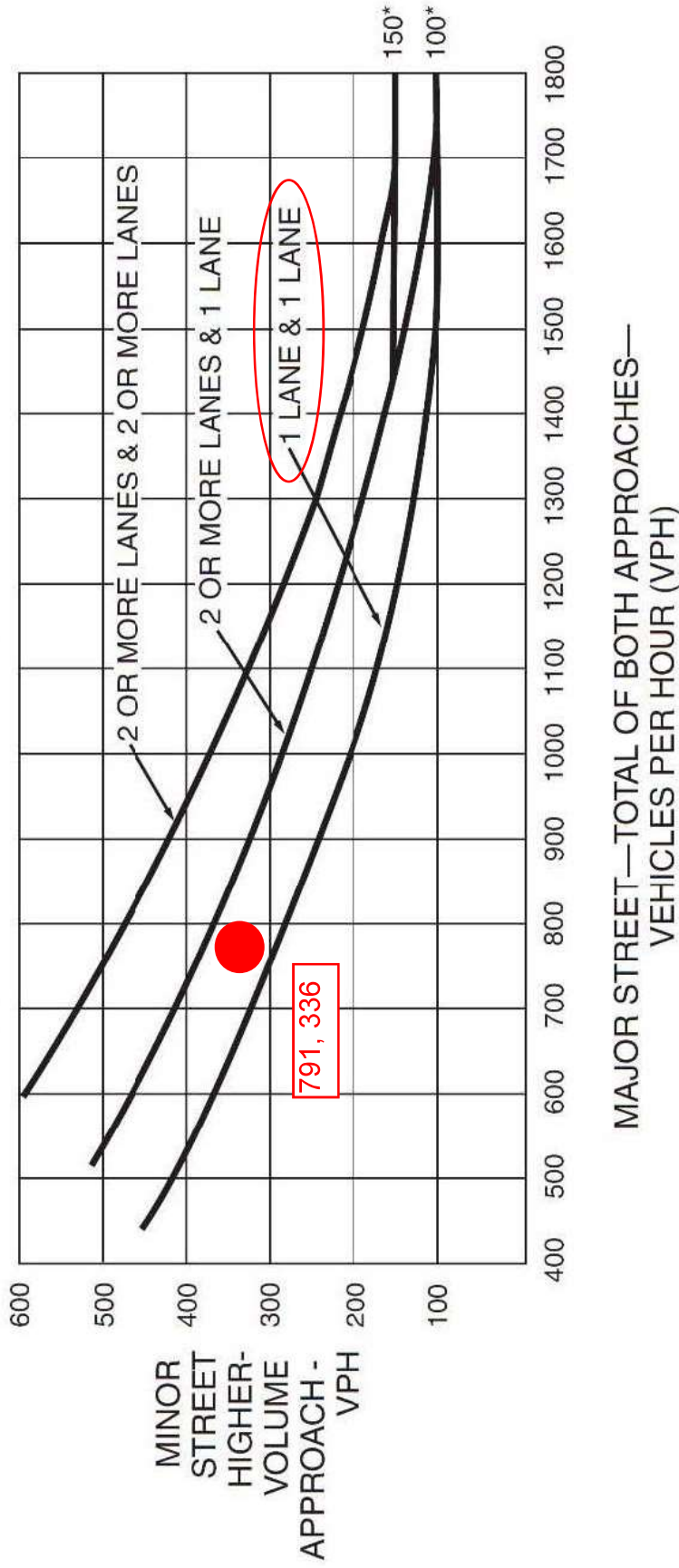
Figure 4C-3. Warrant 3, Peak Hour



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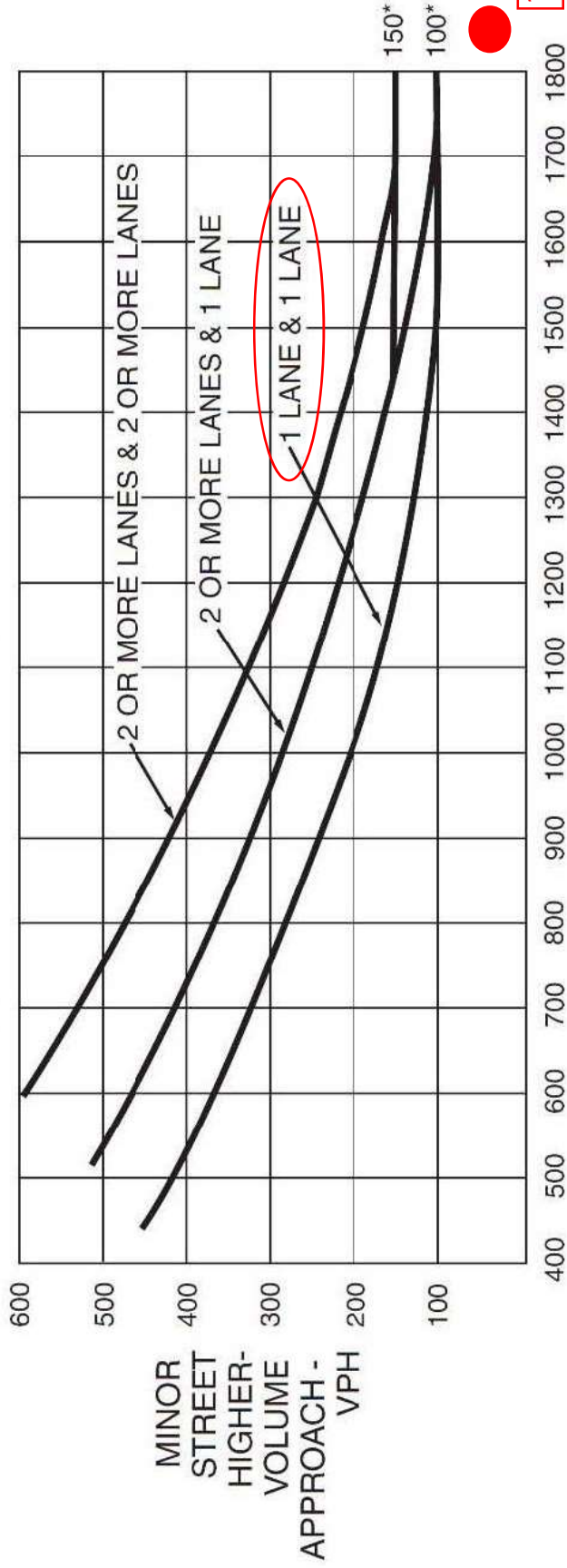
SIGNAL WARRANT NOT MET

Figure 4C-3. Warrant 3, Peak Hour



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

Figure 4C-3. Warrant 3, Peak Hour



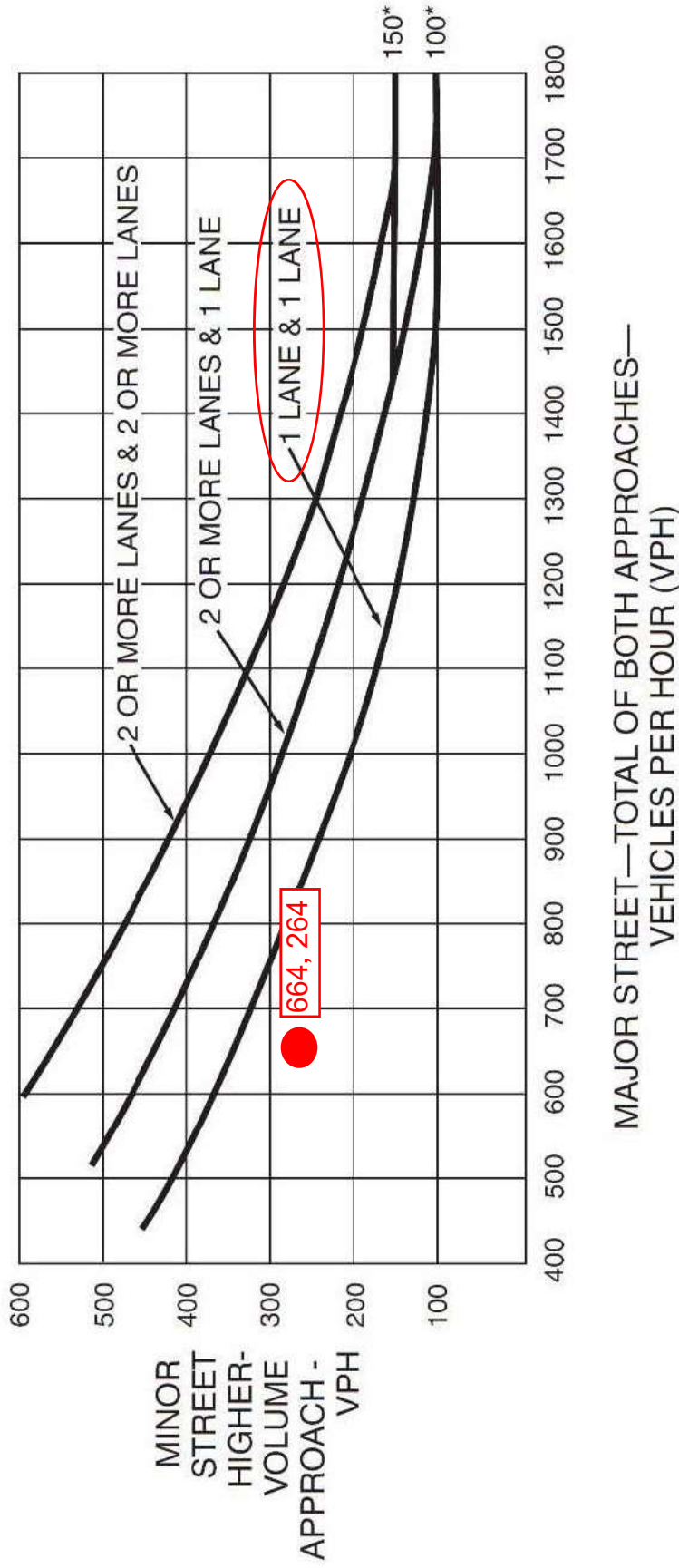
1875, 33

MAJOR STREET—TOTAL OF BOTH APPROACHES—
VEHICLES PER HOUR (VPH)

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

SIGNAL WARRANT NOT MET

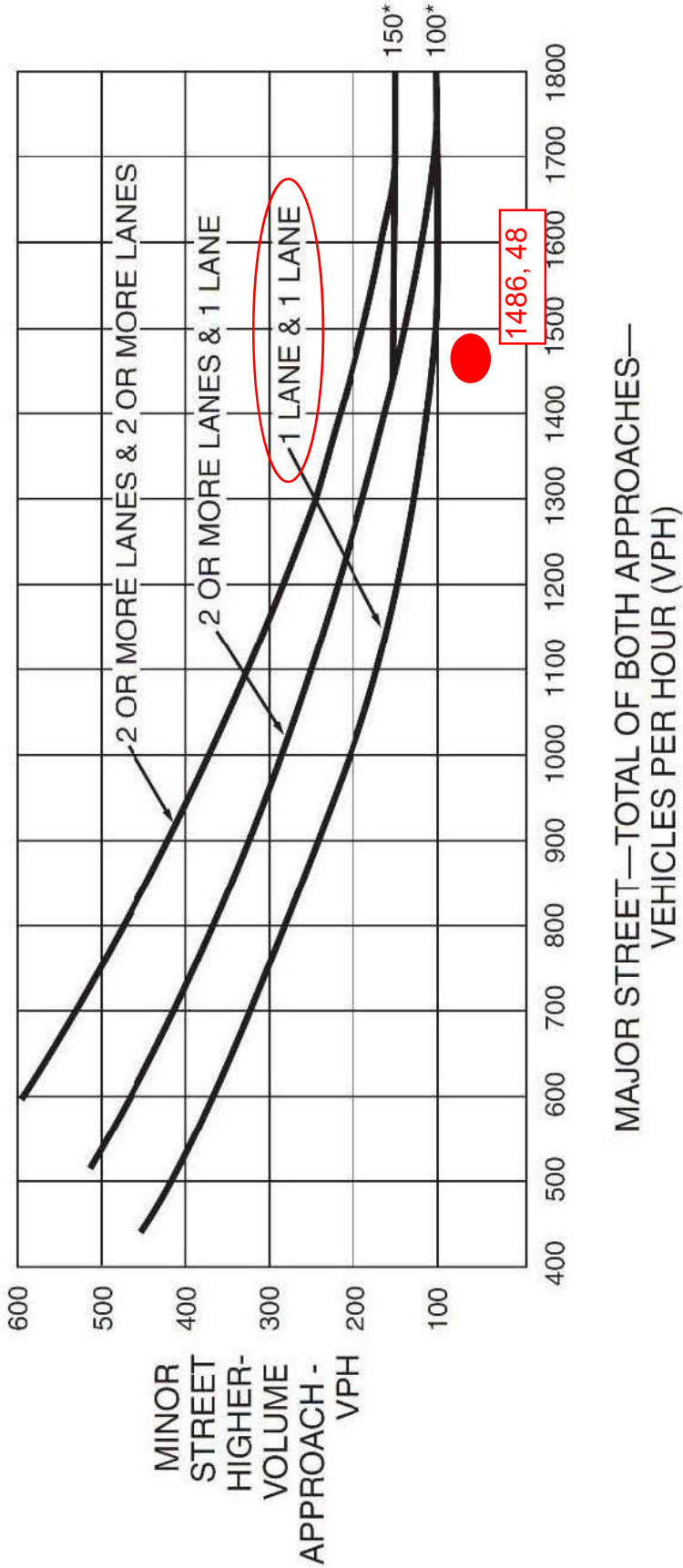
Figure 4C-3. Warrant 3, Peak Hour



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

SIGNAL WARRANT NOT MET

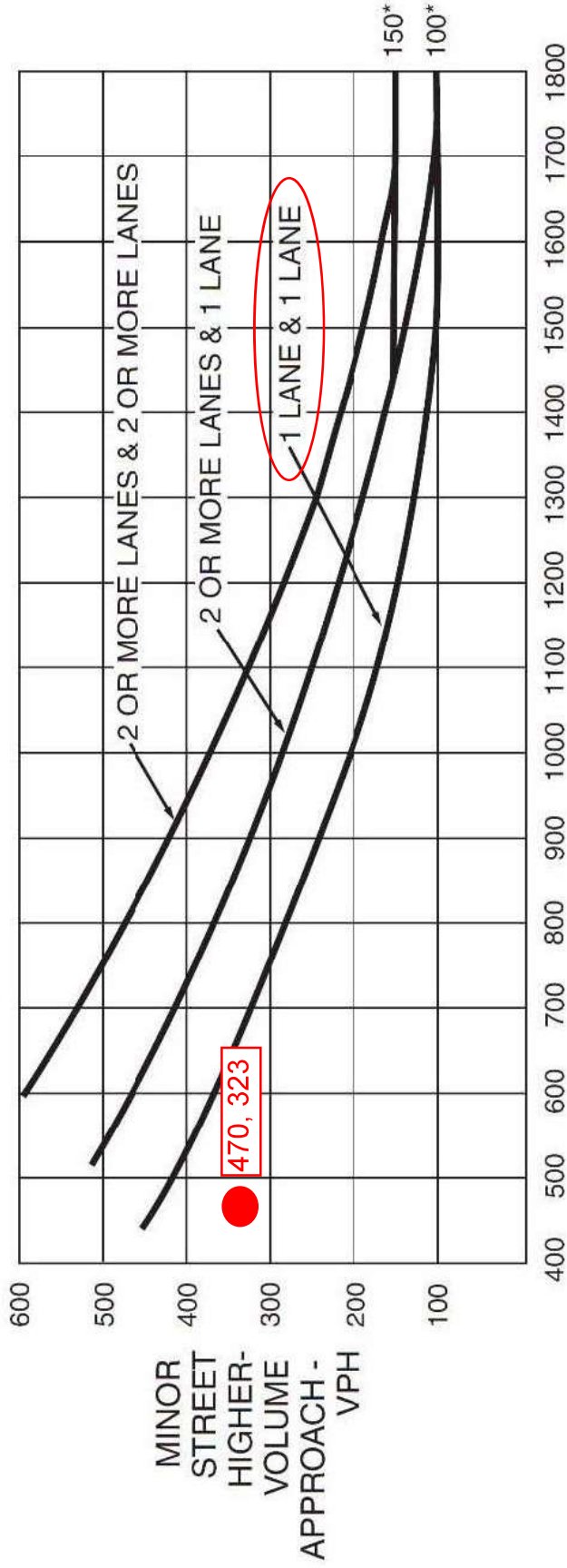
Figure 4C-3. Warrant 3, Peak Hour



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

SIGNAL WARRANT NOT MET

Figure 4C-3. Warrant 3, Peak Hour

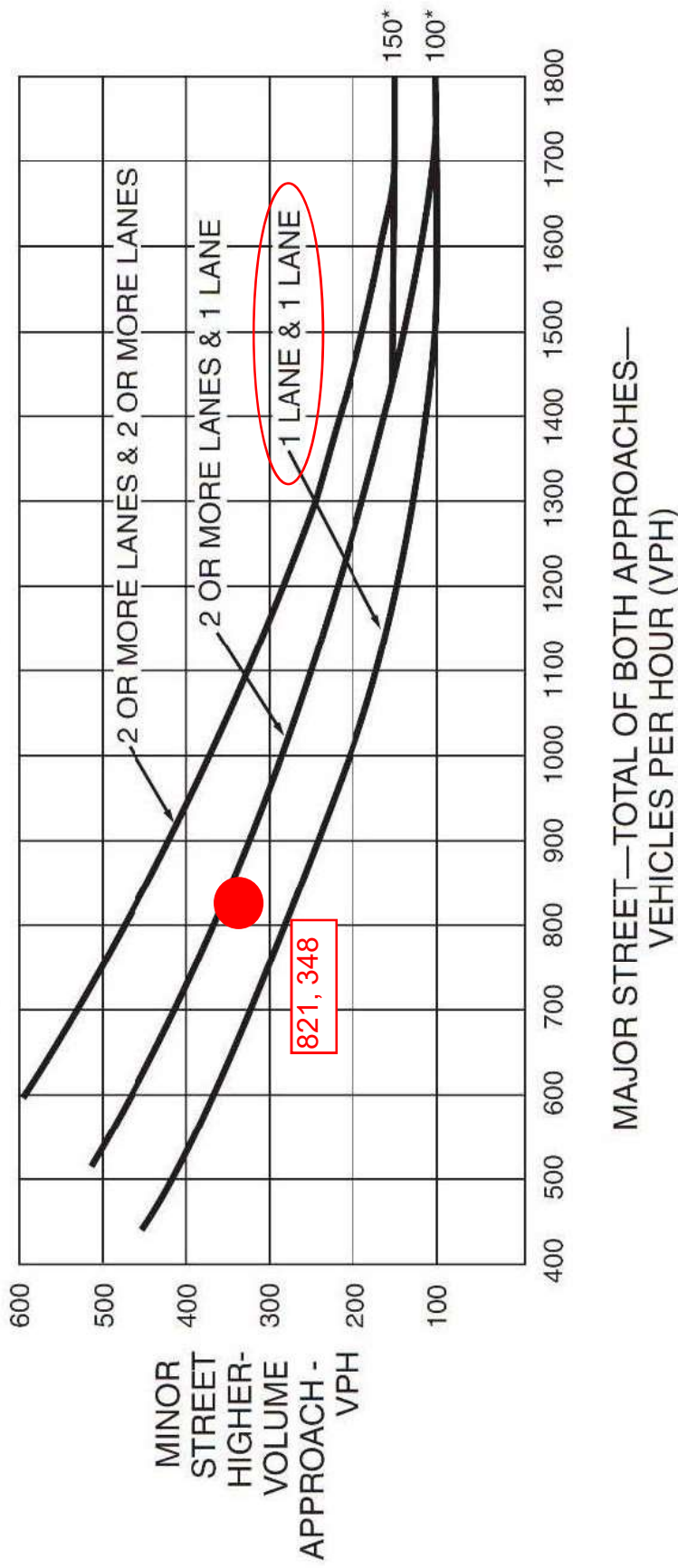


MAJOR STREET—TOTAL OF BOTH APPROACHES—
VEHICLES PER HOUR (VPH)

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

SIGNAL WARRANT NOT MET

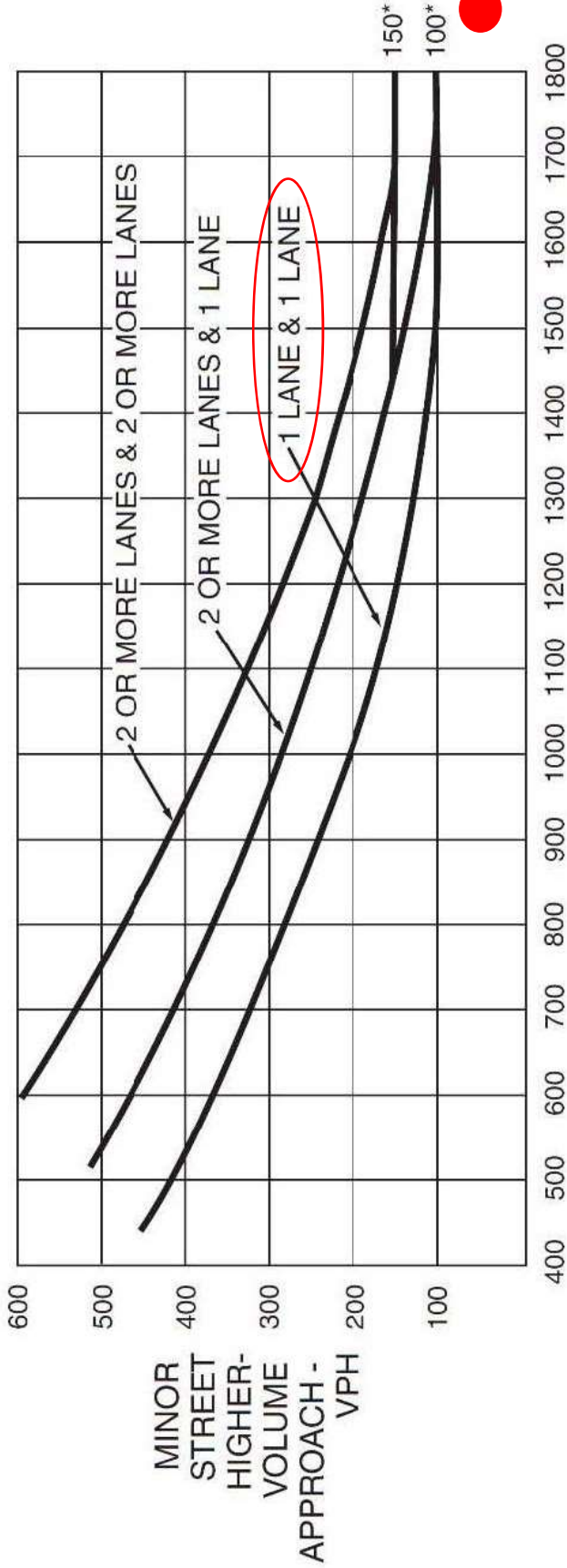
Figure 4C-3. Warrant 3, Peak Hour



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SIGNAL WARRANT MET

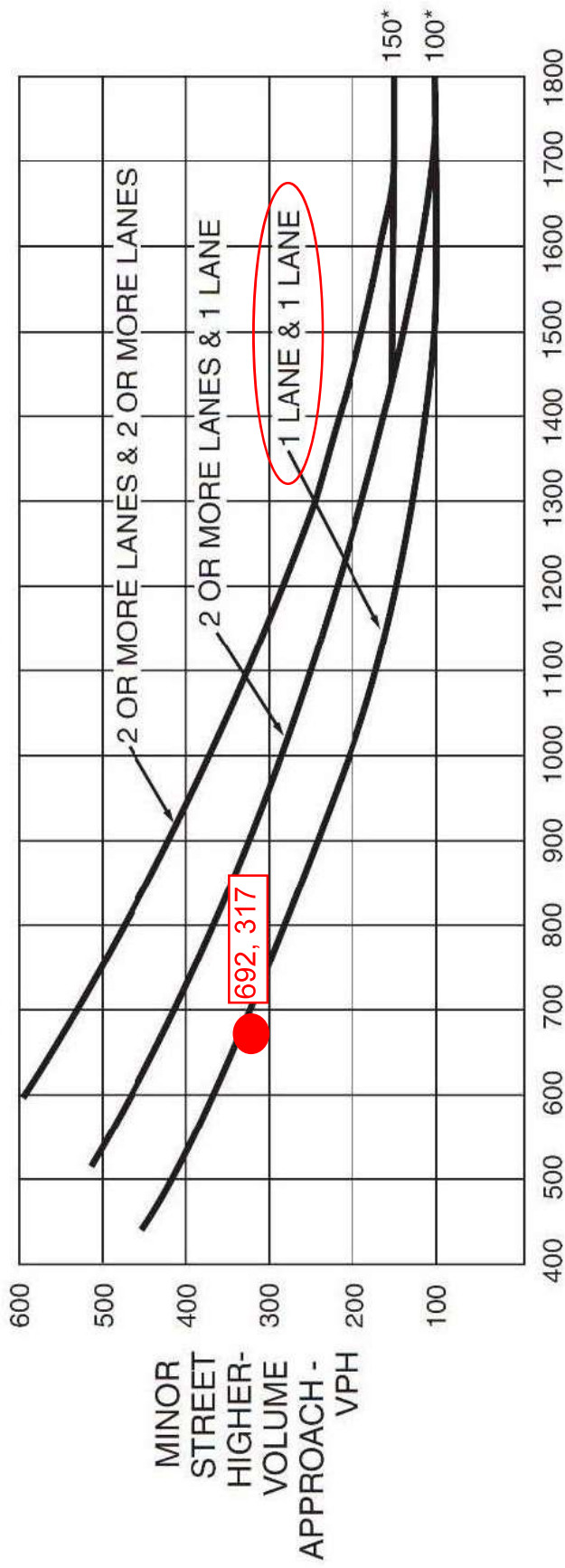
Figure 4C-3. Warrant 3, Peak Hour



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SIGNAL WARRANT NOT MET

Figure 4C-3. Warrant 3, Peak Hour

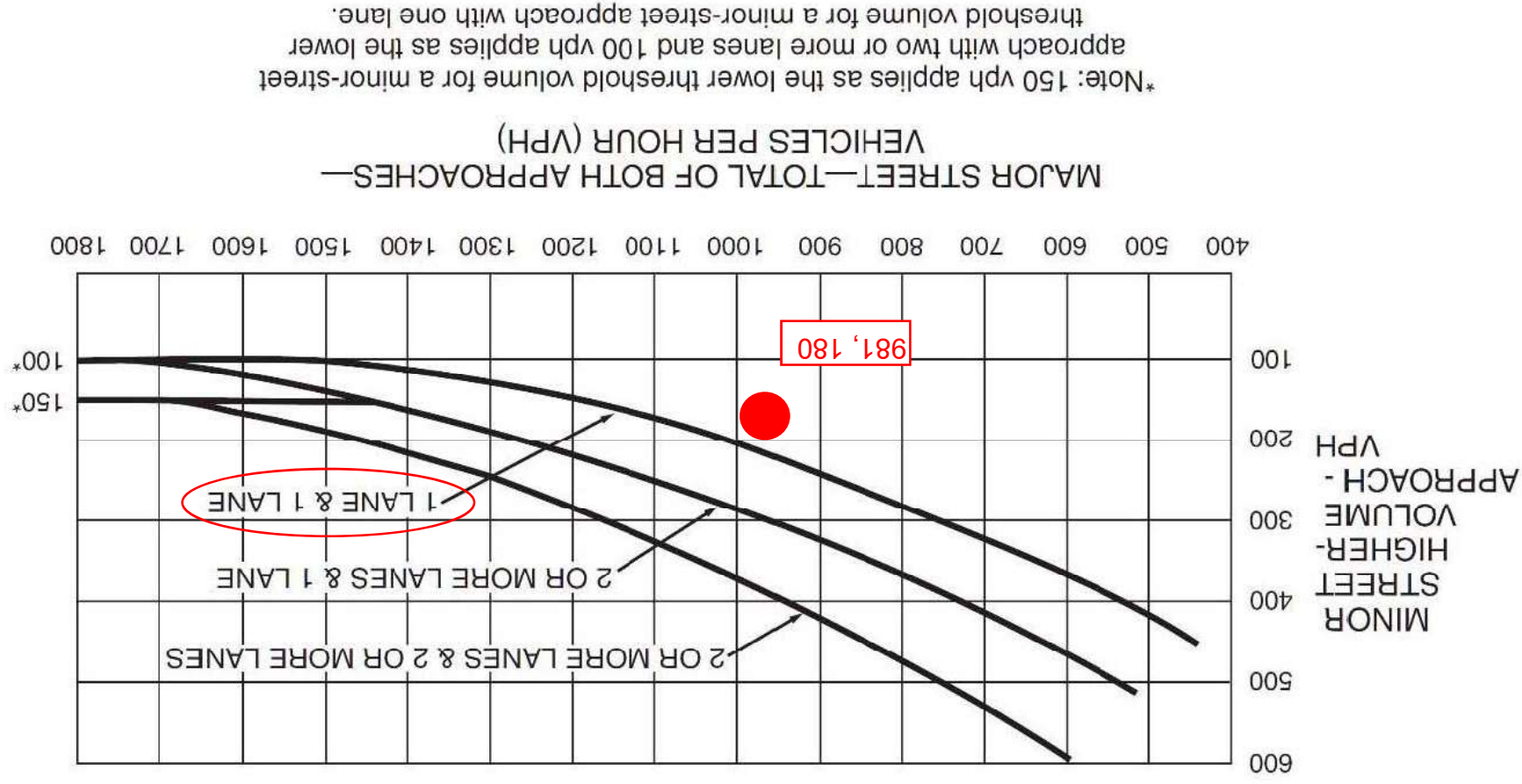


MAJOR STREET—TOTAL OF BOTH APPROACHES—
VEHICLES PER HOUR (VPH)

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

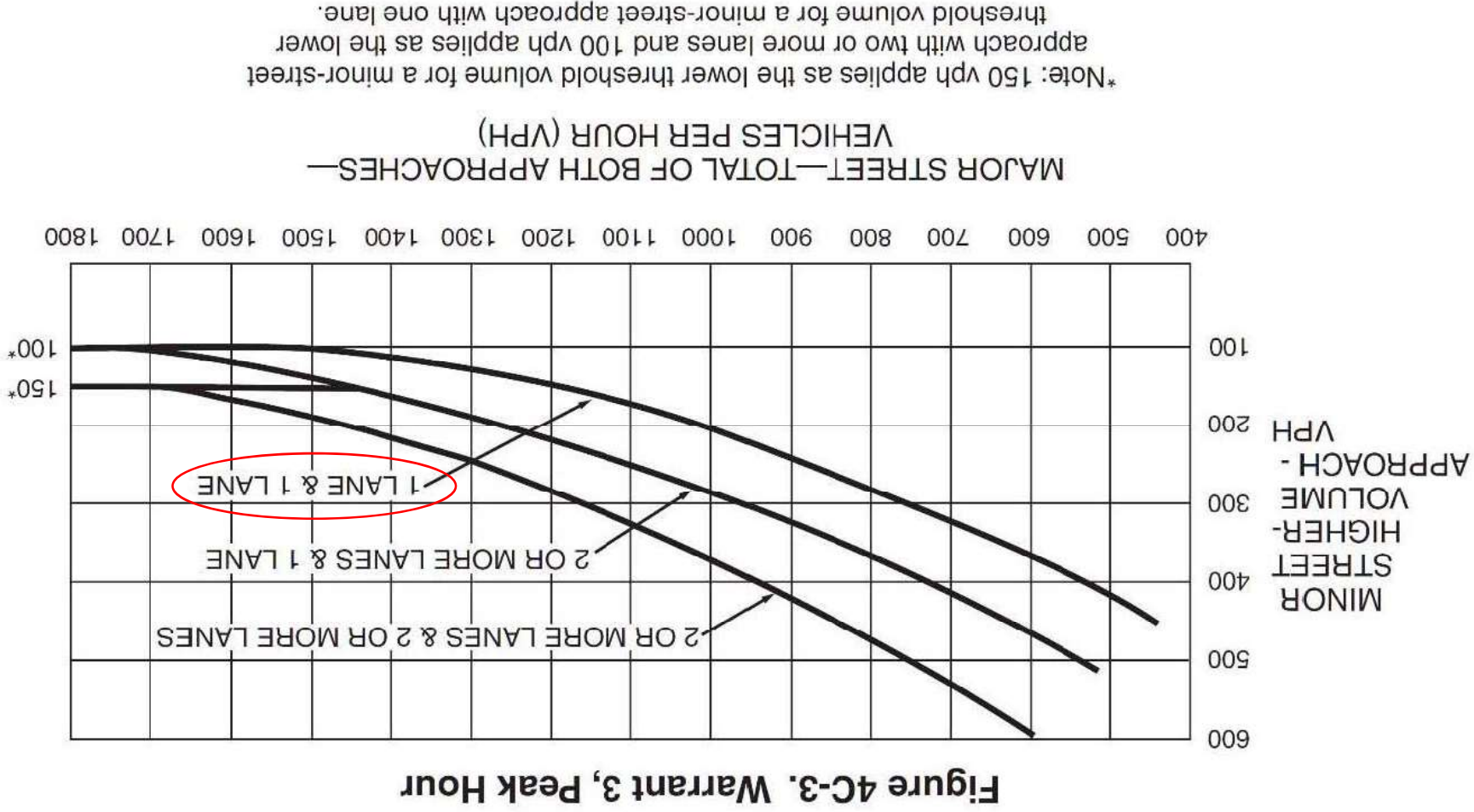
SIGNAL WARRANT NOT MET

Figure 4C-3. Warrant 3, Peak Hour



SIGNAL WARRANT NOT MET

SIGNAL WARRANT NOT MET



SIGNAL WARRANT NOT MET

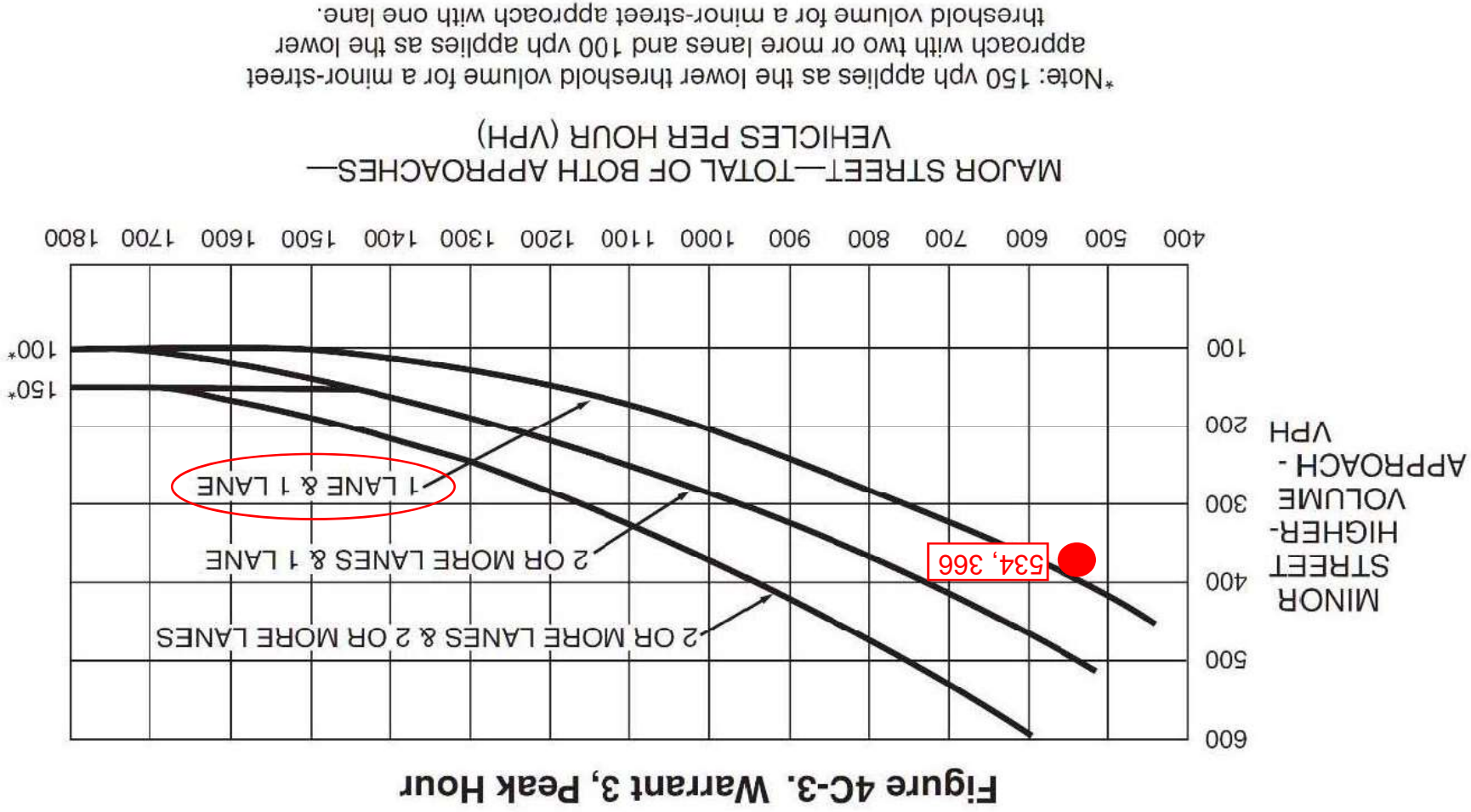
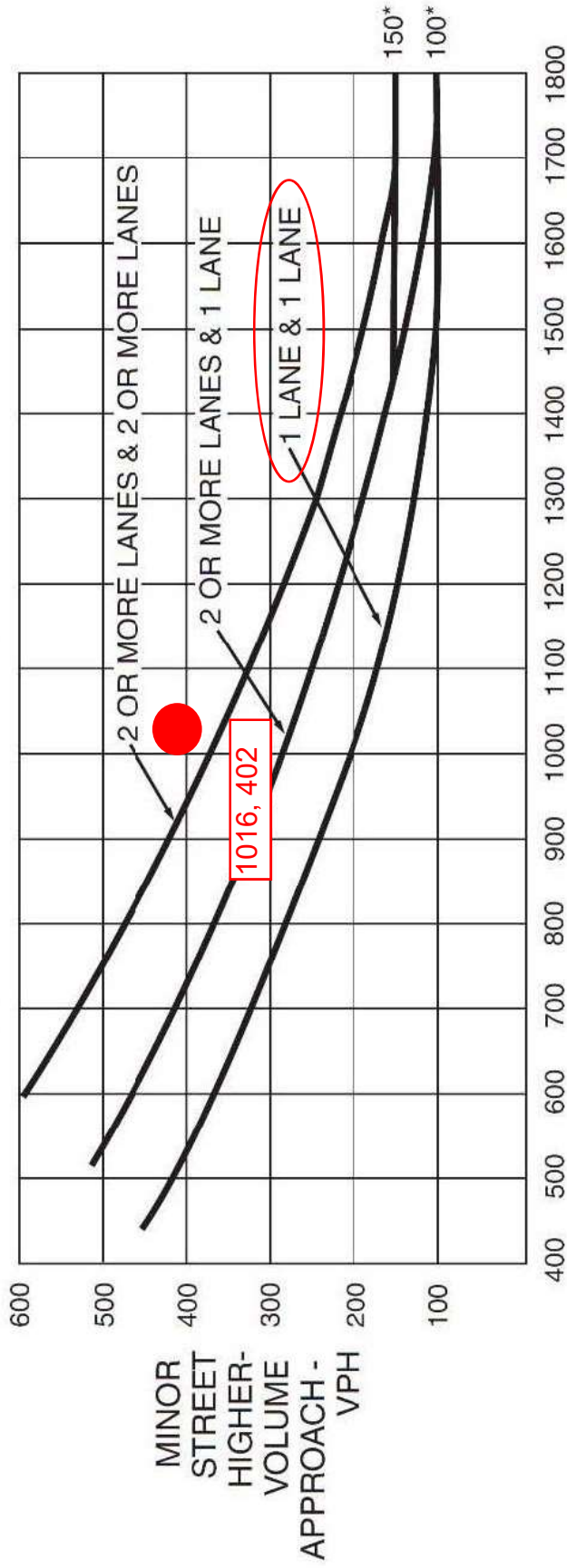


Figure 4C-3. Warrant 3, Peak Hour

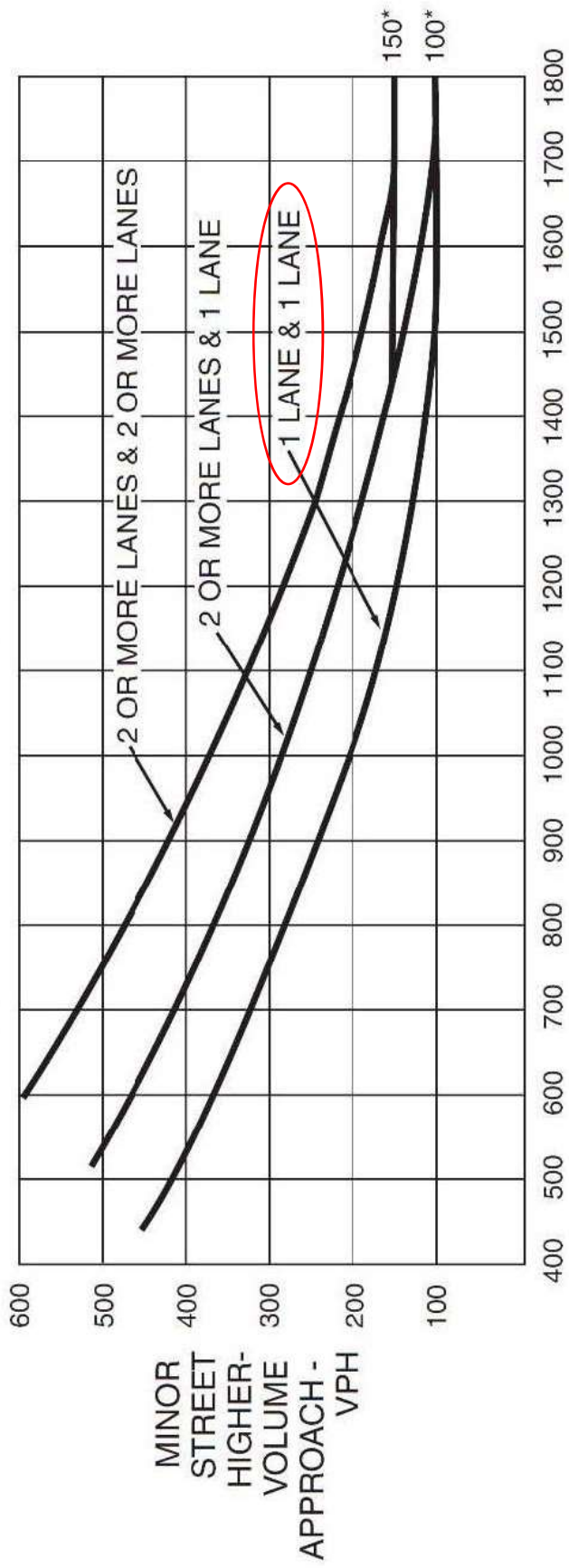


MAJOR STREET—TOTAL OF BOTH APPROACHES—
VEHICLES PER HOUR (VPH)

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

SIGNAL WARRANT MET

Figure 4C-3. Warrant 3, Peak Hour



2740, 45

MAJOR STREET—TOTAL OF BOTH APPROACHES—
VEHICLES PER HOUR (VPH)

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

SIGNAL WARRANT NOT MET