

TRANSPORTATION IMPACT ANALYSIS &
LOCAL MOBILITY ANALYSIS

MEYERS INDUSTRIAL

Escondido, California
April 7, 2022

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1.0 INTRODUCTION

Linscott, Law & Greenspan, Engineers (LLG) has prepared the following Transportation Impact Analysis & Local Mobility Analysis to determine and evaluate the potential impacts and effects to the local roadway system due to the proposed Meyers Industrial project. The Project site is located at 2351 Meyers Avenue between E. Bartham Drive and Corporate Drive at the westerly City boundary in the City of Escondido, California.

The following items are included in this traffic study:

- Project Description
- Existing Conditions Discussion
- Vehicle Miles Traveled (VMT) Analysis
- Local Mobility Analysis (LMA)
- Local Transportation Analysis of Existing Conditions
- Trip Generation, Distribution, and Assignment
- Cumulative Projects
- Local Transportation Analysis of Near-Term Scenarios
- Site Access Review
- Active Transportation Review
- Significant Impacts and Substantial Effects

2.0 PROJECT DESCRIPTION

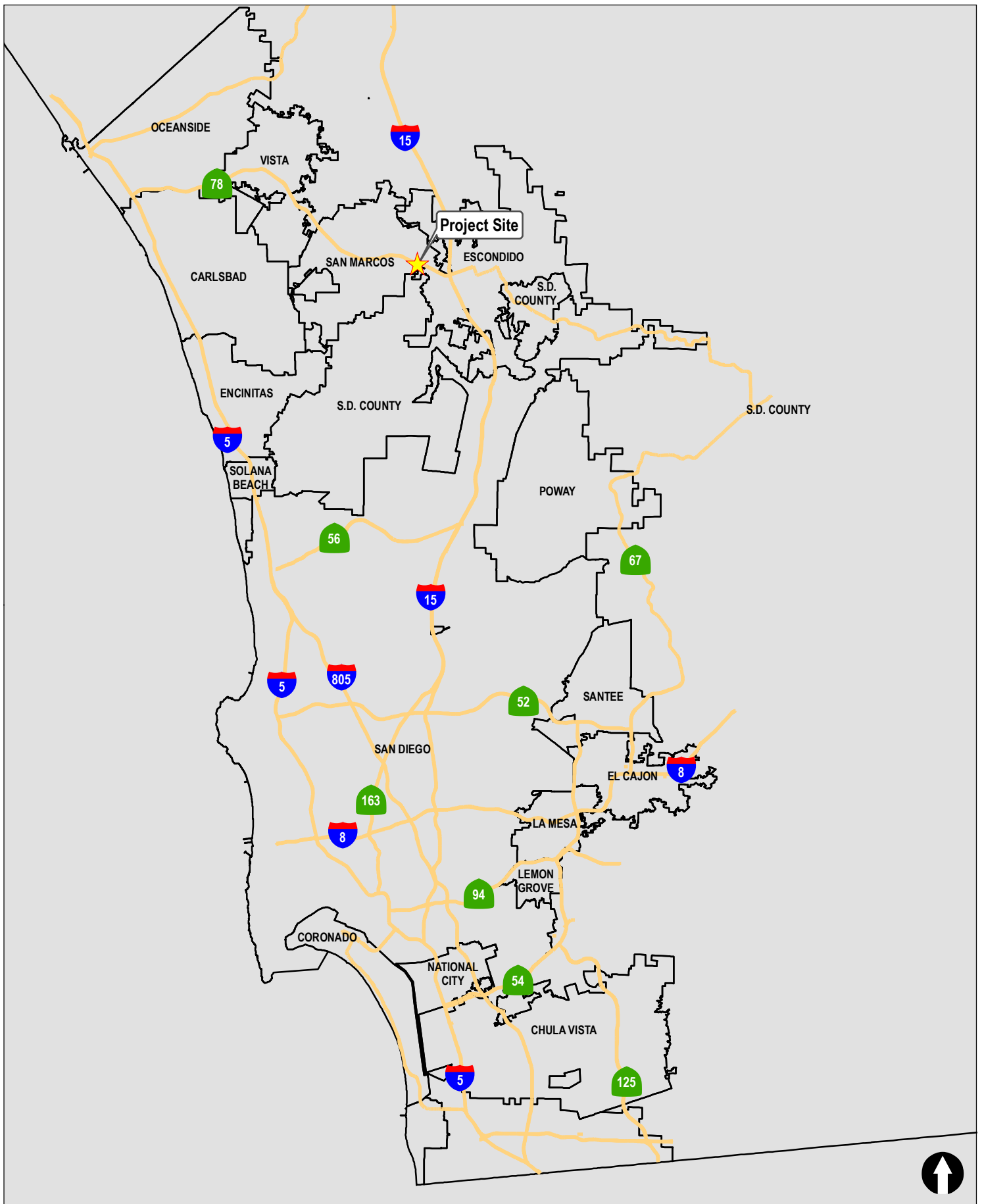
The Project proposes the development of a vacant approximately five-acre site located at 2351 Meyers Avenue between E. Barham Drive and Corporate Drive at the westerly City boundary in the City of Escondido, California.

The Project includes a Plot Plan, Design Review, and Notice of Exemption to construct a 67,300-square-foot unrefrigerated warehouse spec building comprising 61,300-square-feet on the first floor and 6,000-square-feet on the mezzanine. The building will be broken into 12,000-square-feet of office space and 55,300-square-feet of manufacturing/warehouse space. An ingress/egress driveway will provide access to the Project off Meyers Avenue.

The site is General Plan designated LI – Light Industrial and Zoned PD-I – Planned Development – Industrial.

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

Access to the project site will be via one driveway on Meyers Avenue which will provide an internal loop through the project site. The driveway will be unsignalized and will offer full access.



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Figure 2-1

Vicinity Map



Figure 2-2

Project Area Map

ESCONDIDO INDUSTRIAL

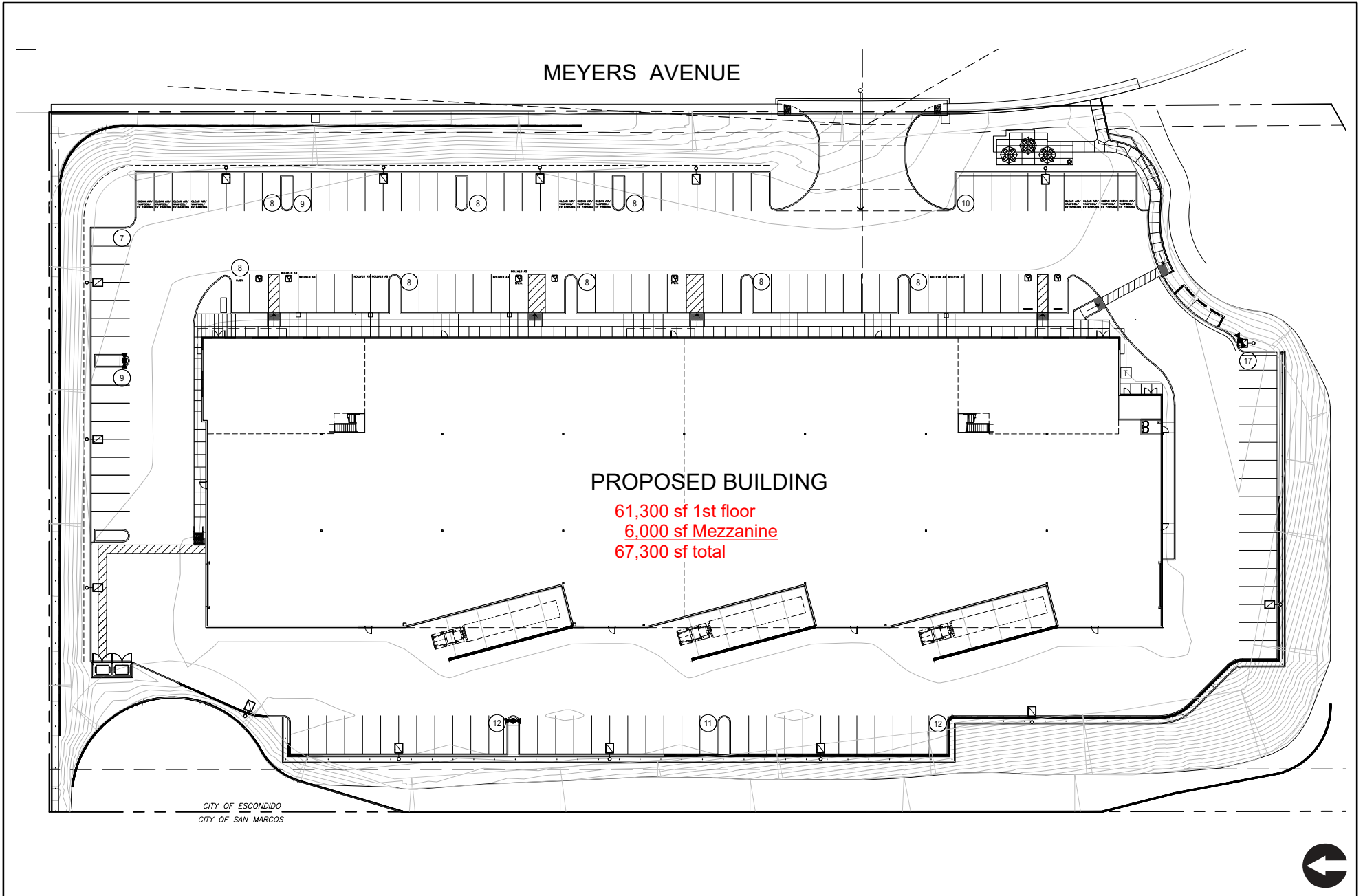


Figure 2-3
Site Plan
 Escondido Industrial

3.0 EXISTING CONDITIONS

Effective evaluation of the traffic impacts and effects associated with the proposed Project requires an understanding of the existing transportation system within the study area. *Figure 3-1* shows an existing conditions diagram, including intersection control and lane configurations. The study area includes the following intersections and street segments based on guidance provided in the City of Escondido's *Transportation Impact Analysis Guidelines* (April 2021), the anticipated distribution of the Project traffic, and areas of potential effect:

Intersection

1. Barham Drive / La Moree Road
2. Barham Drive / Meyers Avenue
3. Barham Drive / Mission Road
4. Nordahl Road / SR 78 WB-Ramps
5. Nordahl Road / SR 78 EB-Ramps
6. Nordahl Road / Mission Road
7. Meyers Avenue / Auto Park Way
8. Meyers Avenue / Project Driveway

Segments

E. Barham Drive

- Woodland Parkway to La Moree Road
- La Moree Road to Meyers Avenue
- Meyers Avenue to Mission Road

W. Mission Road

- Barham Drive to Nordahl Road / Auto Park Way

Nordahl Road

- SR-78 Ramps to Mission Road

Auto Park Way

- Meyers Avenue to Country Club Drive

Meyers Avenue

- Barham Drive to Auto Park Way

3.1 Existing Street Network

The principal roadways in the Project study are described below. *Figure 3-1* illustrates the existing circulation conditions.

State Route 78 (SR-78) is an east/west freeway facility connecting Oceanside, Vista, San Marcos, and Escondido. SR-78 is generally built with three general purpose lanes in each direction. The posted speed limit in the study area is 65 MPH. In the study area, local access is provided as follows:

- Westbound SR-78
 - Signalized on/off-ramps at the Nordahl Road diamond interchange
 - Unsignalized on/off ramps from/to Rancheros Drive
- Eastbound SR-78
 - Signalized on/off-ramps at the Nordahl Road diamond interchange
 - Signalized off-ramp to Barham Drive (west of Woodland Parkway)
 - Signalized on-ramp from Barham Drive (east of Woodland Parkway)

E. Barham Drive is an east/west facility that is classified within the study area on the *City of San Marcos Mobility Element* as a 4-Lane Arterial with Class II or III bicycle facilities from Woodland Parkway east to the San Marcos city limits with Escondido, just west of Meyers Avenue.

E. Barham Drive is currently built as a four-lane undivided roadway with a two-way left-turn lane median from Woodland Parkway to east of La Moree Road, where it transitions to a two-lane undivided roadway with a two-way left turn lane median to the city limits. The posted speed limit is 35 mph. The four-lane section described provides Class II bicycle lanes while the two-lane section does not provide bicycle accommodations. Sidewalks are present on the south side of the roadway only, with gaps present intermittently. On-street parking is generally prohibited

La Moree Road is a two-lane local collector on the *City of San Marcos Mobility Element*. The posted speed limit is 25 mph. and curbside parking is prohibited in both directions. Paved sidewalks are provided on both sides of the roadway. Bicycle facilities are not provided.

Mission Road is an east/west facility with portions in both San Marcos and Escondido in the study area. Within San Marcos, it is classified on the *City of San Marcos General Plan Mobility Element* as a Four-Lane Arterial with Enhanced Bicycle/Pedestrian Facilities from Woodland Parkway to the city limits at approximately Barham Drive. The *City of San Marcos General Plan Mobility Element* defines “Enhanced Bicycle/Pedestrian Facilities” as facilities that are key links for all modes of travel within the City.

Within the City of Escondido, Mission Road is classified as a Major Road in the *City of Escondido Circulation Element* eastward from the city limits with San Marcos. In the study area, Mission Road is currently constructed as a four-lane roadway with a raised median to the eastern edge of the study area where it transitions to a two-way left-turn lane. The posted speed limit is 45 mph. Curbside parking is prohibited. Class II bicycle lanes are provided on the San Marcos portion of the roadway within the study area, but do not currently continue on the portions within Escondido. However, the Inland Rail Trail, a Class I Sidepath, is provided along E. Mission Road, extending from Barham Drive past the western study limits.

Nordahl Road is a north/south facility that is classified as a 4-Lane Arterial from SR-78 to the City limits in the *City of San Marcos General Plan Mobility Element*. It is classified as a Major Road in the *City of Escondido Circulation Element*. It is currently constructed as a 7 to 8 lane divided roadway depending on the location due to turn pockets and/or the extension of turn pockets. The posted speed limit is 40 mph. Class II bicycle lanes are provided, and on-street parking is not permitted. Sidewalks are present on both sides of the roadway within the study area.

Auto Park Way is a north/south facility that is classified as a Major Road in the on the *City of Escondido Circulation Element* southward from the city limits with San Marcos. In the study area, Auto Park Way is currently constructed as a four-to-six-lane roadway with a raised median. The posted speed limit 40 mph. Curbside parking is prohibited, and Class II buffered bicycle lanes are provided. Sidewalks are present on both sides of the roadway within the study area.

Meyers Avenue is a two-lane industrial road that is unclassified in the *City of Escondido Circulation Element*. In the study area, Meyers Avenue is constructed as a 48-foot-wide two-lane roadway. There are no posted speed limits in the area, and curbside parking is provided in both directions. No sidewalks or bike lanes are provided.

3.2 Existing Traffic Volumes

Average daily traffic volume (ADT) counts and peak hour (7:00-9:00 AM and 4:00-6:00 PM) intersection counts at the majority of the study intersections (including bicycle and pedestrian counts) were conducted in the years 2017 and 2018. A growth factor of 1% per year was added to the historical traffic counts to represent Year 2021 conditions.

Historical counts were not available at the intersections of La Barham Drive / La Moree Road or Meyers Avenue / Auto Park Way. Therefore, counts at these intersections were conducted in 2020 and 2021, respectively. Due to the ongoing COVID-19 pandemic, which has reduced overall travel and traffic volumes, LLG compared the current traffic count data to historical ADT counts in the area. Based on this comparison, the 2020/2021 traffic count volumes at these two intersections were increased by 20% to account for the effects of the pandemic.

Table 3-1 is a summary of the average daily traffic volumes, which were all conducted in 2018, with a 3% growth factor applied.

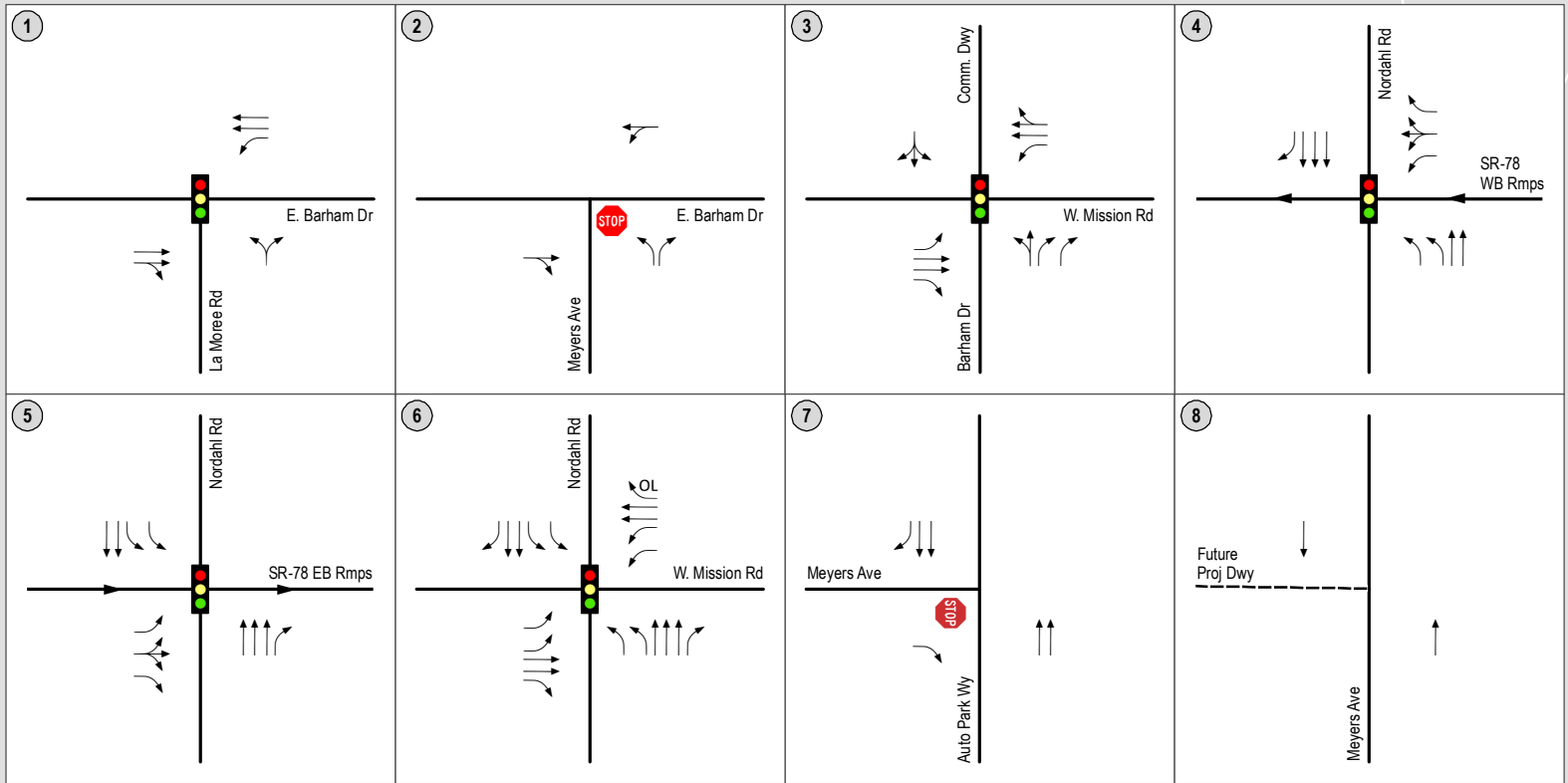
Figure 3-2 shows the Existing Traffic Volumes. **Appendix A** contains the manual count sheets.

**TABLE 3-1
EXISTING TRAFFIC VOLUMES**

Street Segment	ADT^a
E. Barham Drive	
Woodland Parkway to La Moree Rd	18,027
La Moree Rd to Meyers Avenue	13,375
Meyers Avenue to Mission Road	8,779
W. Mission Road	
Barham Drive to Nordahl Road/Auto Park Way	30,858
Nordahl Road	
SR-78 Ramps to Mission Road	42,893
Auto Park Way	
Meyers Ave to Country Club Drive	25,517
Meyers Avenue	
Barham Drive to Auto Park Way	4,815 ^b

Footnotes:

- a. Average Daily Traffic Volumes
- b. ADT estimated based on the peak hour volumes at the adjacent Barham Drive / Meyers Avenue intersection.

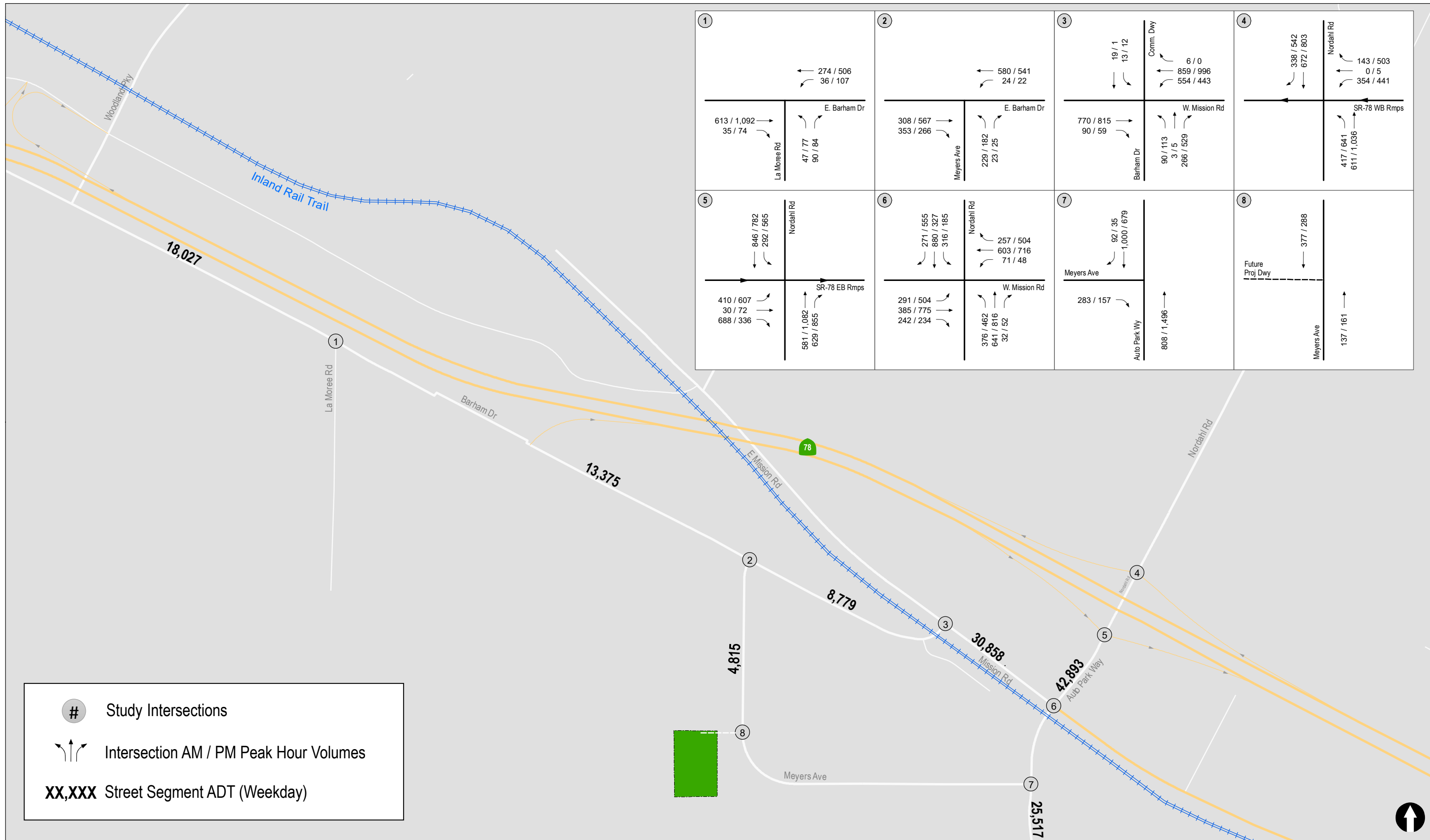


- # Study Intersection
- Traffic Signal
- Stop Sign
- Turning Movements
- 2/4/6** Number of Travel Lanes
- 35mph Posted Speed Limit
- U / D** Divided / Undivided Roadway
- +** Two-Way Left-Turn Median
- BL** Bike Lane

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Figure 3-1

Existing Conditions Diagram



<p>①</p> <p>← 274 / 506 ↘ 36 / 107</p> <p>613 / 1,092 ↘ 35 / 74</p> <p>La Moree Rd</p> <p>↘ 47 / 77 ↘ 90 / 84</p> <p>E. Barham Dr</p>	<p>②</p> <p>← 580 / 541 ↘ 24 / 22</p> <p>308 / 567 ↘ 353 / 266</p> <p>Meyers Ave</p> <p>↘ 229 / 182 ↘ 23 / 25</p> <p>E. Barham Dr</p>	<p>③</p> <p>19 / 1 13 / 12</p> <p>Comm. Dwy</p> <p>↘ 6 / 0 ↘ 859 / 996 ↘ 554 / 443</p> <p>770 / 815 ↘ 90 / 59</p> <p>Barham Dr</p> <p>↘ 90 / 113 ↘ 3 / 5 ↘ 266 / 529</p> <p>W. Mission Rd</p>	<p>④</p> <p>↘ 338 / 542 ↘ 672 / 803</p> <p>Nordahl Rd</p> <p>↘ 143 / 503 ↘ 0 / 5 ↘ 354 / 441</p> <p>SR-78 WB Rmps</p> <p>↘ 417 / 641 ↘ 611 / 1,036</p>
<p>⑤</p> <p>846 / 782 ↘ 292 / 565</p> <p>Nordahl Rd</p> <p>↘ 410 / 607 ↘ 30 / 72 ↘ 688 / 336</p> <p>SR-78 EB Rmps</p> <p>↘ 581 / 1,082 ↘ 629 / 855</p>	<p>⑥</p> <p>271 / 555 ↘ 880 / 327 ↘ 316 / 185</p> <p>Nordahl Rd</p> <p>↘ 291 / 504 ↘ 385 / 775 ↘ 242 / 234</p> <p>W. Mission Rd</p> <p>↘ 376 / 462 ↘ 641 / 816 ↘ 32 / 52</p>	<p>⑦</p> <p>92 / 35 1,000 / 679</p> <p>Meyers Ave</p> <p>↘ 283 / 157</p> <p>Auto Park Way</p> <p>↘ 808 / 1,496</p>	<p>⑧</p> <p>Future Proj Dwy</p> <p>↘ 377 / 288</p> <p>Meyers Ave</p> <p>↘ 137 / 161</p>

Study Intersections

↘ ↘ Intersection AM / PM Peak Hour Volumes

XX,XXX Street Segment ADT (Weekday)

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Figure 3-2

Existing Traffic Volumes

4.0 VEHICLE MILES TRAVELED ANALYSIS

4.1 Analysis Approach and Methodology

The City of Escondido's *Transportation Impact Analysis Guidelines* (April 2021) specifically address the requirements of California Senate Bill (SB) 743 which mandate specific types of CEQA analysis of transportation projects effective July 1, 2020.

Prior to implementation of SB 743, CEQA transportation analyses of individual projects typically determined impacts on the circulation system in terms of roadway delay and/or capacity usage at specific locations, such as street intersections or roadway segments. SB 743, signed into law in September 2013, required changes to the guidelines for CEQA transportation analysis. The changes include the elimination of auto delay, level of service (LOS), and other similar measures of vehicular capacity or traffic congestion as a basis for determining significant impacts. The purpose of SB 743 is to promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses.

Under SB 743, a project's effect on automobile delay would not constitute a significant environmental impact. Therefore, LOS and other similar vehicle delay or capacity metrics would no longer serve as transportation impact metrics for CEQA analysis. The California Office of Planning and Research (OPR) has updated the CEQA Guidelines and provided a final technical advisory in December 2018, which recommends vehicle miles traveled (VMT) as the most appropriate measure of transportation impacts under CEQA. The California Natural Resources Agency certified and adopted the CEQA Guidelines including the Guidelines section implementing SB 743. The changes have been approved by the Office of the Administrative Law and have been in effect since July 2020.

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

To comply with the requirements of SB 743, the City of Escondido has prepared its *Transportation Impact Analysis Guidelines* (April 2021) to provide guidance on conducting transportation impact analyses in the City as follows:

- CEQA Analysis Requirements: Requirements for conducting CEQA analysis, which consists of SB 743-consistent VMT analysis as well as assessing impacts to pedestrians, bicyclists, transit, hazards, emergency access, and other impacts.
- Local Mobility Analysis Requirements: Requirements for conducting LOS analysis, site access assessments, and other local transportation analyses for non-CEQA purposes.

This Meyers Industrial traffic study presents a SB 743-consistent VMT analysis to determine and evaluate the potential impacts to the local roadway system due to the proposed Project. In addition to the VMT analysis, a Local Mobility Analysis was also prepared that focuses on automobile delay/LOS, consistent with the City's guidelines. The LOS analysis, which is presented in subsequent sections of this study, was conducted to identify roadway deficiencies in the Project study area and to recommend Project improvements to address such deficiencies; the CEQA significance determination for the proposed Project, however, is based only on VMT and not on LOS.

4.1.1 *CEQA Analysis Methodology*

Based on guidance from the City's Transportation Impact Analysis Guidelines, in general, transportation VMT analysis for CEQA should be conducted using the SANDAG Regional Travel Demand Model. The model outputs can be used to produce VMT/ capita, VMT / employee, and total VMT.

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

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

4.1.2 *Screening Criteria for CEQA VMT Analysis*

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

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

The screening criteria are not applicable to the Project. Since the Project is not screened out, a detailed transportation VMT per employee analysis using the SANDAG Regional Travel Demand Model was conducted per the City of Escondido Transportation Impact Analysis Guidelines.

4.1.3 VMT Analysis Procedures

For projects that are not screened out and must provide a detailed evaluation of the VMT produced by the project, guidance is provided below on how to conduct transportation VMT analysis by project type. The resulting VMT values should be compared to the appropriate threshold (described in *Section 5* of this study) to determine whether the project results in a significant CEQA transportation impact due to VMT.

- **Residential Projects:**
 - For projects that generate fewer than 2,400 daily unadjusted driveway trips: Identify the location of the project on SANDAG's VMT/capita map. The project's VMT/capita will be considered the same as the VMT/capita of the census tract it is located in. Compare the project's VMT/capita to the threshold to determine if the impact is significant, or input the project into the SANDAG Regional Travel Demand Model to determine the project's VMT/capita.
 - For projects that generate 2,400 or greater daily unadjusted driveway trips: Input the project into the SANDAG Regional Travel Demand Model for SANDAG to provide the project's VMT/capita. To perform the analysis, all project land uses should be inputted, and the VMT/capita should be determined using the same method/scripts that SANDAG utilizes to calculate the VMT/capita metric. Note that there may be some circumstances where use of the screening maps or other sketch modeling tools are appropriate for larger projects.

- **Employment Projects:**
 - For projects that generate fewer than 2,400 daily unadjusted driveway trips: Identify the location of the project on SANDAG's VMT/employee map. The project's VMT/Employee will be considered the same as the VMT/Employee of the census tract it is located in. Alternatively, the project's VMT can be determined by inputting the project into the SANDAG Regional Travel Demand Model in the manner previously described. Compare the project's VMT/Employee to the threshold to determine if the impact is significant.
 - For projects that generate 2,400 or greater daily unadjusted driveway trips: Input the project into the SANDAG Regional Travel Demand Model to determine the project's VMT/Employee. To perform the analysis, all project land uses should be inputted, and the VMT/Employee should be determined using the same method/scripts that SANDAG utilizes to develop the VMT/Employee metric. Note that there may be some circumstances where use of the screening maps or other sketch modeling tools are appropriate for larger projects.

- **Retail Projects:** Calculate the change to area VMT using the SANDAG Travel Demand Model (or other appropriate sketch model as coordinated with City Staff). To calculate the change in area VMT, the regional retail component of the project should be inputted into the travel demand model (year that is used to determine the VMT thresholds). The

“with project regional retail” area VMT produced by the model run is compared to the “no project” area VMT.

- **Mixed-Use Projects:** Evaluate each individual project component per the appropriate metric based on land use type (e.g., residential, employment, and retail) as described above.
- **Other Projects:** Input the project into the SANDAG Regional Travel Demand Model for SANDAG to provide the project’s applicable VMT metric. To perform the analysis, all project land uses should be inputted, and the VMT metric that is appropriate based on the land use type should be determined.

4.2 VMT Significant Impact Thresholds

Based on the City of Escondido *Transportation Impact Analysis Guidelines*, the significant thresholds and specific VMT metrics used to measure VMT are described by land use type below, as shown in **Table 4-1**. The Project proposes an Industrial Employment land use type. Therefore, a potential significant impact would be identified if the Project VMT per employee were greater than the regional average.

TABLE 4-1
VMT IMPACT THRESHOLDS BY LAND USE TYPE

Land Use Type	Impact Threshold
Residential	15% below regional average VMT/capita
Employment	15% below regional average VMT/employee
<i>Industrial Employment</i>	<i>At or below regional average VMT/employee</i>
Mixed-Use	Each project component evaluated per the appropriate metric based on land use type
Regional Retail, Regional Recreational, or Regional Public Facilities	A net increase in total regional VMT using the boundary method.

Source: City of Escondido Transportation Impact Analysis Guidelines (April 2021)

4.3 VMT Analysis

The SANDAG ABM2+ Year 2016 Travel Demand Model (found here: <https://sandag.maps.arcgis.com/apps/webappviewer/index.html?id=bb8f938b625c40cea14c825835519a2b>) was used to calculate the Regional average baseline and the Project specific VMT per employee. The model generates a land use-specific average trip length as well as an average daily volume, which ultimately calculates the total VMT per employee. The SANDAG Series 14 Year 2016 Travel Demand Model results are included in **Appendix C**.

Table 4-2 summarizes the Regional average baseline VMT results provided by SANDAG. As seen in **Table 4-2**, the Regional average baseline VMT per employee is 18.9 miles per employee. For the purpose of determining the significance of VMT impacts, the Project VMT per employee would

need to be at or below the Regional average in order to result in a less-than-significant transportation impact.

Similar to the Regional average baseline calculations, the Project VMT per employee was determined. As shown in *Table 6-1*, the Project specific VMT per employee is calculated at 18.6 VMT per employee per the SANDAG ABM2+ Year 2016 Travel Demand Model.

Since the Project specific VMT per employee is lower than the Regional average, the Project is calculated to result in a less-than-significant transportation impact, and mitigation measures are not required.

TABLE 4-2
PROJECT VMT FINDINGS

Scenario	Regional Baseline VMT per Capita	Significance Threshold	Project VMT per Capita	Significant Transportation Impact? (Over Threshold)
VMT per Employee	18.9	18.9	18.6	No

Source: SANDAG

5.0 LOCAL MOBILITY ANALYSIS

5.1 Analysis Approach and Methodology

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

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

Per the *Transportation Impact Analysis Guidelines*, the following scenarios should be evaluated for the LMA:

- *Existing Conditions*
- *Existing Plus Project Conditions*
- *Near Term Conditions (includes near term planned and approved projects)*
- *Near Term Plus Project Conditions*
- Long Term (future year) Conditions (if the project is not consistent with the GP)
- Long Term (future year) Plus Project Conditions (if the project is not consistent with the GP)
- Special Scenarios (e.g., a phased project analysis)

The Myers Industrial project is consistent with the GP and does not propose a phased development. Therefore, the four analysis scenarios listed above that are underlined and italicized were evaluated in this study.

5.1.1 Level of Service

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

5.1.2 Intersections

Signalized intersections were analyzed under AM and PM peak hour conditions. Average vehicle delay was determined utilizing the methodology found in Chapter 19 of the *Highway Capacity Manual 6th Edition (HCM 6)*, with the assistance of the *Synchro* (version 10) computer software. The delay values (represented in seconds) were qualified with a corresponding intersection LOS. City of

Escondido, City of San Marcos, and Caltrans location-specific signal timing information such as minimum greens, cycle lengths, splits for the freeway interchanges and real-time peak hour field observations were included in the analysis, where available.

Unsignalized intersections were analyzed under AM and PM peak hour conditions. Average vehicle delay and LOS was determined based upon the procedures found in Chapters 20 and 21 of the *HCM 6* with the assistance of the *Synchro* (version 10) computer software.

5.1.3 *Street Segments*

Street segment analysis is based upon the comparison of daily traffic volumes (ADTs) to the City of Escondido Level of Service Standards: Street Segments Average Daily Vehicle Trip Thresholds Table, attached in *Appendix B*. This table provides segment capacities for different street classifications based on traffic volumes and roadway characteristics.

5.2 Substantial Effect Criteria

The Project study area includes transportation facilities within the jurisdiction of the cities of Escondido and San Marcos, as well as State facilities under the jurisdiction of Caltrans. Thus, the criteria of the jurisdiction within which a transportation facility is located was used to determine substantial effect. The substantial effect criteria for the following jurisdictions are included in this section.

- City of Escondido
- City of San Marcos
- Caltrans

5.2.1 *City of Escondido Criteria*

In accordance with the SANTEC/ITE Guidelines for Traffic Impact Studies in the San Diego Region, the following thresholds shall be used to identify if a project is of substantial traffic effect under any scenario. Based on SANTEC/ITE guidelines, if now or in the future, the Project's traffic effect causes the values in *Table 5-1* to be exceeded in a roadway segment or intersection that is operating at LOS D or worse, it is determined to be a substantial effect and the Project shall identify improvements.

TABLE 5-1
CITY OF ESCONDIDO SUBSTANTIAL EFFECT THRESHOLDS

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

Source: City of Escondido

*No Significant Impact occurs at areas in GP Downtown Specific Area that operates at LOS “D” or better.

*Mitigation measures should also be considered for any segment or intersection operating at LOS “F” subject to less than significant impact.

*V: Volume *C: Capacity (use LOS “E”)

Furthermore, according to the City’s General Plan, Mobility Element streets and intersections shall be planned and developed to achieve a minimum LOS “C” defined by the Highway Capacity Manual as amended or updated, or such other national standard deemed appropriate by the city. Level of Service “C” may not be feasible in all areas at all times and LOS “D” shall be considered the threshold for determining significant impacts and appropriate mitigation. Per the certified General Plan EIR, a significant impact would result from a General Plan (Year 2035) analysis when a project would “cause the LOS of a General Plan Mobility and Infrastructure Element roadway to fall below LOS D and/or add more than 200 ADT to a Mobility and Infrastructure Element roadway with an LOS E or F.”

5.2.2 City of San Marcos Criteria

Within the City of San Marcos, a project is considered to have a substantial effect if the new project traffic has decreased the operations of surrounding roadways by a defined threshold. The defined thresholds shown in **Table 5-2** (LOS D accepted), are based on published SANTEC guidelines and the City of San Marcos General Plan. If the project exceeds the thresholds in **Table 5-2**, then the project may be considered to have a substantial project effect. A feasible improvement will need to be identified to return the effect within the thresholds (pre-project + allowable increase).

For intersections and roadway segments affected by a project, level of service (LOS) D or better is considered acceptable under both direct and cumulative conditions.

If a project exceeds the thresholds in **Table 5-2**, then the project may be considered to have a substantial project effect. A substantial effect can also occur if a project causes the Level of Service to degrade from D to E, even if the allowable increases in **Table 5-2** are not exceeded. A feasible improvement will need to be identified to return the effect within the thresholds.

TABLE 5-2
CITY OF SAN MARCOS SUBSTANTIAL EFFECT THRESHOLDS

Level of Service with Project ^a	Allowable Increase Due to Project ^b					
	Freeways		Roadway Segments		Intersections	Ramp Metering
	V/C	Speed (mph)	V/C	Speed (mph)	Delay (sec.)	Delay (min.)
E & F (or ramp meter delays above 15 minutes)	0.01	1	0.02	1	2	2 ^c

Footnotes:

- a. All level of service measurements are based upon HCM procedures for peak-hour conditions. However, V/C ratios for Roadway Segments may be estimated on an ADT/24-hour traffic volume basis (using Table 2 or a similar LOS chart for each jurisdiction). The acceptable LOS for freeways, roadways, and intersections is generally “D” (“C” for undeveloped or not densely developed locations per jurisdiction definitions). For metered freeway ramps, LOS does not apply. However, ramp meter delays above 15 minutes are considered excessive.
- b. If a proposed project’s traffic causes the values shown in the table to be exceeded, the impacts are deemed to be significant. These impact changes may be measured from appropriate computer programs or expanded manual spreadsheets. The project applicant shall then identify feasible mitigations (within the Traffic Impact Analysis [TIA] report) that will maintain the traffic facility at an acceptable LOS. If the LOS with the proposed project becomes unacceptable (see note a above), or if the project adds a significant amount of peak hour trips to cause any traffic queues to exceed on- or off-ramp storage capacities, the project applicant shall be responsible for mitigating significant impact changes.
- c. The impact is only considered significant if the total delay exceeds 15 minutes.

General Notes:

1. V/C = Volume to Capacity Ratio
2. Speed = Arterial speed measured in miles per hour
3. Delay = Average stopped delay per vehicle measured in seconds for intersections, or minutes for ramp meters.
4. LOS = Level of Service
5. HCM = Highway Capacity Manual

5.2.3 Caltrans Criteria

The SANTEC guidelines shown on *Table 5-2* are also used for Caltrans facilities, although Caltrans accepts LOS D operations for urban locations, which the study area is considered.

6.0 LOCAL MOBILITY ANALYSIS OF EXISTING CONDITIONS

6.1 Peak Hour Intersection Operations

Table 6-1 summarizes the peak hour intersection operations for existing conditions. As seen in **Table 6-1**, the following intersections are calculated to operate at an unacceptable LOS per the applicable jurisdictional guidelines:

- Barham Drive / Meyers Avenue (LOS F during the AM and PM peak hours)
- Mission Road / Nordahl Road (LOS D during the AM and LOS E during the PM peak hours)

Appendix D contains the Existing intersection analysis calculation worksheets.

6.2 Daily Street Segment Operations

Table 6-2 summarizes the existing roadway segment operations. As seen in **Table 6-2**, the following study area segments are calculated to operate at an unacceptable LOS per the applicable jurisdictional guidelines:

- Barham Drive: La Moree Road to Meyers Avenue (LOS D)
- Barham Drive: Meyers Avenue to Mission Road (LOS D)
- Mission Road: Barham Drive to Nordahl Road/Auto Park Way (LOS D)
- Nordahl Road: SR-78 Ramps to Mission Road (LOS E)

**TABLE 6-1
EXISTING INTERSECTION OPERATIONS**

Intersection	Jurisdiction	Control Type	Peak Hour	Delay^a	LOS^b
1. Barham Drive / La Moree Road	San Marcos	Signal	AM	10.9	B
			PM	28.3	C
2. Barham Drive / Meyers Avenue	Escondido	MSSC ^c	AM	>100.0	F
			PM	>100.0	F
3. Barham Drive / Mission Road	San Marcos	Signal	AM	40.5	D
			PM	48.3	D
4. Nordahl Road / SR-78 WB Ramps	Caltrans	Signal	AM	23.6	C
			PM	37.4	D
5. Nordahl Road / SR-78 EB Ramps	Caltrans	Signal	AM	35.4	D
			PM	46.7	D
6. Mission Road / Nordahl Road	Escondido	Signal	AM	41.8	D
			PM	55.9	E
7. Meyers Avenue / Auto Park Way	Escondido	MSSC	AM	24.6	C
			PM	12.9	B
8. Meyers Avenue / Project Driveway	Escondido	- ^d	AM	-	-
			PM	-	-

Footnotes:

- a. Average delay expressed in seconds per vehicle.
- b. Level of Service.
- c. MSSC – Minor-Street Stop Controlled intersection. Worst-case delay reported.
- d. Intersection does not exist under Existing conditions.

SIGNALIZED		UNSIGNALIZED	
Delay	LOS	Delay	LOS
0.0 ≤ 10.0	A	0.0 ≤ 10.0	A
10.1 to 20.0	B	10.1 to 15.0	B
20.1 to 35.0	C	15.1 to 25.0	C
35.1 to 55.0	D	25.1 to 35.0	D
55.1 to 80.0	E	35.1 to 50.0	E
≥ 80.1	F	≥ 50.1	F

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

Street Segment	Jurisdiction	Functional Classification	LOS E^a Capacity	ADT^b	LOS^c	V/C^d
Barham Drive						
Woodland Pkwy to La Moree Road	San Marcos	4-Lane Collector	30,000	18,027	C	0.601
La Moree Road to Meyers Ave	Escondido	2-Lane Collector (NP)	15,000	13,375	D	0.892
Meyers Ave to Mission Rd	Escondido	2-Lane Collector (WP)	10,000	8,779	D	0.878
Mission Road						
Barham Dr to Nordahl Rd	Escondido	4-Lane Major Arterial	37,000	30,858	D	0.834
Nordahl Road						
SR-78 Ramps to Mission Rd	Escondido	5-Lane Major Arterial	43,500	42,893	E	0.986
Auto Park Way						
Meyers Avenue to Country Club Drive	Escondido	4-Lane Major Arterial	37,000	25,517	C	0.690
Meyers Avenue						
Barham Drive to Auto Park Way	Escondido	Local Collector (WP)	10,000	4,815	B	0.482

Footnotes:

- a. Capacities based on City of San Marcos and City of Escondido roadway classification tables.
- b. Average Daily Traffic Volumes.
- c. Level of Service.
- d. Volume to capacity ratio.

7.0 TRIP GENERATION, DISTRIBUTION, & ASSIGNMENT

7.1 Project Trip Generation

Trip generation rates were obtained from the (Not So) *Brief guide of Vehicular Traffic Generation Rates for the San Diego Region*, April 2002 by SANDAG.

Table 7-1 tabulates the total Project traffic generation. The Project is calculated to generate 517 ADT with 56 inbound / 14 outbound trips during the AM peak hour and 23 inbound / 50 outbound trips during the PM peak hour.

TABLE 7-1
PROJECT TRIP GENERATION

Land Use	Quantity	Daily Trip Ends (ADT)		AM Peak Hour					PM Peak Hour				
				% of ADT	In:Out Split	Volume			% of ADT	In:Out Split	Volume		
		Rate	Volume			In	Out	Total			In	Out	Total
Office	12 KSF	20/KSF	240	14%	90 : 10	31	3	34	13%	20 : 80	6	25	31
Warehouse	55.3 KSF	5/KSF	277	13%	70 : 30	25	11	36	15%	40 : 60	17	25	42
Total			517			56	14	70			23	50	73

Footnotes:

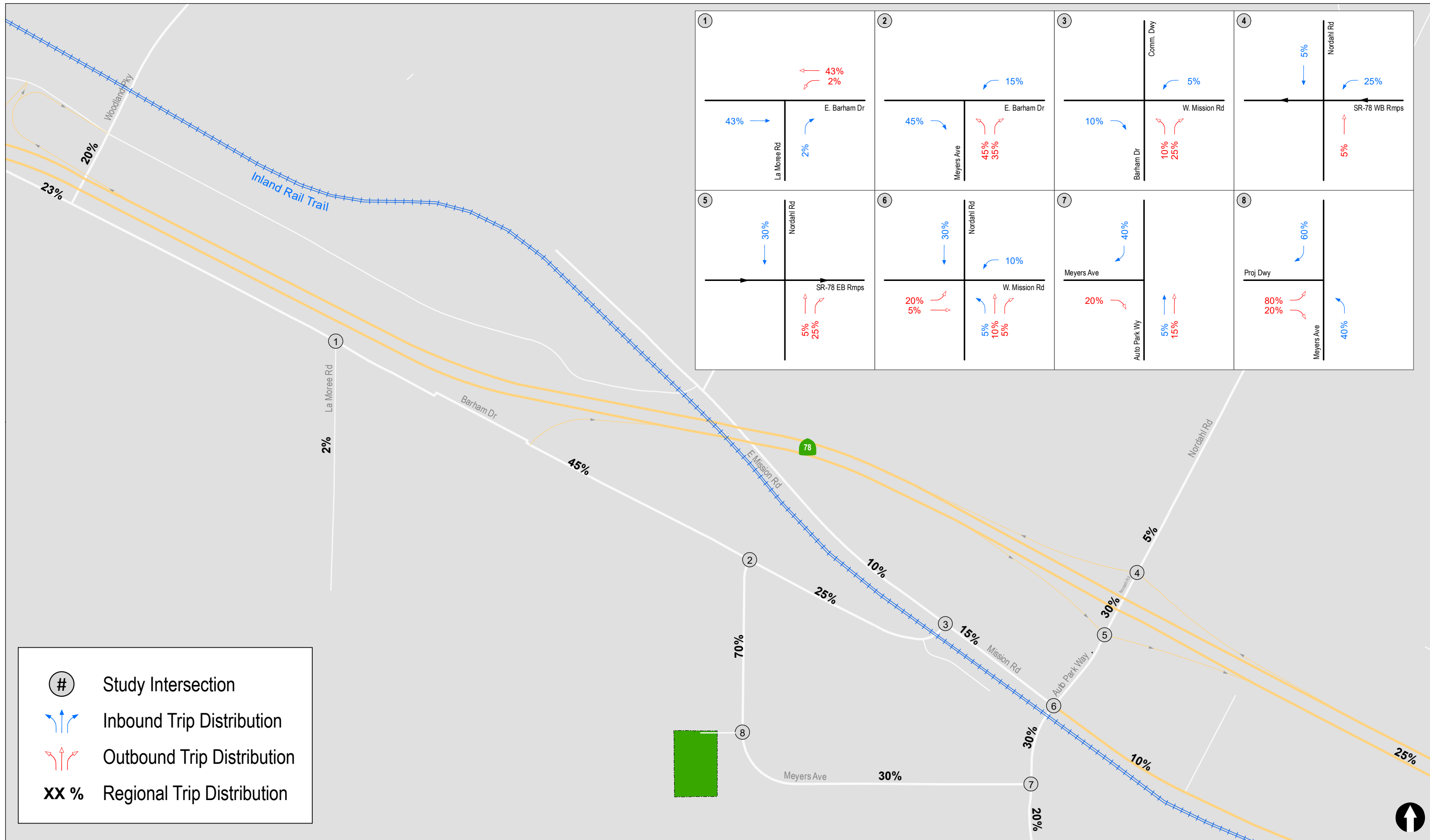
a. Trip generation rates were obtained from the (Not So) *Brief guide of Vehicular Traffic Generation Rates for the San Diego Region*, April 2002 by SANDAG

7.2 Trip Distribution/Assignment

The Project traffic was distributed and assigned to the street system based on the Project's proximity to state highways and arterials, the Project's full-access driveway, and on other traffic studies prepared for developments in the area.

There is a raised center median along Auto Park Way at Meyers Avenue, preventing eastbound to northbound movements. Therefore, southbound to northbound U-turns were assumed at the Auto Parkway / Country Club Drive intersection for a portion of the outbound Project trips traveling to SR 78, with the remaining outbound SR 78 bound-trips assumed to access the freeway via Barham Drive to Mission Road to Nordahl Road.

Figure 7-1 depicts the Project Traffic Distribution, and **Figure 7-2** depicts the Project Traffic Assignment. **Figure 7-3** depicts the Existing + Project Traffic Volumes.



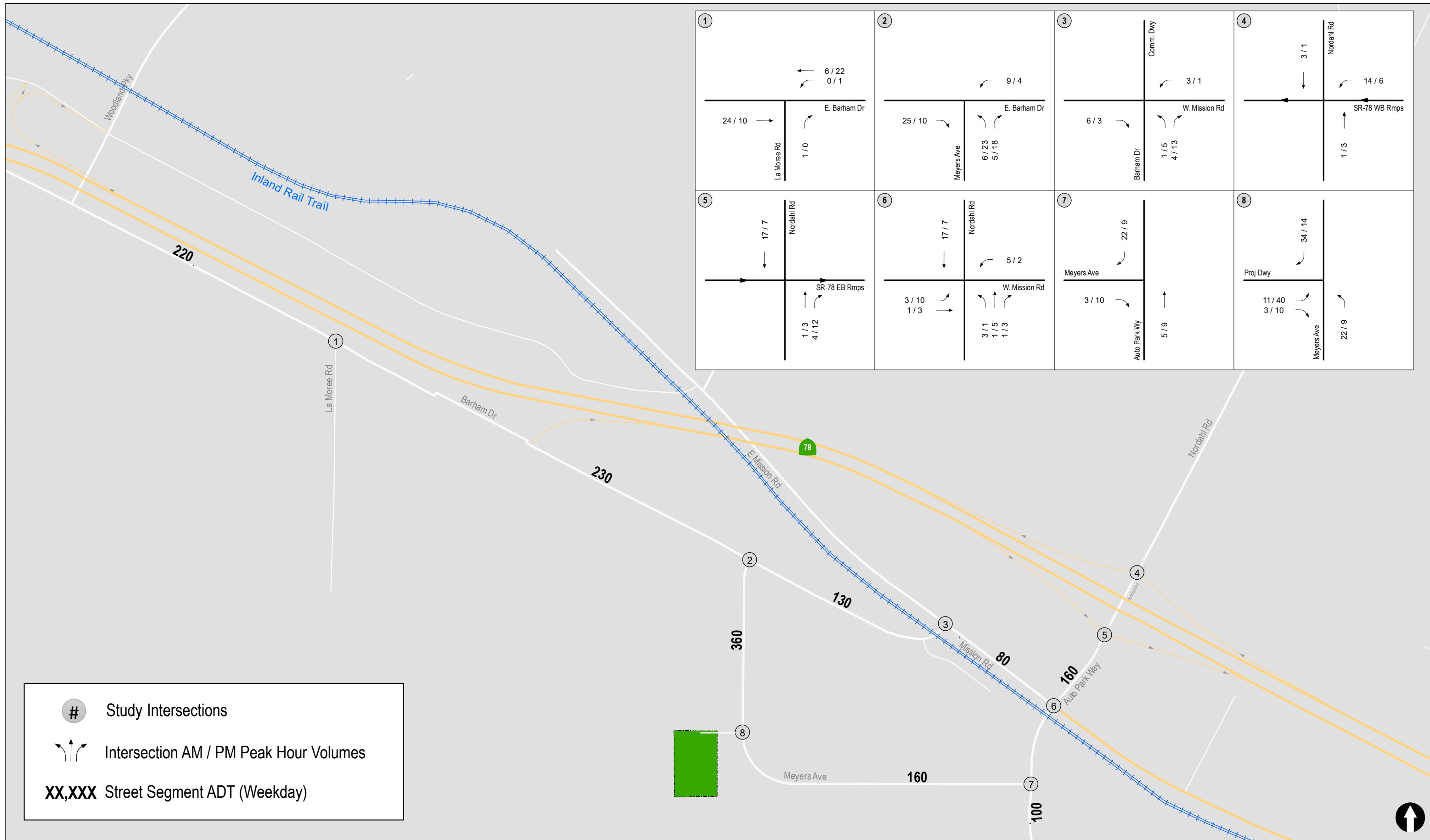
Study Intersection
 ↳ Inbound Trip Distribution
 ↳ Outbound Trip Distribution
 XX % Regional Trip Distribution

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 Date: 8/25/2021
 Time: 11:22 AM

Figure 7-1

Project Traffic Distribution

ESCONDIDO INDUSTRIAL



<p>①</p> <p>← 6 / 22 → 0 / 1</p> <p>24 / 10 →</p> <p>← 1 / 0</p> <p>La Moree Rd</p> <p>E. Barham Dr</p>	<p>②</p> <p>← 9 / 4</p> <p>25 / 10 →</p> <p>← 6 / 23 → 5 / 18</p> <p>Meyers Ave</p> <p>E. Barham Dr</p>	<p>③</p> <p>Comm. Dwy</p> <p>← 3 / 1</p> <p>6 / 3 →</p> <p>← 1 / 5 → 4 / 13</p> <p>Barham Dr</p> <p>W. Mission Rd</p>	<p>④</p> <p>← 3 / 1</p> <p>14 / 6 →</p> <p>1 / 3</p> <p>Nordahl Rd</p> <p>SR-78 WB Rmps</p>
<p>⑤</p> <p>17 / 7</p> <p>Nordahl Rd</p> <p>← 1 / 3 → 4 / 12</p> <p>SR-78 EB Rmps</p>	<p>⑥</p> <p>17 / 7</p> <p>Nordahl Rd</p> <p>← 5 / 2</p> <p>3 / 10 1 / 3</p> <p>W. Mission Rd</p> <p>← 3 / 1 → 1 / 5 → 1 / 3</p>	<p>⑦</p> <p>22 / 9</p> <p>Meyers Ave</p> <p>← 3 / 10</p> <p>Auto Park Wy</p> <p>5 / 9</p>	<p>⑧</p> <p>34 / 14</p> <p>Proj Dwy</p> <p>← 11 / 40 → 3 / 10</p> <p>Meyers Ave</p> <p>22 / 9</p>

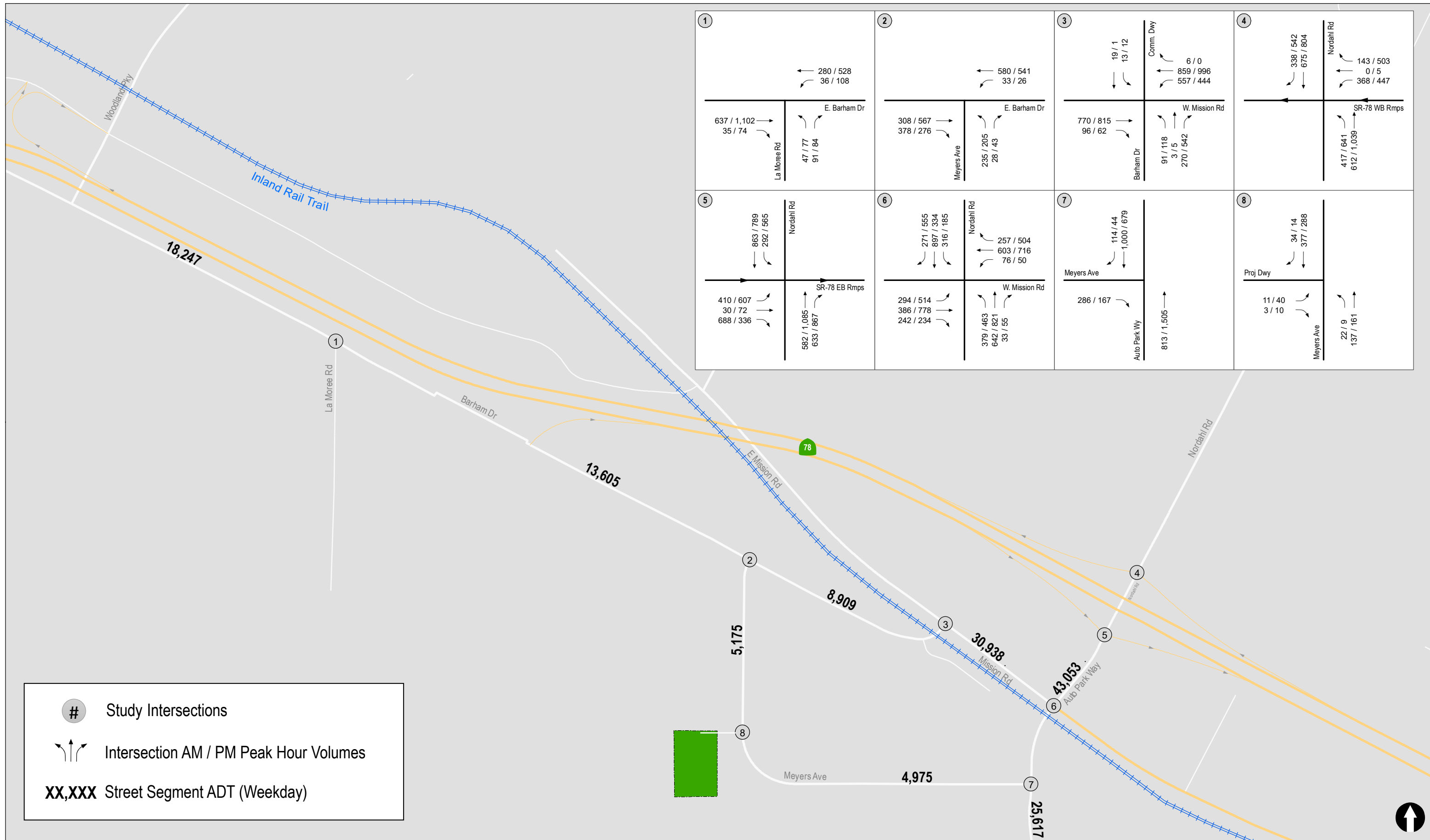
Study Intersections

↔ Intersection AM / PM Peak Hour Volumes

XX,XXX Street Segment ADT (Weekday)

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Date: 4/6/2022
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Figure 7-2
Project Traffic Volumes
Escondido Industrial



<p>①</p> <p>← 280 / 528 ↘ 36 / 108</p> <p>637 / 1,102 ↘ 35 / 74</p> <p>La Moree Rd</p> <p>E. Barham Dr</p> <p>47 / 77 ↘ 91 / 84</p>	<p>②</p> <p>← 580 / 541 ↘ 33 / 26</p> <p>308 / 567 ↘ 378 / 276</p> <p>Meyers Ave</p> <p>E. Barham Dr</p> <p>235 / 205 ↘ 28 / 43</p>	<p>③</p> <p>19 / 1 ↘ 13 / 12</p> <p>Comm. Dwy</p> <p>6 / 0 ← 859 / 996 ↘ 557 / 444</p> <p>770 / 815 ↘ 96 / 62</p> <p>Barham Dr</p> <p>W. Mission Rd</p> <p>91 / 118 ↘ 3 / 5 ↘ 270 / 542</p>	<p>④</p> <p>338 / 542 ↘ 675 / 804</p> <p>Nordahl Rd</p> <p>143 / 503 ↘ 0 / 5 ↘ 368 / 447</p> <p>417 / 641 ↘ 612 / 1,039</p> <p>SR-78 WB Rmps</p>
<p>⑤</p> <p>863 / 789 ↘ 292 / 565</p> <p>Nordahl Rd</p> <p>410 / 607 ↘ 30 / 72 ↘ 688 / 336</p> <p>SR-78 EB Rmps</p> <p>582 / 1,085 ↘ 633 / 867</p>	<p>⑥</p> <p>271 / 555 ↘ 897 / 334 ↘ 316 / 185</p> <p>Nordahl Rd</p> <p>257 / 504 ← 603 / 716 ↘ 76 / 50</p> <p>294 / 514 ↘ 386 / 778 ↘ 242 / 234</p> <p>W. Mission Rd</p> <p>379 / 463 ↘ 642 / 821 ↘ 33 / 55</p>	<p>⑦</p> <p>114 / 44 ↘ 1,000 / 679</p> <p>Meyers Ave</p> <p>286 / 167</p> <p>Auto Park Wy</p> <p>813 / 1,505</p>	<p>⑧</p> <p>34 / 14 ↘ 377 / 288</p> <p>Proj Dwy</p> <p>11 / 40 ↘ 3 / 10</p> <p>Meyers Ave</p> <p>22 / 9 ↘ 137 / 161</p>

Study Intersections

↕ Intersection AM / PM Peak Hour Volumes

XX,XXX Street Segment ADT (Weekday)

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Date: 4/6/2022
Time: 8:59 AM

Figure 7-3

Existing + Project Traffic Volumes

8.0 CUMULATIVE PROJECTS

8.1 Summary of Cumulative Projects

Cumulative projects are other projects in the study area that will add traffic to the local circulation system in the near future. Based on research conducted for the cumulative condition and conversations with City and County staff, six (6) City of Escondido projects, three (3) County of San Diego projects, and nine (9) City of San Marcos projects were identified for inclusion in the near-term cumulative analysis. The following is a brief description of each of the cumulative projects in the general vicinity of the Project. *Table 8-1* summarizes the cumulative projects trip generation.

CITY OF ESCONDIDO

1. **Escondido Research and Technology Center Medical Office** is a 74,400 SF medical office building proposed along Citracado Parkway with the ERTC SPA.
2. **Stone Brewery Hotel** proposes to construct a 44-room boutique hotel opposing the existing Stone Brewing World Bistro and Gardens. The project is located along Citracado Parkway within the ERTC SPA.
3. **Pacific Harmony Grove** proposes to construct a combined corporate headquarters and warehouse/distribution center for the Stone Brewing Company, consisting of two buildings. The project is located south of Harmony Grove Road, east of the Harmony Grove Road / Kauana Loa Drive intersection.
4. **Plot Plan 2158 Citracado Parkway**, Case No. ADM17-0127. Planning Area 4 of the Escondido Resource & Technology Center (ERTC) Specific Plan proposes 56,852 sf. inpatient rehabilitation hospital consisting of two-stories, 52-beds, surface parking and landscaping.
5. **Plot Plan 2185 Citracado Parkway**, Case No. ADM18-0051. Crisis Stabilization Unit for Palomar Hospital project proposed in Planning Area 4 of the Escondido Resource & Technology Center (ERTC) Specific Plan proposes 4,220 sf. Crisis Stabilization Unit for Palomar Hospital consisting of two-stories, outdoor enclosed area, and landscaping. The zoning of the subject property is S-P (Specific Plan Area 4) and is located within the SPA 8 (Specific Planning Area 8) General Plan Designation.
6. **2127 Citracado Parkway** Planning Case No. PL21-0050. Substantial Conformance Review for a previously approved Plot Plan (ADM10-0101) proposes for the construction of a three-story medical offices/outpatient facility building of approximately 72,000 square feet.

COUNTY OF SAN DIEGO

7. **Harmony Grove Village** is a residential project located north of Harmony Grove Road and bound by Country Club Drive and Wilgen Road. The County General Plan Amendment project includes the development of 710 residential single-family units, 32 live/work lofts with 16,500 square-feet of retail, a 25,000-square foot village core, an equestrian park, public and private parks, an institutional site (assumed to be a tack and feed store), and a fire station. The project is currently under construction with approximately 15% of the homes completed and either sold or selling. The trips generated by the completed portion of the project are represented in the existing traffic count data. The remaining 85% of trips were assumed in the near-term cumulative condition. Roadway improvements completed with the project include the new roadway of Harmony Grove Village Parkway, connecting Country Club Drive in the west to Harmony Grove Road and Citracado Parkway/Avenida Del Diablo in the east. Additional network improvements to Harmony Grove Road south of the proposed Project site have also been completed. Based on information from the Harmony Grove Village sales office as of February 2019, 450 homes have been built and are either occupied or for sale. Therefore, the remaining 39% of Harmony Grove Village traffic (742 homes – 450 homes = 292 homes remaining, or 39%) were added into the cumulative condition.
8. **Valiano** is a 334-unit residential development located west of Country Club Drive and south of Hill Valley Road in the County of San Diego, adjacent to the cities of San Marcos and Escondido. This County General Plan Amendment project was approved by the Board of Supervisors.
9. **Harmony Grove Village South** is 453-unit residential development located on 111 acres located east of Country Club Drive and south of Harmony Grove Road in the San Dieguito Planning Community of the County of San Diego. This County General Plan Amendment project was approved by the Board of Supervisors.

CITY OF SAN MARCOS

10. **Montiel Road Partners** is a 9-lot subdivision approved to develop 8 single-family homes located on Montiel Road.
11. **Sandy Lane Estates** is a 9-lot subdivision proposing the development of 8 single-family homes located on Sandy Lane.
12. **JR Legacy II, LLC/Global Carte** is an approved 6-story, 128-room hotel with amenities including a café, fitness center, and pool for guests. The project is located on Montiel Road with access via Leora Lane.
13. **Mission 24** is an approved residential project that will build 24 condominium units located at Mission Road and Avenida Chapala.

14. **Mesa Rim Climbing Gym** is a 28,000-sf recreational climbing gym to be located at 285 Industrial Street.
15. **Montiel Commercial** is a proposed 32,971 sf office development located at 2355/2357 Montiel Road.
16. **University District Block K** is a 68-unit residential housing project consisting of condos, townhomes, and flats, on an approximately 0.52-acre parcel within the larger University District. The project is located on the east side of Campus Way approximately 200 feet south of Carmel Street.
17. **Sunrise Project** proposes the development of 192 multi-family residential dwelling units. The Project site is located generally south of Barham Drive and west of Meyers Avenue, and will be annexed into the City of San Marcos.
18. **Hallmark Barham Specific Plan** proposes 151 multi-family residential units to be located at 943 E. Barham Drive, west of La Moree Road in the Barham/Discovery Community of the City of San Marcos.

**TABLE 8-1
CUMULATIVE DEVELOPMENT PROJECTS SUMMARY**

Jur.	No.	Name	Project	ADT ^a	AM		PM		Status
					In	Out	In	Out	
CITY OF ESCONDIDO	1	ERTC Medical Office	74.4 KSF Medical Office	3,720	178	45	123	286	Under Review
	2	Stone Brewery Hotel	44-Room Boutique Hotel	352	11	8	11	27	Under Review
	3	Pacific Harmony Grove	Corporate Headquarters; Warehouse/ Distribution Center	2,261	236	72	115	225	Under Review
	4	2158 Citracado Parkway	52 Bed Inpatient Rehabilitation Hospital	1,040	58	25	42	62	Under Review
	5	2185 Citracado Parkway	4,220 sf. Crisis Stabilization Unit for Palomar Hospital	106	6	3	4	6	Under Review
	6	2127 Citracado Parkway	72,000 sf. medical offices/outpatient facility building	3,600	173	43	119	277	Under Review
COUNTY OF SAN DIEGO	7	Harmony Grove Village <i>(61% Complete; 39% of Remaining Trips Included in Cumulative Analysis)</i>	710 SFDU 32 MFDU 16.5 KSF retail 25 KSF Village Core Equestrian Park Park Space Fire Station	3,623	110	175	227	129	Approved, Under Construction
	8	Valiano	334 DU	3,786	88	216	263	113	Approved
	9	Harmony Grove Village South	453 DU	4,500	108	252	315	135	Approved
CITY OF SAN MARCOS	10	Montiel Rd Partners	8 SFDU	80	2	4	6	2	Approved
	11	Sandy Lane Estates	8 SFDU	80	2	4	6	2	Proposed
	12	JR Legacy II LLC/ Global Carte	128-Room Hotel	896	29	43	49	32	Approved
	13	Mission 24	24 Condominiums	192	3	12	13	6	Approved
	14	Mesa Rim Climbing Gym	Recreation/ Entertainment	840	20	14	46	30	Approved
	15	Montiel Commercial	33 KSF Office	659	83	9	17	69	Proposed
	16	University District Block K	68-unit multi-family residential	408	7	26	26	11	Under Construction
17	Sunrise Project	192 DU Condominium	1,536	25	98	108	46	Approved	

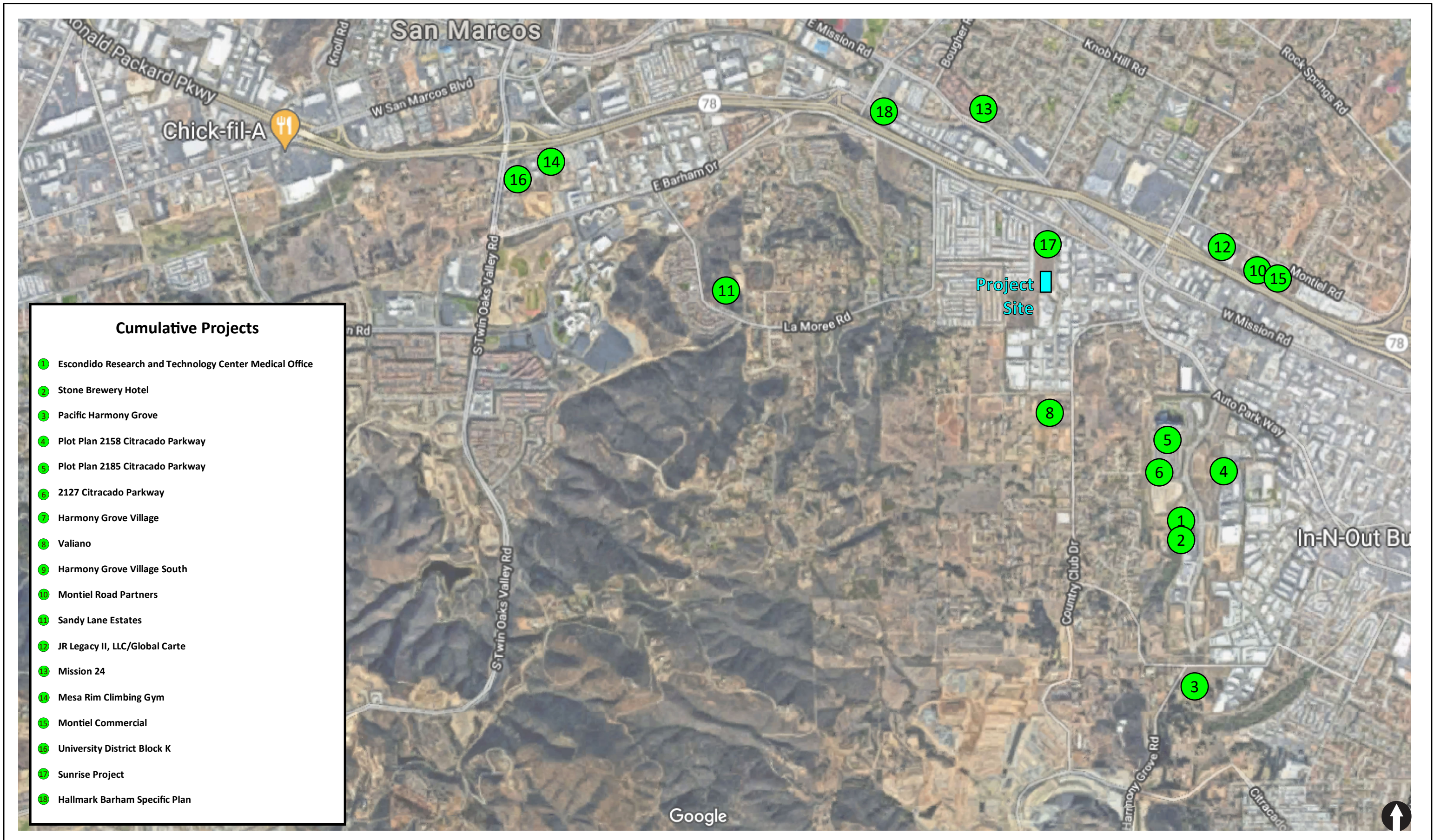
TABLE 8-1
CUMULATIVE DEVELOPMENT PROJECTS SUMMARY

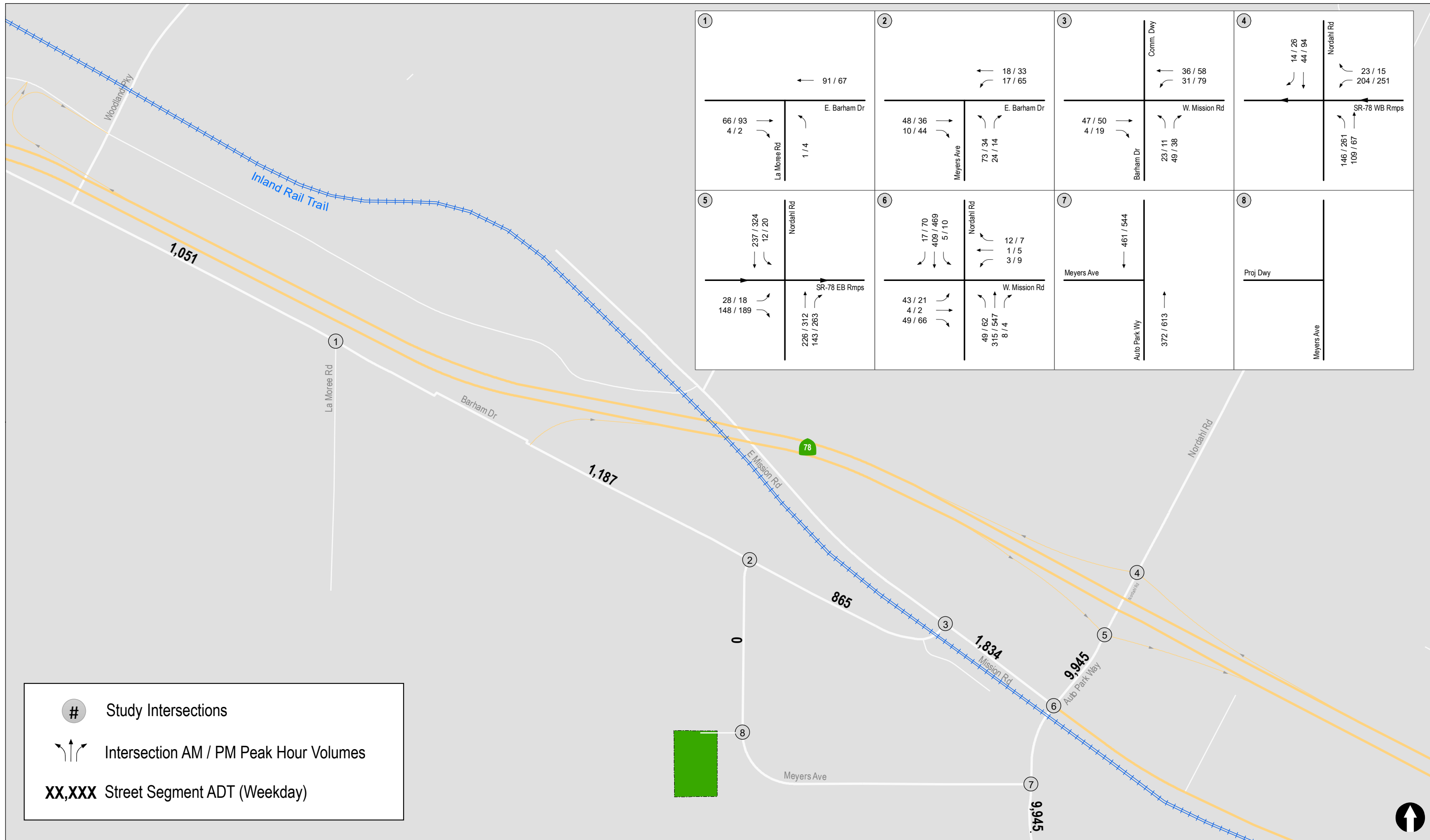
Jur.	No.	Name	Project	ADT ^a	AM		PM		Status
					In	Out	In	Out	
	18	Hallmark Barham Specific Plan	151 DU Multi-Family Residential	1,208	19	78	85	36	Proposed
Total Cumulative Projects				27,679	1,139	1,049	1,490	1,459	–

Footnotes:

- a. Average daily traffic.

Figure 8-1 shows the locations of the Cumulative projects. *Figure 8-2* depicts the total Cumulative traffic volumes. *Figure 8-3* depicts the Existing + Cumulative traffic volumes. *Figure 8-4* depicts the Existing + Cumulative + Project traffic volumes.



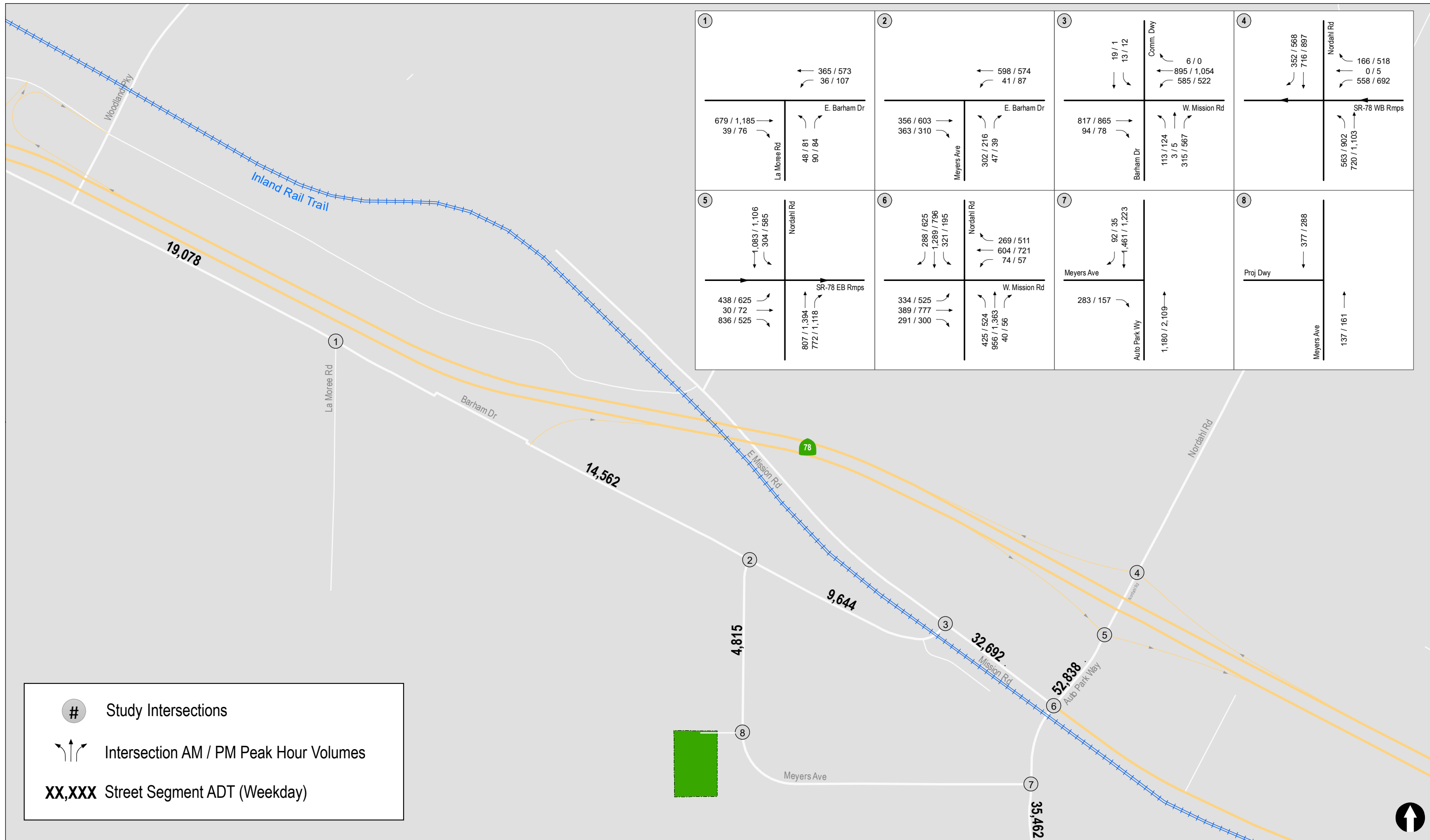


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Figure 8-2

Total Cumulative Traffic Volumes

Escondido Industrial

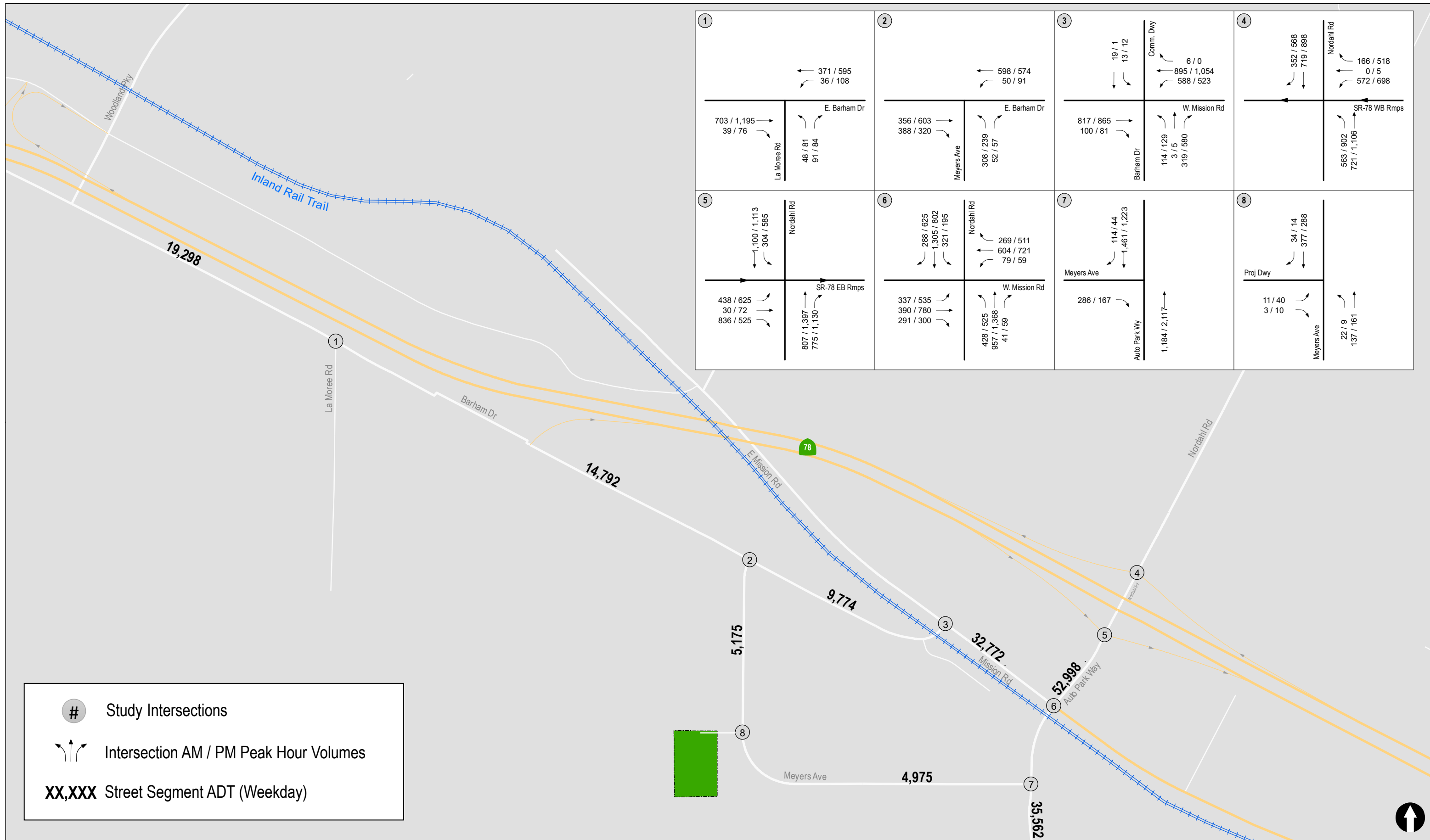


<p>①</p> <p>← 365 / 573 ↘ 36 / 107</p> <p>679 / 1,185 ↘ 39 / 76</p> <p>La Moree Rd</p> <p>48 / 81 ↘ 90 / 84</p> <p>E. Barham Dr</p>	<p>②</p> <p>← 598 / 574 ↘ 41 / 87</p> <p>356 / 603 ↘ 363 / 310</p> <p>Meyers Ave</p> <p>302 / 216 ↘ 47 / 39</p> <p>E. Barham Dr</p>	<p>③</p> <p>19 / 1 ↘ 13 / 12</p> <p>Comm. Dwy</p> <p>6 / 0 ← 895 / 1,054 ↘ 585 / 522</p> <p>817 / 865 ↘ 94 / 78</p> <p>Barham Dr</p> <p>113 / 124 ↘ 3 / 5 ↘ 315 / 567</p> <p>W. Mission Rd</p>	<p>④</p> <p>352 / 568 ↘ 716 / 897</p> <p>Nordahl Rd</p> <p>166 / 518 ↘ 0 / 5 ↘ 558 / 692</p> <p>SR-78 WB Rmps</p> <p>563 / 902 ↘ 720 / 1,103</p>
<p>⑤</p> <p>1,083 / 1,106 ↘ 304 / 585</p> <p>Nordahl Rd</p> <p>438 / 625 ↘ 30 / 72 ↘ 836 / 525</p> <p>SR-78 EB Rmps</p> <p>807 / 1,394 ↘ 772 / 1,118</p>	<p>⑥</p> <p>288 / 625 ↘ 1,289 / 796 ↘ 321 / 195</p> <p>Nordahl Rd</p> <p>269 / 511 ↘ 604 / 721 ↘ 74 / 57</p> <p>W. Mission Rd</p> <p>334 / 525 ↘ 389 / 777 ↘ 291 / 300</p> <p>425 / 524 ↘ 956 / 1,363 ↘ 40 / 56</p>	<p>⑦</p> <p>92 / 35 ↘ 1,461 / 1,223</p> <p>Meyers Ave</p> <p>283 / 157</p> <p>Auto Park Way</p> <p>1,180 / 2,109</p>	<p>⑧</p> <p>377 / 288</p> <p>Proj Dwy</p> <p>Meyers Ave</p> <p>137 / 161</p>

N:\3388\Figures
Date: 4/6/2022
Time: 9:59 AM

Figure 8-3

Existing + Cumulative Traffic Volumes



<p>①</p> <p>← 371 / 595 ↘ 36 / 108</p> <p>703 / 1,195 ↘ 39 / 76</p> <p>La Moree Rd</p> <p>48 / 81 ↘ 91 / 84</p> <p>E. Barham Dr</p>	<p>②</p> <p>← 598 / 574 ↘ 50 / 91</p> <p>356 / 603 ↘ 388 / 320</p> <p>Meyers Ave</p> <p>308 / 239 ↘ 52 / 57</p> <p>E. Barham Dr</p>	<p>③</p> <p>19 / 1 ↘ 13 / 12</p> <p>Comm. Dwy</p> <p>6 / 0 ← 895 / 1,054 ↘ 588 / 523</p> <p>817 / 865 ↘ 100 / 81</p> <p>Barham Dr</p> <p>114 / 129 ↘ 3 / 5 ↘ 319 / 560</p> <p>W. Mission Rd</p>	<p>④</p> <p>352 / 568 ↘ 719 / 898</p> <p>Nordahl Rd</p> <p>166 / 518 ↘ 0 / 5 ↘ 572 / 698</p> <p>SR-78 WB Rmps</p> <p>563 / 902 ↘ 721 / 1,106</p>
<p>⑤</p> <p>1,100 / 1,113 ↘ 304 / 585</p> <p>Nordahl Rd</p> <p>438 / 625 ↘ 30 / 72 ↘ 836 / 525</p> <p>SR-78 EB Rmps</p> <p>807 / 1,397 ↘ 775 / 1,130</p>	<p>⑥</p> <p>288 / 625 ↘ 1,305 / 802 ↘ 321 / 195</p> <p>Nordahl Rd</p> <p>269 / 511 ← 604 / 721 ↘ 79 / 59</p> <p>337 / 535 ↘ 390 / 780 ↘ 291 / 300</p> <p>W. Mission Rd</p> <p>428 / 525 ↘ 957 / 1,368 ↘ 41 / 59</p>	<p>⑦</p> <p>114 / 44 ↘ 1,461 / 1,223</p> <p>Meyers Ave</p> <p>286 / 167</p> <p>Auto Park Way</p> <p>1,184 / 2,117</p>	<p>⑧</p> <p>34 / 14 ↘ 377 / 288</p> <p>Proj Dwy</p> <p>11 / 40 ↘ 3 / 10</p> <p>Meyers Ave</p> <p>22 / 9 ↘ 137 / 161</p>

Study Intersections

↔ Intersection AM / PM Peak Hour Volumes

XX,XXX Street Segment ADT (Weekday)

N:\3388\Figures
Date: 4/6/2022
Time: 9:20 AM

Figure 8-4

Existing + Cumulative + Project Traffic Volumes

9.0 LOCAL TRANSPORTATION ANALYSIS OF NEAR-TERM CONDITIONS

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

9.1 Existing + Project Conditions

9.1.1 Peak Hour Intersection Operations

Table 9-1 summarizes the Existing + Project intersection operations. As shown in *Table 9-1*, with the addition of Project traffic, the following intersections are calculated to operate at an unacceptable LOS per the applicable jurisdictional guidelines:

- **Intersection #2: Barham Drive / Meyers Avenue (LOS F during the AM and PM peak hours)**
- Intersection #6: Mission Road / Nordahl Road (LOS D during the AM and LOS E during the PM peak hours)

A substantial effect is calculated at the intersection of Barham Drive / Meyers Avenue since the Project-related increase in delay exceeds the substantial effect threshold maximum of 2.0 seconds.

Appendix E contains the Existing + Project intersection analysis worksheets.

9.1.2 Daily Street Segment Operations

Table 9-2 summarizes the Existing + Project street segment operations. As shown in *Table 9-2*, with the addition of Project traffic, the following street segments are calculated to operate at an unacceptable LOS per the applicable jurisdictional guidelines:

- Barham Drive: La Moree Road to Meyers Avenue (LOS E)
- Barham Drive: Meyers Avenue to Mission Road (LOS E)
- Mission Road: Barham Drive to Nordahl Road/Auto Park Way (LOS D)
- Nordahl Road: SR-78 Ramps to Mission Road (LOS E)

The Project-related increase in V/C ratio to the segments listed above is below the substantial effect threshold, and therefore no substantial effects to the study street segments are calculated.

9.2 Near-Term (Existing + Cumulative Projects) Without Project Conditions

9.2.1 Peak Hour Intersection Operations

Table 9-1 summarizes the Near-Term without Project intersection operations. As shown in *Table 9-1*, the following intersections are calculated to operate at an unacceptable LOS per the applicable jurisdictional guidelines:

- Intersection #2: Barham Drive / Meyers Avenue (LOS F during the AM and PM peak hours)
- Intersection #3: Barham Drive / Mission Road (LOS E during the PM peak hour)

- Intersection #5: Nordahl Road / SR-78 EB Ramps (LOS E during the AM and PM peak hours)
- Intersection #6: Mission Road / Nordahl Road (LOS D during the AM and LOS E during the PM peak hours)
- Intersection #7: Meyers Avenue / Auto Park Way (LOS F during the AM peak hour)

Appendix F contains the Near-Term intersection analysis worksheets.

9.2.2 Daily Street Segment Operations

Table 9–2 summarizes the Near-Term without Project street segment operations. As shown in *Table 9–2*, the following street segments are calculated to operate at an unacceptable LOS per the applicable jurisdictional guidelines:

- Barham Drive: La Moree Road to Meyers Avenue (LOS E)
- Barham Drive: Meyers Avenue to Mission Road (LOS E)
- Mission Road: Barham Drive to Nordahl Road/Auto Park Way (LOS D)
- Nordahl Road: SR-78 Ramps to Mission Road (LOS F)
- Auto Park Way: Meyers Avenue to Country Club Drive (LOS E)

9.3 Near-Term (Existing + Cumulative Projects) With Project Conditions

9.3.1 Peak Hour Intersection Operations

Table 9–1 summarizes the Near-Term with Project intersection operations. As shown in *Table 9–1*, the following intersections are calculated to operate at an unacceptable LOS per the applicable jurisdictional guidelines:

- **Intersection #2: Barham Drive / Meyers Avenue (LOS F during the AM and PM peak hours)**
- Intersection #3: Barham Drive / Mission Road (LOS E during the PM peak hour)
- Intersection #5: Nordahl Road / SR-78 EB Ramps (LOS E during the AM and LOS F during the PM peak hours)
- Intersection #6: Mission Road / Nordahl Road (LOS D during the AM and LOS E during the PM peak hours)
- Intersection #7: Meyers Avenue / Auto Park Way (LOS F during the AM peak hour)

A substantial effect is calculated at the intersection of Barham Drive / Meyers Avenue since the Project-related increase in delay exceeds the substantial effect threshold maximum of 2.0 seconds. Project-related delay at the remaining intersections is below the substantial effect threshold.

Appendix G contains the Near Term + Project intersection analysis worksheets.

9.3.2 Daily Street Segment Operations

Table 9-2 summarizes the Near-Term with Project street segment operations. As shown in Table 9-2, following street segments are calculated to operate at an unacceptable LOS per the applicable jurisdictional guidelines:

- Barham Drive: La Moree Road to Meyers Avenue (LOS E)
- Barham Drive: Meyers Avenue to Mission Road (LOS E)
- Mission Road: Barham Drive to Nordahl Road/Auto Park Way (LOS D)
- Nordahl Road: SR-78 Ramps to Mission Road (LOS F)
- Auto Park Way: Meyers Avenue to Country Club Drive (LOS E)

The Project-related increase in V/C ratio to the segments listed above is below the substantial effect threshold, and therefore no substantial effects to the study street segments are calculated.

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

Intersection	Jurisdiction	Control Type	Peak Hour	Existing		Existing + Project			Existing+ Cumulative		Existing + Cumulative + Project			Substantial Effect?
				Delay ^a	LOS ^b	Delay	LOS	Δ ^c	Delay	LOS	Delay	LOS	Δ	
1. Barham Drive / La Moree Road	San Marcos	Signal	AM	10.9	B	11.0	B	0.1	10.7	B	10.8	B	0.1	No
			PM	28.3	C	28.8	C	0.5	26.1	C	26.5	C	0.4	
2. Barham Drive / Meyers Avenue	Escondido	MSSC ^d	AM	>100	F	>100	F	>2.0	>100	F	>100	F	>2.0	Yes
			PM	>100	F	>100	F	>2.0	>100	F	>100	F	>2.0	
3. Barham Drive / Mission Road	San Marcos	Signal	AM	40.5	D	41.0	D	0.5	49.8	D	51.1	D	1.3	No
			PM	48.3	D	49.4	D	1.1	67.0	E	68.2	E	1.2	
4. Nordahl Road / SR-78 WB Ramps	Caltrans	Signal	AM	23.6	C	23.9	C	0.3	28.6	C	28.8	C	0.2	No
			PM	37.4	D	37.5	D	0.1	49.8	D	50.1	D	0.3	
5. Nordahl Road / SR-78 EB Ramps	Caltrans	Signal	AM	35.4	D	35.7	D	0.3	66.1	E	66.4	E	0.3	No
			PM	46.7	D	51.0	D	4.3	74.5	E	76.2	E	1.7	
6. Mission Road / Nordahl Road	Escondido	Signal	AM	41.8	D	42.0	D	0.2	51.6	D	52.21	D	0.5	No
			PM	55.9	E	57.1	E	1.2	70.9	E	72.1	E	1.2	
7. Meyers Avenue / Auto Park Way	Escondido	MSSC	AM	24.6	C	24.9	C	0.3	60.2	F	62.0	F	1.8	No
			PM	12.9	B	13.0	B	0.1	20.3	C	21.1	C	0.8	
8. Meyers Avenue / Project Driveway	Escondido	MSSC ^e	AM	-	-	13.0	B	-	-	-	13.0	B	-	No
			PM	-	-	12.3	B	-	-	-	12.3	B	-	

Footnotes:

- a. Average delay expressed in seconds per vehicle.
- b. Level of Service.
- c. Δ denotes an increase in delay due to Project.
- d. MSSC – Minor Street Stop Controlled intersection. Worst case delay is reported.
- e. Intersection does not exist under Existing Conditions.

Signalized		Unsignalized	
Delay	LOS	Delay	LOS
0.0 ≤ 10.0	A	0.0 ≤ 10.0	A
10.1 to 20.0	B	10.1 to 15.0	B
20.1 to 35.0	C	15.1 to 25.0	C
35.1 to 55.0	D	25.1 to 35.0	D
55.1 to 80.0	E	35.1 to 50.0	E
≥ 80.1	F	≥ 50.1	F

General Notes: **Bold and shaded** typeface indicates a potentially substantial effect t

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

Street Segment	Jurisdiction	Capacity ^a	Existing			Existing + Project				Near-Term			Near-Term + Project				Effect?
			ADT ^b	LOS ^c	V/C ^d	ADT	LOS	V/C	Δ ^e	ADT	LOS	V/C	ADT	LOS	V/C	Δ	
Barham Drive																	
Woodland Pkwy to La Moree Road	San Marcos	30,000	18,027	C	0.601	18,247	C	0.608	0.007	19,078	C	0.636	19,298	C	0.643	0.007	No
La Moree Road to Meyers Ave	Escondido	15,000	13,375	D	0.892	13,605	E	0.907	0.015	14,562	E	0.971	14,792	E	0.986	0.015	No
Meyers Ave to Mission Rd	Escondido	10,000	8,779	D	0.878	8,909	E	0.891	0.013	9,644	E	0.964	9,774	E	0.977	0.013	No
Mission Road																	
Barham Dr to Nordahl Rd	Escondido	37,000	30,858	D	0.834	30,938	D	0.836	0.002	32,692	D	0.884	32,772	D	0.886	0.002	No
Nordahl Road																	
SR-78 Ramps to Mission Rd	Escondido	43,500	42,893	E	0.986	43,053	E	0.990	0.004	52,838	F	1.215	52,998	F	1.218	0.003	No
Auto Park Way																	
Meyers Avenue to Country Club Drive	Escondido	37,000	25,517	C	0.690	25,617	C	0.692	0.003	35,462	E	0.958	35,562	E	0.961	0.003	No
Meyers Avenue																	
Barham Drive to Auto Park Way	Escondido	10,000	4,815	B	0.482	5,175	B	0.518	0.036	4,815	B	0.482	5,175	B	0.518	0.036	No

Footnotes:

- a. Capacities based on the City of San Marcos and City of Escondido roadway classification tables (See *Appendix B*).
- b. Average Daily Traffic
- c. Level of Service
- d. Volume to Capacity ratio
- e. Project Attributable increase in V/C.

10.0 SITE ACCESS REVIEW

10.1 Site Access

Access to the project site will be via one driveway on Meyers Avenue which will provide an internal loop through the Project site. The driveway will be unsignalized and will offer full access.

The Project's driveways calculated to operate acceptably at LOS B during both the AM and PM peak hours, as shown on *Table 9-1*.

10.2 Parking

The project proposes a total of 151 parking spaces, including eight accessible spaces, and 21 clean air/vanpool/electric vehicle spaces (18 of which are future EV including one van accessible and one accessible space).

11.0 ACTIVE TRANSPORTATION REVIEW

11.1 Pedestrian Conditions

Pedestrian facilities are intermittently provided within the Project study area. Paved sidewalks are provided along the south side of Barham Drive, with gaps present intermittently. Paved sidewalks are provided along both sides of La Moree Road. Paved sidewalks are present on both sides of the Nordahl Road within the study area. Paved sidewalks are present on both sides of the Auto Park Way within the study area. No pedestrian facilities are provided along Meyers Avenue.

11.2 Transit Conditions

The project site is located within 2 miles of the Cal State San Marcos Sprinter light rail station and within 1 mile of the Nordahl Road Sprinter light rail station. Bus stops serving the North County Transit District (NCTD) Routes 305, Route 347, and Route 353 are located approximately 0.5 miles from the project site. Employees will be able to utilize these public transit opportunities. A summary of the available transit service routes is provided below:

The SPRINTER hybrid rail line spans 22-miles and connects Oceanside, Vista, San Marcos, and Escondido – serving 15 stations along the Highway 78 corridor. The SPRINTER runs every 30 minutes in each direction Monday through Friday from approximately 4:00 AM to 9:00 PM. Saturday, Sunday, and holiday trains operate every 30 minutes between 10:00 AM and 6:00 PM and hourly before 10:00 AM and after 6:00 PM.

Route 305 runs from the Vista Transit Center to the Escondido Transit Center with destinations to Palomar College, San Marcos Civic Center, Mission Hills High School, San Marcos Middle School, Vista Transit Center Escondido Transit Center, Arc Enterprises, and DMV. There are 33 stops along this route. Route 305 currently operates Monday through Friday from 4:32 AM through 11:02 PM departing eastbound from the Vista Transit Center, and from 4:19 AM through 10:16 PM departing westbound from the Escondido Transit Center. Weekend route schedule begins at 5:32 AM through 11:02 PM departing eastbound from Vista Transit Center and begins at 5:15 AM to 10:18 PM departing westbound from the Escondido Transit Center. Route 305 travels at 30-minute headways on weekdays, and 30-minute headways on weekends.

Route 347 runs from Cal State San Marcos to Palomar College with destinations to Cal State University San Marcos, Palomar College, Restaurant Row, Cal State San Marcos SPRINTER Station, and Edwards Cinemas. There are 24 stops along this route. Route 347 currently operates Monday through Friday from 5:20 AM through 7:12 PM departing westbound from the CSUSM Sprinter Station and from 5:45 AM through 7:36 PM departing eastbound from Palomar College Transit Center. Saturday route schedule begins at 7:51 AM through 7:12 PM departing westbound from CSUSM Sprinter Station and begins at 7:14 AM to 6:35 PM departing eastbound from Palomar College Transit Center. Route 347 does not operate on Sundays. Route 305 travels at 30-minute headways on weekdays, and 60-minute headways on Saturdays.

Route 353 serves the Escondido Transit Center and Nordahl Marketplace via Citracado Parkway. Route 353 operates weekdays, weekends, and holidays from approximately 6 AM to 8 PM. The closest stop to the Project site is located at the Nordahl Road SPRINTER station. Route 353 travels westbound to the Nordahl Marketplace, and travels eastbound to the Escondido Transit Center.

11.3 Bicycle Conditions

There are currently Class II bike lanes in each direction of travel on E. Barham Drive, Woodland Parkway, Nordahl Road, and La Moree Road in the vicinity of the Project site. **Table 11-1** summarizes the existing and future bicycle facility classifications along E. Barham Drive within the study area.

Additionally, the Inland Rail Trial, a Class I Sidepath, is provided along E. Mission Road, extending from Barham Drive past the western study limits.

**TABLE 11-1
BICYCLE MOBILITY**

Street Segment	Existing Condition	Future Classification ^a
Barham Drive		
Woodland Parkway to La Moree Road	Class II Bicycle Lane	Class II Bicycle Lane
East of La Moree Road	Class II Bicycle Lane	Class II Bicycle Lane
Nordahl Road		
North of SR-78 Ramps	Class II Bicycle Lane	Class II Bicycle Lane
La Moree Road		
South of Barham Drive	Class II Bicycle Lane	Class II Bicycle Lane

Source: City of San Marcos Bicycle and Pedestrian Master Plan.

12.0 SIGNIFICANT IMPACTS AND SUBSTANTIAL EFFECTS

The preceding Transportation Impact Analysis & Local Mobility Analysis were prepared to determine and evaluate the potential impacts and effects to the local roadway system due to the proposed Project.

12.1 VMT Analysis

The Project proposes an Industrial Employment land use type. Per the City of Escondido *Traffic Impact Analysis Guidelines*, a potential significant impact would be identified if the Project VMT per employee were greater than the regional average.

Based on the VMT analysis presented above in *Section 4*, the Project specific VMT per employee is lower than the Regional average. Therefore, the Project is calculated to result in a less-than-significant transportation impact, and mitigation measures are not required.

12.2 Local Mobility Analysis

Based on the LOS analysis presented in *Section 9* of this study, a potential Project related substantial effect is identified at the intersection of Barham Drive and Meyers Avenue. The adjacent Sunrise Residential project, proposed to be developed south of Barham Drive and west of Meyers Avenue, is conditioned to provide a traffic signal with a dedicated westbound left turn lane and protected left turn phasing on the westbound Barham Drive approach to Meyers Avenue at this intersection. The installation of a traffic signal at this intersection will improve operations to an acceptable LOS of C or better.

TECHNICAL APPENDICES
MEYERS INDUSTRIAL
Escondido, California
April 7, 2022

LLG Ref. 3-21-3388

APPENDIX A

INTERSECTION AND ROADWAY SEGMENT MANUAL COUNT SHEETS

Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN <i>engineers</i>	Location: #01	File Name: ITM-20-046-01
	Intersection: La Moree Road & Barham Drive	Project: LLG Ref. 3-20-3293
	Date of Count: Wednesday, November 4, 2020	Barham Residential

AM	-			Barham Drive			La Moree Road			Barham Drive			Total
	Southbound			Westbound			Northbound			Eastbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00	0	0	0	7	28	0	13	0	15	0	111	6	180
7:15	0	0	0	5	34	0	10	0	18	0	126	7	200
7:30	0	0	0	10	55	0	9	0	16	0	135	7	232
7:45	0	0	0	11	68	0	11	0	22	0	139	7	258
8:00	0	0	0	4	71	0	9	0	19	0	111	8	222
8:15	0	0	0	6	35	0	8	0	25	0	104	8	186
8:30	0	0	0	11	47	0	13	0	21	0	107	12	211
8:45	0	0	0	1	27	0	9	0	15	0	110	11	173
Total	0	0	0	55	365	0	82	0	151	0	943	66	1662
Approach%	-	-	-	13.1	86.9	-	35.2	-	64.8	-	93.5	6.5	
Total%	-	-	-	3.3	22.0	-	4.9	-	9.1	-	56.7	4.0	

AM Intersection Peak Hour: 07:15 to 08:15

Volume	-	-	-	30	228	-	39	-	75	-	511	29	912
Approach%	-	-	-	11.6	88.4	-	34.2	-	65.8	-	94.6	5.4	
Total%	-	-	-	3.3	25.0	-	4.3	-	8.2	-	56.0	3.2	
PHF			#DIV/0!			0.82			0.86			0.92	0.00

PM	-			Barham Drive			La Moree Road			Barham Drive			Total
	Southbound			Westbound			Northbound			Eastbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	0	0	0	23	117	0	21	0	22	0	230	11	424
16:15	0	0	0	24	115	0	13	0	22	0	251	18	443
16:30	0	0	0	16	97	0	11	0	12	0	221	12	369
16:45	0	0	0	26	93	0	19	0	14	0	208	21	381
17:00	0	0	0	16	105	0	13	0	16	0	237	13	400
17:15	0	0	0	20	81	0	5	0	17	0	198	18	339
17:30	0	0	0	30	49	0	6	0	12	0	177	15	289
17:45	0	0	0	16	49	0	8	0	12	0	139	9	233
Total	0	0	0	171	706	0	96	0	127	0	1661	117	2878
Approach%	-	-	-	19.5	80.5	-	43.0	-	57.0	-	93.4	6.6	
Total%	-	-	-	5.9	24.5	-	3.3	-	4.4	-	57.7	4.1	

PM Intersection Peak Hour: 16:00 to 17:00

Volume	-	-	-	89	422	-	64	-	70	-	910	62	1,617
Approach%	-	-	-	17.4	82.6	-	47.8	-	52.2	-	93.6	6.4	
Total%	-	-	-	5.5	26.1	-	4.0	-	4.3	-	56.3	3.8	
PHF			#DIV/0!			0.91			0.78			0.90	0.00

Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN <i>engineers</i>	Location: #01	File Name: ITM-20-046-01
	Intersection: La Moree Road & Barham Drive	Project: LLG Ref. 3-20-3293
	Date of Count: Wednesday, November 4, 2020	Barham Residential

AM	- Southbound				Barham Drive Westbound				La Moree Road Northbound				Barham Drive Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1	0	3
7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1	1
7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0	2	2	0	1	0	0	0	0	2	3
8:15	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0
8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
8:45	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	3	0
Ped Total	0				0				7				0				7	
Bike Total		0	0	0		1	1	0		2	0	2		0	1	1		8

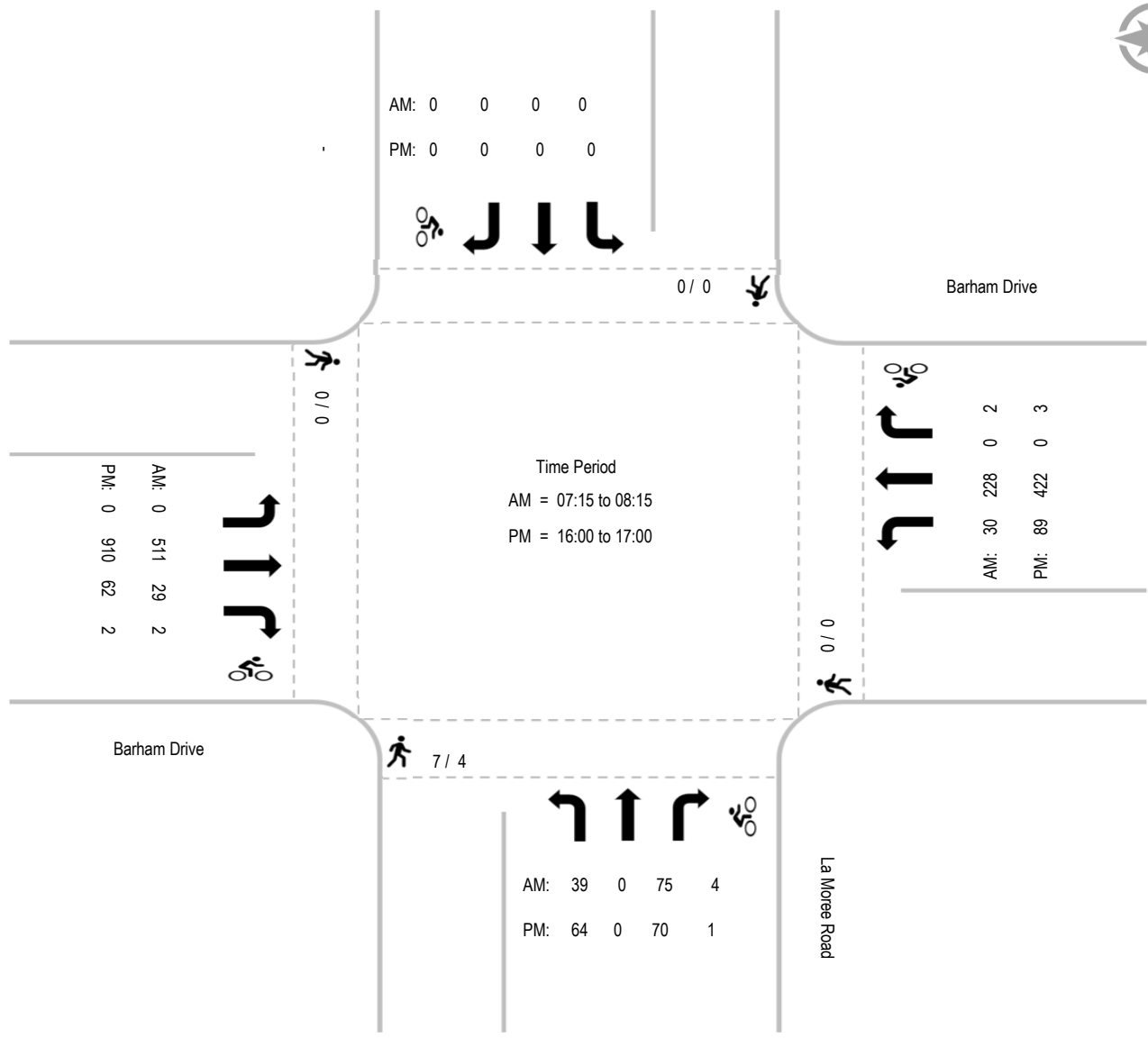
PM	- Southbound				Barham Drive Westbound				La Moree Road Northbound				Barham Drive Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	2
16:30	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	2
17:15	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
17:45	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	1	1
Ped Total	0				0				4				0				4	
Bike Total		0	0	0		0	3	0		0	0	1		0	2	0		6

Intersection Turning Movement - Peak Hour Summary



Location: #01
 Intersection: La Moree Road & Barham Drive
 Date of Count: Wednesday, November 4, 2020

File Name: ITM-20-046-01
 Project: LLG Ref. 3-20-3293
 Barham Residential



Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN <i>engineers</i>	Location: #06	File Name: ITM-18-129-06
	Intersection: Barham Drive & Meyers Avenue	Project: LLG Ref. 3-18-2835
	Date of Count: Thursday, September 20, 2018	San Marcos

AM	-			Barham Drive			Meyers Avenue			Barham Drive			Total
	Southbound			Westbound			Northbound			Eastbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00	0	0	0	3	124	0	26	0	1	0	59	85	298
7:15	0	0	0	7	108	0	30	0	2	0	89	77	313
7:30	0	0	0	4	131	0	58	0	3	0	71	78	345
7:45	0	0	0	15	147	0	51	0	6	0	64	110	393
8:00	0	0	0	2	138	0	55	0	5	0	85	79	364
8:15	0	0	0	4	149	0	50	0	5	0	76	76	360
8:30	0	0	0	2	129	0	66	0	6	0	74	78	355
8:45	0	0	0	4	144	0	49	0	4	0	51	76	328
Total	0	0	0	41	1070	0	385	0	32	0	569	659	2756
Approach%	-	-	-	3.7	96.3	-	92.3	-	7.7	-	46.3	53.7	
Total%	-	-	-	1.5	38.8	-	14.0	-	1.2	-	20.6	23.9	

AM Intersection Peak Hour: 07:45 to 08:45

Volume	-	-	-	23	563	-	222	-	22	-	299	343	1,472
Approach%	-	-	-	3.9	96.1	-	91.0	-	9.0	-	46.6	53.4	
Total%	-	-	-	1.6	38.2	-	15.1	-	1.5	-	20.3	23.3	
PHF			#DIV/0!			0.90			0.85			0.92	0.94

PM	-			Barham Drive			Meyers Avenue			Barham Drive			Total
	Southbound			Westbound			Northbound			Eastbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	0	0	0	4	81	0	48	0	12	0	143	69	357
16:15	0	0	0	3	128	0	34	0	10	0	143	72	390
16:30	0	0	0	6	109	0	48	0	9	0	140	62	374
16:45	0	0	0	9	131	0	43	0	2	0	145	62	392
17:00	0	0	0	3	157	0	52	0	3	0	122	62	399
17:15	0	0	0	1	110	0	45	0	3	0	139	56	354
17:30	0	0	0	3	78	0	38	0	7	0	125	47	298
17:45	0	0	0	1	96	0	28	0	4	0	108	45	282
Total	0	0	0	30	890	0	336	0	50	0	1065	475	2846
Approach%	-	-	-	3.3	96.7	-	87.0	-	13.0	-	69.2	30.8	
Total%	-	-	-	1.1	31.3	-	11.8	-	1.8	-	37.4	16.7	

PM Intersection Peak Hour: 16:15 to 17:15

Volume	-	-	-	21	525	-	177	-	24	-	550	258	1,555
Approach%	-	-	-	3.8	96.2	-	88.1	-	11.9	-	68.1	31.9	
Total%	-	-	-	1.4	33.8	-	11.4	-	1.5	-	35.4	16.6	
PHF			#DIV/0!			0.85			0.88			0.94	0.97

Intersection Turning Movement - Bicycle & Pedestrian Count



Location: #06	File Name: ITM-18-129-06
Intersection: Barham Drive & Meyers Avenue	Project: LLG Ref. 3-18-2835
Date of Count: Thursday, September 20, 2018	San Marcos

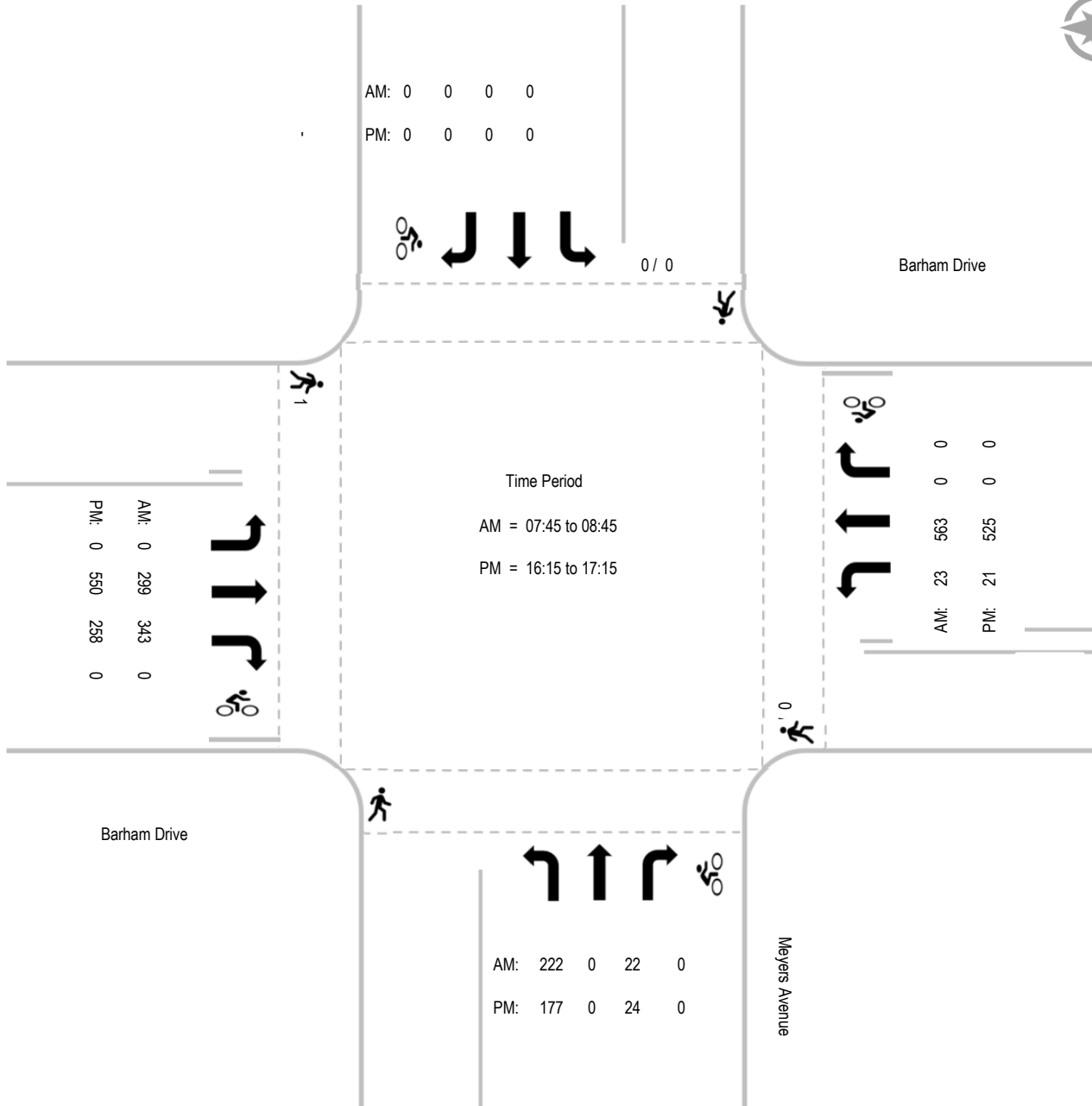
AM	- Southbound				Barham Drive Westbound				Meyers Avenue Northbound				Barham Drive Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:15	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	
8:30	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	
8:45	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	
Ped Total	0				0				4				0				4	
Bike Total		0	0	0		0	0	0		0	0	0		0	0	0	0	

PM	- Southbound				Barham Drive Westbound				Meyers Avenue Northbound				Barham Drive Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
16:15	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
16:45	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
17:30	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Ped Total	0				0				3				1				4	
Bike Total		0	0	0		0	0	0		0	0	0		0	0	0	0	

Intersection Turning Movement - Peak Hour Summary



Location: #06	File Name: ITM-18-129-06
Intersection: Barham Drive & Meyers Avenue	Project: LLG Ref. 3-18-2835
Date of Count: Thursday, September 20, 2018	San Marcos



Intersection Turning Movement - Peak Hour Vehicle Count



Location:	#07	File Name:	ITM-18-129-07
Intersection:	Barham Drive & West Mission Road	Project:	LLG Ref. 3-18-2835
Date of Count:	Thursday, September 20, 2018		San Marcos

AM	Business Driveway Southbound			West Mission Road Westbound			Barham Drive Northbound			West Mission Road Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00	1	0	0	116	129	3	6	1	53	1	177	13	500
7:15	2	0	0	124	196	2	6	0	80	1	177	12	600
7:30	2	1	0	142	207	1	11	0	57	1	189	14	625
7:45	1	7	0	143	230	2	16	0	66	0	227	20	712
8:00	7	6	0	123	180	1	32	3	60	0	202	25	639
8:15	0	3	1	142	214	2	24	0	56	0	145	23	610
8:30	5	2	0	130	210	1	15	0	76	0	174	19	632
8:45	3	5	0	138	189	0	6	0	57	0	174	19	591
Total	21	24	1	1058	1555	12	116	4	505	3	1465	145	4909
Approach%	45.7	52.2	2.2	40.3	59.2	0.5	18.6	0.6	80.8	0.2	90.8	9.0	
Total%	0.4	0.5	0.0	21.6	31.7	0.2	2.4	0.1	10.3	0.1	29.8	3.0	

AM Intersection Peak Hour: 07:45 to 08:45

Volume	13	18	1	538	834	6	87	3	258	-	748	87	2,593
Approach%	40.6	56.3	3.1	39.0	60.5	0.4	25.0	0.9	74.1	-	89.6	10.4	
Total%	0.5	0.7	0.0	20.7	32.2	0.2	3.4	0.1	9.9	-	28.8	3.4	
PHF			0.62			0.92			0.92			0.85	0.91

PM	Business Driveway Southbound			West Mission Road Westbound			Barham Drive Northbound			West Mission Road Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	8	1	0	82	218	0	24	2	142	0	214	2	693
16:15	6	2	0	119	243	2	22	0	154	0	146	13	707
16:30	0	1	0	99	242	0	20	1	140	0	200	10	713
16:45	0	0	0	122	246	0	15	3	137	0	210	19	752
17:00	6	0	0	110	229	0	37	1	123	0	185	19	710
17:15	6	0	0	99	250	0	38	0	114	0	196	9	712
17:30	3	0	1	82	246	1	32	2	107	1	221	7	703
17:45	0	0	0	90	213	0	19	0	104	1	217	7	651
Total	29	4	1	803	1887	3	207	9	1021	2	1589	86	5641
Approach%	85.3	11.8	2.9	29.8	70.1	0.1	16.7	0.7	82.5	0.1	94.8	5.1	
Total%	0.5	0.1	0.0	14.2	33.5	0.1	3.7	0.2	18.1	0.0	28.2	1.5	

PM Intersection Peak Hour: 16:30 to 17:30

Volume	12	1	-	430	967	-	110	5	514	-	791	57	2,887
Approach%	92.3	7.7	-	30.8	69.2	-	17.5	0.8	81.7	-	93.3	6.7	
Total%	0.4	0.0	-	14.9	33.5	-	3.8	0.2	17.8	-	27.4	2.0	
PHF			0.54			0.95			0.98			0.93	0.96

Intersection Turning Movement - Bicycle & Pedestrian Count



Location: #07	File Name: ITM-18-129-07
Intersection: Barham Drive & West Mission Road	Project: LLG Ref. 3-18-2835
Date of Count: Thursday, September 20, 2018	San Marcos

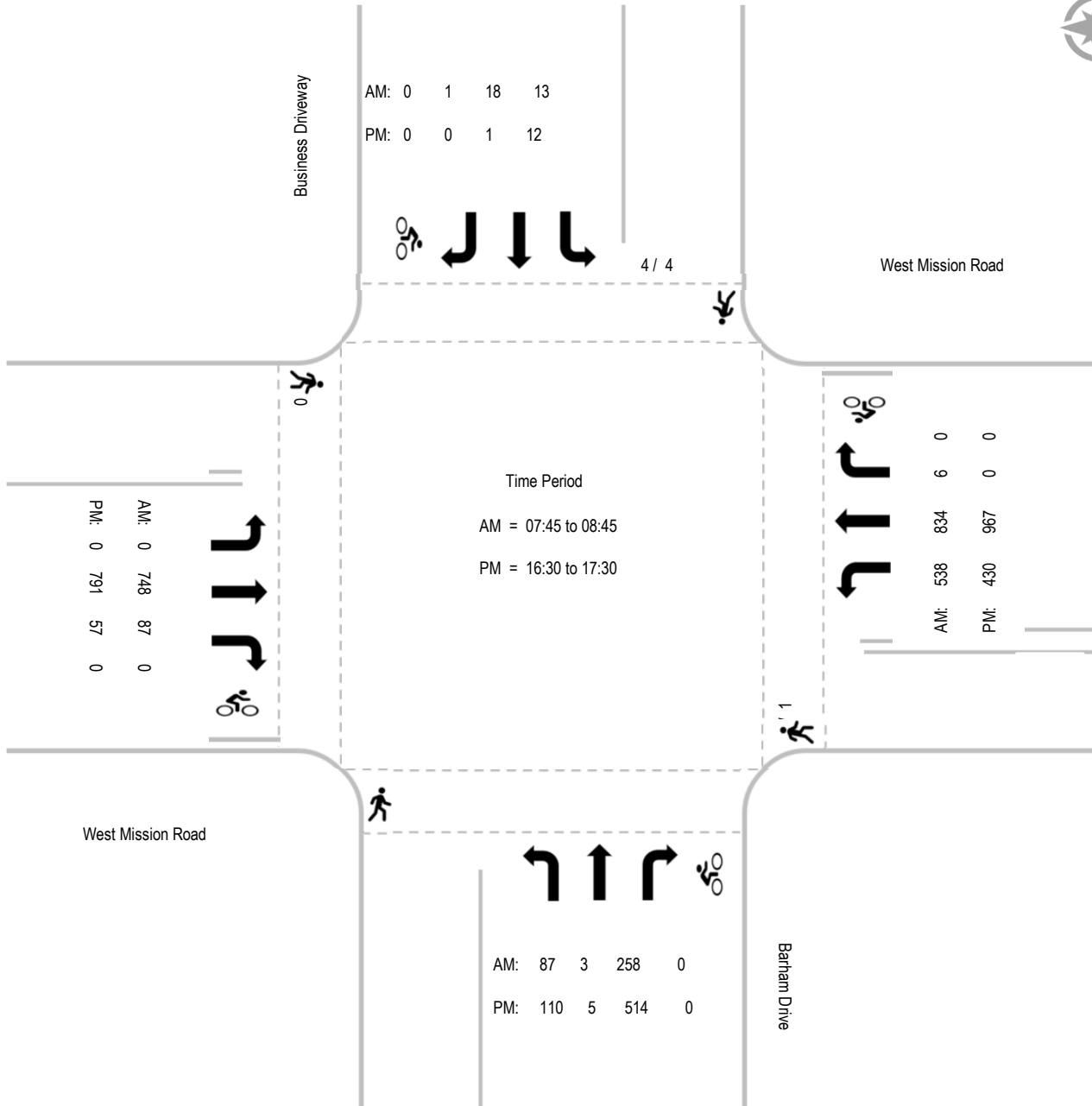
AM	Business Driveway Southbound				West Mission Road Westbound				Barham Drive Northbound				West Mission Road Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	2	0
7:15	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	0
7:30	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0
7:45	1	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	5	0
8:00	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	2	0
8:15	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	0
8:30	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
8:45	1	0	0	0	2	0	0	0	1	0	0	0	0	0	0	0	4	0
Ped Total	4				4				12					0			20	
Bike Total		0	0	0		0	0	0		0	0	0		0	0	0		0

PM	Business Driveway Southbound				West Mission Road Westbound				Barham Drive Northbound				West Mission Road Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
16:00	3	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	4	0
16:15	0	0	0	0	1	0	0	0	2	0	0	0	0	0	0	0	3	0
16:30	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	0
16:45	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2	0
17:00	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	7	0
17:15	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	4	0
17:30	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	5	0
17:45	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0
Ped Total	4				1				23					0			28	
Bike Total		0	0	0		0	0	0		0	0	0		0	0	0		0

Intersection Turning Movement - Peak Hour Summary



Location: #07	File Name: ITM-18-129-07
Intersection: Barham Drive & West Mission Road	Project: LLG Ref. 3-18-2835
Date of Count: Thursday, September 20, 2018	San Marcos



Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN <i>engineers</i>	Location: #10	File Name: ITM-18-129-10
	Intersection: Nordahl Road & SR-78 WB On-Off Ramps	Project: LLG Ref. 3-18-2835
	Date of Count: Thursday, September 20, 2018	San Marcos

AM	Nordahl Road Southbound			SR-78 WB Off Ramp Westbound			Nordahl Road Northbound			SR-78 WB On Ramp Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00	0	136	123	89	0	25	83	87	0	0	0	0	543
7:15	0	170	83	74	0	23	95	89	0	0	0	0	534
7:30	0	191	85	71	0	18	85	118	0	0	0	0	568
7:45	0	170	100	77	0	19	77	142	0	0	0	0	585
8:00	0	160	75	85	0	20	91	146	0	0	0	0	577
8:15	0	165	81	75	0	26	97	151	0	0	0	0	595
8:30	0	166	82	84	0	45	124	147	0	0	0	0	648
8:45	0	161	90	100	0	48	93	149	0	0	0	0	641
Total	0	1319	719	655	0	224	745	1029	0	0	0	0	4691
Approach%	-	64.7	35.3	74.5	-	25.5	42.0	58.0	-	-	-	-	
Total%	-	28.1	15.3	14.0	-	4.8	15.9	21.9	-	-	-	-	

AM Intersection Peak Hour: 08:00 to 09:00

Volume	-	652	328	344	-	139	405	593	-	-	-	-	2,461
Approach%	-	66.5	33.5	71.2	-	28.8	40.6	59.4	-	-	-	-	
Total%	-	26.5	13.3	14.0	-	5.6	16.5	24.1	-	-	-	-	
PHF			0.98			0.82			0.92			#DIV/0!	0.95

PM	Nordahl Road Southbound			SR-78 WB Off Ramp Westbound			Nordahl Road Northbound			SR-78 WB On Ramp Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	0	223	147	108	0	79	178	259	0	0	0	0	994
16:15	0	186	128	102	0	111	151	213	0	0	0	0	891
16:30	0	170	116	105	0	109	201	272	0	0	0	0	973
16:45	0	182	133	94	4	147	143	234	0	0	0	0	937
17:00	0	211	151	118	0	131	150	250	0	0	0	0	1011
17:15	0	217	126	111	1	101	128	250	0	0	0	0	934
17:30	0	216	125	88	4	106	141	231	0	0	0	0	911
17:45	0	175	150	107	10	120	91	234	0	0	0	0	887
Total	0	1580	1076	833	19	904	1183	1943	0	0	0	0	7538
Approach%	-	59.5	40.5	47.4	1.1	51.5	37.8	62.2	-	-	-	-	
Total%	-	21.0	14.3	11.1	0.3	12.0	15.7	25.8	-	-	-	-	

PM Intersection Peak Hour: 16:30 to 17:30

Volume	-	780	526	428	5	488	622	1,006	-	-	-	-	3,855
Approach%	-	59.7	40.3	46.5	0.5	53.0	38.2	61.8	-	-	-	-	
Total%	-	20.2	13.6	11.1	0.1	12.7	16.1	26.1	-	-	-	-	
PHF			0.90			0.92			0.86			#DIV/0!	0.95

Intersection Turning Movement - Bicycle & Pedestrian Count

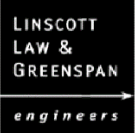


Location: #10	File Name: ITM-18-129-10
Intersection: Nordahl Road & SR-78 WB On-Off Ramps	Project: LLG Ref. 3-18-2835
Date of Count: Thursday, September 20, 2018	San Marcos

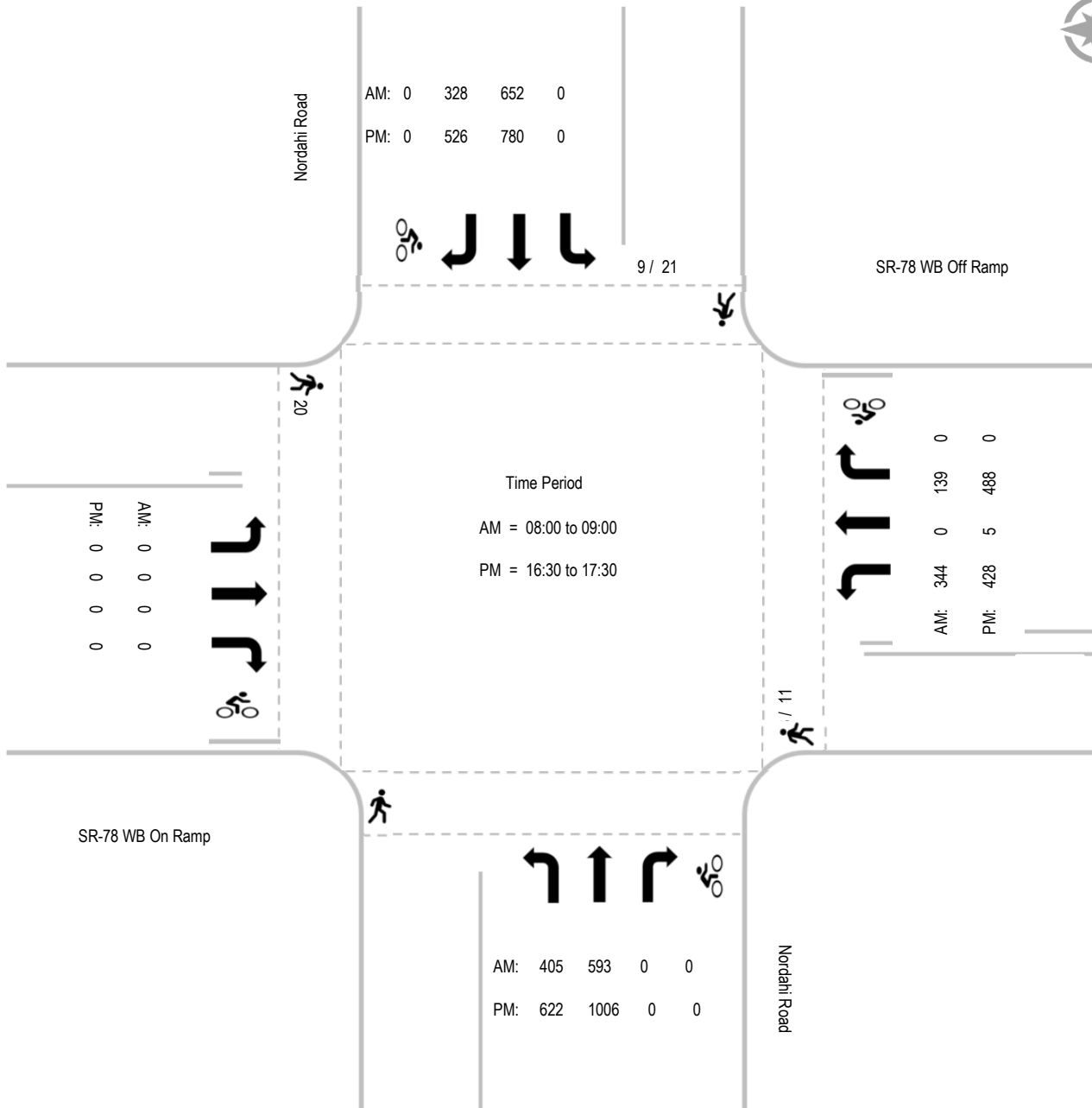
AM	Nordahl Road Southbound				SR-78 WB Off Ramp Westbound				Nordahl Road Northbound				SR-78 WB On Ramp Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
7:15	2	0	0	0	2	0	0	0	1	0	0	0	0	0	0	0	5	0
7:30	2	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	7	0
7:45	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
8:00	0	0	0	0	5	0	0	0	4	0	0	0	0	0	0	0	9	0
8:15	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0
8:30	2	0	0	0	1	0	0	0	2	0	0	0	0	0	0	0	5	0
8:45	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0
Ped Total	9				16				7					0			32	
Bike Total		0	0	0		0	0	0		0	0	0		0	0	0		0

PM	Nordahl Road Southbound				SR-78 WB Off Ramp Westbound				Nordahl Road Northbound				SR-78 WB On Ramp Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
16:00	9	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	10	0
16:15	1	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	6	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0
16:45	2	0	0	0	2	0	0	0	2	0	0	0	0	5	0	0	11	0
17:00	4	0	0	0	1	0	0	0	0	0	0	0	0	4	0	0	9	0
17:15	3	0	0	0	4	0	0	0	4	0	0	0	0	5	0	0	16	0
17:30	2	0	0	0	4	0	0	0	11	0	0	0	0	0	0	0	17	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Total	21				11				18					20			70	
Bike Total		0	0	0		0	0	0		0	0	0		0	0	0		0

Intersection Turning Movement - Peak Hour Summary



Location: #10	File Name: ITM-18-129-10
Intersection: Nordahl Road & SR-78 WB On-Off Ramps	Project: LLG Ref. 3-18-2835
Date of Count: Thursday, September 20, 2018	San Marcos



Turn Count Summary

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136



Location: SR-78 EB Ramps @ Nordahl Road

Date of Count: Wednesday, March 01, 2017

Analysts: LV/CD

Weather: Sunny

AVC Proj No: 17-0626



Vehicular Count

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136



Location: SR-78 EB Ramps @ Nordahl Road

AM Period (7:00 AM - 9:00 AM)													
	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
7:00 AM	0	159	63	0	0	0	116	114	0	172	65	73	762
7:15 AM	0	143	71	0	0	0	102	123	0	128	36	48	651
7:30 AM	0	203	65	0	0	0	196	134	0	150	24	78	850
7:45 AM	0	222	40	0	0	0	157	154	0	198	3	117	891
8:00 AM	0	222	82	0	0	0	147	137	0	176	1	128	893
8:15 AM	0	166	94	0	0	0	105	134	0	138	1	71	709
8:30 AM	0	179	74	0	0	0	90	144	0	172	3	99	761
8:45 AM	0	179	71	0	0	0	112	111	0	191	8	118	790
Total	0	1,473	560	0	0	0	1,025	1,051	0	1,325	141	732	6,307

AM Intersection Peak Hour : **7:30 AM - 8:30 AM**

Intersection PHF : **0.94**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	0	813	281	0	0	0	605	559	0	662	29	394	3,343
PHF	#####	0.92	0.75	#####	#####	#####	0.77	0.91	#####	0.84	0.30	0.77	0.94
Movement PHF		0.90			#DIV/0!			0.88			0.85		0.94

PM Period (4:00 PM - 6:00 PM)													
	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
4:00 PM	0	215	119	0	0	0	189	294	0	68	9	106	1,000
4:15 PM	0	158	167	0	0	0	200	271	0	89	13	106	1,004
4:30 PM	0	143	134	0	0	0	193	231	0	80	17	140	938
4:45 PM	0	80	148	0	0	0	213	202	0	92	18	142	895
5:00 PM	0	251	142	0	0	0	216	325	0	82	17	151	1,184
5:15 PM	0	230	145	0	0	0	186	265	0	67	14	125	1,032
5:30 PM	0	191	108	0	0	0	207	248	0	82	20	166	1,022
5:45 PM	0	161	130	0	0	0	174	217	0	59	8	112	861
Total	0	1429	1093	0	0	0	1,578	2,053	0	619	116	1,048	7,936

PM Intersection Peak Hour : **4:45 PM - 5:45 PM**

Intersection PHF : **0.87**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	0	752	543	0	0	0	822	1040	0	323	69	584	4133
PHF	#####	0.749	0.917	#####	#####	#####	0.951	0.8	#####	0.878	0.863	0.88	0.87
Movement PHF		0.82			#DIV/0!			0.86			0.91		0.87

Turn Count Summary

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136



Location: Mission Road @ Nordahl Road

Date of Count: Wednesday, March 01, 2017

Analysts: LV/CD

Weather: Sunny

AVC Proj No: 17-0626



Vehicular Count

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136



Location: Mission Road @ Nordahl Road

AM Period (7:00 AM - 9:00 AM)													
	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
7:00 AM	54	194	98	75	85	18	4	92	88	45	84	77	914
7:15 AM	76	136	72	53	156	15	3	110	81	48	94	74	918
7:30 AM	65	183	90	80	160	15	13	196	124	45	106	72	1,149
7:45 AM	60	268	80	60	128	24	6	157	68	77	93	75	1,096
8:00 AM	60	259	62	54	136	14	9	153	89	63	77	59	1,035
8:15 AM	67	166	52	48	119	15	15	117	69	59	63	54	844
8:30 AM	75	198	66	72	83	14	5	130	68	43	75	47	876
8:45 AM	68	223	64	54	84	12	1	97	61	35	71	54	824
Total	525	1,627	584	496	951	127	56	1,052	648	415	663	512	7,656

AM Intersection Peak Hour : **7:15 AM - 8:15 AM**

Intersection PHF : **0.91**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	261	846	304	247	580	68	31	616	362	233	370	280	4,198
PHF	0.86	0.79	0.84	0.77	0.91	0.71	0.60	0.79	0.73	0.76	0.87	0.93	0.91
Movement PHF		0.86			0.88			0.76			0.90		0.91

PM Period (4:00 PM - 6:00 PM)													
	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
4:00 PM	130	92	51	102	113	7	12	244	85	66	164	119	1,185
4:15 PM	124	80	56	105	126	7	9	284	107	54	163	99	1,214
4:30 PM	145	21	62	128	172	15	9	153	95	43	209	131	1,183
4:45 PM	101	51	41	93	161	6	19	213	93	62	191	115	1,146
5:00 PM	147	131	33	141	176	11	14	225	103	45	171	136	1,333
5:15 PM	141	111	42	123	179	14	8	194	153	75	174	103	1,317
5:30 PM	115	112	28	78	122	10	9	216	80	57	154	154	1,135
5:45 PM	103	79	20	73	87	2	6	211	58	50	135	88	912
Total	1006	677	333	843	1,136	72	86	1,740	774	452	1,361	945	9,425

PM Intersection Peak Hour : **4:30 PM - 5:30 PM**

Intersection PHF : **0.93**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	534	314	178	485	688	46	50	785	444	225	745	485	4,979
PHF	0.91	0.599	0.718	0.86	0.961	0.767	0.658	0.872	0.725	0.75	0.891	0.892	0.93
Movement PHF		0.82			0.93			0.90			0.95		0.93

Intersection Turning Movement - Peak Hour Vehicle Count



Location:	#01	File Name:	ITM-21-019-01R
Intersection:	Auto Park Way & Meyers Avenue	Project:	LLG Ref. 3-20-3319
Date of Count:	Tuesday, May 11, 2021		Escondido

AM	Auto Park Way Southbound			- Westbound			Auto Park Way Northbound			Meyers Avenue Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00	0	229	19	0	0	0	0	107	0	0	0	34	389
7:15	0	207	23	0	0	0	0	151	0	0	0	50	431
7:30	0	216	20	0	0	0	0	172	0	0	0	57	465
7:45	0	194	14	0	0	0	0	194	0	0	0	65	467
8:00	0	216	20	0	0	0	0	156	0	0	0	64	456
8:15	0	213	20	0	0	0	0	146	0	0	0	50	429
8:30	0	162	23	0	0	0	0	149	0	0	0	30	364
8:45	0	189	19	0	0	0	0	150	0	0	0	22	380
Total	0	1626	158	0	0	0	0	1225	0	0	0	372	3381
Approach%	-	91.1	8.9	-	-	-	-	100.0	-	-	-	100.0	
Total%	-	48.1	4.7	-	-	-	-	36.2	-	-	-	11.0	

AM Intersection Peak Hour: 07:15 to 08:15

Volume	-	833	77	-	-	-	-	673	-	-	-	236	1,819
Approach%	-	91.5	8.5	-	-	-	-	100.0	-	-	-	100.0	
Total%	-	45.8	4.2	-	-	-	-	37.0	-	-	-	13.0	
PHF			0.96			#DIV/0!			0.87			0.91	0.97

PM	Auto Park Way Southbound			- Westbound			Auto Park Way Northbound			Meyers Avenue Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	0	146	5	0	0	0	0	306	0	0	0	41	498
16:15	0	152	14	0	0	0	0	283	0	0	0	44	493
16:30	0	144	8	0	0	0	0	301	0	0	0	28	481
16:45	0	122	4	0	0	0	0	313	0	0	0	29	468
17:00	0	148	3	0	0	0	0	350	0	0	0	30	531
17:15	0	123	2	0	0	0	0	283	0	0	0	24	432
17:30	0	145	4	0	0	0	0	224	0	0	0	25	398
17:45	0	126	4	0	0	0	0	200	0	0	0	25	355
Total	0	1106	44	0	0	0	0	2260	0	0	0	246	3656
Approach%	-	96.2	3.8	-	-	-	-	100.0	-	-	-	100.0	
Total%	-	30.3	1.2	-	-	-	-	61.8	-	-	-	6.7	

PM Intersection Peak Hour: 16:15 to 17:15

Volume	-	566	29	-	-	-	-	1,247	-	-	-	131	1,973
Approach%	-	95.1	4.9	-	-	-	-	100.0	-	-	-	100.0	
Total%	-	28.7	1.5	-	-	-	-	63.2	-	-	-	6.6	
PHF			0.90			#DIV/0!			0.89			0.74	0.93

Intersection Turning Movement - Bicycle & Pedestrian Count



Location: #01	File Name: ITM-21-019-01R
Intersection: Auto Park Way & Meyers Avenue	Project: LLG Ref. 3-20-3319
Date of Count: Tuesday, May 11, 2021	Escondido

AM	Auto Park Way Southbound				- Westbound				Auto Park Way Northbound				Meyers Avenue Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
7:30	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0
7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00	0	0	1	0	0	0	0	0	0	0	1	0	1	0	0	0	1	2
8:15	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0
8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0
Ped Total	0				0				0				4				4	
Bike Total		0	1	1		0	0	0		0	1	0		0	0	1		4

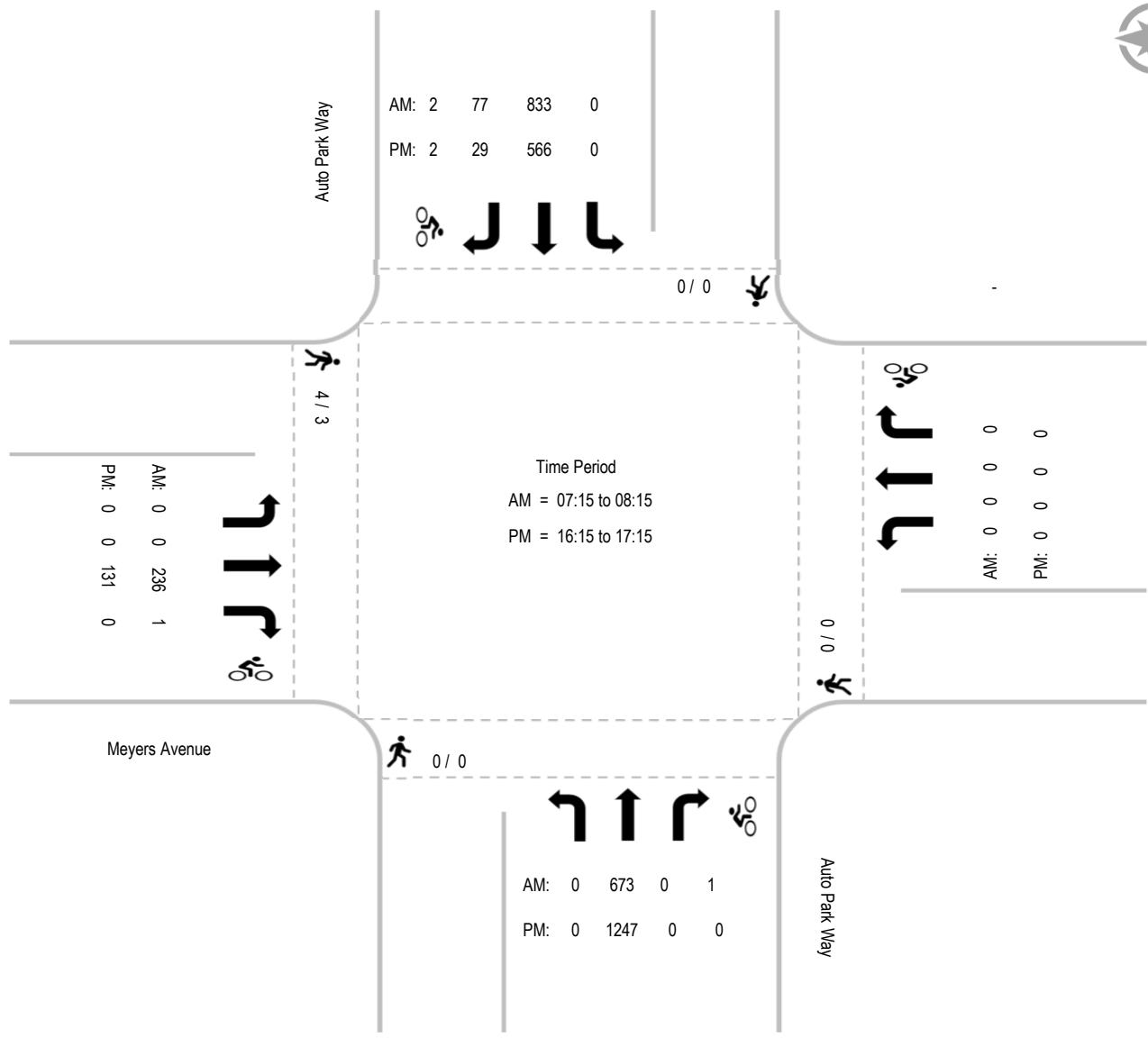
PM	Auto Park Way Southbound				- Westbound				Auto Park Way Northbound				Meyers Avenue Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
16:00	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
16:15	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Total	0				0				0				3				3	
Bike Total		0	2	0		0	0	0		0	0	0		0	0	0		2

Intersection Turning Movement - Peak Hour Summary



Location: #01
 Intersection: Auto Park Way & Meyers Avenue
 Date of Count: Tuesday, May 11, 2021

File Name: ITM-21-019-01R
 Project: LLG Ref. 3-20-3319
 Escondido



Linscott, Law & Greenspan, Engineers

4542 Ruffner Street, Suite 100, San Diego, CA 92111

Average Daily Traffic

Location: **E. Barham Drive, between Woodland Parkway and La Moree Road**

Date: Thursday, September 20, 2018		Total Daily Volume: 17502										Description: Total Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
39	19	45	42	115	360	926	1936	2162	1276	724	765	824	781	921	1271	1419	1587	1241	381	274	207	116	71
12	7	6	6	13	51	148	377	581	412	208	191	190	220	194	296	310	392	365	99	79	63	29	28
11	3	7	4	29	68	169	475	513	367	187	190	191	197	243	235	389	435	295	108	73	64	34	14
7	7	20	15	27	119	270	570	549	297	153	220	226	199	236	401	410	381	352	93	64	55	24	15
9	2	12	17	46	122	339	514	519	200	176	164	217	165	248	339	310	379	229	81	58	25	29	14

Date: Thursday, September 20, 2018		Total Daily Volume: 5780										Description: Eastbound Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
14	3	12	9	22	68	234	684	714	372	232	269	291	259	358	459	593	586	289	118	78	73	19	24
7	1	0	1	4	6	35	147	208	106	84	70	64	72	78	94	155	163	82	30	21	23	5	11
3	0	0	1	7	20	43	145	163	98	48	65	67	58	88	90	123	152	82	31	20	17	5	6
2	1	10	3	4	16	56	206	180	97	48	72	89	68	93	143	168	155	74	28	19	20	3	3
2	1	2	4	7	26	100	186	163	71	52	62	71	61	99	132	147	116	51	29	18	13	6	4

Date: Thursday, September 20, 2018		Total Daily Volume: 11722										Description: Westbound Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
25	16	33	33	93	292	692	1252	1448	904	492	496	533	522	563	812	826	1001	952	263	196	134	97	47
5	6	6	5	9	45	113	230	373	306	124	121	126	148	116	202	155	229	283	69	58	40	24	17
8	3	7	3	22	48	126	330	350	269	139	125	124	139	155	145	266	283	213	77	53	47	29	8
5	6	10	12	23	103	214	364	369	200	105	148	137	131	143	258	242	226	278	65	45	35	21	12
7	1	10	13	39	96	239	328	356	129	124	102	146	104	149	207	163	263	178	52	40	12	23	10

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Linscott, Law & Greenspan, Engineers

4542 Ruffner Street, Suite 100, San Diego, CA 92111

Average Daily Traffic

Location: **E. Barham Drive, West of Meyers Ave**

Date: Thursday, September 20, 2018					Total Daily Volume: 12985										Description: Total Volume								
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
41	9	16	12	57	170	628	1306	1359	773	526	585	613	552	821	1235	1454	1309	691	330	226	137	94	41
12	3	1	3	5	23	71	283	355	241	142	131	176	130	170	256	345	393	203	112	65	45	29	15
10	1	5	1	7	34	94	303	352	198	120	141	134	149	174	293	362	337	207	65	63	37	18	10
9	1	7	2	12	41	177	345	328	178	124	153	156	128	245	352	366	287	143	80	51	28	26	12
10	4	3	6	33	72	286	375	324	156	140	160	147	145	232	334	381	292	138	73	47	27	21	4

Date: Thursday, September 20, 2018					Total Daily Volume: 6497										Description: Eastbound Volume								
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
11	6	2	6	33	100	383	638	576	380	273	282	265	262	387	663	819	694	332	155	115	56	45	14
2	2	1	1	2	8	46	137	170	132	70	63	83	65	70	158	211	182	91	64	32	20	15	6
4	1	0	1	1	19	56	171	144	92	62	65	64	73	77	169	207	189	95	31	36	14	7	3
2	1	0	0	8	24	116	155	130	85	68	82	57	67	119	166	201	166	75	36	27	13	15	4
3	2	1	4	22	49	165	175	132	71	73	72	61	57	121	170	200	157	71	24	20	9	8	1

Date: Thursday, September 20, 2018					Total Daily Volume: 6488										Description: Westbound Volume								
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
30	3	14	6	24	70	245	668	783	393	253	303	348	290	434	572	635	615	359	175	111	81	49	27
10	1	0	2	3	15	25	146	185	109	72	68	93	65	100	98	134	211	112	48	33	25	14	9
6	0	5	0	6	15	38	132	208	106	58	76	70	76	97	124	155	148	112	34	27	23	11	7
7	0	7	2	4	17	61	190	198	93	56	71	99	61	126	186	165	121	68	44	24	15	11	8
7	2	2	2	11	23	121	200	192	85	67	88	86	88	111	164	181	135	67	49	27	18	13	3

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4542 Ruffner Street, Suite 100, San Diego, CA 92111

Average Daily Traffic

Location: **Barham Drive, between Meyers Avenue and W. Mission Road**

Date: Wednesday, February 13, 2019					Total Daily Volume: 8607										Description: Total Volume								
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
16	11	10	15	20	82	343	748	658	438	448	472	487	597	739	802	845	792	487	246	160	106	60	25
4	6	4	1	0	12	65	165	198	116	104	112	131	117	154	183	211	241	142	85	36	20	21	5
2	2	2	3	6	16	86	177	174	106	121	116	107	124	188	230	225	197	135	67	56	26	13	4
7	1	2	7	5	31	80	190	145	116	117	126	132	168	174	199	214	196	120	51	37	30	12	4
3	2	2	4	9	23	112	216	141	100	106	118	117	188	223	190	195	158	90	43	31	30	14	12

Date: Wednesday, February 13, 2019					Total Daily Volume: 3674										Description: Eastbound Volume								
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
3	5	5	4	8	38	163	236	219	181	192	234	212	265	344	376	382	357	225	104	55	40	19	7
0	4	2	1	0	5	27	55	54	41	45	49	55	42	62	93	113	108	68	37	11	9	7	1
0	0	0	1	0	10	45	60	56	43	61	62	49	61	74	101	114	79	52	25	20	8	4	2
3	0	1	1	4	15	38	73	60	51	58	69	60	84	98	90	90	106	62	22	16	10	4	0
0	1	2	1	4	8	53	48	49	46	28	54	48	78	110	92	65	64	43	20	8	13	4	4

Date: Wednesday, February 13, 2019					Total Daily Volume: 4933										Description: Westbound Volume								
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
13	6	5	11	12	44	180	512	439	257	256	238	275	332	395	426	463	435	262	142	105	66	41	18
4	2	2	0	0	7	38	110	144	75	59	63	76	75	92	90	98	133	74	48	25	11	14	4
2	2	2	2	6	6	41	117	118	63	60	54	58	63	114	129	111	118	83	42	36	18	9	2
4	1	1	6	1	16	42	117	85	65	59	57	72	84	76	109	124	90	58	29	21	20	8	4
3	1	0	3	5	15	59	168	92	54	78	64	69	110	113	98	130	94	47	23	23	17	10	8

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4542 Ruffner Street, Suite 100, San Diego, CA 92111

Average Daily Traffic

Location: **W. Mission Road, between Barham Drive and Nordahl Road**

Date: Thursday, September 20, 2018		Total Daily Volume: 29959										Description: Total Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
91	70	69	81	175	459	1245	2691	2599	1785	1274	1379	1560	1478	2004	2759	3033	2971	1792	953	618	470	254	149
29	18	12	21	33	76	211	543	693	529	362	309	418	386	461	599	700	733	561	297	184	127	69	44
26	19	16	21	41	83	245	675	619	449	299	326	374	364	439	660	774	792	500	233	162	120	54	43
22	12	21	15	44	133	299	714	674	405	289	353	392	368	541	772	758	752	387	236	121	118	83	38
14	21	20	24	57	167	490	759	613	402	324	391	376	360	563	728	801	694	344	187	151	105	48	24

Date: Thursday, September 20, 2018		Total Daily Volume: 13305										Description: Eastbound Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
30	30	44	51	92	260	617	1058	953	798	612	697	741	681	889	1258	1349	1311	751	399	284	216	121	63
10	12	11	9	25	45	134	235	278	219	179	169	206	192	201	295	349	329	240	140	80	54	39	18
8	6	7	14	23	44	140	274	198	201	137	173	179	165	200	317	308	332	191	102	82	48	22	20
5	7	12	11	21	81	150	253	247	191	145	166	169	176	242	340	343	323	169	88	54	65	34	15
7	5	14	17	23	90	193	296	230	187	151	189	187	148	246	306	349	327	151	69	68	49	26	10

Date: Thursday, September 20, 2018		Total Daily Volume: 16654										Description: Westbound Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
61	40	25	30	83	199	628	1633	1646	987	662	682	819	797	1115	1501	1684	1660	1041	554	334	254	133	86
19	6	1	12	8	31	77	308	415	310	183	140	212	194	260	304	351	404	321	157	104	73	30	26
18	13	9	7	18	39	105	401	421	248	162	153	195	199	239	343	466	460	309	131	80	72	32	23
17	5	9	4	23	52	149	461	427	214	144	187	223	192	299	432	415	429	218	148	67	53	49	23
7	16	6	7	34	77	297	463	383	215	173	202	189	212	317	422	452	367	193	118	83	56	22	14

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4542 Ruffner Street, Suite 100, San Diego, CA 92111

Average Daily Traffic

Location: **Nordahl Road, SR 78 Ramps and Mission Road**

Date: Thursday, September 20, 2018					Total Daily Volume: 41644										Description: Total Volume								
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
242	173	186	272	449	1371	2455	2320	2540	2425	2365	2690	2881	2772	2981	3129	3026	2766	2237	1468	1052	883	585	376
64	36	51	69	67	209	496	508	693	569	573	633	808	724	717	736	812	774	600	405	312	247	174	107
68	47	43	65	107	270	615	512	596	545	567	660	671	654	680	762	722	702	581	327	245	218	133	117
56	35	56	65	124	383	636	701	662	613	623	697	694	761	821	856	803	691	575	423	251	216	159	94
54	55	36	73	151	509	708	599	589	698	602	700	708	633	763	775	689	599	481	313	244	202	119	58

Date: Thursday, September 20, 2018					Total Daily Volume: 23039										Description: Northbound Volume								
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
151	91	112	163	200	491	1075	1233	1384	1292	1279	1488	1555	1435	1641	2006	2014	1790	1195	832	569	488	335	220
37	21	36	34	45	98	249	269	364	296	306	342	464	351	368	451	533	518	341	197	172	135	104	61
37	23	21	45	61	93	259	277	337	304	306	374	363	351	383	473	475	465	300	184	121	108	75	76
38	24	31	43	52	139	248	393	380	303	344	379	372	415	457	569	548	438	296	259	142	134	84	57
39	23	24	41	42	161	319	294	303	389	323	393	356	318	433	513	458	369	258	192	134	111	72	26

Date: Thursday, September 20, 2018					Total Daily Volume: 18605										Description: Southbound Volume								
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
91	82	74	109	249	880	1380	1087	1156	1133	1086	1202	1326	1337	1340	1123	1012	976	1042	636	483	395	250	156
27	15	15	35	22	111	247	239	329	273	267	291	344	373	349	285	279	256	259	208	140	112	70	46
31	24	22	20	46	177	356	235	259	241	261	286	308	303	297	289	247	237	281	143	124	110	58	41
18	11	25	22	72	244	388	308	282	310	279	318	322	346	364	287	255	253	279	164	109	82	75	37
15	32	12	32	109	348	389	305	286	309	279	307	352	315	330	262	231	230	223	121	110	91	47	32

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4542 Ruffner Street, Suite 100, San Diego, CA 92111

Average Daily Traffic

Location: #A Auto Park Way south of Meyers Avenue

Date: Tuesday, May 11, 2021		Total Daily Volume: 24774																				Description: Total Volume	
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
109	68	62	88	166	699	1386	1741	1610	1440	1399	1554	1774	1643	1906	2018	1925	1697	1200	823	562	438	279	187
34	24	19	20	30	86	259	382	469	377	332	412	451	399	457	506	513	479	315	203	158	113	87	56
25	11	13	24	24	122	330	418	417	346	327	357	427	391	420	488	469	455	306	197	134	119	60	45
21	21	22	29	43	199	383	463	349	344	377	400	482	469	531	523	486	398	321	241	148	125	66	48
29	12	8	15	69	292	414	478	375	373	363	385	414	384	498	501	457	365	258	182	122	81	66	38

Date: Tuesday, May 11, 2021		Total Daily Volume: 12454																				Description: Northbound Volume	
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
65	45	37	47	59	231	407	656	642	633	681	769	901	850	998	1209	1199	1022	644	507	325	260	156	111
17	17	12	9	13	30	84	118	176	164	174	204	233	198	217	283	327	305	173	116	98	68	48	28
16	7	6	17	8	42	94	158	154	156	148	170	216	193	209	294	269	298	171	112	81	66	36	22
15	15	13	15	23	81	119	179	153	153	192	206	243	251	310	330	302	222	168	161	80	82	36	31
17	6	6	6	15	78	110	201	159	160	167	189	209	208	262	302	301	197	132	118	66	44	36	30

Date: Tuesday, May 11, 2021		Total Daily Volume: 12320																				Description: Southbound Volume	
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
44	23	25	41	107	468	979	1085	968	807	718	785	873	793	908	809	726	675	556	316	237	178	123	76
17	7	7	11	17	56	175	264	293	213	158	208	218	201	240	223	186	174	142	87	60	45	39	28
9	4	7	7	16	80	236	260	263	190	179	187	211	198	211	194	200	157	135	85	53	53	24	23
6	6	9	14	20	118	264	284	196	191	185	194	239	218	221	193	184	176	153	80	68	43	30	17
12	6	2	9	54	214	304	277	216	213	196	196	205	176	236	199	156	168	126	64	56	37	30	8

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APPENDIX B

CITY OF ESCONDIDO ROADWAY CLASSIFICATION TABLE

Table

CITY OF ESCONDIDO PROPOSED LEVEL OF SERVICE STANDARDS

STREET SEGMENT AVERAGE DAILY VEHICLE TRIP THRESHOLDS

Street Classification	Lanes	Cross Sections	Level of Service				
			A	B	C	D	E
Prime Arterial	(8lanes)	116/136 (NP)	23,800	37,800	51,800	62,300	70,000
	(6lanes)	106/126 (NP)	20,400	32,400	44,400	53,400	60,000
Major Road	(6lanes)	90/110 (NP)	17,000	27,000	37,000	44,500	50,000
	(4lanes)	82/102 (NP)	12,600	20,000	27,400	32,900	37,000
Collector	(4lanes)	64/84 (NP)	11,600	18,500	25,300	30,400	34,200
	(4lanes)	(WP)	6,800	10,800	14,800	17,800	20,000
Local Collector	(2lanes)	42/66 (NP)	5,100	8,100	11,100	13,400	15,000
		(WP)	3,400	5,400	7,400	8,900	10,000
Rural collector	(2lanes)						

(NP) No Parking
(WP) With Parking

The following V/C Ratios were utilized for determining Existing and Future Level of Service.

Level of Service	Volume/Capacity (V/C) Ratio
A-	Less than or Equal to 0.00 to 0.34
B-	Less than or Equal to 0.35 to 0.54
C-	Less than or Equal to 0.55 to 0.74
D-	Less than or Equal to 0.75 to 0.89
E-	Less than or Equal to 0.90 to 1.00

v/c 0.74

APPENDIX C

SANDAG SERIES 14 YEAR 2016 TRAVEL DEMAND MODEL RESULTS

2351 Meyers Avenue

Show search results for 2351 Meyers ...

Filter

- San Diego Region SB743 VMT Maps
- Forecast / ABM Version is: ABM2+ / 2021 RP
- Residents/Employees is: Employees
- Geography is: Census Tract
- Year is: 2016

2016 VMT Per Employee by Census Tract

Geography	Census Tract
Name	203.06
Residents/Employees	Employees
Persons	8,408
VMT per Capita	18.6
Percent of Mean	98.6%

Map Legend / Disclaimer

Map Legend

Percent of Mean

- More than 125% of Regional Mean
- 100% to 125% of Regional Mean
- 85% to 100% of Regional Mean
- 50% to 85% of Regional Mean
- Less than 50% of Regional Mean
- No Data
- Not Enough Data

- Current Data**
- 2016 - ABM2+ / 2021 RP (Scenario ID 458)
Regional Mean = 18.9 VMT per Resident
 - 2025 - ABM2+ / 2021 RP (Scenario ID 462)
Regional Mean = 17.7 VMT per Resident
 - 2035 - ABM2+ / 2021 RP (Scenario ID 475)
Regional Mean = 16.6 VMT per Resident
 - 2050 - ABM2+ / 2021 RP (Scenario ID 459)
Regional Mean = 16.0 VMT per Resident
- Archived Data**
- 2016 - ABM2 / 2019 RTP (Scenario ID 434)
Regional Mean = 19.0 VMT per Resident
 - Regional Mean = 27.2 VMT per Employee

Disclaimer

The maps provided by SANDAG are an interpretation of the Senate Bill 743 Technical Advisory guidelines published by the California Office of Planning and Research and are provided as a resource to the jurisdictions in the San Diego region to use as they see fit. Users of the data should exercise their professional judgment in reviewing, evaluating and analyzing VMT reduction estimate results from the tool. Each agency should consult with CEQA experts and legal counsel regarding their own CEQA practices and updates to local policies. Refer to full disclaimer and additional information relating to the use of the SB 743 VMT Map Web Application.

While the data have been tested for accuracy and are properly functioning, SANDAG disclaims any responsibility for the accuracy or correctness of the data.

600ft

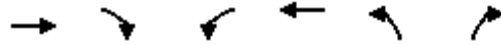
APPENDIX D

EXISTING PEAK HOUR INTERSECTION ANALYSIS WORKSHEETS

HCM 6th Signalized Intersection Summary

1: La Moree Road & Barham Dr

Existing
Timing Plan: AM



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↙	↑↑	↙	↗
Traffic Volume (veh/h)	613	35	36	274	47	90
Future Volume (veh/h)	613	35	36	274	47	90
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	666	38	39	298	51	98
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1035	59	112	1835	266	237
Arrive On Green	0.30	0.30	0.06	0.52	0.15	0.15
Sat Flow, veh/h	3511	195	1781	3647	1781	1585
Grp Volume(v), veh/h	346	358	39	298	51	98
Grp Sat Flow(s),veh/h/ln	1777	1835	1781	1777	1781	1585
Q Serve(g_s), s	6.2	6.2	0.8	1.6	0.9	2.0
Cycle Q Clear(g_c), s	6.2	6.2	0.8	1.6	0.9	2.0
Prop In Lane		0.11	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	538	556	112	1835	266	237
V/C Ratio(X)	0.64	0.64	0.35	0.16	0.19	0.41
Avail Cap(c_a), veh/h	911	940	342	3038	810	721
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.0	11.0	16.4	4.7	13.6	14.1
Incr Delay (d2), s/veh	1.3	1.3	1.9	0.0	0.3	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	1.8	0.3	0.2	0.3	0.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	12.3	12.3	18.3	4.7	13.9	15.2
LnGrp LOS	B	B	B	A	B	B
Approach Vol, veh/h	704			337	149	
Approach Delay, s/veh	12.3			6.3	14.8	
Approach LOS	B			A	B	
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	7.8	17.4		11.4		25.1
Change Period (Y+Rc), s	5.5	6.3		5.9		6.3
Max Green Setting (Gmax), s	7.0	18.7		16.6		31.2
Max Q Clear Time (g_c+I1), s	2.8	8.2		4.0		3.6
Green Ext Time (p_c), s	0.0	2.9		0.3		1.7
Intersection Summary						
HCM 6th Ctrl Delay			10.9			
HCM 6th LOS			B			

HCM 6th TWSC
2: Meyers Ave & Barham Dr

Existing
Timing Plan: AM

Intersection						
Int Delay, s/veh	32.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	308	353	24	580	229	23
Future Vol, veh/h	308	353	24	580	229	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	80	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	335	384	26	630	249	25

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	719	0	1209 527
Stage 1	-	-	-	-	527 -
Stage 2	-	-	-	-	682 -
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	-	-	882	-	~ 202 551
Stage 1	-	-	-	-	592 -
Stage 2	-	-	-	-	502 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	882	-	~ 193 551
Mov Cap-2 Maneuver	-	-	-	-	~ 193 -
Stage 1	-	-	-	-	592 -
Stage 2	-	-	-	-	479 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	193.4
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	193	551	-	-	882	-
HCM Lane V/C Ratio	1.29	0.045	-	-	0.03	-
HCM Control Delay (s)	211.6	11.8	-	-	9.2	0
HCM Lane LOS	F	B	-	-	A	A
HCM 95th %tile Q(veh)	13.8	0.1	-	-	0.1	-

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

HCM 6th Signalized Intersection Summary
 3: Barham Dr & Mission Rd

Existing
 Timing Plan: AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗	↘	↑↑			↑	↗↘		↕	
Traffic Volume (veh/h)	0	770	90	554	859	6	90	3	266	13	19	0
Future Volume (veh/h)	0	770	90	554	859	6	90	3	266	13	19	0
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	837	98	602	934	7	98	3	289	14	21	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1	935	417	629	2407	18	222	7	358	33	50	0
Arrive On Green	0.00	0.26	0.26	0.35	0.67	0.67	0.13	0.13	0.13	0.05	0.05	0.00
Sat Flow, veh/h	1781	3554	1585	1781	3615	27	1731	53	2790	733	1100	0
Grp Volume(v), veh/h	0	837	98	602	459	482	101	0	289	35	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1865	1784	0	1395	1834	0	0
Q Serve(g_s), s	0.0	27.6	5.9	40.1	14.2	14.2	6.4	0.0	12.3	2.3	0.0	0.0
Cycle Q Clear(g_c), s	0.0	27.6	5.9	40.1	14.2	14.2	6.4	0.0	12.3	2.3	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.01	0.97		1.00	0.40		0.00
Lane Grp Cap(c), veh/h	1	935	417	629	1183	1242	229	0	358	84	0	0
V/C Ratio(X)	0.00	0.90	0.24	0.96	0.39	0.39	0.44	0.00	0.81	0.42	0.00	0.00
Avail Cap(c_a), veh/h	103	1008	450	674	1183	1242	381	0	596	121	0	0
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)	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	43.2	35.2	38.4	9.2	9.2	49.0	0.0	51.5	56.5	0.0	0.0
Incr Delay (d2), s/veh	0.0	10.0	0.3	23.7	0.2	0.2	1.3	0.0	4.3	3.3	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	0.0	13.0	2.3	20.8	4.9	5.1	2.9	0.0	4.5	1.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	53.2	35.5	62.1	9.4	9.4	50.3	0.0	55.9	59.8	0.0	0.0
LnGrp LOS	A	D	D	E	A	A	D	A	E	E	A	A
Approach Vol, veh/h		935			1543			390				35
Approach Delay, s/veh		51.4			29.9			54.4				59.8
Approach LOS		D			C			D				E
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	49.0	38.5		11.5	0.0	87.5		22.6				
Change Period (Y+Rc), s	6.0	6.5		6.0	6.5	6.5		7.0				
Max Green Setting (Gmax), s	46.0	34.5		8.0	7.0	73.0		26.0				
Max Q Clear Time (g_c+I1), s	42.1	29.6		4.3	0.0	16.2		14.3				
Green Ext Time (p_c), s	0.8	2.4		0.0	0.0	6.4		1.4				

Intersection Summary

HCM 6th Ctrl Delay	40.5
HCM 6th LOS	D

HCM 6th Signalized Intersection Summary

4: Nordahl Rd & SR-78 WB Ramps

Existing
Timing Plan: AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗			↖ ↗ ↘	↖ ↗
Traffic Volume (veh/h)	0	0	0	354	0	143	417	611	0	0	672	338
Future Volume (veh/h)	0	0	0	354	0	143	417	611	0	0	672	338
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
Work Zone On Approach				No		No		No		No		No
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				433	0	103	453	664	0	0	730	367
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				554	0	247	568	2598	0	0	2627	816
Arrive On Green				0.16	0.00	0.16	0.05	0.24	0.00	0.00	0.51	0.51
Sat Flow, veh/h				3563	0	1585	3456	3647	0	0	5274	1585
Grp Volume(v), veh/h				433	0	103	453	664	0	0	730	367
Grp Sat Flow(s),veh/h/ln				1781	0	1585	1728	1777	0	0	1702	1585
Q Serve(g_s), s				10.5	0.0	5.3	11.7	13.6	0.0	0.0	7.3	13.2
Cycle Q Clear(g_c), s				10.5	0.0	5.3	11.7	13.6	0.0	0.0	7.3	13.2
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				554	0	247	568	2598	0	0	2627	816
V/C Ratio(X)				0.78	0.00	0.42	0.80	0.26	0.00	0.00	0.28	0.45
Avail Cap(c_a), veh/h				906	0	403	856	2598	0	0	2627	816
HCM Platoon Ratio				1.00	1.00	1.00	0.33	0.33	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.86	0.86	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				36.5	0.0	34.3	41.1	14.3	0.0	0.0	12.4	13.8
Incr Delay (d2), s/veh				2.4	0.0	1.1	2.7	0.2	0.0	0.0	0.3	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				4.7	0.0	2.1	5.6	6.4	0.0	0.0	2.6	4.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				39.0	0.0	35.4	43.8	14.5	0.0	0.0	12.6	15.6
LnGrp LOS				D	A	D	D	B	A	A	B	B
Approach Vol, veh/h					536			1117			1097	
Approach Delay, s/veh					38.3			26.4			13.6	
Approach LOS					D			C			B	
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		70.9			19.5	51.4		19.1				
Change Period (Y+Rc), s		5.1			* 4.7	5.1		5.1				
Max Green Setting (Gmax), s		56.9			* 22	29.9		22.9				
Max Q Clear Time (g_c+I1), s		15.6			13.7	15.2		12.5				
Green Ext Time (p_c), s		5.1			1.1	5.5		1.5				

Intersection Summary

HCM 6th Ctrl Delay	23.6
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

5: Nordahl Rd & SR-78 EB Ramps

Existing
Timing Plan: AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	410	30	688	0	0	0	0	581	629	292	846	0
Future Volume (veh/h)	410	30	688	0	0	0	0	581	629	292	846	0
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
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	308	0	917				0	632	684	317	920	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	572	0	1019				0	2039	633	393	2009	0
Arrive On Green	0.32	0.00	0.32				0.00	0.40	0.40	0.15	0.75	0.00
Sat Flow, veh/h	1781	0	3170				0	5274	1585	3456	3647	0
Grp Volume(v), veh/h	308	0	917				0	632	684	317	920	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1702	1585	1728	1777	0
Q Serve(g_s), s	12.8	0.0	24.9				0.0	7.6	35.9	8.0	8.8	0.0
Cycle Q Clear(g_c), s	12.8	0.0	24.9				0.0	7.6	35.9	8.0	8.8	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	572	0	1019				0	2039	633	393	2009	0
V/C Ratio(X)	0.54	0.00	0.90				0.00	0.31	1.08	0.81	0.46	0.00
Avail Cap(c_a), veh/h	612	0	1088				0	2039	633	472	2009	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.33	1.33	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.86	0.86	0.93	0.93	0.00
Uniform Delay (d), s/veh	25.1	0.0	29.2				0.0	18.5	27.0	37.2	5.9	0.0
Incr Delay (d2), s/veh	0.8	0.0	9.8				0.0	0.3	57.2	7.9	0.7	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
%ile BackOfQ(50%),veh/ln	5.4	0.0	10.5				0.0	3.0	22.8	3.6	2.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.9	0.0	39.0				0.0	18.9	84.2	45.1	6.6	0.0
LnGrp LOS	C	A	D				A	B	F	D	A	A
Approach Vol, veh/h		1225						1316			1237	
Approach Delay, s/veh		35.7						52.8			16.5	
Approach LOS		D						D			B	
Timer - Assigned Phs	1	2	4	6								
Phs Duration (G+Y+Rc), s	34.9	41.0	34.0	56.0								
Change Period (Y+Rc), s	4.7	5.1	5.1	5.1								
Max Green Setting (Gmax), s	31.9	31.9	30.9	48.9								
Max Q Clear Time (g_c+M), s	37.9	37.9	26.9	10.8								
Green Ext Time (p_c), s	0.3	0.0	2.1	7.6								

Intersection Summary

HCM 6th Ctrl Delay	35.4
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

6: Auto Park Way/Nordahl Rd & Mission Rd

Existing
Timing Plan: AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↗	↔↔	↑↑	↗	↔↔	↑↑↑	↗	↔↔	↑↑	↗
Traffic Volume (veh/h)	291	385	242	71	603	257	376	641	32	316	880	271
Future Volume (veh/h)	291	385	242	71	603	257	376	641	32	316	880	271
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	2057	1870	1870	2057	1870
Adj Flow Rate, veh/h	316	418	263	77	655	0	409	697	35	343	957	295
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	373	1022	456	133	776		467	2212	624	409	1474	598
Arrive On Green	0.11	0.29	0.29	0.04	0.22	0.00	0.14	0.39	0.39	0.12	0.38	0.38
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	5617	1585	3456	3909	1585
Grp Volume(v), veh/h	316	418	263	77	655	0	409	697	35	343	957	295
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1872	1585	1728	1955	1585
Q Serve(g_s), s	10.8	11.4	17.0	2.6	21.2	0.0	13.9	10.3	1.6	11.7	24.2	17.1
Cycle Q Clear(g_c), s	10.8	11.4	17.0	2.6	21.2	0.0	13.9	10.3	1.6	11.7	24.2	17.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	373	1022	456	133	776		467	2212	624	409	1474	598
V/C Ratio(X)	0.85	0.41	0.58	0.58	0.84		0.88	0.32	0.06	0.84	0.65	0.49
Avail Cap(c_a), veh/h	409	1232	549	190	1007		507	2212	624	533	1474	598
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)	0.43	0.43	0.43	1.00	1.00	0.00	1.00	1.00	1.00	0.82	0.82	0.82
Uniform Delay (d), s/veh	52.6	34.5	36.5	56.7	45.0	0.0	50.9	25.2	22.5	51.8	30.8	28.6
Incr Delay (d2), s/veh	6.8	0.1	0.5	3.9	5.3	0.0	15.0	0.4	0.2	7.5	1.8	2.4
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	4.9	4.8	6.6	1.2	9.6	0.0	6.9	4.6	0.6	5.4	11.6	6.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.3	34.6	37.0	60.7	50.3	0.0	65.9	25.5	22.7	59.3	32.7	31.0
LnGrp LOS	E	C	D	E	D		E	C	C	E	C	C
Approach Vol, veh/h		997			732	A		1141			1595	
Approach Delay, s/veh		43.1			51.3			39.9			38.1	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.2	39.8	20.8	50.2	17.5	31.5	18.8	52.2				
Change Period (Y+Rc), s	4.6	5.3	4.6	4.9	4.6	5.3	4.6	4.9				
Max Green Setting (Gmax), s	4.6	41.6	17.6	34.8	14.2	34.0	18.5	33.9				
Max Q Clear Time (g_c+1), s	4.6	19.0	15.9	26.2	12.8	23.2	13.7	12.3				
Green Ext Time (p_c), s	0.0	3.4	0.3	4.7	0.2	3.0	0.5	4.8				

Intersection Summary

HCM 6th Ctrl Delay	41.8
HCM 6th LOS	D

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection						
Int Delay, s/veh	3.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↕↕	↕↕	↗
Traffic Vol, veh/h	0	283	0	808	1000	92
Future Vol, veh/h	0	283	0	808	1000	92
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	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	0	308	0	878	1087	100

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	-	544	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.94	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.32	-
Pot Cap-1 Maneuver	0	483	0
Stage 1	0	-	0
Stage 2	0	-	0
Platoon blocked, %			-
Mov Cap-1 Maneuver	-	483	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	24.6	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT EBLn1	SBT	SBR
Capacity (veh/h)	-	483	-
HCM Lane V/C Ratio	-	0.637	-
HCM Control Delay (s)	-	24.6	-
HCM Lane LOS	-	C	-
HCM 95th %tile Q(veh)	-	4.4	-

HCM 6th TWSC
8: Meyers Ave & Proj Dwy

Existing
Timing Plan: AM

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	FF			↑	↑	
Traffic Vol, veh/h	0	0	0	137	377	0
Future Vol, veh/h	0	0	0	137	377	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	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	0	0	0	149	410	0

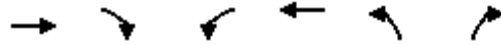
Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	559	410	-	0	-	0
Stage 1	410	-	-	-	-	-
Stage 2	149	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	-	-
Pot Cap-1 Maneuver	490	642	0	-	-	0
Stage 1	670	-	0	-	-	0
Stage 2	879	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	490	642	-	-	-	-
Mov Cap-2 Maneuver	490	-	-	-	-	-
Stage 1	670	-	-	-	-	-
Stage 2	879	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT EBLn1	SBT
Capacity (veh/h)	-	-
HCM Lane V/C Ratio	-	-
HCM Control Delay (s)	-	0
HCM Lane LOS	-	A
HCM 95th %tile Q(veh)	-	-

HCM 6th Signalized Intersection Summary
 1: La Moree Road & Barham Dr

Existing
 Timing Plan: PM



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↙	↑↑	↙	↗
Traffic Volume (veh/h)	1092	74	107	506	77	84
Future Volume (veh/h)	1092	74	107	506	77	84
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1187	80	116	550	84	91
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1292	87	162	1969	477	424
Arrive On Green	0.38	0.38	0.09	0.55	0.27	0.27
Sat Flow, veh/h	3472	227	1781	3647	1781	1585
Grp Volume(v), veh/h	624	643	116	550	84	91
Grp Sat Flow(s),veh/h/ln	1777	1829	1781	1777	1781	1585
Q Serve(g_s), s	22.8	22.9	4.3	5.6	2.5	3.1
Cycle Q Clear(g_c), s	22.8	22.9	4.3	5.6	2.5	3.1
Prop In Lane		0.12	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	680	700	162	1969	477	424
V/C Ratio(X)	0.92	0.92	0.72	0.28	0.18	0.21
Avail Cap(c_a), veh/h	694	714	190	2053	477	424
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.1	20.1	30.2	8.0	19.2	19.5
Incr Delay (d2), s/veh	17.0	16.9	10.0	0.1	0.8	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.1	11.4	2.2	1.6	1.1	1.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	37.1	37.0	40.3	8.1	20.1	20.6
LnGrp LOS	D	D	D	A	C	C
Approach Vol, veh/h	1267			666	175	
Approach Delay, s/veh	37.1			13.7	20.3	
Approach LOS	D			B	C	
Timer - Assigned Phs		2	3	4		8
Phs Duration (G+Y+Rc), s		24.2	11.7	32.5		44.2
Change Period (Y+Rc), s		5.9	5.5	6.3		6.3
Max Green Setting (Gmax), s		18.3	7.3	26.7		39.5
Max Q Clear Time (g_c+I1), s		5.1	6.3	24.9		7.6
Green Ext Time (p_c), s		0.4	0.0	1.2		3.6
Intersection Summary						
HCM 6th Ctrl Delay			28.3			
HCM 6th LOS			C			

HCM 6th TWSC
2: Meyers Ave & Barham Dr

Existing
Timing Plan: PM

Intersection						
Int Delay, s/veh	28.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	567	266	22	541	182	25
Future Vol, veh/h	567	266	22	541	182	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	80	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	616	289	24	588	198	27

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	905	0	1397 761
Stage 1	-	-	-	-	761 -
Stage 2	-	-	-	-	636 -
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	-	-	752	-	~ 155 405
Stage 1	-	-	-	-	461 -
Stage 2	-	-	-	-	527 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	752	-	~ 148 405
Mov Cap-2 Maneuver	-	-	-	-	~ 148 -
Stage 1	-	-	-	-	461 -
Stage 2	-	-	-	-	502 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	219.6
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	148	405	-	-	752	-
HCM Lane V/C Ratio	1.337	0.067	-	-	0.032	-
HCM Control Delay (s)	247.8	14.5	-	-	9.9	0
HCM Lane LOS	F	B	-	-	A	A
HCM 95th %tile Q(veh)	12.3	0.2	-	-	0.1	-

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

HCM 6th Signalized Intersection Summary
3: Barham Dr & Mission Rd

Existing
Timing Plan: PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗↗	↘	↖	↗↗			↕	↗↗		↕	
Traffic Volume (veh/h)	0	815	59	443	996	0	113	5	529	12	1	0
Future Volume (veh/h)	0	815	59	443	996	0	113	5	529	12	1	0
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	886	64	482	1083	0	123	5	575	13	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	2	977	436	444	2052	0	384	16	624	42	3	0
Arrive On Green	0.00	0.27	0.27	0.25	0.58	0.00	0.22	0.22	0.22	0.03	0.03	0.00
Sat Flow, veh/h	1781	3554	1585	1781	3647	0	1715	70	2790	1660	128	0
Grp Volume(v), veh/h	0	886	64	482	1083	0	128	0	575	14	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	0	1785	0	1395	1787	0	0
Q Serve(g_s), s	0.0	27.1	3.4	28.0	20.8	0.0	6.7	0.0	22.6	0.9	0.0	0.0
Cycle Q Clear(g_c), s	0.0	27.1	3.4	28.0	20.8	0.0	6.7	0.0	22.6	0.9	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.00	0.96		1.00	0.93		0.00
Lane Grp Cap(c), veh/h	2	977	436	444	2052	0	399	0	624	45	0	0
V/C Ratio(X)	0.00	0.91	0.15	1.09	0.53	0.00	0.32	0.00	0.92	0.31	0.00	0.00
Avail Cap(c_a), veh/h	111	1028	458	444	2052	0	413	0	645	127	0	0
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)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	39.4	30.8	42.2	14.4	0.0	36.5	0.0	42.6	53.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	11.1	0.2	67.9	0.3	0.0	0.5	0.0	18.3	3.8	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	0.0	12.8	1.3	20.1	7.6	0.0	3.0	0.0	9.3	0.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	50.5	30.9	110.1	14.7	0.0	36.9	0.0	61.0	57.7	0.0	0.0
LnGrp LOS	A	D	C	F	B	A	D	A	E	E	A	A
Approach Vol, veh/h		950			1565			703			14	
Approach Delay, s/veh		49.2			44.1			56.6			57.7	
Approach LOS		D			D			E			E	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	34.0	37.4		8.8	0.0	71.4		32.2				
Change Period (Y+Rc), s	6.0	6.5		6.0	6.5	* 6.5		7.0				
Max Green Setting (Gmax), s	28.0	32.5		8.0	7.0	* 54		26.0				
Max Q Clear Time (g_c+I1), s	30.0	29.1		2.9	0.0	22.8		24.6				
Green Ext Time (p_c), s	0.0	1.8		0.0	0.0	8.4		0.5				

Intersection Summary

HCM 6th Ctrl Delay	48.3
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

4: Nordahl Rd & SR-78 WB Ramps

Existing
Timing Plan: PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↖	↔	↗	↖↗	↕			↕↕↕	↗
Traffic Volume (veh/h)	0	0	0	441	5	503	641	1036	0	0	803	542
Future Volume (veh/h)	0	0	0	441	5	503	641	1036	0	0	803	542
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
Work Zone On Approach				No		No		No		No		
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				662	0	355	697	1126	0	0	873	531
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				910	0	405	786	2344	0	0	2007	623
Arrive On Green				0.26	0.00	0.26	0.15	0.44	0.00	0.00	0.39	0.39
Sat Flow, veh/h				3563	0	1585	3456	3647	0	0	5274	1585
Grp Volume(v), veh/h				662	0	355	697	1126	0	0	873	531
Grp Sat Flow(s),veh/h/ln				1781	0	1585	1728	1777	0	0	1702	1585
Q Serve(g_s), s				20.4	0.0	25.8	23.7	26.9	0.0	0.0	15.0	36.7
Cycle Q Clear(g_c), s				20.4	0.0	25.8	23.7	26.9	0.0	0.0	15.0	36.7
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				910	0	405	786	2344	0	0	2007	623
V/C Ratio(X)				0.73	0.00	0.88	0.89	0.48	0.00	0.00	0.44	0.85
Avail Cap(c_a), veh/h				1095	0	487	930	2344	0	0	2007	623
HCM Platoon Ratio				1.00	1.00	1.00	0.67	0.67	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.74	0.74	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				40.9	0.0	42.9	49.3	18.9	0.0	0.0	26.7	33.2
Incr Delay (d2), s/veh				2.0	0.0	14.5	7.0	0.5	0.0	0.0	0.7	13.8
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				9.2	0.0	11.7	11.3	12.0	0.0	0.0	6.1	16.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				42.8	0.0	57.3	56.4	19.4	0.0	0.0	27.4	47.1
LnGrp LOS				D	A	E	E	B	A	A	C	D
Approach Vol, veh/h					1017			1823			1404	
Approach Delay, s/veh					47.9			33.6			34.8	
Approach LOS					D			C			C	
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		84.3			32.0	52.3		35.7				
Change Period (Y+Rc), s		5.1			* 4.7	5.1		5.1				
Max Green Setting (Gmax), s		72.9			* 32	35.9		36.9				
Max Q Clear Time (g_c+I1), s		28.9			25.7	38.7		27.8				
Green Ext Time (p_c), s		10.4			1.6	0.0		2.8				

Intersection Summary

HCM 6th Ctrl Delay	37.4
HCM 6th LOS	D

Notes

- User approved volume balancing among the lanes for turning movement.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

5: Nordahl Rd & SR-78 EB Ramps

Existing
Timing Plan: PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	607	72	336	0	0	0	0	1082	855	565	782	0
Future Volume (veh/h)	607	72	336	0	0	0	0	1082	855	565	782	0
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
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	794	0	246				0	1176	840	614	850	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	860	0	383				0	2277	707	652	2394	0
Arrive On Green	0.24	0.00	0.24				0.00	0.59	0.59	0.38	1.00	0.00
Sat Flow, veh/h	3563	0	1585				0	5274	1585	3456	3647	0
Grp Volume(v), veh/h	794	0	246				0	1176	840	614	850	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1702	1585	1728	1777	0
Q Serve(g_s), s	26.1	0.0	16.7				0.0	16.2	53.5	20.6	0.0	0.0
Cycle Q Clear(g_c), s	26.1	0.0	16.7				0.0	16.2	53.5	20.6	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	860	0	383				0	2277	707	652	2394	0
V/C Ratio(X)	0.92	0.00	0.64				0.00	0.52	1.19	0.94	0.36	0.00
Avail Cap(c_a), veh/h	888	0	395				0	2277	707	654	2394	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.33	1.33	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.55	0.55	0.80	0.80	0.00
Uniform Delay (d), s/veh	44.4	0.0	40.9				0.0	16.8	24.4	36.7	0.0	0.0
Incr Delay (d2), s/veh	14.7	0.0	3.4				0.0	0.5	92.9	18.9	0.3	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
%ile BackOfQ(50%),veh/ln	13.2	0.0	6.9				0.0	5.6	35.1	8.6	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.2	0.0	44.3				0.0	17.3	117.3	55.6	0.3	0.0
LnGrp LOS	E	A	D				A	B	F	E	A	A
Approach Vol, veh/h		1040						2016			1464	
Approach Delay, s/veh		55.7						59.0			23.5	
Approach LOS		E						E			C	
Timer - Assigned Phs	1	2		4			6					
Phs Duration (G+Y+Rc), s	37.3	58.6		34.1			85.9					
Change Period (Y+Rc), s	4.7	5.1		5.1			5.1					
Max Green Setting (Gmax), s	23	52.5		29.9			79.9					
Max Q Clear Time (g_c+Q), s	22.6	55.5		28.1			2.0					
Green Ext Time (p_c), s	0.0	0.0		0.9			7.2					

Intersection Summary

HCM 6th Ctrl Delay	46.7
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

6: Auto Park Way/Nordahl Rd & Mission Rd

Existing
Timing Plan: PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↗	↔↔	↑↑	↗	↔↔	↑↑↑	↗	↔↔	↑↑	↗
Traffic Volume (veh/h)	504	775	234	48	716	504	462	816	52	185	327	555
Future Volume (veh/h)	504	775	234	48	716	504	462	816	52	185	327	555
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	2057	1870	1870	2057	1870
Adj Flow Rate, veh/h	548	842	254	52	778	0	502	887	57	201	355	545
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	501	1279	570	119	886		472	2069	584	262	1202	487
Arrive On Green	0.14	0.36	0.36	0.03	0.25	0.00	0.14	0.37	0.37	0.05	0.21	0.21
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	5617	1585	3456	3909	1585
Grp Volume(v), veh/h	548	842	254	52	778	0	502	887	57	201	355	545
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1872	1585	1728	1955	1585
Q Serve(g_s), s	17.4	23.9	14.7	1.8	25.3	0.0	16.4	14.2	2.8	6.9	9.2	36.9
Cycle Q Clear(g_c), s	17.4	23.9	14.7	1.8	25.3	0.0	16.4	14.2	2.8	6.9	9.2	36.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	501	1279	570	119	886		472	2069	584	262	1202	487
V/C Ratio(X)	1.09	0.66	0.45	0.44	0.88		1.06	0.43	0.10	0.77	0.30	1.12
Avail Cap(c_a), veh/h	501	1368	610	150	1007		472	2069	584	357	1202	487
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67
Upstream Filter(I)	0.35	0.35	0.35	1.00	1.00	0.00	1.00	1.00	1.00	0.90	0.90	0.90
Uniform Delay (d), s/veh	51.3	32.2	29.3	56.8	43.3	0.0	51.8	28.4	24.8	55.9	36.6	47.6
Incr Delay (d2), s/veh	53.7	0.4	0.2	2.5	8.2	0.0	59.1	0.7	0.3	6.1	0.6	75.4
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	11.0	9.9	5.5	0.8	11.7	0.0	10.9	6.4	1.1	3.3	4.6	25.2
Unsig. Movement Delay, s/veh						0.00						
LnGrp Delay(d),s/veh	105.0	32.6	29.5	59.3	51.5	0.0	110.9	29.1	25.2	62.0	37.2	123.0
LnGrp LOS	F	C	C	E	D	A	F	C	C	E	D	F
Approach Vol, veh/h		1644			1378	A		1446			1101	
Approach Delay, s/veh		56.2			31.3			57.3			84.2	
Approach LOS		E			C			E			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.7	48.5	21.0	41.8	22.0	35.2	13.7	49.1				
Change Period (Y+Rc), s	4.6	5.3	4.6	4.9	4.6	5.3	4.6	4.9				
Max Green Setting (Gmax), s	5.2	46.2	16.4	32.8	17.4	34.0	12.4	36.8				
Max Q Clear Time (g_c+1), s	13.8	25.9	18.4	38.9	19.4	27.3	8.9	16.2				
Green Ext Time (p_c), s	0.0	6.3	0.0	0.0	0.0	2.7	0.2	6.3				

Intersection Summary

HCM 6th Ctrl Delay	55.9
HCM 6th LOS	E

Notes

Unsignalized Delay for [WBR] is included in calculations of the approach delay and intersection delay.

HCM 6th TWSC
7: Auto Park Way & Meyers Ave

Existing
Timing Plan: PM

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↕↕	↕↕	↗
Traffic Vol, veh/h	0	157	0	1496	679	35
Future Vol, veh/h	0	157	0	1496	679	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	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	0	171	0	1626	738	38

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	-	369	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.94	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.32	-
Pot Cap-1 Maneuver	0	628	0
Stage 1	0	-	0
Stage 2	0	-	0
Platoon blocked, %			-
Mov Cap-1 Maneuver	-	628	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.9	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT EBLn1	SBT	SBR
Capacity (veh/h)	- 628	-	-
HCM Lane V/C Ratio	- 0.272	-	-
HCM Control Delay (s)	- 12.9	-	-
HCM Lane LOS	- B	-	-
HCM 95th %tile Q(veh)	- 1.1	-	-

HCM 6th TWSC
8: Meyers Ave & Proj Dwy

Existing
Timing Plan: PM

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔			↑	↑	
Traffic Vol, veh/h	0	0	0	161	288	0
Future Vol, veh/h	0	0	0	161	288	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	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	0	0	0	175	313	0

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	488	313	-	0	-	0
Stage 1	313	-	-	-	-	-
Stage 2	175	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	-	-
Pot Cap-1 Maneuver	539	727	0	-	-	0
Stage 1	741	-	0	-	-	0
Stage 2	855	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	539	727	-	-	-	-
Mov Cap-2 Maneuver	539	-	-	-	-	-
Stage 1	741	-	-	-	-	-
Stage 2	855	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT EBLn1	SBT
Capacity (veh/h)	-	-
HCM Lane V/C Ratio	-	-
HCM Control Delay (s)	-	0
HCM Lane LOS	-	A
HCM 95th %tile Q(veh)	-	-

APPENDIX E
EXISTING + PROJECT PEAK HOUR INTERSECTION ANALYSIS WORKSHEETS

HCM 6th Signalized Intersection Summary
 1: La Moree Road & Barham Dr

Existing + Project
 Timing Plan: AM



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↙	↑↑	↙	↗
Traffic Volume (veh/h)	637	35	36	280	47	91
Future Volume (veh/h)	637	35	36	280	47	91
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	692	38	39	304	51	99
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1060	58	111	1851	265	236
Arrive On Green	0.31	0.31	0.06	0.52	0.15	0.15
Sat Flow, veh/h	3519	188	1781	3647	1781	1585
Grp Volume(v), veh/h	359	371	39	304	51	99
Grp Sat Flow(s),veh/h/ln	1777	1837	1781	1777	1781	1585
Q Serve(g_s), s	6.5	6.5	0.8	1.7	0.9	2.1
Cycle Q Clear(g_c), s	6.5	6.5	0.8	1.7	0.9	2.1
Prop In Lane		0.10	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	550	568	111	1851	265	236
V/C Ratio(X)	0.65	0.65	0.35	0.16	0.19	0.42
Avail Cap(c_a), veh/h	900	930	338	3002	801	713
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.0	11.0	16.6	4.6	13.8	14.3
Incr Delay (d2), s/veh	1.3	1.3	1.9	0.0	0.3	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	1.8	0.3	0.2	0.3	0.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	12.4	12.3	18.5	4.7	14.1	15.5
LnGrp LOS	B	B	B	A	B	B
Approach Vol, veh/h				343	150	
Approach Delay, s/veh				6.2	15.0	
Approach LOS				A	B	
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	7.8	17.7		11.4		25.5
Change Period (Y+Rc), s	5.5	6.3		5.9		6.3
Max Green Setting (Gmax), s	7.0	18.7		16.6		31.2
Max Q Clear Time (g_c+I1), s	2.8	8.5		4.1		3.7
Green Ext Time (p_c), s	0.0	3.0		0.3		1.8
Intersection Summary						
HCM 6th Ctrl Delay			11.0			
HCM 6th LOS			B			

Intersection						
Int Delay, s/veh	40					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	↔
Traffic Vol, veh/h	308	378	33	580	235	28
Future Vol, veh/h	308	378	33	580	235	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	80	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	335	411	36	630	255	30

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	746	0	1243 541
Stage 1	-	-	-	-	541 -
Stage 2	-	-	-	-	702 -
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	-	-	862	-	~ 193 541
Stage 1	-	-	-	-	583 -
Stage 2	-	-	-	-	491 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	862	-	~ 181 541
Mov Cap-2 Maneuver	-	-	-	-	~ 181 -
Stage 1	-	-	-	-	583 -
Stage 2	-	-	-	-	460 -

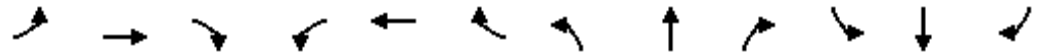
Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	236.3
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	181	541	-	-	862	-
HCM Lane V/C Ratio	1.411	0.056	-	-	0.042	-
HCM Control Delay (s)	263	12.1	-	-	9.4	0
HCM Lane LOS	F	B	-	-	A	A
HCM 95th %tile Q(veh)	15.5	0.2	-	-	0.1	-

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

HCM 6th Signalized Intersection Summary
 3: Barham Dr & Mission Rd

Existing + Project
 Timing Plan: AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗	↘		↖	↗		↖	↗
Traffic Volume (veh/h)	0	770	96	557	859	6	91	3	270	13	19	0
Future Volume (veh/h)	0	770	96	557	859	6	91	3	270	13	19	0
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	837	104	605	934	7	99	3	293	14	21	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1	924	412	634	2403	18	225	7	362	33	50	0
Arrive On Green	0.00	0.26	0.26	0.36	0.66	0.66	0.13	0.13	0.13	0.05	0.05	0.00
Sat Flow, veh/h	1781	3554	1585	1781	3615	27	1731	52	2790	733	1100	0
Grp Volume(v), veh/h	0	837	104	605	459	482	102	0	293	35	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1865	1784	0	1395	1834	0	0
Q Serve(g_s), s	0.0	27.8	6.3	40.4	14.2	14.2	6.4	0.0	12.5	2.3	0.0	0.0
Cycle Q Clear(g_c), s	0.0	27.8	6.3	40.4	14.2	14.2	6.4	0.0	12.5	2.3	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.01	0.97		1.00	0.40		0.00
Lane Grp Cap(c), veh/h	1	924	412	634	1181	1240	231	0	362	84	0	0
V/C Ratio(X)	0.00	0.91	0.25	0.95	0.39	0.39	0.44	0.00	0.81	0.42	0.00	0.00
Avail Cap(c_a), veh/h	102	976	435	687	1181	1240	380	0	595	120	0	0
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)	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	43.7	35.7	38.3	9.2	9.2	49.0	0.0	51.6	56.6	0.0	0.0
Incr Delay (d2), s/veh	0.0	11.5	0.3	23.0	0.2	0.2	1.3	0.0	4.3	3.3	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	0.0	13.2	2.4	20.8	4.9	5.1	3.0	0.0	4.6	1.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	55.2	36.1	61.3	9.4	9.4	50.3	0.0	55.9	59.9	0.0	0.0
LnGrp LOS	A	E	D	E	A	A	D	A	E	E	A	A
Approach Vol, veh/h		941			1546			395				35
Approach Delay, s/veh		53.1			29.7			54.5				59.9
Approach LOS		D			C			D				E
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	49.4	38.2		11.6	0.0	87.6		22.8				
Change Period (Y+Rc), s	6.0	6.5		6.0	6.5	6.5		7.0				
Max Green Setting (Gmax), s	47.0	33.5		8.0	7.0	73.0		26.0				
Max Q Clear Time (g_c+I1), s	42.4	29.8		4.3	0.0	16.2		14.5				
Green Ext Time (p_c), s	1.0	1.9		0.0	0.0	6.4		1.4				
Intersection Summary												
HCM 6th Ctrl Delay				41.0								
HCM 6th LOS				D								

HCM 6th Signalized Intersection Summary

4: Nordahl Rd & SR-78 WB Ramps

Existing + Project
Timing Plan: AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↶	↷	↶	↶↷	↶↷			↶↷↶	↶
Traffic Volume (veh/h)	0	0	0	368	0	143	417	612	0	0	675	338
Future Volume (veh/h)	0	0	0	368	0	143	417	612	0	0	675	338
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
Work Zone On Approach				No		No		No		No		
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				448	0	103	453	665	0	0	734	367
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				572	0	255	565	2580	0	0	2606	809
Arrive On Green				0.16	0.00	0.16	0.05	0.24	0.00	0.00	0.51	0.51
Sat Flow, veh/h				3563	0	1585	3456	3647	0	0	5274	1585
Grp Volume(v), veh/h				448	0	103	453	665	0	0	734	367
Grp Sat Flow(s),veh/h/ln				1781	0	1585	1728	1777	0	0	1702	1585
Q Serve(g_s), s				10.9	0.0	5.3	11.7	13.6	0.0	0.0	7.4	13.3
Cycle Q Clear(g_c), s				10.9	0.0	5.3	11.7	13.6	0.0	0.0	7.4	13.3
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				572	0	255	565	2580	0	0	2606	809
V/C Ratio(X)				0.78	0.00	0.40	0.80	0.26	0.00	0.00	0.28	0.45
Avail Cap(c_a), veh/h				946	0	421	818	2580	0	0	2606	809
HCM Platoon Ratio				1.00	1.00	1.00	0.33	0.33	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.86	0.86	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				36.3	0.0	33.9	41.1	14.6	0.0	0.0	12.6	14.0
Incr Delay (d2), s/veh				2.4	0.0	1.0	3.2	0.2	0.0	0.0	0.3	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				4.8	0.0	2.1	5.6	6.5	0.0	0.0	2.7	4.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				38.7	0.0	34.9	44.4	14.8	0.0	0.0	12.9	15.9
LnGrp LOS				D	A	C	D	B	A	A	B	B
Approach Vol, veh/h					551			1118			1101	
Approach Delay, s/veh					38.0			26.8			13.9	
Approach LOS					D			C			B	
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		70.4			19.4	51.0		19.6				
Change Period (Y+Rc), s		5.1			* 4.7	5.1		5.1				
Max Green Setting (Gmax), s		55.9			* 21	29.9		23.9				
Max Q Clear Time (g_c+I1), s		15.6			13.7	15.3		12.9				
Green Ext Time (p_c), s		5.0			1.0	5.5		1.6				

Intersection Summary

HCM 6th Ctrl Delay	23.9
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
5: Nordahl Rd & SR-78 EB Ramps

Existing + Project
Timing Plan: AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	410	30	688	0	0	0	0	582	633	292	863	0
Future Volume (veh/h)	410	30	688	0	0	0	0	582	633	292	863	0
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
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	308	0	917				0	633	688	317	938	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	572	0	1019				0	2039	633	393	2009	0
Arrive On Green	0.32	0.00	0.32				0.00	0.40	0.40	0.15	0.75	0.00
Sat Flow, veh/h	1781	0	3170				0	5274	1585	3456	3647	0
Grp Volume(v), veh/h	308	0	917				0	633	688	317	938	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1702	1585	1728	1777	0
Q Serve(g_s), s	12.8	0.0	24.9				0.0	7.7	35.9	8.0	9.1	0.0
Cycle Q Clear(g_c), s	12.8	0.0	24.9				0.0	7.7	35.9	8.0	9.1	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	572	0	1019				0	2039	633	393	2009	0
V/C Ratio(X)	0.54	0.00	0.90				0.00	0.31	1.09	0.81	0.47	0.00
Avail Cap(c_a), veh/h	612	0	1088				0	2039	633	472	2009	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.33	1.33	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.85	0.85	0.93	0.93	0.00
Uniform Delay (d), s/veh	25.1	0.0	29.2				0.0	18.5	27.0	37.2	6.0	0.0
Incr Delay (d2), s/veh	0.8	0.0	9.8				0.0	0.3	59.2	7.9	0.7	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
%ile BackOfQ(50%),veh/ln	5.4	0.0	10.5				0.0	3.0	23.2	3.6	2.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.9	0.0	39.0				0.0	18.9	86.2	45.1	6.7	0.0
LnGrp LOS	C	A	D				A	B	F	D	A	A
Approach Vol, veh/h		1225						1321			1255	
Approach Delay, s/veh		35.7						53.9			16.4	
Approach LOS		D						D			B	
Timer - Assigned Phs	1	2	4	6								
Phs Duration (G+Y+Rc), s	4.9	41.0	34.0	56.0								
Change Period (Y+Rc), s	4.7	5.1	5.1	5.1								
Max Green Setting (Gmax), s	31.9		30.9	48.9								
Max Q Clear Time (g_c+M), s	37.9		26.9	11.1								
Green Ext Time (p_c), s	0.3	0.0	2.1	7.8								

Intersection Summary

HCM 6th Ctrl Delay	35.7
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
6: Auto Park Way/Nordahl Rd & Mission Rd

Existing + Project
Timing Plan: AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑↑	↖	↖↗	↑↑	↖
Traffic Volume (veh/h)	294	386	242	76	603	257	379	642	33	316	897	271
Future Volume (veh/h)	294	386	242	76	603	257	379	642	33	316	897	271
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	2057	1870	1870	2057	1870
Adj Flow Rate, veh/h	320	420	263	83	655	0	412	698	36	343	975	295
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	376	1024	457	135	776		470	2207	623	409	1467	595
Arrive On Green	0.11	0.29	0.29	0.04	0.22	0.00	0.14	0.39	0.39	0.12	0.38	0.38
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	5617	1585	3456	3909	1585
Grp Volume(v), veh/h	320	420	263	83	655	0	412	698	36	343	975	295
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1872	1585	1728	1955	1585
Q Serve(g_s), s	10.9	11.4	17.0	2.8	21.2	0.0	14.0	10.3	1.7	11.7	24.9	17.1
Cycle Q Clear(g_c), s	10.9	11.4	17.0	2.8	21.2	0.0	14.0	10.3	1.7	11.7	24.9	17.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	376	1024	457	135	776		470	2207	623	409	1467	595
V/C Ratio(X)	0.85	0.41	0.58	0.62	0.84		0.88	0.32	0.06	0.84	0.66	0.50
Avail Cap(c_a), veh/h	409	1226	547	196	1007		510	2207	623	533	1467	595
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)	0.41	0.41	0.41	1.00	1.00	0.00	1.00	1.00	1.00	0.82	0.82	0.82
Uniform Delay (d), s/veh	52.5	34.5	36.5	56.8	45.0	0.0	50.9	25.3	22.6	51.8	31.2	28.8
Incr Delay (d2), s/veh	6.7	0.1	0.5	4.5	5.3	0.0	15.0	0.4	0.2	7.5	2.0	2.4
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	5.0	4.8	6.6	1.3	9.6	0.0	7.0	4.6	0.7	5.4	11.9	6.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.2	34.6	36.9	61.3	50.3	0.0	65.9	25.6	22.8	59.3	33.2	31.2
LnGrp LOS	E	C	D	E	D		E	C	C	E	C	C
Approach Vol, veh/h		1003			738	A		1146			1613	
Approach Delay, s/veh		43.1			51.5			40.0			38.4	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.3	39.9	20.9	49.9	17.7	31.5	18.8	52.0				
Change Period (Y+Rc), s	4.6	5.3	4.6	4.9	4.6	5.3	4.6	4.9				
Max Green Setting (Gmax), s	8	41.4	17.7	34.7	14.2	34.0	18.5	33.9				
Max Q Clear Time (g_c+1), s	8	19.0	16.0	26.9	12.9	23.2	13.7	12.3				
Green Ext Time (p_c), s	0.0	3.4	0.3	4.4	0.2	3.0	0.5	4.9				

Intersection Summary

HCM 6th Ctrl Delay	42.0
HCM 6th LOS	D

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection						
Int Delay, s/veh	3.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↕↕	↕↕	↗
Traffic Vol, veh/h	0	286	0	813	1000	114
Future Vol, veh/h	0	286	0	813	1000	114
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	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	0	311	0	884	1087	124

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	-	544	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.94	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.32	-
Pot Cap-1 Maneuver	0	483	0
Stage 1	0	-	0
Stage 2	0	-	0
Platoon blocked, %			-
Mov Cap-1 Maneuver	-	483	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	24.9	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT EBLn1	SBT	SBR
Capacity (veh/h)	-	483	-
HCM Lane V/C Ratio	-	0.644	-
HCM Control Delay (s)	-	24.9	-
HCM Lane LOS	-	C	-
HCM 95th %tile Q(veh)	-	4.5	-

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			↑	↑	
Traffic Vol, veh/h	11	3	22	137	377	34
Future Vol, veh/h	11	3	22	137	377	34
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	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	12	3	24	149	410	37

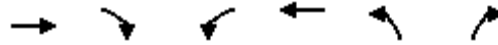
Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	626	429	447	0	-	0
Stage 1	429	-	-	-	-	-
Stage 2	197	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	448	626	1113	-	-	-
Stage 1	657	-	-	-	-	-
Stage 2	836	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	437	626	1113	-	-	-
Mov Cap-2 Maneuver	437	-	-	-	-	-
Stage 1	641	-	-	-	-	-
Stage 2	836	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13	1.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1113	-	467	-	-
HCM Lane V/C Ratio	0.021	-	0.033	-	-
HCM Control Delay (s)	8.3	-	13	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

HCM 6th Signalized Intersection Summary
 1: La Moree Road & Barham Dr

Existing + Project
 Timing Plan: PM



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↙	↑↑	↙	↗
Traffic Volume (veh/h)	1102	74	108	528	77	84
Future Volume (veh/h)	1102	74	108	528	77	84
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1198	80	117	574	84	91
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1296	86	162	1972	476	423
Arrive On Green	0.38	0.38	0.09	0.55	0.27	0.27
Sat Flow, veh/h	3475	226	1781	3647	1781	1585
Grp Volume(v), veh/h	629	649	117	574	84	91
Grp Sat Flow(s),veh/h/ln	1777	1830	1781	1777	1781	1585
Q Serve(g_s), s	23.1	23.2	4.4	5.9	2.5	3.1
Cycle Q Clear(g_c), s	23.1	23.2	4.4	5.9	2.5	3.1
Prop In Lane		0.12	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	681	702	162	1972	476	423
V/C Ratio(X)	0.92	0.93	0.72	0.29	0.18	0.21
Avail Cap(c_a), veh/h	692	713	190	2049	476	423
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.2	20.2	30.3	8.1	19.3	19.5
Incr Delay (d2), s/veh	17.9	17.8	10.5	0.1	0.8	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.3	11.7	2.2	1.7	1.1	1.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	38.1	38.0	40.8	8.2	20.1	20.7
LnGrp LOS	D	D	D	A	C	C
Approach Vol, veh/h	1278			691	175	
Approach Delay, s/veh	38.0			13.7	20.4	
Approach LOS	D			B	C	
Timer - Assigned Phs		2	3	4		8
Phs Duration (G+Y+Rc), s		24.2	11.7	32.6		44.3
Change Period (Y+Rc), s		5.9	5.5	6.3		6.3
Max Green Setting (Gmax), s		18.3	7.3	26.7		39.5
Max Q Clear Time (g_c+I1), s		5.1	6.4	25.2		7.9
Green Ext Time (p_c), s		0.4	0.0	1.0		3.8
Intersection Summary						
HCM 6th Ctrl Delay			28.8			
HCM 6th LOS			C			

HCM 6th TWSC
2: Meyers Ave & Barham Dr

Existing + Project
Timing Plan: PM

Intersection						
Int Delay, s/veh	41.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	↔
Traffic Vol, veh/h	567	276	26	541	205	43
Future Vol, veh/h	567	276	26	541	205	43
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	80	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	616	300	28	588	223	47

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	916	0	1410 766
Stage 1	-	-	-	-	766 -
Stage 2	-	-	-	-	644 -
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	-	-	745	-	~ 153 403
Stage 1	-	-	-	-	459 -
Stage 2	-	-	-	-	523 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	745	-	~ 144 403
Mov Cap-2 Maneuver	-	-	-	-	~ 144 -
Stage 1	-	-	-	-	459 -
Stage 2	-	-	-	-	494 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	278.5
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	144	403	-	-	745	-
HCM Lane V/C Ratio	1.547	0.116	-	-	0.038	-
HCM Control Delay (s)	\$ 333.7	15.1	-	-	10	0
HCM Lane LOS	F	C	-	-	B	A
HCM 95th %tile Q(veh)	15.3	0.4	-	-	0.1	-

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

HCM 6th Signalized Intersection Summary
 3: Barham Dr & Mission Rd

Existing + Project
 Timing Plan: PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↑↑	↗	↙	↑↑			↑	↗↗		↖	
Traffic Volume (veh/h)	0	815	62	444	996	0	118	5	542	12	1	0
Future Volume (veh/h)	0	815	62	444	996	0	118	5	542	12	1	0
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	886	67	483	1083	0	128	5	589	13	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	2	975	435	442	2044	0	390	15	633	42	3	0
Arrive On Green	0.00	0.27	0.27	0.25	0.58	0.00	0.23	0.23	0.23	0.03	0.03	0.00
Sat Flow, veh/h	1781	3554	1585	1781	3647	0	1717	67	2790	1660	128	0
Grp Volume(v), veh/h	0	886	67	483	1083	0	133	0	589	14	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	0	1784	0	1395	1787	0	0
Q Serve(g_s), s	0.0	27.2	3.6	28.0	21.0	0.0	7.0	0.0	23.4	0.9	0.0	0.0
Cycle Q Clear(g_c), s	0.0	27.2	3.6	28.0	21.0	0.0	7.0	0.0	23.4	0.9	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.00	0.96		1.00	0.93		0.00
Lane Grp Cap(c), veh/h	2	975	435	442	2044	0	405	0	633	45	0	0
V/C Ratio(X)	0.00	0.91	0.15	1.09	0.53	0.00	0.33	0.00	0.93	0.31	0.00	0.00
Avail Cap(c_a), veh/h	110	1023	456	442	2044	0	411	0	642	127	0	0
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)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	39.6	31.1	42.5	14.7	0.0	36.5	0.0	42.8	54.1	0.0	0.0
Incr Delay (d2), s/veh	0.0	11.4	0.2	70.6	0.3	0.0	0.5	0.0	20.2	3.9	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	0.0	12.9	1.4	20.4	7.7	0.0	3.1	0.0	9.7	0.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	51.0	31.2	113.1	14.9	0.0	36.9	0.0	63.0	57.9	0.0	0.0
LnGrp LOS	A	D	C	F	B	A	D	A	E	E	A	A
Approach Vol, veh/h		953			1566			722			14	
Approach Delay, s/veh		49.6			45.2			58.2			57.9	
Approach LOS		D			D			E			E	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	34.0	37.5		8.8	0.0	71.5		32.6				
Change Period (Y+Rc), s	6.0	6.5		6.0	6.5	* 6.5		7.0				
Max Green Setting (Gmax), s	28.0	32.5		8.0	7.0	* 54		26.0				
Max Q Clear Time (g_c+I1), s	30.0	29.2		2.9	0.0	23.0		25.4				
Green Ext Time (p_c), s	0.0	1.8		0.0	0.0	8.4		0.3				

Intersection Summary

HCM 6th Ctrl Delay	49.4
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

4: Nordahl Rd & SR-78 WB Ramps

Existing + Project
Timing Plan: PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↶	↷	↶	↶	↶	↶		↶	↶
Traffic Volume (veh/h)	0	0	0	447	5	503	641	1039	0	0	804	542
Future Volume (veh/h)	0	0	0	447	5	503	641	1039	0	0	804	542
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
Work Zone On Approach				No		No		No		No		
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				668	0	356	697	1129	0	0	874	531
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				912	0	406	786	2342	0	0	2003	622
Arrive On Green				0.26	0.00	0.26	0.15	0.44	0.00	0.00	0.39	0.39
Sat Flow, veh/h				3563	0	1585	3456	3647	0	0	5274	1585
Grp Volume(v), veh/h				668	0	356	697	1129	0	0	874	531
Grp Sat Flow(s),veh/h/ln				1781	0	1585	1728	1777	0	0	1702	1585
Q Serve(g_s), s				20.6	0.0	25.9	23.7	27.0	0.0	0.0	15.1	36.7
Cycle Q Clear(g_c), s				20.6	0.0	25.9	23.7	27.0	0.0	0.0	15.1	36.7
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				912	0	406	786	2342	0	0	2003	622
V/C Ratio(X)				0.73	0.00	0.88	0.89	0.48	0.00	0.00	0.44	0.85
Avail Cap(c_a), veh/h				1095	0	487	930	2342	0	0	2003	622
HCM Platoon Ratio				1.00	1.00	1.00	0.67	0.67	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.74	0.74	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				40.9	0.0	42.8	49.3	19.0	0.0	0.0	26.7	33.3
Incr Delay (d2), s/veh				2.1	0.0	14.5	7.0	0.5	0.0	0.0	0.7	14.0
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				9.3	0.0	11.7	11.3	12.0	0.0	0.0	6.2	16.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				42.9	0.0	57.4	56.4	19.5	0.0	0.0	27.4	47.3
LnGrp LOS				D	A	E	E	B	A	A	C	D
Approach Vol, veh/h					1024			1826			1405	
Approach Delay, s/veh					48.0			33.6			34.9	
Approach LOS					D			C			C	
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		84.2			32.0	52.2		35.8				
Change Period (Y+Rc), s		5.1			* 4.7	5.1		5.1				
Max Green Setting (Gmax), s		72.9			* 32	35.9		36.9				
Max Q Clear Time (g_c+I1), s		29.0			25.7	38.7		27.9				
Green Ext Time (p_c), s		10.5			1.6	0.0		2.9				

Intersection Summary

HCM 6th Ctrl Delay	37.5
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

5: Nordahl Rd & SR-78 EB Ramps

Existing + Project
Timing Plan: PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	607	72	336	0	0	0	0	1085	867	565	789	0
Future Volume (veh/h)	607	72	336	0	0	0	0	1085	867	565	789	0
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
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	794	0	246				0	1179	853	614	858	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	848	0	377				0	2325	722	631	2406	0
Arrive On Green	0.24	0.00	0.24				0.00	0.46	0.46	0.36	1.00	0.00
Sat Flow, veh/h	3563	0	1585				0	5274	1585	3456	3647	0
Grp Volume(v), veh/h	794	0	246				0	1179	853	614	858	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1702	1585	1728	1777	0
Q Serve(g_s), s	26.2	0.0	16.8				0.0	19.6	54.6	21.0	0.0	0.0
Cycle Q Clear(g_c), s	26.2	0.0	16.8				0.0	19.6	54.6	21.0	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	848	0	377				0	2325	722	631	2406	0
V/C Ratio(X)	0.94	0.00	0.65				0.00	0.51	1.18	0.97	0.36	0.00
Avail Cap(c_a), veh/h	858	0	382				0	2325	722	631	2406	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(l)	1.00	0.00	1.00				0.00	0.53	0.53	0.80	0.80	0.00
Uniform Delay (d), s/veh	44.8	0.0	41.2				0.0	23.1	32.7	37.8	0.0	0.0
Incr Delay (d2), s/veh	17.2	0.0	3.9				0.0	0.4	89.8	25.6	0.3	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
%ile BackOfQ(50%),veh/ln	13.5	0.0	7.0				0.0	7.9	38.2	9.4	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.0	0.0	45.1				0.0	23.6	122.4	63.4	0.3	0.0
LnGrp LOS	E	A	D				A	C	F	E	A	A
Approach Vol, veh/h		1040						2032			1472	
Approach Delay, s/veh		58.0						65.1			26.6	
Approach LOS		E						E			C	
Timer - Assigned Phs	1	2		4			6					
Phs Duration (G+Y+Rc), s	36.6	59.7		33.7			86.3					
Change Period (Y+Rc), s	4.7	5.1		5.1			5.1					
Max Green Setting (Gmax), s	23	54.3		28.9			80.9					
Max Q Clear Time (g_c+Q), s	23	56.6		28.2			2.0					
Green Ext Time (p_c), s	0.0	0.0		0.3			7.3					

Intersection Summary

HCM 6th Ctrl Delay	51.0
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

6: Auto Park Way/Nordahl Rd & Mission Rd

Existing + Project
Timing Plan: PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↗	↔↔	↑↑	↗	↔↔	↑↑↑	↗	↔↔	↑↑	↗
Traffic Volume (veh/h)	514	778	234	50	716	504	463	821	55	185	334	555
Future Volume (veh/h)	514	778	234	50	716	504	463	821	55	185	334	555
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	2057	1870	1870	2057	1870
Adj Flow Rate, veh/h	559	846	254	54	778	0	503	892	60	201	363	545
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	523	1308	583	123	898		463	1974	557	263	1148	466
Arrive On Green	0.15	0.37	0.37	0.04	0.25	0.00	0.13	0.35	0.35	0.08	0.29	0.29
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	5617	1585	3456	3909	1585
Grp Volume(v), veh/h	559	846	254	54	778	0	503	892	60	201	363	545
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1872	1585	1728	1955	1585
Q Serve(g_s), s	17.4	22.7	13.9	1.8	24.1	0.0	15.4	14.1	2.9	6.6	8.3	33.8
Cycle Q Clear(g_c), s	17.4	22.7	13.9	1.8	24.1	0.0	15.4	14.1	2.9	6.6	8.3	33.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	523	1308	583	123	898		463	1974	557	263	1148	466
V/C Ratio(X)	1.07	0.65	0.44	0.44	0.87		1.09	0.45	0.11	0.76	0.32	1.17
Avail Cap(c_a), veh/h	523	1424	635	159	1050		463	1974	557	372	1148	466
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.8	30.2	27.4	54.3	41.1	0.0	49.8	28.8	25.2	52.1	31.6	40.6
Incr Delay (d2), s/veh	59.3	0.9	0.5	2.4	6.9	0.0	67.6	0.7	0.4	5.8	0.7	97.6
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	11.6	9.4	5.2	0.8	11.0	0.0	10.9	6.4	1.2	3.0	4.0	25.4
Unsig. Movement Delay, s/veh						0.00						
LnGrp Delay(d),s/veh	108.2	31.1	27.9	56.8	48.1	0.0	117.4	29.5	25.5	57.9	32.4	138.2
LnGrp LOS	F	C	C	E	D	A	F	C	C	E	C	F
Approach Vol, veh/h		1659			1380	A		1455			1109	
Approach Delay, s/veh		56.5			29.3			59.7			89.0	
Approach LOS		E			C			E			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.7	47.7	20.0	38.7	22.0	34.4	13.4	45.3				
Change Period (Y+Rc), s	4.6	5.3	4.6	4.9	4.6	5.3	4.6	4.9				
Max Green Setting (Gmax), s	5.3	46.1	15.4	33.8	17.4	34.0	12.4	36.8				
Max Q Clear Time (g_c+1), s	13.8	24.7	17.4	35.8	19.4	26.1	8.6	16.1				
Green Ext Time (p_c), s	0.0	6.4	0.0	0.0	0.0	3.0	0.2	6.4				

Intersection Summary

HCM 6th Ctrl Delay	57.1
HCM 6th LOS	E

Notes

Unsignalized Delay for [WBR] is included in calculations of the approach delay and intersection delay.

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↕↕	↕↕	↗
Traffic Vol, veh/h	0	167	0	1505	679	44
Future Vol, veh/h	0	167	0	1505	679	44
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	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	0	182	0	1636	738	48

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	-	369	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.94	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.32	-
Pot Cap-1 Maneuver	0	628	0
Stage 1	0	-	0
Stage 2	0	-	0
Platoon blocked, %			-
Mov Cap-1 Maneuver	-	628	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT EBLn1	SBT	SBR
Capacity (veh/h)	- 628	-	-
HCM Lane V/C Ratio	- 0.289	-	-
HCM Control Delay (s)	- 13	-	-
HCM Lane LOS	- B	-	-
HCM 95th %tile Q(veh)	- 1.2	-	-

Intersection						
Int Delay, s/veh	1.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔			↑	↑	
Traffic Vol, veh/h	40	10	9	161	288	14
Future Vol, veh/h	40	10	9	161	288	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	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	43	11	10	175	313	15

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	516	321	328	0	-	0
Stage 1	321	-	-	-	-	-
Stage 2	195	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	519	720	1232	-	-	-
Stage 1	735	-	-	-	-	-
Stage 2	838	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	514	720	1232	-	-	-
Mov Cap-2 Maneuver	514	-	-	-	-	-
Stage 1	728	-	-	-	-	-
Stage 2	838	-	-	-	-	-

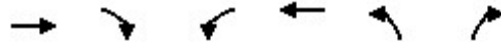
Approach	EB	NB	SB
HCM Control Delay, s	12.3	0.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1232	-	545	-	-
HCM Lane V/C Ratio	0.008	-	0.1	-	-
HCM Control Delay (s)	7.9	-	12.3	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

APPENDIX F
NEAR TERM WITHOUT PROJECT PEAK HOUR INTERSECTION ANALYSIS
WORKSHEETS

HCM 6th Signalized Intersection Summary
 1: La Moree Road & Barham Dr

Existing + Cumulative
 Timing Plan: AM



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↵	↑↑	↵	↵
Traffic Volume (veh/h)	679	39	36	365	48	90
Future Volume (veh/h)	679	39	36	365	48	90
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	738	42	39	397	52	98
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1099	63	111	1882	262	233
Arrive On Green	0.32	0.32	0.06	0.53	0.15	0.15
Sat Flow, veh/h	3511	194	1781	3647	1781	1585
Grp Volume(v), veh/h	384	396	39	397	52	98
Grp Sat Flow(s),veh/h/ln	1777	1835	1781	1777	1781	1585
Q Serve(g_s), s	7.0	7.1	0.8	2.2	1.0	2.1
Cycle Q Clear(g_c), s	7.0	7.1	0.8	2.2	1.0	2.1
Prop In Lane		0.11	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	571	590	111	1882	262	233
V/C Ratio(X)	0.67	0.67	0.35	0.21	0.20	0.42
Avail Cap(c_a), veh/h	881	910	330	2939	784	697
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.1	11.1	17.0	4.7	14.1	14.6
Incr Delay (d2), s/veh	1.4	1.3	1.9	0.1	0.4	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	2.0	0.3	0.3	0.3	0.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	12.4	12.4	18.9	4.8	14.5	15.8
LnGrp LOS	B	B	B	A	B	B
Approach Vol, veh/h	780			436	150	
Approach Delay, s/veh	12.4			6.0	15.4	
Approach LOS	B			A	B	
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	7.8	18.4		11.4		26.3
Change Period (Y+Rc), s	5.5	6.3		5.9		6.3
Max Green Setting (Gmax), s	7.0	18.7		16.6		31.2
Max Q Clear Time (g_c+I1), s	2.8	9.1		4.1		4.2
Green Ext Time (p_c), s	0.0	3.1		0.3		2.4
Intersection Summary						
HCM 6th Ctrl Delay			10.7			
HCM 6th LOS			B			

Intersection						
Int Delay, s/veh	98.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↻			↻	↻	↻
Traffic Vol, veh/h	356	363	41	598	302	47
Future Vol, veh/h	356	363	41	598	302	47
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	80	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	387	395	45	650	328	51

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	782	0	1325 585
Stage 1	-	-	-	-	585 -
Stage 2	-	-	-	-	740 -
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	-	-	836	-	~ 172 511
Stage 1	-	-	-	-	557 -
Stage 2	-	-	-	-	472 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	836	-	~ 158 511
Mov Cap-2 Maneuver	-	-	-	-	~ 158 -
Stage 1	-	-	-	-	557 -
Stage 2	-	-	-	-	432 -






















Approach	EB	WB	NB
HCM Control Delay, s	0	0.6	\$ 480.4
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	158	511	-	-	836	-
HCM Lane V/C Ratio	2.078	0.1	-	-	0.053	-
HCM Control Delay (s)	\$ 553.2	12.8	-	-	9.5	0
HCM Lane LOS	F	B	-	-	A	A
HCM 95th %tile Q(veh)	26	0.3	-	-	0.2	-

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

HCM 6th Signalized Intersection Summary
 3: Barham Dr & Mission Rd

Existing + Cumulative
 Timing Plan: AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	817	94	585	895	6	113	3	315	13	19	0
Future Volume (veh/h)	0	817	94	585	895	6	113	3	315	13	19	0
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	888	102	636	973	7	123	3	342	14	21	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1	934	417	627	2391	17	253	6	406	32	48	0
Arrive On Green	0.00	0.26	0.26	0.35	0.66	0.66	0.15	0.15	0.15	0.04	0.04	0.00
Sat Flow, veh/h	1781	3554	1585	1781	3617	26	1741	42	2790	733	1100	0
Grp Volume(v), veh/h	0	888	102	636	478	502	126	0	342	35	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1866	1783	0	1395	1834	0	0
Q Serve(g_s), s	0.0	32.1	6.6	46.0	16.3	16.3	8.5	0.0	15.6	2.4	0.0	0.0
Cycle Q Clear(g_c), s	0.0	32.1	6.6	46.0	16.3	16.3	8.5	0.0	15.6	2.4	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.01	0.98		1.00	0.40		0.00
Lane Grp Cap(c), veh/h	1	934	417	627	1175	1233	259	0	406	81	0	0
V/C Ratio(X)	0.00	0.95	0.24	1.01	0.41	0.41	0.49	0.00	0.84	0.43	0.00	0.00
Avail Cap(c_a), veh/h	95	939	419	627	1175	1233	355	0	555	112	0	0
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)	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	47.3	37.9	42.3	10.3	10.3	51.3	0.0	54.3	60.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	18.5	0.3	39.4	0.2	0.2	1.4	0.0	8.4	3.6	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	0.0	16.1	2.6	26.2	5.8	6.1	3.9	0.0	6.0	1.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	65.8	38.2	81.6	10.5	10.5	52.7	0.0	62.8	64.5	0.0	0.0
LnGrp LOS	A	E	D	F	B	B	D	A	E	E	A	A
Approach Vol, veh/h		990			1616			468			35	
Approach Delay, s/veh		62.9			38.5			60.1			64.5	
Approach LOS		E			D			E			E	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	52.0	40.8		11.8	0.0	92.8		26.0				
Change Period (Y+Rc), s	6.0	6.5		6.0	6.5	6.5		7.0				
Max Green Setting (Gmax), s	46.0	34.5		8.0	7.0	73.0		26.0				
Max Q Clear Time (g_c+I1), s	48.0	34.1		4.4	0.0	18.3		17.6				
Green Ext Time (p_c), s	0.0	0.3		0.0	0.0	6.8		1.4				
Intersection Summary												
HCM 6th Ctrl Delay				49.8								
HCM 6th LOS				D								

HCM 6th Signalized Intersection Summary

4: Nordahl Rd & SR-78 WB Ramps

Existing + Cumulative
Timing Plan: AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↶ ↷	↶ ↷	↶ ↷	↶ ↷	↶ ↷			↶ ↷ ↸	↶ ↷
Traffic Volume (veh/h)	0	0	0	558	0	166	563	720	0	0	716	352
Future Volume (veh/h)	0	0	0	558	0	166	563	720	0	0	716	352
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
Work Zone On Approach				No		No		No				No
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				663	0	120	612	783	0	0	778	383
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				800	0	356	731	2352	0	0	2034	631
Arrive On Green				0.22	0.00	0.22	0.07	0.22	0.00	0.00	0.40	0.40
Sat Flow, veh/h				3563	0	1585	3456	3647	0	0	5274	1585
Grp Volume(v), veh/h				663	0	120	612	783	0	0	778	383
Grp Sat Flow(s),veh/h/ln				1781	0	1585	1728	1777	0	0	1702	1585
Q Serve(g_s), s				16.0	0.0	5.7	15.7	16.7	0.0	0.0	9.7	17.3
Cycle Q Clear(g_c), s				16.0	0.0	5.7	15.7	16.7	0.0	0.0	9.7	17.3
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				800	0	356	731	2352	0	0	2034	631
V/C Ratio(X)				0.83	0.00	0.34	0.84	0.33	0.00	0.00	0.38	0.61
Avail Cap(c_a), veh/h				1104	0	491	910	2352	0	0	2034	631
HCM Platoon Ratio				1.00	1.00	1.00	0.33	0.33	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.81	0.81	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				33.2	0.0	29.3	40.3	18.4	0.0	0.0	19.2	21.5
Incr Delay (d2), s/veh				3.9	0.0	0.6	4.7	0.3	0.0	0.0	0.5	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				7.1	0.0	2.2	7.7	7.9	0.0	0.0	3.8	6.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				37.1	0.0	29.8	45.0	18.7	0.0	0.0	19.8	25.8
LnGrp LOS				D	A	C	D	B	A	A	B	C
Approach Vol, veh/h						783		1395			1161	
Approach Delay, s/veh						36.0		30.3			21.7	
Approach LOS						D		C			C	
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		64.7			23.7	41.0		25.3				
Change Period (Y+Rc), s		5.1			* 4.7	5.1		5.1				
Max Green Setting (Gmax), s		51.9			* 24	23.5		27.9				
Max Q Clear Time (g_c+I1), s		18.7			17.7	19.3		18.0				
Green Ext Time (p_c), s		6.0			1.3	2.4		2.3				

Intersection Summary

HCM 6th Ctrl Delay	28.6
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
5: Nordahl Rd & SR-78 EB Ramps

Existing + Cumulative
Timing Plan: AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	438	30	836	0	0	0	0	807	772	304	1083	0
Future Volume (veh/h)	438	30	836	0	0	0	0	807	772	304	1083	0
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
Work Zone On Approach		No					No		No			
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	328	0	1089				0	877	839	330	1177	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	631	0	1124				0	1867	579	395	1891	0
Arrive On Green	0.35	0.00	0.35				0.00	0.37	0.37	0.15	0.71	0.00
Sat Flow, veh/h	1781	0	3170				0	5274	1585	3456	3647	0
Grp Volume(v), veh/h	328	0	1089				0	877	839	330	1177	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1702	1585	1728	1777	0
Q Serve(g_s), s	13.1	0.0	30.4				0.0	11.8	32.9	8.3	15.6	0.0
Cycle Q Clear(g_c), s	13.1	0.0	30.4				0.0	11.8	32.9	8.3	15.6	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	631	0	1124				0	1867	579	395	1891	0
V/C Ratio(X)	0.52	0.00	0.97				0.00	0.47	1.45	0.83	0.62	0.00
Avail Cap(c_a), veh/h	631	0	1124				0	1867	579	395	1891	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.33	1.33	1.00
Upstream Filter(l)	1.00	0.00	1.00				0.00	0.72	0.72	0.84	0.84	0.00
Uniform Delay (d), s/veh	23.0	0.0	28.6				0.0	21.9	28.5	37.3	8.4	0.0
Incr Delay (d2), s/veh	0.8	0.0	19.8				0.0	0.6	208.6	12.2	1.3	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
%ile BackOfQ(50%),veh/lr	5.5	0.0	14.1				0.0	4.7	45.4	4.0	4.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.7	0.0	48.3				0.0	22.5	237.1	49.6	9.7	0.0
LnGrp LOS	C	A	D				A	C	F	D	A	A
Approach Vol, veh/h		1417						1716			1507	
Approach Delay, s/veh		42.6						127.4			18.5	
Approach LOS		D						F			B	
Timer - Assigned Phs	1	2	4	6								
Phs Duration (G+Y+Rc), s	5.0	38.0	37.0	53.0								
Change Period (Y+Rc), s	4.7	5.1	5.1	5.1								
Max Green Setting (Gmax), s	10	32.9	31.9	47.9								
Max Q Clear Time (g_c+110), s	110	34.9	32.4	17.6								
Green Ext Time (p_c), s	0.0	0.0	0.0	10.1								

Intersection Summary

HCM 6th Ctrl Delay	66.1
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
6: Auto Park Way/Nordahl Rd & Mission Rd

Existing + Cumulative
Timing Plan: AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑↑	↖	↖↗	↑↑	↖
Traffic Volume (veh/h)	334	389	291	74	604	269	425	956	40	321	1289	288
Future Volume (veh/h)	334	389	291	74	604	269	425	956	40	321	1289	288
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	2057	1870	1870	2057	1870
Adj Flow Rate, veh/h	363	423	316	80	657	0	462	1039	43	349	1401	313
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	328	977	436	134	777		415	2270	641	416	1581	641
Arrive On Green	0.09	0.28	0.28	0.04	0.22	0.00	0.12	0.40	0.40	0.12	0.40	0.40
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	5617	1585	3456	3909	1585
Grp Volume(v), veh/h	363	423	316	80	657	0	462	1039	43	349	1401	313
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1872	1585	1728	1955	1585
Q Serve(g_s), s	11.4	11.8	21.7	2.7	21.3	0.0	14.4	16.2	2.0	11.9	39.9	17.6
Cycle Q Clear(g_c), s	11.4	11.8	21.7	2.7	21.3	0.0	14.4	16.2	2.0	11.9	39.9	17.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	328	977	436	134	777		415	2270	641	416	1581	641
V/C Ratio(X)	1.11	0.43	0.72	0.60	0.85		1.11	0.46	0.07	0.84	0.89	0.49
Avail Cap(c_a), veh/h	328	1146	511	193	1007		415	2270	641	550	1581	641
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)	0.34	0.34	0.34	1.00	1.00	0.00	1.00	1.00	1.00	0.67	0.67	0.67
Uniform Delay (d), s/veh	54.3	35.8	39.4	56.8	44.9	0.0	52.8	26.1	21.9	51.6	33.2	26.5
Incr Delay (d2), s/veh	62.4	0.1	1.5	4.2	5.3	0.0	78.9	0.7	0.2	6.0	5.4	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.7	5.0	8.5	1.2	9.6	0.0	10.7	7.2	0.8	5.4	19.4	6.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	116.7	35.9	40.9	61.0	50.3	0.0	131.7	26.8	22.1	57.6	38.5	28.3
LnGrp LOS	F	D	D	E	D		F	C	C	E	D	C
Approach Vol, veh/h		1102			737	A		1544			2063	
Approach Delay, s/veh		63.9			51.4			58.1			40.2	
Approach LOS		E			D			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.3	38.3	19.0	53.4	16.0	31.6	19.0	53.4				
Change Period (Y+Rc), s	4.6	5.3	4.6	4.9	4.6	5.3	4.6	4.9				
Max Green Setting (Gmax), s	38.7	38.7	14.4	40.8	11.4	34.0	19.1	36.1				
Max Q Clear Time (g_c+14), s	23.7	23.7	16.4	41.9	13.4	23.3	13.9	18.2				
Green Ext Time (p_c), s	0.0	3.2	0.0	0.0	0.0	3.0	0.6	7.0				

Intersection Summary

HCM 6th Ctrl Delay	51.6
HCM 6th LOS	D

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection						
Int Delay, s/veh	5.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑	↗
Traffic Vol, veh/h	0	283	0	1180	1461	92
Future Vol, veh/h	0	283	0	1180	1461	92
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	87	87	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	311	0	1356	1522	96

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	-	761	-	0	0
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-
Pot Cap-1 Maneuver	0	348	0	-	-
Stage 1	0	-	0	-	-
Stage 2	0	-	0	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	-	348	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	60.2	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	348	-	-
HCM Lane V/C Ratio	-	0.894	-	-
HCM Control Delay (s)	-	60.2	-	-
HCM Lane LOS	-	F	-	-
HCM 95th %tile Q(veh)	-	8.7	-	-

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔			↑	↑	
Traffic Vol, veh/h	0	0	0	137	377	0
Future Vol, veh/h	0	0	0	137	377	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	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	0	0	0	149	410	0

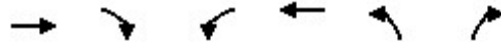
Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	559	410	-	0	-	0
Stage 1	410	-	-	-	-	-
Stage 2	149	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	-	-
Pot Cap-1 Maneuver	490	642	0	-	-	0
Stage 1	670	-	0	-	-	0
Stage 2	879	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	490	642	-	-	-	-
Mov Cap-2 Maneuver	490	-	-	-	-	-
Stage 1	670	-	-	-	-	-
Stage 2	879	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	EBLn1	SBT
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	0	-
HCM Lane LOS	-	A	-
HCM 95th %tile Q(veh)	-	-	-

HCM 6th Signalized Intersection Summary
 1: La Moree Road & Barham Dr

Existing + Cumulative
 Timing Plan: PM



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↙	↑↑	↙	↗
Traffic Volume (veh/h)	1185	76	107	573	81	84
Future Volume (veh/h)	1185	76	107	573	81	84
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1288	83	116	623	88	91
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1424	92	155	2072	444	395
Arrive On Green	0.42	0.42	0.09	0.58	0.25	0.25
Sat Flow, veh/h	3483	218	1781	3647	1781	1585
Grp Volume(v), veh/h	674	697	116	623	88	91
Grp Sat Flow(s),veh/h/ln	1777	1831	1781	1777	1781	1585
Q Serve(g_s), s	25.7	25.9	4.6	6.4	2.8	3.3
Cycle Q Clear(g_c), s	25.7	25.9	4.6	6.4	2.8	3.3
Prop In Lane		0.12	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	747	769	155	2072	444	395
V/C Ratio(X)	0.90	0.91	0.75	0.30	0.20	0.23
Avail Cap(c_a), veh/h	775	799	184	2186	444	395
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	19.7	19.7	32.4	7.7	21.5	21.7
Incr Delay (d2), s/veh	13.6	13.6	13.0	0.1	1.0	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.7	12.1	2.4	1.8	1.2	1.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	33.3	33.3	45.4	7.7	22.5	23.1
LnGrp LOS	C	C	D	A	C	C
Approach Vol, veh/h	1371			739	179	
Approach Delay, s/veh	33.3			13.7	22.8	
Approach LOS	C			B	C	
Timer - Assigned Phs		2	3	4		8
Phs Duration (G+Y+Rc), s		24.0	11.8	36.8		48.7
Change Period (Y+Rc), s		5.9	5.5	6.3		6.3
Max Green Setting (Gmax), s		18.1	7.5	31.7		44.7
Max Q Clear Time (g_c+l1), s		5.3	6.6	27.9		8.4
Green Ext Time (p_c), s		0.4	0.0	2.6		4.2
Intersection Summary						
HCM 6th Ctrl Delay			26.1			
HCM 6th LOS			C			

Intersection

Int Delay, s/veh 102.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	603	310	87	574	216	39
Future Vol, veh/h	603	310	87	574	216	39
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	80	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	655	337	95	624	235	42

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	992
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	-	-	697
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	697
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-






















Approach	EB	WB	NB
HCM Control Delay, s	0	1.4	\$ 728.4
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	88	373	-	-	697	-
HCM Lane V/C Ratio	2.668	0.114	-	-	0.136	-
HCM Control Delay (s)	\$ 857.1	15.9	-	-	11	0
HCM Lane LOS	F	C	-	-	B	A
HCM 95th %tile Q(veh)	22.3	0.4	-	-	0.5	-

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

HCM 6th Signalized Intersection Summary
 3: Barham Dr & Mission Rd

Existing + Cumulative
 Timing Plan: PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	865	78	522	1054	0	124	5	567	12	1	0
Future Volume (veh/h)	0	865	78	522	1054	0	124	5	567	12	1	0
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	940	85	567	1146	0	135	5	616	13	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	2	998	445	435	2053	0	391	14	633	42	3	0
Arrive On Green	0.00	0.28	0.28	0.24	0.58	0.00	0.23	0.23	0.23	0.03	0.03	0.00
Sat Flow, veh/h	1781	3554	1585	1781	3647	0	1721	64	2790	1660	128	0
Grp Volume(v), veh/h	0	940	85	567	1146	0	140	0	616	14	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	0	1784	0	1395	1787	0	0
Q Serve(g_s), s	0.0	29.6	4.7	28.0	23.0	0.0	7.5	0.0	25.1	0.9	0.0	0.0
Cycle Q Clear(g_c), s	0.0	29.6	4.7	28.0	23.0	0.0	7.5	0.0	25.1	0.9	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.00	0.96		1.00	0.93		0.00
Lane Grp Cap(c), veh/h	2	998	445	435	2053	0	405	0	633	45	0	0
V/C Ratio(X)	0.00	0.94	0.19	1.30	0.56	0.00	0.35	0.00	0.97	0.31	0.00	0.00
Avail Cap(c_a), veh/h	109	1008	450	435	2053	0	405	0	633	125	0	0
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)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	40.3	31.3	43.3	15.1	0.0	37.1	0.0	43.9	54.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	16.1	0.2	151.9	0.3	0.0	0.5	0.0	28.9	3.9	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	0.0	14.6	1.8	30.2	8.4	0.0	3.4	0.0	11.1	0.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	56.4	31.5	195.2	15.4	0.0	37.6	0.0	72.9	58.7	0.0	0.0
LnGrp LOS	A	E	C	F	B	A	D	A	E	E	A	A
Approach Vol, veh/h		1025			1713			756			14	
Approach Delay, s/veh		54.3			74.9			66.3			58.7	
Approach LOS		D			E			E			E	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	34.0	38.7		8.9	0.0	72.7		33.0				
Change Period (Y+Rc), s	6.0	6.5		6.0	6.5	* 6.5		7.0				
Max Green Setting (Gmax), s	28.0	32.5		8.0	7.0	* 54		26.0				
Max Q Clear Time (g_c+I1), s	30.0	31.6		2.9	0.0	25.0		27.1				
Green Ext Time (p_c), s	0.0	0.5		0.0	0.0	8.9		0.0				

Intersection Summary

HCM 6th Ctrl Delay	67.0
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
 4: Nordahl Rd & SR-78 WB Ramps

Existing + Cumulative
 Timing Plan: PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↖	↔	↗	↖↗	↕			↕↕↕	↗
Traffic Volume (veh/h)	0	0	0	692	5	518	902	1103	0	0	897	568
Future Volume (veh/h)	0	0	0	692	5	518	902	1103	0	0	897	568
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
Work Zone On Approach				No		No		No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				929	0	377	980	1199	0	0	975	559
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				1034	0	460	1043	2220	0	0	1449	450
Arrive On Green				0.29	0.00	0.29	0.40	0.83	0.00	0.00	0.28	0.28
Sat Flow, veh/h				3563	0	1585	3456	3647	0	0	5274	1585
Grp Volume(v), veh/h				929	0	377	980	1199	0	0	975	559
Grp Sat Flow(s),veh/h/ln				1781	0	1585	1728	1777	0	0	1702	1585
Q Serve(g_s), s				30.0	0.0	26.6	32.7	12.4	0.0	0.0	20.3	34.1
Cycle Q Clear(g_c), s				30.0	0.0	26.6	32.7	12.4	0.0	0.0	20.3	34.1
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				1034	0	460	1043	2220	0	0	1449	450
V/C Ratio(X)				0.90	0.00	0.82	0.94	0.54	0.00	0.00	0.67	1.24
Avail Cap(c_a), veh/h				1125	0	501	1103	2220	0	0	1449	450
HCM Platoon Ratio				1.00	1.00	1.00	1.33	1.33	1.00	1.00	1.00	1.00
Upstream Filter(l)				1.00	0.00	1.00	0.59	0.59	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				40.9	0.0	39.7	34.9	4.9	0.0	0.0	38.0	43.0
Incr Delay (d2), s/veh				9.3	0.0	9.7	9.7	0.6	0.0	0.0	2.5	126.7
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				14.4	0.0	11.5	13.8	3.2	0.0	0.0	8.7	28.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				50.2	0.0	49.4	44.6	5.4	0.0	0.0	40.5	169.7
LnGrp LOS				D	A	D	D	A	A	A	D	F
Approach Vol, veh/h				1306			2179			1534		
Approach Delay, s/veh				49.9			23.0			87.6		
Approach LOS				D			C			F		
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		80.1			40.9	39.2		39.9				
Change Period (Y+Rc), s		5.1			* 4.7	5.1		5.1				
Max Green Setting (Gmax), s		71.9			* 38	28.9		37.9				
Max Q Clear Time (g_c+I1), s		14.4			34.7	36.1		32.0				
Green Ext Time (p_c), s		11.9			1.5	0.0		2.8				

Intersection Summary

HCM 6th Ctrl Delay	49.8
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.
 * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

5: Nordahl Rd & SR-78 EB Ramps

04/06/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	625	72	525	0	0	0	0	1394	1118	585	1106	0
Future Volume (veh/h)	625	72	525	0	0	0	0	1394	1118	585	1106	0
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
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	872	0	373				0	1515	1107	636	1202	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	864	0	384				0	2387	741	573	2390	0
Arrive On Green	0.24	0.00	0.24				0.00	0.93	0.93	0.33	1.00	0.00
Sat Flow, veh/h	3563	0	1585				0	5274	1585	3456	3647	0
Grp Volume(v), veh/h	872	0	373				0	1515	1107	636	1202	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1702	1585	1728	1777	0
Q Serve(g_s), s	29.1	0.0	28.0				0.0	5.7	56.1	19.9	0.0	0.0
Cycle Q Clear(g_c), s	29.1	0.0	28.0				0.0	5.7	56.1	19.9	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	864	0	384				0	2387	741	573	2390	0
V/C Ratio(X)	1.01	0.00	0.97				0.00	0.63	1.49	1.11	0.50	0.00
Avail Cap(c_a), veh/h	864	0	384				0	2387	741	573	2390	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	2.00	2.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.39	0.39	0.67	0.67	0.00
Uniform Delay (d), s/veh	45.5	0.0	45.0				0.0	2.3	3.9	40.1	0.0	0.0
Incr Delay (d2), s/veh	32.9	0.0	38.0				0.0	0.5	225.1	65.5	0.5	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
%ile BackOfQ(50%),veh/ln	16.7	0.0	15.0				0.0	1.1	47.8	12.3	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	78.4	0.0	83.0				0.0	2.8	229.0	105.6	0.5	0.0
LnGrp LOS	F	A	F				A	A	F	F	A	A
Approach Vol, veh/h		1245						2622			1838	
Approach Delay, s/veh		79.8						98.3			36.9	
Approach LOS		E						F			D	
Timer - Assigned Phs	1	2		4				6				
Phs Duration (G+Y+Rc), s	24.6	61.2		34.2				85.8				
Change Period (Y+Rc), s	* 4.7	5.1		5.1				5.1				
Max Green Setting (Gmax), s	* 20	56.1		29.1				80.7				
Max Q Clear Time (g_c+I1), s	21.9	58.1		31.1				2.0				
Green Ext Time (p_c), s	0.0	0.0		0.0				13.0				

Intersection Summary

HCM 6th Ctrl Delay	74.5
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
6: Auto Park Way/Nordahl Rd & Mission Rd

Existing + Cumulative
Timing Plan: PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑↑	↖	↖↗	↑↑	↖
Traffic Volume (veh/h)	525	777	300	57	721	511	524	1363	56	195	796	625
Future Volume (veh/h)	525	777	300	57	721	511	524	1363	56	195	796	625
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	2057	1870	1870	2057	1870
Adj Flow Rate, veh/h	571	845	326	62	784	0	570	1482	61	212	865	621
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	443	1217	543	126	890		443	2144	605	269	1294	525
Arrive On Green	0.13	0.34	0.34	0.04	0.25	0.00	0.13	0.38	0.38	0.05	0.22	0.22
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	5617	1585	3456	3909	1585
Grp Volume(v), veh/h	571	845	326	62	784	0	570	1482	61	212	865	621
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1872	1585	1728	1955	1585
Q Serve(g_s), s	15.4	24.6	20.4	2.1	25.5	0.0	15.4	26.6	3.0	7.3	24.3	39.7
Cycle Q Clear(g_c), s	15.4	24.6	20.4	2.1	25.5	0.0	15.4	26.6	3.0	7.3	24.3	39.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	443	1217	543	126	890		443	2144	605	269	1294	525
V/C Ratio(X)	1.29	0.69	0.60	0.49	0.88		1.29	0.69	0.10	0.79	0.67	1.18
Avail Cap(c_a), veh/h	443	1300	580	158	1007		443	2144	605	291	1294	525
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67
Upstream Filter(I)	0.26	0.26	0.26	1.00	1.00	0.00	1.00	1.00	1.00	0.75	0.75	0.75
Uniform Delay (d), s/veh	52.3	34.0	32.7	56.7	43.2	0.0	52.3	31.2	23.9	55.9	40.7	46.7
Incr Delay (d2), s/veh	134.0	0.4	0.4	3.0	8.4	0.0	144.6	1.9	0.3	9.8	2.1	96.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	10.2	7.8	1.0	11.8	0.0	15.5	12.1	1.2	3.6	12.5	30.2
Unsig. Movement Delay, s/veh						0.00						
LnGrp Delay(d),s/veh	186.3	34.4	33.1	59.7	51.6	0.0	196.9	33.0	24.2	65.7	42.7	143.4
LnGrp LOS	F	C	C	E	D	A	F	C	C	E	D	F
Approach Vol, veh/h		1742			1401	A		2113			1698	
Approach Delay, s/veh		83.9			31.5			77.0			82.4	
Approach LOS		F			C			E			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.0	46.4	20.0	44.6	20.0	35.4	13.9	50.7				
Change Period (Y+Rc), s	4.6	5.3	4.6	4.9	4.6	5.3	4.6	4.9				
Max Green Setting (Gmax), s	5.5	43.9	15.4	35.8	15.4	34.0	10.1	41.1				
Max Q Clear Time (g_c+14), s	14.1	26.6	17.4	41.7	17.4	27.5	9.3	28.6				
Green Ext Time (p_c), s	0.0	6.2	0.0	0.0	0.0	2.6	0.1	8.0				

Intersection Summary

HCM 6th Ctrl Delay	70.9
HCM 6th LOS	E

Notes

Unsignalized Delay for [WBR] is included in calculations of the approach delay and intersection delay.

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑	↗
Traffic Vol, veh/h	0	157	0	2109	1223	35
Future Vol, veh/h	0	157	0	2109	1223	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	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	0	171	0	2292	1329	38

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	-	665	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.94	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.32	-
Pot Cap-1 Maneuver	0	403	0
Stage 1	0	-	0
Stage 2	0	-	0
Platoon blocked, %			
Mov Cap-1 Maneuver	-	403	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	20.3	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	403	-	-
HCM Lane V/C Ratio	-	0.423	-	-
HCM Control Delay (s)	-	20.3	-	-
HCM Lane LOS	-	C	-	-
HCM 95th %tile Q(veh)	-	2.1	-	-

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔			↑	↑	
Traffic Vol, veh/h	0	0	0	161	288	0
Future Vol, veh/h	0	0	0	161	288	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	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	0	0	0	175	313	0

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	488	313	-	0	-	0
Stage 1	313	-	-	-	-	-
Stage 2	175	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	-	-
Pot Cap-1 Maneuver	539	727	0	-	-	0
Stage 1	741	-	0	-	-	0
Stage 2	855	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	539	727	-	-	-	-
Mov Cap-2 Maneuver	539	-	-	-	-	-
Stage 1	741	-	-	-	-	-
Stage 2	855	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	EBLn1	SBT
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	0	-
HCM Lane LOS	-	A	-
HCM 95th %tile Q(veh)	-	-	-

APPENDIX G
NEAR TERM + PROJECT PEAK HOUR INTERSECTION ANALYSIS WORKSHEETS

HCM 6th Signalized Intersection Summary
 1: La Moree Road & Barham Dr

Existing + Project + Cumulative
 Timing Plan: AM



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↵	↑↑	↵	↵
Traffic Volume (veh/h)	703	39	36	371	48	91
Future Volume (veh/h)	703	39	36	371	48	91
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	764	42	39	403	52	99
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1122	62	111	1897	261	232
Arrive On Green	0.33	0.33	0.06	0.53	0.15	0.15
Sat Flow, veh/h	3519	188	1781	3647	1781	1585
Grp Volume(v), veh/h	396	410	39	403	52	99
Grp Sat Flow(s),veh/h/ln	1777	1836	1781	1777	1781	1585
Q Serve(g_s), s	7.4	7.4	0.8	2.3	1.0	2.2
Cycle Q Clear(g_c), s	7.4	7.4	0.8	2.3	1.0	2.2
Prop In Lane		0.10	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	582	602	111	1897	261	232
V/C Ratio(X)	0.68	0.68	0.35	0.21	0.20	0.43
Avail Cap(c_a), veh/h	871	900	327	2906	775	690
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.1	11.1	17.2	4.7	14.3	14.8
Incr Delay (d2), s/veh	1.4	1.4	1.9	0.1	0.4	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	2.1	0.3	0.3	0.3	0.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	12.5	12.5	19.1	4.7	14.7	16.1
LnGrp LOS	B	B	B	A	B	B
Approach Vol, veh/h				442	151	
Approach Delay, s/veh				6.0	15.6	
Approach LOS				A	B	
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	7.9	18.8		11.5		26.7
Change Period (Y+Rc), s	5.5	6.3		5.9		6.3
Max Green Setting (Gmax), s	7.0	18.7		16.6		31.2
Max Q Clear Time (g_c+I1), s	2.8	9.4		4.2		4.3
Green Ext Time (p_c), s	0.0	3.1		0.3		2.4
Intersection Summary						
HCM 6th Ctrl Delay			10.8			
HCM 6th LOS			B			

Intersection						
Int Delay, s/veh	112.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	↔
Traffic Vol, veh/h	356	388	50	598	308	52
Future Vol, veh/h	356	388	50	598	308	52
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	80	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	387	422	54	650	335	57

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	809	0	1356 598
Stage 1	-	-	-	-	598 -
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	-	-	817	-	~ 165 502
Stage 1	-	-	-	-	549 -
Stage 2	-	-	-	-	463 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	817	-	~ 148 502
Mov Cap-2 Maneuver	-	-	-	-	~ 148 -
Stage 1	-	-	-	-	549 -
Stage 2	-	-	-	-	415 -





















Approach	EB	WB	NB
HCM Control Delay, s	0	0.8	\$ 547.7
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	148	502	-	-	817	-
HCM Lane V/C Ratio	2.262	0.113	-	-	0.067	-
HCM Control Delay (s)	\$ 637.9	13.1	-	-	9.7	0
HCM Lane LOS	F	B	-	-	A	A
HCM 95th %tile Q(veh)	27.9	0.4	-	-	0.2	-

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

HCM 6th Signalized Intersection Summary
 3: Barham Dr & Mission Rd

Existing + Project + Cumulative
 Timing Plan: AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	817	100	588	895	6	114	3	319	13	19	0
Future Volume (veh/h)	0	817	100	588	895	6	114	3	319	13	19	0
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	888	109	639	973	7	124	3	347	14	21	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1	908	405	639	2387	17	256	6	410	32	48	0
Arrive On Green	0.00	0.26	0.26	0.36	0.66	0.66	0.15	0.15	0.15	0.04	0.04	0.00
Sat Flow, veh/h	1781	3554	1585	1781	3617	26	1741	42	2790	733	1100	0
Grp Volume(v), veh/h	0	888	109	639	478	502	127	0	347	35	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1866	1783	0	1395	1834	0	0
Q Serve(g_s), s	0.0	32.5	7.2	47.0	16.4	16.4	8.6	0.0	15.9	2.4	0.0	0.0
Cycle Q Clear(g_c), s	0.0	32.5	7.2	47.0	16.4	16.4	8.6	0.0	15.9	2.4	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.01	0.98		1.00	0.40		0.00
Lane Grp Cap(c), veh/h	1	908	405	639	1173	1232	262	0	410	81	0	0
V/C Ratio(X)	0.00	0.98	0.27	1.00	0.41	0.41	0.48	0.00	0.85	0.43	0.00	0.00
Avail Cap(c_a), veh/h	95	908	405	639	1173	1232	354	0	554	112	0	0
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)	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	48.4	39.0	42.0	10.4	10.4	51.3	0.0	54.4	61.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	24.4	0.4	35.6	0.2	0.2	1.4	0.0	8.8	3.6	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	0.0	17.0	2.8	26.0	5.8	6.1	3.9	0.0	6.1	1.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	72.8	39.3	77.7	10.6	10.6	52.7	0.0	63.3	64.7	0.0	0.0
LnGrp LOS	A	E	D	F	B	B	D	A	E	E	A	A
Approach Vol, veh/h		997			1619			474			35	
Approach Delay, s/veh		69.1			37.1			60.4			64.7	
Approach LOS		E			D			E			E	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	53.0	40.0		11.8	0.0	93.0		26.3				
Change Period (Y+Rc), s	6.0	6.5		6.0	6.5	6.5		7.0				
Max Green Setting (Gmax), s	47.0	33.5		8.0	7.0	73.0		26.0				
Max Q Clear Time (g_c+I1), s	49.0	34.5		4.4	0.0	18.4		17.9				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	6.8		1.4				
Intersection Summary												
HCM 6th Ctrl Delay				51.1								
HCM 6th LOS				D								

HCM 6th Signalized Intersection Summary

4: Nordahl Rd & SR-78 WB Ramps

Existing + Project + Cumulative
Timing Plan: AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↶ ↷	↶ ↷	↶ ↷	↶ ↷	↶ ↷			↶ ↷ ↸	↶ ↷
Traffic Volume (veh/h)	0	0	0	572	0	166	563	721	0	0	719	352
Future Volume (veh/h)	0	0	0	572	0	166	563	721	0	0	719	352
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
Work Zone On Approach				No		No		No		No		No
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				678	0	120	612	784	0	0	782	383
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				815	0	363	731	2338	0	0	2013	625
Arrive On Green				0.23	0.00	0.23	0.07	0.22	0.00	0.00	0.39	0.39
Sat Flow, veh/h				3563	0	1585	3456	3647	0	0	5274	1585
Grp Volume(v), veh/h				678	0	120	612	784	0	0	782	383
Grp Sat Flow(s),veh/h/ln				1781	0	1585	1728	1777	0	0	1702	1585
Q Serve(g_s), s				16.3	0.0	5.7	15.7	16.8	0.0	0.0	9.9	17.4
Cycle Q Clear(g_c), s				16.3	0.0	5.7	15.7	16.8	0.0	0.0	9.9	17.4
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				815	0	363	731	2338	0	0	2013	625
V/C Ratio(X)				0.83	0.00	0.33	0.84	0.34	0.00	0.00	0.39	0.61
Avail Cap(c_a), veh/h				1104	0	491	910	2338	0	0	2013	625
HCM Platoon Ratio				1.00	1.00	1.00	0.33	0.33	1.00	1.00	1.00	1.00
Upstream Filter(l)				1.00	0.00	1.00	0.81	0.81	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				33.1	0.0	29.0	40.3	18.6	0.0	0.0	19.5	21.8
Incr Delay (d2), s/veh				4.1	0.0	0.5	4.7	0.3	0.0	0.0	0.6	4.4
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				7.3	0.0	2.2	7.7	7.9	0.0	0.0	3.8	6.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				37.1	0.0	29.5	45.0	18.9	0.0	0.0	20.1	26.2
LnGrp LOS				D	A	C	D	B	A	A	C	C
Approach Vol, veh/h						798		1396			1165	
Approach Delay, s/veh						36.0		30.4			22.1	
Approach LOS						D		C			C	
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		64.3			23.7	40.6		25.7				
Change Period (Y+Rc), s		5.1			* 4.7	5.1		5.1				
Max Green Setting (Gmax), s		51.9			* 24	23.5		27.9				
Max Q Clear Time (g_c+I1), s		18.8			17.7	19.4		18.3				
Green Ext Time (p_c), s		6.0			1.3	2.4		2.3				

Intersection Summary

HCM 6th Ctrl Delay	28.8
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
5: Nordahl Rd & SR-78 EB Ramps

Existing + Project + Cumulative
Timing Plan: AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	438	30	836	0	0	0	0	807	775	304	1100	0
Future Volume (veh/h)	438	30	836	0	0	0	0	807	775	304	1100	0
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
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	328	0	1089				0	877	842	330	1196	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	631	0	1124				0	1867	579	395	1891	0
Arrive On Green	0.35	0.00	0.35				0.00	0.37	0.37	0.15	0.71	0.00
Sat Flow, veh/h	1781	0	3170				0	5274	1585	3456	3647	0
Grp Volume(v), veh/h	328	0	1089				0	877	842	330	1196	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1702	1585	1728	1777	0
Q Serve(g_s), s	13.1	0.0	30.4				0.0	11.8	32.9	8.3	16.0	0.0
Cycle Q Clear(g_c), s	13.1	0.0	30.4				0.0	11.8	32.9	8.3	16.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	631	0	1124				0	1867	579	395	1891	0
V/C Ratio(X)	0.52	0.00	0.97				0.00	0.47	1.45	0.83	0.63	0.00
Avail Cap(c_a), veh/h	631	0	1124				0	1867	579	395	1891	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.33	1.33	1.00
Upstream Filter(l)	1.00	0.00	1.00				0.00	0.71	0.71	0.83	0.83	0.00
Uniform Delay (d), s/veh	23.0	0.0	28.6				0.0	21.9	28.5	37.3	8.5	0.0
Incr Delay (d2), s/veh	0.8	0.0	19.8				0.0	0.6	210.8	12.1	1.3	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
%ile BackOfQ(50%),veh/lr	5.5	0.0	14.1				0.0	4.7	45.8	4.0	4.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.7	0.0	48.3				0.0	22.5	239.3	49.4	9.8	0.0
LnGrp LOS	C	A	D				A	C	F	D	A	A
Approach Vol, veh/h		1417						1719			1526	
Approach Delay, s/veh		42.6						128.7			18.4	
Approach LOS		D						F			B	
Timer - Assigned Phs	1	2	4	6								
Phs Duration (G+Y+Rc), s	5.0	38.0	37.0	53.0								
Change Period (Y+Rc), s	4.7	5.1	5.1	5.1								
Max Green Setting (Gmax), s	10	32.9	31.9	47.9								
Max Q Clear Time (g_c+110), s	110	34.9	32.4	18.0								
Green Ext Time (p_c), s	0.0	0.0	0.0	10.3								

Intersection Summary

HCM 6th Ctrl Delay	66.4
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
6: Auto Park Way/Nordahl Rd & Mission Rd

Existing + Project + Cumulative
Timing Plan: AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑↑	↖	↖↗	↑↑	↖
Traffic Volume (veh/h)	337	390	291	79	604	269	428	957	41	321	1305	288
Future Volume (veh/h)	337	390	291	79	604	269	428	957	41	321	1305	288
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	2057	1870	1870	2057	1870
Adj Flow Rate, veh/h	366	424	316	86	657	0	465	1040	45	349	1418	313
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	328	975	435	136	777		415	2270	641	416	1581	641
Arrive On Green	0.09	0.27	0.27	0.04	0.22	0.00	0.12	0.40	0.40	0.12	0.40	0.40
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	5617	1585	3456	3909	1585
Grp Volume(v), veh/h	366	424	316	86	657	0	465	1040	45	349	1418	313
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1872	1585	1728	1955	1585
Q Serve(g_s), s	11.4	11.8	21.7	2.9	21.3	0.0	14.4	16.2	2.1	11.9	40.7	17.6
Cycle Q Clear(g_c), s	11.4	11.8	21.7	2.9	21.3	0.0	14.4	16.2	2.1	11.9	40.7	17.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	328	975	435	136	777		415	2270	641	416	1581	641
V/C Ratio(X)	1.11	0.43	0.73	0.63	0.85		1.12	0.46	0.07	0.84	0.90	0.49
Avail Cap(c_a), veh/h	328	1140	509	199	1007		415	2270	641	550	1581	641
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)	0.30	0.30	0.30	1.00	1.00	0.00	1.00	1.00	1.00	0.66	0.66	0.66
Uniform Delay (d), s/veh	54.3	35.9	39.4	56.8	44.9	0.0	52.8	26.1	21.9	51.6	33.4	26.5
Incr Delay (d2), s/veh	64.5	0.1	1.3	4.8	5.3	0.0	81.5	0.7	0.2	5.9	5.8	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.8	5.0	8.5	1.3	9.6	0.0	10.9	7.3	0.8	5.4	19.9	6.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	118.8	36.0	40.8	61.6	50.3	0.0	134.3	26.8	22.1	57.5	39.2	28.3
LnGrp LOS	F	D	D	E	D		F	C	C	E	D	C
Approach Vol, veh/h		1106			743	A		1550			2080	
Approach Delay, s/veh		64.7			51.6			58.9			40.6	
Approach LOS		E			D			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.3	38.2	19.0	53.4	16.0	31.6	19.0	53.4				
Change Period (Y+Rc), s	4.6	5.3	4.6	4.9	4.6	5.3	4.6	4.9				
Max Green Setting (Gmax), s	9.3	38.5	14.4	40.8	11.4	34.0	19.1	36.1				
Max Q Clear Time (g_c+14), s	9.3	23.7	16.4	42.7	13.4	23.3	13.9	18.2				
Green Ext Time (p_c), s	0.0	3.2	0.0	0.0	0.0	3.0	0.6	7.0				

Intersection Summary

HCM 6th Ctrl Delay	52.1
HCM 6th LOS	D

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection						
Int Delay, s/veh	5.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑	↗
Traffic Vol, veh/h	0	286	0	1184	1461	114
Future Vol, veh/h	0	286	0	1184	1461	114
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	87	87	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	314	0	1361	1522	119

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	-	761	-	0	0
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-
Pot Cap-1 Maneuver	0	348	0	-	-
Stage 1	0	-	0	-	-
Stage 2	0	-	0	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	-	348	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	62	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	348	-	-
HCM Lane V/C Ratio	-	0.903	-	-
HCM Control Delay (s)	-	62	-	-
HCM Lane LOS	-	F	-	-
HCM 95th %tile Q(veh)	-	9	-	-

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔			↑	↑	
Traffic Vol, veh/h	11	3	22	137	377	34
Future Vol, veh/h	11	3	22	137	377	34
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	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	12	3	24	149	410	37

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	626	429	447	0	-	0
Stage 1	429	-	-	-	-	-
Stage 2	197	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	448	626	1113	-	-	-
Stage 1	657	-	-	-	-	-
Stage 2	836	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	437	626	1113	-	-	-
Mov Cap-2 Maneuver	437	-	-	-	-	-
Stage 1	641	-	-	-	-	-
Stage 2	836	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13	1.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1113	-	467	-	-
HCM Lane V/C Ratio	0.021	-	0.033	-	-
HCM Control Delay (s)	8.3	-	13	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

HCM 6th Signalized Intersection Summary
 1: La Moree Road & Barham Dr

Existing + Project + Cumulative
 Timing Plan: PM



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↵	↑↑	↵	↵
Traffic Volume (veh/h)	1195	76	108	595	81	84
Future Volume (veh/h)	1195	76	108	595	81	84
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1299	83	117	647	88	91
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1429	91	155	2075	443	394
Arrive On Green	0.42	0.42	0.09	0.58	0.25	0.25
Sat Flow, veh/h	3485	216	1781	3647	1781	1585
Grp Volume(v), veh/h	679	703	117	647	88	91
Grp Sat Flow(s),veh/h/ln	1777	1831	1781	1777	1781	1585
Q Serve(g_s), s	26.1	26.2	4.7	6.7	2.8	3.3
Cycle Q Clear(g_c), s	26.1	26.2	4.7	6.7	2.8	3.3
Prop In Lane		0.12	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	749	772	155	2075	443	394
V/C Ratio(X)	0.91	0.91	0.75	0.31	0.20	0.23
Avail Cap(c_a), veh/h	773	797	183	2181	443	394
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	19.7	19.8	32.5	7.7	21.6	21.8
Incr Delay (d2), s/veh	14.2	14.3	13.7	0.1	1.0	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.9	12.4	2.5	1.9	1.2	1.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	34.0	34.1	46.1	7.8	22.6	23.2
LnGrp LOS	C	C	D	A	C	C
Approach Vol, veh/h	1382			764	179	
Approach Delay, s/veh	34.0			13.7	22.9	
Approach LOS	C			B	C	
Timer - Assigned Phs		2	3	4		8
Phs Duration (G+Y+Rc), s		24.0	11.8	37.0		48.8
Change Period (Y+Rc), s		5.9	5.5	6.3		6.3
Max Green Setting (Gmax), s		18.1	7.5	31.7		44.7
Max Q Clear Time (g_c+l1), s		5.3	6.7	28.2		8.7
Green Ext Time (p_c), s		0.4	0.0	2.4		4.4
Intersection Summary						
HCM 6th Ctrl Delay			26.5			
HCM 6th LOS			C			

Intersection						
Int Delay, s/veh	131.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	603	320	91	574	239	57
Future Vol, veh/h	603	320	91	574	239	57
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	80	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	655	348	99	624	260	62

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	1003	0	1651 829
Stage 1	-	-	-	-	829 -
Stage 2	-	-	-	-	822 -
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	-	-	690	-	~ 109 370
Stage 1	-	-	-	-	429 -
Stage 2	-	-	-	-	432 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	690	-	~ 85 370
Mov Cap-2 Maneuver	-	-	-	-	~ 85 -
Stage 1	-	-	-	-	429 -
Stage 2	-	-	-	-	337 -






















Approach	EB	WB	NB
HCM Control Delay, s	0	1.5	\$ 836.3
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	85	370	-	-	690	-
HCM Lane V/C Ratio	3.056	0.167	-	-	0.143	-
HCM Control Delay (s)	\$ 1031.8	16.7	-	-	11.1	0
HCM Lane LOS	F	C	-	-	B	A
HCM 95th %tile Q(veh)	25.6	0.6	-	-	0.5	-

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

HCM 6th Signalized Intersection Summary
 3: Barham Dr & Mission Rd

Existing + Project + Cumulative
 Timing Plan: PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	865	81	523	1054	0	129	5	580	12	1	0
Future Volume (veh/h)	0	865	81	523	1054	0	129	5	580	12	1	0
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	940	88	568	1146	0	140	5	630	13	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	2	998	445	435	2053	0	391	14	633	42	3	0
Arrive On Green	0.00	0.28	0.28	0.24	0.58	0.00	0.23	0.23	0.23	0.03	0.03	0.00
Sat Flow, veh/h	1781	3554	1585	1781	3647	0	1723	62	2790	1660	128	0
Grp Volume(v), veh/h	0	940	88	568	1146	0	145	0	630	14	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	0	1784	0	1395	1787	0	0
Q Serve(g_s), s	0.0	29.6	4.8	28.0	23.0	0.0	7.8	0.0	25.8	0.9	0.0	0.0
Cycle Q Clear(g_c), s	0.0	29.6	4.8	28.0	23.0	0.0	7.8	0.0	25.8	0.9	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.00	0.97		1.00	0.93		0.00
Lane Grp Cap(c), veh/h	2	998	445	435	2053	0	405	0	633	45	0	0
V/C Ratio(X)	0.00	0.94	0.20	1.30	0.56	0.00	0.36	0.00	0.99	0.31	0.00	0.00
Avail Cap(c_a), veh/h	109	1008	450	435	2053	0	405	0	633	125	0	0
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)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	40.3	31.4	43.3	15.1	0.0	37.3	0.0	44.2	54.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	16.1	0.2	152.9	0.3	0.0	0.5	0.0	34.4	3.9	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	0.0	14.6	1.8	30.3	8.4	0.0	3.5	0.0	11.9	0.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	56.4	31.6	196.2	15.4	0.0	37.8	0.0	78.6	58.7	0.0	0.0
LnGrp LOS	A	E	C	F	B	A	D	A	E	E	A	A
Approach Vol, veh/h		1028			1714			775			14	
Approach Delay, s/veh		54.3			75.3			71.0			58.7	
Approach LOS		D			E			E			E	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	34.0	38.7		8.9	0.0	72.7		33.0				
Change Period (Y+Rc), s	6.0	6.5		6.0	6.5	* 6.5		7.0				
Max Green Setting (Gmax), s	28.0	32.5		8.0	7.0	* 54		26.0				
Max Q Clear Time (g_c+I1), s	30.0	31.6		2.9	0.0	25.0		27.8				
Green Ext Time (p_c), s	0.0	0.5		0.0	0.0	8.9		0.0				

Intersection Summary												
HCM 6th Ctrl Delay				68.2								
HCM 6th LOS				E								

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
 4: Nordahl Rd & SR-78 WB Ramps

Existing + Project + Cumulative
 Timing Plan: PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↶	↷	↶	↶	↶			↶	↶
Traffic Volume (veh/h)	0	0	0	698	5	518	902	1106	0	0	898	568
Future Volume (veh/h)	0	0	0	698	5	518	902	1106	0	0	898	568
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
Work Zone On Approach				No		No		No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				936	0	377	980	1202	0	0	976	559
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				1039	0	462	1043	2215	0	0	1442	448
Arrive On Green				0.29	0.00	0.29	0.40	0.83	0.00	0.00	0.28	0.28
Sat Flow, veh/h				3563	0	1585	3456	3647	0	0	5274	1585
Grp Volume(v), veh/h				936	0	377	980	1202	0	0	976	559
Grp Sat Flow(s),veh/h/ln				1781	0	1585	1728	1777	0	0	1702	1585
Q Serve(g_s), s				30.3	0.0	26.5	32.7	12.6	0.0	0.0	20.3	33.9
Cycle Q Clear(g_c), s				30.3	0.0	26.5	32.7	12.6	0.0	0.0	20.3	33.9
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				1039	0	462	1043	2215	0	0	1442	448
V/C Ratio(X)				0.90	0.00	0.82	0.94	0.54	0.00	0.00	0.68	1.25
Avail Cap(c_a), veh/h				1125	0	501	1103	2215	0	0	1442	448
HCM Platoon Ratio				1.00	1.00	1.00	1.33	1.33	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.59	0.59	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				40.8	0.0	39.5	34.9	4.9	0.0	0.0	38.2	43.1
Incr Delay (d2), s/veh				9.5	0.0	9.5	9.7	0.6	0.0	0.0	2.6	129.4
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				14.5	0.0	11.5	13.8	3.2	0.0	0.0	8.7	29.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				50.4	0.0	48.9	44.6	5.5	0.0	0.0	40.8	172.5
LnGrp LOS				D	A	D	D	A	A	A	D	F
Approach Vol, veh/h				1313			2182			1535		
Approach Delay, s/veh				49.9			23.1			88.7		
Approach LOS				D			C			F		
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		79.9			40.9	39.0		40.1				
Change Period (Y+Rc), s		5.1			* 4.7	5.1		5.1				
Max Green Setting (Gmax), s		71.9			* 38	28.9		37.9				
Max Q Clear Time (g_c+I1), s		14.6			34.7	35.9		32.3				
Green Ext Time (p_c), s		12.0			1.5	0.0		2.7				

Intersection Summary

HCM 6th Ctrl Delay	50.1
HCM 6th LOS	D





















Notes

User approved volume balancing among the lanes for turning movement.
 * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

5: Nordahl Rd & SR-78 EB Ramps

04/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	625	72	525	0	0	0	0	1397	1130	585	1113	0
Future Volume (veh/h)	625	72	525	0	0	0	0	1397	1130	585	1113	0
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
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	872	0	373				0	1518	1120	636	1210	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	864	0	384				0	2387	741	573	2390	0
Arrive On Green	0.24	0.00	0.24				0.00	0.93	0.93	0.33	1.00	0.00
Sat Flow, veh/h	3563	0	1585				0	5274	1585	3456	3647	0
Grp Volume(v), veh/h	872	0	373				0	1518	1120	636	1210	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1702	1585	1728	1777	0
Q Serve(g_s), s	29.1	0.0	28.0				0.0	5.7	56.1	19.9	0.0	0.0
Cycle Q Clear(g_c), s	29.1	0.0	28.0				0.0	5.7	56.1	19.9	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	864	0	384				0	2387	741	573	2390	0
V/C Ratio(X)	1.01	0.00	0.97				0.00	0.64	1.51	1.11	0.51	0.00
Avail Cap(c_a), veh/h	864	0	384				0	2387	741	573	2390	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	2.00	2.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.39	0.39	0.65	0.65	0.00
Uniform Delay (d), s/veh	45.5	0.0	45.0				0.0	2.3	3.9	40.1	0.0	0.0
Incr Delay (d2), s/veh	32.9	0.0	38.0				0.0	0.5	232.9	65.1	0.5	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
%ile BackOfQ(50%),veh/ln	16.7	0.0	15.0				0.0	1.1	49.4	12.3	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	78.4	0.0	83.0				0.0	2.8	236.8	105.2	0.5	0.0
LnGrp LOS	F	A	F				A	A	F	F	A	A
Approach Vol, veh/h		1245						2638			1846	
Approach Delay, s/veh		79.8						102.1			36.6	
Approach LOS		E						F			D	
Timer - Assigned Phs	1	2		4				6				
Phs Duration (G+Y+Rc), s	24.6	61.2		34.2				85.8				
Change Period (Y+Rc), s	* 4.7	5.1		5.1				5.1				
Max Green Setting (Gmax), s	* 20	56.1		29.1				80.7				
Max Q Clear Time (g_c+I1), s	21.9	58.1		31.1				2.0				
Green Ext Time (p_c), s	0.0	0.0		0.0				13.2				
Intersection Summary												
HCM 6th Ctrl Delay			76.2									
HCM 6th LOS			E									
Notes												
User approved volume balancing among the lanes for turning movement.												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM 6th Signalized Intersection Summary
6: Auto Park Way/Nordahl Rd & Mission Rd

Existing + Project + Cumulative
Timing Plan: PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↗	↔↔	↑↑	↗	↔↔	↑↑↑	↗	↔↔	↑↑	↗
Traffic Volume (veh/h)	535	780	300	59	721	511	525	1368	59	195	802	625
Future Volume (veh/h)	535	780	300	59	721	511	525	1368	59	195	802	625
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	2057	1870	1870	2057	1870
Adj Flow Rate, veh/h	582	848	326	64	784	0	571	1487	64	212	872	621
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	462	1243	554	131	902		432	2056	580	270	1248	506
Arrive On Green	0.13	0.35	0.35	0.04	0.25	0.00	0.12	0.37	0.37	0.08	0.32	0.32
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	5617	1585	3456	3909	1585
Grp Volume(v), veh/h	582	848	326	64	784	0	571	1487	64	212	872	621
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1872	1585	1728	1955	1585
Q Serve(g_s), s	15.4	23.5	19.4	2.1	24.3	0.0	14.4	26.3	3.1	6.9	22.5	36.8
Cycle Q Clear(g_c), s	15.4	23.5	19.4	2.1	24.3	0.0	14.4	26.3	3.1	6.9	22.5	36.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	462	1243	554	131	902		432	2056	580	270	1248	506
V/C Ratio(X)	1.26	0.68	0.59	0.49	0.87		1.32	0.72	0.11	0.78	0.70	1.23
Avail Cap(c_a), veh/h	462	1350	602	168	1048		432	2056	580	303	1248	506
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.9	32.0	30.7	54.4	41.2	0.0	50.4	31.5	24.1	52.2	34.4	39.2
Incr Delay (d2), s/veh	133.8	1.3	1.3	2.8	7.1	0.0	160.6	2.2	0.4	11.5	3.3	118.8
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/ft	5.0	9.8	7.5	0.9	11.1	0.0	15.8	12.0	1.2	3.4	11.1	30.6
Unsig. Movement Delay, s/veh						0.00						
LnGrp Delay(d),s/veh	183.7	33.3	32.0	57.2	48.3	0.0	211.1	33.8	24.5	63.7	37.6	158.0
LnGrp LOS	F	C	C	E	D	A	F	C	C	E	D	F
Approach Vol, veh/h		1756			1403	A		2122			1705	
Approach Delay, s/veh		82.9			29.6			81.2			84.7	
Approach LOS		F			C			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.0	45.6	19.0	41.7	20.0	34.6	13.6	47.1				
Change Period (Y+Rc), s	4.6	5.3	4.6	4.9	4.6	5.3	4.6	4.9				
Max Green Setting (Gmax), s	5.6	43.8	14.4	36.8	15.4	34.0	10.1	41.1				
Max Q Clear Time (g_c+14), s	14.6	25.5	16.4	38.8	17.4	26.3	8.9	28.3				
Green Ext Time (p_c), s	0.0	6.4	0.0	0.0	0.0	2.9	0.1	8.1				

Intersection Summary

HCM 6th Ctrl Delay	72.1
HCM 6th LOS	E

Notes

Unsignalized Delay for [WBR] is included in calculations of the approach delay and intersection delay.

Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↕↕	↕↕	↗
Traffic Vol, veh/h	0	167	0	2117	1223	44
Future Vol, veh/h	0	167	0	2117	1223	44
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	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	0	182	0	2301	1329	48

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	-	665	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.94	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.32	-
Pot Cap-1 Maneuver	0	403	0
Stage 1	0	-	0
Stage 2	0	-	0
Platoon blocked, %			
Mov Cap-1 Maneuver	-	403	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	21.1	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	403	-	-
HCM Lane V/C Ratio	-	0.45	-	-
HCM Control Delay (s)	-	21.1	-	-
HCM Lane LOS	-	C	-	-
HCM 95th %tile Q(veh)	-	2.3	-	-

Intersection						
Int Delay, s/veh	1.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔			↑	↑	
Traffic Vol, veh/h	40	10	9	161	288	14
Future Vol, veh/h	40	10	9	161	288	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	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	43	11	10	175	313	15

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	516	321	328	0	-	0
Stage 1	321	-	-	-	-	-
Stage 2	195	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	519	720	1232	-	-	-
Stage 1	735	-	-	-	-	-
Stage 2	838	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	514	720	1232	-	-	-
Mov Cap-2 Maneuver	514	-	-	-	-	-
Stage 1	728	-	-	-	-	-
Stage 2	838	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.3	0.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1232	-	545	-	-
HCM Lane V/C Ratio	0.008	-	0.1	-	-
HCM Control Delay (s)	7.9	-	12.3	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-